The Rudiments of Affordable Housing in China

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Abstract
A housing supply project named the National Comfortable Housing Project was carried out by the Chinese government from 1995 to 1998 as a very important instrument in advancing urban housing reform. Through this project the Chinese government invested over 220 billion RMB and provided over 260 million square metres of floor area to households. In Beijing city, about 52,000 households, which had a floor area per capita of less than 4 square metres had their living standard improved. On the basis of a careful review of the National Comfortable Housing Project performance, we conclude that China's current affordable housing supply system is mainly built upon the successful implementation of the Project in the 1990s.

Keywords: national comfortable housing project; affordability; housing

Introduction
Urban housing reform on the Chinese Mainland started in 1979. After twenty years of housing reform, the floor area per capita in China had increased from 3.6 square metres in 1979 to 9.8 square metres in 1999. During this period, an important nationwide housing program - the National Comfortable Housing Project was carried out from 1995 to 1998. It aimed to prompt the setting up of an economical housing supply system in urban housing reform, which was a new housing provision institution directed at middle and mid-low income households, and to resolve housing problems encountered by those who were living in accommodation of less than 4 square metres per capita. This paper aims to review the rudimentary development of affordable housing in the form of a National Comfortable Housing Project in the capital of China, Beijing. The study focuses on:
1. Housing policies concerning the National Comfortable Housing Project
2. Problems encountered by urban housing reform in general and housing programmes made for middle and low-income groups in particular.

The situation associated with affordable housing development in Beijing is demonstrated by the use of case studies in this paper.

Background

Macroeconomic Situation
During the Eighth Five-year (1991-1995) Period, the Chinese economy kept growing at an amazing speed. In the early 1990s, the GDP growth rate was as high as 14.2%, while the average growth rate during this period was 11.7%. This "over" growth of the economy compelled the national government to take some controlling measures from 1993. The main efforts involved strictly controlling the amount of financial expenditure, capital construction investment and bank credit. These measures slowed down the growth of the economy, and especially suppressed investment in the real estate market.

From 1979 to 1994, trial efforts in housing reform had been made in China, even though little progress had been achieved. Despite the increasing progress of economic reform in other respects, the housing problem became more and more serious. In 1994, there were 4 million urban households with a housing area per capita of less than 4 square meters throughout the entire country, and there were 19 provinces with an urban housing area per capita lower than the national average.

Housing Demand in Beijing
In 1995, there were 3.5 million workers who desperately needed housing in China. Living conditions were far from acceptable given that 45% of dwellings throughout China lacked basic facilities such as kitchens and lavatories (Rou, 1996). The demand for housing units in Beijing was huge and emanated from local government institutions, state-owned enterprises (SOEs), correspondence offices of other provinces and foreign companies. In 1996, there were 1 million non-permanent residents living in Beijing, which put further pressure on housing. Referring to the investigation report prepared by the
Ministry of Construction in 1997 (the MOC report), the residents of the aforementioned institutions and companies constituted 80% of the total housing needs. The remaining 20% of housing needs emanated from joint-venture enterprises. Of the 3.5 million staff who worked for SOEs, 31% were interested in home purchase. Given that each household is supposed to have 60 square metres of space, a total of 65.1 million square metres of housing units were needed.

Staff and workers of state-owned units accounted for half of the urban working population. Those who were working for the sectors of social service, education, scientific research and governmental institutions (the so-called "non-productive" state-owned units) accounted for 43% of the working population in state-owned units. Therefore, a massive amount of capital for housing production would flow to these four sectors mentioned above.

According to the 1997 MOC report, 40 million square metres were needed in housing construction, which arose from a range of household categories. The MOC report estimated that the land required for the Comfortable Housing Project would be in the region of 9 million square metres with a target living area of 9.5 square metres per person in Beijing.

Insufficient Housing Production in Beijing

In 1995, the total residential floor space completed was 7.6 million square metres, within which 600,000 square metres of comfortable housing floor space was completed. A total of 11,000 households with a per capita living area of less than 4 square metres were re-accommodated. Each household was able to obtain an average of 54.5 square metres. In fact, the proportion and scale of construction for comfortable housing was still comparatively small considering the total residential floor space completed. It only constituted 6.4% of total floor space newly completed in 1995. Furthermore, only 46.5% of the targeted floor space was completed (Ministry of Construction, 1997, p.89).

Six to eight-storey dwellings accounted for two-thirds of total area of floor space completed for residential housing in 1995. Due to the lack of land provision in central areas, the location of both current and new comfortable housing projects was and would be in the suburbs despite the wish of many households who were not willing to move from their existing urban districts.

The Ninth Five-year Plan (1996-2000) - Housing Reform Plan in Beijing

The State Council issued the "Ninth Five-year Plan" which focused on the improvement of quality of housing units and living standards. Various kinds of housing projects were planned including the "National Comfortable Housing Project" (the Project), which was the focal point of the new housing programme. According to the plan, each new apartment should have bedrooms, living and dining rooms, kitchen, lavatory, storage space and a balcony. Seven-storey residential blocks or higher should be provided with elevators. Basic interior decoration should also be provided. The focal point of the Five-year plan was the improvement of living standards. Therefore, rudimentary housing units without kitchen and lavatory should no longer be supplied.

Before discussing the Comfortable Housing Project in detail, an account of housing need and production in Beijing during the Ninth Five-year period was provided. According to the statistical data produced by the Ministry of Construction, a huge housing need existed in Beijing. Therefore, large-scale construction involving the Project would be required. However, actual production for the Project was far from sufficient to meet the demands. This will be discussed in the following sections.

National Comfortable Housing Project

General Plan of the Project

In January 1995, the State Council announced the "Implementation Plan for the National Comfortable Housing Project". The State had high expectations regarding the success of the Project, which might bring a new housing system to China. The State Council's leading team for Housing System Reform confirmed the plan for national comfortable housing construction with a total area of 150 million square metres for the following five years. At the same time, the People's Bank of China issued the "Tentative Methods for Individual Housing Mortgages and Loans of the Comfortable Housing Project," which aimed to facilitate the implementation of the Project. The useable area of each apartment was restricted to a minimum size of 55 square metres, and at least 60% of the total units of a housing project should be two-bedroom units. Fifty nine cities were selected to carry out the Project in the first year. The number of cities was increased in every year from that time on. The minimum size of the Comfortable Housing in Beijing was larger than the standard living area set in the Ninth Five-year Plan.

At the first year plan, it was aimed to provide 12.5 million square metres of comfortable housing, and the total investment envisaged was about RMB12.55 billion in 1995. The State was to provide RMB 5.02 billion from the fixed assets loan project, while the local governments were to be responsible for the remaining RMB 7.53 billion. Plan of every year was confirmed at the end of the last year.

As can be seen in Table 1, the Projects "150 million square metres" target was achieved by the end of 1998,
Data are gathered from related files of the MOC one year earlier than expected. In fact, the total area of the Project plans in four years is larger than 267.06 million square meters because of excessive additions every year.

Objectives

The 'Project' aims to solve the housing problem of the middle and low-income groups and to prompt the setting up of an economical housing supply system.

Target Group

The target group consists of staff and workers of state-owned enterprises. Within the given conditions, priority was allocated to retired workers and teaching staff. The aim of the Project was to address housing shortages and provide market opportunities and channels for people regarding housing production and investment. The prime target was to build low cost housing for urban staff and workers who worked for large and medium scale state-owned enterprises. The State expected that the welfare-oriented housing system would be eventually replaced by the market-oriented system. Therefore, marketisation of housing was to be the means by which the ultimate goal of urban housing reform could be achieved.

Responsible Government Departments

The responsible government departments and their respective duties for the comfortable housing project are as follows:

1. The State Council's Leading Team for Housing System Reform is responsible for the coordination and the issue of nation-wide instructions.
2. The State Planning Committee is responsible for the annual investment plan and to determine the project size.
3. The Ministry of Construction is responsible for implementation.
4. The People's Bank of China plans the annual loan scheme and supervises the implementations of the loan scheme.
5. The Finance Bureau and other banks such as the China Construction Bank are responsible for checking and supervising the use of supporting capital in those selected cities.

Sources of Financing for both Supply and Demand Sides

The contribution to housing finance was in the proportion of a 40:60 ratio investment between the State and local governments. However, the local governments had a limitation regarding the housing financing sector. If a local government wished to apply for a National Comfortable Housing Loan from the State, the land used for the project should have been confirmed and 50% of hard cash to finance a project must have been secured prior to approval of a loan from the State. In 1996, the Plan for investment over the next 5 years in the Comfortable Housing Project in Beijing amounted to RMB 0.75 billion. The total construction area was around 50,000 square metres. Loans to the work units from the China Construction Bank were RMB 0.3 billion (40%). The remaining RMB 0.45 billion (60%) was raised by the Beijing government. As for mortgage loans for individual households, all the permanent residents in Beijing, who were the employees of state-owned enterprises and had participated in the housing savings scheme and provident fund in the China Construction Bank, were eligible for loans for home purchase. Housing loans would not be more than 60% of the housing price and the period of repayment should not be more than 10 years.

Composition of Housing Prices

The State has laid down all the restrictions and requirements for the Project in order to control the cost and price of housing units. The sale price has been set in line with construction costs and included:

1. Land acquisition and compensation for resettlement
2. Survey, design and overhead expenses
3. Construction
4. Infrastructure in the residential area
5. 1-3% profit
6. Loan interest payment
7. Taxes

These seven broad items were only guidelines for the composition of housing prices. There was no official indication of the suitable percentage ratio for each of these items.

Development Cycle of the Project

Municipal and district (i.e. local) governments provided land for the "Project", which was subjected

| Year       | Total area (million square meters) | Total investment (billion RMB) | State investment (billion RMB) | Local investment (billion RMB) | Numb of cities |
|------------|-----------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------|
| 1995       | 12.5                              | 12.5                            | 5                             | 7.5                           | 59            |
| 1996       | 14.28                             | 12.55                           | 5.02                          | 7.53                          | 88            |
| 1997       | 27.85                             | 24.875                          | 9.95                          | 14.925                        | 179           |
| 1998 (1st batch) | 48.73                             | 41.904                          | 15.3                          | 26.6                          | 275           |
| 1998 (2nd batch) | 58.21                             | 47.847                          | 17.771                        | 30.1                          | 355           |
| 1998 (3rd batch) | 105.49                            | 80.58                           | 42.53                         | 38.05                         | 355           |
| Total      | 267.06                            | 220.256                         | 95.57                         | 124.71                        | 355           |
to the constraints of urban planning. However, some beneficial treatment might be given in order to reduce the overall housing costs. Local governments were responsible for the infrastructure and part of the cost associated with the non-commercial public facilities in residential areas such as gardens and neighbourhood associations. According to the instructions given by the Ministry of Construction, no over-standard housing or rudimentary housing was to be allowed.

A housing project was either assigned to a developer direct or through bidding. Seventy percent of the total floor space completed must have been sold to the Beijing government at construction cost. The remaining 30% of the total floor space was to be reserved by the developer for sale on the market. Developers were guaranteed around 15% of profit for a construction project. In addition, subsidies would be offered such as free land, expenses for the redevelopment, etc. Households can purchase the housing units through their respective work units at construction cost or the standard price. Alternatively, they may choose to pay in full or by installments. Households with financial difficulties are allowed to borrow loans through their work units from the Housing Resource Management Centre, which is a form of housing finance cooperation. Housing loans would not be more than 90% of the housing price, and installments for the repayment should not exceed 30 years. Compared to the current mortgage terms offered by the China Construction Bank for the National Comfortable Housing Project, this requirement is much more flexible and feasible for private housing purchase. Apartment units, vacated by the previous households who also purchased new housing units from the respective work units, will be distributed back to those households who are waiting for housing. This is a filtering system, which helps to address the housing problems of the low-income groups. At this stage of the housing reform in Beijing, the local government assumed that the high-income group would purchase housing at the market price without any subsidies. The subsidies to the middle and low-income group would be in the form of a subsidised housing price, i.e. construction cost price or the lower standard price.

**Performance of the National Comfortable Housing Project in Beijing**

As an experiment, the Project started an implementation in Beijing two years earlier than the formal implementation nationwide. But in 1993 and 1994, an area of only 0.4 million square meters was constructed, far below the demand. With the Project, which was implemented, nationwide, the Beijing local government strengthened the performance. In 1995, there were 17 comfortable housing projects under construction in Beijing. A total construction area of 1.06 million square metres was provided by these projects.

In 1996, 0.6 million square metres of construction area had been allocated for comfortable housing and the local government were required to provide RMB 0.76 billion for housing finance in 1996. In 1996, a document entitled "Regulations for the Comfortable Housing Project" (the Regulation) was issued by the Beijing government. It aimed to provide more relevant development in Beijing. The target living area per capita was stated as 9.5 square metres. The project mainly aimed to solve the housing problem of the middle and low-income groups. Stratification of the housing price and the dual track housing system are the salient characteristics of this stage of the housing reform. As shown in Chart 1, with economic stagnation nation wide, the Project investment was decreased in 1996 and increased with caution in 1997. In 1997, the investment scale in Beijing was RMB 1.98 billion and the construction scale of the Project was 1.06 million square meters. From 1993 to 1997, the total construction area in Beijing was 3.12 million square meters. It basically, satisfied the housing demand of those households with a per capita area of less than 4 square meters. By the end of 1997, urban living area per capita in Beijing was 14.4 square meters, nearly the 15 square meters that was the target of The Ninth Five-year Development Plan (1996-2000). In 1998, as shown in Fig.1, the performance of the Project made considerable progress with pushing by the central government. The investment was RMB 7.6 billion and the construction area was 4.76 million square meters. Both progresses were far greater than past years. So the housing target in The Ninth Five-year Development Plan (1996-2000) of Beijing could have been achieved by the end of 1998, two years earlier than planned.

![Fig.1. The National Comfortable Project Performance in Beijing](image)

(Data from Year Reports of Beijing Statistic Bureau 2000-2001)

**Target Group for the Project in Beijing**

1. In 1995 and before, the target group was those people whose living area per capita was at 3 square metres or less.
2. Between 1996 and 2000, the target group has been identified as those people whose living area per capita was at 4 square metres or less. Under these criteria, retired workers and teaching staff had the priority.
A Case Study in Beijing

A comfortable housing project entitled the De Wai Staff Quarters for the Seventh Secondary School (hereafter the De Wai project) is selected as a case study. Located in the Western City District of Beijing, it provides 180 units for teaching staff. There are 16 administrative districts in Beijing. In the Western City District, there are 8 kindergartens, 90 primary schools, and 75 secondary schools. The De Wai project is located near to the city's second ring road and land for development was provided by the Education Bureau.

A state-owned construction company was assigned to the project by the local government through negotiation and the bid price for this project was at RMB12.2 million. The project was begun in November 1996 and completed by the end of 1997. According to the regulations, comfortable housing projects are to be assigned to a developer or through bidding. Seventy percent of the total floor space completed was purchased by the Beijing government at construction cost, while the remaining thirty percent was to be reserved by the developer for sale on the market. The government will offer a discount on land tax, land transfer fees and utility fees for housing construction, etc. Two prototypes of the units were provided by the De Wai project, i.e. two bedroom units and three bedroom units. The average size of a flat was around 40 square metres, which was smaller than the standard stipulated in the Ninth Five-year Plan. This implied that actual development of the Comfortable Housing Project in Beijing did not need to follow the standards set by the Housing Reform Plan, because of the limited financial resources for the development. Housing finance was shared among the Beijing government, the Western City District government, the Education Bureau, and the individuals.

Subsidies were given to teachers living in a space less than 4 square metres per capita, in the form of a subsidised housing price, i.e. cost price or standard price. The stratification of housing prices was created in 1987 and the Beijing Government approved regulations for a dual pricing system in 1996. According to the 1995 official paper: "A Notice on the Pricing Relating to the Sale of Publicly Owned Housing Units by an Individual Employee" issued by the Beijing government, the cost price of new public housing in the central areas and suburbs was RMB 1337.1 per square metre. While the cost price in remote suburbs could be determined by the responsible local housing offices. The standard price settled by governments in comfortable housing purchase was RMB 869.8 -1256.6 per square metre in central areas and the suburbs. According to the recently available investigation report prepared by the Ministry of Construction, the range between RMB 1800.3 - 2500 per square metre was the acceptable price for most average families (Ministry of Construction, 1997, pp.1-3). In the case of the De Wai project, the standard price was about RMB 699.7 - 800.1 per square metre while the cost price was RMB 1165.3 per square metre. The advantage-housing price included a discount based on the calculation of the location, the orientation, and the size of a flat. An additional discount was also provided to married couples whose proportion amounted to 5% of one partner as a teacher and to 10% of both as teachers. The construction cost per unit was RMB 30,000.4 - 40,000.2 with the discount given to the construction company. In the case of a flat of 40 square metres costing RMB 40,000.2, the average cost per square metre was in the region of RMB 1,000.2. In the event that the sale price was RMB 1,165.2 per square metre, a profit of 16.5% could be made by the developer.

Problems Associated with the National Comfortable Housing Project

The State intended to introduce market elements into the state-owned housing sector, in order to replace the welfare-oriented housing system. The implementation of the "Project" was one of these measures. Low-cost housing units were being offered to encourage workers from state-owned enterprises, who belong to the middle and low-income groups, to opt for home purchase. Another breakthrough associated with the "Project" was the private home ownership of state-owned housing units. Despite the correct direction of the policy, the "Project" encountered two fundamental problems, namely, the socialist housing allocation system and low affordability, which had hindered its development.

Socialist Housing Allocation System

Despite decentralisation, which began in 1978, most state-owned enterprises were still under the supervision of different administrative departments, either in the State Council or local governments. Budgets and plans had to be approved by the local administrative authority at a higher level. Housing units for employees also depended on State distribution although state-owned enterprises were allowed to manage housing production by themselves. Since most state-owned enterprises still depended on housing loans from the State, it could therefore be said that the new built dwellings were distributed by the State (Hannan, 1995, pp.142-143). The socialist housing allocation system required new housing units to be distributed according to rank. The lowest group of state-owned enterprises, which faced the most difficult housing problems, could not benefit from the Project (Zhou and Logan, 1996). Therefore, based on the criteria associated with the eligibility of the applicants, those who were in the middle and low-income groups, and had less than 4 square metres per capita were considered insignificant under the socialist housing allocation system. There was a filtering system with which low rank employees could rent the old housing units vacated by the senior
staff who were able to afford comfortable housing units. Hence the incentive for home purchase was very low under the old housing allocation system because of the difficulties in meeting the maintenance costs. Further, whenever the work units purchased new housing units, only the higher-ranking staff were assigned to the new apartments. Therefore, it was the senior staff who benefited from this policy.

Affordability

Stratification of housing price was created in order to facilitate the purchase of the comfortable housing units from the Project. At that time, most individuals were still unable to afford even the cost price of the comfortable housing units. Just as we have discussed earlier in this paper, in order to enhance affordability for the target families, the standard price adopted by the government was RMB 869.8-1,256.6 per square metre in both the central areas and suburbs when the comfortable housing units were sold to households. Referring to the 1995 official statistical data, the annual middle and mid-low income level ranged between RMB 3,369 - 5,572.6. Monthly earnings for these groups ranged from RMB 297.8 to 464. Monthly expenditure amounted to between RMB 275.6 - 407.5, which means that 7.7% - 12% of monthly household income was for savings.

Given that wage rates and housing prices remain stable, a case may be taken of a newly married couple, who belong to the middle-lower income group. Both partners are working as teachers, and they wish to buy a housing unit, which costs RMB 1,342.1 per square metre with a total construction area of 55 square metres. The housing price will be RMB 73,816.1 however; as the couple qualify for a 10% discount the final price will be RMB 66,434.9. The 30% first payment will be RMB 19,446.9. As a result, with 9% of their total salary put aside as savings, the couple will have to wait 47 years before they can afford to make the first payment; otherwise they will not able to repay the loan over a period of 10 years by installments. Therefore, the potential buyers for comfortable housing units will be the ones from profitable work units who can afford to purchase on behalf of their employees. This means that new housing units will be absorbed into the socialist housing allocation system. The conclusion is that young and junior staff cannot benefit from the new housing "Project".

The composition and percentage of annual expenditure for individual households in Beijing indicated that food expenses constitute half of the annual income of middle-lower income households. The second major expense was clothing. The cost of rent was even less than the amount of electricity and fuels, which constituted only 4.3% of the total annual income. The low proportion of rental cost further lead to a low incentive for home purchase.

**Conclusion**

With the aim of helping the State to transform the old housing allocation system into a market-oriented system, the National Comfortable Housing Project, which was carried out from 1995 to 1998, played a very important role in urban housing reform in China. After the fulfillment of the National Comfortable Housing Project, a rudimentary economical housing supply system was set up, supplying economical housing. The serious housing shortage was some how mitigated, and a new distinct stage of housing development in China began in 1999.

Beijing, as the capital city, has been one of the most important housing markets in China. It provided a good example to the rest of China through the implementation of the National Comfortable Housing Project between 1995 to 1998. Through the National Comfortable Housing Project, about 12.55 billion RMB was invested in the housing sector. As shown in Fig. 2, that was over 20 percent of the total investment during the 1995-1998 period. Fifty two thousand households who had a floor area per capita of less than 4 square metres had their living quality improved. However, there were still two major problems associated with the Project:

1. In the performance of the National Comfortable Housing Project, the socialist housing allocation system had not been changed. Work units still played an important role in housing production and distribution. Even though new housing units were supplied, average households could not freely purchase them from the market. Work units held the right to distribute housing units to eligible households, either for rent or for purchase.
2. The Project aimed to solve the housing problem of middle and low-income groups, however, compared to the income-level of such families, the high prices of the Project housing made it unaffordable. Meanwhile, low rents led to a low incentive for home purchase.
The National Comfortable Housing Project was a vehicle through which the government supplied housing to households directly. According to the interplay of demand and supply, as seen in Fig 3, the project provided a large amount of housing units, causing the supply curve to shift from left to right and to a lower price level. Thus, the National Comfortable Housing Project had the advantage of allowing the government to play a thorough macro-control role and to increase the amount of housing supply quickly in a short period of time, which had also mitigated the serious problem of housing shortages.

In order to fulfill the Project's target, both the central and local governments had endured a huge financial burden. However the role and enthusiasm of the private developers were inhibited. In general, such a direct provision of housing by government was obstructive to housing marketisation. Adoption of similar housing projects for the direct supply of housing from the government should have been moderated and treated as a short-term measure rather than a long-term solution.

During the performance of the National Comfortable Housing Project, it became increasingly clear that the acute conflict between the old housing allocation system and marketisation was the most important problem of urban housing reform. Based on the valuable experiences obtained from the Project, the Chinese government took two important steps in 1998. On July 3, 1998, the State Council promulgated an official document to notify the whole nation:

1. By the end of 1998, the old housing allocation system is to be abandoned totally.
2. On the basis of the National Comfortable Housing Project, a new market housing system with its main body consisting of an affordable housing named economical housing system is to be established.

By doing so, the Chinese government began to retreat from those ambitious public housing programmes, which demand unaffordable investment. They opted for assisting formal or informal private housing producers and households through market practices such as land use and mortgage financing. The government has moved away from the role of supplier to the new role as an enabler, facilitating and encouraging housing activities by the market. The partial policies of the National Comfortable Housing Project became the underpinnings for designing the policies of the new affordable housing system. This represented the beginning of a new distinct stage in housing development in China in 1999.

To conclude, it will be a long time before a market-oriented system can be fully implemented in China. A systematic and appropriate housing system is required to provide a safety net, particularly for the workers who work in less profitable positions and for debt-ridden work units during the post state-owned enterprises reform period.

References
1) Hannan, K. "Modernization and the Goal of Prosperity: government administration and economic policy in the late 1980s," Cambridge: Cambridge University Press, China, (1995).
2) Ministry of Construction, "97'Investigation Report on the Beijing Real Estate Market." MOC Construction Information Co., Ltd. Beijing (in Chinese) (1997).
3) Rou, G. "A Critical Aspect of Being a New Area of Economic Growth in Housing". Real Estate in China. China Real Estate Press. Vol.11, p.1, Tianjin (in Chinese). (1996)
4) State Land Administrative Bureau, "Yearbook of China Real Estate Market 1996."China Statistical Press, Beijing (in Chinese). (1997)
5) Wong, F., Yeung, S. and Howes, R. "A Comparative Study of Affordable Housing Development in the United Kingdom, Hong Kong and the Republic of China," The Hong Kong Polytechnic Reprographic Unit, Hong Kong (1995)
6) Zhou, M., and Logan, J. R. "Market Transition and the Commodification of Housing in Urban China", International Journal of Urban and Regional Research, Vol.20, No.3, pp.400-421. (1996)
7) Francis K. W. Wong, Stanley C. W. Yeung, Eddie C. M. Hui, Rodney Howes and Lucy S. P. Kong, "A Study of Welfare Housing Development in Major Cities in China", Research Monograph of Department of Building and Real Estate, the HK PolyU, Hong Kong (1998).