

# New In the Old

## Problems and Strategies in the Regeneration of Long Fu Si Area in the Old City of Beijing, China



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## 1 Shelter Situation Analysis

### 1.1 Basic General Data

#### Geography and Administration

Located in the east of the Asian continent, on the western shore of the Pacific Ocean, the People's Republic of China has a land area of about 9.6 million sq km, and is the third-largest country in the world, next only to Russia and Canada.

China's topography varies greatly, a vast land of lofty plateau, large plains, rolling land and big and small basins surrounded by lofty mountains. All the five basic topographic types in the world exist in China to create the conditions for developing industry and agriculture. Mountainous land and very rough terrains make up 2/3 of Chinese territory, and this has created some problems in transport and in the development of agricultural production. However such topographical features are conducive to the development of forestry, mineral and hydropower resources and tourism.

Most of China lies in the north temperate zone, characterized by a warm climate and distinctive seasons, a climate well suited for habitation. From September to April the following year, is the cold and dry winters and great

differences between the temperatures of north and south China. From April to September, warm and humid summer monsoons blow from the seas in the east and south, resulting in overall high temperatures and plentiful rainfall, and little temperature difference between north and south China.

China is divided into 23 provinces, 5 autonomous regions, 4 municipalities directly under the Central Government and 2 special administrative regions. The capital is Beijing.

### **Demography and Health**

China's total population in the mainland amounted to 1.328 billion in 2008. The natural increase of China's population decreased for the first time in 1998 and continued to maintain a steady decline of 10 persons per thousand. Now although China's population is in the low growth rate period, there is an annual net increase of about 7 million of population due to the large base of the population. Thus, maintaining low birth rate remained a long-term task for China to carry on. The population density in China is 138 people per sq km.

About 51.5% of the population is male, and 48.5% is female. Approximately 45.7% of the population lives in urban areas, and 54.3% lives in rural areas. About 19% of the population is 0-14 years old, and 8.3% is above 64 years old. Birth rate, death rate and natural growth rate of population in 2008 is 12.14%, 7.06% and 5.08%, respectively. Life Expectancy is 69.63 years for male and 73.33 years for female. In 2005, there are 22.34 million persons (9.95 million households) who have lowest cost-of-living in urban areas, and there are about 8.25 million persons(4.06 million households) who have the lowest cost-of-living in rural area.

Comparing with developed countries, China remains at a low level of urbanization. It has an urbanization of 45.68%. But with the reforms, opening up and economic development, China's urbanization has been greatly improved and accelerated. The rise of the urbanization in China is based on the expansion of the urban areas and the increase of the population. The increase of cities and expansion of urban areas promoted the urbanization level in China. The improvement of agricultural productivity and the development of secondary and tertiary industries helped rural people to transfer to the urban areas, which facilitated the development of urbanization in China.

Mortality continues to be at low level. At the end of 2003, China has 96.92 million seniors, above the age of 65 years. Family size continues to shrink and two-generation families are major forms of Chinese households. Marriage situation is stable and the difference between the rural and urban areas is large. Illiterate rate has declined and the people's years education have increased.

### Economy

A socialist market economic system has now taken shape, and the basic role played by the market has been improved in the sphere of resource allocation. At the same time, the macro-control system continues to be perfected. China's Gross Domestic Product (GDP) in 2008 is \$7.973 trillion (CIA, 2008), as the second largest in the world after US. The average annual growth rate of GDP is 8.9% during 1998-2005.

In 2005, the average household size in urban areas is 2.96 persons. The gross living space per capita in cities is 26.1 square meters. The annual disposable income per capita of urban households is \$1,499. The average wage of staff and workers is \$2,623. The statistics of consumption structure of urban residents in 2005 shows that 36.7% of people's income is spent on food, 10.1% on clothing, 10.2% on residence, 43.0% on articles for daily use and others. The registered unemployment rate in urban areas is 4.2%.

## 1.2 Shelter Related Fact and Figures

### Access to Shelter

According to China Statistical Yearbook(2006), the number of rooms per household in China is 3.05 (2.82 in Beijing), and floor space of housing per capita is 28.69 sq.m/person in China (24.82 in Beijing). The number of rooms per capita in China is 0.97 (1.04 in Beijing).

Housing stock in China in 2008: floor space stock is 68,345,600sq.m, and selling price of house is: \$588/sq.m in 2008.

The Construction cost of 6-stories masonry structure is \$214 /sq.m, frame structure is \$320/sq.m, and steel structure is \$500 /sq.m.

Table 1: Proportion of Household by Sources of Housing ( 2005 )

Unit:%

SN	Item	National Total	Beijing
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1	Self-built House	69.1	22.3
2	Purchasing Commercial Housing	7.0	12.1
3	Purchasing Economically Affordable Housing	2.9	3.2
4	Purchasing Former Public-owned Building	8.8	27.5
5	Renting Public-owned Building	3.3	14.6
6	Renting Commercial Housing	5.7	16.5
7	Others	3.4	3.7

Data in this table are extracted from the 1% Population Sample Survey in 2005. The sampling fraction is 1.325%.

Table 1 above indicates that in Beijing (especially in the inner city), the proportion of self-built houses is far lower than the national total. On the other hand, the proportions of purchasing or renting former public-owned housing and purchasing or renting commercial housing are much higher in Beijing than the national total. This mostly due to the fact that such source of housing is not allowed any more by the government, and the urban population can only get their housing problems solved by access to the commercial building segment and the social housing system in the future.

### Access to and cost of Basic Services/Infrastructure

The infrastructure is provided by the government, and the user pays the utilization fee. The using cost of water: \$500/tons. A family normally pays about \$5 for water per month. The using cost of electricity: \$74/1000field. A family normally pays about \$10 for electricity per month.

There is a policy of nine years system compulsory education in China. A Chinese family normally needs to pay about \$15,000 for one child from his kindergarten to university. Take Beijing as an example (data obtained from a survey conducted in the urban areas of Beijing), Cost of kindergarten: \$130-150/month; Cost of the K9 education: \$20/year (financed by the government, and the households only need to pay for the textbooks); Cost of high school education: \$150-200/month; Cost of higher education: \$200-250/month.

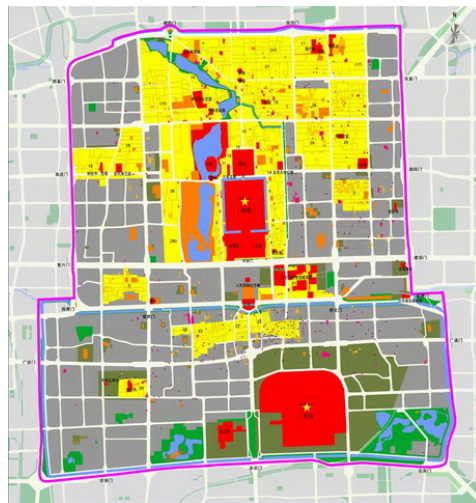
### 1.3 Housing Policy

Tenure of houses is 70 years in China. Ownership of land belongs to the state, while ownership of houses belongs to the household. China has the relatively explicit housing policy and the development mentality. China determined the clear housing supply system in 1999. The government advises the

lowest income families to rent the low-rent housing, the mid and low earning families to purchase economy house, and the high-income families to purchase or rent the current price on market commodity apartment.

The urban renewal in many old cities in China relieves the pressure in the inner city or old area of the city and improves the living condition of the residents (*Image 1*). However, it also results in some problems. One problem is the relocation of many original residents of inner city and the related social problems. Because of the historical reasons, more residents than what could be accommodated moved to and lived in the inner city. If the old area is to be renewed, some of the residents will have to be moved out of the inner city to give space to the new development. This causes many social problems, such as of securing the rights of the original residents to continue living in the area.

Another problem is the destruction of the traditional domestic architecture and the heritage of the old city. This has something to do with cupidity of the real estate development, and is also related to the exigent intention of the governmental officials to change the inferior sight of the old city.



*Image 1*

#### 1.4 Actors in Shelter Delivery and their Roles

Central government: The central government develops policies on land use, residential building construction, sales and use, financing and taxes. Collection and disclosure of the related industry data nationwide is also within the responsibilities of the central government.

**Local government:** The local governments introduce specific rules and guidelines pursuant to the applicable regulations and policies of the central government, and then take responsibility for their implementation. The local governments also play a key role in local urbanization.

**NGOs:** The NGOs, well represented by China Real Estate Chamber of Commerce (CRECC), come out with suggestions on policies and development for the government, delivering reports of policy implications based on the tracking, examination and study of the real estate market in collaboration with other research institutions, and boosting healthy development of the industry by organizing communications and exchanges between the real estate developers.

**Research institutions:** China's research institutions are mostly collocated with universities and academic organizations. They are commissioned by the government or NGOs to conduct theoretical research and submit desired proposals for policy development. The research institutions also offer relevant education programs in colleges and universities based on the research results and demands of industry development so that the theoretical knowledge can be put into application in a timely and effective manner.

**Real estate developers:** The real estate developers are engaged in housing construction, sales and post-service following government policies.

**Banks and other financial institutions:** provide financial support to both the real estate developers and the estate purchasers.

## 1.5 Shelter Design

Before 1999, the Soviet Union's experience in housing design was highly valued in China. After 1999, the residents' needs have been further highlighted in the housing design. The residential planning, the graphic design of housing needs, the consideration of factors, such as, aesthetics, energy saving and indoor lights, the outdoor landscape design----the natural, aesthetic and practical elements, as well as, other functional requirements, are now being taken into consideration in the housing design. The equipment systems need to be designed as comprehensive,

efficient and environment-friendly so as to improve the occupants' comfort and at the same time reduce the living cost.

In the old city of Beijing, the housing design is closely related to the urban renewal. The designer should first carefully analyse the actual conditions of the housing area in old city, such as, the number of households and population in this area, the municipal facilities, the current status of the original buildings, the requirements of the government, investors, and local habitants, etc.. Then the designer can develop the plan and design of the housing area. Two of the most important strategies are: first, a careful and thorough survey of the actual conditions of the housing area which is to be planned; second, a full understanding of the comprehensive plans for the preservation of the old city of Beijing.

## 2 Organisation

China Architecture Design & Research Group (CAG) is a large state owned enterprise, the original body was the Central Design Company established on 1952. CAG's main business scope includes architecture design and consultation, urban and town planning, municipal engineering comprehensive design, etc. The Group has active contributions to the fundamental, policy researches, national and local standards and codes, protection of national cultural heritages, promoting techniques and results of scientific research into production, and on professional techniques progress and creativity etc.

Some important state level centers, labs, bases, include the "China National Engineering Research Center for Human Settlements," "Environmental Sanitary Engineering Technical Research Center of the Ministry of Construction" "Key Scientific Research Base of the Conservation Planning for Cultural Heritage of the State Administration for Cultural Heritage" and the "National House Applicants Testing Lab." These are all stationed in the Group.

CAG has directed or completed a batch of important national and ministerial level science development programs and projects of technology researches. From 1986 to 2006, CAG has won 309 scientific research prizes, including 22 national prizes, 124 provincial and ministry level ones.

I am one of the vice chief architects of CAG, and lead an architecture design studio. My interests of work and research focus on architecture design and urban design & study.

### 3 Shelter Problem

The shelter problem I would like to focus on in my work, not only within this programme but also in the future is: New In the Old - Problems and Strategies in the regeneration of Long Fu Si Area in the Old City of Beijing, China. In contrast to other old and historical cities in the world, the old city of Beijing was destroyed at a large extent in the 60 years due to several of historical reasons (such as the location of the huge area of administration of central & Beijing local governments in the inner city, backout of the gates and walls of the old city, and large-scale development of real estate & eager for quick success and instant benefit in the old city).

Thus, the approach “Regeneration” is more appropriate than other approaches, such as, “Renewal”, “Reconstruction”, “Renovation”, because Regeneration involves the creation of the cityscape, urban space and architecture containing new life for the habitants, based on original pattern, scale and spirit and attitude of preservation and protection of the area of old Beijing. This is, however, a very difficult , complicated, systematic task.

TO undertake this task, it is better to start with one relatively small project within the old city of Beijing to test and study as a pilot project. Thus, in this proposal, the Regeneration of the old city will start with Long Fu Si, as a pilot project. The experiences and learning lessons gathered in this proejct can then be used at a larger context and applied in other succeeding areas in the old city of Beijing to be regenerated.

#### 3.1 General Introduction of old City of Beijing

Beijing is located in the northwest of the North China Plains. The current old city of Beijing has about 800 years history as a capital city (Da Du of Yuan Dynasty, Beijing of Ming and Qing Dynasties). The old city has a very unique and remarkable urban pattern and architectural features. It followed the classical principles of the ancient Chinese urban (capital city) planning----“...The builder



built a square capital (city), each side of which is 9 li long and has three gates, and the inside of which is laid out with 9 roads both longitudinally and latitudinally with 3 lanes each..." (*Zhou Li, Kao Gong Ji – King's City*). "Beijing is an incomparable masterpiece of human urban planning" (Liang Sicheng) (*Image 2-3*).

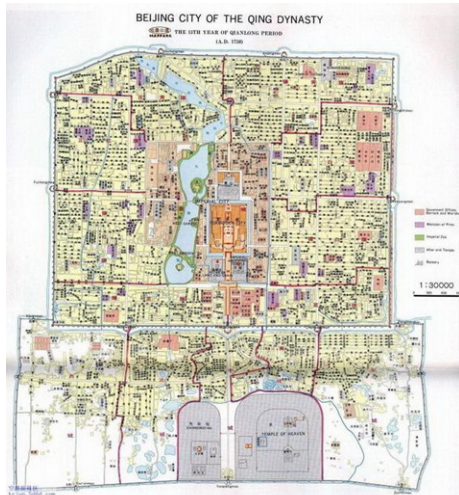


Image 2



Image 34

Along with the rapid and mass urbanization during the recent 30 years in China, more and more problems are being explored in the urban planning and architectural design. The old city of Beijing has also suffered and is still facing big challenges. It is a sensitive and complex question on how to preserve the old city in a sustainable way.

### 3.2 Problems of Old City of Beijing on Heritage-preservation and Inhabitation-improvement

There are two extreme status of the current old city of Beijing: either the insupportable dilapidation of the old residential area, which resulted in bad living conditions of the inhabitants (*Image 4*), or the blind inbreaking of voluminous real estate buildings to the old city area leading to destruction of the scene and pattern of the old city (*Image 5*). An additional situation is the relocation of the many original residents of the inner city and the related social problems during the process of the urban renewal of the old city.



Image 5



Image 4

### 3.3 The Former Studies & Projects on the Renewal of the Old City of Beijing

#### 1. Ju Er Hutong and Study of “Organic Renewal of Old City of Beijing”

Ju Er Hutong is a project and extensive study of a small fragmented estate composed of clusters of high quality courtyard prototypes, with elaborate design inspired by the traditional Chinese architecture in the old city of Beijing. But the great complexity and high quality of the project have translated into very high costs, which have resulted in the low number of returning residents (*Image 6*).



Image 6

#### 2. Dongsi Sitiao Hutong and Project of “Renovation & Remedy of Old City of Beijing”

Dongsi Sitiao is one of the 218 reconstructive Hutong projects planned by Beijing Municipal government. The principle of the reconstruction is “Remedy Old As Old”. The project improved the living conditions of the inhabitants, and got back the scene of the old city. However, it is limited by the traditional form of architecture and layout of space, without more relevantly reflecting the new and contemporary life and related form, material, space and layout (*Image 7*).



*Image 7*

In general, both of the above-mentioned former studies & projects have their successful advantages on heritage-preservation and inhabitation-improvement of the old city of Beijing. However, the approach of the two projects have limited application in other areas of the old city, thus, the chances of replicating these projects at a broader context is very small.

## 4 Proposal for Change and Improvement

### 4.1 The Method of Study and Implementation

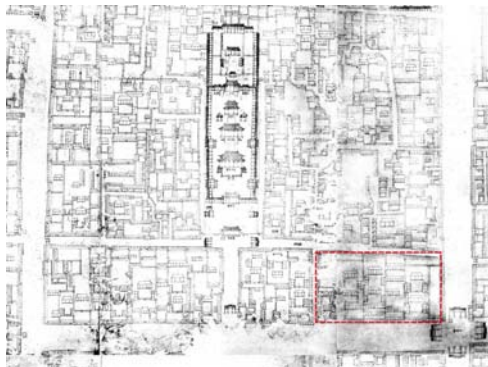
It is complicated to analysis the problems and develop proper strategies in the general issue of renewal of the old city of Beijing. In this study, I would like to focus on a real and detailed project: Regeneration of Long Fu Si Area. With this project, we hope to finalize and develop better and integrated strategies for the renewal of this size-limited area, and to achieve both the preservation of the heritage and the improvement of the conditions of the inhabitant in this area. Further more, as a possible successful project example, the possibility of on site settlement of the original inhabitants based on the project strategies could be discussed with related departments and leaders of the municipal government. As a long term goal, if this plan is successfully achieved, this project as well as the

learning experiences, strategies and methods, could be extended at a larger context and applied in other regenerated areas in the old city of Beijing.

#### 4.2 The Introduction of Long Fu Si Area and the Project

Long Fu Si Area is located in the northeast of the old city of Beijing. It is just in the northwest corner of the famous Dong Si Pai Lou, which is one of the two most important commercial area of the old Beijing symmetrical with each other with the south - north city axis of Beijing. The other one is called Xi Si Pai Lou located in the other side of old Beijing. It is also neighbouring the Long Fu Temple, for which this area was named after. Long Fu Si Area has a long history as one of the most famous commercial areas in Beijing (*Image 8*). There are also many households in this area. The houses either belong to government (68%) or to private persons (32%). However, the land belongs to the state.

The residential buildings are in bad conditions because of years of the people's temporary and unplanned additional construction due to their shortage of housing. This unreasonably high density of settlements, very low-standard maintenance of housing and lack of ownership, resulted not only in the poor living conditions but also the unavoidable destruction of the traditional courtyard houses as well as the destruction of the original features & quality of the old city (*Image 9*).



*Image 8*



*Image 9*

Following the rapid development of subways in Beijing, Line No.6 of subway is going to pass Long Fu Si area. There will be a stop here and at least two exits and entrances will be located in this plot area. This area is planned by the municipal government to be a renewed commercial area. The original

inhabitants will almost be removed and be relocated in other areas of Beijing (not in old city anymore- the new location is not known yet) (Image 10-11).

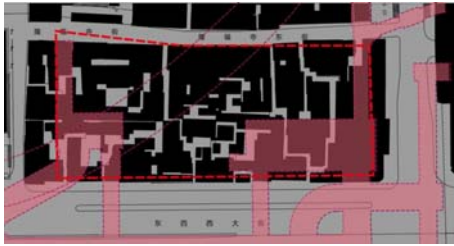


Image 10



Image 11

### 4.3 The two focused Aspects of the Study and Pilot Project

This study and pilot project will focus on the two following aspects:



Image 12

One aspect is the preservation of heritage and regeneration in the old city. In this aspect the possible strategies will be determined to realize a lively renewed commercial area, while at the same time, the original scene of old city (pattern, size, scale, density, etc.) in this area is regenerated using contemporary design, method and materials with some of the original repairable housing in good quality kept and preserved (Image 12).



Image 13

The other one aspect is the improvement of the the welfare of the original inhabitants of the area, who will be resettled. In this project, the original

inhabitants' relocation will be taken into consideration and the possible survey of these households will be made. Under this aspect, it is also important to discuss with the related departments of the municipal government about the possibility of on site settlement of the original inhabitants particularly in other similar renewal projects in the old city of Beijing based on the project strategies (Image 13~15).



Image 14



Image 15

#### 4.4 Other Aspects to be considered for future tasks include:

1. The Design and Environmental Aspect: Preserving the Heritage and Regeneration of the Old City
2. The Social and Economic Aspect---- Inhabitation - Improvement and Regeneration in the Old City
3. Possibility for a Wider Application of the Strategies for Regeneration for the whole Old City of Beijing

## 5 Conclusion

In this practice and study, before the project finishes, before summary of project and study experience during the whole process of design, construction, the dialogue with the inhabitants and discussions with municipal government, the conclusion is difficult to draw.

The conclusion of the proposal is open up to now, and will be open until we see what happens in the process of the limited-area pilot project, and what changes & improves in the regeneration for more broad areas or even the whole Old City of Beijing based on the lessons and experiences of this pilot project and study.

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