HOUSING AND URBAN UPGRADING
in Yantai, China

UN-HABITAT

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME

The Human Settlements Financing Tools and Best Practices Series

Housing and Urban Upgrading in Yantai

Disclamer

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HS/947/07E

ISBN: 978-92-113-1923-1

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Design and Layout by Anne Musotsi
United Nations Human Settlement Programme (UN-HABITAT)

Printed at UNON/Publishing Services Section/Nairobi

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FOREWORD

The global housing crisis, especially in the developing world, is getting worse by the day making the right to adequate shelter a quest that is becoming more and more difficult to meet, despite the targets set by the Millennium Development Goals.

Such is the rate of urbanization – the influx of people into towns and cities, and their natural growth – that the world has now reached a point where for the first time now, half the global population lives in towns and cities.

By the year 2050, six billion people – two-thirds of humanity – will be living in towns and cities. And as urban centres grow, the locus of global poverty is moving into towns and cities, especially into the burgeoning informal settlements and slums, of the developing world. In the developing world, this is happening so fast that slums are mushrooming in what is termed the urbanization of poverty.

This makes it imperative that we use every means at our disposal to ensure that we at UN-HABITAT, and our partners, keep applying ourselves to Target 11 of the Goals – to achieve significant improvement in the lives of at least 100 million slum dwellers, by 2020.

And for this, we need innovative governance, and local thinking and reporting if we are to bring hope to the urban poor. Equally importantly, we need to support our towns and cities, indeed our countries, to adopt pro-poor policies and strategies that will obviate the need for further slum creation.

It is against this background, that the Human Settlements Financing Tools and Best Practices series focuses on the development of know-how, knowledge and tools so that Member States can learn from China's experience in delivering affordable housing to the poorest of the poor.

Anna Tibaijuka
Under-Secretary-General of the United Nations
UN-HABITAT, Nairobi, 2008
Executive Director
UN-HABITAT

ACKNOWLEDGEMENTS

The Chinese city of Yantai's achievements in the area of housing and urban upgrading projects have won national and international recognition. Slum and urban upgrading is a major plank in UN-HABITAT's agenda and strategy. Therefore, ongoing slum and urban upgrading initiatives can learn from successful experiences around the world and further explore innovative methods and tools to further their objectives.

This is why the Executive Director of UN-HABITAT, Dr. Anna Tibaijuka, requested a review of the experience of the city of Yantai (Shandong province, China; area population: 6.5 million) with regard to housing and urban upgrading, including financing mechanisms, for possible replication in, and comparison with, slum and urban upgrading policies in other parts of the developing world. This knowledge development and sharing mission to Yantai was undertaken by Xing Quan Zhang between 5 and 10 December 2005. Particular thanks are due to Wang Guo Qun, Jin Yan Ming, Li Bing Zhi, Mu Yibin, Sun Jianwen, Zhao Lijing, Chu Liang, Yan Hongmao, Sun Xiao Li, Gao Chijin, Fan Guoyao, Luan Shen Ming, Huang Yongping, Shao Jie, Li Shou Peng, Liu, Yang, and Ge Song, who are respectively from the municipal authority and the banking, development and community sectors in Yantai.

This report was prepared by Xing Quan Zhang mainly based on interviews and site visits to housing and urban upgrading projects in Yantai. This mission took place as Yantai experienced its heaviest snowfall on record. The Yantai Municipal Authority led the operations of cleaning up the snow on traffic roads, and did remarkably well. During subsequent site visits, in a way it was not a surprise to see that the same efficiency had been achieved in housing and urban upgrading.

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EXECUTIVE SUMMARY

Over the past two decades or so, China has experienced one of the most rapid urbanization periods the whole world has ever been going through in history. The country's urban population trebled from 172.45 million in 1978 to 523.76 million in 2003. Statistics show that China has provided adequate housing for close to 100 per cent of its urban population. Between 1998 and 2002, profit-making developers provided housing for more than 54 million households, which was about 150 times the annual average target set by the United Nations' MDG target for slum upgrading in the whole world. The total housing stock built in China during that five-year period could accommodate the entire population of the USA, or two countries as large as Japan, four as large as the UK or 75 times the size of Singapore. This is quite a miracle.

This mission to Yantai was very short,, consisting of three days' interviews and one day's site visits. This short duration is of course dwarfed by China's exceptional achievements. Documenting every aspect of that miracle is outside the scope of this report,, which focuses on a small aspect – housing and urban upgrading in Yantai.

In order to give readers a broad picture of the background and context, the first chapter examines the housing problems in China up until the late 1980s. The second chapter describes China's subsequent awesome achievements in housing and urban development in the face of rapid urbanization. Chapter 3 focuses on case studies in Yantai and describes the types of housing and urban upgrading initiatives that have taken place there. Finally, we examine how the housing and urban upgrading projects are financed in China. One point to keep in mind is that after the major 1988 reform, China encouraged innovation in housing and urban issues, resulting in many local variations in policies. Therefore, Yantai's specific experience cannot be seen as encapsulating all the approaches that have been adopted over the years in China.

In Yantai, four main types of housing and urban upgrading projects can be found:

- Urban upgrading, focusing on improved physical environments in neighbourhoods
- Upgrading of urban infrastructure facilities and services.
- Neighbourhood-wide redevelopment.
- Multi-sector urban upgrading

Different types of urban upgrading entail different financing mechanisms. In Yantai, urban upgrading projects are generally financed in the following ways:

- *Local Government Budgetary Funding.* Local government takes the lead in financing partial upgrading projects such as

improving the external physical environment of neighbourhoods. Compared with many other countries, local governments in China have much more financial resources – they account for 70 per cent of total public expenditure. Financial decentralisation enables Chinese local governments to levy quite a number of local taxes, giving them a good revenue basis to finance urban upgrading projects.

- *Central Government Funding.* Central government funding is not so conspicuous in comprehensive area-wide urban upgrading projects. This is because it is mainly channelled through inter-government transfers and financing through State-owned utilities which participate in urban upgrading.
- Co-financing of Stakeholders and Users. Local government requires beneficiaries to co-finance upgrading projects, particularly for urban infrastructure and facilities.
- Borrowing by the Municipal Government. A municipal authority borrows from banks to finance urban upgrading projects.
- Financing by Developers. Financing by developers is often used for neighbourhood area-wide and large-scale, multi-sector urban upgrading projects. Developers can finance whole upgrading projects or parts thereof when they are large-scale..
- The Housing Provident Fund. Provides loans to individuals to improve their homes.

THE NATIONAL BACKGROUND: YESTERDAY'S CHINA AND ITS HOUSING PROBLEMS[1]

Introduction

Few other areas affect human beings as much as housing does. Housing is vitally important to everyone's life as shelter. Housing conditions have a major influence on people's health, attitudes, opportunities and quality of life[2]. The privacy, comfort and independence that housing can provide have always stood as success symbols for individuals' lives[3]. However, despite vast improvements in housing conditions, the situation leaves a lot to be desired all over the world. Housing problems are far from being solved. They arise from different circumstances and vary across countries and over time. The nature of housing issues often depends on a country's social, economic and political conditions prevailing at a given time, as well as people's attitudes towards living standards and their expectations for housing improvements[4]. Policy objectives also have a role to play. The main objectives are to provide everyone with decent and affordable living conditions, and to ensure equality in housing distribution. However, government policies do not always match these objectives. Housing problems arise from mis-matches between policy instruments and objectives, as well as from conflicts between various housing and non-housing objectives. Housing problems also arise from conflicts between limited resources and objectives.

China's housing problem has been acute by any standards. During the first half of the 20th century, China suffered from protracted civic wars. Japanese invasion caused most severe damage to the housing stock. After 1949, the new Chinese government under Mao gave top priority to the nation's industrialisation. An anti-consumption policy bias further weakened government investment in housing and rapid urbanisation compounded the problem. In the late 1970s, severe housing problems surfaced again at an alarming scale, which gave then-leader Deng Xiaoping a strong reason for a major overhaul of the housing system in 1988.

This chapter explores the range and scale of the legacy of problems China had to cope with before housing reform was implemented nationwide in 1988. The problems caused by the housing reform itself will be discussed in Chapter 5. This

chapter examines three major aspects of the China's housing problem: physical conditions, social issues, and economic issues.

Physical Problems

The objectives of China's housing policy are an indicator of the problems the country faces in this area. The most significant such indicator has to be the physical condition of buildings. These are discussed in this section under two broad headings: housing shortage and substandard housing.

Housing Shortage

In 1949, the Communist Party won the Civil War and inherited a country almost ruined by endemic conflict. The economic challenges that China faced were tremendous. Housing was in severe shortage. For example, average living space per head was 4.6 m^2 in Kunming[5], 4.5 m^2 in Guangzhou[6], and only 3.9 m^2 in Shanghai[7]. Average living space per head was the only official indicator to estimate the housing shortage. The term is rather abstract and misleading. It cannot show the actual distribution nor the extent of the shortage. There still is no available data about the number of dwellings to show the true shortage. Furthermore, the majority of the existing housing stock was not made of self-contained units and in many cases several generations or even households were squeezed into a single unit. Therefore, the housing shortage was far more severe than average living space per head suggested.

After 1949, the severe overcrowding and poor housing conditions were drawn to the public attention. An excellent account of the situation was provided by a famous writer, Lao She in his drama *Longxugou*. This refers to a residential district in central Beijing, where there were no proper sewerage or waste disposal systems. Sewage would often overflood and rubbish was piled up in mountains everywhere in the area. This was a typical scene in many urban residential areas in 1949. Shanghai's slums were also very well known for this.

The new government thought the housing problem was important as it affected everyone, and began to address it immediately after the founding of the People's Republic of China. The new government took three steps to reduce the severity of the housing problem. First, the government confiscated the properties of 'war criminals, traitors and anti-revolutionaries'. Most confiscated buildings were allocated to the working class for housing, except for a few used by new government departments. For example, Nanchang city confiscated 1,898 buildings which were used to house 60,000 residents. In Dalian, 23,900 households moved into formerly Japanese-occupied houses[8]. In Guangzhou, 1,458 buildings were confiscated, as were 54,653 m^2 of usable area in Kunming. In the meantime, the government took over the properties of the former *Guomingdong* (Nationalist Republic Party) government as soon as the Communist regime started. This included 6,216 buildings with a total *jianzhumianji*[9] of 787,200 m^2 in Guangzhou and 4,634 buildings with a total usable area of 14,642 m^2 in Kunming.

The second step the new government took consisted of, large-scale housing repairs to improve the housing conditions of the working class. Between 1949 and 1952, 20 million m^2 of housing were repaired. In Kunming, more than 80 per cent of the public housing stock was in serious disrepair. An overall repair was conducted soon after 1949. In Guangzhou, 28,317 buildings were repaired by 1955[10]. As a third setp and regardless of financial difficulties, the new government had 10 million m^2 of new housing built between 1949 and 1952. Under the call of Communist Party Chairman Mao Zedong to build a new China, people were highly motivated. Workers and their families vied with each other to come to the housing construction sites to do voluntary work. In 1952 in Tianjin, more than 900,000 m^2 housing was built for 170,000 residents. By 1952, Chengdu had built 77,000 m^2 of housing, Tanyuan 276,000 m^2, Jinan 204,000 m^2 and Beijing 1.6 million m^2. By 1952, the national average living floor area per head had reached 4.5 m^2 [11]. Therefore, the severity of the housing shortage was mitigated to some extent.

After three years' economic recovery, China launched a new, large-scale construction scheme under the first Five-Year Plan (1953-1957). The primary goal was to lay down a foundation for the country's industrialisation. The period between 1953 and 1957 saw a nation-wide economic boom. Many new factories, towns and cities mushroomed all over the country. Existing cities also expanded very rapidly through construction of new factories[12]. Extensive industrialisation was accompanied by rapid urbanisation. Between 1949 and 1957, China's urban population grew from 57.65 to 99.49 million, with its share in the total population jumping from 10.6 to 15.4 per cent[13]. The most rapid urban growth happened under the first Five Year-Plan, especially in 1956. The period also saw a great variation in urban population growth across cities and regions. This is because Central Government designated a number of key cities which were given priority for industrial development, and which as a result underwent tremendous demographic growth. For example, between 1951 and 1956, population grew from 259,000 to 628,000 in Lanzhou; from 600,000 to 1,250,000 in Xi'an; by 140 per cent in Anshan and by 150 per cent in Qiqihar[14]. Even in remote cities, the population also increased very rapidly – in Kunming, for instance, from 316,000 in 1949 to 540,000 in 1959[15].

An influx of population from rural to urban areas added to the severity of China's housing shortage. The demographic growth rate was far beyond the country's economic capacity to provide adequate housing for all the urban population. New housing construction could not catch up with the pace of urban growth. For example, in Tanyuan, the housing stock increased by a multiple of 2.67, compared with 2.83 for the urban population. As a result, average floor area per head shrunk from 2.65 m^2 in 1949 to 2.27 m^2 in 1957[16]. In Kunming, the decline was even steeper, from 4.6 m^2 in 1949 to 2.68 m^2 in 1956[17].

Government emphasis on industrial development and comparative neglect of infrastructure and housing development was another major reason behind the housing shortage. During the 'Great Leap Forward' period (1958-1960), the

construction of industrial enterprises was conducted on a much larger scale and at a faster pace than before. Demand for labour was huge. In Harbin, the total number of industrial enterprises almost doubled from 722 in 1957 to 1,423 in 1960; the number of employees in industrial enterprises increased by 131.75 per cent, from 148,000 to 343,000 during the period. In the meantime, China's total urban population increased by 3,124,000 . Although the total housing floor area expanded by 3,071,000 m^2 [18], average living space per head in cities shrunk again, from 3.6 m^2 in 1957 to only 3.1 m^2 in 1960 (Table 1.1). In Guangzhou and Kunming, the average fell to its lowest point between 1949 and 1960, from 4.5 m^2 to 2.76 m^2 in Guangzhou and from 4.6 m^2 to 2.2 m^2 in Kunming[19].

One explanation for people's tolerance towards poor housing conditions may be that their spirits were buoyed up by the defeat of the Japanese and the *Guomingdong* respectively in 1945 and 1949, and of the Americans in the 1950s. A sense of pride pushed material concerns aside. People were prepared to sacrifice their physical needs to achieve the nation's goal. "First the nation, then oneself" became a popular slogan at that time.

Table 1.1 Housing Conditions in All Chinese Cities *

Year	Total living space (million m^2)	Living space per head (m^2)	New housing built (million m^2)
1957	161.28	3.6	1,2.86*
1960	N/A	3.1	1,0.24•
1963	207.60	3.2	4.00
1978	277.17	3.6	22.88
1979	313.73	3.7	39.95
1980	345.05	3.9	55.96
1981	379.96	4.1	64.18
1982	420.58	4.4	69.47
1983	465.09	4.6	76.05
1984	51446	4.9	73.72
1985	588.32	5.2	88.60
1986	698.13	6.0	98.50

*Notes: * In China, 'city' means an urban area with a non-agricultural population of no less than 100,000, or with fewer inhabitants but strategic importance.*

**This is the average new housing built per year between 1953 and 1957*

•This is the average new housing built per year between 1958 and 1960

Sources 1. China Urban Construction Yearbook 1986-87, p558

2. Modern China Urban Construction, 1990, p76

Table 1.2 An International Comparison of Living Space per head in Selected Countries (Cities) in 1992

	Country (city)	Average living space per head (m^2)
	China (all urban areas)	6.90
	UK (London)	31.93
	USA (Washington DC)	68.65
	Norway (Oslo)	42.00
Developed countries	Sweden (Stockholm)	40.00
	Japan (Tokyo)	15.79
	Canada (Toronto)	41.10
	France (Paris)	32.40
	Australia (Melbourne)	50.70
	India (New Delhi)	8.06
	Egypt (Cairo)	12.00
Developing Countries	Israel (Tel Aviv)	24.00
	Hungary (Budapest)	23.50
	Malaysia (Kuala Lumpur)	18.58
	Brazil (Rio de Janeiro)	19.35

Sources: Data on China: China Statistics Yearbook 1993

Data on other countries: Z. Q. Lin, Establishing a Comprehensive Criteria System for World Housing Activity, Occasional Paper, Beijing: China Institute of Urban Planning and Design, 1993

Although the average living space per head in Chinese cities began to rise after 1960, the housing shortage remained very much the same throughout the 1970s and 1980s. It was much lower than in developed and most developing countries. Table 1.2 provides an international comparison. By 1992, average living space per head in China had improved to 6.9 m^2 . Still, this was less than half the Japanese standard, a quarter of the British, one sixth of the Norwegian, and almost one tenth of America's. China's living conditions did not even reach half the standards of most emerging/transition countries such as Malaysia, Israel, Brazil or Hungary. Living space was also smaller than in China's largest neighbour – India (see Table 1.2).

However, it would be misleading to use average living space per head as the only housing standard. Indeed, this indicator may underestimate China's past housing shortage; the reason is that as average living space increased, average household sizes became smaller and the number of households increased faster than population growth (Table 1.3). As a result, the gap between the number of dwellings and the number of households has not fallen very markedly. The numbers of dwellings and households can more accurately reflect the housing shortage than average living space per head. The problem is that no such data is available in China. As a result, this author has had to make his own calculations for the number of dwellings.

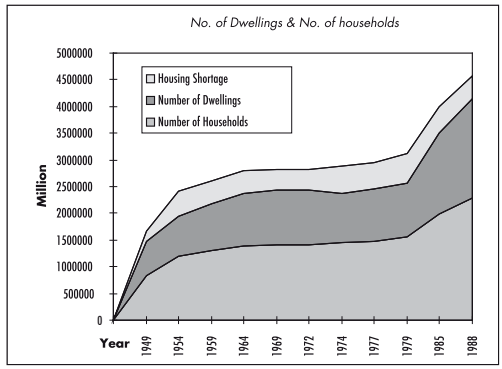
Table 1.3 Average Household Size and Living Space in Shanghai (1949-1988)

Year	Population (million)	Average Household Size (persons)	Total Living Space (million sq. m)	Living Space per head (sq. m)
1949	4.19	5	16.1	3.9
1954	5.67	4.7	18.19	3.2
1959	5.87	4.5	21.99	3.7
1964	6.42	4.6	24.45	3.8
1969	6.08	4.3	25.31	4.2
1972	5.64	4	25.71	4.6
1974	5.62	3.9	23.09	4.1
1977	5.47	3.7	24.37	4.5
1979	5.91	3.8	25.48	4.3
1985	6.98	3.5	37.82	5.4
1988	7.32	3.2	46.23	6.3

Source: Editorial Department, Shanghai Housing 1949-1990, Shanghai: Shanghai Science Popularisation Press, 1993

Figure 1.1 estimates the gap between the number of households and the number of dwellings in Shanghai. It shows that from an initial 194,000 dwellings, the housing shortage soared to 478,000 units in 1954. By 1979, the shortfall in dwellings had reached 536,000 units.

Figure 1.1 Adjusted Balance between the Number of Dwellings and the Number of Households in Shanghai



*Notes: *The number of households is generated by the formula: Total households = (total population) / (average household size).*

**The number of dwellings is generated by the formula: Total dwellings = (total living space) / (living space per dwelling). According to Dai (1984), average floor area per dwelling is 50 m2. In China, the living space of a dwelling is normally regarded as 50 per cent of the floor area. Therefore, in this table 25 m2 stands as the average living space per dwelling to calculate the number of dwellings.*

** Housing shortage = (Total Households) - (Total dwellings).*

Sources: Adopted from Table 1.3

Table 1.4 summarises China's nationwide housing shortage in 1985. The shortfall in dwellings in urban areas[20] was 26.5 per cent of total households. The housing shortage was more severe in cities: at 28.78 per cent[21], it stood 6.7 per cent higher than in towns. By 1987, the dwellings deficit has increased to 31.6 per cent of total households in city areas[22]. Since this estimate does not take account of serious disrepair and unfitness, it may understate the severity of the housing shortage.

Table 1.4 Adjusted Balance between the Number of Dwellings and the Number of Households in China (1985)

	Dwellings	Deficit as % of total households
All Urban Areas	-10,539,050	26.5%
All Cities	-7,537,482	28.78%
All Towns	-2,998,464	22.08%

*Sources: *Column (2): generated by [(total households) x (deficit as % of total households)].*

**Column (3): China National Housing Survey 1985*

The statistics also show that the housing shortage is concentrated in major industrial areas, especially Shanghai. Less industrialised areas are also those with the lowest percentages of households lacking adequate homes, as is the case for instance in Ningxia province, where the shortfall was the country's lowest at 12.09 per cent in 1987. By contrast in northern provinces like Liaoning, Jilin, Helongjiang and Tianjin, that feature high levels of industrialisation and urbanisation, housing shortages are more severe, with more than 40 per cent of local households lacking adequate homes. In Shanghai, the proportion is 49.98 per cent.[23]

The waiting time for public housing allocation is another indication of housing shortages. In China, around 90 per cent of the housing stock is owned by public authorities, and employees usually must wait for some time to access it. For younger employees the delay is much longer. Some people wait for a lifetime and never get a chance to be allocated a public housing unit. In 1994, this author conducted a household survey in Kunming. Of the 79 filled-in questionnaires, 60 specified the number of years respondents had to wait to get their first housing unit, and 58 of these answers were deemed valid[24]. The survey showed that respondents had to wait an average 12.16 years before they were allocated their first public housing units. Before the mid-1990s, 50 per cent of the population stayed in their parents' homes. One third were living in dormitories, with several adult employees sharing a single room without basic amenities such as kitchen, toilet, bath, etc. Sometimes as many as eight would share one single room. On top of this, 6.25 per cent lived in slums and shanties before they were allocated housing units.

Homelessness was a big problem in China in late 1970s. The number of homeless households increased from 131 million in 1978 to 193 million in 1980[25]. A five-city survey (taking in Dhanghai, Wuxi, Suzhou, Shaoxing and Jiaxing) showed that 6.98 percent of urban households remained homeless in 1987. The definition of homelessness normally refers to married couples without housing and temporarily living with friends or in hotels or offices[26]. Many homeless households, such as homeless singles, are not officially considered homeless. Divorced couples and single parents may not be considered as homeless, either. Furthermore, the term 'homelessness' sounded so negative that many statistics and studies tend to use the phrase "housing hardship households", which normally includes four categories:

1. homeless households;
2. overcrowded households (i.e., with fewer than four square metres' living space per person);
3. 'inconvenient' households (e.g. ,opposite-sex adult sharing one room); and
4. households living in physically dangerous housing conditions.

Furthermore, some statistics on "housing hardship households" do not include homeless households. Therefore, Chinese statistics on homelessness are very limited in scope and incomplete.

China's homelessness problem is worsening with rapid urbanisation. At present, only married couples without housing are normally officially accepted as 'homeless households'. There are no accurate nationwide figures for homeless households. This author's survey in Kunming shows that the extent of homelessness is very serious. The Kunming Textile Factory alone reported 500 homeless households among employees. This figure only refers to the 8,600 permanent staff. The factory has another 2,300 fixed-term contract employees who are not officially entitled to housing services; they are homeless under any description though not officially considered as such[27].

Urbanisation has generated a great amount of such unofficially accepted homelessness. The Shanghai Floating Population Survey Group[28] found that 202,000 'floating' homeless people lived in the slums or streets of the city in 1988. In 1989, more than 133,000 immigrants working in Guangzhou had no homes to speak of; the number included 71,000 building workers, 27,000 self-employed and 35,000 rural enterprise employees[29]. Their housing conditions were not reflected in official housing statistics as they had no formal urban domiciles.

Substandard Housing

Since foundation of the People's Republic, China has experienced considerable improvement in housing conditions. Still, far too many dwellings remain inadequate or substandard. The 1985 National Housing Survey[30] showed that a majority of urban dwellings lacked basic amenities in one way or another. In city areas, 68.5 per cent of homes were not self-contained and lacked sole use of kitchens and toilets[31]. Lack of basic amenities was even more severe in Chinese towns[32], where 87.3 per cent of households had toilets, 52.3 per cent did not enjoy sole use of tap water, and 98.5 per cent had no gas facilities (Table 1.5).

Table 1.5 Lack of Home Amenities (1985)

	No sole use of kitchen	No sole use of toilets	No sole use of tap water	No piped gas
All urban areas	37.4%	55.8%	42.6%	91.9%
All cities	38.7%	69.8%	37.75	88.5%
All towns	34.9%	87.3%	52.3%	98.5%

Source: Adopted from the National Housing Survey 1985

By the mid-1980s, the disrepair remained almost as serious a problem as it was in the 1940s. Table 1.6 shows the age structure of the housing stock in China. A substantial amount of dwellings were built before 1949 and most featured structural or functional faults. Homes built in the 1950s, 1960s and 1970s were designed and constructed to low standards in order to allocate more resources to industrial needs. The low-quality housing completed before the 1970s needed repairs soon enough. For the last several decades, the number of

homes needing repairs has stayed around 50 per cent of the total housing stock[33]. In Shanghai, 52.1 per cent of the housing stock remained in poor condition in 1985 (Table 1.7).

In the course of fieldwork in a textile factory in Kunming, a retired lady showed this author her poor housing conditions and disrepair problems. She said her family was allocated their current public housing unit in the 1950s. Retirement meant, she lost any chance to move to a better home in the future. She very much disliked her home, which was on the ground floor. When it rained, the house flooded like a tiny lake. She said this was not a very suitable place for people to live in. She had worked her whole life and got such a poor house to live in. But what was more difficult to understand for her was that the rent increased substantially following the 1988 reform. When she retired, her income no longer increased but the rent and prices for everything else increased at a pace. Her housing conditions got worse yet the charge for the house increased. She could not conceal her unhappiness about her housing and the rent reform.

A fair amount of the housing in disrepair was officially considered as dangerous for people to live in. These dwellings were severely damaged or structurally unsafe and could collapse at any time. In Yunnan, 927,000 m^2 (or 3.1 per cent of the housing stock) were officially considered as dangerous housing and were still used for shelter.[34].

Table 1.6 Age Structure of China's Urban Housing Stock

Total households	Pre-1949	1950s	1960s	1970s	1980s
4,676,625,790	441,333,583	424,442,670	602,140,826	1,507,964,807	1,700,741,854

Source: National Housing Survey 1985

Table 1.7 Housing in Functionally or Structurally Poor Condition, Shanghai

Year	1985	1986	1987	1988
Unsatisfactory housing as % of total dwellings	52.1	50.1	47	44.7

Source: Y. L. Sang & Y. J. Zhong (eds.), Every Household Has a Dwelling, Shanghai: Tongji University Press, 1991

Overcrowding is another indicator of substandard housing. It is not formally regarded as 'a property of housing quality per se, but rather as the fit between the size of the unit and the number of occupiers'[35]. The effects of overcrowding on mental health and family life may be more severe than those of physically substandard housing conditions[36]. In Western countries, a ratio of 1.00 or more persons per room is used as a starting point for measurement of overcrowded conditions. A density of 1.5 or more is classified as severe overcrowding[37].

This author estimates that in 1992, the average density in urban China was 1.91 persons per room[38]. This was about 2.55 times as high as the density in Britain or Japan, 3.8 times as high as in Canada, and 4.9 times as high as in the USA (see Table 1.8). There are no statistics on the number of households living in housing conditions of more than 1.00 or 1.50 persons per room. However, the average figure suggests that overall, housing conditions are severely overcrowded.

Table 1.8 International Comparison of Living Densities (Number of Persons Per Room), 1992

	County (city)	Persons per room
China (all urban areas)		1.91
Developed countries	UK (London)	0.75
	USA (Washington DC)	0.39
	Norway (Oslo)	0.59
	Sweden (Stockholm)	0.56
	Japan (Tokyo)	0.77
	Canada (Toronto)	0.50
	France (Paris)	0.80
	Australia (Melbourne)	0.69

Sources: 1. Data on China: Author's estimate

2. Date on other countries: Z. Q. Lin, Establishing a Comprehensive Criteria System for World Housing Activity, occasional paper, 1993

At present, Chinese statistics use average living space per head as a criterion for the degree of overcrowding. Overcrowding is measured by a yardstick of 4.00 m^2 living space per head. This standard is low and misleading, and therefore probably understates the magnitude of overcrowding. Using 4.00 m^2 as the yardstick, 5,106,080 Chinese households lived in overcrowded conditions in 1985. Another 728,259 had less than 2.00 m^2 living space per head, which is officially considered as severe overcrowding (Table 1.9).

Table 1.9 Households in Overcrowded Conditions in China (1985)

	Total	Living space per head under 2.00 m^2	Living space per head between 2-4 m^2
All urban areas	5,106,080	728,259	4,377,821
All cities	3,506,018	568,124	3,937,891
All towns	1,600,062	160,135	1,439,927

Source: National Housing Survey 1985

Unsuitable living conditions make a special kind of overcrowding. In 1985, 468,259 households had three generations sharing a single room; 2,633,433 households had parents and adult offspring living in the same room; in 951,816 households, adult brothers shared a single room with their adult sisters; and another 101,903 households had two different families sharing a single room (Table 1.10).

Table 1.10 Households with Unsuitable Living Conditions, China (1985)

Total	3 generations sharing one room	Parents sharing a room with adult children	Adult brothers sharing a room with adult sisters	2 households sharing a room
4,155,411	468,259	2,633,433	951,816	101,903

Source: National Housing Survey 1985

Social Problems

Inequality

Inequalities can take a variety of forms such as housing quality, distribution of housing, and access to housing. In the 1940s in China, severe inequalities could be found in housing between low- and high-income households. High-income households lived in luxury, spacious houses controlled by the private rental sector. For instance, in Hangzhou, as little as three per cent of the population owned more than half the housing stock. In Suzhou, the respective figures were 3.3 per cent and 46.8 per cent. In the meantime, low-income households lived in overcrowded conditions. In Xi'an, low-income households lived in 116 slum areas with 300,000 m^2 of housing. In Chongqing, 1,950,000 m^2 of shanties housed the poorer 30 per cent of the city's population; In Shanghai, over one million lived in 170,000 shanty homes[39].

In the early 1950s, the new Chinese government sought to reduce inequalities in housing standards and conducted a great amount of housing redevelopment, repair and renewal. As a result, 20 million m^2 of housing were repaired between 1949 and 1952. In the same period, 3,600,000 m^2 were repaired in Beijing; 1,000,000 m^2 in Shanghai and 577,000 m^2 in Guangzhou[40]. Working class housing conditions were substantially improved as a result.

In the mid-1950s, China launched a 'socialist transformation' movement. Privately-owned housing was transformed into public ownership by any other name. Private housing construction virtually stopped. Instead, a socialist welfare housing system was established. Housing provision became the government's responsibility, either through local authorities or work units.

However, instead of reducing inequality, the socialist welfare system changed the nature of the problem. Inequality between individuals shifted from different income groups to different social groups. The government set up different housing standards for different social groups. The working class, being the most underprivileged social group, was only entitled to the lowest housing standards in terms of living space per head[41]. They were more likely to live in shared housing than other social groups.

A young couple at Yunnan Textile Factory described working class housing conditions as just a place for physical survival. This couple had worked in the same factory for more than 10 years, but still fell short of the number of points required for a simple housing unit. Both donated blood in order to increase their points (as arranged by some work units). Eventually, they were offered a single-room home without a kitchen or toilet. They thought that they and their daughter would have to live in this room for a very long time. Unfair housing allocation made them very angry. They said "working class people always live in the worst conditions, while some officials

keep upgrading their housing standards from time to time. We get no chance to move into better housing. After the housing reform, it became more difficult for working class people to improve their housing conditions"[42].

Inequality is felt not just across social groups but also across regions. Table 1.11 shows that in 1957 urban housing conditions (i.e., living space per head) differed widely across Chinese provinces. Living space per head in Guizhou was 2.6 m^2, which was less than half that in Ningxia with 5.8 m^2. Table 1.11 also shows comparable figures for later years, after introduction of the new welfare housing system. Between 1957 and 1985, expansion of living space per head was uneven: from 1.9 m^2 and 2.3 m^2 respectively in Shanghai and in Guangzhou between 1957 and 1985, to only 0.1 m^2 in Ningxia.

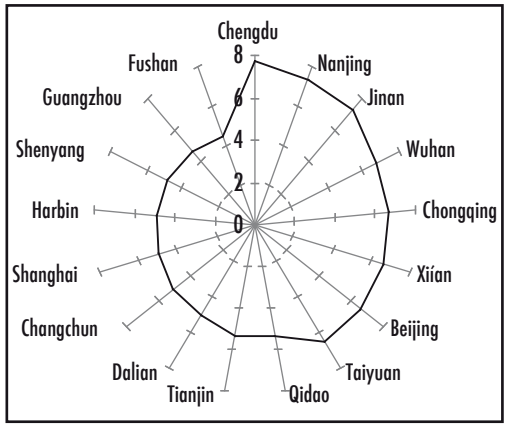
Table 1.11 Unequal Distribution of Living Space per head in Urban Provinces, China, 1957- 1985 (unit = m2/person)

	1957	1963	1978	1985
China	3.6	3.2	3.6	5.2
Shanghai	3.5	3.8	4.5	5.4
Beijing	4.0	3.7	4.6	6.2
Tianjin	3.3	3.1	3.5	5.0
Guangdong	3.4	3.0	3.7	5.7
Yunnan	4.2	3.1	3.6	6.2
Guizhou	2.6	2.7	2.5	4.7
Ningxia	5.8	4.1	N/A	5.9

Sources: China Urban Construction Yearbook 1986-1987, tables: 15, 16, 17, and 19

Figure 1.2 shows that unequal distribution of living space per head in cities was more obvious than in non-urban regions. In 1985, living space per head reached 7.74 m^2 in Chengdu, 7.38 m^2 in Nanjing, but only 4.65 m^2 in Guangzhou and 4.42 m^2 in Fushun.

In 1985 inequalities in housing were more severe across work units than across regions. People working in collective work units were more likely to live in substandard housing than those in State-run work units. Those in work units with better economic capacities were more likely to get better housing. Housing services are not related to individual performance (although they intend to be) but rather to the economic performance of the work unit as a whole. An individual with low work performance in a rich work unit is more likely to have better housing than one with good work performance in a poor work unit.



Source: according to data from Every Household Has a Dwelling

For example, at one university an assistant lecturer can be allocated a single room with sole use of tap water and toilet; at another university, two unmarried lecturers have to share one room without sole use of tap water or toilet. Some work units can provide a university graduate a two-bedroom flat as soon as s/he starts work, while some

others cannot offer even a single room to a PhD[43].

Inequalities in payment and allocation of subsidies Many inequalities of this type are associated with geographic location. Inequalities in payment and subsidies can be found across regions, cities and work units. Some regions or cities charge higher rents than others. Table 1.12 shows that rent in Guangzhou is 3.73 times as much as in Guiyang. Some work units and cities grant rent subsidies to households while others do not. Subsidies vary greatly across cities. In Urumuqi, households in public housing receive subsidies as high as 85 per cent of the rent. The distribution of subsidies is not related to household income or size. Subsidies are only granted to households in public housing and are normally calculated as a fixed proportion of rent. Therefore, households with relatively large accommodation receive more subsidy than those living in small housing units. In other words, people of high social rank receive more subsidy than the underprivileged. Private owner-occupiers do not qualify for any rent subsidies, though. In some cities, households in both public and private housing receive no rent subsidies at all, as is the case in Beijing and Shunyang (Table 1.12).

Table 1.12 Inequalities in Payment and Subsidies in China's Urban Regions

	Rent (unit: yuan/m2)*	Subsidies as % of rent
Beijing	0.126	0
Shunyang	0.12	0
Jilin	0.17	75%
Guangzhou	0.25	0
Chongqing	0.224	0
Kunming	0.148	2.18 yuan per household
Guiyang	0.067	0
Urumuqi	0.25	80-85%

*Note: * Rents in regions listed in this table are calculated according to the usable area of a dwelling.*

Source: Y. R. Zhang, A Guide to Real Estate Development in China, Herongjiang: Herongjiang Science & Technology Press, 1991

Restricted Choice and Access in Housing

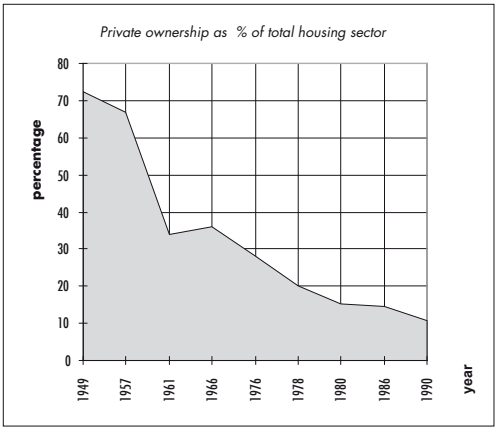
In China, limited housing choice results from several factors. Housing standards and amenities are set by the central government. The location of housing is determined by local government, work units, planners, etc.. Those applying for housing are left devoid of any choice in these matters.

Housing services to individuals depend on respective work units. The allocation of housing is subject to a points system which reflects the social status of an employee. Housing is a symbol of an individual's social status and is allocated accordingly. A hierarchical system of housing standards corresponds to a social hierarchy system. People in low social ranking cannot have access to high-standard housing.

Households in the lower social segments face fewer housing choices. Some households are unable to move and are trapped in low-standard or unsuitable housing. They lack the resources, social qualifications or alternatives to improve their housing conditions. For example, Mr. Zhou, a retired worker, began to work before 1949 in a textile factory in Kunming. He and his wife are still squeezed in his work unit's one-room home without a kitchen or toilet. They have never had a chance to move to a housing unit with a higher standard in their whole lifetime. This is because they lack the social qualifications for higher standard housing. They are socially low-ranking employees[44].

Choice of housing tenure is highly constrained because of unbalanced housing tenure structure and policy. Private ownership of housing was officially discouraged after 1949, especially after the 'socialist transformation'. The private rental sector has virtually disappeared in China. Today, two distinct types of tenure dominate in the country: public rented housing and owner-occupiers. The owner-occupier sector has tended to shrink and the public rented sector to expand. Therefore, the majority of the population who did not inherit owner-occupied dwellings from their predecessors have no choice of tenure choice except government-owned rented housing. Figure 1.3 shows the shrinkage of private ownership in the housing sector in Guangzhou.

Figure 1.3 Shrinkage of Private Ownership in Housing* in Guangzhou



*Note: * Statistics include housing as well as all other types of buildings.*

Source: Based on GREAB data.

Choice of self-build or co-operative housing has been constrained by access to funding, land and materials. Before the 1988 reform, financial institutions did not provide loans to individual households. Even since the reform, financial institutions only provide mortgages on very restricted conditions. Maturities are short and mortgages are frequently offered subject to an employee's work unit's guarantee to repay in case of default. Such conditions reduce the significance of mortgages in the promotion of non-public housing tenures in China.

The director of the Chengbei Housing Loans Department of Kunming Construction Bank told this author in 1994 that the bank had suspended housing mortgage business in Kunming, because work units were unwill-

ing to guarantee employee loans. Still, the bank insisted on linking individual loans to employers. This is because in China, without the support of employers (work units), individuals can do nothing[45]. Other banks, such as the Agricultural Bank, have the same attitude towards the mortgage business. At the moment, none of these banks in Kunming will provide mortgage loans. The Agricultural Bank's Mr. Zhang said banks were now directly involved in housing production in the form of joint ventures with real estate companies, and were not interested in providing mortgage loans to individuals[46].

The difficulty of acquiring land and building materials is another obstacle for self-build and co-operatives. In China, all land is government-owned. Land for economic development and housing is allocated free of charge to work units as a function of the proposed development and land use planning. Building materials are also produced and distributed through work units under central and local government annual economic development plans. Individuals have limited access to land and building materials. Although unplanned materials can occasionally be purchased on the market, volumes are limited and prices very high. Ordinary individuals usually cannot afford it. Small plots of land are normally not available for individual self-build.

Housing choices are more restricted for unemployed compared with employed people. Work units are only responsible for housing their own employees. Unemployed people have virtually no access to public housing. Therefore, those households with unemployed members are more likely to live in overcrowded conditions.

In practice, very few Chinese households have any real access to alternative tenures, housing types, neighbourhoods, locations, payment, home and neighbourhood amenities or areas in any given city. As Pugh[47] puts it, this is also true of capitalist societies. In China, most consumers' decisions on housing services are made by their work units and the government.

Economic Problems

Inadequate Investment in Housing

On the eve of the foundation of the People's Republic of China, Mao Zedong called for a revival of the urban economy and to turn 'consuming' (i.e., commercial) cities into productive/industrial cities. He pointed out in February 1949 that 'from now on, the focal point of the Communist Party's work should move from rural to urban areas. Only when production in cities is revived and consuming cities have been turned into productive ones, can the people's regime be consolidated.'[48].

Mao's statement laid down the foundation for China's new perspective on economic development. After a three-year post-conflict economic recovery, in 1953 China made the first planned steps towards large-scale reconstruction of its industrial system. The investment priority went to industrial projects classified as belonging to the 'productive' sector. National resources were allocated first to ensure the demand for developing production and industrial

construction, especially for major national projects and heavy industry, which were regarded as the framework of the country's industrial system.

Mao encouraged the Chinese people to work hard and endure plain living conditions in order to accumulate national wealth for China's modernisation. People vied with each other to make more contributions to the twin official goals of industrialisation and modernisation, and in the process were willing to sacrifice their own interests to meet the country's needs. Planners regarded urban housing as a non-productive sector, dominated as it was by the personal interests of individual residents. Therefore, investment in housing was sacrificed and neglected. During the Cultural Revolution, especially between 1966 and 1970, 'non-productive' investment saw a dramatic reduction. Shanxi province even stopped providing any funding for urban infrastructure during 1967 and 1969[49]. The share of national expenditure on housing in total Basic Construction Investment dropped from 12.5 per cent in 1953 to only 2.6 per cent in 1970 (Table 1.13). The figures in Table 1.13 and Table 1.14 reflect a few broad trends, such as a drop in investment in housing between 1953 and 1970.

Table 1.13 Investment in Urban Housing and Built Housing Floor Space

Year	Total spending on housing (yuan bn)	Spending from Basic Construction Investment Fund (yuan bn)	Spending as % of total Basic Construction Fund	New housing built (million m^2)
1950-52*	8.3	8.3	10.6**	14.62
1953-57*	53.79	53.79	9.1**	94.54
1958-62*	49.56	49.56	4.1**	110.12
1963-65*	29.09	29.09	6.9**	42.71
1966-70*	39.32	39.32	4**	54.00
1970 alone			2.6	
1971-75*	100.74	100.74	5.7**	125.73
1976-80*	294.49	277.29	11.8**	266.69
1979	78.33	77.28	14.8	
1980	127.36	111.66	20	102.11
1981	145.1	111.19	25.1	110.69
1982	187.65	141.05	25.4	131.52
1983	188	125.1	21.1	129.49
1984	195.9	135.8	18.3	123.54
1985	290.9	215.2 20	20	153.22
1986	291.09	189.4	16.1	148.42
1987***	311.16	181.4	13.5	132.30
1988***	371.3	197.9	13	134.13
1989****	330.87	189.4	12.2	109.56
1990****	297.04	170.33	10	87.19
Total	1,873.89	1,286.4		1,644.44

*Notes: * The figures in these rows refer to the sub-total for the period, except those marked*

*** which refer to the annual average for the period.*

*Sources: ***Urban Planning Bulletin, No. 162, 1989, p5*

***** S. H. Tang & H. D. Xie (eds.), China Real Estate Practical Book, Beijing: New Times Press, 1991, p1124*

****** All others from China Urban Construction Yearbook 1986-87, p142*

From 1954 to 1976, the share of total Basic Construction Investment in national housing never rose over 10 per cent. It was much lower than in the USA, Japan, the then West Germany, the UK or France (Table 5.14). Considering the severe housing shortage in China, the inadequacy of capital spending in that area was all-too obvious.

Table 1.14 Cross-national Comparison of Housing in Total Basic Construction Investment (%)

Year	USA	Japan	West Germany	UK	France	Soviet Union	China
1950	37	N/A	24.3	20.6	14.3	18.3	11
1951	31	N/A	24,2	19.1	17.4	N/A	11
1952	31	17.6	24.6	19.6	21	N/A	10.3
1953	31	14.1	25.4	23.1	21.9	19.5	12.5
1954	32	15.9	25.3	26.3	24.6	N/A	9.3
1955	33	15	22.9	24.9	25	N/A	6.6
1956	29	15.3	22.3	21.6	24	19.5	8.6
1957	27	14.7	23.3	19.9	24.6	24	9.3
1958	29	15.3	22	16.5	25.3	25.1	3.0
1959	31	15.3	23.3	17.6	26.4	24.5	3.9
1960	28	14.1	22.2	18.2	24.9	22.5	4.1
1961	29	13.2	22.1	18	23.6	20.9	6
1962	29	14.8	22	18.1	23.9	18.5	5.9
1963	28	N/A	15.9	22.2	18.1	23.9	7.7
1964	26	16.7	22.3	19.5	27	16.3	8
1965	24	20.5	21.4	19.2	28.6	16.9	5.5
1966	20	19.1	22.5	19.2	27.6	17.4	4.4
1967	20	19.7	22.8	19.5	26.8	17.4	3.8
1968	21	18.1	N/A	18.1	26.8	16.9	5.5
1970	18	17.9	20.5	16.3	26.4	16.4	2.6
1971	16	18.6	22	18.11	25.9	16	4.3
1972	15	20.4	21.5	19.5	28.1	15.5	5.7
1973	15	21.5	25.7	18.8	28.7	15.3	6.2
1974	23.6	20.9	23.5	18.9	29.1	14.7	6.5
1975	20	24.2	21.2	19.6	27	N/A	5.9
1976	N/A	N/A	N/A	20	N/A	13.9	6.1

Sources:

1. Lin Zhiqin, Housing Construction and Consumption, City Planning Review, No.1, 1986. p32-33

2. Chai Derong, China Urban Housing, Beijing: China Statistics Press, 1991, p6-7

3. Renaud, B., The Real Estate Economy and the Design of Russian Housing Reform, Part I, Urban Studies, vol. 32, No. 8, 1995, p.1255

4. Karn, V. & H. Wolman, Comparing Housing Systems, Oxford: Clarendon Press, 1992, p.13

5. Zhang, Y. R., A Guide to Real Estate Development in China, Herongjiang: Herongjiang Science & Technology Press, 1991, p.742

Investment Instability

Besides its inadequacy, investment in housing has also been very unstable in China, as it is highly sensitive to the ideological and political environment. In the early years of Communist rule, the leaders emphasised the importance of improving working class housing conditions as a reward for helping the Communists to win the civil war and to secure support for the new regime. Therefore, even though economic conditions were very difficult, housing claimed over 10 per cent of total Basic Construction Investment every year from 1950 to 1953. The government gradually reduced investment in housing when the 'socialist transformation' started. During the "Great Leap Forward", capital spending on housing dropped to its then lowest point in 1958 with only three per cent of total Basic Construction Investment. During the Cultural Revolution, spending further shrunk to only 2.6 per cent of total Basic Construction Investment in 1970 (Table 1.14). Every leftward shift in politics led to a shrinkage in housing investment.

Capital expenditure on housing is a politically sensitive area. As already mentioned, it is largely affected by political motives. After the 1988 reform, Deng regarded housing as a symbol of material prosperity. In early 1992, China's then-leader asked for an acceleration in housing development. In response, public investment in housing increased by 117 per cent over the previous year. The sudden increase resulted in massive use of unskilled rural labour and building materials from countryside factories. Eventually, this caused housing quality problems. Mr. Li, director of the Kunming Building Administration Department, said that most construction work had to be carried out by unskilled rural labour at the time of the sudden increase in housing investment[50]. Unpredictable investment resulted in instability in the building and materials industries. Frequent use of rural labour and materials was regarded as an appropriate response to unpredictable housing expenditure, but at the cost of sacrificing quality.

Housing Costs to Households and the Government

In Western countries, housing cost issues are closely related to affordability. The main problem with housing costs is that some families are required to pay out for housing that they cannot afford. Low-income households face most hardship. "Many people cannot meet the real costs of housing without subsidies"[51].

In contrast to the experiences in Western countries, housing cost is not a problem for most public housing tenants in China. In fact, rents are far too low. The question is whether the *Government,* rather than tenants, can afford this situation.. Tenants in the public housing sector pay only nominal rents. Since 1949, rents have been adjusted several times and, if anything, have shown a tendency for further *reduction* (Table 1.15).

Table 1.15 Household Housing Costs in Guiyang

Period	Housing costs as % of household income		
	Highest cost	Lowest cost	Average
1949-1953*	16.5	1.6	9.44
1954-1955**	13.94	2.3	4.96
1956-1970 ***	6.37	0.37	2.27
1970-1988 (before the 1988 reform) ****	2.37	0.71	1.58

*Notes: *Figures are based on rents of all government-owned buildings, including housing and non-housing. Therefore, the actual costs for housing alone should be lower the figures showed in this table.*

***Figures refer to costs of government-owned housing for households.*

****Figures refer to all civic servants' households in public housing. Civic servants were charged at lower rents for public housing than ordinary residents.*

*****Figures refer to all public housing*

Source: Zhang, Y. R., A Guide to Real Estate Development in China, Herongjiang: Herongjiang Science & Technology Press, 1991, table 4.3

The lowest ratio of housing costs to civil servants' household income (only 0.37 per cent of income) was observed in Guiyang between 1956 and 1970. Tenants' housing costs as a percentage of household income were 60 times lower in China than in Britain and 81 times lower than in USA in mid- 1980s (Table 1.16).

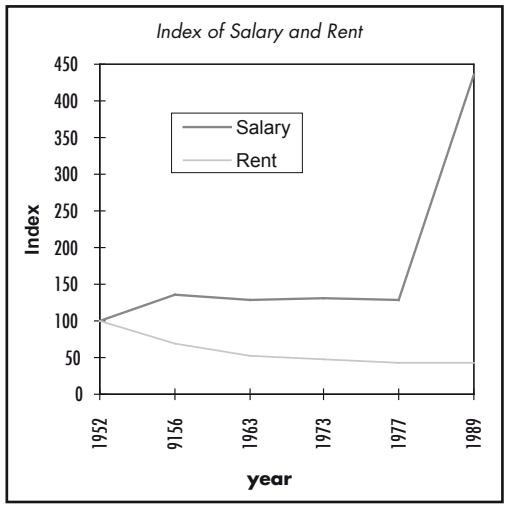
Table 1.16 Housing Costs as a % of Income in Britain and the USA

	Britain		USA	
	1983	1985	1983	1985
Public housing tenants	19.0	22.2	29	30

Source: Karn, V. & H. Wolman, Comparing Housing Systems, Oxford: Clarendon Press, 1992, table 3.1

Furthermore, in China adjustments in rents do not match changes in salaries. Figure 1.4 shows that the average salary per head increased more than fourfold between 1952 and 1989, during which there was a twofold decrease in rents.

Figure 1.4 Salary and Rent Indices



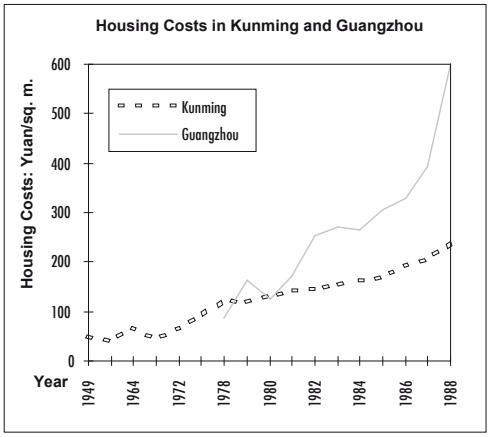
Note: 1952=100

Source: based on Chai, D.R., China Urban Housing, 1991 op. cit.

Although rents decreased significantly from 1952 to 1989, housing construction costs experienced a continuous increase except during the 'Great Leap Forward' and the 'Cultural Revolution'. Construction costs increased much faster after 1978. Housing cost per square metre was 6.8 times as high in 1988 than in 1978 and 15.2 times as high as in 1957 (Figure 1.5). However rents were so low that they could not even cover the maintenance costs of the existing housing stock. The housing shortage was still very severe. There was a huge need for extensive investment in housing, but the country's economic capacity simply could no longer afford it. Circumstances also varied greatly across cities after 1978. Housing costs in coastal areas increased much faster than they did inland. Between 1978 and 1988, housing costs in Guangzhou increased 6.8 times, from CNY (yuan) 88.1 to 598.9 per square metre, compared with 1.96 times in Kunming (from CNY 121 to 237.4 per square metre). There is no rela-

tionship between the increase in housing costs and higher rents. Rents were even lower in Guangzhou than in Kunming. In 1984, housing cost as a percentage of household income was 1.2 per cent in Guangzhou in 1986 (GREAB) and 4.8 per cent in Kunming (KREAB). The sharp mismatch between rapid increases in housing construction costs and low rents has been more obvious in coastal than in inland areas.

Figure 1.5 Changes in Housing Construction Costs in Kunming and Guangzhou



Sources: Kunming: Kunming Statistics Bureau, 40 Years of Kunming, 1989

Guangzhou: calculated from GREAB data

Financial Problems

China's extensive housing problems are largely linked to financial issues. For a long period, China adopted a welfare housing system whereby beneficiaries only paid nominal rents. Furthermore, housing-related household expenditure continuously decreased (Table 1.17). In 1988, housing expenditure accounted for only 0.71 per cent of a household's consumption. As mentioned earlier, rents were far below what was required to maintain the housing stock. Due to the fact that end users could not afford housing credit, housing development and maintenance were financed by the government.

Table 1.17 Household Expenditure on Housing in China (%)

Year	Food (%)	Clothing (%)	Housing Rent (%)
1981	56.7	14.8	1.39
1982	58.6	14.4	1.50
1983	59.2	14.5	1.52
1984	58	15.3	1.83
1985	52.25	14.56	0.96
1986	52.25	14.15	0.90
1987	53.47	13.69	0.87
1988	51.36	13.88	0.71

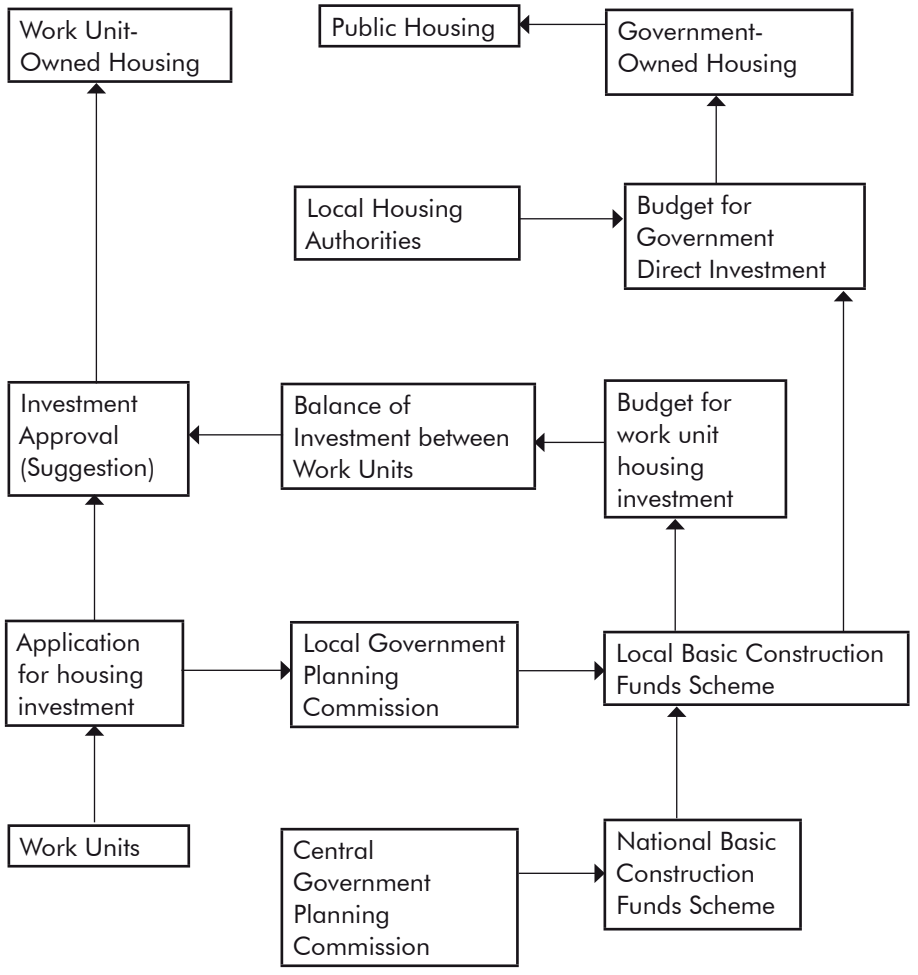
Source: Liu H R (ed.) (1993) China Housing Reform Consultancy Handbook, Shenyang: Liaoning People's Press

The key feature of China's welfare housing finance mechanism was that although the primary sources of finance resided in central or local government, most budgetary funding was allocated to work units. At the aggregate level, work units received 90 per cent of central budget allocations for housing. The rest went to local housing authorities. Figure 1.6 shows the process and structure of the welfare housing finance system. The government's central budget first determined a national total amount of Basic Construction Funds in which housing was included. This total amount was shared among local authorities, which was further allocated to either work units or housing bureaus. However, it must be stressed that although work units' housing investment was funded through the central budget, the government did not provide any funds directly to enterprises: work units had to raise the monies from their own

profits. Budgetary funding meant that work units could retain a certain amount of their own surpluses for housing expenditure within the budget limits set by the government. This system not only stressed the role of government through budgetary control over the overall scale of housing expenditure; it also boosted the role of work units in housing finance.

Because housing was regarded as a social good, related expenditure did not generate any net returns, with rents so low that they were not enough to cover management and maintenance fees. For example, at the end of the 1970s national expenditure on housing management and maintenance was CNY 0.26/m^2, while the national average housing rent was 50 per cent lower – CNY 0.13/m^2[252]. Therefore, the more the government spent on housing, the heavier economic burden it came under. Housing expenditure was highly constrained by China's overall economic capacity. Particularly at the end of 1970s, the government became to face increasing deficits in the central budget.

Figure 1.6 The Process and Structure of Welfare Housing Financing in China



THE CHINESE MIRACLE IN HOUSING AND URBAN DEVELOPMENT THE MIRACLE HAS HAPPENED

About two decades ago, a fair amount of talk focused on the huge lag in housing and urban development in China. Many even doubted the possibility of ever providing decent housing to such a huge population. Of course, no one needs to be reminded that nearly one quarter of the world population live in China. At one point some Western experts commented that even cities like Shanghai were hopelessly "old" and unlikely to be revitalized. This author's first visit to Shanghai was some 20 years ago and indeed it seemed that it would prove very difficult to revitalize the city's infrastructure. Shanghai was once the most advanced city in China, but in the 1980s, it was even more backward. My second visit to Shanghai was in 1992. As it took the taxi driver more than one hour to move from Hongqiao airport to the city centre, I asked whether traffic was often as bad as that. He replied that Shanghai was too "old" (i.e., not modernized) and the roads were antiquated and narrow. On my third visit in 2001, I stayed at the Shanghai Peace Hotel. This was a hotel built in the 1930s, but with 21st century facilities added in since renovation in the mid-1990s. When I walked out from the hotel to the banks of the Huangpu River, I saw a new city (Pudong district) within a city emerging on the other side. Later I visited the old Shanghai districts; I realized that the change went way beyond the old Peace Hotel, but everywhere in Shanghai. The city was modernized and was modernizing itself at a faster pace. The big changes surprised me.

About one month ago, I was in Hangzhou. I travelled to a town about half an hour drive from there. One decade ago or so that town had only one main street. Now the population is about 100,000, not including a large number of immigrants from other regions. Thus a small town has transformed itself into a medium-sized city by international standards. I was also impressed with the newly developed apartments. Their design and quality are so high as to surpass even those in some developed countries. The achievement is beyond my initial imagination. It is a miracle by any other name. Most people there have bought their own apartments. Some of those I visited now have their own cars. They said that they could not imagine such big improvements in their quality of life even five years earlier. I asked how they could find the money to buy houses. They replied that they borrowed from banks. About 20 years ago, people were hardly

willing to take bank loans to buy homes and the banks were hardly willing to lend to individuals for that purpose anyway. Now everything has changed. Taking a loan and making repayments has become so natural to people's way of life.

Rapid Urbanisation

China has experienced a period of rapid urbanization since the 1988 reform. At that time, the population was 962.59 million, of which 172.45 million was urban. The ratio of urban population to the total national population was 17.92 per cent. By the end of the year 2000, China's urban population expanded to 455.94 million, accounting for 36.09 per cent of the total. In recent years, the pace of urbanization has been accelerating. By the end of 2003, China's urban population had further risen to 523.76 million, or 40.53 per cent of the total. In coastal areas, the proportion was notably higher at 53 per cent. In 2003, there were 668 cities and 20,600 towns in China, of which 46 cities more than one million inhabitants. Cities are the engines of China's economic development, contributing 70 per cent of GDP and 80 per cent of fiscal revenues[53].

The Miracle in Housing and Urban Development

In 1978 and as noted earlier, average living space per head in China was 3.6 m^2. By 2005, it had expanded more than sevenfold to 26 m^2 Piped water supply served 90.2 per cent of the urban population, of which 82.9 per cent had access to the gas distribution network[54].

The five-year period between 1998 and 2002 saw 3.825 billion m^2 of profit-making housing built in urban areas, which was equivalent to the total housing supply of the last 40 years before 1998. In the same period, more than 54 million households gained access to housing[55], which was 150 times the MDG[56] target for slum upgrading for the whole world in terms of annual average. As many as 93.6 per cent of those housing units were bought by individuals. In Shanghai, the proportion of profit-making housing units bought by individuals was 95.6 per cent. Over the same period, about 3.0 billion m^2 housing was built in rural areas, providing shelter for 42.35 million households[57]. China provided housing for 96.35 million households between 1998 and 2002.

In other words, the housing units developed within a five-year period in China could accommodate the entire population of the USA, or two Japans, or four UKs or 75 Singapores respectively. Such order of magnitude are stunning by any standards

Rapid Improvement in Urban Infrastructure

Since 1978, the Chinese government has given great attention to infrastructure development. Investment in infrastructure and related enterprises accounted for CNY 6,779.3 billion (USD 847.41 billion) between 1978 and 2001 – or 10 times the spending between 1952 and 1977. Between 1989 and 2001, capital spending on infrastructure grew an annual 25.4 per cent, which was more than 16.5 per cent higher than China's annual economic growth rate over the same period[58]. Heavy investment in overall infrastructure also led to rapid improvement in urban areas.

In 1999, CNY 14.7 billion (USD 1.84 billion) was invested in water distribution, a 30.5 per cent increase over the previous year. By 1999, 96.3 per cent of China's urban population had access to piped water[59]. Two years later, total urban water supply capacity was 22.9 billion m^3 per day. Between 1981 and 2001, water supply capacity increased by 12.95 billion tons per day. By 2001, gas supply capacity was 84.48 billion m^3 per year, 222 cities had sewage treatment facilities (urban sewage treatment rate: 36.4 per cent). Between 1981 and 2001, 25,008 km urban roads and 22,343 km sewerage lines were built. By 2001, China's urban roads totalled 176,000 km and average urban road area per head was 7 m^2. Communication services also experienced rapid development. The number of telephone lines soared from four million in 1978 to 206 million in 2001, when the number of mobile phone users rose to 145.2 million and the country's number of Internet users already ranked No. 2 in the world[60].

Effective Mobilisation of Financial Resources through Real Estate Development

Between 1986 and 2001, investment in property/real estate in China totaled CNY 6,628.6 billion (USD 828.58 billion). The annual rate of increase – 32.7 per cent – was faster than in any other area. By 2003, annual capital spending on this sector exceeded CNY 1,000 billion (USD 125 billion) for the first time, increasing further to CNY 1,315.8 billion (USD 164.48 billion) in 2004. The value of real estate development starts in 2004 alone reached

CNY 5,057 billion (USD 632.13 billion). In seven regions, investment in property increased more than 40 per cent (and by up to 50.3 per cent) over the previous year Some regions allocated more than half of total capital spending to real estate[61], and in such property-led patterns of economic development real estate has become a critical growth factor.

The other major change was that at the same time, China's capital spending on real estate had a strong housing component. Between 1998 and 2004, investment in profit-making housing accounted for CNY 3,309 billion (USD 413.63 billion), compared with CNY 625.5 billion (USD 78.19 billion) for commercial property and CNY 292 billion (USD 36.5 billion) for office buildings. In other words, housing attracted two-thirds of total capital spending on property during that seven-year period. In 2004, Chinese individuals spent CNY 831.3 billion (USD 103.91 billion) to purchase housing units, which accounted for 96.6 per cent of total housing sales[62].

TYPES OF HOUSING AND URBAN UPGRADING IN YANTAI

Introduction to Yantai City

Figure 3.1 Location of Yantai

Source: Based on Economist Intelligence Unit

Yantai is located at the northwest of Shandong Peninsula in Shandong Province (Figure 3.1). It is one of the first 14 coastal cities in China that opened up to the world after the Chinese economic reform. It was also one of the four cities selected by Central Government to experiment with housing reform policies in the 1980s. It has an area of 13,746 km^2 of which 151 km^2 is built-up. Total population is 6.47 million, of whom 1.1 million are urban residents. Yantai is one of the fastest developing cities in China. GDP per head stood at CNY 25,183 (USD 3,148) in 2004[63].

Types of Urban Upgrading and Renewal Initiatives

Four main types of urban upgrading and renewal initiatives are practised in Yantai: environmental improvement of a neighbourhood; upgrading infrastructure and facilities; neighbourhood-wide redevelopment; and multi-sector urban upgrading.

Improving the Physical Environment of Neighbourhoods

The Formation of Illegal Structures

In China's old urban neighbourhoods, the most frequent complaints from residents used to deal with the physical environment. Most old neighbourhoods consisted either of traditional Chinese housing built in the early 20th century, or of high-rise or medium-rise modern housing built before 1978. These often consisted of buildings

with small or medium-sized flats. By recent standards they were smaller in terms of living space. As mentioned earlier, by 2005, the nationwide average living space per head in China, urban areas had expanded to 26 m^2. However, living conditions in Yantai's old neighbourhoods could still be relatively harsh, such as those of 21 households in Liuxi with only 12.5 m^2 per household, less than half the national average. Therefore, it often happened that some residents in those old neighbourhoods, particularly ground-floor residents, built illegal huts in the public open spaces adjacent to their dwellings in order to extend their own space. These extensions were often used as kitchens, toilets or storage space. Such illegal extensions encroached on public open space and harmed the environment (Figure 3.2). At one point, these structures combined represented an area of more than 400,000 m^2 in Yantai's old neighbourhoods. In a single area of 0.5 km^2, more than 1,000 illegal structures were found[64].

Figure 3.2 Illegal Structures or Extensions in Yantai

Source: Based on Yantai Municipal Government

Demolition of Illegal Structures and Provision of Alternatives

In order to maintain and improve living standards in neighbourhoods, the municipal government faced pressure from residents to clean up the environment. The most difficult task in this respect was to pull down the illegal structures. Prior to demolition, the municipal government issued leaflets to all households in the neighbourhood in question about the benefits of demolition. The authorities held discussions with the households who had illegal structures, asking residents to pull them down, while taking into consideration the difficulties raised by residents. For example, municipal authorities provided low-rent housing as an alternative for those who had constructed illegal structures because of overcrowded living conditions[65].

Officials Take a Lead and Pull down Their Own Illegal Structures

As in other parts of the world, some of China's slum dwellers or owners of illegal structures are not poor people. Some illegal structures were owned by government officials in Yantai, who made efforts to take a lead and pull down their own illegal structures. In the Tashan neighbourhood, officials voluntarily pulled down about 286 such structures within one week. As expected, ordinary residents followed suit, which facilitated the whole demolition process.

Figure 3.3 A Pleasant Open Space instead of Illegal Structures in an Upgraded Yantai Neighbourhood

Source: UN-HABITAT/X. Zhang

Figure 3.4 Green Open Space between Residential Buildings in an Upgraded Yantai Neighbourhood

Source: Yantai Municipal Authority

Improving the Physical Environment of Neighbourhoods

Clean-up of illegal structures led to the restoration of harmonious open spaces. The physical environment was improved through overhaul of elements such as landscaping, roads, vegetation and division of space, together with repair of damaged roads and structures. More than 290 roads and lanes were renovated in Yantai, with a total length of more than 100 km. A combined 270,000 m^2 area became pedestrian-only. More than 150,000 m^2 were planted (Figure 3.4) and more than 40 green lots or playgrounds were created. Damp areas have been transformed into pleasant public spaces or playgrounds (Figure 3.5). The external walls of more than 430 residential buildings were renovated. Moreover, 280 residential buildings were re-roofed for improved protection against the harsh cold weather and reduced energy consumption[66].

Figure 3.5 A Swamp turned Neighbourhood Playground in Qishan, Yantai

Source: UN-HABITAT/X. Zhang

Upgrading Urban Facilities and Services

The Practice in the Tashan and Qishan Neighbourhoods

One common feature of Yantai's old neighbourhoods was lack of modern facilities and services. The past three decades were the fastest developing period in China's economic and social development, which also brought significant improvements in people's living standards, and in particula access to various modern facilities and services. However, the old neighbourhoods were ill-prepared for this leap forward in contemporary Chinese living standards. They were only equipped with basic services such as water and electricity, which on the whole appeared to be very insufficient by modern standards. Therefore, urban upgrading in Yantai also had to focus on urban facilities and services. This has been taking place in parallel with other upgrading efforts since 2003.

Provision of Modern Facilities under an Integrated Approach

These past few years, the Yantai local authority has upgraded and streamlined the transmission systems for electricity, gas, heat, and telecommunications. They have renovated more than 305 km of pipelines and organized them in an integrated underground system. Upgraded facilities allow residents in old neighbourhoods equal access to modern facilities as those living in newly-constructed, modern areas.

Improvement of Waste Management Capacity and Safety Measures

The Yantai Municipality has laid out plants for sewage and domestic waste treatment. It has designated accessible rubbish collection points and temporary storage spaces to avoid casual rubbish disposal in neighbourhoods (Figure 3.6). On top of renovating 31 public toilets, Yantai has also constructed or renovated more than 150 firefighting points or facilities. Streets, lanes, open spaces and building corners now benefit from public lighting as part of a 'safe community and safe city' initiative.

Figure 3.6 Temporary Rubbish Storage Space

Source: UN-HABITAT/X. Zhang

Provision of New Amenities and Daily Shopping Facilities

As part of the upgrading initiative, the Yantai municipality also laid out several hundreds of outdoor sports and leisure facilities (Figure 3.7). On top of these came basic community shopping facilities for the sake of local residents' daily convenience and enhanced livelihoods (Figure 3.8).

Figure 3.7 Expanded Community Amenities

Source: UN-HABITAT/X. Zhang

Figure 3.8 New Small Shops in an Upgraded Yantai Neighbourhood

Source: UN-HABITAT/X. Zhang

Neighbourhood Redevelopment

The third type of urban upgrading launched in Yantai is neighbourhood redevelopment. This is the preferred alternative when improvement of external neighbourhood environments and facilities would fall short of residents' desired living standards. The buildings and facilities in the neighbourhoods are typically too old and often structurally unsafe for habitat. In such cases, complete redevelopment of a neighbourhood or a block becomes the best or only feasible option for upgrading.

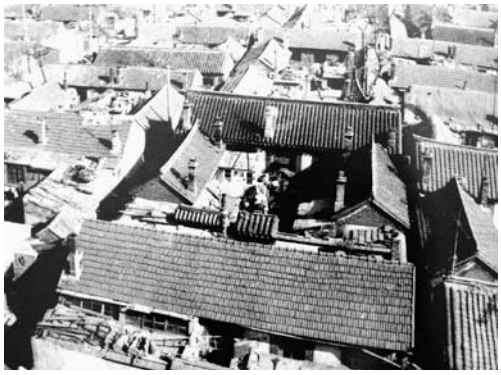
The most typical case of this kind in Yantai is the redevelopment of the Tongshen neighbourhood.

The Case of the Tongshen Redevelopment Project

The Conditions Before Redevelopment

The Tongshen neighbourhood is located in Yantai's city centre, with a land area of 166,675 m^2. On the east side is Yantai's main bus station. The railway station and the port terminal are within close walking distance. Originally, the neighbourhood was a traditional courtyard housing area with a very high building density (Figure 3.9). More than 1,700 households, four business enterprises and over 100 shops were established there. The neighbourhood was characterized by the Municipal Authority and local residents by the following four features: overcrowded, dirty, disorderly and poor. Both the municipality and local residents hoped the area could be redeveloped, but no local developers were willing to undertake the task for fear of very high costs. For example, the building area to be demolished accounted for 157,000 m^2, and more than 1,700 households would need compensation and relocation on the premises or in their preferred area[67].

Figure 3.9 Old Courtyard and Low-rise Houses before Redevelopment in Tongshen



Source: Yantai Municipal Authority

The Tongshen Neighbourhood Redevelopment Project

In 2001, the Yantai Municipality called for bids for the Tongshen Neighbourhood Redevelopment Project. No local developers showed any interest in what they moatly saw as a loss-making business. Eventually, the project was awarded to the Hong Kong Redco Development Corporation.

Land

Yantai municipality provided land on free leasehold to the developer, who in return committed to build a middle-grade school and a nursery school in the redeveloped neighbourhood.

Total Building Area under Development

The total building area of the project was 300,000 m^2, of which 30,000 m^2 in commercial building space and 240,000 m^2 in residential buildings. The nursery school covers 2,200 m^2 and the middle-grade school another 10,000 m^2.

Layout of the Tongshen Redevelopemnt Project

The new neighbourhood is divided in two parts. One is a pedestrian-only market street, with shops on the ground floor and residential units on top. The other area is a garden-like residential zone. A variety of building shapes contributes to the visual environment and open spaces in the neighbourhood. As a result, residents are in touch with nature in the very centre of the city, but with comfortable living facilities within immediate reach. Apart from shopping facilities, the renovated neighbourhood features a modern, 3,500 m^2 residents' club complete with indoor swimming pool, chess room, gym, coffee lounge and restaurant (Figure 3.10).

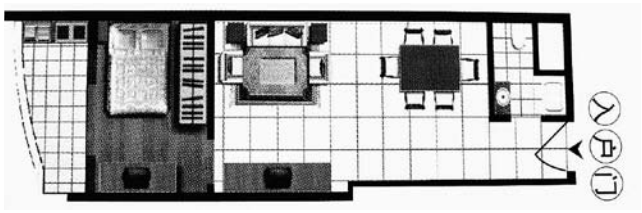
Figure 3.10 Overview of the Tongshan Redevelopment Project

Source: UN-HABITAT/X. Zhang

Housing Design

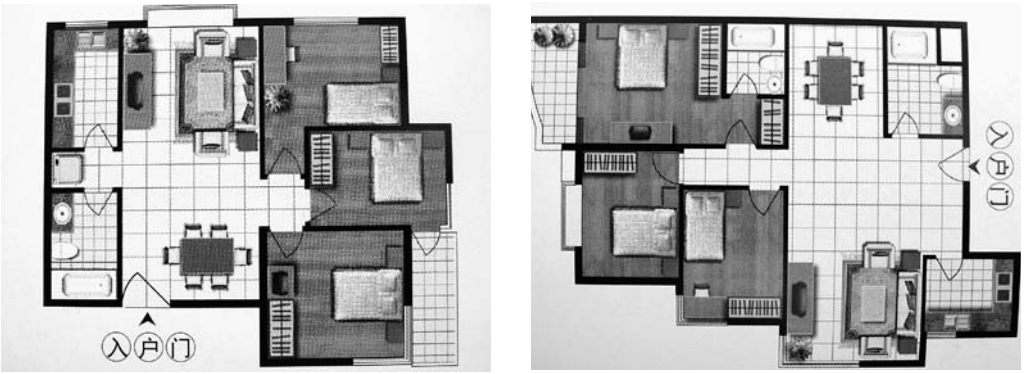
Another attractive feature of the Tongshen redevelopment is the design of the flats. Seven types are available: one-bedroom, 55 m^2 (Figure 3.11); three-bedroom, 105 m^2 or 131 m^2 each (Figure 3.12); four-bedroom, 147 m^2 or 170 m^2 each (Figure 3.13); and roof-top luxury flat, 359 m^2 or 370 m^2 each. High-standard design enhances the value of the property and the various types can meet the needs of all walks of life.

Figure 3.11 A One-Bedroom Flat



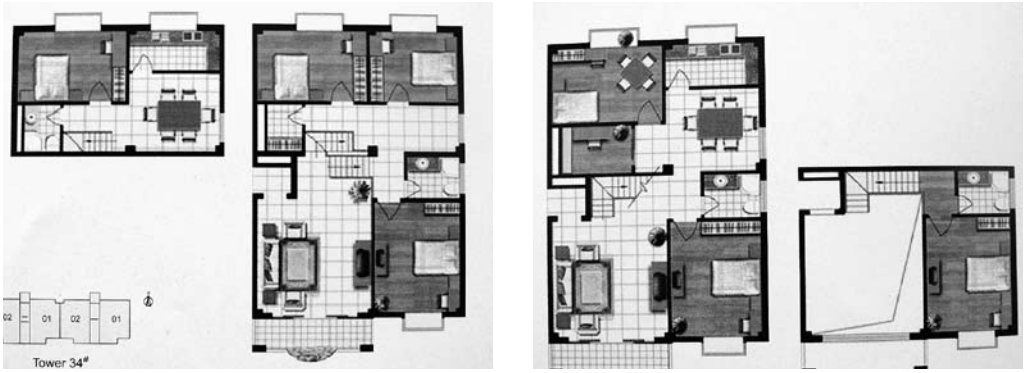
Source: Hong Kong Redco Development Corporation

Figure 3.12 Variation of Three-Bedroom Flat Designs



Source: Hong Kong Redco Development Corporation

Figure 3.13 Variation of Four-Bedroom Flat Design



Source: Hong Kong Redco Development Corporation

Creating Architectural Character through Design

Good architectural design highlights the characters of particular buildings to match form with functions. The Tongshen redevelopment project has achieved just this. The shops are organized in a cluster along the commercial pedestrian street where leisure and shopping mix together. The street scale matches building heights and creates a warm, relaxing atmosphere for shoppers (Figure 3.14). The residents; club is located in the lower floors of the two high-rise residential buildings near the centre of the neighbourhood. The two buildings look like two open arms welcoming people; acting both as a landmark and an activity centre for the neighbourhood (Figure 3.15). The mix of landscaping and building designs makes for a rich and changing open space, with pleasant visual effects for those walking across the neighbourhood (Figure 3.16). Even the colour and the texture of materials contribute to the pleasant character of a high standard way of life, and an overall warm feeling for residents (Figure 3.16 and Figure 3.17).

Figure 3.14 Shopping Facilities in the Tongshen Redevelopment Project

Source: UN-HABITAT/X. Zhang

Figure 3.15 Residents' Club and High-Rise Residential Buildings in the Tongshen Redevelopment Project

Source: UN-HABITAT/X. Zhang

Figure 3.16 Views of the Tongshen Redevelopment Project

Source: UN-HABITAT/X. Zhang

Figure 3.17 The Texture of Building Façades and Grounds

Source: UN-HABITAT/X. Zhang

Good Design Creates Value

Design is highly correlated with property value. In many instances, poor design and concepts have had a negative impact on property value and residents. In the USA, the demolition of Pruitt-Igoe housing project in St Louis, Missouri and the tragic deterioration of some housing projects in Chicago, Boston and elsewhere testify to the damage poor design can wreak[68]. By contrast, good design can create value and attract people, a factor that is frequently associated with the success of the Tongshen redevelopment. The initial tentative sale price of new housing units was about CNY 2,000 (USD 250) per m^2 in 2002. After completion of the project, the community was introduced to the high standards of design and construction, for which people found they were willing to pay a higher price. At the time of this author's visit to the newly completed Tongshen neighbourhood (December 2005), the average price stood around CNY 4,000 (USD 500) per m^2 of housing, which was double the price the developer initially set in 2002. If anything, this goes to show the power of good design.

Project Financial Indicators

Table 3.1 Project Financial Indicators

Land	Free
Government Levy on Development Rights	Free
Government on Connection to Urban Facilities and Services	Free
Construction Cost	CNY 1,500 (USD 187.5) per m^2
Original Residents Relocation Subsidy by Developer	CNY 3,200 (USD 400) per household
Original Residents Relocation Facilities Subsidy by Developer	CNY 3,000 (USD 375) per household
Initial Advanced Housing Sale Price	CNY 2,000 (USD 250) per m^2
Current Average Housing Price	CNY 4,000 (USD 500) per m^2
Overall Average Housing Price of the Project	CNY 3,500 (USD 437.5) per m^2
Resident Relocation Measures	Original residents are allocated the amount of living space they had before demolition, free of charge, within the newly redeveloped neighbourhood at the same location; residents are entitled to an additional 15 m^2 at cost price and a further 15 m^2 at market price. Out of 1,700 households, 1,300 chose to be relocated in the same neighbourhood and 70 out of 100 shop owners chose to be relocated in the same place. The others opted for cash compensation based on the valuation of their original property

Source: Based on Interviews

Multi-sector Urban Upgrading

The Case of the Binhai Jingqu Urban Upgrading Project

The Binhai Jingqu Urban Upgrading Project is located in central Yantai, with a total area of 33.8 hectares. Before upgrading, most of the buildings in the area were two- or three- storeys high. These mainly residential buildings were not self-contained. Streets were narrow and twisted. There were no facilities for heat and gas supply and sanitation was poor[69] (Figure 3.18).

Today, the Upgrading Project is developing Binhai Jingqu into a multi-sector, multi-function area. On the south side is a residential building cluster of four towers and a high-rise business district consisting of 12 buildings, each ranging from 30 to 60 floor high. The total built area of the commercial facilities is 420,000 m^2. The north side of the area offers views of the seashore, historic buildings and open spaces (Figure 3.20).

Figure 3.18 Binhai Jingqu before Upgrading

Source: Yantai Municipal Authority

Figure 3.19 Residential Buildings at Binhai Jingqu before Upgrading

Source: Yantai Municipal Authority

Figure 3.20 Model of the Binhai Jingqu Urban Upgrading Project

Source: UN-HABITAT/X. Zhang

Project Implementation

Relocation of Old Residents

At Binhai Jingqu, demolition and relocation started in March 2002. More than 210,000 m^2 of dilapidated buildings were pulled down and 2,875 households were relocated. Due to the changing functions of the area, old residents could not be relocated on the renovated premises. Instead, the Municipal Authority built for them a dedicated neighbourhood, known as Hui'an, on the south side of Yantai, a project since commended by the Ministry of Construction of China for excellent design, facilities and environment[70].

Relocation Method and the Equal Value Principle

Old residents were given two options for relocation under this project. They could move to the newly built Hui'an neighbourhood, based on equal value. In 2001, old residents's homes in Binhai were valued at CNY 2,300 per m^2, while the new housing units in Hui'an were priced at CNY 1,900 per m^2. For example, if a household had a 100 m^2 living space in Binhai, they were entitled relocation in ((100 m^2 x CNY 2,300 per m^2) ÷ CNY 1,900 per m^2 =) 121.1 m^2. Those opting out of relocation at Hui'an on this basis were entitled to cash compensation equal to the value of their old property[71].

Between 70 and 80 per cent of Binhai residents chose relocation in Hui'an, with the balance opting for 'monetary relocation'. Since relocation was entirely on a voluntary basis, hardly any complaints were received and the process was completed within six months[72].

Renovating Historic Buildings and Preservation of the Historic Zone

Yantai is one of earliest cities in China to open to the world a century ago or so, historic buildings were concentrated in the project area and by now most had fallen into disrepair (Figure 3.21). In 2001, the Municipal Authority began to upgrade the Binhai Jingqu area. In view of the invaluable historic significance of the traditional streets and buildings, the Authority opted for renovation through an adaptive upgrading strategy. The styles and forms of the buildings (and the streets) were preserved, but they were adapted to different uses. The municipalty turned old residential functions into modern commercial use. It changed internal space distribution to meet the larger space demands of commercial use, while maintaining original structures. In the end, the upgrading project preserved 46 historic buildings and rebuilt another seven, with a total area of over 40,000 m^2. The project adopted a block-by-block and street-by-street wholesale lease model, instead of unit-by-unit retail lease, in order to achieve unified management[73] (Figure 3.22 on page 42).

Figure 3.21 Historic Buildings at Binhai Jingqu before Upgrading

Source: Yantai Municipal Authority

Figure 3.22 Historic Buildings at Binhai Jingqu after Upgrading

Source: Yantai Municipal Authority

Creation of Open Space Clusters along the Seashore

One important component of the Binhai Jingqu upgrading project is to create a scenic belt 1,200 metres long and 50-60 metres wide through connected, thematic open spaces along the seashore in order to improve the city's living environment and attractions (Figure 3.23).

Figure 3.23 Creation of Open Spaces as Part of Urban Upgrading

Source: Yantai Municipal Authority

Project Indicators

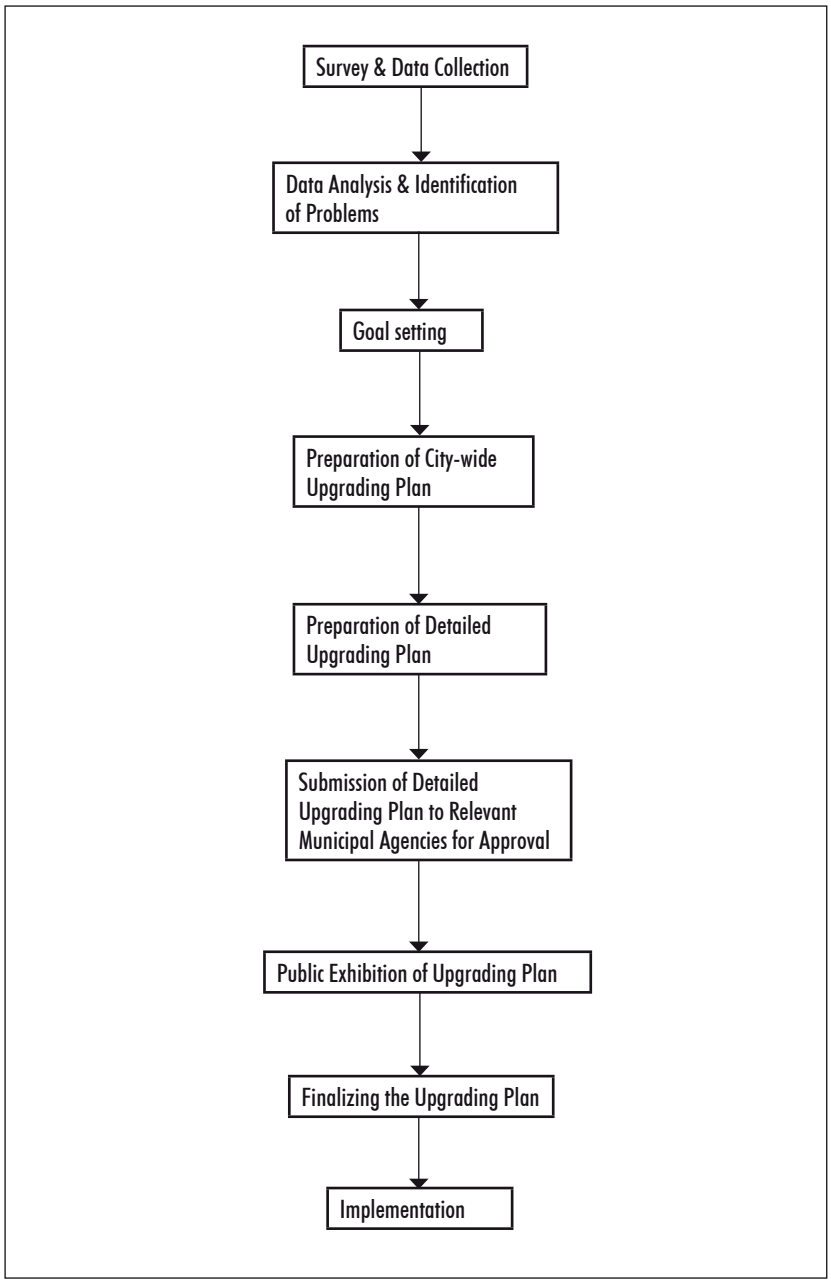
- Total Land Use: 33.8 hectares
- Mode of Land Supply: By auction
- Relocated Households: 2,875
- Building Areas Developed: 420,000 m2
- Historic Building Area Preserved: 40,000 m2
- Total Investment: CNY 800 million
- Construction contracts: Awarded through bidding
- Timeline: Call for planning proposals: Year 2000
- Selection of winning planning proposal and proceed to detailed design: 2001
- Starting demolition/relocation work: March 2002
- Completion of demolition/relocation: September 2002
- Completion of Binhai Jingqu Seaside Scenic Zone: 2004
- Completion of Renovating Historic Building Zone: 2004
- Completion of First-phase High-rise Business Zone (four towers): 2004

The Implementation of Housing and Urban Upgrading in Yantai

Housing and Urban Upgrading in Yantai

In the last decade, a sea-change has taken place in Chinese politics. Nowadays, people-centered governance has become a catch-word among government officials: Whatever the government does, the people's interests must come first. The same is true for housing and urban upgrading projects. In Yantai in 2002, municipal authorities conducted surveys to find out about the preferences of the residents in old neighbourhoods and dilapidated housing. The survey showed that 100 per cent of the residents wanted collective conditions upgraded. Accordingly, the municipality produced a city-wide housing and urban upgrading master plan. Based on this, the city's planning department prepared individual, area-wide, detailed upgrading plans. These were submitted to the relevant sector bureaus such as Urban Planning, Urban Administration and Housing and Real Estate Administration for approval, and further to the municipal authority for final endorsement. In the next step, the municipal authority was requested to hold public exhibitions and consultations to give the population an opportunity to familiarise themselves with the upgrading plans and to participate in the process. Once the consultation and public exhibition were completed, the plans were finalized for implementation (Figure 4.1).

Figure 3.24 The Process of Housing and Urban Upgrading in Yantai



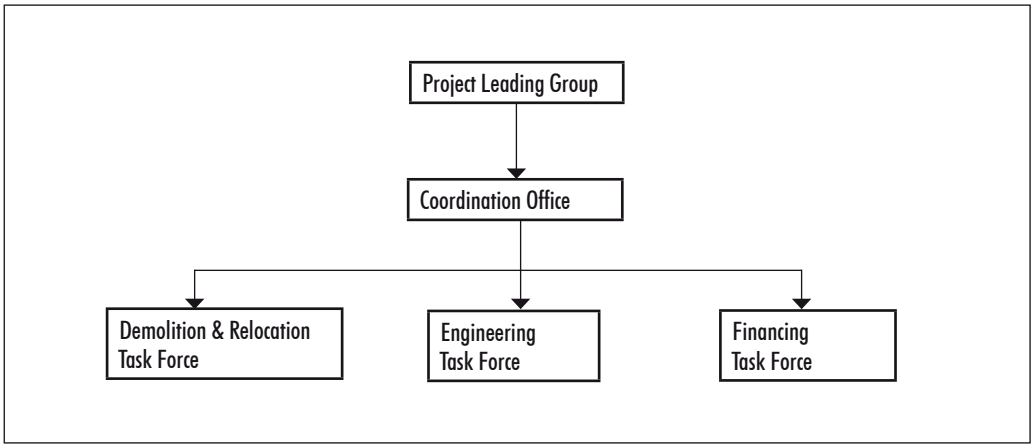
Source: Based on interviews in December 2005

The Management Structure for Housing and Urban Upgrading Projects in Yantai

Interviews with officials have highlighted the importance of the top leadership's political will for the success of housing and urban upgrading projects. One influential local leader commented that the urban upgrading issue was most difficult, and therefore demanded top leadership determination. The management structure put in place in Yantai for project implementation reflected the strong commitment from the Municipal Authority's top leadership[74] (Figure 3.25).

Yantai's Mayor took direct control of the housing and urban upgrading projects. He assigned specific tasks to individual municipal departments and district authorities. The Municipality set up a project leading group to manage implementation. The group was headed by a deputy Mayor designated by the Mayor. The directors of the Urban Administration Bureau and Housing Administration Bureau acted as deputy heads of the leading group. A project coordination office was set up under the leading group, and comprised three task forces to deal with specific issues arising from the field: demolition and relocation, engineering, and financing[75](Figure 3.25).

Figure 3.25 Institutional Arrangements for Housing and Urban Upgrading in Yanta



Source: Based on interviews in December 2005

FINANCING HOUSING AND URBAN UPGRADING IN YANTAI

Many developing countries face the problem of inadequate housing and urban infrastructure and services. However, financial resources are difficult to mobilize. In this particular respect, the experience of Yantai provides an encouraging example for other developing countries. The main financing mechanisms for housing and urban upgrading in Yantai were budgetary funding, borrowing, user/stakeholder funding, developer funding and specialized funds.

Local Government Budgetary Funding

For a long time, housing and urban infrastructure development in China has been funded by the central government. Today, new housing developments are funded mainly by the private sector, except for low-income housing projects. However, urban upgrading is still regarded as the responsibility of the government. Government budgetary funding has played a crucial role in urban upgrading in Yantai.

Since 1978, China put great emphasis on economic growth and has pursued a high GDP growth rate. The growth rate was the most important indicator to evaluate the performance of government officials at all levels, and most resources were allocated to the promotion of economic growth. As a result, since 1978 China has achieved an eight-fold increase in GDP per head. Trade with the rest of the world almost doubled every three years[76]. However, this growth-first approach has generated many problems while correcting some. Since the beginning of this century, the government has shifted away from over-emphasis on economic growth towards a people-centered growth model, which increasingly pays attention to the population's concerns such as living conditions. This shift also contributes to direct more funding towards housing and urban upgrading.

The Scale of Budgetary Funding

In the year 2000, the Yantai Municipality decided to upgrade old housing neighbourhoods and urban infrastructure, and allocated budgetary funds accordingly. The budgetary funding was CNY 50 million (USD 6.25 million) in 2001, CNY 80 million (USD 10 million) in 2002, CNY 200 million (USD 25 million) in 2003, CNY 300 million (USD 37.5 million) in 2004, and CNY 400 million (USD 50 million)

in 2005. Plans were for CNY 500 million (USD 62.5 million) in 2006 (Table 4.1)[77].

Table 4.1 Budgetary Funding to Upgrade Housing and Urban Infrastructure in Yantai

Year	Budgetary Funding (USD million)
2001	6.25
2002	10
2003	25
2004	37.5
2005	50
2006	62.5

Source: Interview in December 2005

Note: The figure for year 2006 refers to planned budgetary funding.

The Capacity of Local Government Budgetary Funding

Decentralisation and an Increasing Role for Local Governments in Public Expenditure

China is experiencing rapid change in governance. Local government is playing more significant roles and assuming more responsibilities in public urban infrastructure and low-income housing. China is the most decentralized country in the world in terms of government resources distribution: in 2003, local government accounted for about 70 per cent of the country's total public expenditure – a much higher share than the average in developing countries, or in the USA or Germany (Table 4.2)[78].

Table 4.2 Local Government's Large Share of Total Public Expenditure in China[79]

Countries	Local Government Share in Total Public Expenditure
China 2003	70
Developing Countries 1990s	14
Transition Countries 1990s	26
OECD Countries 1990s	32
Other Large Countries 1990s	
Germany	40
India	46
Pakistan	29
Russia	38
USA	46

An Enhanced Revenue Basis for the Yantai Municipality

As mentioned earlier, China is a highly decentralized country. Local authorities are habilitated to raise revenue. As far as the Yantai municipality is concerned, it has exclusive powers to levy a dozen taxes (Table 4.3), enabling it to raise CNY 4,924.56 million (USD 615.57 million) in 2004, for instance.

That same year, the central government collected CNY 10,258 million (USD 1,282 million) in taxes in Yantai, of which it returned CNY 2,879 million to local authorities. Central Government also earmarked up to CNY 1,097 million (USD 137 million) to Yantai. As a result, the Yantai Municipality had a total revenue income of CNY 10,378 million (USD 1,297 million) in 2004[80]. Moreover, Yantai municipal tax revenue has been growing an average 30 per cent in recent years[81].

Table 4.3 Local Taxes Levied by Yantai Municipality in 2005

1. Business tax on VAT-exempt sectors
2. Rural market (stall rental) trading tax
3. Urban Maintenance and Construction Tax
4. Land use tax
5. Vehicle and vessel tax
6. Property tax
7. Land value increment tax
8. Resources tax
9. Stamp duty
10. Slaughterhouse tax
11. Education charge
12. Cultural development charge

Source: Based on Yantai Statistical Yearbook 2005

Central Government Funding

Inter-Governmental Transfers

Before 1994, Central Government's share in total national tax revenue was small, leaving it with little money to transfer to local authorities. In 1994, Central Government introduced a Tax Sharing System which increased its own share in the total national tax revenue to about 50 percent. Rapid increase in total revenue gave Central Government enough resources to support local authorities through inter-government transfers. These duly increased from CNY 238.9 billion in 1994 to CNY 736.2 billion in 2002 (Table 4.3). These inter-government transfers mainly took the form of administrative and earmarked allowances as well as tax rebates.

In Yantai, local revenue amounted to CNY 6.4 billion in 2004, and inter-government transfers to CNY 3.98 billion yuan in 2004[82], or 62.2 per cent of the total. Therefore, transfers boosted Yantai's financial resources and made it easier for the municipality to fund urban development and upgrading.

Table 4.3 Central Government Share in Total Tax Revenues and Inter-government Transfers

Year	Total National Revenue (CNY 100 million)	Central Government Revenues (CNY 100 million)	Central Government Share in Total National Revenue (%)	Inter-government Transfers (CNY 100 million)
1994	5218.1	2906.4	55.7	2389.1
1995	6242.2	3256.6	52.2	2534.1
1996	7408.0	3661.1	4914	2772.5
1997	8651.1	4226.9	48.9	2856.7
1998	9876.0	4892.0	49.5	3323.0
1999	11444.1	6986.1	52.2	4665.0
2000	13380.1	6986.1	52.2	4665.0
2001	16371.0	8578.0	52.4	6015.0
2002	18914.0	10390.0	54.9	7362.0

Source: Economic Main References (in Chinese), No. 28, 2005

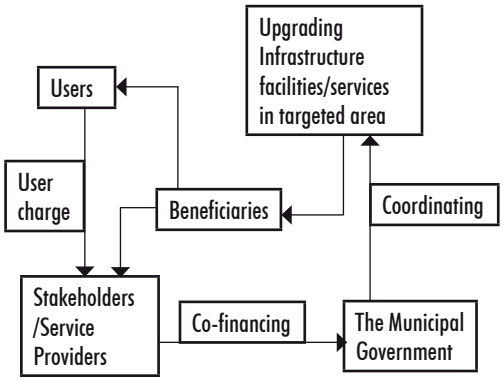
Funding through State-owned Enterprises

China's central government gives state infrastructure enterprises financial support to upgrade infrastructure facilities and services. For example, the Yantai Water Supply Company planned to spend CNY 200 million on upgrading the water network in old city areas, of which 10 million was financed by Central Government bonds and 94 million by the municipality. Half of Central Government funding was a grant, while the rest was a 15-year loan. The interest rate was the savings rate plus a 0.2 per cent spread[83].

Co-financing by Users and Stakeholders

Urban upgrading brings many benefits to the city of Yantai as well as to residents and enterprises in the relevant areas. The municipality requires the areas' profit-making enterprises to pay fees for upgrading operations. Water, electricity, telecommunications, gas and heating utilities are required to pay the costs of network extension/renovation, although well co-ordinated construction reduces these costs. At the same time, those enterprises involved in co-ordinated network/facilities construction are exempt from urban development charges, in a bid to induce more integrated upgrading of facilities. In the last three years, Yantai has upgraded more than 305,000 m^2 pipelines in urban renovation areas and collected more than CNY 60 million (USD 7.5 million) from beneficiary enterprises for upgrading their facilities. All infrastructure upgrading is ultimately paid for by users and stakeholders on a cost-recovery basis. As a result, the municipal government does not spend a single penny on basic urban services improvements in upgraded neighbourhoods[84].

Figure 4.1 Co-financing by Users and Stakeholders in Yantai



Source: UN-HABITAT/X. Zhang

Municipal Authority Borrowing

Why Borrow ?

It is argued that in certain cases, it is preferable to fund public projects from borrowing rather than from current local revenues. The arguments in favour of borrowing cite four major benefits[85]

- *More equitable burden of costs and access to benefits*. Borrowing over time is an effective way to overcome the problem of an inequitable burden of costs over tax- payers. When a project is funded from current revenues, those paying for it through local taxes may not always benefit from it in the future.
- *Optimal allocation of resources*. A close relationship between those who benefit from, and those who pay for, a project encourages optimal allocation of resources.
- *Longer projects cost more*. Funding from current revenues usually delays completion of a project for a longer period of time.
- *Demand for public projects is larger than available revenue at any particular point in time*.

The Scale of Local Government Borrowing

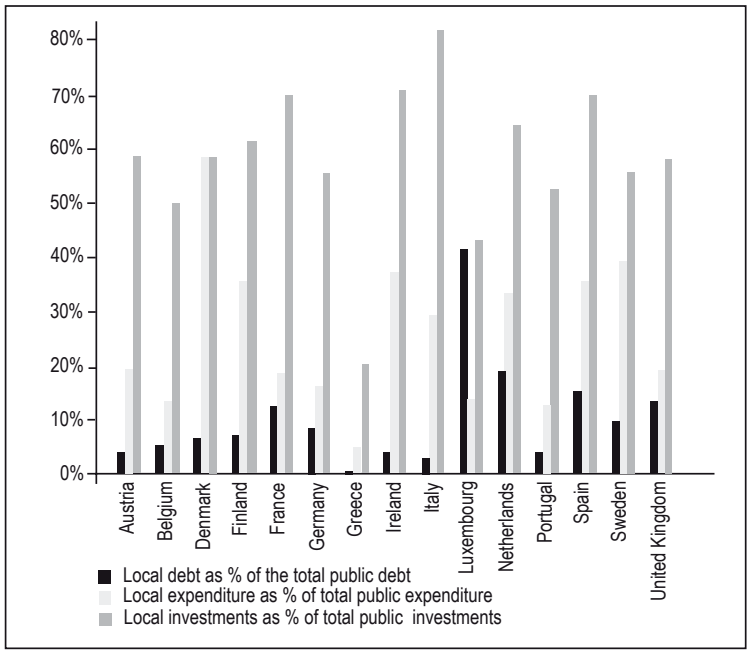
Although local governments in many countries use borrowing as one of their financing strategies for public projects, the scale of borrowing is still constrained. Table 4.3 shows that local debt as a percentage of annual revenues is normally under 10 per cent in many Western European countries. Local government debt is small as a proportion of total public debt (Figure 4.2).

Table 4.3 The Scale of Local Government Borrowing in West European Countries

Country	Local Debt as % of Annual Revenues (2000)
Austria	6
Belgium	9
Denmark	2
Finland	3
France	8
Germany	6
Italy	6
The Netherlands	8
Spain	7
Sweden	3

Source: Swianiewicz P (ed.) (2004)

Figure 4.2 Public Debt, Expenditure and Investment by Local Governments



Source: Swianiewicz P (ed.) (2004)

For the purposes of urban upgrading and development, the Yantai municipality borrowed CNY 1.8 billion (USD 22.5 million) in 2003 through the city land management centre, another CNY 2.0 billion (USD 250 million) in 2004, and an additional CNY 6.0 billion (USD 750 million) in 2005 through Yantai Urban Development Ltd[86], a newly-established special-purpose company.

How to Borrow

Local government in China is not allowed to borrow directly, but only through a special-purpose company that will perform the function for its benefitor. Alternatively, a local authority can borrow through existing enterprises or business-like organizations. In Yantai, the municipality initially used the local land management centre to borrow from banks. Subsequently, Yantai established a special-purpose vehicle[87].

Establishing a Special-Purpose Company for Borrowing

Yantai's special-purpose company, known as Yantai Urban Development Ltd, was established in August 2004 to borrow money for the municipality. The company started off immediately with a CNY 2.0 billion (USD 250 million) loan from China National Development Bank to upgrade the railway station as well as roads in Binhai and Hongqi. In October 2005, the company

contracted another, CNY 6.0 billion (USD 750 million) loan from the same bank to upgrade old areas as well as the harbour terminal, railways and the airport. Both loans were for 15 years and carried 6.12 per cent annual interest. Both were secured by the government land reserve held by the city land management centre[88].

Loan repayments are carried out based on three major sources:

1. income from land sales;
2. municipal revenues;
3. user charges[89].

Ceiling on Municipal Borrowing

In theory, there is no ceiling on municipal borrowing through a special-purpose company. A municipal authority can borrow as much as it wants. The only limits lie in local repayment capacities, which are largely determined by the value of the land held by an authority and that serves as security. At present, Yantai's income from land sales stands around CNY 1.5 billion (USD 18.8 million) per year[90].

Financing by Developers

Increasingly the Yantai municipality encourages real estate developers to participate in urban upgrading projects. There are two approaches. One sees the developer upgrading a whole neighbourhood, as is the case with the Tongshen Upgrading Project (Figure 4.3). The whole scheme was contracted to Redco Development Company. The developer financed the whole operation, including demolition of dilapidated housing and construction of new buildings. The alternative approach to developer financing is a public-private financial partnership. In the Binhai Jingqu Urban Upgrading Project, the municipality financed infrastructures while private developers took care of all the building works. For instance, the construction of four housing towers was financed by a private developer (Figure 4.4), while the Yantai municipality took care of the open space belts along the seashore (Figure 4.5).

Figure 4.3 Example of a Whole Urban Upgrading Project Financed by Private Developer

Source: UN-HABITAT/X. Zhang

Figure 4.4. Housing Towers Financed by Developer under Construction in Binhai Jingqu Project

Source: UN-HABITAT/X. Zhang

Figure 4.5 Example of (partially) Government-Financed Urban Upgrading

Source: UN-HABITAT/X. Zhang

Local Government Incentives for Developers in Urban Upgrading

Considering the typically large scale of urban upgrading projects, municipal authorities on their own are unable to face the expenditure. Therefore, they provide incentives to attract developers and the business sector to invest in this type of project. The main incentives provided include free provision of land on proposed sites and exemption from development charges. During 2003 and 2005, the Yantai municipality managed to mobilize an average CNY 2.2 billion each year from developers and the business sector for urban upgrading. For example, the Tongshen and Xinshijia projects attracted CNY 2.2 billion from developers, who demolished 170,000 m^2, constructed 870,000 m^2 and relocated 2,200 households[91].

Local Housing Provident Funds

China's local Housing Provident Funds (HPFs) provide individual households the credit they need to improve or upgrade their housing conditions, either through maintenance or improvement of existing homes or through purchase or construction of new homes. The first HPF was introduced in Shanghai in 1991. Under the scheme, individuals place five per cent of earnings on their own HPF accounts, which employers match with another five per cent contribution. In 1994, Central Government required all cities to establish local HPFs. Employee/employer participation rates vary across cities.

By mid-2004, 59.88 million employees participated in HPFs, representing 56.6 per cent of China's total labour force. HPF participation rates were higher than 70 per cent in Shanghai, Tianjin, Liaoning, Jiangsu, Qinghai, Xizang and Zhejiang; under 45 per cent in Henan (31.9 per cent), Helongjiang, Neimonggu, Guangdong and Fujian. Still in 2004, HPFs collectively controlled CNY 636.76 billion (USD 79.6 billion), a 12.6 per cent increase over the previous year. The Shanghai, Beijing and Jiangsu HPFs each held over CNY 50 billion, compared with more than CNY 40 billion (USD 5.0 billion) each for Guangdong and Zhejiang. In 2004, HPFs granted a cumulative CNY 281.7 billion worth of

home-improvement/upgrading loans to 3.77 million Chinese households[92].

In Yantai, the local HPF was established in 1995. Employers and staff contribute the mandatory five per cent each to individual HPF accounts. More than 600,000 employees, or about 90 per cent of the total work force, participate in the HPF scheme on a voluntary basis with cumulated deposits worth CNY 4.0 billion (USD 500 million), on which they earn 2.5 per cent interest per year. The Yantai HPF is managed by the local housing fund management centre under the municipal Fiscal Bureau. In 2002, a separate HPF management function was established within the housing fund management centre to manage HPF. The HPF grants loans to members, including to improve or upgrade their homes. Maximum loan maturity is 15 years and maximum size has doubled from CNY 100,000 (USD 12,500) in 1995 to 200,000 (USD 25,000) in 2005. The annual interest rate on a loan maturing in more than five years is 4.14 per cent. The Yantai HPF's total loan portfolio was CNY 300 million (USD 37.5 million) in 2005, most of which dating from the previous two years[93].

FOOTNOTES

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9. Jianzhumianji (building area) is a Chinese term which refers to all area covered by the outer lines of all outside walls of the building. the Jianzhumianji of a housing unit refers to the floor space of the housing unit including rooms, walls and staircase. Usable area refers to the floor space which can be used and therefore excludes the areas of walls, staircases.
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20. Urban areas include all cities and all towns.
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30. In 1985, the Government conducted the first National Housing Survey, which is the only one so far.
31. China Housing Information Network, 'China's Current Housing Conditions', unpublished materials (1986)
32. Town areas include the built areas in all types of townships but exclude all cities.
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36. Ibid., 7

37. Bourne L. S. (1981) passim, 173

38. There is no such statistics so far in China. The author received information from the former Director of China's Housing & Real Estate Administration Bureau, Prof. Lin, who showed that in Beijing on average, each room houses 1.41 individuals. The author assumes that average room size is the same across China because the standard is set by the government. In 1992, average living space per head in Beijing was 9.34 m2 with a density of 1.41 individuals per room. That same year, average living space in China was 6.9 m2 , for a density of (9.34 x 1.41) / (6.9 =) 1.91 individuals per room.

39. Editorial Committee (ed.), passim, 191-92

40. Ibid., 29

41. In China, living conditions are very basic. The main different housing standards are expressed through floor space.

42. Interview in Kunming, 1994

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51. Ibid., 7

52. Bourne L. S. passim, 173

53. There is no such statistics so far in China. The author received information from the former Director of China's Housing & Real Estate Administration Bureau, Prof. Lin, who showed in Beijing on average, each room houses 1.41 persons. The author assumes that average size of room is the same over China because its standard is settled by the state. In 1992, the average living space per capita in Beijing was 9.34 m2 with a density of 1.41 persons per room. The average living space in China in 1992 is 6.9 m2 , so, its density is (9.34 X 1.41)/(6.9). It is 1.91 persons per room.

54. Editorial Committee (ed.), passim, 191-92

55. Ibid., 29

56. In China, living conditions are very basic. The main difference between different housing standard was expressed through floor space.

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This report identifies the major housing problems and challenges faced by China. It describes the achievements made by China to provide housing for its citizens, which are unprecedented by any international standards. The report focuses on the instruments and methods used in housing and urban upgrading projects in China, with a case study of Yantai city. It further illustrates the approaches to finance such housing and upgrading activities in Yantai.

HS/947/07E
ISBN: 978-92-113-1923

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