## NOTAS E RECENSÕES

### CHINA'S THRUST TOWARD RAPID URBANIZATION

Since 1979, China has embarked upon a new development policy which among other things involves the promotion of rapid urban growth (1). This implies a definite break from the previous development ideology. Cities have always been regarded with scepticism by the Chinese. In the old China, the literate elite wrote admiringly of the virtues of the countryside and admonished the ills of the urban life. The communists regarded cities as bastions of privilege and explitative bourgeoisie. During the entire period following the establishment of the People's Republic of China (PRC), there has been a nagging conflict between the revolutionary and nationalist ideology of peasant mobilization and the requirement of rapid economic growth by means of urban industrial development (2). But the decision by the Third Session of the Chinese Communist Party on urban growth marks an important turning point with regard to the role of cities in the future development of China (3).

Even if it is generally accepted in China today that the country's development toward a rich and powerful society requires building up of its urban structure, there are many different viewpoints about how

<sup>(1)</sup> For a more recent analysis of this policy, see ETHRIDGE, J. (1988), Changing China: the New Revolution's First Decade, 1979-1988, New World Press, Beijing.

<sup>(2)</sup> GINSBURG, N. (1980), «Urbanization and development: processes, policies and contradictions», in C. K. Leung and N. GINSBURG (eds), *China urbanization and national Development*, The University of Chicago, Department of Geopraphy, Research Paper No. 196, p. 259-278.

<sup>(\*)</sup> WANG, Q. (1988), Some issues on the urbanization of the population in China. Paper presented at the International Conference on Urban Economy and Planning \*, Beijing Institute of Development and Strategy, Beijing.

<sup>\*</sup> In the following references, abridged to ICUEP, Beijing.

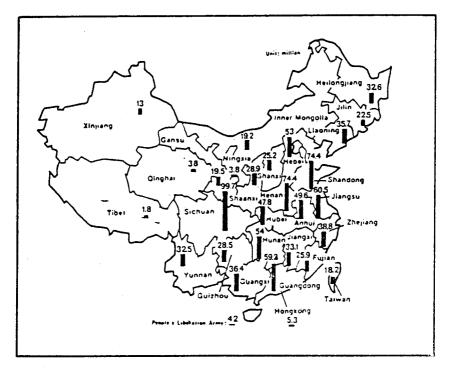


Fig. 1 — Population density in Provinces and Autonomous Regions \*.

Source: China City Planning Review, vol. 1, No. 1, 1985.

\* There are 5 autonomous regions: Tibet, Xiajiang, Ningxia, Guangxi and Inner Mongolia.

to achieve such an urban society. Behind these differences, there are linguring doubts about the virtues of cities. The aim of this article is to discuss some of the major issues in the present debate about urban growth in China. However, prior to this discussion, a brief note on urban policy between 1949 and 1979 and urban growth following 1979 will be presented.

### 1. URBAN POLICY BETWEEN 1949 AND 1979

There is no need here to give a detailed history of urban policy in China between the establishment of PRC and the death of Chairman Mao Zedong since this is now reasonably well-known and documented (for example, ELVIN and SKINNER, 1974; SIGURDSON, 1977; BUCK, 1978; LEUNG and GINSBURG, 1980; and MURPHEY, 1980) (4).

Urban policy during this period can be very broadly divided into three sub-periods:

- (a) urban policy during the first two five year plans prior to the withdrawal of the Russian aid in 1958;
- (b) urban policy following the Great Leap Forward (1957) and the subsequent adjustment; and
- (c) urban policy following the Cultural Revolution (1966-1968) until the death of Chairman Mao (1976).

During the decade following the Communist victory and the withdrawal of the Russian Aid, urban policy in China can be described as being dictated by «imperative of dualism» (5). Efforts were put to develop undercapitalized, locally-oriented rural areas at the same time develop modern industrial centers. It was during this period that China developed an elaborate hierarchy of settlements ranging from predominantly rural communes and market towns to former imperial cities and «colonial» treaty ports (6). Special efforts were made to develop the cities in the interior whereas the growth of the former treaty ports received less priority. For example, Shanghai during this period provided 18% of the central government's revenue but received only about 2% of the central investment funds in return (7). Furthermore, emphasis was put on production orientation rather than consumption orientation which characterized many of the former treaty ports.

The main feature of city planning at this time was the application of the Russian ideal which implied standardization of housing; laying out a city center to give it a political, cultural and administrative image rather than as an area of commercial activities; and employment of the

<sup>(4)</sup> ELVIN, M. and SKINNER, G. W. (eds.) (1974), The chinese city between two worlds, Stanford University Press, Stanford, Calif.

SIGURDSON, J. (1977), Rural industrialization in China, Harvard University Press, Cambridge, Mass.

Buck, D. (1978), Urban change in China, University of Wisconsin Press, Madison.

LEUNG, C. K. and GINSBURG, N. (1980), op. cit.

MURPHEY, R. (1980), The fading of the maoist vision: city and country in China's development, Methuen, New York.

<sup>(5)</sup> GINSBURG, N. (1980), op. cit.

<sup>(\*)</sup> The Treaty of Nanking in 1842, which ended the so-called Opium War between China and Britain, gave foreigners special privileges to occupy and control their own trading bases on the coast for the penetration of the China market. These bases which grew into cities were named «treaty ports». They numbered about a hundred and still are major cities in China.

<sup>(7)</sup> MURPHEY, R. (1980), op. cit., p. 46.

neighbourhood unit concept aimed at dividing the city into self-contained units (\*).

The creation of monolithic city centers, housing districts and industrial complexes were the results of this development.

Following the Russian aid withdrawal, China embarked on the Great Leap Forward in an attempt to promote industrialization through mass mobilization of peasants. During this period the Communist Party tried to implement the Maoist blueprint for rural and urban development. The main tenets of this blueprint were the elimination of the distinction between mental and manual labour and between city and countryside.

A key aspect of this policy was to disperse development resources between China's 2110 counties and 74 000 communes. However, the Chinese government realised at the same time that such a policy would have a negative impact on the rate of economic growth. In the subsequent period of adjustment, the Chinese government adopted a more dualistic policy. Cities of all sizes were developed although their development was kept under control, at the same time resources were put into the development of towns based on commune- and brigade-run enterprises. Another important feature from this period was the integration of rural areas with urban areas in all cities. For example, the three largest cities in China — Shanghai, Beijing and Tianjin — contain 20% or more of labour force which is primarily engaged in rural activities (°).

The Cultural Revolution from 1966 onwards dealt a severe blow at this dualistic policy. In its effort to cut down the growing urban elite and eliminate bourgeois values, resources were reverted from urban industrial development into mass mobilisation of peasants. Even if some efforts were later made to amend some of the serious set-backs in economic growth, it was not until 1979 that the Communist Party under Deng Kiaoping embarked on a new urban development policy.

# 2. URBAN GROWTH FOLLOWING 1979

The chinese divide urban places into five categories: (1) market towns (with a population between 10 000 and 20 000); (2) small cities (with a population up to 200 000); (3) medium-sized cities (with a population between 200 000 and 500 000); (4) large cities (with a population between one-half and one million); and (5) «extra» large cities (with a population over 1 million) (10).

<sup>(\*)</sup> Lo, C. P. (1980), «Shaping socialist Chinese cities: a model of form and land use», in C. K. LEUNG and N. GINSBURG, op. cit., p. 130-155.

<sup>(°)</sup> Guo, H. (1988), The transition of industrial structures and the growth of the economy in the Metropolises in China, Paper at the ICUEP, Beljing.

<sup>(19)</sup> Wu, F. and Li, S. (1988), Practice and ponderation on urbanization of China, Paper at the ICUEP, Beijing.

Between 1979 and 1986, the number of cities (categories 2-5) has increased from 213 to 353. There are currently 23 extra large cities, 31 large cities, 95 medium-sized cities and 204 small cities. On average, about 20 urban places have been up-graded as cities every year. Together these cities have nearly one-half of the urban population. They have over 32% of the national industrial enterprises. Their share of industrial production is about 70% and their contribution to public revenues (taxes and profits) is about 75%. The cities have 69% of the industrial capital investment in the country (11).

The growth of cities has been considered as one of the prime factors for rapid economic growth. Since 1979, various measures have been taken to promote urban growth. These include diverting entrepreneurial resources from semirural areas and market towns to cities in order to increase labour productivity, encourage specialization and open cities for foreign investments as well as increase their share of foreign trade (2).

But China has today a population of over 1 billion which is expected to increase to about 1,3 billion by the turn of the century. It is in rural China that a majority (80%) of the population lives. Of the rural working population of 400 million, nearly half is estimated to be surplus labour force (\*\*). It is considered impossible to transfer this surplus population to cities. This is because urban employment is not expected to increase that fast. In fact all the cities have problems in creating new jobs for the increase in the labour force as a result of the natural growth of the current urban population which is about 6 million per year. Furthermore, not all surplus rural labour has the cultural and technical qualifications for urban employment and urban living (\*\*).

So while the country has embarked on a new urbanization policy, various issues of this policy have been subjected to public debate (\*\*).

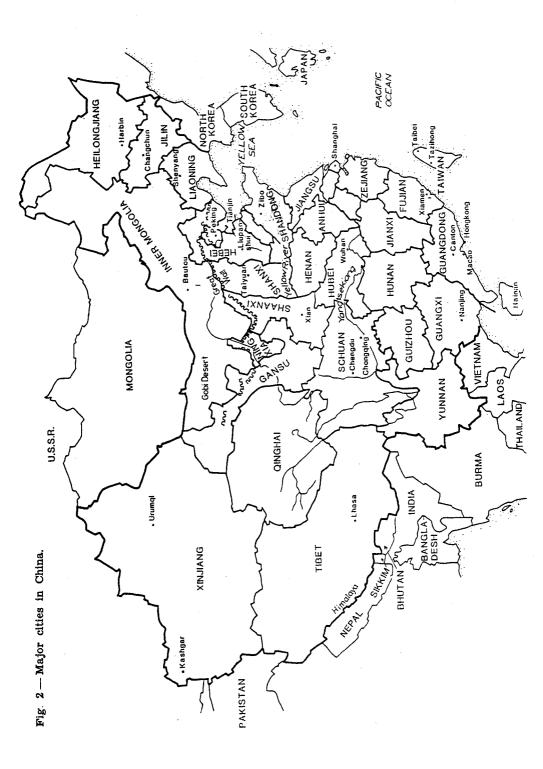
<sup>(1)</sup> YONG, C. (1988), Reform and opening are the strong power forces of urban economic development in China, Paper at the ICUEP, Beijing.

<sup>(\*)</sup> Increasing emphasis on the division of labour and specialization on the basis of comparative costs represent a major change from the past policy of self-sufficiency for regional development.

<sup>(</sup>a) LIU, C. (1988), Further thoughts on the way to urbanise China with chinese characteristics, Paper at the ICUEP, Beijing.

<sup>(14)</sup> Dong, L. (1988), Characteristics of China's urbanization, Paper at the ICUEP, Beijing.

<sup>(15)</sup> My sources of information, besides discussions with chinese academics, are Beijing Review, China Daily, China Reconstructs and the China Quarterley.



# 3 MAJOR ISSUES IN THE CURRENT URBAN DEVELOPMENT

In this paper, I shall take up what I consider as four central issues in the current debate:

- (1) developing small towns versus promoting growth of cities;
- (2) a market-based land management system;
- (3) controlling environmental problems in urban areas;
- (4) provision of resources for urban growth.

I shall conclude the article by taking up the more principle issue of compromising the socialist tenets of planned economy with the increased use of market forces.

## (1) Small towns versus big cities

In what proportion should the resources for urban growth be divided between villages and small towns on the one hand and cities on the other? This still seems to be the most central issue in the current urbanization debate in China.

Proponents of small towns argue that the only way to solve the problem of surplus population in rural China is the development of enterprises in towns and villages and creation of a linkage between groups of such villages and towns in order to achieve greater cost efficiency. Only in this fashion it would be possible to absorb surplus population without creating a mass exodus from agriculture. In a country with 800 million peasants, an intimate relationship between urbanization and rural development is inevitable. Among the proponents of small towns, there is a genuine concern for the «city diseases» which would afflict the population if resources are primarily put in the development of existing and new cities. Development of small towns on the other hand means that peasants leave farm plots but not the rural neighbourhood (\*).

Those who favour the growth of cities put two main arguments: limited land supply and cost efficiency.

China's 15 million rural industries, while employing nearly 80 million rural inhabitants, have taken away 80 million mu (") of cultivated land. Currently, China has only 1,5 billion mu of cultivated land for a population of over 1 billion. If small rural industries are to provide employment for another 200 million people, it will take away another 200 million mu of cultivated land. By the turn of the century, China will then have only 1,3 billion mu of land for a population of 1,3 billion ("). The only way to avoid this is to put resources in the development of cities.

<sup>(18)</sup> See for example, PAN, Y. (1988), Urbanization in China should proceed a course of co-ordinating the development of big, medium and small sized cities, Paper at the ICUEP, Beijing.

 $<sup>(\</sup>mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mbox{\ensuremath{^{"}}}\mb$ 

<sup>(18)</sup> Liu, C. (1988), op. cit.

Another argument relates to the cost efficiency of rural industrialisation as well as of small cities. Chinese estimates show that the productivity of enterprises in the latter category of cities is about 60% of the productivity in large cities. The corresponding figures for towns and villages is substantially lower (19). While it is possible to increase the productivity in small cities by increasing competition within and between cities and integrating the economy of these cities in the international economy, there are important limitations in making full use of economies of scale and externalities. The problem is even greater for small towns.

It is generally accepted by Chinese urban scientists that with a population of 800 million in rural areas, China's urbanization will be different from most other less developed countries. Maintaining a balance between urban growth and rural development will be a key issue in the development policy. The polarity in the current debate, however, reflects a basic conflict between a China bent on increasing production and living standards and a China still committed to austere and self-denying revolutionary ideals.

#### (2) Market-based land management

Urban development in China has occurred without any land market or land rent system. While this may have made it possible to implement the Soviet-type planning in the past, it has led to a great deal of abuse in land-use in urban areas.

During the recent years's urban expansion, land shortage has become acute in many cities. At the same time land squandering has become a serious problem in China. Land squandering implies three things: excessive land expropriation, premature expropriation and low density use of expropriated land.

A major issue here relates to the introduction of «land market» while retaining the state ownership of land. More recently, a system with different rents for different types of urban land has been introduced on trial in four cities: Fushun, Guangzhou, Xiamen and Harbin (20). If successful, the system might be introduced in other cities. However, this is not regarded by some urban scientists as adequate enough to bring about an efficient use of urban land.

One of the proposals which has considerable support from Chinese urban economists is a combined land-leasing and land-transfer system. According to this proposal the local government is responsible for land allocation. Land is leased for a period of 30 to 50 years. By means of progressive annual land use charges and transfer payments, land transfer

<sup>(\*)</sup> QI, J. (1988), Medium-sized cities: important potential forces in the current development of China's national economy, Paper at the ICUEP, Beijing.

<sup>(20)</sup> CHAI, Q. (1988), Urban land system in China, Paper at the ICUEP, Beijing.

is made possible and even encouraged between different categories of land users. The proposal also purports that at the end of the leasing period the renewal of leasing rights made subject to negotiations or even public auctions (21).

In the current land management debate, all participants recognise the fact that urban land is an important resource. Some openly support a full-fledged land market pointing out Hong Kong as an example where land rent provides for one third of the public revenues. Others are more cautious and argue that every change in land management ought to safeguard the principles of public ownership and socialist planning.

## (3) Environmental problems

The deterioration of the quality of physical environment is a serious problem in China today. It is also generally accepted that environmental problems are closely related to rapid industrial growth. Pollution of water because of the absence of proper treatment of industrial and household waste, the extensive use of coal as fuel for all types of urban activities and the consequent pollution of air, lack of land for afforestation and green belts are problems prevailing in nearly all cities in China. Many cities have inadequate supply of water and in some cities, like Beijing, there is a severe drain off of subsoil water.

There are two very specific aspects of urban planning in China which aggravate the environmental problems. Forst, there has been a «blind» establishment of environment-damaging industries in nearly all Chinese cities. Instead of concentrating such industries to a few places, they have been established in nearly every region. This has resulted in the multiplication of pollution problems. Several Chinese environmental specialists have termed this phenomenon «planning beyond control». They have called for an urgent need for developing a national strategy for industrial location (22). Second, most of the Chinese cities have satellite towns or suburban settlements where hundreds of small factories are located. Many of these factories have serious pollution problems. For example, there are more than six thousand factories in the suburbs of Shanghai. 40 % of them have serious pollution problems because these factories accept production projects indiscriminately. They put shor-term economic gains before environmental damages. The same story is repeated in many other Chinese cities (23).

<sup>(21)</sup> CAI, J. (1988), Thoughts on paid land use in urban areas and the establishment of land market in China, Paper at the ICUEP, Beijing.

<sup>(2)</sup> LIU, X. (1988), The research on city comprehensive environment abatement according to bidirection control system, Paper at the ICUEP, Beijing.

<sup>(23)</sup> XONG, Y. (1988), A study on the unification between the township economic development and environmental protection, Paper at the ICUEP, Beijing.

The low quality of urban environment is dependent on many factors including lack of funds, poor technology and excessive reliance upon administrative measures for pollution control. But above all it is a question of giving priority. Some Chinese environmental experts argue that a socialist planned society should pay more attention to environmental and social consequences of growth than is the practice in market economies. Others feel that the country must give priority to economic growth. Only when China has attained a higher level of growth, it should start solving the environmental problems.

## (4) Resources for urban growth

In China, city governments rely very heavily on funds for urban construction from the central government. Cities have very small resources to finance such construction. Revenues for urban construction come mainly from profits of industrial and other enterprises. Since 1979, three major changes have been made to increase such revenues. Profit collection has been replaced by a somewhat broad tax system.

The current debate deals with the issue of extending the tax system to cover not only enterprises but all other units including households. Moreover, proponents of a more diversified revenue system mean that local governments should be entitled to impose payments for such public services like drainage, refuse collection, environmental protection and road usage. Another proposal for local revenues includes taxes on commercial services like advertisement, and higher rents for residential apartments. The latter would help to thwart increasing volume of illegal housing and black market in apartments. Land rent is considered as yet another very important source of local revenues. Furthermore, proposals have been put forward to let city governments borrow money from banks, issue bonds and make use of other credit market measures in order to finance urban construction (24).

An underlying premise in many of these proposals is to increase city government's possibilities to raise revenues and reduce their reliance on the central government for approaval of every construction project. Proposals are controversial since such decentralization has important implications for a centrally planned society. Not all proponents of diversifying the revenue system accept such a shift in the balance of power between central, provincial and local government. At present, central government funds for urban construction are conditional upon the approval of the plans by the Ministry of Construction (formerly the Ministry of Urban and Rural Construction and Environmental Planning). In order to be assured of such an approval, local governments find it opportune to seek the help of the China Academy of Urban Planning and Design in the planning process. This in turn implies that

<sup>(24)</sup> Hu, S. (1988), Study on channels of the constructional funds in urban development, Paper at the ICUEP, Beijing.

the Ministry of Construction can follow the planning process in its entirety. Once the system of financing urban construction is changed, it would no longer be possible to exercise such a superintendence.

#### 4. ACCOMODATING MARKET FORCES IN A PLANNED ECONOMY

China's urbanization has proceeded along two lines: development of cities of all sizes and of towns based on commune- and brigade-run enterprises. The emphasis in this dualistic policy has moved to and fro during the entire period following the establishment of PRC. This dualistic policy has nevertheless been one of the important mechanisms whereby the central government has hindered the uncontrolled growth of cities which is a common phenomenon in many less developed countries. However, this policy has resulted in tremendous waste of scarse economic resources. There have been many failures in the building of small towns.

The promotion of city growth since 1979 is part of a new development policy. The main tenet of this policy is to open up the planned economy to market forces and international competition. So far the private market has been used to reduce the bottlenecks in the economy, reduce public subsidies to important consumer goods including foodstuffs, attract foreign investments and increase China's share of the world trade. One result has been an exceptionally high rate of inflation (compared to development prior to 1979) and the consequent discontent among different sections of the population. Another important consequence has been galloping consumerism in urban China. This process has been accentuated by China's widening contacts with the rest of the world. The gap in the standard of living between rural and urban China has widened.

In such circumstances, there is a danger of backlash in the continued implementation of the reform policy. Moreover, China's vast population makes it impossible to allow an uncontrolled growth of cities. In these circumstances, China will have to develop a piecemeal policy for accomodating market forces in the planned economy as well as for developing her cities at the same time transfering some of the resources to improve the consumption standards and the social welfare of the rural population. This does not imply a return to the dualistic policy of the Maoist era. The piecemeal policy would involve the drawing up of a new strategy for increasing the division of labour among the cities at the same time enlarging the economic intercourse between urban and rural China without reverting to the wasteful policy of developing small towns.

TABLE 1
Urban population in China (in '000s) in mid. 1982 \*

						City	Metropolitan **
Shanghai						6 293	11 185
Beijing (Peking)						5 531	9 180
Tianjin (Tientsin)						5 152	7 790
Shenyang						3 944	5 055
Wuhan						3 288	4 273
Guangzhou (Canton	1)					3 182	5 670
Chongqing						2 673	6 511
Harbin					١١	2 519	, <del></del>
Chengdu (Chengtu)						2 499	4 025
Zibo				• • •		2 198	<del>-</del>
Xi'an (Sian)			٠	•••		2 185	2 912
Liupanshui				٠		2 107	<del>_</del> -
Nanjing (Nanking)						2 091	3 682
Changchun				٠	,	1 747	5 705
Taiyuan						1 746	2 177
Dalian						1.480	4 619
Kunming						1 419	1 976
Tangshan						1 408	
Zhengzhau						1 404	1 943
Lanzhou (Lanchau)	• • • •					1 364	2 340
Jinan			•	•••		1 359	3 376
Guiyang						1 350	<del></del> .
Tai'an						1 275	· <del>, -</del>
Zaozhuang						1 244	2 704
Qiqihar				,		1 209	<del></del> :
Anshan	• • •					1 196	2 517
Pinxiang				• • • •		1 189	<u> </u>
Fushun	• • • •					1 185	2 045
Qingdo				.,.		1 172	4 205
Hangzhou						1 171	5 234
Fuzhou		`			•	1 112	1 652
Shaoxing	•••					1 091	— · ·
Jilin	• • •		• • •	•••		1 088	3 974
Nanchang	• • •		•••	• • •		1 076	2 471
Baotau	• • •		• • •	•••		1 076	1 593
Shijianzhuang	• • •		• • •	•••		1 069	÷ <del>-</del>
Changsha	• • •			•••		1 066	2 460
Huainan	• • • •			• • •		1 029	1 519

Source: UN: Demographic Yearbook. Based on the 1982 Census of the People's Republic of China.

- \* The table consists of cities with population of 1 million and over. This excludes many cities whose metropolitan population is well above one million.
- \*\* Metropolitan population include rural population within the municipal limits of each city. Metropolitan figures are omitted for cities where such figures are not available. The significant difference between city and metropolitan population shows the importance of satellite town development as well as the integration of rural areas within the urban network.