PART TWO

SECTIONS

Section 1 Formation of Intensive Economic Society

Chapter 1 Administrative Jurisdiction in the Process of Urbanization

1.1 Policy Recommendations

In China, the administrative jurisdiction consistent with regional economic activities is now required. By the same token, regulation and control for economic development zone are also necessary. Due to the inconsistency, conflict between the administrative jurisdiction and economic zone management tends to be complicated.

The administrative jurisdiction should cope with the demand of economic development so as to reduce unnecessary interference to the process of urbanization. From this aspect, paying attention to the following three issues is important.

The first issue is related to the administrative level. In fact, China has five administrative levels, which seem to be too much complicated. The third level, the "region", is not fully protected by law. Therefore, the region is often criticized regarding its existence by all sides. Thus, the administrative jurisdiction of the region should be abolished.

The second issue is regarding the size of the administrative jurisdiction. The scales of small towns in China are limited. Thus, it might be difficult to pursue economic agglomeration and to cope with economic development of the country. Consequently, the administrative jurisdiction of small towns should be also abolished.

The third issue is on the administrative system of cities. The present system, in which the city governs the county, results in the generation of different interests between the city and the county. Therefore, the competition or conflict between the city and the county is often unavoidable. Thus, this administrative system should be changed.

If the administrative jurisdiction of the region was abolished and the administrative system of city and county was changed, cities and counties would be directly governed by the province. Under the province-governed systems, the gap

between the cities and the counties would be definitely widened. Meanwhile, relevant problems would also appear. According to our research, classifying cities and counties is one of the solutions. In other words, cities and counties should be classified in different grades based on their population, acreage, economic level, strategic position, etc. By this classification, cities and counties may be treated equally by the law while possessing unequal resources.

We would like to point out that, although China's present administrative jurisdiction may not be able to cope with the process of urbanization, we should not confine our solutions to the administrative jurisdiction itself. The characteristics of administrative jurisdiction primarily lie in the constitution and the governmental system. The administrative jurisdiction, the borderline of government administrative power, refers to the distribution of political power between the central government and local one as well as amongst local governments themselves. The process of urbanization in China calls for suitable administrative jurisdiction. But the setup and restructure of administrative jurisdiction have to meet the demand of politics, the ultimate purpose. Thus, it is expected that the reform of administrative jurisdiction will be facilitated in the process of urbanization.

1.2 Issues on Administrative Jurisdiction

Administrative Jurisdiction, which is the division of internal administrative regions of a country, refers to, in general, the nation’s division of all its territory into various administrative management systems with different levels and scales of political control and management in accordance with certain systematic regulations and division principles.

According to Article 30 under the Constitution of People’s Republic of China, the territory of China shall be divided into provinces, autonomous regions and municipalities under the central government; under autonomous regions, there are autonomous states and autonomous counties; under provinces, there are cities and counties; under cities, counties or autonomous counties, there are villages, ethnic villages and towns; larger cities and municipalities under the central government shall

be divided into districts and counties; autonomous states shall include counties, autonomous counties and cities.

On the basis of the above regulations, administrative jurisdiction of China is characterized with the following features:

(1) Co-existence of the four types of organizational systems of administrative jurisdiction:

1) Organizational system on a geographic basis, including provinces, counties and villages and accounting for the majority, is the primary or basic organizational system of administrative jurisdiction;

2) Organizational system on a city and county basis, referring to urban and township regions with independent administrative organizational system and including municipalities directly under the central government, districts directly under cities and towns, etc.

3) Ethnic autonomous regions, including autonomous states and counties, accounting for 60% of the entire territory of the country in spite of the limited number of them as compared with administrative regions on a geographical basis;

4) Special organizational system, such as Shennongjia special region, Hong Kong and Macao SARs, etc.

(2) Co-existence of multi-level organizational system:

Administrative regions in general are basically established on three levels, which include province, county and village. However, for the municipalities, which are directly under the central government, there are two levels, city and district. Autonomous states and regions where counties are under cities' control would adopt four levels.

(3) Co-administrative system:

The administration is the combination of the first class organizations of state power and the extensional government offices designated thereby. At present,

regional administrative government offices designated by the provincial or autonomous regional governments will pursue their duty on provinces, autonomous regions and counties and cities, whereas district administrative government offices designated by the county or autonomous county governments will pursue their duties on counties, autonomous counties and towns, villages.

(4) Dual systems of state and city:

Both the administrative government office and the city administer counties.

(5) Three levels of city

1) Municipalities directly under the central government
2) Cities with districts
3) Cities without districts

In China, the Administrative jurisdiction with the above features determines the administrative levels of different regions. It is easy to understand that the administrative region is controlled by a kind of political function, so the political function is the directly connected to the system.

Theoretically, if there are no political partitions, the national economy will develop in an integrated mode and will not suffer the regional economic partition caused by the existence of various administrative regions. However, as a result of the existing political and economic systems, the regions also have to perform their economic duties besides political duties. To gain maximum profits, regional governments often interfere with the economic development by taking irrational measures, or even taking regional protective steps, thus creating an “Invisible Wall” in the course of economic integration.

Given that we shall not oversee the agglomeration and sprawling of cities on studying urbanization, we shall also not ignore this “Invisible Wall”. In fact, the emergence of cities is a result of the spatial agglomeration of social and economic activities. Formation and development of cities depend on agglomeration of the

peripheral population and economic factors, and on sprawling and expansion to the peripherals. Such interactions between city and its peripherals shall result in the city's crossing the boundaries of the administrative regions and the emergence of city-based economic regions.

The study team conducted an investigation over the 9 cities of Haicheng, Xishan, Zhangjiagang, Rongcheng, Shunde, Hanxian, Shaoxing, Gongyi and Fuqing. The survey shows that the administrative regions established on the basis of administrative jurisdiction have on the one hand lent strong support to the process of the urbanization, and on other hand created considerable barriers to the urbanization. Particularly, the following three aspects should be noted:

(1) The regional economy based on the regional economic interests has already existed, but organizing and regulating economic development by economic regions or urban economic regions are necessary. Inconsistency between the administrative region and the economic region generates conflicts between them. For example, Yangtze River Delta economic region with Shanghai as its center has involved three big administrative regions including Shanghai, Jiangsu and Zhejiang, which makes it very difficult for the economic region to develop without interference from administrative regions.

(2) The existing system, in which counties are under the jurisdiction of cities, has impeded the growth of urban economic regions. Clearly, this system has reduced the previous segregation of cities and counties, and expanded the administrative territory of central metropolises, leaving these central metropolises more authority for making strategic plan while handling economic issues. However, it is precisely this authority that created barriers hindering cooperation among cities. Within the central metropolitan areas, there exists hierarchical relation among cities, while each city is an economic entity with independent interest. Obviously, the contradictions among them are difficult to conciliate.

(3) Over-segmentation of administrative jurisdictions had weakened the agglomeration effect of cities and towns. In many cities (with no districts), too many villages and towns had been set up with insufficient scale, which causes diseconomy of cities and

towns, the inability to construct or to fully utilize the infrastructures required by the urbanization.

The restriction caused by complicated administrative jurisdiction on the process of urbanization involves issues regarding the relationship between economic regions and administrative regions, the scale or the ranks of administrative regions, etc. These are exactly what this Chapter is going to analyze and discuss.

1.3 Administrative Regions & Economic regions: Two Backgrounds of Urbanization

1.3.1 Administrative Regions Economy

In China, there is a term Administrative Regions Economy. Actually, Chinese economic structure mainly depends on regional economic benefits from the administrative regions. Governments at all levels in China regulate and control economic development for their own interests in accordance with the division of administrative regions.

There are three reasons for this phenomenon. These are as follows;

(1) In China, administrative region has political function with economic interests. The public servants are required to make profits to the people in their own area. Thus, developing their regional economy is one of the obligations for the governments at all levels must to develop the regional economy.

(2) Governments at all levels need to have sufficient tools to organize and regulate the economic development and certain economic resources, which enable them to participate in the economic activities.

(3) In line with the current system in China, governments at all levels must be responsible for the enterprises and citizens within their jurisdiction as well as for the governments at higher levels. Further, intra-regional economic development has always been an important factor for the governments at higher levels to evaluate the performance of governments at lower levels.

Judging from the above-mentioned situation, it is clear that the administrative regions economy is justified to be in existence and plays a significant role in the economic development of the country. However, the administrative regions economy has the following practical problems that should be resolved:

(1) Diseconomy of administrative regions economy

Administrative regions economy permits government's involvement in the economic activities. The economic development of an administrative region is often gained at the expense of "diseconomy" of one region or even one country. For the economic development, the administrative regions had constructed overlapped infrastructure and established similar industrial structures, impeding division of labor and cooperation between different regions on the basis of comparative advantages, causing inefficient allotment and serious waste of economic resources.

(2) Closed administrative regions economy

It is often said that the structure of demand and the regional preference will be similar if the economic development and the income per capita are in similar conditions between the two regions. As a result, the gap between the two markets will be narrowed and chances of specialization in the regions will be enhanced. On the contrary, the demand and supply relation will be weakened. In China, due to the enlargement of economic discrepancy between different regions, the economic conflict between regions are often intensified. In order to pursue and protect their own economic interests, local governments at all levels often create trade barriers and market blockage on the basis of administrative regions, thus restricting the free flow of economic factors and resources.

(3) The administrative regions economy does not cope with the global economic development trend.

The economic integration has been the global trend with free trade and the free flow of capital, which are the orientation of all nations in their economic development.

Recently, Chinese market has been open for the world. Even though China is being more open and trying to join the WTO, the existence of the administrative regions has been an obstacle for further proceeding market economy as it has created many barriers to the internal openness among regions.

(4) Administrative regions economy is not "political".

In China, people are always asked to be more "political", which is defined as abiding by the common choice made by the nation. Up until now, proceeding market economy has been the accomplished state policy of China, while the administrative regions economy often encounter with the market economy. One of the primary reasons for this is the involvement of the government in the economic activities. Further, the unification and stabilization are more important subjects for Chinese politics. The existence of administrative regions economy might give the region too much economic power, which might prevent national level unification and stability. Recently, the issues, such as emergence of relatively independent cities and sub-provincial cities, small revenue of the national government; proposals to increase the number of administrative regions at a provincial level, are often discussed, but all of these issues are out of concerns for the expansion of the regional economy.

1.3.2 Economic region

Economic region can be defined as an integrated economic entity and be characterized with specialized regional economy. The economic region is supported by central metropolises and closely interconnected in terms of production and circulation and other aspects.

From the perspective of spatial structure view, the economic region mainly consists of three elements.

(1) Economic Center

Economic region should have its own center, which is normally a big metropolis or a group of cities. The economic center is the core of the zone's economic development. Its agglomeration and expansion effects have a significant impact on

the economic development of the entire economic region. For instance, the biggest economic region – Yangtze River Delta economic region has Shanghai or the group of cities, Shanghai, Ningbo, Suzhou, Wuxi, Changzhou, Hangzhou, etc. as the core of the region. The economic growth of the delta region relies mostly on the development of the group of cities, and the expansion and attraction that the group of cities exerted upon the peripheral regions.

(2) Economic Hinterland

It's a term closely related with economic center or central metropolis. It refers to the range of regions where the absorption and expansion of the economic center promote the economic development. Suppose there is no economic hinterland, the economic center will lose its existing base. Taking Shanghai as an example, the city's economic hinterland in a narrow sense refers to the Shanghai city, whereas the definition in a broad sense refers to the whole Yangtze River Delta area.

(3) Economic Relationship

Within the economic area, the activities include flow of commodity, cooperation for technology development, capital financing, information exchange, and construction of traffic transportation network and communications network. Generally, close economic relationship within the economic region results in higher degree of integration of the economic region.

The problem is that the economic region will always cross the boundaries between administrative regions. In the case of the Yangtze River Delta economic region, the economic region includes three administrative regions, Shanghai, Jiangsu and Zhejiang at provincial level. Each of three administrative regions has achieved a high degree of economic integration. However, disagreement and conflicts between the economic regions and administrative regions also exist in this area. Each of administrative regions has similar industrial structures, constructs overlapped infrastructure. Thus, they cannot fully utilize the advantages as an integrated

economic entity. As a result, the foreign-oriented economies are developed under separate guidelines with its own development zones and special polices; the flow of commodity, service and capital are influenced by non-marketing factors, etc.

Regarding the relationships between administrative regions and economic regions, attention should be paid on the following four points .

(1) Administrative regions economy has characteristics of a natural or product economy, while the economic region have the features of a market or commodity economy.

(2) The relationship between administrative regions and economic regions is not matched. The administrative regions have the functions for political control and administrative management; while the economic regions have socialized manufacturing, and division of labor and comparative advantages as the prerequisites. The economic regions usually crosses the boundaries of several administrative regions.

(3) Administrative regions economy focuses on the regional economic interests, while the economic region economy emphasizes on the interests of a larger area or the national interest.

(4) Administrative regions need to be relatively stable, while the economic region might expand its area in accordance with the economic development and the expansion of the economic centers.

Therefore, it is not easy to consolidate the relationships between administrative regions and economic regions.

1.3.3 Economic Center

If one city has the centers of an administrative region and an economic region, then the conflicts between them will be much lessened. However, the conflict has been puffed up in the actual situation as the following example.

It is quite natural to take Nanjing as a center of Jiangsu province. However, some surveys show that the attraction and expansion of Shanghai over Suzhou, Wuxi, etc. are far greater than those of Nanjing.

Then we are confronted with a difficult problem. Which city should Jiangsu

province take as the center of its economic structure, Nanjing or Shanghai? If Shanghai is chosen, the transportation layout of Jiangsu should at least consists of two points, Shanghai and Nanjing, and the industrial structure of Jiangsu should be complementary to that of Shanghai instead of duplicating that of Shanghai, in which case the Nanjing airport should not have been constructed to its present size.

We believe that it should take a long time for the relevant officials to reach agreement upon this issue. As a matter of fact, we had consulted the officials and relevant researchers of Nanjing and Suzhou on this issue, only to find that most people from Suzhou are in support of choosing Shanghai as the center, while 72% of the people consulted from in Nanjing insisted on taking Nanjing as the center.

Table 1: Economic Center of Jiangsu

	Total (%)	Interviewee in Nanjing (%)	Interviewee in Suzhou (%)
Shanghai	53	28	86
Nanjing	47	72	14

Question: In your point of view, which city should Jiangsu province take as the economic center, Shanghai or Nanjing?

Source: JICA-Study Team, 2000

The same problem arises in the case of Beijing and Tianjin. Historically, Tianjin was the economic center of the North China region and an industrial and commercial city; while Beijing was a consumption city and the political and cultural center of China. In terms of economy, there is a strong complementary relationship between Beijing and Tianjin.

Since 1949, guided by the policy "Turning the consumption city into an industrial city", Beijing developed its industry in full scale. Most of the newly-established large-scale industrial projects were concentrated within the Beijing, Tianjin and Hebei region during a considerable long time. As a result, the economic strength of Beijing has exceeded that of Tianjin and the dual economic center situation came up consequently. In particular, the two cities, which are so close geographically, lack clear-cut division of labor and have similar industrial structures, which have impeded

the development of both cities.

The issue of keeping a reasonable division of labor and establishing a cooperative relation between Beijing & Tianjin has been raised by academic circle and planning agencies long time before, along with various studies having been conducted at different levels, yet the problem has still been in existence. The reason still lies in the bondage of administrative regions. In the economic region of Beijing, Tianjin and Hebei, it is relatively easier to adjust the relationship between Beijing and Tangshan, and the one between Tianjin and Tangshan. While, Beijing and Tianjin belong to the same level and are directly under the central government, so it is very hard to adjust the relations between them in a smooth manner due to the fact that each city has to take its own benefits into account. In this respect, the seaport case offered a good example. Tanggu port should be the gate for both Beijing and Tianjin. Since the port is under the control of Tianjin, which makes it inconvenient for Beijing to use it, Beijing looks for another seaport by firstly setting up alliance with Qin Huangdao and then turning to ally with Tangshan to construct Jingtang Port. Frankly, it's neither economic nor rational to do so because Tanggu Port cannot fully perform its functions while the port operation cost of Beijing are very high.

During the last few years, the economic development of the Pearl River Delta and Yangtze Delta regions has been faster than the speed of Beijing, Tianjin and Hebei. The reasons are manifold. But it is undoubtedly true that two big cities' inability to set up a smooth and cooperative relationship had played a key role in impeding the progress. In view of the current situation, there might be four economic centers in Shanghai-Ningbo region: Shanghai, Ningbo, Suzhou and Wuxi. It's good that Suzhou and Wuxi are not directly under the central government, otherwise the competition happened between Beijing and Tianjin will very likely repeat itself in this region. Just imagine, what could the relationship between Beijing and Tianjin be if Tianjin were not the city directly under the central government?

Therefore, the critical factors for the integration and development of the economic regions are whether all parties agreed on the selection of the central city, and whether the agglomeration and expansion bring about along with the growth of the entire

economic area.

1.3.4 Metropolitan Area and Economic Integration

Economic growth in China relies mostly on the growth of economy of cities. The growth of cities would lead to the economic growth of its peripheral area by the agglomeration and expansion of influenced areas, and create regional economic area or metropolitan area. The limits of administrative boundary will be reduced and cooperation with the neighboring areas and peripheral areas to form an integrated economic region will increase.

A typical example of this economic pattern is Tokyo metropolitan area, which is composed of Tokyo, Saitama, Chiba and Kanagawa with a population of 21,900,000. In this area, administrative boundary is almost non-existent and the market has been totally integrated. The movement of People and commodities is free in various administrative regions as if within one region.

In China, Guangzhou is a good example of this type. A few years ago, there were Huadu and Fanyu next to Guangzhou city. Yet today the two cities have integrated completely into Guangzhou and comprised one part of the metropolis. Thus, Guangzhou metropolitan area had been expanded spatially.

In China, the urbanization of the suburbs, such as immigration of urban population to the suburban areas due to location of factories and construction of residential areas in the suburb, construction of development zones and other expansion and transfer from the city center to its fringe areas, the development of the metropolitan area, and the growth of the city itself, often result in the overlap of two or more big cities, fading the economic boundaries thus creating the so-called the metropolitan band or the megalopolis of the big cities. For example, Shanghai, Suzhou, Wuxi and Ningbo had become an extension area of the big cities with relative high level of economic integration. But the problem is that each of the central cities has its own function and radiation with the economic areas overlapping with each other. Who can guarantee that no conflicts would happen?

Confronted with this problem, the following three points should be considered.

(1) First, we should admit that Jiangsu (core of Ningbo, Suzhou, Wuxi and Changzhou) belongs to the Yangtze delta economic area, where Shanghai has taken the leading role. Without the attraction and expansion of Shanghai, the economy of Jiangsu would not have been developed to the present scale. Actually, the development of Kunshan and Zhangjiagang has relied on the expansion of Shanghai. If the development of Shanghai has benefited from the integration of Yangtze Delta economic region, we must admit that the growth of Jiangsu had been closely related with the integration of the Yangtze Delta economic region.

(2) As the economies getting closer between Shanghai and Jiangsu, the city functions previously provided by Nanjing or Suzhou, such as the capital market, information communication, transportation, etc. will be partly performed by Shanghai. In this case, the economic integration of Shanghai and Jiangsu might restrain the urbanization of Jiangsu to some extent, e.g. the growth of Ningbo, Wuxi, Suzhou and Changzhou will be influenced, though Jiangsu may get better service in terms of city functions with a lower cost upon this.

If the economic similarity between Jiangsu and Shanghai give benefit to Shanghai, it does not necessarily lead to the loss of Jiangsu.

Now take Shanghai and Suzhou for example. If Shanghai is specialized in the third industry, Suzhou may focus on the second industry so that the complement will be achieved and the conflicts lessened, then the win-win situation is likely to be achieved. The rapid economic development of Suzhou recently might be resulted from this. In fact, we had interviewed more than 60 investors who came to Suzhou during the last 2 years and asked them the reason why they had chosen Suzhou. It turned out that over 30 interviewees considered being next to Shanghai as one of the reasons for them to choose Suzhou because it would be convenient to utilize the city functions of Shanghai.

(3) Many surveys show that provincial economy is not able to make an independent economic unit in view of either the territory or the resources structure. For any administrative region, it is necessary to focus attention on a wider territory range to consider its own comparative advantages and then adjust to its self-beneficial points.

Economic integration is good for the economic centers, sub-centers and economic hinterland as well. Therefore, we think that the economic growth of metropolitan area and the solution to the conflicts among the central cities within the area depend on the cooperation between the central cities based upon the comparative advantages and the higher level of the economic integration in the metropolitan area.

1.3.5 Economic Integration and Administrative Jurisdiction

As discussed above, administrative jurisdiction has created many barriers to the economic growth. Then shall we adopt the following point: to adjust the administrative jurisdiction in accordance with the requirements of the economic development, esp. of the economic areas?

The answer is surely no. Administrative region is part of state regime and should maintain certain consistency and stability. Opposite to administrative region, economic region is a changing concept and the boundary is fading. The economic centers may enhance the ability of agglomeration and radiation to gain new development space. We should not and cannot solve all of the problems concerning administrative regions confronted by economic areas through the adjustment to administrative jurisdiction.

To adjust Chinese administrative jurisdiction might be comparatively easier. In western countries, most of the fundamental administrative regions are autonomous bodies. It is pretty difficult to do any administrative adjustment because it must firstly gain the content of the citizens. Therefore, in France, the territory of the fundamental administrative regions had not been changed for over 100 years, though the political system and regional autonomous system had undergone substantial change, and the economic structure was totally different from the former one. Another example is Japan. As mentioned in the previous paragraph, Tokyo and Saitama had merged with each other in terms of economy, yet their boundaries had never been changed. New York, the metropolis of the United States, has extended its economic boundary to New Jersey, while to change the administrative boundaries of New York and New Jersey seems impossible in a federal nation like America.

However, the growth of the Tokyo metropolitan area and the New York metropolitan area has not been hindered by the existence of the administrative jurisdiction. Thus, it can be concluded that restructuring administrative jurisdiction is not necessary for economic develop in the metropolitan area. In 1960's, Japanese government accepted the concept of metropolitan area economy and established the fundamental regulations for the construction of metropolitan areas. The metropolitan area was defined as a central city with a population over 500,000 or an area composed of a few neighboring cities and villages with a population over 500,000. Based on this definition, the following two points are clarified:

(1) Metropolitan area should have a certain size of population and a spatial agglomeration;

(2) Within the metropolitan area, cities and towns are highly related each other in the economic aspect; or the degree of economic integration of the metropolitan area economy has reached to certain level.

We have noticed that Japanese government had influenced upon and promoted the growth of metropolitan areas through government planning and government policy since 1960's. Especially in the construction of infrastructures, spatial expansion and adjustment of industrial structure, etc., the government had promulgated a series of effective policies to develop the area economies so that the current metropolitan area of Tokyo, Osaka and Nagoya, which have strong influence over Japan's economy. But in all these planning or policies, you can hardly find any content relating to the adjustment of administrative jurisdiction.

In United States, the government has adopted the concept of Metropolitan Statistical Area (MSA), which should be composed of a central city with a number of central counties who are related by economic integration. If there are 50% of the employed population in a central county working in the central city and the population density reached at 250,000; or there are 15% of the population working in the central city but the population density reached at 500,000 per square kilometer, the county would be qualified to combine with the central city and make up an MSA. Generally

the population of a MSA should not be less than 100,000.

If a few neighboring MSAs meet the economic integration standard and the population is 1,000,000, they can make up a CMSA, “Consolidated Metropolitan Statistical Area”.

According to the data provided by the Population Census Bureau of the United States, there are 20 CMSAs and 261 MSAs in America. A total of 25 metropolitan areas had been made up from 17 biggest CMSAs and 8 large-scale independent MSAs in the United States.

From the above definition, we can easily find out that American metropolitan area economy focuses on the spatial agglomeration and economic integration.

It has to be pointed out that in the United States, the issue concerning administrative jurisdiction seldom involves the discussion on metropolitan area economy. Admittedly, there are often adjustments to administrative regions in the United States, yet the adjustments were often results of expectations of the residents regarding city service improvement rather than others.

So, we have to ask why the metropolitan area economy crossing administrative region limitations can get rid of the bondage of administrative regions in either United States or Japan?

The answer is very simple. Either in America or in Japan, there are administrative regions but no administrative regions economy like the ones in China.

The urbanization in China will surely lead to the formation of metropolitan areas like Tokyo Area or MSAs in the United States. The current administrative regions economy has seriously influenced the development of the metropolitan area economy, but we cannot rely completely on the adjustment of the administrative regions to solve the problem, because the essential element impeding the development of metropolitan area is not the administrative region itself, but the administrative regions economy. We maintain that we had better not adjust the provincial administrative regions too much. Why? The reasons are threefold:

(1) In the world, nearly no countries would like to make adjustment to the first class administrative regions. In the United States, you can only see the new states coming

up. But you can never see one state split in two states. In order to keep the unity and stability of a nation, the first class administrative region is the key issue. What's more, the provincial concept has got deep-rooted in the mind of we Chinese.

(2) To add a province or a city directly under the central government means to cut out one or more than one central cities from a certain province. Then, who (province) would be willing to support the growth of central cities in that case? The splitting of a province to establish a province or city directly under the central government is not conducive to the development of central cities, nor is it beneficial to the improvement of the level of urbanization.

(3) The Chinese economic development has been much impeded by the administrative regions. However, it is easy to find that what held back the economic development is administrative regions economy rather than the administrative region itself. Therefore, the key to solve the problem is to weaken the functions of administrative regions economy and promote market economy.

It needs to be pointed out that, although we do not protest to have much adjustment to the administrative regions at provincial level, we still maintain that some adjustments to quasi-administrative regions may be made and revoking and combination of the towns or civics be conducted. In this regard, we are going to further illustrate the point in the following discussions.

1.4 The Urban Growth and Reform on Municipal System

1.4.1 Four Issues

We have pointed out that the two important features of the Chinese municipal system are the region-city dual system and the three-level municipal system. There are four related issues:

The first one is about the region. On the one hand, the region is in actual existence. On the other hand, the region is not a statutory administrative region.

The second one is the City-Administers-the-Counties problem. After the region is

upgraded to a city, the city may inherit the counties in the region. As the city and its subordinate counties are separate interest entity, it is unavoidable that the two parties are in continuous conflict.

The third one is the problem with county-level cities, which means that a city is peer to a county along the bureaucratic hierarchical ladder, but has more autonomous power than a mere county. Many such cities have urban areas only about the administrative center and the rest is still rural area. The urban administration area and the geographical administration area are interwoven.

The fourth one is the development zone problem. In many cities there are maybe more than one development zone. These development zones may occupy some geographical area in one subordinate administrative area, or expand its territory across several subordinate areas. Although the administrative committees are not executive branches of the government, they have more discretional power than do the secondary governments of the region.

1.4.2 Problem of the Region

There are two conflicting attitudes about the first issue. One is the *let-it-be* attitude. It is realistic for now to stratify the administrative hierarchy into four layers, that is, the provinces (the cities directly under the central government, the autonomous regions), the regions (the Meng[1], the Zhou[2], the Municipalities), the counties (the county-level cites), and the villages (the towns). The reason is that the provinces are geographically oversized and the urbanization level is very low, thus it will be problematic if the province administration directly administers numerous counties. This idea argues that although the legal status of the region is weak, its existence should be guaranteed with its executive powers reduced to a extent slightly lower than those at the provincial and the county levels and its coordinative role re-emphasized in the regional development, the urbanization of the region and the integration of the rural and urban areas.

[1] Meng is a Region-level administration in certain minority area in the Mainland China.
[2] Zhou is a Region-level administration in certain minority area in the Mainland China.

There are two reasons; 1) the regional administration complicates the administrative process and adds to the administration cost without sound constitutional foundation; 2) the international experience is that most nations adopt the three-level administrative system that is, the Central (or the Federal) Government, the Provincial (or the State) Government, and the Local Government. The over-stratified government structure makes it very difficult to allocate powers and tax revenues among competing governments.

We made an investigation about this issue with questionnaires among 130 some officials in the research departments of the Central Government, the Provincial Governments, the cities-of-the-same-rank-as-a-region, and the County Governments.

Table 2 Summaries the Relevant Results:

	Central/Provincial Officials (%)	Region Officials (%)	County Officials (%)	Total (%)
Region as a legal administrative entity	30	69	0	36
Let-it-be	51	31	22	34
Abolish the Regional administration	19	0	78	30

The Question was: How do you think the region-level "administrative area" should be treated?
Source: JICA-Study Team, 2000

The sample shows that the three attitudes share almost equal popularity. But it is more interesting if we look at the officials. In the Central/Province Governments, the officials tend to let it be. In the Region governments, the officials are prone to legitimatize the Region Governments, and those working in the County Governments are eager to see the elimination of the Region Government.

We believe that attention should be paid to the opinions of the County officials. They raise four reasons why the Region Governments should be abolished. Reason one is that the Region Governments weaken the County Governments' administrative power. Reason two is that the County fiscal burden is exacerbated by the Region Governments. Reason three is the reduction in the administrative efficiency.

Reason four is that there are more negative effects on the regional economy than the positive ones.

We think that the regional administration should be abolished in the long run. The reasons are as follows.

First, the regional administration is the byproduct of the planning economy. In that outdated resource allocation scheme, the government was highly responsible for economic activities, and it controlled most of the resources. As the market-oriented reform is pushing forward, things that a government needs to manage are dwindling in number. At the same time, the private sector is allocating more and more resources; the government needs to allocate fewer and fewer resources. It is reasonable that the government hierarchy become less complex.

Second, it is how the subordinate administrations of the Regional Administration think of this level of the government that really counts, not the superior layer of the government. Although the above referenced investigation is not highly convincing for its small size and bias in the sample, it is obvious that the county administration is prevalently in support of the abolishment of the regional administration.

We need to take into account of the Minority Autonomous Region problem, of course. In most cases the Minority Autonomous Region is not only small in its economy size, but also small in its population. It seems that these Regional Administrations have fewer reasons to survive. But under the protection of the Constitution and the Minority Autonomy Law, it is very difficult to really abolish these administrations. If we consider the demanding problems of lack of human resources and fiscal self-sufficiency in these regions, the necessity of quick abolishment of these administrations is more urgent. The termination of these administrations will release a lot of resources both in human capital and fiscal terms. This will be helpful to the economic development of regions.

We recommend that the Regional Administration should regress to its original status as an extended branch of the Province Administration to serve the people not to administer the people. By this reason the Regional Administration should be restricted in its activities to education, employment, social security, police and

economic planning and coordination. At the same time, we recommend that the Provincial Administration should manage the counties with prominent wealth to accumulate experience.

What we need to point out here is that the Provincial Government will administer more subordinate administrations after the abolishment of the Regional administrations. In Mainland China, there are 2100 some counties/cities, 300 some Regional administrations. If we abolish the Regional administration, there will be 2400 some County-level administrations, and on average every Provincial Administration will face 80 some counties. It seems that the administrative burden is too heavy.

But we can learn from how the Japanese handle this problem. Japan has about 50 county-level administrations. In 1999, there were 3229 city-level administrations. That is on average every Japanese county administration administered 64.5 subordinate administrations.

In the U.S., the subordinate administrations of the State Governments are cities and counties. There are 200 some cities and 3000 counties. For the 50 States, on average every State manages 100 some counties and cities.

Table 3: Regional administration in China

Province-level			Region-level			County-level			City	
Total	Administration		Total		Administration	Total	Administration		Administration	
33	MDUC[3] Province AR[4] SAR[5]	4 23	104	Region MAZ[6] Meng	66 30 8	1689	County AC[7] Qi[8] AQ[9] SAA[10] FA[11]	1516 117 49 3 3 1	Region-level County-level City district	227 437 737

Source: the Civil Affairs Ministry of the People's Republic of China.

[3] Municipalities directly under the Central Government.
[4] Autonomous Region.
[5] Special Administrative Region.
[6] Minority Autonomous *Zhou*.
[7] Autonomous County.
[8] Qi is County-level administration in certain minority area in the Mainland China.
[9] Autonomous Qi.
[10] Special Autonomous Area.
[11] Forest Area.

1.4.3 the Problem on Administration of city and county

In Mainland China, cities or big counties were the regional administrative bodies. After the city administrations were upgraded to a higher rank, the cities control the counties. The city administrations pay a lot of attention to their districts and always try to exploit the subordinate counties.

The study shows that in the area where the city administers the counties, the economic friction is very serious. Especially in those areas where the city and the counties are almost equal in terms of their economic power, the repetition of investment leads to identical industry structure and vicious competition. The city does not have a vision of the whole area but only looks at the city and its suburban areas. It regards the counties as inferior areas and always demands sacrifice of the counties. In the whole area, no significant economic coordination and collective planning is exercised. The city and the counties are blockading one another.

The study team visited about 20 county-level city administrators in Jiangsu Province, Liaoning Province, Guangdong Province, Sichan Province, and Henan Province. We found that almost all these mayors had something to say about their superior officials in the Regional administrations. The complaints can be classified into the following four categories:

The first category is that the Regional Administration over-extends its power to the affairs of the county and interferes with the county executive practice;

The second one is that the Regional administration takes too much from the counties. For example, the Regional administration takes away the social security fund of those firms with good profit and leaves those in red to the counties;

The third one is that the Regional administration holds too many meetings, in which case the county administrators are required to attend. The county administrators have little time to attend their county affairs;

The last one is that the Regional administration pays little attention to the needs of the counties and ranks the counties far less important than its districts and suburbs.

In fact the mayor of a Regional administration has two roles. Firstly he is the mayor of the central city where the administration locates. Secondly he is the mayor

of the Region City. Thus, he is prone to give the central city far higher priority than the rest of the Region. This is one source of the conflicts of interests of the counties and the Regional administration.

What we need to point out here is that the City-Administers-the-Counties system leads to over-split of the geographical area of the city. For example, the Yuanshan County and the Xishan County were located around the Wuxi City, the central city of the Wuxi Region. After the two counties were upgraded to cities, there are three equal rank cities in the heartland of the Wuxi Region. Theoretically, it is more efficient to have these three cities integrated into one city. But the system makes it difficult to synthesize the development of these cities.

What is worse for the counties in the system when the central city is not economically more powerful than the counties is that it hinders their development. For example, Yangzhou City used to administer Santai Region. As Yangzhou City was not capable to boost the economic development, Santai Region was fighting to get independent of the control of Yangzhou City. After they succeeded, their economy went on the fast-rail.

We can learn from these experiences that since the Region City rooted in the Region construct, it should follow the same rule of development of abolishment. The central city can regress to a county-level city.

1.4.4 the Problem on the System to Upgrade County to City

The third problem roots in the recent pattern of upgrading a county to a city. Before early 1980s, Mainland China set up a city by cutting the economically most advanced part from the rest part of the county. This pattern led to a lot of problems. First of all, if the town where the county administration located was cut off and upgraded to a city, then in the same place there were two equal rank administrations. In Jiangsu Province, Suzhou City and Wu County, Wuxi City and Wuxi County, Changzhou City and Wujin County were examples. Secondly, if the area chopped off is too large, and then the rest of the county may not sustain itself. If the part is not big enough, the city does not have enough space to grow. Thirdly, the pattern will

increase the number of county level administrations.

Learning from these experiences, the new way of city setting up is to upgrade the whole county to be a city. According to the statistics, from 1986-1994, there were 288 counties upgraded to cities, another 13 cities were constructed by being cut off from the original counties, with an average 33 cities being established every year.

Actually, the new way avoids the problems of the old way. But it has its own problems.

The first problem is that new city administration pays more attention to the development of the industry and the commerce after the upgrade. The problem regarding peasant, village and agriculture (the Triple *Nong*[12] problem) cannot be solved in this frame.

Secondly, it is a far from the real urban area though the new city is called as city. This pattern leads to the false idea of urbanization and exaggerates the urbanization level of Mainland China. Some researchers propose to set up some cities-of-county in the prosperous part of the county and leave the county status intact.

We think this proposal does not solve the problem. The essence of the problem is to promote the agglomeration of industries and population and upgrade the life style to urban pattern. The city-of-county structure wills complex the current government structure.

Looking back at the Chinese history, we can see that the County system is a very stable one, almost intact through the 2000 years. It is reasonable to conclude that the County system is effective. What we need to do is to increase the standard of upgrading counties to cities. Only those counties whose most part has been urbanized can be upgraded to a city. This way we can gradually squeeze out the Region City construct.

It needs to be pointed out that the cause of urbanization in China shall not rely solely on upgrading regions or countries into cities. The key is in its core, which is urbanization in a real sense.

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[12] In Chinese these three words start with *Nong*.

1.4.5 the Problem of Development Zone

The fourth problem is on the development zone. Up until now, almost every city has set up its own development zone, and new development zones will emerge continuously in the urbanization process.

There are two types of the development zone deployment. One is to place the zone solely in one subordinate administration area. The other one is that the zone expands across several secondary administration areas. The administration of the zone is not a government but an extended branch of the city Administration, and usually has more power than the secondary administrations.

A reasonable way to avoid the problem is to separate the administrative and economic development duties of the development zone committee. The zone should be set up as a district of the city. The managing committee should consist of only economic and legal background persons. The host government should handle the public affairs in the zone.

A successful case of restructuring administration system of the development zone is the Huangdao development Zone in Qingdao city. The zone committee used to be an extended branch of the municipal government. There were continuous conflict between the committee and the district government. After the committee and the district government were integrated, the conflicts disappeared.

1.5 Discussion of Issues: Classification of cities and counties

We have already discussed about two methods in relation to the reform of present administrative systems. The first one is to repeal the level of region; the second one is to terminate the city-govern-county system. If such assumptions came into being, it might have led to two results. The first one is the disappearance of regions and the city-govern-county system. Therefore, the province might directly govern cities and counties. The administrative span seems to be too large. The second result is the greater gap in population, acreage, economic power, etc. between different cities and counties governed by the same province.

The result of the first one has already written, and two more points should be introduced here.

The first point is related to the present administrative jurisdiction. The process of urbanization in China has reached a new level and Chinese economy has evolved into the City-oriented one. Thus, it is no doubt that the administrative jurisdiction based on rural areas should change into new systems with cities as its principal part.

The second point has something to do with the span of administration. According to the common points of view in academe, the process of urbanization in China is still a far cry from the process of industrialization. In other words, the industrialization has dropped behind the course of urbanization and therefore has greatly affected the exterior circumstances of the administrative jurisdiction. One of the most influential factors is the condition of telecommunication. The area, which enjoy a more developed telecommunication system may reduce its administrative levels and enlarge the range of its administration. Practically, the telecommunication system in China has been greatly improved and China has entered the era of information society. Civil servants may be able to deal with the burdensome clerical works thousands of miles away throughout Internet. As a result, it is not a difficult problem for the provincial government to directly govern the cities and counties.

The second result is about the greater gap between cities and counties. One of the doable methods is to classify cities and counties according to certain standards.

Firstly, different cities and counties in different regions have disparate natural resources, economic basis as well as social development levels. The governments may face different situations and take different responsibilities. The classification of cities and counties may balance the social and economic situations. Thus local governments may share similar responsibility and distinguish their functions.

Secondly, China used to have such classification in the history. In Han, Yuan and Ming Dynasty, counties were divided into two or three types. In the past decade, central government of Peoples Republic of China also has its classification. For example, the Department of Construction classified cities as Metropolises, large cities, medium size cities and small cities. In the plan of institution-reform, cities were

separated into three sorts.

It seems that classifying cities and counties is not difficult task, though a lot of input is required to do classification. And it should be done. The classification of cities and counties help to establish their equal positions in law, and therefore solve the problems caused by the gaps between them. As cities and counties are treated equally, city-govern-city or county-govern-county systems will disappear. The complication of administrative jurisdiction in China might be reduced.

Additionally, the classification of cities and counties may establish the prompting system in administrations. According to the interview research conducted by the JICA study team, officials in southern part of Jiangsu (a more prosperous area) were more eager to classify cities and counties. In their opinion, the classification may stimulate the sense of collective pride and help to set up the competing and prompting systems in the administrations. Such systems are the most lacking factors in Chinese present administrations.

In some sense, the classification of cities and counties in China is a reconstruction of its administrative jurisdiction. We can only do this little by little. Fortunately, China has already had good experiences in this aspect, which is the experience in the process of enterprise-reform. Ten years ago, Chinese enterprises had the same complicated levels similar to the administrative jurisdiction. Different enterprises had different status in law. After ten-year-long adjustment, people have form the conception that enterprises can be classified according to different economic standards such as scale, while enjoying legal equality.

1.6 Urbanization in Rural Areas

1.6.1 Small Town with Master Strategy

Compared with other countries, it is more important to develop small towns in China. The reason is that China is now confronted with the serious problems in the following three aspects:

(1) Strain relations between land and population. As it is well known, China holds a

vast territory of around 9.6 million square kilometers, but the country can be considered the most impoverished nation in view of the average land occupation. As the urbanization progresses slowly, the large number of surplus labor is naturally an existing problem.

(2) The segmented system between the urban and rural areas. People living in cities are referred to as city dwellers, whereas people living in rural areas are called farmers. Due to the demarcation between urban and rural areas resulting from the old system, a huge amount of surplus labor remains on shrinking land, which has worsened the relationship between people and land and getting on a vicious circle.

(3) A big country with a small market. Owing to the low income, rural consumption is basically on a self-supplied basis, with characteristics of a small rural economy. As a result, the commercialized consumption level of the farmers is quite low and purchasing power is lower than that of the urban areas, creating the "big country with a small market" situation.

Obviously, the situation needs to be changed. The problem is how to make the change. It has been generally considered that developing small towns would be a good solution to the above-mentioned problems. The reason is threefold.

(1) Because the farmers are closely associated to land, the psychological cost of farmers to enter into a small town is much lower than to enter into a large or mid-size city.

(2) The development of small towns may help incorporate the two markets of both urban and rural areas, thus promoting the third industry, absorbing the surplus labor in the rural areas and alleviating the strain of land and population.

(3) The development of small town may at the same time concentrate the small rural industries, thus reducing the occupancy of land and pollution.

The survey conducted by JICA study team over more than 50 small towns in Jiangsu, Shandong, Sichuan, and so on shows that the development of small towns had played a significant role in alleviating the strain of land and population, eliminating the

segmentation between the urban and the rural areas, promoted market economy of the rural areas. The following four points should be described here:

(1) The development of small towns can promote the transfer of surplus labor in rural areas. Among the small towns surveyed, non-rural population accounts for the majority, with employment rate reaching 65% of the total; and this rate is much higher than that of the corresponding large or secondary cities.

(2) The farmers' income has increased with the development of towns. Among the towns surveyed, per capita income has reached RMB 3,500 yuan annually, RMB 1,000 yuan more than the corresponding indexes of rural areas outside towns.

(3) Agglomeration of population and industries had accelerated the development of non-agricultural industries. The second industry of town areas had taken a 43% share, while the third industry a 38% share. Thus, constructing small towns will be very meaningful to lead rural economy to non-rural economy.

(4) The attraction and radiation effects of the small towns over the rural area had exerted some influences on increasing the farmers' income, increasing the consumption, etc. Furthermore, the farmers living close to towns enjoy better standards of income and consumption than those living far away from towns do.

Therefore, developing small town is an effective solution for the rural problems in China and is an effective way to promote urbanization.

1.6.2 Small Scale Town

An outstanding feature of the small towns in China is small scale and inefficient agglomeration effects. According to the social economic investigation conducted in the rural areas of Jiangsu, the total population in towns is 4,325,000 (the average population of one town is less than 5,000). Further, there are 66 towns with a population less than 1,000 on average.

Due to the small scale and the diseconomy, the development of small towns is facing a series of problems.

(1) Capacities of Small towns for attraction and expansion over the peripheral areas are

too weak to push forward the economic growth of the peripheral areas.

(2) What we call “city life” cannot be actualized in small towns. Our survey conducted in Henan shows that the scale of service industry in many towns is small and underdeveloped. Thus, people who live in small towns cannot enjoy city life.

(3) The construction of infrastructure is overlapped and it is wastes of financial and natural resources. Although some towns or villages have been combined geographically (some parted only by a river), the infrastructures such as transportation, power supply, education, water supply/drainage, entertainment, medicine, etc. are constructed separately. It has not only influenced the developing speed and quality but also raised administrative cost and led to inefficiency.

(4) The land had been spoiled seriously. The survey conducted in Henan shows that the average land occupancy in some towns reached 550 square meters per capita, much greater than the 100 square meters per capita standard.

(5) The operation cost is pretty high. In small towns, the institutional structure, personnel composition, administrative expenditure is similar to those of large towns. Therefore, the financial condition of the town has been on the verge of bankruptcy.

(6) The comparative function of small towns is not obvious and the advantages not distinctive. Small towns of one county are all after the same model and lack synergistic effect, along with the inefficient allocation of resources.

It should be pointed out that the same problem (small town is too small in scale) also happened in the suburb areas of large developed cities. For example, there are 28 villages or towns in Pudong district of Shanghai, with the average area being 154,000 square kilometers and the average population 23,900 for each town. There are even 18 towns with a population smaller than 20,000.

Therefore, it will take times to proceed urbanization and develop rural economy through developing small towns.

1.6.3 the Integration of villages or towns – Experience of Jiangsu

Jiangsu province has promoted integration of the towns and villages. As a result,

geographic area of own town has been expanding. Changshu merged Qinnan, Chengjiao and Yushan. This merger generated the biggest town in Jiangsu. Composed by 3 economically small towns, Jinlang town of Taicang City now has bigger economic indexes compared with the total amount of the previous three towns. The effects of the integration have led to the economic development. Wujin included 56 towns previously, and now they are combined into 30. The average population has been increased from the former 20,000 to the present 40,000, and the average area expanded from 28.3 square kilometers to the current 52.8 square kilometers. Yizheng had consolidated 21 towns into 11, and Taizhou is now made up of 99 towns rather than the previous 155. The combination had basically restrained the negative influence brought about by the towns' small scale.

Based on the survey the study team conducted on the merger of towns in Taizhou, Yangzhou, Changzhou, Nantong, Suzhou, etc., we found that the integration of towns would help to solve the following problems:

(1) We may concentrate the limited financial strength on a limited number of central towns to help them achieve the better agglomeration effects, so the economy of the peripheral areas will be stimulated to grow.

(2) It can help to unload the farmers' burden. After the combination, the number of cadres must be reduced and the utilization of infrastructure will be more efficient. Then, farmers are benefited by partly unloading the heavy burdens.

(3) To agglomerate the town industries properly will on one hand save the farmland and achieve economy of scale, and on the other hand construct sewage processing facilities and protect the environment.

At the same time, we also find that there are a few problems during the combination of towns

(1) The name issue: When a few towns are combined, there will be a few corresponding names to be selected. What should be the name of the new town is a hard problem because it will surely make a certain group happy and others unhappy.

(2) The leadership issue: Generally there are 60-70 leaders in one town. After the integration, some of them must be transferred to other posts. Then it is very difficult

to decide who should leave, and how to deal with those transferred people.

(3) The issue of the towns' construction: Previously there were several town centers, among which only one should be left in the end, so it is hard to set who will act as the central town? How shall we deal with the ones that are left over?

(4) The issue of the residents' benefits: In the previous town area, some residents may have investment there such as real estate, shops, etc. If the town had been abandoned, the profits of the investment would be a big problem. How could we win their consent and understanding?

In our point of view, the experience of combining the towns in Jiangsu may offer us the following four points for reference.

(1) It is better to merger towns and villages as early as possible because it will be cost saving by doing so.

(2) The combination effects will mostly rely on the scheme, in which several factors must be considered, e.g. layout of the productivity, current town system, the future development trend of the town, etc. The scheme must be based upon position as a central town and ensure that the development of the central town is always given the priority.

(3) It needs special attention to deal with the leadership. If they are not positioned well, there will be many undesirable effects after the combination.

(4) The benefits of the residents must be handled properly. The residents of the abandoned towns should get compensation. Otherwise, it might lead to social instability.

1.7 Conclusion: From the Economy of Administrative Region to the Economy of Metropolitan Areas

The process of urbanization in China may greatly change the situations of economic competition in China. The basic units of the competition will gradually become cities or metropolitan areas. As a result, the economy of administrative region will be integrated into the one of metropolitan areas.

If these conclusions prove to be correct, administrative jurisdiction will not be a barrier for the urbanization in China. In fact, the ultimate factor that prevents economic growth of China is the economy of administrative regions. Thus, the administrative jurisdiction must match the development of economy.

Taking the political functions into consideration, the readjustment of administrative jurisdiction made by local government has limited influence.

we have four proposals for Jiangsu province.

First of all, the provincial government of Jiangsu should try to change its position from strengthening the economy of administrative region to enhancing the economy of metropolitan areas. The main task is to utilize the economic power of Shanghai. In other words, Jiangsu should adjust its status as a provincial administrative region, and turn its position to be one of the most important parts in the Yangtzi River Delta Economic Zone with Shanghai as the center.

Secondly, the provincial government of Jiangsu should reduce the number of administrative levels. By reducing the administrative levels, the counties and cities may be directly governed by the provincial government. The city-govern-county system should be terminated. This structural change is generally accepted in Jiangsu. Thus, Jiangsu should be the pioneering province with province-govern-county system. Carrying out this system may accord with the demand of the constitution as well as the principle of "more units, fewer levels" in the reform of administrative jurisdiction. Besides, it will also help to simplify management levels, improve the administrative efficiency and develop regional economy.

Thirdly, the provincial government of Jiangsu should classify the counties and cities while introducing the province-govern-city and county system. The experience of classification in the history or the standard set by the construction department might provide basic ideas for the classification. By doing so, the province may be able to establish our own classification standards and merger different institutions by integrating stuff systems in different types of cities.

Lastly, the provincial government should facilitate the urbanization in rural areas by readjusting administrative jurisdiction. There have been good examples in Jiangsu,

such as the separating establishment in Taizhou and the merger of small towns and villages. We would like to emphasize that the urbanization in rural areas does not simply mean the construction of small towns. And, the construction of small towns does not simply mean the construction of roads and buildings or the replacement of village to town. Urbanization in rural areas should be regarded as the overall development of the rural economy.

The process of urbanization will be the basic driving force to stimulate the economic development in Jiangsu. It is recommended that Jiangsu make its atmost effort for promoting urbanization process.

Chapter 2 Land Use Policy

2.1 Policy Recommendations

The implementation of the following policies/measures regarding future land use in China is suggested by the present Study.

The following policies/measures should be implemented to prevent excessive dispersion over a wide area and to facilitate the highly efficient and intensive use of land.

- Formulation of wide area reorganization plans at the national and provisional levels
- Control of the total development area in response to the growth potential and relevant guidance
- Establishment of a mechanism to automatically control excessive planning
  - Mechanism to prevent the easy provision of public relief for the non-performing loans of lending financial institutions
  - Consolidation of healthy revenue sources which do not rely on the sale of rights of use
- Inducement of migration from areas with low growth potential to areas with high growth potential

The following measures should also be implemented to prevent sprawling at the city level and to ensure the highly efficient and intensive use of land.

- Integration and extension of administrative blocks corresponding to the growing city size
- Formulation of an integral urban plan with the network type infrastructure and of urban planning which is not dependent on the use of private cars
- Regulations to induce highly efficient land use
  - Introduction of a regulation specifying the minimum ratio of building volume to plot and other regulations
  - Introduction of a tax on the ownership of rights of use

2.2 Existing Problems and Emerging Problems

2.2.1 Excessive Dispersion of Development Zones in Wide Area

It is believed that future economic growth in China will have to go hand in hand with the establishment of metropolises in a regional and spatial context. The national land will inevitably be divided into areas, which will be integrated into growing metropolises and areas, which will not form part of metropolises. The latter will then be redefined for development around core cities in local economic zones which will be established with local export industries (export industries utilizing local resources and/or existing industrial concentrations in local areas) playing a central role.

Against the background of the inevitable bipolarization of land with strong and weak development potential, there is a danger of the formulation of over-ambitious development plans by local governments despite the insufficient development potential of the target areas in their strong quest for the development of their administrative areas. In fact, many over-ambitious plans for development zones, which do not reflect the true development potential of the target areas, have been formulated in many areas, and the land has already been prepared in some cases.

There have been many cases of the indiscriminate development of national land in the form of development activities in areas which have no potential for a successful development zone, excessive development compared to the actual potential and hasty development which ignores the realistic development speed to fulfil the existing potential.

Such a national land development fever could result in excessive competition to attract business investment and could also damage the business location rationality from a social point of view. There is strong concern that efforts to attract plants imposes a heavy burden on local people and this concern appears to have been justified in some real cases.

The creation of development zones while ignoring a reasonable development size and speed will lead to the excessive dispersion and sprawling of development zones over a wide area, resulting in the creation of a large number of development zones

which are not taken up by businesses. Even if they are taken up over a long period of time, the amount of loss incurred in the interim period may be extremely painful. Such a situation would mean not only the loss of farmland and a waste of land resources but also the death of the injected funds for land preparation and infrastructure development, etc. Moreover, the developed infrastructure would require continual spending to cover the maintenance cost.

When the rationality of business location, which should in principle be judged by an individual enterprise, is successfully distorted by preferential measures to influence the decision by an enterprise to locate its business in a specific development zone, this decision makes the location of new businesses a fait accompli, inducing the relocation of related businesses and population migration to the development zone in question. This chain of events can, in the long run, lead to loss of the social rationality of industrial as well as population distribution and the creation of a society, which is heavily indebted due to high transport and transportation costs.

2.2.2 Sprawling at Metropolis and City Levels

There will be a continuous process of the concentration of industries, workplaces and population in not only cities situated in growing metropolises but also in core cities in local economic zones. This process of concentration is a necessity and has already commenced in many areas.

If no conscious efforts are made to provide systematic guidance on the subject areas during the process of concentration, the resulting concentration may best be described as dispersed or sprawling concentration. It may also become impossible to effectively and densely use the limited land resources.

Even if systematic efforts are made by local governments based on their existing administrative boundaries, the resulting concentration may well be dispersed or sprawling from the general viewpoint of a metropolis. For example, development guidance for a plan linked to the distribution and network of functions and concentrations in a county-level city may not be available for district or district-level cities which surround the said county-level city. Similarly, socially rational guidance,

which can be realized when two neighboring cities share a development plan, may fail to materialize.

Moreover, a plan which is forcibly led by town authorities based on existing concentrations in such towns could lead to the dispersed distribution of urban functions with failure to introduce high level service functions because of the failure to create a large-scale, high density concentration of demands. In reality, it is not easy for individual local governments to formulate a plan of which the scope includes areas under different administrative bodies. It is, therefore, almost inevitable that they will seek the rationality of a development plan for their own administrative areas.

Given the future prospects that the ever increasing size of each city will make cities lose their self-completeness amidst the growing intensity of transport connections and various flows with nearby cities and that the potential demands for service functions and urban functions will considerably increase due to increases of the population and income, a plan which caters for a single administrative area could result in a situation which can only be described as disorderly sprawling development from the viewpoint of a higher administrative level.

In this case, transport, transportation and various flows (of water, waste water drainage, energy, information and solid waste, etc.) in these rather isolated cities will be inefficient and this state of inefficiency could continue on a semi-permanent basis. Infrastructure development, which lags behind already established concentrations is likely to be inefficient despite relatively large investment.

To make matters worse, diverse or highly specialized or advanced service functions and urban functions which can only be established based on a high concentration may not be located in this cities, failing to raise the service level in the urban areas in question.

2.2.3 Decline of Living Standard Due to High Land Use Cost and/or Ground Rent

As described earlier, the process of high concentration is not only bound to progress but is also desirable in cities in growing metropolises and core cities in local

economic zones.

In these cities, the value of economic activities or the production value by unit land will become fairly large. The income of residents per unit land will also increase. In turn, this means that the ability of those who have to pay for land use, land ownership (or royalties) or ground rent will increase. Such an increase of the payment ability of users while the overall land supply volume is unchanged is expected to push up land prices (or royalties) and ground rent almost in proportion to the increase of the payment ability.

Faced with a rise of land prices and ground rent, real estate developers are expected to reduce the essential size of a housing plot or business plot per capita so that users find it easier to move in. This reduction of the plot size will not cause any problems if it is accompanied by an increase of the ratio of building to plot, ensuring the preservation of the essential floor area per capita. However, it is possible that some developers will reduce the floor area per capita as this is an easy option. The combination of such behavior on the part of developers will further generally increase land prices.

In general, assuming a similar level of income and similar loan conditions, the amount of available funds for the purchase of space under the situation where a unit floor area of A m^2 per capita is the standard should be the same as the amount of available funds under the situation where a unit floor area of B m^2 per capita is the standard. Accordingly, while the price level per unit floor area in the case of the former is equivalent to B/A, the price level of a home is likely to be equivalent to B/A.

A spiraling chain reaction of land price and ground rent increases could result in a decline of the floor area per capita, the living standard and the working environment or failure to secure the essential floor area level. The scale of such a decline may be minor in a society where there is a strong tendency on the part of users to object to a small space but could be fairly substantial in a society where such objection is weak.

2.3 Basic Direction for Land Use Policy

2.3.1 Basic Concept

Future urban development, inter-city reorganization and regional (local) planning in China should aim at the establishment of a society in which economic, industrial and living functions are concentrated with the main objectives of (i) improved socioeconomic efficiency and benefits, (ii) conservation of farmland and forests and (iii) prevention of global warming.

(1) Improved Socioeconomic Efficiency and Benefits Through Concentration

A concentrated or intensive society shortens the distance between individual entities, enabling higher transport, transportation and communication efficiency. The shortened distance between entities reduces the transport, transportation and communication costs while also shortening the transport and transportation times. The savings in terms of cost and time can be input to other production and consumption activities, accelerating economic growth and/or enriching the lives of the public.

A concentrated or intensive society also enables the common use of various facilities and improvement of the usage rate of such facilities to a high level.

In the case of private sector facilities (stores and workplaces, etc.), this type of society means a high concentration level of users nearby and the high usage rate level of these facilities results in better profitability. As a result, the demand for services that are less frequently used or only used by limited entities becomes sizable and makes such services viable businesses. This leads to the supply of a variety of services, including specialist and highly advanced services, improving the level of convenience in society.

In regard to infrastructure, if concentration is achieved, the number of beneficiaries is higher than in the case where infrastructure of the same scale is dispersed. Higher growth can be achieved because of the smaller overall requirement for infrastructure development as both separate development in many different areas and extensive service networks are unnecessary. The investment funds saved can be

diverted to other infrastructure development project, thereby stimulating higher growth.

(2) Conservation of Farmland and Forests Through Concentration

The concentrated or intensive society enables land conservation type urbanization. In a dispersed or sprawling society, the productivity or efficiency of use per unit of urbanized area is low. In contrast, land use characterized by high productivity or high efficiency per unit of urbanized area is achieved in an intensive society due to the high density land use.

As intense land use reduces the area of land used for urban functions, farmland and forestry can accordingly be conserved. Areas where there is a strong need for urban type land use tend to comprise excellent farmland with high productivity. In fact, it is often the case that the conservation of excellent farmland often makes a greater contribution to the preservation of the agricultural production capacity than the mere quantitative conservation of farmland.

For Chinese society in the future, one major question appears to be how to respond to the increasing demand for food in association with a population increase and rise of the income level. In this context, the conservation of farmland is a crucial task for China. Moreover, the conservation of farmland as well as forest land will be important as agriculture and forestry are expected to regain their importance as industries producing reproducible materials and energy in response to China's need to fully develop a sustainable society in the coming years.

(3) Prevention of Global Warming Through Concentration

A concentrated society is a society in which the transport and transportation distances are shortened as described earlier. The shortened distance enables a reduction of the energy used for transport and transportation and the reduced consumption of fossil fuel can contribute to the prevention of global warming. In a concentrated society, the transport demands of different areas tend to become large, allowing the introduction of mass transportation modes and enabling society to benefit from scale

merit. This also reduces the energy consumption level, i.e. the consumption of fossil fuel, further contributing to the prevention of global warming.

2.3.2 Measures to Prevent Excessive Dispersion in Wide Area

(1) Formulation of Wide Area Reorganization Plans at National and Provincial Levels

Examination of where the industrial development potential lies throughout China and also in each province is urgently required while realistically assessing the inevitability of industrial location. Desirable locations from the viewpoint of industries must be examined in addition to the rational selection of industrial sites, taking (i) the characteristics of highly promising industries, (ii) the conditions of existing industrial clusters, (iii) the distribution of resources required in the future, (iv) the prospects for water resources utilization, (v) the possibility of importing foreign resources (port facilities, etc.), (vi) the possibility of exporting products (port facilities, etc.) and (vii) the distribution of the existing consumer population into consideration.

In this context, the existing distribution of human resources and the working population should not be viewed in a fixed manner but as a dynamic state which can change with time or which may voluntarily move without external influence. The main reason for this is that it is believed that advancement of the individual's free choice of where to work and live will improve the welfare level in Chinese society in the future as discussed in a separate chapter.

Urban areas are expected to emerge in those areas with a strong potential for the concentration of many industries. Areas of which the urbanization is anticipated, particularly those areas which are expected to grow into a metropolis, must be clearly indicated and the status of each local area must be determined in connection with such an urban area or metropolis.

Outside growing metropolis areas, local economic zones will be formed based on local agriculture, forestry and fisheries, export industries dependent on local resources, existing industrial clusters which aim at upgrading and the existing user population distribution, etc. As core cities of a certain size should develop to provide various

services for the workplaces and population in these zones, development plans must clearly indicate the prospective or desirable distribution of these cities. The prospective development status of individual areas in these zones must then be determined in connection with these core cities.

(2) Control of Development Area in Total in Response to Growth Potential and Relevant Guidance

It is necessary to determine the size of land earmarked for development for each area in response to the development potential of each area, accompanied by a development schedule, based on the prospect of and plans for reorganization at the national and provincial levels. The size of land for development should correspond to the level of potential.

The reorganization prospect or plans or the size of land for development must be flexible enough to permit regular review and modification if necessary. As no prediction is perfect by definition, discrepancies between a plan and reality can constantly occur, necessitating a system to correct such discrepancies in a flexible manner. When determining the size of land for development, the planning authority must avoid earmarking too much land for development in areas with low growth potential. While under-estimation of the growth potential can lead to the formation of inefficient cities by distorting the urban development plan and infrastructure development plan, the losses caused by under-estimation are much lower than the wasteful use of land and funds due to over-estimation.

(3) Formation of Mechanism Capable of Automatically Controlling Excessive Planning

While it may be natural for any local government to formulate over-ambitious plans in the hope of promoting the development of its own area, a plan, which ignores the real potential usually ends up strangling the planner.

However, what is problematic in China today is that the mechanism to strangle such irresponsible planners is too weak to properly function. The introduction of a

mechanism is required to prevent the easy provision of public relief for non-performing loans of lending financial institutions when the repayment of loans for finance development projects is not smoothly made. If such a mechanism exists, the examination of loan applications by financial institutions becomes much more strict by scrutinizing the realities of prospective borrowers, acting to control excessive development.

Also required is the provision of local revenue sources, including tax revenue sources, for local governments so that these governments do not have to rely on sales of the right of use for fiscal revenue. Under the public ownership of land, there are cases where sales of the right of use are a major revenue source for local governments. In such a situation, the piecemeal sale of land can easily occur. The introduction of measures to secure healthy revenue sources for local governments is essential to change this situation.

Furthermore, it is necessary to change the mechanism whereby the performance of individual bureaucrats is evaluated in accordance with the number of development projects launched by these bureaucrats. What is required here is the diversification of evaluation criteria to afford high value to redevelopment or conservation projects as well as welfare-related projects rather than new projects.

(4) Inducement of Migration from Areas with Low Growth Potential to Areas with High Growth Potential

When the population of areas with low growth potential is kept unchanged, it is impossible to enrich local life or to improve the standard of living in these areas. Unless the distribution of the workforce is changed in accordance with changes of the industrial structure and industrial distribution, any change of the industrial structure remains incomplete, resulting in failure to establish new growth industries

Fixed population distribution always leads to over-ambitious development efforts in areas with low potential. A long-term plan for the redistribution of the population at the national and provincial levels is, therefore, required to prevent such over-ambitious efforts. Redistribution of the population to urban areas with promising growth potential

and those urban areas, which do not have a water resource shortage should be induced.

2.3.3 Sprawling Prevention Measures at City Level

(1) Integration and Extension of Administrative Blocks Corresponding to Growing City Size

In growth areas, the number of workplaces and the population size continually increase to stimulate the movement of people and goods with a resulting expansion of the space for movement.

Even if conscious efforts are made to locate housing near workplaces, it is impossible to prevent the emergence of long-distance commuting to a certain extent. People often change their places of employment under these conditions. In fact, realization of the rational distribution of the workforce cannot be achieved without people changing their places of employment. As a result, the flow of commuters extends to cover a relatively large area.

Similarly, the flow of people to buy goods and services also extends to cover a much larger area than before. Larger demands due to the enlargement of urban areas make the supply of goods and services more diverse, specialist and advanced. As these goods and services cannot be located throughout a wide area, their locations are confined to limited areas. Under these circumstances and coupled with an income increase, it is inevitable that shopping trips to obtain these goods and services will increase as shoppers seek out places with a large selection of goods and/or better services to suit their individual preferences.

For cities in the process of growth, planning of the appropriate distribution of functions in line with the extension of various flows is essential together with the planned development of infrastructure. Here, the existing administrative blocks, which are compatible with a self-complete type society with a relatively high level of self-sufficiency are no longer compatible with the new reality. The new reality makes the integration and reorganization of the existing administrative blocks in correspondence with the expected expansion of the city size necessary. The administrative blocks should reorganized to reflect commuting zones, shopping zones and zones with a high

level of physical distribution between workplaces. If the traditional administrative blocks remain unchanged, the planning body will find itself too concerned with its own administrative area to formulate a rational plan.

The integration and reorganization of administrative blocks can be the basis for the prevention of sprawling which is the cause of wasteful land use as well as infrastructure development. Planning for an enlarged area makes the rational distribution of various functions and intensive land use possible. The development of similar facilities in each administrative block tends to result in poor investment efficiency because of the low utilization rate of individual facilities. The intensive development of facilities in line with the distribution of prospective users can ensure a high level of land use efficiency while preventing the process of sprawling.

Planning for an enlarged area can also reduce the required quantity of network type infrastructure through the rational distribution of functions, thereby reducing the required amount of land use conversion.

(2) Formulation of Integral Urban Development Plan with Network Type Infrastructure and of Urban Planning Not Dependent on Use of Private Cars

Urban development or urban improvement must be planned in uniformity with the planning of network type infrastructure. A situation where the development of such network type infrastructure as roads, railways, water supply, gas supply, telecommunications and sewerage service, etc. chases the development of other urban development components should be avoided as much as possible. The reason for this is that the development of infrastructure to link already established urban functions tends to make both individual urban functions and the developed infrastructure inefficient because of the tendency for these functions and infrastructure to become dispersed or sprawling using many sites. It is not simply a question of large investment in construction or the conversion of a large area of farmland. A situation where inefficient activities using infrastructure result in a high running cost can continue for a long period of time. In other words, the prices of petrol, transportation and everything else continue to be high.

It is, therefore, necessary to plan network type infrastructure capable of supporting an intensive distribution plan for various urban functions to enable intensive land use.

The intensive distribution of urban functions causes the phenomenon of congestion unless appropriate infrastructure development is implemented. Even though some degree of temporary congestion is unavoidable, chronic congestion stagnates urban activities, negating the usefulness of functional concentration. In the case of roads and railways for example, a sufficient but not excessive level of development must be decided while emphasizing public transport.

With an increase of income, there will be wider use of convenient private cars. When the use of private cars is assumed, the degree of freedom to choose where to live considerably increases, resulting in the dispersion of residential areas. This dispersion of residential areas stimulates the dispersion of service industries and infrastructure relating to daily life and, therefore, counteracts the intended concentration or intensification of such services and infrastructure. In short, any urban planning must assumed that the proper functioning of a developed city does not depend on the use of private cars.

(3) Land Use Restrictions Covering Entire City Area

To prevent the sprawling of a city, the prohibition of urbanization is, in principle, necessary in the entire city area and development activities should be admitted in those areas in which urban type land use is planned or for which an urbanization plan has been formulated. In addition, areas to be conserved as farmland for a long period of time and areas of which the nature is important for the ecosystem or city functions must be planned and development should be strictly prohibited in these areas.

(4) Regulations to Induce Highly Efficient Land Use

The introduction of regulations demanding highly efficient or high density of land use as part of urban planning should prove effective to proceed with the intensification of land use. One possible measure is the introduction of a regulation, which specifies the minimum ratio of building volume to plot.

It is also necessary to introduce a mechanism which forces the effective use of

land to reflect the market land value by means of the collection of a fixed property tax which corresponds to the market price of the right of use. Although the presupposition for this argument is that the market for the trading of rights of use is sufficiently established, such a market is expected to be naturally established in the future process of city growth.

As an entity, which can use specific land in the most effective manner can pay the highest price for the right of use of the land, it is necessary to promote the trading of rights of use in a free market as a way of effectively using land from the social point of view. The trading of and competition for the rights of use in a free market can ensure the distribution of land to entities, which can most effectively use the land in question.

However, as any city is almost constantly changing, there are frequent cases of the most appropriate use of each piece of land changing with the passing of time. Under these circumstances, it may not be unusual for the judgements made by individual land users to not coincide with the most socially appropriate options for the use of particular land. For example, when a suitable use of particular land has changed from low utilization density to high utilization density, the existing user often continues the ongoing type of land use. Even if an offer to buy the said land at a high price is made by an entity which plans the high density use of the land, the existing user may judge that the existing use is more beneficial. To prevent this in order to facilitate more effective land use, it is necessary to impose and collect a fixed property tax corresponding to the market value of the land so that the user is forced to consider more efficient land use to bear the tax burden more easily. If the existing user cannot bear the tax burden, he will have no option but to sell the land to someone else.

It is fairly common in a growing city for the income from land use to also grow. It is not unreasonable to expect a continuous increase of the land value. This situation could lead to speculative land transactions based on expectation of increased land value. Such speculation often delays the transfer of land to an entity which can most effectively use the land, thereby retarding the achievement of socially effective land use. In order to prevent speculative moves, it is necessary to make the payment of a fixed property tax a compulsory requirement associated with the ownership of right of

use. This arrangement makes it impossible for anyone to hold onto land indefinitely in anticipation of an increase of the land value.

A fixed proper tax on land is a type of use tax, which is imposed in the light of the benefits received from the surrounding environment by the user during the use of the land. This tax should be understood as a tax imposed in view of the geographical location of the land, distance to major employment and commercial areas, ease of using nearby transport and other components of infrastructure which are being developed by society and the natural environment, etc. This tax offers the possibility of recouping the cost of public investment in the development of infrastructure, etc. from the beneficiaries of development.

2.3.4 Measures to Prevent Decline of Living Standard, etc. Due to High Cost of Right of Use and High Ground Rent

During the high growth period in Japan, there was a massive population migration from rural areas to large cities. In this process, a significant rise of land prices occurred in large cities. In response to which, developers steadily reduced the plot size for detached houses. Many developers started to sell houses on extremely small plots for low income families. At their so-called mini-development sites, the plot size for a detached house could be as small as 60 – 100 m^2 and the development of related infrastructure was kept to a minimum. In the meantime, overnight sleeping facilities called capsule holes with only enough space in each capsule for a guest to lay down emerged in the hotel sector.

If developers voluntarily refrain from offering such poor space, measures to rectify the situation are unnecessary. Similarly, if users have a strong sense of values and reject an extremely small living space, improvement measures are again unnecessary. While it is practically impossible to correctly predict future development regarding living space in China, the introduction of regulations demanding the minimum floor area per person for housing, offices and other buildings is desirable. The present situation appears to be that a significant increase of the floor area per person is already required and, therefore, the introduction of the regulations to improve the living

standard is necessary.

2.3.5 Role-Sharing by Central and Local Governments

The prospective bodies to be principally responsible for the above-mentioned policies and measures are believed to be as follows.

Table 1 Role-sharing by central and local government

Policy/Measure to be Implemented	Central Government	Provincial Government	City or District Authority
Formulation of wide area reorganization plan	O At national level	O At provincial level	
Control of total development area and relevant guidance	O Vis-à-vis provinces	O Vis-à-vis county-class cities	
Establishment of mechanism to prevent easy provision of public relief for non-performing loans of lending financial institutions	O		
Consolidation of healthy revenue sources which do not rely on sale of rights of use	O		
Formulation of long-term population relocation plan from areas with low growth potential to areas with high growth potential	O	O	
Integration and extension of administrative blocks corresponding to growing city size		O Guidance and coordination	O
Formulation of integral urban development plan with network type infrastructure	O Institutional set-up	O Guidance and coordination	O
Land use restrictions covering entire city area	O Institutional set-up	O Guidance and coordination	O
Regulations, including minimum ratio of building volume to plot, to enforce high efficiency, high density land use	O Institutional set-up	O Guidance	O
Taxation of ownership of rights of use (fixed property tax on land)	O Institutional set-up	O Institutional set-up	O Implementation
Regulation on minimum floor area per person	O Institutional set-up	O Guidance	O Implementation

Source: JICA study team

2.4 Land Use Policy for Jiangsu Province

2.4.1 Prevention of Excessive Dispersion of Development Zones and Highly Efficient Land Use at Wide Area Level

(1) Formulation of Provincial-Level Wide Area Reorganization Plan

Firstly, a wide area reorganization plan is required in view of appropriate land use in Jiangsu Province at a wide area level.

1) Purpose of Formulation of Wide Area Reorganization Plan

The purpose of formulating a wide area reorganization plan is to achieve generally rational land use at a wide area level in many aspects by means of reorganizing the existing land use. In section 3.3.1, however, emphasis is placed on the plan's role of preventing the excessive dispersion of development zones and highly efficient land use.

2) Necessity for Hypothetical Long-Term Framework for Development

The first important component of a wide area reorganization plan is the vision for the long-term development of Jiangsu Province.

① Purpose of Hypothetical Development Framework

The provincial government must have a long-term framework for development. Without such a framework, it is impossible to guide the reorganization of the province from a long-term viewpoint or to develop infrastructure in line with reorganization efforts.

The purpose of establishing a hypothetical development framework is to provide basic information for provincial reorganization and infrastructure development from a long-term viewpoint.

② Contents of Hypothetical Development Framework

The most important components of this hypothetical development framework are the population size and industrial size.

③ Period for Hypothetical Development Framework

The target period for this hypothetical development framework should be approximately 15 years although an extended period of, for example, up to

30 years should also be in sight. Planning should assume the long-term prospect of China continuing the current pace of development to achieve the present socioeconomic status of advanced countries while also assuming a more shorter period for which the development of the key components of infrastructure must be planned and implemented to perform their expected functions. The above-mentioned time-scale for the long-term development framework, therefore, appears to be reasonable.

Predicting the future is obviously difficult because of the involvement of many uncertain factors. Nevertheless, the predictions of the provincial government should be as accurate as possible through the mobilization of its entire resources currently available. The provincial government should adopt the idea that it will be sufficient to gradually modify any discrepancies between the reality and the predictions as and when they occur.

3) Rough Hypothetical Long-Term Development Framework for Jiangsu Province

At present, the Jiangsu Provincial Government has a development framework up to XXXX, meaning that it lacks a hypothetical development framework to cover a 15 year period let alone a 30 year period. The present framework itself is quite problematic as it predicts that the provincial population will start to decline after reaching a peak in 2003. As part of the present Study, therefore, a guiding development framework for the province is roughly predicted.

This prediction is based on a very simple method, which can be easily used. Because of its rough nature, many problems can be pointed out when it is examined. However, it is believed that the method used incorporates the most important mechanism to determine the future development of the province. This prediction method is described below in the hope that the Jiangsu provincial government will improve the prediction method and model to incorporate important factors which are not incorporated in the rough prediction using the method put forward here as the starting point.

The rough prediction of a long-term development framework is conducted in the

following manner.

① Basic Philosophy for Rough Hypothetical Development Framework

i. The scale of industrial activities determines population size.

ii. There are two types of industries: (i) independent industries which are less influenced by the size of the hinterland because of a large proportion of exports to other areas and (ii) subordinate industries which mainly serve the demands in the hinterland and in the areas of their location (meaning a low proportion of exports).

iii. Once the size of independent facilities has been determined, the size of subordinate industries which meet the demands for daily goods, etc. of people working for independent industries and their families and also the business demands of independent industries, is determined.

② Flow for Establishment of Rough Hypothetical Development Framework

i. Determination of the number of employees of independent industries

ii. Determination of the number of employees of subordinate industries in correspondence with the number of employees of independent industries (number of employees of independent industries x number of employees of subordinate industries per employee of independent industries = number of employees of subordinate industries)

iii. Prediction of the population size in correspondence with the total number of employees of both independent and subordinate industries (number of employees x population per employee = population)

③ Prediction Steps

i. Prediction of the total population and the number of employees by industrial sector in China.

ii. Prediction of the population and the number of employees by industrial sector in Jiangsu Province based on the figures in i. above.

iii. Prediction of the population and the number of employees by industrial sector in each county-level city in Jiangsu Province

④ Identification of Independent and Subordinate Industries

i. Primary industries, mining industries and manufacturing industries are assumed to be independent industries for the present purposes.

ii. Other industries, such as the construction industry and all tertiary industries, are assumed to be subordinate industries.

iii. Although it is desirable to identify tertiary industries with a high export proportion (tourism, higher education, advanced medical care and wide area finance, etc.) as independent industries, this identification is not conducted this time.

⑤ Preconditions Used for Prediction

i. The ratio of working people in the future population (working population factor) is set at 0.5605 for all areas in China (use of the present national factor as a fixed factor)

ii. The future geographical share of the number of employees by primary industry is set at the present share at the national level as well as at the provincial level (Jiangsu Province).

iii. The future geographical share of the number of employees by mining industry is set at the present share at the national level as well as at the provincial level (Jiangsu Province).

iv. The future number of employees of manufacturing industries is assumed to be in proportion to the output of manufacturing industries at the national level as well as at the provincial level (Jiangsu Province).

v. The future geographical share on the manufacturing output is set at the present share at the national level as well as the provincial level (Jiangsu Province).

⑥ Predicted Cases for Rough Hypothetical Development Framework Case 1

- China's population will total 1.5 billion.
- The shift of the working population from agriculture to the manufacturing and tertiary industries will progress to the current level of advanced countries (the employment structure will resemble the current structure in

advanced countries).

(This case assumes that restrictions on population migration from rural areas to urban areas will be substantially eliminated.)

(The assumed stage of development will represent the near maturity and stabilization of Chinese society.)

Case 2

- China's population will total 1.5 billion.
- The shift of the working population from agriculture to the manufacturing and tertiary industries will progress to half of the current level of advanced countries.

(This case approximately represents a situation in which some of the restrictions on population migration from rural areas to urban areas will remain in force.)

Case 3

- China's population will reach 1.42 billion.
- The shift of the working population from agriculture to the manufacturing and tertiary industries will progress to half of the current level of advanced countries.

Case 4

- China's population will reach 1.42 billion.
- The shift of the working population from agriculture to the manufacturing and tertiary industries will progress to one-quarter of the current level of advanced countries.

The UN estimate (median) revised in 1998 puts China's population in 2005 and 2030 at 1.418 billion and 1.496 billion respectively. The peak of 1.504 billion will be reached in 2040.

Both Case 1 and Case 2 roughly adopt the year 2030 as the target year. In Case 1, the development of the industrial and employment structures is assumed to have reached the stage of present-day advanced countries by 2030. In contrast, Case 2 assumes slower development so that changes of the industrial and employment structures will only reach half of the levels assumed in Case 1.

Meanwhile, both Case 3 and Case 4 roughly adopt the year 2015 as the target yet. In Case 3, it is assumed that China will reach the halfway stage between present-day advanced countries and present-day China in terms of the industrial and employment structures by 2015. In case 4, it is assumed that China will only reach one-quarter of the said gap.

A major study is required to predict the suitable development speed for China to close the gap between itself and advanced countries in terms of the industrial and employment structures. Because this theme is not dealt with by the present Study, the rough prediction described above is considered sufficient for the present purposes. It is hoped that the central government or the provincial government will implement such a major study.

⑦ Points to Note to Interpret Prediction Results

i. This simply a rough prediction (estimation) to establish rough yardsticks.

ii. Further improvements to reflect the reality are required to increase the prediction accuracy.

iii. The prediction results this time do not incorporate a process to check the accommodation capacity in the target area. Overflow to the surrounding area will, therefore, occur if the accommodation capacity is exceeded.

iv. A uniform decline of the agricultural population is assumed in all areas. In reality, however, the scale of the decline will be much more obvious in city areas than rural areas. Modifications are, therefore, required in the case of positive impacts on (i.e. addition to) the rural population and negative impacts on (i.e. reduction of) the city population.

v. The changes of the future geographical distribution of industrial workers are assumed to be proportional to the output distribution (assuming that the

industrial distribution structure basically remains unchanged), however, this may not be the case. It is hoped that improvements will be made to reflect the examination results of past trends of the share by industry, the locational characteristics of promising industries for the future and other factors.

vi. The prediction method used this time assumes that the knock-on effects of an increase of the activities of independent industries in a specific area on subordinate industries (tertiary industries and construction industry) will only take place in the same area. In reality, however, increased manufacturing activities in Changzhou may well expand advanced service industries in Nanjing or Shanghai. Such knock-on effects in other areas are not specifically dealt with by this rough prediction.

Prediction of the future population or future employment structure using a method like this is easy to handle because of the small number of variables used, indicating the major advantage of this method. However, it must always be noted that a complicated reality is forcibly simplified to establish a simple abstract model. The process of the expansion and location of independent industries affecting other industries can be predicted more accurately using an inter-regional industrial linkage chart. In the case of the absence of such a chart, the use of an improved prediction method should prove to be a realistic method of predicting the future.

The present predictions are based on the application of two moments indicating population change, i.e. (i) continuous natural population growth in China and (ii) social migration from rural areas to city areas in the midst of the migration of workers from agriculture to the manufacturing and tertiary industries due to economic development.

⑧ Hypothetical Development Framework

The prediction results for the hypothetical development framework are shown in the attached table at the end of this chapter while the prediction results for entire Jiangsu Province are listed below.

i. There is a strong likelihood that the future population of Jiangsu Province will exceed 100 million even by 2015.

ii. The present population of Jiangsu Province may ultimately be doubled.

The prediction results for areas of Jiangsu Province are as follows.

i. The urban area expansion speed is fast in Wuxi, Suzhou, Zengjiang, Changzhou and Nanjing. An existing railway line and the motorway between Shanghai and Nanjiang support all of these cities. A new high-speed railway line, which is currently at the planning stage, will also support these cities.

ii. By around 2030, Nantong and Xuzhou may become cities with a population of 10 million people in addition to those mentioned above.

iii. The combined urban population of four cities near Nanjing, i.e. Suzhou, Wuxi, Chanzhou and Nantong, may exceed 30 million around 2015 while the combined urban population of Nanjing, Zengjiang, Yangzhou and Taizhou may exceed 50 million. By 2030, the former may approach the 70 million mark while the latter may approach the 100 million mark.

4) Basic Suggestions for Wide Area Reorganization Plan for Jiangsu Province

As Jiangsu Province has extremely strong development potential, it can expect to experience a considerable increase of industrial activities and population. If this potential is not systematically developed, the result will be chaos. Cities and metropolises with patchwork development are likely to emerge if the development of infrastructure and the restriction of development zones are not conducted hand in hand to prevent disorderly development in the province. The most important task for a wide area reorganization plan is believed to be the inducement of the concentrated development of such potential.

① Concentration in Circular Area Near Shanghai (Establishment of Changjiang Delta Metropolis)

For the inducement of concentrated development, it is suggested that development zones in each city or metropolis be restricted for concentrated

development within a circular area around Shanghai, i.e. Changjiang Delta metropolis, in Jiangsu Province. While the Changjiang Delta metropolis includes several cities or city zones, the suggestion here is to establish a development area within an approximate radius of 300 km of Shanghai to include Nanjiang, Yangzhou, Taizhou and Nantong.

A city zone essentially means a geographical area in which regular exchanges in the form of commuting, shopping and business exchanges are made on a daily basis. The geographical scope is, therefore, restricted to the commutable area and the area in which shopping and business meetings, etc. can easily be conducted on the same day. In the Tokyo metropolitan area today, the city zone consists of roughly a 70 km radius because of the high railway network level. The reason for the adoption of a 300 km radius for the Changjiang Delta metropolis is that a new high speed train will link Shanghai and Nanjing in the near future, reducing the travelling time for a distance of slightly less than 300 km to one and a half hours. Under this situation, business activities in Shanghai and Nanjing can be conducted in an integral manner and frequent daily exchanges will become a reality, making it inappropriate to treat Shanghai and Nanjing as separate city zones. In Japan, it is sometimes argued that the Tokyo mega polis should be treated as consisting of a 300 km radius. However, the anticipated Changjiang zone will host a much larger concentration than that in the Tokyo zone and the population as well as industrial density of Shanghai and Nanjing will far exceed that of Tokyo and Nagoya. Accordingly, when high density of urban areas is established on both sides of a railway axis, it is highly likely that these areas will become a continual belt. In view of these prospects, it has been decided to establish the rather extensive Changjiang Delta metropolis.

② Establishment of Concentrated City Groups on Radial Trunk Axes Stretching from Shanghai in Northern Part of Jiangsu Province

Changjiang River currently restricts the northward overflow of the development potential of Shanghai as it interrupts the spatial continuity. If

bridges eliminate this spatial separation and tunnels coupled with the development of multiple transport axes to Shanghai, the northern part of Changjiang River will probably experience major development.

As another inducement for concentrated development, the establishment of groups of cities for concentrated development is suggested in view of the relatively small development potential to the north of the already suggested Changjiang Delta metropolis. Promising radial trunk axes will be the coastal axis running from Shanghai to Lianyungang via Nantong and Yancheng and the inland axis running from Shanghai to Xuzhou via Wuxi, Yangzhou, Huaiyin and Suqian. Areas for development in each city along these axes will be determined for concentrated development. An ordinary railway line should be developed as part of the transport infrastructure along each axis and ears earmarked for development should be established around each station to achieve concentrated development.

The coastal axis served by Lianyungang and the river mouth ports of Changjiang River (Port Nantong and Port Taicang) at each end is believed to have better development potential as an axis to induce industrial activities, making the best use of its advantageous access to ports. The inducement of concentrated development along this axis is, therefore, considered to be particularly important.

③ Establishment of International Container Port and Heavy, Chemical and Energy Industry Bases in River mouth Area of Changjiang River

The population of Jiangsu Province alone is expected to rival or even exceed that of Japan in the future. In order for this vast population to be able to enjoy the current standard of living in Japan, it will be essential for the province to have a similar range of container ports and heavy and chemical industrial bases, such as ironworks, (or alternatives in view of the growing restriction of the use of fossil fuel) as that currently observed in Japan. The critical question for the province is where to locate these facilities.

While all of these facilities demand a deep water port, the securing of a

natural deep water port in the province's geographical area appears to be difficult. Nevertheless, as such ports are essential, the only option will be their artificial creation at sites where the conditions are relatively advantageous. Such sites are near the mouth of Changjiang River because of the proximity to mega-concentrations of demand and supply sources. As a study on this subject is itself a major commitment, the issue is not dealt with at present. Instead, the suitability of the judgement on port locations is assumed and it is suggested that container ports and heavy, chemical and energy industry bases be located around the mouth of Changjiang River while relying on the services of Port Ningbo in Zhejiang Province to some extent.

④ Establishment of Changjiang Delta Metropolis Through Linkage of Individual City Zones

When the hypothetical development framework described earlier is followed, the size of the Changjiang Delta metropolis may far exceed the size of the Tokyo Mega polis in Japan with a population of some 30 million. In Jiangsu Province, the combined population of four cities near Shanghai, i.e. Suzhou, Wuxi, Changzhou and Nantong, may well exceed 30 million by 2015.

While the potential angle for development in the hinterland of the Tokyo megapolis is approximately 270° because of the presence of Tokyo Bay, such angle in Shanghai is as narrow as some 90°. The development potential of Shanghai is also restricted by the presence of Lake Tai (Tai Hu) and many other lakes and also by Changjiang River. It is believed that these topographical conditions cause the stronger development pressure as well as potential of areas in Jiangsu Province, which are relatively near Shanghai.

Given such conditions, there is a possibility of establishing multiple city zones with advanced functions centering on individual cities in Jiangsu Province instead of the simple extension of Shanghai.

The viable distance for commuter train services has certain limits. As the maximum travelling time to a business center should be approximately one

and a half hours, the viable distance for a commuter train service with an average travelling speed of 70 km/hr is approximately 100 km. A larger commuting zone is obviously possible if a faster commuter train service is developed. For the time being, however, 100 km should be considered the maximum distance for commuting. This commuting zone limit automatically determines the geographical limit for a single city zone. Taking into consideration the distance between Shanghai and Nanjing in the Changjiang Delta metropolis of approximately 290 km and the radius of a single city zone of some 70 – 100 km, it appears reasonable to conceive of the development of the Changjiang Delta metropolis in the form of a linked zone of four city zones centering on Nanjing, Wuxi, Nantong and Yangzhou respectively.

Because of the distances involved between these cities, there is a strong likelihood that the advanced urban functions, such as professional services, special services and less frequently used services, etc., located in these cities will not compete with the concentration of similar services in other cities. Accordingly, it is predicted that these urban functions will spontaneously progress in these cities. The development of high level public facilities in terms of education, medical care, culture and social welfare, etc. in these cities is, therefore, appropriate in the light of the limitations of transport linking these cities.

(2) Total Volume Control of Development Areas

1) Purposes of Total Volume Control of Development Areas

One purpose for the introduction of the total volume control of the development areas is to prevent excessive development while another purpose is to optimize the distribution of the development sites.

Using total volume control, it is possible to prevent the emergence of idle developed sites due to excessive development vis-à-vis the actual potential. The type of control also prevents the inconsiderable development and provision of new land

when the desirable land use is highly efficient, high density use even if there is little prospect that developed sites will become idle because of the high potential.

Moreover, total volume control designed to ensure the appropriate distribution of development areas in each city in the province based on a wide area reorganization plan can facilitate specific development envisaged by the said plan.

2) Total Volume Control Method for Development Areas

- The provincial government enforces the control for each county-level city.
- The provincial government specifies the permitted area for development (authorized development quota) in a period of one to five years.
- The provincial government specifies a separate authorized development quota for industrial sites and other urban land use (business, commercial, service, housing and other sites).
- The provincial government indicates the authorized development quotas for the next period every one to three years.
- The indication of the new development quotas is conducted in such a way as to adjust the gap between the plan and the reality, taking into consideration the results of the review of the wide area reorganization plan, trends of the socioeconomic conditions and industrial development, actual trends of location to newly developed sites and actual land demand, etc.

3) Development of Basic Information Required as Basis for Implementation of Total Volume Control

The implementation of the above regulations requires the preparation of data regarding land use as a precondition. It is also necessary to identify the situation of land use by purpose in the entire province. The work required here is the creation of a land use map using different colors to indicate different types of land use in order to calculate the aggregate area for each type of use. Field reconnaissance to determine the current type of land use and a survey using aerial photographs are also essential. Furthermore, the GIS techniques should be employed to make the data easy to use. The work described here must be regularly conducted every few years to update the data.

In principle, it should be a compulsory requirement for a person controlling land

and a person using the said land to notify the competent authority of the previous as well as new purposes of land use every time they intend to change the existing purpose of land use. This notification is required to update the current land use data.

A suggestion will be made later that a tax should be imposed on the ownership of the rights of use. For this taxation purpose, it is necessary to establish the purpose of using the rights of use and the affected land size. The information obtained for this purpose should also be used to update the current land use data.

In the case of a development zone, which constitutes one case of a change of the purpose of land use, the establishment of the following data must be thoroughly pursued. It must be a compulsory requirement for the person who is responsible for the control of the development zone to report every year on (i) the planned area of the development zone, (ii) the area which has been offered for sale due to the completion of land preparation and infrastructure development work, (iii) the area which has already been handed over to the contractor(s) or user(s) and (iv) the area which is actually in use.

It must also be a compulsory requirement for the person who is responsible for the control of a development zone to gather and provide such basic information as the types of businesses to which land is sold or supplied, the types of workplaces which have already located or in operation, the number of employees, production value, amount of added value, area of plots, building area, total floor area of buildings, water consumption, power consumption and generated/disposed amount of waste, etc. in order to analyze the trends of businesses moving into the zone, the trends of development and the degree of effective land use. A survey on such information should be part of a statistical study system covering all workplaces and factories regardless of their being situated in a development zone or not once such a system is firmly established.

4) Method to Determine Numerical Values for Authorized Development Quota

The following process/method should be used to determine the numerical values for the authorized development quota.

i. Establishment of a medium to long-term development framework for the

entire province

ii. Establishment of a medium to long-term development framework for each county- level city

iii. Estimation of the area required for industrial development and other urban functions (other urban area) in the future for each county-level city

iv. Estimation of the area required taccommodating new development sites in each county-level city

v. Assumption of a development schedule for each county-level city

vi. Establishment of a short-term authorized development quota for each county-level city

During the process of the work, corrections and adjustments should be made to take the natural restrictions in each area, the spatial capacity, the existence of farmland to be preserved, the conditions of historical assets and landscape to be conserved and other specific local conditions into account.

Each county-level city authority must be demanded to submit information on the demands of and plans for each area and the demand for location as understood by the city authority in view of the adjustment of the authorized development quota based on such information.

5) Rough Estimation of Area Required for Industrial Development and Other Urban Functions (Other Urban Area) in Future in Each County-Level City

Under the present Study, the area required for industrial development and other urban functions in the future was roughly estimated based on the rough hypothetical development framework described earlier.

① Rough Estimation Method

The following equation was used to estimate the required area for industrial plots (stock area).

- Number of employees in manufacturing sector in the future x required area for industrial plot per employee in the manufacturing sector = required area for industrial plots in the future

The following equation was used to estimate the required area to accommodate urban functions other than industrial activities.

- Future city population x required area of urban sites other than for industrial use per citizen = required area for urban functions other than industrial activities in the future

The future city population was estimated in the following manner.

- City population = (number of employees in the manufacturing sector + number of employees in other industrial sectors) ÷ working population ratio

The simple assumption that the concentration and reorganization of the manufacturing sector will progress in the city zone in 15 or 30 years' time was made and the city population was estimated using the above equation. If any correction is deemed necessary to make the estimated figure better reflect the reality, such correction should be properly conducted.

The working population ratio is the same for both urban areas and rural areas. This should also be corrected if the ratio does not reflect the reality.

② Method to Determine Basic Unit

In regard to the basic unit for the required area for industrial development per employee in the manufacturing sector, as it was impossible to obtain the current figure for Jiangsu Province, two cases were considered based on the Japanese example. One case uses the basic unit currently used in Japan while the other case uses the same basic unit reduced by one-third.

The overall area of farmland in Jiangsu Province at present is similar to that in Japan. As the Japanese self-sufficiency rate for grain production is as low as approximately 30%, the farmland area must be considerably increased to achieve a self-sufficient food supply instead of relying on imports from the US and other countries. In the case of Jiangsu Province of which the population could overtake Japan's present population figure in the long run, any reduction of the farmland area should be resisted when is reasonably possible. Because of this, a basic unit of two-thirds of the Japanese figure is

set while assuming high efficiency, high density land use for industrial purposes.

The required area for industrial development per employee in the manufacturing sector can change in accordance with the changing composition of the manufacturing sector. Some types of manufacturing businesses require a large land area while others do not. In theory, it is desirable to assume a development framework for each type of manufacturing industry to determine the basic unit for each industry. It is hoped that more accurate estimation will be conducted in the future based on data on the land area by types of industry, etc.

In regard to the basic unit for the required area for urban functions other than industrial development per citizen, two cases were considered based on the current average value (estimate) for Jiangsu Province. One case applies the current average value (estimate) for Jiangsu Province to all county-level cities. The other case assumes a reduction of this average value by one-third, taking the need for high efficiency, high density land use into consideration.

③ Rough Estimation Results

The rough estimation results are shown in the attached table.

In regard to Case 1, which involves the largest land requirement for entire Jiangsu Province, it is estimated that the required land stock for future industrial plots may be as large as 2,000 – 3,000 km^2. This represents 4 – 6% of the Jiangsu Province's present total farmland area of approximately 50,000 km^2.

Moreover, the required land stock for future urban functions other than industrial activities in Case 1 is estimated to be approximately 5,000 – 7,000 km^2, i.e. 10 – 14% of the Jiangsu Province's present total farmland area.

6) Problems of Total Dynamic Farmland Balancing System

The prospect of Jiangsu Province maintaining the total dynamic farmland balancing system, under which the area of farmland converted to urban use must be replaced by the conversion of other types of land to farmland, is increasingly difficult

given the possibility of the emergence of a huge farmland conversion demand in the province as discussed above.

Although an accurate judgement cannot be made unless (i) the total area of the housing land of farmers who migrate from rural areas to urban areas in the province and the proportion of this housing land which can be converted to farmland and (ii) the total area of barren land in the province and the proportion of this barren land which can be converted to farmland are known, it is unlikely that the balancing system will continue to function as intended.

Even with the input of new technologies, existing barren land cannot be easily converted to farmland. Instead, such input may even prompt the further degradation of barren land and forests, possibly resulting in the destruction of headwater areas.

While it is natural that every effort should be made in the province to conserve farmland as much as possible and to improve the productivity of farmland, such efforts will require adjustment in the context of the nationwide farmland conservation need.

2.4.2 Sprawling Prevention Measures and Highly Efficient Land Use at City Level

(1) Formulation of Concentrated Land Use Plan

1) Three Principles of Land Use Plan and Management of Land Use Permit System in Cities

A major increase of the population and industrial activities in Jiangsu Province is expected to take place, particularly in areas near Shanghai, necessitating concentrated land use. The following three principles must be upheld to ensure such land use.

- An urbanization plan that integrates the public transport network, excluding those areas not served by public transport from urbanization, should be formulated to facilitate the process of concentration.
- There should be a blanket prohibition of land development throughout the city zone to start with. Development should then be permitted in those areas included in the plan to prevent dispersion or sprawling and to facilitate concentration.

- A minimum ratio of building volume to plot should be introduced to enforce high efficiency, high density of land use.

Because land is publicly owned in China, the formulation of a land use plan and the operation of a permit system under the said plan will be much easier in China compared to Japan. The necessity for high density, concentrated land use from the social point of view must by understood by people at all administrative levels and concentrated land development should be conducted with a strong social will.

2) Establishment of Required Information for the Plan

While concentrated land use provides convenience for the public, it can also created a somewhat suffocating environment. This is where the ability of both planners and designers is tested.

In any case, a detailed picture of the current land use must be established as a precondition for rational planning. The planning of land use which reduces friction and the conversion cost following plan implementation and which secures long-term benefits is facilitated by the availability of such information.

Given the necessity to gather and sort data on the current situation of land use (area, population, number of employees, types of land use and urban planning regulations, etc) for each area or even for each block of land, GIS techniques should be extensively utilized to establish an accurate picture of the current land use situation.

3) Planning Options

① Treatment of Less Intensive Land Use Areas

There are essentially innumerous land use plan variations and selections from multiple options must be constantly made for plan formulation. Here, only two aspects of this selection process are discussed. The first question is how to respond to the preferences of people for detached houses or houses with few stories, for example.

The official response to such preferences depends on the degree of need for concentrated land use in each city. In those cities which require a high level of concentration or which do not have much spare land, approval for land use by low houses and buildings is difficult to obtain.

Another aspect is the consent of the public or society at large. If there is social consent for the approval of low houses and buildings, such land use should be permitted. Even if this is the case, however, the level of taxation on the ownership of rights of use described later should be determined based on the market value of the rights of use for the multi-stories use of the land.

② Treatment of Redevelopment

Concentrated or high density of land use can be much easier demanded of new development sites. A regulation demanding high efficiency, high density of land use can also be easily applied to redevelopment where the conditions of location are excellent together with the existence of a mechanism for existing land users to receive a share of the significantly increased income and benefits from redeveloped land.

When redevelopment cannot be expected to provide much or any income or benefits for existing land users, however, such redevelopment is not necessarily welcomed by existing land users, resulting in much larger friction. A desirable compensation scheme and the speed of redevelopment for existing housing or business sites must be determined with social consent or social will and must be carefully examination prior to their finalization.

(2) Introduction of Tax on Possession of Rights of Use (Fixed Land Property Tax)

The introduction of the tax on the possession of rights of use (fixed land property tax) suggested below is desirable at the national level. However, the introduction of this tax in Shangsu Province, Shanghai City and Zhejiang Province, which form the Changjiang Delta metropolis with a strong need for such a tax is feasible prior to its nationwide introduction by the central government. Because of this possibility, this topic is discussed in some detail as part of the land use policies for Jiangsu Province.

1) Purpose of Introducing Tax on Possession of Rights of Use (Fixed Land Property Tax)

The principal purpose of introducing a tax on the possession of rights of use is to

facilitate high efficiency, concentrated and high density of land use. In this way, the tax also aims at contributing to containing and conserving farmland. This tax is also a suitable revenue source for local governments as discussed in a later section dealing with the finance of local governments that requires a boost.

Unlike an acquisition tax which is payable only once, this possession tax must be continuously paid. While the tax aims at creating a situation in which the effective utilization of the rights of use in possession enables the owner to continuously pay this tax, failure of the owner to maintain effective use makes it difficult for the owner to continue to pay the tax.

2) Significance and Character of Tax on Possession of Rights of Use (Fixed Land Property Tax)

The subject of this tax is the imputed income received by those using the land. A person in possession of rights of use receives benefits corresponding to the characteristics of the land in possession even though these benefits are not in the form of the direct exchange of money. In the case of land being used for business purposes, the user can expect to receive many benefits if the site conditions are good, including a high level of expected sale due to the high concentration of prospective clients in the vicinity and the convenience as well as efficiency of business traffic because of the presence of a main trade partner nearby. If the conditions of location are poor, the user receives fewer benefits. In the case of the use of land for residential purposes, the user can expect to receive many benefits if the conditions are favorable in terms of proximity to a park or green field, the availability of infrastructure, including energy and water supply, sewerage and telecommunications, low noise level, good air quality and pleasant street atmosphere, etc. If these conditions are less favorable, the user receives fewer benefits.

The market level of the rights of use can be regarded as the sum of the present value of the benefits and income to be obtained over the years to come from the use of the land.

The principal rule for taxation is that all types of income must be taxed to ensure fairness of the taxation system. A tax on the possession of rights of use is, therefore,

necessary from this viewpoint of the fair taxation of income.

3) Desirable Rate of Tax on Possession of Rights of Use

The rate of the tax on the possession of rights of use must be decided on the basis of and in conformity with the income tax rate.

When the market value of the rights of use is RMB A, it is believed that the market considers the sum of the benefits and income to be accrued over time to be RMB A. Here, the rights of use can be considered as basically representing the income to be accrued by the cash capital of RMB A. Even though there are differences between the two in terms of liquidity and other aspects, the rough equation appears to be valid.

Accordingly, the imputer income generated by the rights of use can be calculated by the following equation.

- RMB A x market interest rate = annual income/benefits produced by the rights of use of which the market value is RMB A (imputed income)

As it is both rational and fair to collect the tax on the possession of rights of use by multiplying the above-imputed income by the average real income tax rate, the rate of the tax on the possession of rights of use vis-à-vis the value of the rights of use (current price) should be determined by the following equation.

- Average market interest rate x average income tax rate (real tax rate) = rate of tax on possession of rights of use

Assuming that the average annual market interest rate and average income tax rate (real tax rate) are 7% and 20% respectively, the rational annual rate of tax on the possession of rights of use is 1.4%.

For the present argument, income tax includes both personal income tax and corporate income tax. In China, these two types of income tax have their own problems that must be solved in due course. In this context, the desirable income tax is briefly discussed in the section of this report dealing with the reform of local tax.

4) Japanese Experience of Fixed Land Property Tax: Absence of Effective Land Use in Large Cities and Arrival of High Land Prices

The period of high growth and a bubble economy in Japan is an example from which is can be learned the lesson that a fixed land property tax can be an effective

tool to promote the efficient use of land. This example is briefly explained below.

The standard rate of the fixed property tax is set at 1.4% in Japan. However, the assessed value of land, which is the basis for the fixed property tax, has been substantially lower than the market value although the situation has slightly improved in recent years. In addition, measures to substantially reduce the fixed property tax on specific types of land have been in place for many years (there have been some changes in recent years). These measures include (i) continual assessment of farmland in (designated) areas for urbanization not on the basis of their market value for residential use but as farmland, (ii) taxable value of residential plots at half of the appraised value and (iii) taxable value of small residential plots of less than 200 m^2 at one-quarter of the appraised value.

As a result of these measures, a landowner has been able to use his land in the existing manner even if the land in question would allow business operation or habitation with a higher income and more benefits because of its rising market value. Under these circumstances, much farmland remains in areas earmarked for urbanization in Tokyo and other large cities while many low height houses can be observed even in areas near city centers.

Furthermore, the low real tax rate originating from the fact that the fixed property tax has not been based on the market value has created a vast speculative demand in anticipation of a land price increase (demand for the possession but not usage of land in anticipation of a price increase), resulting in high land prices. The emergence of a vast demand for possession due to the low possession cost is the cause of the high land prices in Japan.

What is important is to guide the value of rights of use to a rational and fair level. Efforts must be made to avoid a situation like that in Japan where existing owners of land (or of rights of use) obtain extraordinary income from the transfer of land as a result of the combination of high land prices and high rate of price increases while people moving into a city without their own land hand over a large proportion of their lifetime income to existing owners to purchase land (or rights of use).

From the viewpoint of creating a fair society, the proper taxation of the invisible

imputed income resulting from the rights of use is important. If the imputed income is taxed in the manner suggested here, the value of rights of use should stabilize at a reasonable level. (It is obvious that the level of such rights of use is higher than average in areas with a large population and industrial concentration, providing convenience and a high level of profitability.)

5) Creation of System to Appraise Value of Rights of Use

The appraised value of rights of use for the purpose of charging a tax on the possession of rights of use must be the market value. However, as not all land is subject to constant market trading, each land must be individually appraised by comparing actual examples of trading and the conditions of each land. This is, in fact, a costly exercise and the cost must be minimized by means of rational and efficient appraisal.

China already has a value added tax which is imposed on the transfer of rights of use. To enforce this tax in a fair manner, the central government must accurately establish the market value of rights of use and the additional income earned through increased value. Even if rights of use are transferred to a family member, the transfer of income arising from increased value, which is not manifest in this kind of transfer, must be assessed and taxed accordingly to ensure social fairness.

In addition to properly responding to such needs, the central government should also introduce a system to publicly announce the value of rights of use for many areas every year.

At present, the basic value of rights of use is officially announced for different types of land use in the northern, central and southern parts of Jiangsu Province. The market value of rights of use considerably varies from one plot to another even within the same area depending on the specific conditions of each plot. As the announced values mentioned above are not made for specific plots, they cannot be used as taxable values for the tax on the possession of rights of use or for the value added tax on rights of use.

The implementation of a public announcement system for the value of rights of use requires the cooperation of many real estate appraisers. The central government

should create a qualified real estate appraiser system for the purpose of granting this qualification to those who have acquired certain real estate appraisal techniques.

What is also important for the central government is compile real estate appraisal techniques in the form of a manual. As real estate appraisal techniques change in accordance with changes in time together with the progress of the hard and soft aspects of such appraisal, this manual must be constantly updated.

6) Market Value of Rights of Use and Remaining Period: System to Give Priority of Possession of Rights of Use to Existing Users at End of Tenure

The likely prospect of the value of rights of use when the remaining period of rights of use is decreasing is an issue that must be carefully examined prior to the introduction of a tax on the possession of rights of use.

If rights of use must be returned to the government on the expiry of an agreed period, i.e. completion of the agreed period for use of the rights of use), anyone purchasing rights of use with a short remaining period by means of transfer faces limited scope for use or the prospect of small income and benefits. This prospect should drive down the value of the rights of use.

In most cases, the government does not have any plan to use the land in question for its own use even if the rights of use are returned. It is likely that the government will offer the returned rights of use to someone else. This implies a strong likelihood of the existing person in possession of the rights of use retaining the rights of use if he so wishes when the agreed period of the rights of use expires.

A system should be established whereby a person in possession of rights of use is, in principle, given priority to renew such possession if he so wishes (while paying the real estate acquisition tax corresponding to the market value for renewal of the rights of use) unless the government has special reasons not to permit such renewal. In this way, the market value of rights of use becomes less vulnerable to the remaining period and should almost reflect the value for the most effective use. The introduction of such a system is required in the near future from the viewpoint of ensuring the effective use of land.

2.4.3 Land Use Policies and Measures to be Implemented in Jiangsu Province

The policies and measures described so far should be implemented taking the socioeconomic trends towards the future in Jiangsu Province into consideration. These policies and measures are summarized below.

At the wide area level, a wide area reorganization plan should be formulated for each province to facilitate the high efficiency, high density use of land while preventing dispersed land use and total volume control of the development area should be introduced based on this plan.

At the city level, an intensive land use plan should be formulated and implemented to facilitate the high efficiency, high density use of land while preventing sprawling and a tax on the possession of rights of use (fixed land proper tax) should be introduced prior to its nationwide introduction.

Table 2 Land Use Policies for Jiangsu Province

Purposes	Measures to be Implemented in Coming Years
Prevention of Excessive Dispersion of Land Use in Wide Area and Facilitation of High Efficiency, High Density Land Use	Formulation of provincial wide area reorganization plan - Establishment of hypothetical long-term development framework - Timely formulation of wide area reorganization plan
	Total volume control of development area - Preparation and announcement of permitted development quota
Prevention of Sprawling at City Level and Facilitation of High Efficiency, High Density Land Use	Formulation of intensive land use plan - Formulation of integral urban plan with public transport network - Development prohibition covering entire city - Introduction of minimum ratio of building to plot
	Introduction of taxation system for possession of rights of use (fixed land property tax) - Establishment of rational as well as effective taxation rate

Source: JICA study team

Jiangsu Province: Population in Cities of Prefecture Level

(10,000people)

City	Population				
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6%	rate of working population in primary industry is 26%	rate of working population in primary industry is 6%	rate of working population in primary industry is 26%
		CASE 1	CASE 2	CASE 3	CASE 4
Jiangsu Province	6,983	14,303	10,570	10,006	9,057
Nanjing City	532	1,446	884	837	694
Wuxi City	432	2,285	1,230	1,164	896
Xuzhu City	876	1,091	1,101	1,042	1,045
Changzhou City	341	1,008	618	585	485
Suzhou City	575	2,724	1,487	1,408	1,093
Nantong City	787	1,167	1,042	986	955
Lianyungang City	444	599	577	546	541
Huaiyin City	499	406	540	511	546
Yancheng City	792	838	824	780	777
Yangzhou City	447	802	604	572	521
Zhenjiang City	266	789	494	468	393
Taizhou City	499	819	658	623	582
Suqian City	494	327	510	483	529
Total Population in Yangtze Delta Metrapolitan Region	3,879	11,040	7,017	6,643	5,620
Total Population in Suzhou, Wuxi, Changzhou, and Nantong	2,136	7,184	4,376	4,143	3,429
Shanghai City	1,464	5,706	2,978	2,819	2,126

Composition of Working Population (estimation by each case)

	Working Population	Agriculture	Mining	Manufacturing	Others
1998	1.0000	0.4750	0.0103	0.1189	0.3957
C ASE1	1.0000	0.0600	0.0050	0.2100	0.7250
C ASE2	1.0000	0.2600	0.0075	0.1600	0.5725
C ASE3	1.0000	0.2600	0.0075	0.1600	0.5725
C ASE4	1.0000	0.3700	0.0090	0.1400	0.4810

Jiangsu Province: Working Population in Other Industrial Sectors in Cities of Prefecture Level

(10,000people)

	Other Industrial Sectors				
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6%	rate of working population in primary industry is 26%	rate of working population in primary industry is 6%	rate of working population in primary industry is 26%
		CASE 1	CASE 2	CASE 3	CASE 4
Jiangsu Province	1,198	5,812	3,392	3,211	2,442
Nanjing City	126	588	284	269	187
Wuxi City	73	928	395	374	242
Xuzhou City	117	443	353	335	282
Changzhou City	80	410	198	188	131
Suzhou City	105	1,107	477	452	295
Nantong City	167	474	334	317	257
Lianyungang City	64	244	185	175	146
Huaiyin City	79	165	173	164	147
Yancheng City	103	341	264	250	209
Yanzhou City	90	326	194	183	141
Zhenjiang City	54	320	159	150	106
Taizhou City	95	333	211	200	157
Suqian City	45	133	164	155	143

Jiangsu Province: Working Population in Manufacturing Sectors in Cities of Profecture Level

(10,000 people)

	Working Population in Manufacturing Sectors				
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province	907	1,956	1,490	1,410	1,234
Nanjing City	97	211	161	152	133
Wuxi City	111	345	263	249	218
Xuzhou City	60	124	95	90	78
Changzhou City	69	147	112	106	93
Suzhou City	148	410	312	295	258
Nantong City	106	148	113	107	94
Lianyungang City	28	72	55	52	45
Huaiyin City	31	40	30	29	25
Yancheng City	60	101	77	73	64
Yanzhou City	60	109	83	78	69
Zhenjiang City	56	114	87	82	72
Taizhou City	58	109	83	79	69
Suqian City	23	27	20	19	17

Jiangsu Province: Necessary Industrial Lands in Cities of Profecture Level

(km2)

	Industrial Lands	Industrial Lands Required			
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province		3,178	2,421	2,292	2,006
Nanjing City		342	261	247	216
Wuxi City		560	427	404	353
Xuzhou City		202	154	146	127
Changzhou City		239	182	172	151
Suzhou City		666	507	480	420
Nantong City		241	184	174	152
Lianyungang City		116	89	84	73
Huaiyin City		65	49	47	41
Yancheng City		165	125	119	104
Yanzhou City		176	134	127	111
Zhenjiang City		185	141	134	117
Taizhou City		177	135	128	112
Suqian City		44	33	31	28

Note1: employee/industrial land=6,200/km2 is the premise of the calculation
Note2: Calculation was done by adding 30% of land area (assuming that the extra land is needed for road construction, etc.) to the present area

	Industrial Lands	Industrial Lands Required			
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province		2,119	1,614	1,528	1,337
Nanjing City		228	174	165	144
Wuxi City		373	285	269	236
Xuzhou City		135	103	97	85
Changzhou City		159	121	115	101
Suzhou City		444	338	320	280
Nantong City		161	122	116	101
Lianyungang City		78	59	56	49
Huaiyin City		43	33	31	27
Yancheng City		110	84	79	69
Yanzhou City		118	90	85	74
Zhenjiang City		123	94	89	78
Taizhou City		118	90	85	75
Suqian City		29	22	21	18

Note1: employee/industrial land=9,200/km2 is the premise of the calculation
Note2: Calculation was done by adding 30% of land area (assuming that the extra land is needed for road construction, etc.) to the present area

Jiangsu Province: Urban Population in Cities of Prefecture Level

(10,000 people)

City	Non-Farming Population	Urban Population			
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province	1,877	13,859	8,709	8,245	6,559
Nanjing City	276	1,424	793	750	571
Wuxi City	171	2,271	1,173	1,110	819
Xuzhou City	188	1,013	799	757	643
Changzhou City	130	993	554	524	399
Suzhou City	193	2,706	1,408	1,333	987
Nantong City	247	1,111	798	756	626
Lianyungang City	84	562	428	405	341
Huaiyin City	88	366	363	344	307
Yancheng City	156	788	610	577	488
Yanzhou City	108	775	493	467	373
Zhenjiang City	92	775	438	414	317
Taizhou City	89	788	525	497	403
Suqian City	53	285	328	311	285
Total Population in Yangtze Delta Metrapolitan Region	1,307	10,844	6,181	5,851	4,496
Total Population in Suzhou, Wuxi, Changzhou, and Nantong	742	7,081	3,932	3,723	2,831

Jiangsu Province: Necessary Downtown Areas in Cities of Prefecture Level (excluding industrial lands)

(km2)

City	Present Downtown Areas	Downtown Areas Required			
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province	808	6,929	4,355	4,122	3,279
Nanjing City	179	712	396	375	286
Wuxi City	94	1,136	586	555	410
Xuzhou City	65	506	400	378	321
Changzhou City	68	497	277	262	200
Suzhou City	79	1,353	704	666	494
Nantong City	60	555	399	378	313
Lianyungang City	50	281	214	202	170
Huaiyin City	35	183	182	172	154
Yancheng City	25	394	305	289	244
Yanzhou City	46	388	247	234	187
Zhenjiang City	56	388	219	207	159
Taizhou City	34	394	263	249	201
Suqian City	17	143	164	155	142

Note: Polulation density in downtown area (excluding industrial zones) 20,000 people/km2 is the premise of calculation

City	Present Downtown Areas	Downtown Areas Required			
	1998	2030 (in the case of population 1.5 billion)		2015 (in the case of population 1.42 billion)	
		rate of working population in primary industry is 6% CASE 1	rate of working population in primary industry is 26% CASE 2	rate of working population in primary industry is 6% CASE 3	rate of working population in primary industry is 26% CASE 4
Jiangsu Province	808	4,620	2,903	2,748	2,186
Nanjing City	179	475	264	250	190
Wuxi City	94	757	391	370	273
Xuzhou City	65	338	266	252	214
Changzhou City	68	331	185	175	133
Suzhou City	79	902	469	444	329
Nantong City	60	370	266	252	209
Lianyungang City	50	187	143	135	114
Huaiyin City	35	122	121	115	102
Yancheng City	25	263	203	192	163
Yanzhou City	46	258	164	156	124
Zhenjiang City	56	258	146	138	106
Taizhou City	34	263	175	166	134
Suqian City	17	95	109	104	95

Note: Polulation density in downtown area (excluding industrial zones) 30,000 people/km2 is the premise of calculation

Case 1
China: Population & Employment

Year	Total Population (10,000)	Population Employed	Employment Ratio
1990	114,333	64,724	0.5661
1994	119,850	67,199	0.5607
1995	121,121	67,947	0.5610
1996	122,389	68,850	0.5626
1997	123,626	69,600	0.5630
1998	124,810	69,957	0.5605
20xx (under the unchanged condition)	**150,000**	84,076	*0.5605*

Source: China Statistical Yearbook 1999. China Statistics Press

China: Regional Population

(10,000 people)

	Total Populatio (by the end of the year)	
	1998	20XX
China	124,810	150,000
Jiangsu Province	7,182	14,303
Shanghai City	1,464	5,706
Other Coastal Regions in the East	39,137	63,114
Middle and Western Regions	77,027	66,877

Source: China Statistical Yearbook

China: Working Population in Regions

(10,000 people)

Region	Working Population	Agriculture	Mining	Manufacturing	Others
1998					
China	69,957	33,232	721	8,319	27,685
Jiangsu Province	3,635	1,556	22	787	1,270
Shanghai City	670	80	0	258	332
Other Coastal Regions in the East	20,340	9,867	177	3,413	6,883
Middle and Western Regions	45,312	21,729	522	3,861	19,201
(source: China Statistical Yearbook)					
20XX					
China	84,076	5,045	420	17,656	60,955
Jiangsu Province	8,017	236	13	1,956	5,812
Shanghai City	3,198	12	0	867	2,319
Other Coastal Regions in the East	35,376	1,498	103	8,128	25,648
Middle and Western Regions	37,485	3,298	304	6,706	27,177

China: Composition of Working Population

	Working Population	Agriculture	Mining	Manufacturing	Others
1998	1.0000	0.4750	0.0103	0.1189	0.3957
20XX	**1.0000**	**0.0600**	**0.0050**	**0.2100**	**0.7250**
for Reference					%
Japan 1995	100.0	6.0	0.1	21.1	72.8
America 1997	100.0	2.7	0.5	16.1	80.7
France 1994	100.0	4.7	0.3	18.8	76.2

Case 1

China: Production Volume in Regions

(100 million yuan)

Region	Agriculture		Industry	
	1998	1988.00	1998	20XX
Actual Figure				
China	24,517	18,225	119,048	
Jiangsu Province	1,849	2,153	13,186	
Shanghai City	207	1,296	5,848	
Other Coastal Regions in the East	9,108	6,722	54,801	
Middle and Western Regions	13,353	8,054	45,214	
Composition Ratio				
China	1.000	1.000	1.000	*1.000*
Jiangsu Province	0.075	0.118	0.111	*0.111*
Shanghai City	0.008	0.071	0.049	*0.049*
Other Coastal Regions in the East	0.371	0.369	0.460	*0.460*
Middle and Western Regions	0.545	0.442	0.380	*0.380*

Source: China Statistical Yearbook 1999. China Statistics Press

Jiangsu Province: Production Volume of Cities of Prefecture Level

(price in 1990)

City	Agriculture (10,000 yuan)		Industry (10,000 yuan)	
	1998	1988	1998	20XX
Actual Figure				
Jiangsu Province	10,981,839	24,984,878	121,996,708	
Nanjing City	464,707	2,702,560	13,147,188	
Wuxi City	457,381	4,065,734	21,503,008	
Xuzhou City	1,102,308	1,283,410	7,750,603	
Changzhou City	429,659	2,321,358	9,176,329	
Suzhou City	897,880	5,037,448	25,551,158	
Nantong City	1,414,868	2,283,940	9,248,978	
Lianyungang City	826,718	531,244	4,466,201	
Huaiyin City	906,816	789,125	2,478,319	
Yancheng City	2,044,387	1,241,194	6,316,000	
Yanzhou City	667,542	1,465,923	6,773,742	
Zhenjiang City	346,236	1,344,724	7,108,590	
Taizhou City	663,692	1,634,284	6,801,794	
Suqian City	759,645	283,934	1,674,798	
Source: Fifteen Years in Jiangsu. 1999. China Statistics Press				
Composition Ratio				
Jiangsu Province	1.0000	1.0000	1.0000	*1.0000*
Nanjing City	0.0423	0.1082	0.1078	*0.1078*
Wuxi City	0.0416	0.1627	0.1763	*0.1763*
Xuzhou City	0.1004	0.0514	0.0635	*0.0635*
Changzhou City	0.0391	0.0929	0.0752	*0.0752*
Suzhou City	0.0818	0.2016	0.2094	*0.2094*
Nantong City	0.1288	0.0914	0.0758	*0.0758*
Lianyungang City	0.0753	0.0213	0.0366	*0.0366*
Huaiyin City	0.0826	0.0316	0.0203	*0.0203*
Yancheng City	0.1862	0.0497	0.0518	*0.0518*
Yanzhou City	0.0608	0.0587	0.0555	*0.0555*
Zhenjiang City	0.0315	0.0538	0.0583	*0.0583*
Taizhou City	0.0604	0.0654	0.0558	*0.0558*
Suqian City	0.0692	0.0114	0.0137	*0.0137*

Case 1

Jiangsu Province: Working Population in Cities of Prefecture Level

(10,000 people)

City	Working Population	Agriculture	Mining	Manufacturing	Others
1997					
Jiangsu Province	3,691.4	1,560.8	26.2	906.6	1,197.9
Nanjing City	300.8	77.1	1.0	96.8	125.9
Wuxi City	232.6	48.7	0.2	111.1	72.7
Xuzhou City	432.9	240.9	15.2	59.6	117.2
Changzhou City	204.2	54.7	0.1	69.5	80.0
Suzhou City	320.5	67.0	0.5	148.4	104.6
Nantong City	481.2	208.3	0.2	105.5	167.2
Lianyungang City	218.9	122.6	4.5	27.8	64.0
Huaiyin City	261.9	151.2	0.1	31.1	79.4
Yancheng City	346.1	182.9	0.6	59.8	102.8
Yanzhou City	244.8	91.9	2.4	60.4	90.3
Zhenjiang City	157.8	47.1	1.0	55.7	54.1
Taizhou City	266.9	113.9		58.0	95.0
Suqian City	222.8	154.7	0.5	22.9	44.8
Source: China Statistical Yearbook					
20XX					
Jiangsu Province	8,017.0	236.2	12.9	1,955.6	5,812.3
Nanjing City	810.5	11.7	0.5	210.7	587.6
Wuxi City	1,280.5	7.4	0.1	344.7	928.4
Xuzhou City	611.7	36.4	7.5	124.2	443.5
Changzhou City	565.1	8.3	0.0	147.1	409.7
Suzhou City	1,527.1	10.1	0.2	409.6	1,107.1
Nantong City	654.1	31.5	0.1	148.3	474.2
Lianyungang City	335.9	18.6	2.2	71.6	243.5
Huaiyin City	227.8	22.9	0.1	39.7	165.2
Yancheng City	469.9	27.7	0.3	101.2	340.7
Yanzhou City	449.6	13.9	1.2	108.6	326.0
Zhenjiang City	442.0	7.1	0.5	113.9	320.5
Taizhou City	459.1	17.2	0.0	109.0	332.9
Suqian City	183.5	23.4	0.2	26.8	133.1

Jiangsu Province: Total Population in Cities of Prefecture Level, Urban Population & Rural Population

(10,000 people)

	Total Population		Rural Population	Urban Population
	1998	**20XX**	**20XX**	**20XX**
Jiangsu Province	6983.09	14,303	444	13,859
Nanjing City	532.31	1,446	22	1,424
Wuxi City	432.21	2,285	13	2,271
Xuzhou City	875.78	1,091	78	1,013
Changzhou City	340.75	1,008	15	993
Suzhou City	575.35	2,724	18	2,706
Nantong City	787.49	1,167	56	1,111
Lianyungang City	443.53	599	37	562
Huaiyin City	498.98	406	41	366
Yancheng City	791.64	838	50	788
Yanzhou City	446.59	802	27	775
Zhenjiang City	265.64	789	14	775
Taizhou City	498.56	819	31	788
Suqian City	494.26	327	42	285

Japan: Land Use

(1000 km2)

		1995
Total Acreage		377.8
Agriculture	Farmlands	50.4
	Rangelands	0.9
Forest		251.4
Prairie		2.6
Water Areas		13.2
Road		12.1
Parterre	Housing Site	10.2
	Industrial Lands	1.7
	Parterre for Other Uses	5.1
Others		30.3

Source: National Land Use Statistical Survey (estimated by Land Use Department)

Japan: Population Employed in Manufacturing Sectors on Industrial Lands

	1995
Industrial Lands	1700 k ㎡
Population Employed in Manufacturing Sectors	135,560,000 people
Population Employed in Every 1 km2 of Industrial Lands	8,000 people/k㎡

Source: The figure of population employed in manufacturing sectors comes from the National Census, which includes those employed in all institutions other than enterprises.

Japan: Acreage of Industrial Lands & Its Employers

	1998年		
	Population Involved (10,000)	Acreage of Lands (km2)	Population/ Acreage (10,000 people/km2)
Total	664.23	1474.84	0.45
Food	78.29	92.57	0.85
Drink • Tobacco	7.14	30.34	0.24
Fiber	11.55	34.51	0.33
Clothing	24.07	17.51	1.37
Wooden Ware	5.69	22.41	0.25
Furniture & Decorations	7.79	16.48	0.47
Paper	16.76	56.32	0.30
Publishing	31.43	13.89	2.26
Chemistry	34.01	166.40	0.20
Petroleum	2.16	55.09	0.04
Plastics	26.26	54.99	0.48
Rubber	9.91	17.69	0.56
Leather	1.77	1.90	0.93
Ceramics	20.98	110.61	0.19
Iron & steel	21.07	179.87	0.12
Hardware	11.75	53.80	0.22
Metal ware	37.45	85.19	0.44
Instruments	73.06	130.43	0.56
Electronics	141.08	138.99	1.02
Transportation	77.48	157.60	0.49
Refined Machinery	14.24	14.48	0.98
Weapon	0.67	4.67	0.14
Others	9.62	19.11	0.50

Note: the figure comes out of a survey on operating enterprises with over thirty employees.
Source: Industrial Statistics

Jiangsu Province: Non-farming Population/Acrage of Present Downtown Area

Population Density in Downtown Area

(10,000/km2)

City	Non-farming Population / Acrage of Present Downtown Area 1998
Jiangsu Province	2.323
Nanjing City	1.543
Wuxi City	1.820
Xuzhou City	2.899
Changzhou City	1.918
Suzhou City	2.442
Nantong City	4.120
Lianyungang City	1.687
Huaiyin City	2.522
Yancheng City	6.242
Yanzhou City	2.345
Zhenjiang City	1.641
Taizhou City	2.618
Suqian City	3.126

Jiangsu Province: Acreage of Lands

(km2)

City	Acreage of the Whole Area	Areage of the Urban Area	Actual Areage of Downtown in 1998	Acreage of farmlands	Acreage of Green Lands
Jiangsu Province	101,267	6,037	808	49,880	276
Nanjing City	6,597	1,026	179	2,730	98
Wuxi City	4,650	517	94	1,760	31
Xuzhou City	11,258	963	65	6,160	30
Changzhou City	4,375	280	68	2,050	13
Suzhou City	8,488	392	79	3,040	21
Nantong City	8,001	224	60	4,830	8
Lianyungang City	7,444	880	50	3,800	12
Huaiyin City	10,645	347	35	4,930	10
Yancheng City	14,983	423	25	7,870	6
Yanzhou City	6,638	148	46	3,190	15
Zhenjiang City	3,843	273	56	1,800	23
Taizhou City	5,790	428	34	3,200	6
Suqian City	8,555	136	17	4,530	2

Source: Urban Statistical Yearbook of China

(km2)

	１９９９年			
	Total Area	Plain	Water	Other
Jiangsu Province	92,600	70,600	17,300	4,700

Source: Jiangsu Statistical Yearbook