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The Pearl River Delta Urban System Plan

An Analysis

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An Analysis

Introduction

This paper examines how urban system planning is done in a reforming socialist country through a case study of the Pearl River Delta Urban System Plan (PRDUSP) in China. Section 1 discusses some of the characteristics of "a reforming socialist country" which should provide an essential theoretical background for understanding the recent emergence of urban system planning. Section 2 focuses on the history of urban system planning in China as a reforming socialist country. Section 3 examines the history of formulating the PRDUSP, its contents and recommendations. Section 4 concludes the paper by commenting on the PRDUSP and its wider implications for reforming China.

It should be noted that this paper will only focus on the Urban System Plan of the Pearl River Delta Regional Plan which also comprises plans on the environment, infrastructure, economic and social development. A discussion of these other plans will merit another lengthy paper.

Reforms in a Socialist Country and Implications for Urban Planning

This paper argues that a traditional socialist country resembles a "police state" which is interested in the total administration of the economy and society. The rationalities and techniques used in achieving this can be understood by the Foucauldian concept of "governmentality" (1991).[1] To govern individual enterprises, the

"police state" stresses vertical rather than horizontal economic links. For instance, the decision to locate a particular factory within a particular city is not made by the city-level government but by the relevant ministries at the central and provincial levels. Administratively, the "police state" attempts to achieve top-down total administration to distribute resources to lower level governments and monitor residence, mobility and actions of individuals.

The obsessive concern with the governmentality of the economy and society by the central state explains the importance of top-down planning in traditional socialist countries. Local governments, urban or otherwise, are at the mercy of the central state's decisions. If the central state decides to invest in an area, development will take place; otherwise, the local governments have little autonomy to pursue "development." However, it should be noted that this is a simplification of reality. As students of China have begun to realize, development had not always followed the state's intention and stipulation. Where there was action from above, there was reaction or even resistance from below as suggested in the Chinese saying, "top-down policies, bottom-up counter-measures" (*shang you zhengce, xia you duice*). This is also an apt description of a reforming socialist country.

In a reforming socialist country, it is contended that the "police state" is no longer viable, that is, it is recognized that total administration of the economy and society is not possible. To redeem the slacking centrally planned economy and, to a smaller extent, a demoralizing society, the "police state" has to reform itself. In economic terms, non-plan or extra-plan elements[2] are allowed to play a more prominent role to operate alongside the central plans. For instance, horizontal or lateral economic linkages are encouraged to enhance production, trade and material flows. Administratively, the central state also recognizes the limitation of top-down control. With the introduction of fiscal reforms and the adoption of the open-door policy, local governments are given the responsibility to pursue comprehensive city planning to provide a better investment environment. As a result, knowledge at the local level becomes important and relevant to the development process.

In order to attract development projects, not just those from the central state but also locally initiated ones or even foreign investment, local governments have to plan and restructure the space within their administrative areas. Spatial planning at the local level becomes an important tool to achieve this objective.

The following will pursue these arguments in the specific context of the People's Republic of China as a reforming socialist country.

Urban System Planning in Pre-Reform and Post-Reform China

The Hiatus of Urban System Planning in Socialist China before the Reforms

Before 1978, the Chinese state as a "police state" was interested in the total administration of society and the economy. The Chinese state was interested in producing governable socialist persons. This governance, however, was achieved not so much by force and coercion as by more pastoral techniques to provide basic life necessities as well as to infiltrate, rearrange and colonize. For instance, through the household registration system, from a person's birth onwards, his or her life and livelihood activities were under some forms of surveillance. This was particularly true to the urbanites where housing, food consumption, education, health, career, marriage, childbirth, divorce, hygiene, etc., were administered by the state.

The state had to discipline the economy too. It tried to own almost all production enterprises and administer their investment, production, distribution and consumption activities. To facilitate the control of these enterprises, the national economy was divided into different sectors responsible only to their superordinates with little communication between sectors. This way of governance had resulted in a shortage economy: the prevalence of paternalistic relations between enterprises and their administra-

tive superiors, soft budget constraints, investment hunger, expansionary drive, and shortage and suction problems (Tang, 1990, 1994, 1997).

However, due to resource constraints and the need to control and distribute individuals "in a spatial order whereby they can be made to function in such a manner that efficiency, docility, and hierarchy are simultaneously achieved" (Rabinow, 1982:271-72), the Chinese "police state" divided the country into urban and rural spaces. The socio-economic lives of urbanites who received state-regulated investment and welfare provision, were, at the same time, subject to various disciplinary techniques. The state's control over the rural population who had to fend for themselves, was, therefore, less secure. In other words, urban and rural spaces were basically governed by completely different sets of regulations, and there was little direct interaction between a city and a country, even though geographically they were next to each other (Tang, 1997:21).

Therefore, the status of being urban is not something automatic once the population size of a settlement has reached a certain threshold. It requires application to, approval from and designation by the state. A direct derivative is that the status of urban can be taken away by the state. As argued by Tang (1995:6), the state "would not hesitate to deploy the right of seizure and take away the urban status of a settlement... if the sovereign's very existence was in jeopardy."

To effectively control individuals and enterprises, the Chinese state regulated construction and development over the whole country as suggested by the Chinese expression, "the whole country like a chessboard (*quanguo yipan qi*)." To justify the state's investment decisions, cities were categorized according to some kinds of criteria which changed over time. During the First Symposium on Urban Construction in September 1952, cities were divided into four categories according to their nature and industrial assignments (He, 1990). This was refined at the First National Conference on Urban Construction held in 1954 (He, 1990:36-37, 42-44). During the First Five Year Plan, the State Planning Commission and the State Construction Commission allocated population size to cities, according to the already approved state capital construction investment. In other words, after state investments were made, a population size was allocated to the city. Population size of a city served as a direct reflection of the amount of central state investment.

Population size then would serve as an important parameter for calculating the city's requirements of collective consumption facilities (that is, non-productive investment, *feishengchangxing touzi*); specifying the responsibilities for this investment (debiting relevant accounts in the state annual plans); and, ensuring local investment to complement state investment (He, 1990:48-55). Population size was indeed an important accounting unit to facilitate the formulation of all sorts of annual plans. Cities then were classified as big, medium and small size cities according to population size and nature of cities (Zhao, 1984:44). The urban policy then was to develop small and medium size cities (Zhao, 1988:399-400). To align with this urban policy, an urban system plan would assign growth to individual cities based on population size.

This top-down planning tried to assure the state's close control of economic enterprises, local residents and authorities. As a city's development depended on investment decisions made by the central state, local governments' role, at best, was to provide information to facilitate site planning. Locally initiated comprehensive and integrated land use planning at the city level, therefore, became quite irrelevant and unnecessary. In fact, a city then was only required to produce a blue-print for 20 years according to population size and the nature of the city. The relationships among various activities in the city were reduced to the coordination of six major land use categories. As cities were seen as undifferentiated entities that needed not be studied and analysed separately, planners in the 1950s boosted the scale of their plans to unrealistic levels during the Great Leap Forward (Ng and Wu, 1995:282). Such ambitious plans became the scapegoats for the failure of the Great Leap Forward. This started a long hiatus in

urban and, indeed, urban system planning in China from the early 1960s and throughout the Cultural Revolution.

The Reforming Socialist State and the Emerging Need of Urban System Planning

By the end of the 1970s, it was recognized by the Chinese state that total administration of the economy and society was neither possible nor practical (Tang, 1997:51-57). Strict control by the central state had led to a shortage economy which had stifled economic growth. A certain degree of "liberalization" was regarded as necessary. In other words, it was partially admitted that the economy had its own logic and that the state should govern it not so much by direct surveillance as by indirect mechanisms. According to the document on *Central Government's Decisions on a Number of Issues Concerning the Institutionalization of the Market Economy*, "[t]he state should use macro control policies such as economic means, laws and administrative measures to manage the national economy, to provide infrastructure and to improve the investment environment. It should refrain from interfering into an enterprise's production activities" (Gu and Zhang, 1997:23). Therefore, reforms were introduced to separate the state from the economy and their relationships redefined. These reforms covered a wide range of areas from enterprise reform, the introduction of extra-plan, local government decentralization, financial and tax reforms, and open-door policy which allowed foreign direct investment.

The Chinese state, however, remained more rigid with regard to the control of society. Disciplining the population is still widely practised. Nevertheless, issues concerning the standard of living get a place in the state's socio-political agenda. The state also seems to have developed a more relaxed attitude toward the separation between the rural and urban population. For instance, while urban households remain entitled to food rations and other services and facilities, peasants are now allowed to work in cities and towns as contract workers (*hetong gong*). They may also live in towns under a new household category (households with self-supplied grains, or *zili kouliang hukou*). The side effect of these measures is the problem of floating population, especially along the coastal big cities with more autonomy in the economic arena.

The introduction of non-plan or extra-plan elements in the formerly centrally planned economy has changed the role of cities. Instead of being undifferentiated entities whose destinies rely on investment decisions of the central state, cities are now seen to possess "central functions" (*zhongxin zuoyong*) imperative to the efficient and effective organization of economic and cultural activities at various levels. The introduction of the city-leading-counties system (*shi guan xian*) is one of the means to enhance the central functions of the city. Under its leadership, even the rural areas in the county can actively and openly participate in non-farm activities. Not only do cities serve as the centre for stimulating economic growth, they are also responsible for improving the urban physical infrastructure. To boost city governments' revenue, urban land system reform is introduced to allow the sale of land use rights. In the Special Economic Zones (SEZ) and coastal cities, foreign investment has also been encouraged which has further complicated the construction and development process.

All these changes have led to rapid growth and many consequent problems with planning implications, especially in the fast growing regions. The diversification of investment sources, including the introduction of foreign capital in city development, and the introduction of urban land system reform have accelerated the pace of development both in cities and rural counties. Since development control mechanisms have not been well developed or established, buildings and construction are very chaotic, leading to various degrees of environmental degradation. Environmental decay is most obvious when agricultural land is encroached upon to accommodate urban expansion. The floating population has also affected the effective functioning of cities, especially when cities today have to serve consumption purposes. In order to solve these problems and maximize the city's role in the reforming socialist state, cities have to be studied, analysed and regulated as separate entities.

The introduction of extra-plan elements and the possibility of developing horizontal economic relationships at the local level and with the outside world all point to the need of planning a city within a broader regional context. This accounts for the emerging need of an urban system plan. From the perspective of the central state, such a plan is also urgently required to maintain its indirect control over individuals and enterprises. As early as 1980, Document Number 13 from the central state stated that "regional planning is necessary for a rational distribution of industrial activities so that the long term plan of the national economy can be realized; and to provide a solid foundation for urban planning" (Wei, 1994:21).

As Chinese scholars and urban planners have little experience in studying cities as discrete entities or in theorizing about urban development in a reforming socialist country, overseas concepts used in urban system planning are borrowed to study the situation in China. This can be illustrated in the following case study of the PRDUSP.

The Pearl River Delta Urban System Plan

The Pearl River Delta: An Introduction

While the natural Pearl River Delta (PRD) comprises 8,601 km^2, the PRDUSP only covers the PRD Economic Region which was defined by the Provincial Government in 1994 and consists of 25 cities and 3 counties (Figure 1). The total area was 41,596 km^2 with 20.65 million population in 1993 (Construction Commission of Guangdong Province, 1996:2). Population density within the PRD is more than 500 per km^2.

The Pearl River Delta in Pre-reform China

As argued above, the Chinese state had chosen to focus its total administration on urban rather than rural space. The agriculture

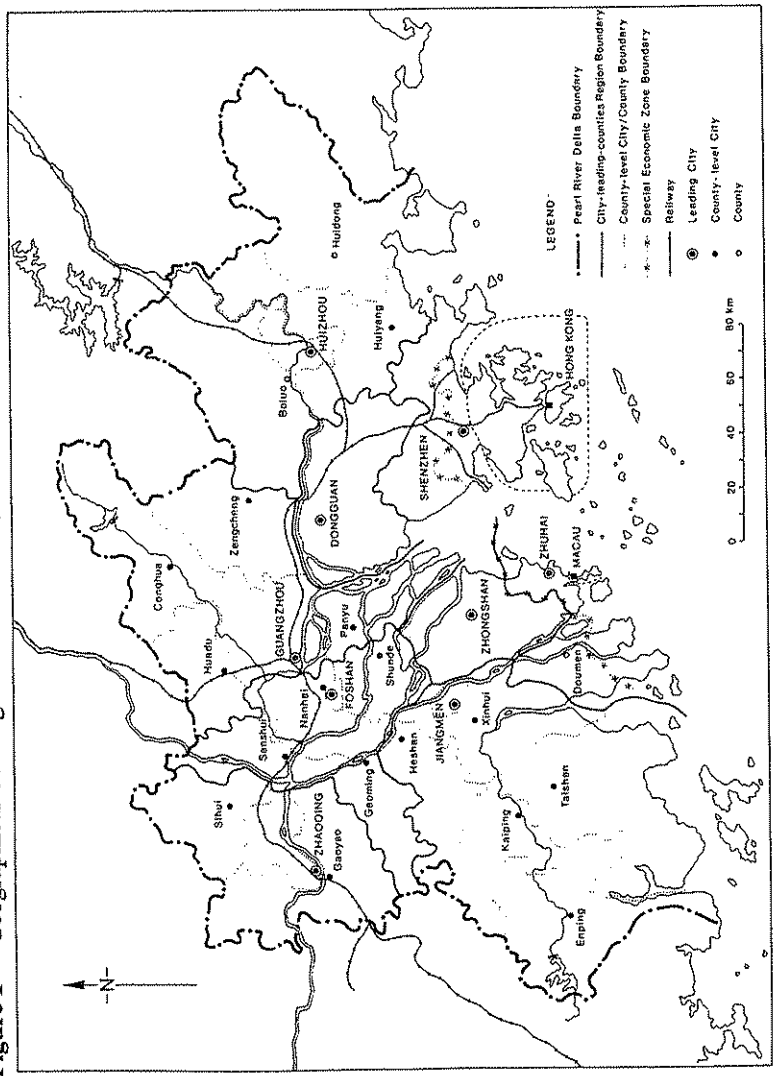


Figure 1 Geographical Coverage of the PRDUSP, 1994

based economy in Guangdong, coupled with its geographical position as a national frontier in the south, had attracted little state investment. Slow economic growth was experienced in the PRD between 1949 to 1978. Except relatively rapid urban developments in Guangzhou, the provincial capital, and its neighbouring cities, Foshan and Jiangmen, in the western part of the PRD, the delta economy was largely agricultural. Table 1 exhibits some 1978 figures on Guangdong which can illustrate the agricultural nature of the province. The provincial capital, Guangzhou, was and still is the only extra-large city in the region. There was no large or medium size city. Throughout the period of 1949 to 1978, only 4 small cities (Foshan, Jiangmen, Zhaoqing and Huizhou) were added to the region. There were only 32 designated towns in 1978 and urban population had decreased for 11 years since the Cultural Revolution (Construction Commission of Guangdong Province, 1996:7). The corollary was a relatively loose control of development in the province by the central state. The province's status as an agricultural backwater was transformed after the introduction of economic reforms and the open-door policy in 1978.

The Pearl River Delta after the Introduction of Economic Reforms

Economic Boom and Rapid Industrialization and Urbanization

The Third Plenary Session of the 11th Central Committee held in 1978 initiated rural economic reforms which turned out to be very successful. Not only did the reforms raise agricultural productivity, they also released surplus labour to fuel rural industrialization through the establishment of township and village, and individual enterprises. However, the major driving force for industrialization and urbanization in the PRD came from the open-door policy. The SEZ of Shenzhen and Zhuhai in the PRD were designated in 1979. In 1980, greater power was delegated to Guangdong and Fujian (where the Shantou Special Economic Zone locates) to plan their economies. In 1984, special power was

Table 1 Selected Economic Statistics of the Guangdong Province, 1978

	Sectoral contribution to GDP (%)	Number of people employed (%)
Primary sector	29.9	73.7
Secondary sector	46.4	14.2
Tertiary sector	23.7	12.1
Population characteristics		
Non-agricultural population	8.23 million (16.3%)	
Agricultural population	42.40 million (83.7%)	
Characteristics of workers		
Total number of staff	5.16 million	
State-owned units	3.69 million	
Collective enterprises	1.47 million	
Individual workers in towns/cities	0.26 million	
Labourers in townships (towns) and villages	17.58 million	

Source: Guangdong Statistical Bureau (1992:85, 131, 137, 141).

granted to 14 coastal cities to make better use of foreign capital, one of which was Guangzhou, the provincial capital. In 1985, the "PRD Open Economic Region" was officially demarcated to allow 12 counties (excluding Guangzhou and the SEZs) to offer preferential treatment to foreign investment (Chu, 1996:472). In 1987, the central state revised the delimitation of the PRD Open Economic Region to include more cities and counties (altogether 7 cities and 21 counties) (op. cit., 1996:472).

As a result, foreign investments not only go to the SEZs and Guangzhou, investments also go to the PRD Open Economic Region, a large part of it constitutes rural areas where state control is loose and local authorities have more autonomy in making decisions related to construction and development. Less red tape and state control, together with abundant cheap land and labour resources, have made the PRD Open Economic Region an attractive place for industrial investments from Hong Kong which is immediately south of the PRD. As a result of economic restructuring, labour intensive and low value added industries in Hong Kong can no longer afford the rising land and labour costs within the territory. The open-door policy of China provides a breathing space for the continual survival of these industries. Between 1980 and 1993, US$19.3 billion of foreign investments were made in the PRD and 80 per cent of this came from Hong Kong (Construction Commission of Guangdong Province, 1996:5). Economic integration between Hong Kong and the PRD is expected to intensify as Hong Kong reverted back to Chinese rule as a Special Administrative Region after July 1997.

One of the consequences of the economic reforms and the open-door policy is a dramatic increase in the level of urbanization. In 1993, the level of urbanization in the PRD was 43 per cent as compared to 29 per cent and 21 per cent of the Guangdong province and China, respectively (op. cit., 1996:9). This can also be seen in the increase of the number of cities and towns. By 1992, the number of cities increased from 5 to 12 and the number of designated towns grew to 374 (op. cit., 1996:7). Today, the number of cities has increased to 25, and there are more than 400 designated

towns. There are now 1 extra-large city, 1 large city, 5 medium cities and 19 small cities in the PRD (Table 2). As argued before, the designation of these cities and towns by the Chinese state can be seen as an attempt of the reforming socialist country to regain control of a once loosely governed rural space. Table 3 summarizes the criteria the Chinese state has used in designating cities and towns over the years. The city-leading-counties administrative system is a case in point. This system abolishes the representative agency at the prefectural level, thereby subordinating many counties to the administrative control of prefecture-level cities and provincial capitals (Tang, 1995:29). This has the effect of putting the peasants, who were left largely alone before the reform, under some form of state regulation within the urban administrative hierarchy (op. cit., 1995:29). Another impact is the rapidly increasing encroachment of agricultural fields by urban and industrial development. The following paragraphs discuss the consequences of such rapid development.

Consequent Planning Problems

1. Environmental Degradation

As a result of the land reform, local governments can now transfer land use rights to boost their revenue and facilitate economic growth and development. In order to accommodate and finance

Table 2 Distribution of City Size in the Pearl River Delta, 1993

City	Number	Population	% of number	% of population
> 1 million	1	3,037,000	3.8	40.7
0.5-1.0 million	1	641,000	3.8	8.6
0.2-0.5 million	5	1,336,000	19.2	17.9
< 0.2 million	19	2,439,000	73.1	32.7
Total	26	7,453,000	100.0	100.0

Source: Construction Commission of Guangdong Province (1996:11).

Table 3 Criteria for the Designation of Cities and Towns in China, 1955-1993

Year	City	Town
1955	Over 100,000 population.	Over 2,000 population with 50% of it as non-agricultural population.
1963	Abolish all cities with population below 100,000. When an urban area has more than 20% of its population as non-agricultural population, the size of its rural areas needs to be reduced. Otherwise, the boundary remains the same.	• Over 3,000 population with 70% of it as non-agricultural population; or • 2,500-3,000 population with 85% of it as non-agricultural population.
1984		• Where the county-level government locates; or • Town status will be designated if the village government locates in a place with over 2,000 (or 10% of) non-agricultural population within a total population of less than 20,000.
1986	• When a town has 60,000 non-agricultural population, less than RMB 20 million GDP and becomes an economic centre in the region, it can be designated as a city. • If a county has less than 0.5 million population and the place where the county government locates has over 100,000 non-agricultural population, with agricultural population less than 40% of the permanent residents, and over RMB 30 million GDP, the county can be turned into a city; or if a county has over 0.5 million population, the place where the county government locates has over 120,000 non-agricultural population, with over RMB 40 million GDP, the county can be turned into a city; or • For medium size cities (with administrative districts) with over 250,000 non-agricultural population and over RMB 1 billion GDP, the city-leading-counties system can be implemented.	

Table 3 Criteria for the Designation of Cities and Towns in China, 1955-1993 (Continued)

1993 *County-level cities (criteria)*	*Conditions*		
• Population density (persons/km^2)	>400	100-400	<100
• Non-agricultural population where the county government locates;	>120,000	100,000	80,000
of which, the number of non-agricultural households	80,000	70,000	60,000
% of non-agricultural population over total population not less than	30%	25%	20%
No. of non-agricultural population not less than	150,000	120,000	100,000
• Town and township enterprises or above's GVIO as a % of GVIAO	80%	70%	60%
GVIO not less than	RMB 1.5 billion	RMB 1.2 billion	RMB 0.8 billion
GDP	RMB 1.0 billion	RMB 0.8 billion	RMB 0.6 billion
% contribution of the tertiary sector to GDP	>20%	>20%	>20%
Per capita local budget revenue	RMB 100	RMB 80	RMB 60
Estimated local revenue	RMB 60 million	RMB 50 million	RMB 40 million
• Infrastructure			
- % of tap-water	65%	60%	55%
- % of surfaced road	60%	55%	50%

Table 3 Criteria for the Designation of Cities and Towns in China, 1955-1993 (Continued)

Prefecture-level cities
• Over 250,000 non-agricultural population in the urban areas and where the city government locates, over 200,000 non-agricultural households are engaging in non-agricultural activities;
• GVIAO: over RMB 3 billion and GVIO over 80%;
• GDP over RMB 2.5 billion;
• Production value of the tertiary sector higher than the primary sector and is over 35% of GDP; and,
• Local budget revenue exceeds RMB 20 million and has become the centre city of neighbouring cities and counties.

Source: Yang (1996:91).

urban expansion, local governments (both at the city and county levels) have transferred a lot of land at low costs to facilitate development. The situation is most critical around urban fringe areas where development pressure is the greatest. Between 1990 and 1993, the amount of land "developed" tripled (Construction Commission of Guangdong Province, 1996:15). Due to a lack of proper control, land development has taken place at the expense of the natural environment. It has been estimated that one-third of the agricultural land in the PRD has been encroached upon. However, many development zones have been left vacant as the anticipated investment is not forthcoming. This accounts for the call by the central state and, then, the provincial government to restrict the number of development zones and to reinstate those vacant ones for agricultural purposes at the local level (State Council, 1996; Guangdong Provincial Government, 1996).

Accompanying the problem of encroachment of agricultural land are all sorts of environmental pollution (water, air, noise, solid waste) problems as a result of rapid industrialization, urbanization and the increase of transportation volume. In 1990, 55.4 per cent of air and 55.3 per cent of water pollution exceeding the acceptable standards in Guangdong were found in the PRD (op. cit., 1996:19).

The rapid development of the PRD has also attracted many temporary migrants (surplus labour released by the rural reforms) (Table 4). The persistent existence of this floating population not only make planning difficult, it also affects the carrying capacities and, hence, the quality of life in the cities. The declining living environment has also suscitated complaints from permanent residents with urban household registration.

2. Lack of Regional Cooperation in Planning and Development

The delegation of economic responsibilities to the cities and enterprises has led to problems of local protectionism. As enterprises are a major source of government revenue, city governments are keen to ensure the survival of these economic entities by discouraging the trading of goods from other places. Localism is even

Table 4 Distribution of Permanent and Temporary Population in the PRD by Cities, 1990, 1993

	1990			1993		
	Permanent population (m.)	Temporary population		Permanent population (m.)	Temporary population	
		(m.)	%*		(m.)	%*
Pearl River Delta	18.55	2.79	15.0	20.56	6-7.00	29.2
Guangzhou	3.51	0.41	11.6	3.70	0.91	24.7
Shenzhen	0.65	1.02	158.9	0.88	2.07	236.0
Zhuhai	0.47	0.16	33.9	0.58	0.33	57.4
Dongguan	1.30	0.44	33.9	1.39	1.00	72.0
Zhongshan	1.13	0.01	8.6	1.22	0.77	63.0
Panyu	0.75	0.04	4.7	0.82	0.30	36.7
Nanhai	0.91	0.12	12.7	1.00	0.44	44.4
Shunde	0.90	0.06	7.0	0.98	0.30	30.8

Notes: * Temporary population as a percentage of permanent population. Population figures have been rounded to 2-decimal places.
Source: Construction Commission of Guangdong Province (1996:13).

more severe in the PRD as cities within the region are competing among themselves for investment. A rational division of labour among the cities is therefore quite impossible. In fact, many cities try to provide large scale or higher grade infrastructure to attract foreign investment, leading to uncoordinated urban and regional infrastructure development and waste of resources. Such a lack of coordination can be seen in the development of five new international airports in the delta, the low density of highway and railway networks, the incompatibility of road widths between cities and an absence of consideration for high-speed transport for the whole region. The existence of linear urban settlements all over the PRD is another example. Without coordinated development, urban settlements spring up along various roads leading to many transportation and traffic problems. Such linear settlement pattern also constrains long-term development and may lead to very expensive redevelopment needs in the future (op. cit., 1996:15).

Such chaotic development is certainly not acceptable to the provincial government. However, financially, the provincial government is not strong enough to put in investment and remedy the situation. As a result, cooperation among the cities and counties are called for.

Response of the Provincial Government

There are many reasons accounting for the rise in these planning problems. The most obvious one is because of rapid economic growth brought about by the introduction of extra-plan elements in the economy and the influx of foreign investment. The introduction of these economic "liberalization" measures has not been accompanied by macro-control or guidance. Coupled with the fact that the once rural PRD has not been closely controlled by the central state, development rapidly goes out of hand. This situation seems not to have improved even after the implementation of the city-leading-counties administrative reform. In fact, the reform has exposed the once rural counties, which could theoretically serve as buffers to urban growth, to the pressure of urban development. The above cited problem of linear urban settlement is a case in point.

As early as 1988, the Construction Commission of Guangdong Province had realized the problems of urban development in the PRD and had commissioned a study on the PRDUSP. A plan was made in 1989 by the Geography Research Institute of the Guangdong Academy of Social Sciences, and the provincial government suggested towns and cities refer to the plan for implementation (Construction Commission of Guangdong Province, 1996:105). The result was that towns and cities only implemented those measures beneficial to their development (op. cit., 1996:105). In 1992, the late Deng Xiaoping visited southern China and said Guangdong should use 20 years to surpass the four little Asian dragons. Since then, speculative real estate development could be seen, and the number of cities in the PRD increased from 12 to 26.

As land development and its accompanying problems are getting out of control, the provincial government at the end of 1994 initiated the PRD Regional Plan which was completed in 1995. Five themes were researched in the regional plan: urban system, environmental protection, infrastructure, economic development and social development. In the following, the PRDUSP will be examined in detail.

The PRDUSP[3]

From the above discussion, it can be seen that the PRDUSP has been made with the objectives of enhancing economic growth and ensuring environmental sustainability through forward coordinated planning and development among local authorities. While population growth and expansion of urban land are recognized as inevitable to propel the PRD as one of the major mega-urban regions in Pacific Asia and to serve as "dragon head" for development in southern China, such anticipation is considered within the concepts of sustainability and carrying capacities of cities and rural areas. Unlike the 1950s when cities were undifferentiated entities identified by population size, cities in the region are now considered as important entities for research and analysis.

Goals and Principles

According to the Construction Commission of Guangdong Province (1996:24), the planning goals and principles of the PRDUSP are as follows.

Goals:

- To analyse the urbanization path of the PRD and to formulate a development strategy for the urban system;
- to control development of various land uses and to coordinate planning and construction;
- to use standards and guidelines to regulate planning and construction so that the level of urban development can be improved; and,
- to employ feasible administrative and legal measures to implement the plan.

Principles:

- Overall efficiency;
- complementarities of comparative advantages;
- sustainable development; and,
- care for the people.

Forecasts of Population and Land Requirements

Table 5 summarizes the forecasts of population and land requirements made in the PRDUSP. It is forecast that, by the year 2010, the total population of the PRD will be about 34 million, 5 million of which will be temporary population. Within this 34 million, 75

Table 5 Forecasts of Population and Land Requirement by the Year 2010

	Number	Land required
Registered population	About 29,000,000	Each registered person in the urban area needs 100 m^2. Urban land required at a 75% urbanization rate: 28,440,000 x 75% x 100 m^2 = about 2,133 km^2
• Natural increase	24,690,000	
• Mechanical increase	3,750,000	
Temporary population	About 5,000,000	Assuming 90% of temporary population reside in urban areas and they require 60% of land required by registered persons: 5,000,000 x 90% x 60 m^2 = 270 km^2
Total population	About 34,000,000	2,785 km^2
Urban population	Assuming 75% urbanization rate: 25,000,000	2,133 km^2 + 270 km^2 = 2,403 km^2
Rural population	8,500,000	Assuming 30% of the population living in urban areas and with a maximum limit of 150 m^2/person, land requirement: 8,500,000 x 30% x about 150 m^2 = 382 km^2

Source: Construction Commission of Guangdong Province (1996:28-31).

per cent (25 million) will be urban and 25 per cent (8.5 million) will be rural population. Land required will be 2,133 km^2 for urban registered population, 270 km^2 for urban temporary population and 382 km^2 for rural population living close to cities and towns. Hence, a total of 2,785 km^2 is required for urban development. Allowing a flexibility of 25 per cent, 3,400 km^2 of land should be planned for urban use and 1,000 km^2 for rural settlement (70 per cent of the rural population of 8.5 million, each requiring a maximum of 150 m^2).

While the projected level of development is still within the carrying capacity of the region, the PRD is now overdeveloped when compared with the projected requirements (Construction Commission of Guangdong Province, 1996:31). Various measures are necessary to rectify the situation.

The Development Strategy:
Coordinated Planning and Development

Three major strategic goals are identified in the PRDUSP:

- To develop the PRD as a major mega-urban region in Pacific Asia and to be the "dragon head" for socio-economic development in southern China;
- to develop a modern urban system with an improved rank size distribution of different types of cities, a clear division of labour with complementary functions, and a rational and balanced distribution of transportation and communication networks; and,
- to enhance rural-urban integration.

In order words, the strategy aims at a comprehensive and coordinated planning for the PRD as a whole through devising a hierarchy of cities with defined and complementary functions well linked by transportation and communication networks to facilitate rural-urban integration. This region will serve as the "dragon head" to stimulate growth in southern China through linkages with the global economy.

Based on natural resources and development trends, cities in the delta are divided into inner and outer rings. To enhance efficiency, these cities are linked together to form development or growth axes. The PRDUSP also suggests that cities of Guangzhou, Shenzhen and Zhuhai should play a dominant role in the hierarchies of cities in the central, east and west metropolitan subregions, respectively. These will be elaborated in the following paragraphs.

1. Inner and Outer Rings

In order to improve the rank size distribution of different types of cities and to strengthen a regionally integrated multi-centred network of cities, the PRDUSP emphasizes the need to develop Guangzhou as the core city, and Shenzhen and Zhuhai as sub-core cities in the eastern and western side of the PRD. These core or sub-core cities should have a clear division of labour and develop complementary functions to achieve "group championship," that is, self-centred development and cut-throat competition among cities should be avoided.

The PRDUSP divides the PRD into an inner ring and an outer ring. Table 6 compares the inner and outer rings of the PRD. The plan suggests that the inner ring should have strict control over permanent population. Agricultural development should be encouraged to meet the need of the urban population and to improve the ecological environment. Large scale technology and capital intensive industries should be developed. Tertiary sector development following international practice and regulations can be developed. With better infrastructure, the inner ring should be able to serve as the core of the PRD and the hub for external linkages. The outer ring, where natural resources are more abundant, should try to attract industries from the inner ring, pursue development of tourism, and commercialization of the agricultural sector.

2. Development and Growth Axes

The core and semi-core cities in the PRD will serve as radiation foci being linked up by infrastructure, such as highways, railways

Table 6 Characteristics of the Inner and Outer Rings in the PRD Economic Region, 1993

	Population (m.)	Area (km^2)	Urban population (m.)	Cultivated area	Per capita GDP (RMB)	Per capita ind. output value (RMB)	Per capita cultivated land (mu)	Population density (person/km^2)
Inner ring	11.05	11,740	5.38	349.8	11,510	23,516	0.32	941
Outer ring	9.51	29,548	2.08	720.4	5,795	8,975	0.76	322
Economic region	20.56	41,288	7.46	1,070.2	11,016	18,766	0.52	498

Inner ring: Shenzhen, Dongguan, Guangzhou, Foshan, Zhongshan and Jiangmen.
Source: Construction Commission of Guangdong Province (1996:34).

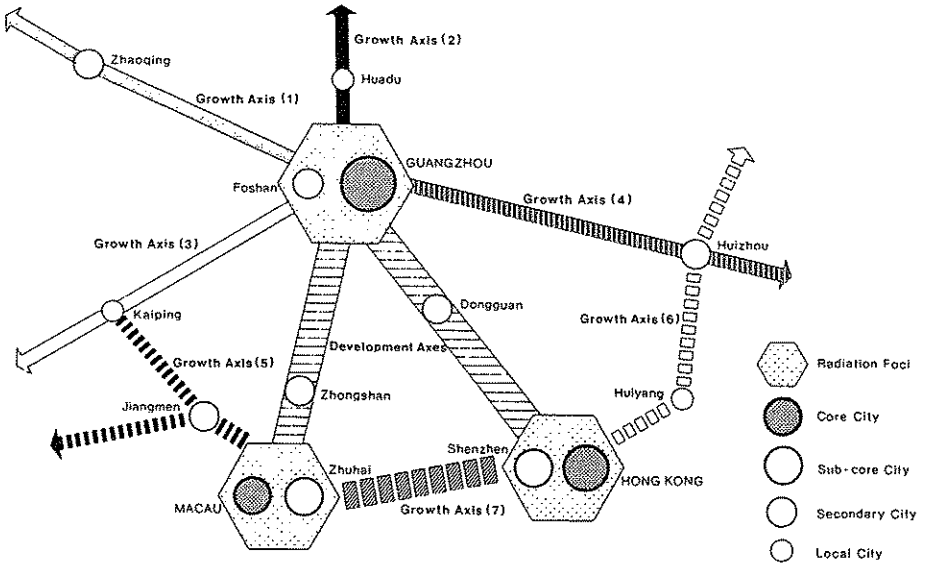
or information superhighway to form development corridors. By coordinating the development of large-scale infrastructure development, rural and urban spaces within the region will be integrated economically and spatially. In addition, the dual role of the PRD — to stimulate internal development and to facilitate external links — is emphasized. It is suggested that two development axes (between Guangzhou-Shenzhen and Guangzhou-Zhuhai) and seven growth axes (linking up the inner and outer rings) should be developed (Figure 2). The two development axes joining the externally oriented economies of the core and semi-core cities will help facilitate the PRD's participation in the new international division of labour. The growth axes will facilitate the integration of the two rings and enhance the role of the PRD in stimulating development in inner China.

3. The Three Metropolitan Areas as the "Dragon Head"

To promote rural-urban integration, comprehensive and sustainable development, the PRDUSP divides the PRD into three separate and yet interdependent sub-regions: central, eastern and western sub-regions, the cores of which are the central, east and west metropolitan areas (Table 7 and Figure 3). These metropolitan areas are supposed to be the "dragon head" of the region. Not only is there a need to have a clear division of labour, it is also important to plan for the distribution of large scale public and urban facilities within the whole metropolitan area. In other words, individual cities should not just plan within their own city-county administrative boundaries. The model of core-satellite cities should apply to the whole metropolitan area so that a hierarchy of cities can be established and buffer zones, such as green belts, rural conservation areas, etc., can be found between cities. This will improve the transportation network and enhance environmental conservation.

According to the PRDUSP, the central metropolitan area should serve as a transportation hub, a comprehensive industrial base and a centre of trade, technological development and scientific research. Population should be controlled within 10 million

Figure 2 Development and Growth Axes in the PRDUSP



Note: In the PRDUSP, although Hong Kong and Macau were not officially considered in the formulation, they were mentioned occasionally to complete the picture. Instead, this map makes implicit recognition of Hong Kong and Macau explicit and label them core cities in the urban hierarchy.

Source: Modified from Construction Commission of Guangdong Province (1996:38).

Table 7 Basic Conditions in the Pearl River Delta

Sub-regions	Population (m.)	Area (km^2)	GDP (10 m.)	Value of ind. prod. (b. RMB)	Per capita GDP	Per capita cultivated land (mu)	Population density (person/km^2)
Central metropolitan region	8.98	10,362	1,071.4	162.67	11,940	0.37	866
%	43.6	25.1	47.3	49.9	-	-	-
East metropolitan region	3.11	7,082	624.5	33.06	20,094	0.44	439
%	15.5	17.6	27.6	24.1	-	-	-
West metropolitan region	3.40	6,179	326.8	64.06	9,611.8	0.57	592
%	16.5	14.9	14.4	-	-	-	-

Note: - Not available.

Source: Construction Commission of Guangdong Province (1996:43-45).

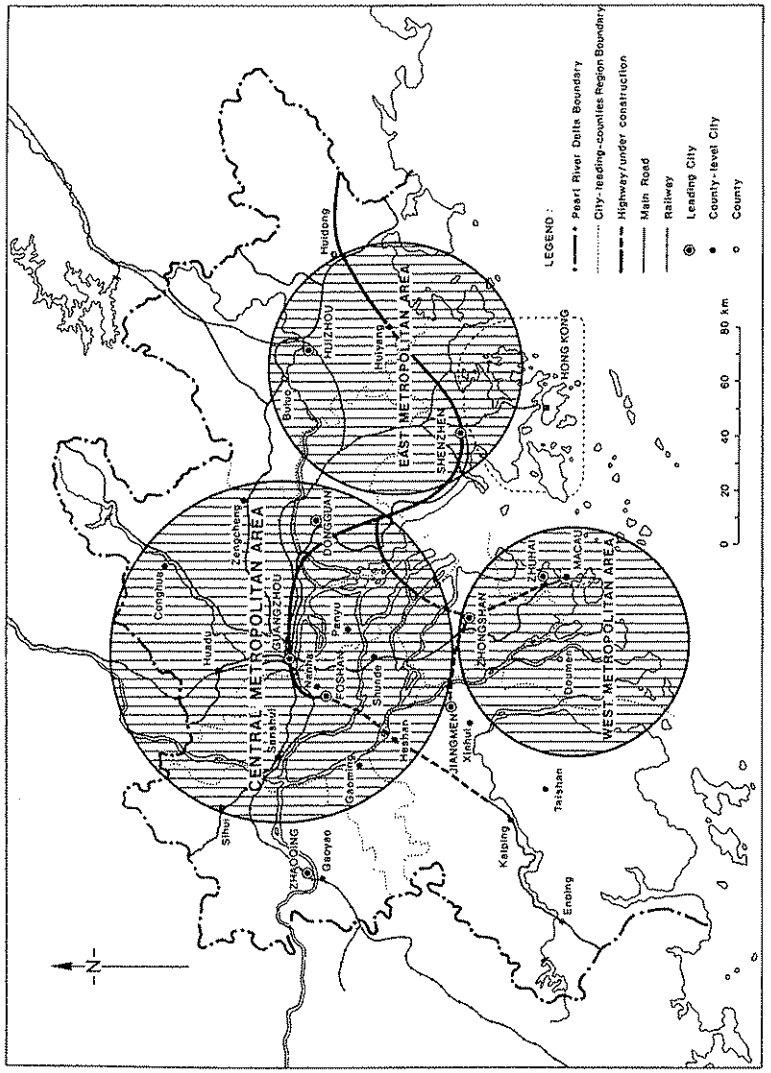


Figure 3 The Three Metropolitan Areas in the PRDUSP

Source: Modified from Construction Commission of Guangdong Province (1996:42).

and population density at 1,000/km^2. The east metropolitan area serves as the export processing centre for industries in Hong Kong and can develop international finance, trade and high tech industries. However, there is a need to control population growth and to conserve the Dongjiang water. Compared to the east metropolitan area, the west metropolitan area has little mineral resources and has underdeveloped external links. However, it has rich cultural and natural resources for the development of the tourist industry. It also has a sound foundation for industrial development.

Plan Implementation: Feasibility and Sustainability

Unlike the traditional blue-print approach in land use planning, the PRDUSP emphasizes the feasibility of the plan. Plan implementation was not a concern for the traditional "police state" as theoretically the state had complete control over urban land resources, investment sources and population distribution. However, with the introduction of economic and administrative reforms, plan implementation becomes an important agenda for the local authorities and the provincial government.

To encourage coordinated development to achieve the dual objectives of environmental sustainability and economic growth, the PRDUSP suggests various measures: dividing the PRD into various land use zones to provide strategic guidance for future development; laying out standards and requirements for regional level transportation networks; setting up standards and guidelines for various urban facilities, residential and industrial land use; and other policy recommendations. The following paragraphs outline these various implementation measures.

1. Four Types of Land Use to Ensure Coordinated and Sustainable Development

To coordinate the suggested patterns of development over space, the PRDUSP establishes four basic types of land use: metropolitan areas; zones of densely distributed cities and towns; open fields; and, ecologically sensitive areas. Table 8 summarizes the content, characteristics and overall development strategies for each land

Table 8 Content, Characteristics and Overall Development Strategy of the Four Types of Land Use

Content	Characteristics	Overall development strategy
Metropolitan area		
Urbanizing region with dense and large scale human settlements occupying central locations and performing central functions. For example, Guangzhou, Shenzhen and Zhuhai.	• A spatial, not an administrative, concept and so may consist of one or more cities. • With sound and functioning infrastructure. • Highly concentrated settlements with buffer zones but not clear-cut open fields in between. • Centre of the region.	• Centre of an urban system or a region: finance, trade, technology, information centre; transportation hub, and focus on high tech industrial and large scale infrastructure development. • To improve city functions and the quality of city life. • To redevelop the old urban areas.
Zone of densely distributed cities and towns		
Zone where central cities and towns converge. Area with a higher density of cities and towns. For instance, from Xinan in Shenzhen to Changan in Dongguan, Humen; and the cities and towns around Guangzhou.	• Close to the metropolitan areas. • High density of cities and towns with narrow buffer zones in between. • While most of the land is for agricultural use, land use functions are determined by the cities. • Follows economic development corridors: along rivers, coast line, and transportation network. • Industrial base can be found in first grade management areas.	• Reasonable industrial and complementary development should be encouraged in these zones. • Should control the "blind" growth of urban settlements along transportation links. • Protect agricultural conservation zones. • Development intensity and urban built-up areas should not exceed 25% of total area within the zone.

Table 8 Content, Characteristics and Overall Development Strategy of the Four Types of Land Use (Continued)

Open field		
The agricultural base of the PRD economic region. Basically agricultural land uses such as township, village, agricultural fields, rivers and hills, etc. New settlements of low density and appropriate scale can be developed. For instance, the low density development zone around the central city of Guangzhou.	• Villages, green vegetation and the natural environment constitute the landscape of this zone. • Low density development area. • Low density of cities and towns with agricultural land uses in between. • Land use is determined by agricultural development. • Small scale industrial development in first grade management areas; • Poor transportation infrastructure.	• Major agricultural zones within the economic region. Town and townships enterprises or secondary industries should be controlled. • Density of towns should be monitored and the scale of non-agricultural development has to be constrained. • A base to facilitate agricultural development. • Support leisure activities of the urbanites. • Development intensity and built-up areas of the towns and villages should be less than 8% of the total area of the zone.
Ecologically sensitive area		
Area whose development will have significant impact on the overall ecology of the PRD: national conservation zones, forests, water sources, reservoirs, coastline and natural tourist spots, etc. For instance, White Cloud Mountain in Guangzhou and Mirs Bay in Shenzhen.	• Significant to the wider ecological environment and is not reversible once destroyed by human activities. • Can also be large-tract of agricultural fields, orchards, fish ponds or conserved hills to prevent urban sprawling and consequent degradation of the environment.	• Important for guaranteeing environmental quality. • Development intensity has to be strictly controlled to prevent urban encroachment. Development projects have to be strictly controlled and built-up areas should be restricted to 1 to 2% of the total land area.

Source: Modified from Fang, Yang and Cai (1997:9-10).

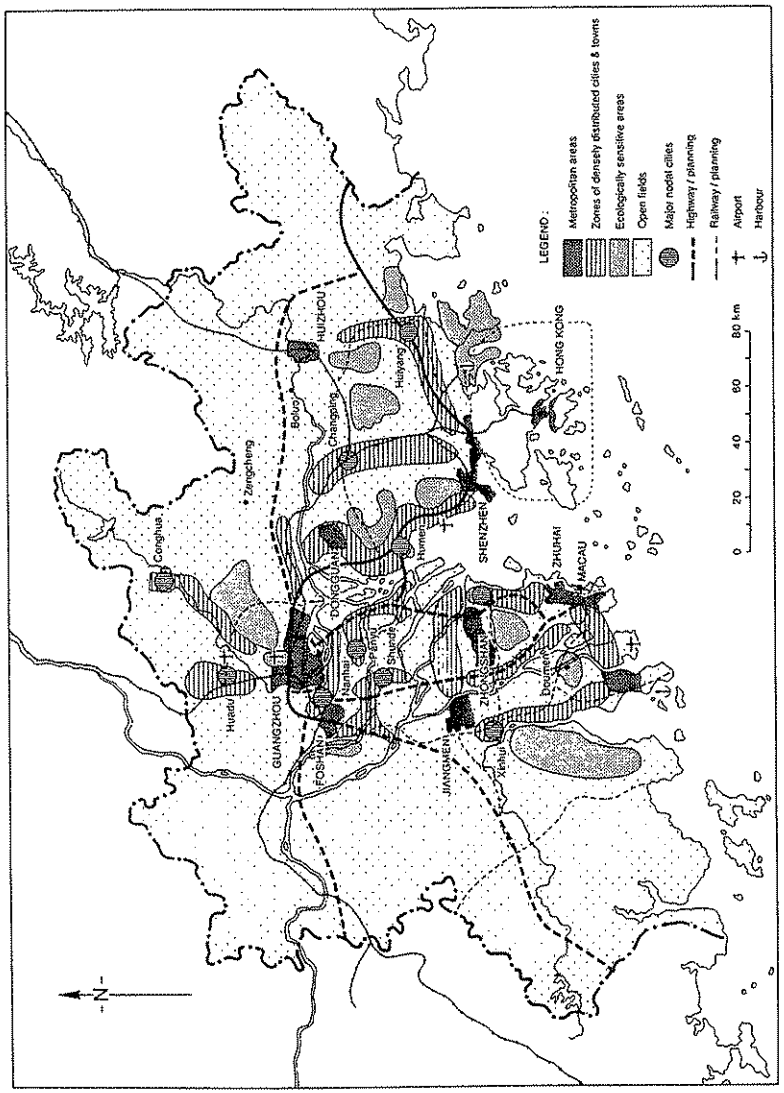


Figure 4 Development Strategy of the PRDUSP: Four Main Types of Land Use

Source: Modified from Construction Commission of Guangdong Province (1996:56, 63, 70).

use type, and Figure 4 shows a sketch of the distribution of the four types of land use.

2. Construction Requirements of Regional Transportation Network

The PRDUSP also attempts to enhance a coordinated development between land use and transport planning which administratively is under the auspices of the Ministry of Transport. The plan specifies that road planning at the regional level should be flexible enough to meet short- and long-term requirements and it should be coordinated with city comprehensive plans to minimize its environmental impact. To remedy the existing problem of incompatibility of the regional road networks, various measures are also suggested to ensure efficient and effective linkages of cities and towns by the transportation networks (for details, see Construction Commission of Guangdong Province, 1996:85-86). To prevent linear settlement patterns along trunk roads, the PRDUSP suggests the setting up of green belt zones along the roads to prohibit construction (20, 15 and 10 metres on each side of national, provincial and county roads, respectively).

3. Standards and Guidelines for Various Facilities

Unlike the past when cities were identified by population size only, cities and towns in the PRD are now divided into three types by taking into account other considerations:

- Type "A": Guangzhou, Shenzhen and Zhuhai.
- Type "B": Foshan, Jiangmen, Zhongshan, Zhaoqing, Dongguan and Huizhou.
- Type "C": local centre cities and satellite towns.

As some old urban areas have problems of poor infrastructure and some new cities are developing large-scale infrastructure far exceeding the actual demand, the PRDUSP therefore sets out some standards for different types of cities to follow in providing urban facilities. Tables 9 to 11 note some of the selected standards.

Table 9 Selected Guidelines for Urban Facilities

Guidelines	Unit	Type "A"	Type "B"	Type "C"
Water supply and discharge				
Pass rate of overall water quality	%	>99	>98	>95
Supply of tap-water	%	100	99	97
Per capita water consumption	Litre/person/day	>450	450	350-400
Rate of use of recycled water by industry	%	55	50-55	45-50
% of piped water supply	%	95	85	80
% of sewage treatment in cities	%	60	50	40
Energy facilities				
Per capita energy consumption	kw.h/person/year	800	600-800	500-700
Open space				
Per capita open space	m^2/person	>7	>10	>10
Coverage of open space in built-up areas	%	35	35-40	35-40
Open space in built-up areas	%	25	30	30

Table 9 Selected Guidelines for Urban Facilities (Continued)

Transportation infrastructure				
% of road space to total area	%	15-20	12-15	12-15
Density of road network	km/km^2	>6	6-8	5-7
Public vehicle per 10,000 persons	No./10,000 persons	12	10-12	5-8
Mass transit	yes/no	yes	no	no
Environmental hygiene				
Number of toilets per 10,000 persons	No./10,000 persons	>8	6-8	4-6
% of non-toxic treatment of daily solid waste	%	100	100	95

Source: Construction Commission of Guangdong Province (1996:90-92).

Table 10 Standards of Public Facilities in Residential Areas

		m^2/Establishment		m^2/1,000 persons		Establishment/ 10,000 persons	Location	
		Land requirement	Built-up area	Land requirement	Built-up area		Residential area	Neighbour -hood
Education	Nursery	3,000-5,000	2,000-3,000	450-650	350-450	1-2		▲
	Primary school	7,000-10,000	3,500-4,500	500-800	250-320	1		▲
	High school	15,000-24,000	7,000-9,000	700-1,200	320-420	0.5	▲	
Sanitation	Station	-	30-50	-	6-10	2		▲
	Clinic	200-300	200-300	55-70	55-70	0.2-0.25	▲	
Integrated cultural complex		-	350-500	-	20-30	1	▲	▲
Administration	Property management	-	200	-	20	1		▲
	Residential committee	-	50-80	-	15-30	3-5		▲
	Police	1,500-2,000	100-120	-	30	0.3	▲	

Note: ▲ Location of the concerned public facilities.

Source: Construction Commission of Guangdong Province (1996:95).

Table 11 Industrial Land Uses

Type	Type One	Type Two	Type Three
Recommended scale (hectares)	30-60	100	< 700-800
Per capita factory space (m^2/person)	20-25	20-25	50
Building density (10,000 m^2/hectare)	1.2-1.6	1.2-1.6	0.8

Notes:
- Type One: Non-polluting industries, such as electronics or handicraft industries which can mix with residential areas.
- Type Two: Industries which may interfere with residential and infrastructure facilities, such as food manufacturing and drug production. Should locate at the fringe of residential areas.
- Type Three: Polluting industries, such as metal plating and chemical industries. Should have separate locations from the residential areas.

Source: Construction Commission of Guangdong Province (1996:99).

4. Policies and Measures to Ensure the Implementation of the PRDUSP

Various legal, managerial, fiscal, land supply and transportation policies and mechanisms have been proposed to improve coordinated planning and implementation of the PRDUSP. The measures are summarized in Table 12.

Conclusion

Summary of the Theoretical Argument

This paper argues that, before the reforms in socialist China, urban system planning was not practised. To the "police state," urban spaces (cities) were undifferentiated entities within which economy and society were to be disciplined and controlled through focused top-down state investment. Rural space, on the

Table 12 Proposed Policies and Mechanisms for Implementing the PRDUSP

Legal Mechanisms

- The Provincial People's Congress should promulgate the "Planning Regulations for the PRD Economic Region":
  - Allow the provincial government more power to coordinate development; for instance, planning exceeding a certain areal limit or large scale development project and complementary infrastructure will need the approval of the provincial government;
  - specify the institutional set-up for monitoring implementation of plans in the economic region;
  - specify the procedures for plan review and approval;
  - stipulate the legal responsibilities of those who do not follow the plan;
  - source of finance;
  - standards and guidelines.
- Strict enforcement of standards and guidelines in developing cities and towns.
- Speed up the household registration reform. Small towns and cities should be open for peasants in the PRD. Agricultural population within the built-up areas of the towns and cities should be changed into non-agricultural population and their collectively owned land nationalized.

Management and Coordination Mechanisms

- Setting up of a Coordination Office for the PRD Economic Region: this can be done by the formation of an Urban Planning Commission responsible for carrying out the above planning regulations for the PRD Economic Region.
- Formulation of more detailed coordination plans: metropolitan area plans, light rail development, regional public infrastructure, etc.
- Comprehensive land use zoning control.
- Improve the approval and management of plans for cities and towns: implement the processes specified in the City Planning Act; for cities and towns within a certain areas should prepare a joint city comprehensive plan; when preparing the city comprehensive plans, the city should consult neighbouring cities and when the plan is approved, a plan should be sent to these other cities; to improve citizen participation and check and balance measures; cities and counties should plan the urban and rural areas together; establish an implementation monitoring system.

Table 12 Proposed Policies and Mechanisms for Implementing the PRDUSP (Continued)

Investment Mechanisms

- Through fiscal or tax policies, establish a mutual development trust to avoid duplication of development efforts.
- A construction company can be established under the proposed Urban Planning Commission to ensure that investment and use of the fund is to the overall interests of the PRD.

Land Supply Mechanisms

- Measures concerning land supply and development control:
  - Clarify the status of transferred land: land not under construction after two years of the transferral will be reverted back to government, etc.;
  - To confine development projects within the planning areas in cities and towns and restrict control of non-agricultural projects in villages;
  - There should be a yearly plan for the total amount of different types of land use that will be released for transfer. The plan will be adjusted according to market demand. The plan should be approved by a higher level government;
  - Land without detailed development control plan cannot be transferred.
- Review all the development zones in the PRD.
- Improve the land supply mechanisms:
  - Units should not transfer land among themselves or use the land for commercial/profitable uses;
  - Residential land should be auctioned or tendered and not negotiated;
  - Abolish the 2% land transfer administration fees and the 3% land resumption administration fees;
  - Increase land supply for low cost housing;
  - Ensure land supply for public green space.
- Strict control of non-rural land use in rural areas.

Transportation Policies and Measures

- Road network should cover 12 to 20% of the built-up areas in cities. Pedestrian walkways and public transport should receive priority attention in transport planning for medium and large cities.
- Increase investment in road construction.
- Improve the hierarchy and connection of road networks.
- Improve public transport and control private car ownership.

Source: Summarized from Construction Commission of Guangdong Province (1996:104-112).

contrary, was loosely controlled and the agricultural population was left largely to fend for itself. This mode of governance was no longer viable after the introduction of economic reforms. Increasing autonomy by local authorities to pursue economic development through transfer of land use rights and attract external (including foreign) investment has led to "chaotic" and "ungovernable" spatial development. The situation in the PRD is complicated by the fact that a large part of the rural PRD had been subject to loose control by the "police state" before. As a result, they "enjoy" more autonomy after the reforms. The uncoordinated and, at times, competitive spatial development at the local level not only challenges the commanding position of the central state and the Guangdong provincial government, rapid industrialization and urbanization also undermine the natural ecology of the delta threatening the sustainability of such hectic development in the long run.

It is against this background that the provincial government realizes an urgent need to have a renewed understanding of the path of urbanization in the PRD and to search for a new way of regional governance.

A Renewed Understanding of Urban and Regional Development in Reforming China

The PRDUSP represents the most up-dated efforts by China to understand urban and regional development in the context of economic reforms and the open-door policy. Compared with the Chinese government's old conception of the meaning of urban space as a means for administering enterprises and individuals, the PRDUSP takes a big stride forward. The content of the PRDUSP fully reflects the provincial government's realization of the impossibility of total administration and yet a pressing need for coordinated planning and sustainable development. Instead of just using population size (the PRDUSP still relies on population size), planners also employ the concepts of sustainability, carrying

capacity of the delta, functional complementarity, etc., in formulating the development strategy and the blue-print.

In Search of a New Way of Regional Governance

The PRDUSP also sheds light on China's efforts at searching for a new way of regional governance in reforming China. In the past, state investment was controlled at the central level and local governments had little say in the decision making process. Comprehensive land use planning at the local level was not necessary. Even when it existed, it was basically done with reference to population size and the nature of the city as defined by the "police state." In other words, plan implementation, including providing items of collective consumption and controlling non-state sectoral investment, was not on the agenda of local governments. The vertical central-urban relationships also led to minimal interaction not only between urban and rural spaces, but also between urban and urban spaces within a region.

However, this has been changed after the administrative, economic and fiscal reforms. Local governments now face the responsibility of planning and developing spaces within their administrative boundaries. Since they are all competing for mobile investments (especially foreign direct investment), cooperation among themselves for the general good of the region is difficult, if not impossible. Without coordinated planning and construction, such a path of development is not sustainable. This explains why the provincial government has stressed the implementation of regional plans in the PRD. As discussed above, the PRDUSP has specified tailor-made standards and guidelines for regional and urban level developments. It has also recommended various mechanisms to ensure plan implementation (see Table 12).

Some Comments on the PRDUSP

The problem of the unsustainability nature of uncoordinated planning and development in the PRD is not unique to reforming China (for other examples in Asia, see McGee and Robinson, 1995). The fact that the PRDUSP can be done within half a year might be envied by other mega-urban regions in the rest of Asia. Yet, in the rush to complete the plan, it seems that many issues remain unresolved which, together with a lack of effective enforcement mechanisms, would directly undermine its implementation. The following will discuss some of the major issues.

The PRDUSP is quite a delta-centred plan. It seems that not enough consideration has been given to external factors that may affect development within the PRD. In other words, the global and local nexus has not been adequately diagnosed. The superficial treatment of the role of Hong Kong in the PRDUSP is a case in point. This may be understandable as Hong Kong was not yet a Special Administrative Region within China. However, the incorporation of a more thorough analysis of the role of Hong Kong in the development of the PRD may dramatically change the whole development strategy in the PRD, that is, Guangzhou as the core, and Zhuhai and Shenzhen as the sub-cores. Furthermore, there is basically no discussion about the roles of China within the new international division of labour or the Asian regional division of labour and related to this, the role of the PRD with reference to the national development strategy of a reforming China as a whole.

In other words, the making of the PRDUSP is not guided by national policies which outline the desirable direction of socio-economic development as perceived by the nation as a whole. The projected population and land requirements are cases in point. How are these projections related to the country's population policy and various socio-economic polices? How desirable are these policies?

One may also argue that the PRDUSP is still a functionally oriented plan initiated by the provincial government. The plan does not address the roles of non-government actors in the development process. In this sense, the provincial government is still using a top-down planning approach. Such an approach may not be an effective means to gather first hand information and to garner support for plan implementation. In other words, one may contend that the PRDUSP still assumes that the government plays a predominant role in regional governance and has neglected the potential contributions of economic enterprises and individuals.

Concluding Remarks

Laquian (1995:239-41) identifies a number of governance issues in mega-urban regions in Asia:

- To what extent is mega-urban regional governance influenced by government policies of a macro-economic nature, on the one hand, and by spatial programmes focused on rapidly growing extended metropolises, on the other?
- What is the proper scope of area-wide jurisdiction in mega-urban regional governance?
- What is the proper balance between central government and local government authority in mega-urban regional governance?
- How can the role of the private sector in mega-urban regional governance be optimally harnessed for development?
- How can civic, community-based, and non-governmental organizations be more thoroughly involved in mega-urban regional governance?
- How economically and environmentally sustainable are mega-urban regions?

With the introduction of non-plan or extra-plan elements in the Chinese economy, administrative reforms granting more power to local authorities, and the consequent change in the composition and roles of different actors in the development process within the reforming Chinese polity, the listed questions are of direct relevance to the governance of the PRD. As a result of the reforms introduced after 1978, the traditional use of planning and

"internal politics" (within the Party and bureaucracy) as major means of regional governance are no longer effective. In this sense, the PRDUSP represents a recent effort by the Chinese reforming state to answer some of the above questions. It symbolizes an attempt to understand the local dynamics of regional development in a reforming socialist country and a continuing search for a mix of planning, politics and economics in making regional governance effective in the specific context of the PRD.

Notes

1. Of course, Foucault uses the concept of governmentality to analyse Europe, not China, and concepts employed in understanding one context may not be directly transferable to another one. Nevertheless, Foucault's analysis of development over history should be a sound methodology that can be borrowed for a better understanding of the Chinese state, the rationality and techniques it has used to sustain control over society and economy.
2. Many people use the term "market mechanisms" to describe these elements. However, the term "market" implies well-developed institutionalization of laws, policies and concepts that protect private property rights. As these usually are not evident in reforming socialist countries, this paper avoids the use of "market mechanisms."
3. Unless specified otherwise, the content is summarized from Construction Commission of Guangdong Province (1996).

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The Pearl River Delta Urban System Plan
An Analysis

Abstract

This paper argues that before the introduction of reforms in China in 1978, the central state, as a "police state" in the Foucauldian concept of "governmentality," aimed at total administration of the economy and society. As a means to facilitate control, cities were perceived as undifferentiated entities, not to be studied or analysed. In theory, city plans were made and approved according to their nature as defined by state investments and their anticipated population size. The introduction of economic and other reforms after 1978 has made the traditional means of state control over individuals and enterprises difficult, if not impossible. Chaotic land use patterns threatening environmental sustainability are the side-product of the implementation of various reform measures. In addition to accentuating the role of cities in the regulation system, the state is interested in employing urban system planning to understand and control urban spatial development.

This paper then uses the Pearl River Delta Urban System Plan (PRDUSP) to elucidate the argument. To tackle the lack of incentives among local authorities to cooperate in regional planning and development and the problem of sustainability of the existing growth-biased development, the PRDUSP lays out a development strategy which divides the PRD into inner and outer rings where cities are connected by development and growth axes. More importantly, cities in the region should be organized into hierarchies around three metropolitan areas. The development strategy reflects a much more sophisticated understanding of internal dynamics of cities within the delta. To ensure the implementation of the plan, various measures and policies are also suggested. This is

a new development in Chinese urban system planning as plan implementation was not a concern in the traditional centrally planned economy. The use of concepts such as sustainability, carrying capacity, the use of differentiated standards and guidelines, together with suggestions related to legal, fiscal, management, land supply and transport mechanisms and policies suggests that the provincial government is searching for a new way of regional governance. The PRDUSP therefore represents a step to grope for an "appropriate" mix of economics, planning and politics in governing a rapidly growing region within a reforming socialist country.

對珠江三角洲城鎮規劃的分析

伍美琴　鄧永成

（中文摘要）

本文將一九七八年以前的中國國家機器理解爲像福柯所描繪的「警察國家」，經濟和社會各領域受到牢固的管治。在這個情況下，城市只被視爲一致的個體，無必要研究及分析，而城市規劃的編制及審批，則取決於其性質，視乎國家投資及人口規模而定。隨著改革的開展，國家已難再沿用這種傳統的手段去管治個人及企業。改革帶來不少不良後果，導致土地發展凌亂，威脅環境的可持續性。因此，國家除了加強城市對社會經濟的管治作用外，也倚重城鎮規劃來控制城市空間發展。

本文以珠江三角洲城鎮規劃（珠三角城規）爲例闡明這種發展。珠三角城規的編制，是爲了加強在區域規劃與發展上地區間的合作，及解決現存的發展問題。它提出一個發展戰略，把珠三角分成內外圈層，而城市群則在空間結構上形成兩條發展主軸及七條拓展軸，形成以三大都市區爲龍頭的發展模式。這個發展戰略反映了國家對珠三角內部城市群的一個更細緻的認識。珠三角城規也在實施層面建議了不少政策及措施，包括法律、協調管理、投資和土地供應等機制，及城市交通對策和措施。這些建議，在傳統的體制下是不可思議的，這足以證明珠三角城規已邁出重要的一步，爲一個改革中的社會主義國家的發達地區的轉軌，打下良好的基礎。