

# Shanghai's Pudong

## A case study in strategic planning

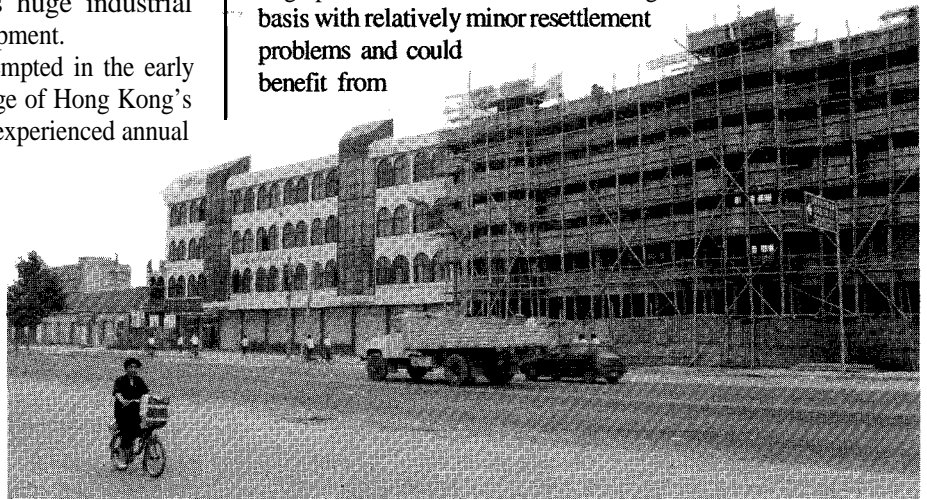
Shanghai, a metropolis of 13 million people at the mouth of the Yangtze River, was one of the Chinese coastal cities where, in the 19th century, the British forced the Government of China to grant foreign concessions or city sectors in which foreigners would be able to operate under their own laws and municipal administration. The French and the Americans followed, and soon most of the city was under foreign control. Shanghai subsequently became one of Asia's great trading centres and from the late- 19th century to the Second World War was known as a place where everything was tolerated. People from all over the world, some of dubious character, streamed into Shanghai to make their fortune. Its natural position at the mouth of China's greatest river allowed it to assume economic dominance over an enormous hinterland. While some Chinese people profited from this state of affairs, most lived in poverty.

After liberation in 1949, the newly installed communist government was suspicious of Shanghai, afraid it had become too used to western ways. For some 35 years after, the state took most of the revenue generated by the city's huge industrial infrastructure and invested little in its development.

Chinese economic reforms were first attempted in the early 1980s in the south, probably to take advantage of Hong Kong's proximity. As a result, that part of China has experienced annual economic growth rates of 30% and more and per capita incomes approaching three times that of China as a whole. By the late-1980s, China was ready to experiment in other coastal areas, and chief among them was Shanghai. But with totally inadequate infrastructure, a poorly maintained housing stock and dependence on huge, state-owned and often unprofitable factories, a bold plan was needed to spring Shanghai into the mainstream of reform.

### The Role of Pudong in Shanghai's Planning Strategies

Shanghai developed along the west bank (Puxi) of the Huangpu River, a tributary of the Yangtze, leaving the east bank (Pudong) to agriculture and some heavy industry. The first fixed crossings of the Huangpu are only a few years old. Being relatively undeveloped, Pudong offered an opportunity for Shanghai's growth and modernization without the high economic and social costs of redevelopment in crowded, under-serviced Puxi. Pudong was seen as the engine that would take Shanghai into the 21st century, accommodating modern industrial parks and a new financial services district, port facilities, international airport and housing. Its development to modern standards would draw international business. In contrast to Puxi, it promised a modern road system adequate water and power, higher environmental quality and better quality housing. Foreign companies would be able to lease large parcels of serviced land on a long-term basis with relatively minor resettlement problems and could benefit from



The main street of Pudong.

such economic incentives as tax holidays and more liberal foreign exchange rules. Pudong's 350 square kilometres provided ample room for these elements and an eventual population of more than two million.

Pudong's development would also benefit Puxi. Many people living in Puxi, where residential densities in some districts approach 150,000 people per square kilometre, would be moved to Pudong. Many industries scattered throughout Puxi — the cause of serious pollution and traffic problems — would also relocate. These actions would ease Puxi's serious overcrowding problems and create opportunities for renovation and redevelopment.

## The Study

**I**n 1991-92 Chreod Ltd. of Ottawa (in association with PPK Consultants and Kinhill Engineers of Australia) completed an Asian Development Bank assignment to formulate a comprehensive strategy for Pudong. The terms of reference were comprehensive and ranged from helping with the design of economic reforms and incentives to urban planning to infrastructure programming. (The project was a joint effort between the foreign consultants and the Shanghai government, and references to "we" or "the team" include both partners.)

Since the rationale for Pudong was to serve as the engine for stimulating Shanghai's economic growth and moving its economy in some new directions, the team decided that the study should start with economic goals and strategies rather than with urban planning, transportation or infrastructure programming. The economic framework that emerged allowed the team to deal with the other elements in a logical fashion.

### **Economic Framework**

While most other special economic zones in China (and throughout Asia) were basing their appeal on low land and labour



A typical Pudong scene: construction machinery against a backdrop of rural uses.

costs and incentives such as tax holidays, Pudong had the chance to be more than a preferred location for industries looking for short-term cost advantages. Shanghai offered an educated workforce, numerous universities and research institutes, a large population with increasing disposable income and location at the entry to the Yangtze River Basin (itself with a population of 400 million people). Although Shanghai's historical role was as an economic centre, regional economic linkages had been broken by 45 years of turmoil, central control and neglect. These are now re-forming, and as Shanghai assumes its old role, Pudong will be the centrepiece of the commercial core of China's heartland.

The economic vision for Shanghai and Pudong reflects this status:

*Shanghai offers a unique advantage – access to one of the world's largest markets. The Yangtze Basin is home to 400 million people who will, over the coming decades, demand most of the items that people in developed countries take for granted. This is an opportunity international companies cannot ignore, and Shanghai is ideally placed to act as the link between the outside world and this huge market. Thus, Shanghai should strive to become, once again, the commercial capital of the Yangtze Basin, using Pudong as its more important instrument of change.*

In the team's view, the best way to attain this vision is to trade economic development (by foreign companies) for progressive access to the Yangtze Basin market at a rate that would not destroy the existing industrial base. The exposure of existing domestic enterprises to foreign competition must be carefully thought-out and phased-in. These companies must be given the time and tools necessary to become competitive; those that cannot compete must be given the means to leave the marketplace in an organized fashion. Short-term capital invested in export processing will be attracted by the low cost of production and then will move on as costs become lower elsewhere. Long-term foreign capital will be attracted only if investors can gain increasing access to the vast Chinese market. Low costs alone are not enough to attract sophisticated companies and ensure their long-term commitment to Shanghai. Shanghai should take the necessary steps to attract firms that will make a long-term commitment to the city. These include introducing micro-economic reforms and structural adjustment programs, opening up the service sector, taking initiatives to attract high-technology industry and developing better marketing and investment attraction programs.

### **Standards**

Achieving these economic objectives would require the application of urban development standards for water, power and gas supply, sewerage system capacities, environmental quality and design standards that are far superior to those of old Shanghai. Such high standards could be achieved only if Pudong's growth rate was maintained within certain limits. More rapid growth would outstrip the city's ability to deliver these standards, meaning that the desired investors would not come, revenues would not be generated for reinvestment in Pudong, standards

would deteriorate further and the entire economic development program would unravel. Thus, the strategy had to be expanded to include an unexpected element — tools for controlling the rate of growth in Pudong.

This was a difficult issue. The authorities were intent on achieving high growth rates to demonstrate Pudong's competitiveness with other special economic zones in China. Also, migration controls within China were losing their effectiveness, and it was uncertain how many people from outside Shanghai might try to migrate to Pudong. The most effective lever was to limit the amount of housing constructed. Since most housing was to be built and managed by Shanghai government enterprises, this would be easy to effect.

### Trunk Services

Initial work on trunk services indicated that there were few, if any, options. There were only two possible sources of water intake, and both would be required to meet demand. There was only one logical location for sewage outflow into the Yangtze River and one suitable location for bringing ashore natural gas from the East China Sea.

The basic layout of these services would be unaffected by an urban plan, but construction schedules and the capacities provided within a given timeframe would determine the amount of growth that could be accommodated. Thus, the formulation of infrastructure schemes was developed as the next phase. For the most part, these were fairly straightforward engineering exercises. Environmental concerns were balanced against available funds and technologies. Getting users off coal and onto natural gas would be a major step forward; and although sewage would flow into the Yangtze River with only primary treatment, this was better than current flows into minor waterways throughout the area.

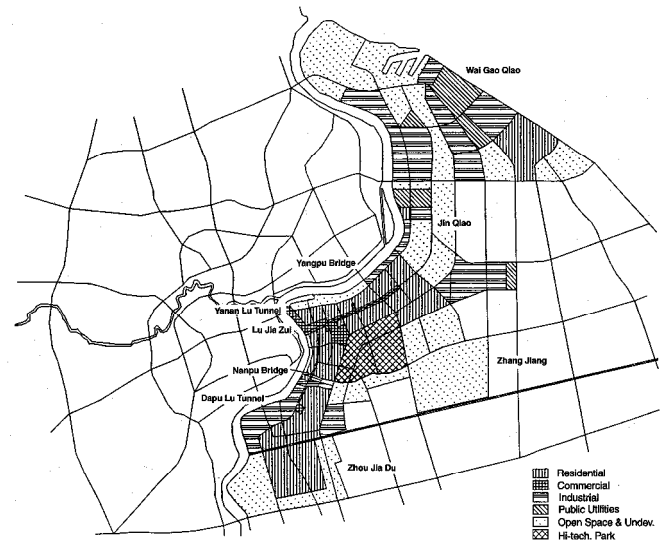
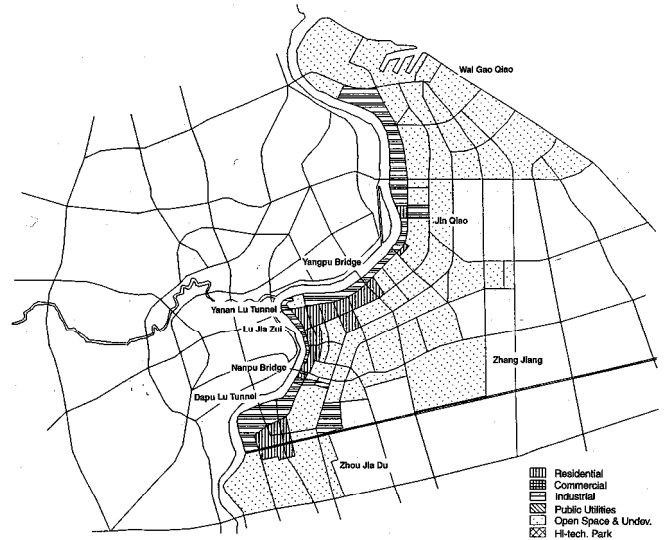
The most difficult part of this phase was designing implementation programs that would bring services on-line soon enough to accommodate a reasonably high growth rate. With accelerated construction programs, water and sewer services could be provided for a population of only 1.7 million by the year 2000 — below the level predicted by current growth trends.

### Environment

Although environmental considerations were supposed to be a distinct step in the process, in reality they came into play throughout. They were applied in the formulation of economic incentives (to assure that such incentives encouraged environmentally sensible actions by companies settling in Pudong), in the development of trunk infrastructure schemes and as an element in the urban development strategy.

### Urban Development Strategy

A master plan, which already existed when the study began, provided not only a basic structure but also located the major elements of a future Pudong. Yet, it was static: concerned more with controlling development at the micro level and insufficiently



Development scenarios for 1990 (top) and 2000 (bottom).

linked with economic objectives. Since land markets did not then exist in Shanghai, it wasn't surprising the plan failed to reflect or provide market opportunities.

At this point, the existing plan, infrastructure schemes, known constraints on growth and environmental considerations were amalgamated into a basic urban structure plan with phasing and implementation strategies. In general, it focused on principles and guidelines rather than zoning and other land use controls. However, the constraints on growth required that population targets be set for each district, and the importance of certain nodes led to the proposal of some extensive planning and design controls. The new document, referred to as an urban development strategy, attempted to answer a number of questions:

- *What should be the basic form of the fully developed Pudong ?*
- *By what stages and over what time period should that form emerge?*  
*What population and employment levels could be supported at each stage of development?*

- *What areas are key to achieving the economic objectives and what controls are required to ensure that the desired types of investors are attracted?*

The strategy allowed sufficient flexibility to permit the planners to learn from experience, respond to opportunities and reflect changing trends.

### **Transportation Planning**

Unlike trunk services, the transportation scheme for Pudong would depend, to a large extent, on the form of urban development. With the completion of a draft urban development strategy, transportation planning was the next logical phase. A fairly complete transportation scheme had already been completed, and construction was under way on several major arterials, as well as two bridges from Puxi to Pudong. A travel demand model was used to estimate traffic flows, pinpoint problem areas and recommend modifications to the transportation plan.

Links between Pudong and Puxi were key to achieving the economic objectives, particularly between the old central business district and the new tertiary area in Pudong. Ultimately, these two districts would have to function as one, even if they were to specialize in different tertiary uses. This reality justified a number of transportation proposals: the extension of the subway system in Puxi, doubling the capacity of the existing tunnel and dramatically improving ferry service to facilitate pedestrian and bicycle crossings.

## **Conclusions**

### **Strategic Planning in Shanghai**

**F**or decades, planning in China has been a top-down process. Everything from economic targets and the allocation of economic resources to detailed urban planning standards were defined by the government (either in Beijing or Shanghai) and handed down to the implementors. There were standards for everything. For example, a movie theatre is prescribed for every 10,000 people. Targets were (and to some degree still are) set by the authorities and were pursued regardless of whether there was any demand for the product. As a result, many jurisdictions have thousands of vacant dwelling units. Local officials attempt to meet state-set economic growth targets by any means possible, regardless of whether the growth is sustainable. Further, the system was designed with superb vertical integration, but little scope for horizontal co-operation — a deterrent to effective strategic-level planning.

Pushed by the state, by foreign companies scrambling to get a piece of the Chinese market and by domestic companies seizing the opportunity to make money, the old ways are now undergoing massive change. This has opened the door to many new strategic-level advisory and decision-making bodies, which are experimenting with ways to manage an entirely new situation. At this point, the system is surprisingly open to new ideas. The economic agencies of government are at the forefront of this transformation, with departments such as urban planning and engineering playing catch-up. This openness permitted the team to link its deliberations to strategic choices made at high levels throughout the Shanghai government.

Despite these new approaches, the most important of the old mechanisms are still actively used. The national, provincial and large city governments still prepare five-year plans. These plans lay out all major initiatives the government intends to undertake during this period. It is a prescription for action, not a control document. Inclusion of a project in the five-year plan means all interests have been accommodated, everyone is on-side and project implementation is almost certain. Officials **and** private concerns can devote resources to a five-year project with assurance that it will go ahead in the short term. And although it is identified with the old top-down days, this mechanism is proving very useful.

Pudong's development was a five-year project. The study team made a concerted effort to relate its activities to the interests expressed in the five-year plan and related documents, and this was probably the key to its success. Without contributing to the achievement of the five-year objectives, which focused largely on investment attraction and high economic growth, proposals on urban form or environmental sustainability would have had no impact. The team tied its proposals to the dominant goals in a variety of ways. For example, the five-year plan's

## **Summary**

*In 1991-92 Chreod, an Ottawa-based firm of planning consultants, completed an Asian Development Bank assignment to formulate a comprehensive strategy for the development of the Pudong New Area in Shanghai. The study, carried out jointly with the Shanghai municipal government, was designed to "position" Pudong among the myriad of special economic zones in China and throughout Asia, help guide Shanghai's decisions affecting Pudong and serve as input to the bank's decisions on loans for Pudong's development.*

*By describing the Pudong study process and assessing the results, this article attempts to answer several questions about planning in developing countries, particularly those that have been or are under a communist system. First, can strategic-level planning be effective in a system that has traditionally practised top-down planning? Second, where is the appropriate balance between dependence on master plans and pre-set norms and standards and market-driven urban development patterns, and what planning tools are useful in achieving that balance?*



economic vision required a strong tertiary sector, and development of a strong tertiary sector hinged on a well-designed downtown with high standards in design, environment and services.

There are, however, disadvantages to the five-year approach. There are few mechanisms for planning beyond a five-year period, and changing trends and unexpected phenomena cause problems. It was assumed, for example, that most development, particularly foreign-financed, would be drawn to Pudong, thus lessening the pressure on the old city. Today, land prices in Puxi are double those in Pudong, yet many non-manufacturing foreign companies opt to locate there despite congestion problems and high costs. The appeal of the old city—with its amenities and high level of activity — was unexpected, and the system will have trouble adjusting if this trend continues.

### **Planning for the Market**

Shanghai authorities are being told repeatedly by foreigners and international institutions that their urban planning system is outmoded and not attuned to dealing with private-sector investors. They are advised to maintain only the bare essentials in terms of development control and let market choices determine how different districts will develop.

There is much truth in this. The planning system is burdened with numerous constraints and standards left over from the old days. It is obliged, by statute, to produce both master and detailed block-by-block plans. And, it is overwhelmed by the necessity to obtain development approvals from a myriad of departments. Because there has never been a land market, the designation of land for different uses bears little relation to the value that private interests place on it.

However, there is a danger in this advice as controls crucial to achieving Shanghai's strategic objectives may be abandoned. In a large, dense and complex metropolis, some public-sector control over urban development is essential. The trick is to achieve the right balance. Without the necessary controls, Pudong will outgrow its capacity to deliver high-quality services. And its financial services district will not fulfill its function if the market does not consider it an appropriate location, nor will it succeed if chaotic development prevents it from functioning properly.

Traditional master plans and zoning systems are unlikely to do the job. They are too static and control-oriented to be of much help in a place that is changing as rapidly as Shanghai. As the economy changes from one directed by the state to one where private sector interests are the dominant influence, the urban form will quickly evolve to reflect new realities. This evolution must be allowed to run its course, but within a framework provided by a comprehensive concept or structure plan. This should not be a land use plan, but rather a statement of the economic roles played by Shanghai and the spatial needs of these economic functions translated into a concept of urban form, with the systems (transportation, water, sewage) to service it. The structure plan will point out those key spatial areas vital to achieving economic objectives. These relatively few areas should be subject to detailed planning controls to ensure that high standards in environmental quality, urban design and services are met.

While this approach might be criticized for recognizing only economic realities and ignoring social and environmental ones, the contention here is that social and environmental initiatives will have little impact unless they fit into and support the predominant economic development rationale. It is not difficult to demonstrate that a social welfare net and improvements in the quality of water and air are crucial to the continuing development of Shanghai, but such arguments have to be couched in the language of economic development.

Shanghai will only succeed as a city and a place to live if it fulfills its economic role and generates sufficient revenue to guarantee social and environmental improvement. All that is required is that the city use a slightly longer timeframe. Social and environmental initiatives can be shown to affect economic performance in, say, five to 10 years. Those attempting to make a difference in these spheres should situate their ideas within that timeframe, bearing in mind the overriding importance of the city's economic framework. ➡

## *Resumé*

*En 1991-1992, Chreod, une firme de consultants en urbanisme d'Ottawa, a terminé un travail pour la Banque asiatique de développement. Il s'agissait de formuler une stratégie globale portant sur l'aménagement de la nouvelle zone de Pudong à Shanghai. L'étude réalisée en collaboration avec l'administration municipale de Shanghai visait à <<positionner>> Pudong face à une multitude de zones économiques spéciales en Chine et dans toute l'Asie et à orienter les décisions de Shanghai à l'égard de Pudong ainsi que les décisions de la banque quant aux prêts destinés à l'aménagement de cette zone.*

*L'article décrit les processus sous-jacents à l'étude et en évalue les résultats. Il tente ainsi de répondre à plusieurs questions portant sur l'urbanisme dans les pays en développement, notamment dans ceux qui ont été, ou sont encore, sous un régime communiste. Premièrement, un urbanisme stratégique peut-il fonctionner de façon efficace dans un système traditionnellement marqué par une pratique hiérarchique de la planification ? Deuxièmement, où se trouve le point d'équilibre entre, d'une part, la dépendance à l'égard des plans d'urbanisme et des réglementations normatives et, d'autre part, les modèles de développement urbain axés sur le marché ? Quels outils de planification permettraient d'atteindre cet équilibre ?*

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