# **5.** Harbor City Under Globalization: Kaohsiung and Shanghai in Comparison<sup>\*</sup>

## Hsiao-hung Nancy Chen\*\*

## I. THE BACKGROUND OF THE STUDY

The Asia-Pacific Region, especially East Asia, has become the fastest economic growth area in the world. In 1992, East Asia's GNP accounted for 20.7% of the world total, more than double its proportion of 7.0% of 1960. Its current trade volume of 22.6% of the world total is estimated to grow to 33% by 2010. East Asia is thus undoubtedly becoming a new center for world economy. In addition, trade flows within the Region are increasing rapidly. The percentage of intra regional trade volume to that of the total trade volume was 38.4% in 1980, 42.9% in 1987, and 49.2% in 1992 (CEPD, 1995, pp.2~3).

Taiwan's location at the center of the Asia Pacific Region places it

<sup>\*</sup> This paper was first presented at the International Conference on 'Urbanizing World and UN Human Habitat II' organized by Columbia University and International Research Foundation for Development held in New York, June 2001. The author wish to thank Professor Ian Douglas of University of Manchester and other anonymous reviewers for their editorial efforts and valuable comments respectively. Due thanks must also be extended to Miss Jovies Lin for her assistance on computer graphics. The author nevertheless bear solely for all the possible shortcomings this piece of work may contain.

<sup>\*\*</sup> Hsiao-hung Nancy Chen is professor at Department of Sociology, National Chengchi University, Taipei, Taiwan. Currently, she serves as an academic visitor at the Department of Social Policy & Social Work, University of Oxford in England.

within 53 hours ship time of five major international ports compared to Hong Kong's 64 hours, Shanghai's 78 hours, and Singapore's 124 hours. In terms of flying time, the distance between Taiwan and seven major west Pacific cities averages 2.55 hours, considerably less than Hong Kong, Singapore and Shanghai (3.05, 3.25 and 4.55 hours respectively) (CEPD, 2000, pp.8). Such an excellent and strategic location make Taiwan well placed in terms of promoting investment and trade in Asia Pacific Region, especially for Southeast Asian countries and Mainland China.

Taiwan's "Transshipping Center Plan" set up in January 1995 aims to convert Taiwan into a manufacturing, transshipment, financial, telecommunication, and media center. With regard to becoming a manufacturing center, the government so far has set up 19 high-tech industrial parks as well as transforming the export processing zones (EPZs). It is intended to develop the EPZs into zones embracing warehouse and transport functions. In transshipment, the average container manpower cost has been cut down by 52%, saving a total of 20% time. In terms of air transit, custom time has been reduced to nearly 50%; UPS & Federal Express have increased flight frequencies from 96 in 1996 to 136 in 2000. In order to cope with the information age, automation and electronics (e-business) have been emphasized (CEPD, 2000,pp. 8~9). These changes have paved the way for the revised "World Transshipping Management Center Plan" proposed by the newly elected government when they stepped into power in May 2000.

From 1960 to 1990, Taiwan's production factors' growth rate was the highest in Asia at 3.76, compared with 3.65 for Hong Kong and 1.19 for Singapore. However, among high value-added industries, Japan, Europe and US still lead the way. In terms of intermediate industries, Taiwan is in abreast of South Korea; and in terms of low value-added industries, Taiwan faces competition from Mainland China and other Asian countries (CEPD, 2000, pp.2).

Given the aforementioned, the government totally recognizes that it is imperative to develop Taiwan into a "Global Transshipping Management Center" to respond to the ever-growing demand for rapid and efficient transshipping. During the 1960s, the kind of transshipping was port to port, In the 1970s, it shifted to point to point, and further changed to door to door after 1985. Since 1995, desk to desk transshipping has developed. In this conjunction, a Global Logistics Center with Intermodal transportation will emerge. In other words, "value" and "speed" will dictate the competitive power of harbor cities. Due to the excellent record created by Kaohsiung as an international harbor in the past and the rapid growth of



Shanghai along with China's open policy and Pudong's newly developed role in regional/world economy, this study intends to review and explore both cities' development trends from globalization perspectives.

## **II. KAOHSIUNG**

## 1. The Kaohsiung Harbor

Kaohsiung, Taiwan's principal commercial port, is the fourth largest container port in the world. Handling over 70% of Taiwan's container business and more than 60% of Taiwan's total international trade volume. Kaohsiung port serves both as gateway to and from Taiwan as well as hub for transshipments throughout the Asia-Pacific region. Kaohsiung Harbor Bureau was established in December 1945 after the Second World War (Yu, 2000, pp. 3). Before 1955, Kaohsiung Harbor concentrated only on enhancing facilities, such as cleaning up the shipping channel. In 1958, the Bureau instigated a twelve-year expansion project, reclaiming 544 hectares of land. In 1980, the Chungtau Commercial area was completed with 27 new deep-water berths and 2 shallow-water berths. In subsequent years, the Kaohsiung Export Processing Zone, ChienCheng Fishery Harbor, Industrial Park along the Sea, Oil Processing Plant, Shipyard Plant and four container centers were constructed. By 1975, 100, 000 ton vessels could easily access the port. In 1984, the harbor tunnel connecting Kaosiung city and Chichin was completed. In order to cope with the growing container business, the fifth container center consisting 8 deep-berth was established in 1999. With its completion, the loading capacity of Kaohsiung harbor grew to at least 1,400,000 TEU a year. (Kaohsiung Harbor Bureau: 2000)

The numerous factors making Kaohsiung harbor well suited for development as an Asia Pacific Shipping Center, a transshipment center, and logistic center include strategic location, natural port advantages, mild weather, modern facilities, direct links to world wide ports, relatively low shipping costs, extensive and well-developed adjacent regions, and sufficient container capacity.

The ideal location is the central position among the leading ports of the region, Singapore, Hong Kong, Manila, Shanghai, and Tokyo (Kaohsiung Harbor Bureau, 2000, pp. 8). The superior harbor is provided by an area of 26.8km2 area, with an average draught of 16 meters, 18 km of navigation channels, 116 wharves, and 26.2km of waterline. One entrance gives access to ships of 30,000 DWT, the other to those of 100,000 DWT respectively. Able to accommodate 153 vessels simultaneously, the port has a tidal range of only 0.75 meters (Kaohsiung Harbor Bureau, 2000,pp. 8). The high quality facilities include container equipment, storage yards, refueling, and water supplies.

All these advantages (Kaohsiung Harbor Bureau, 2000, pp. 11) give the port of Kaohsiung the possibility of being a:

- (1)Key international container port providing comprehensive services to meet the demands of a global marine transshipment center.
- (2)Base for re-export trade and value-added production for export.

(3)Multinational international port and port facilities.

- (4)Transit hub for the Asia Pacific region.
- (5)Principal window for Taiwan's container traffic.
- (6)Southern Taiwan's principal port of entry for bulk and liquid cargo.
- (7)Southern Taiwan's Principal port for general cargo.
- (8)Engine of industrial and commercial prosperity for Kaohsiung city and its vicinity.

In order to survive external competition, Kaohsiung Harbor needs fundamental changes to its business model, including reform of port management structures and more competitive approaches by businesses providing peripheral port services. To meet such challenges, the Harbor is committed to: (Yu, 2000,pp. 3)

- (1)Quicken the pace of implementation of administrative management measures to lower customer costs and raise operational efficiency.
- (2)Strengthen emergency preparedness to ensure port staffs are well equipped to handle all emergencies.
- (3)Maintain open communication channels to ensure port staff voices are heard and staff rights are protected.
- (4)Establish the International Logistic Center to grow and add further value to the transshipment business currently done at the Port of Kaohsiung.

Increase port internationalization and continue implementing advanced information technologies.

In line with recent government initiatives emphasizing goal-oriented policymaking and strategic implementation of administrative responsibilities, the Kaohsiung Harbor Bureau (Yu, 2000,pp. 3) has launched such key reforms as:

- (1)Increased Billing Efficiency: Payment notification for harbor services is now forwarded to customers by e-mail rather than through the post;
- (2)Construction of tourism and recreation facilities and the introduction dinner harbor cruises;
- (3)Working to ensure Kaohsiung harbor passes all follow-up ISO-9002 post-certification Audits;
- (4)Creating a safe, systematized, and quiet work environment to support the staff in providing the highest quality service to ensure consistently high levels of customer satisfaction and global recognition;
- (5)Supporting Ministry of Transportation & Communications (MOTC) efficiency initiatives to strengthen service delivery and foster a proactive approach to customer service.

In addition, the Bureau continues to implement previous forward-looking plans and projects, underscoring commitment to performance as a service-driven commercial enterprise.

## 2. Current Plans of Kaohsiung Harbor:

The current five container terminals at Kaoshiung with an annual handling capacity of 10 million TEU are able to handle shipments quickly and effectively. Also supporting both the port's daily business and the bid for Asia Pacific hub business are the updated facilities, equipment, and supporting software.

The mission for Kaohsiung Harbor in the 21<sup>st</sup> century is to be an Asia Pacific marine operation and transshipment center which welcomes and satisfies customers with a management philosophy will be that of integrated, authoritative, professional service at all times (Kaohsiung Harbor Bureau, 2000,pp. 7). The concrete steps (Kaohsiung Harbor Bureau, 2000, pp. 28~33) taken to achieve this vision so far include:

a. Liberalization of operations by such privatization initiatives as the lease of container terminals to such international shipping and stevedoring companies as Evergreen, Wan Hai, OOCL, APL, Yang Ming, Hyundai, Hanjin, Maersk, Sealand, NYK and Lein Hai. The construction of new container terminals on a build-operate-transfer (BOT) or joint venture basis. Lease of grain silos 71 and 72 to the Far Eastern Warehousing Company. Opening to competition such port services as pilotage, refueling, tug operations, mooring and unmooring and water supply, in order to improve service efficiency and quality. Opening non-infrastructure operation to private company



## Figure 2 Port of Kaohsiung

Source : Kaohsiung Harbor Bureau, 2000, Port of Kaohsiung.

bids. Deregulating cargo-handling operations by approving private cargo-handling contracts.

- b. Rationalising port services hiring procedures by achieving, after many meeting, a consensus agreement with the port's Stevedore Union to allow hiring by private companies and thereby achieving a systematic, fair system in line with international practice.
- c. Reducing operating costs for shippers by permitting leased container berths to be shared by more than one company, allowing shipping companied to install their own equipment or to purchase it from the Harbor Bureau, and introducing, in 1997, a flexible rate regime simplifying and lowering port fees.
- d. Construction of the NT\$4 Billion Cross-Harbor Tunnel, opened in 1984, connecting Container Berth No. 3 to the Chunghsing Commericial Port area on Chichin Island by a 440 m wide, 14 m deep, 1500 m long freeway with two vehicle and one motorcycle lane in each direction.
- e. Opening of the Offshore Shipping Center in 1997 permitting trade between Kaohsiung, Xiamen and Fuzhou and thus opening up the possibility of cargo from Mainland China entering and leaving Taiwan for a third country without requiring transfer between ships. The resulting cost savings increase the prospects of the development of cross-straits business by Taiwan operators into a major share of the Mainland China cargo handling market.
- f. Provision of international logistic services by upgrading operational facilities and ices, with most of the world's leading international shippers having with dispatch centers in leased port warehouses, nearby dedicated logistics centers, or partnerships with local firms.

All these developments have been paralleled by the transformation of the export processing zones. Initially the four main goals of the EPZs were attracting industrial investment, promoting foreign trade, creating job opportunities, and introducing modern industrial technology. Since 1966, the original three small EPZs have grown into the industrial EPZ parks of Kaohsiung, Nantze and Taichung. Now changes are required shifting the future directions of the EPZs to upgrade industries by re-creating a sound investment environment; strengthen research and development to upgrade technology; and achieve balance growth of trade and keep pace with business information.



## Figure 3 The Distribution of Industrial Parks and The Location of Major Development Projects in Kaohsiung Area

Source : Compiled By the study from Kaohsiung City government, 1997, Master Plan of Kaohsiung ; Urban Design for Multi-Functional Commerce & Trade Park of Kaohsiung, 2000 ; HaMaSing Area Urban Design in Kaohsiung. 1999.

## Table 1Development Phases for Kaohsiung Multifunctional<br/>Economic and Trade Park

Development Phase	Facility					
First Phase (1999–2001)	High-technology manufacturing facility     Automated warehouse distribution and marketing facilities     Employee service center in warehousing and re-exporting area     Shipping trade and management center     Professional technique training center     Information port / information service center     Software research & development center     Financial service center     Enterprise office building     International convention center     World-trade display center     International torrist hotel     Commercial port area     Port area					
Second Phase (2001–2003)	Culture display and commercial facility     large- scale shopping center     international tourist hotel     comprehensive industry and commercial office building					
Third Phase (2004-2005)	International tourist hotel     comprehensive office building and business hotels     Commercial port facilities     Coastal development area     Emplyce and general residential communities					

Soruce : Kaohshing Municipal Government, 2000, The Sketch Plan for Kaohshing Multifunctional Economic & Trade Park, p.8-6.





## Figure 4 Export Processing Zone Expansion Plan in Taiwan

Source : Export Processing Zone, Ministry of Economic Affairs. http://www.moea.gov.tw



Chart 5 Kaohsiung Harbor & Its Neighboring Industrial estates

## **III. SHANGHAI**

## I. Shanghai City and Its Master Plan

Located at the mouth of the Yangtze River of eastern China, Shanghai Municipality covers an area of 16,421 km<sup>2</sup> with 13,000,000 people. It has a long history of important economic, trade, and industrial connections with the outside world ever the 19<sup>th</sup> century. Its strategic location and viable economy gave it the name of "Paris in the Orient" long before Hong Kong grew to importance.

The preparation of the Comprehensive Plan of Shanghai started in the early 1950's. Successive versions of reflected changing cultural, economic, and political attitudes and urban planning paradigm shifts. Originally, China invited experts from the former Soviet Union to work together with the team from the Construction Ministry. The State Council approved the Master plan of Shanghai in 1986, with later revisions occurring (Shanghai Urban Planning & Design Research Institute, 2000, pp. 5). Two events in the mid-1980s greatly influenced Shanghai: Deng Xiao Ping's important talk after his inspection trip to the South; and the Party 14<sup>th</sup> Representative Assembly's decision to open and develop Pudong as the gateway to the Yangtze River and to quickly develop Shanghai as major international center of finance and trade. Since then, Shanghai has experienced an unprecedented period of urban construction (Shanghai Society for Urban Studies, 1999).

As natives of Shanghai proudly tell their visitors "small changes take place every single year, big changes occur every three years." Within 10 years, the Nanpu Bridge and the Yangpu Bridge were built over the Huangpu River. Some 2000 distinctive, ingenious, original high-rise buildings, often set in gardens, have been built or are under construction. The Bund, the hundred year old symbol of Shanghai, has had its sightseeing promenade greatly extended and made much more majestic. On the east of the Huangpu River stands a 468 m high television tower. The new metro and overpass systems have been completed.

The ten big projects, from 1991 to 1995, were the Nanpu bridge (1992), Yangpu bridge (1994), inner road system, Yhaochien port, and electricity engineering, Putong gas engineering, water supply engineering, telecommunication engineering and sewerage engineering system. Another ten major projects were completed between 1996 and 2000: the deep-water container port, the second international airport, international/



Chart 6 Transportation Network of Shanghai

Source: Transportation Research Institute, 2000, International Ports Competition Ranking in Asia-Pacific Region, p3-158.

domestic telecommunication engineering, outer freeway and tunnel engineering, No. 2 Subway system, Yui-an tunnel engineering work, Pudong Railway system, Pudong Sewerage system, East-west Corridor road system and Tzmingisland Tunnel engineering work (Shanghai Society for Urban Studies: 1999).

More general urban development achievements include:

a. Urban renewal

Since the 1960's, initially with redevelopment plans for Fan Gua Long, Ming Yuan cun, and Shi Min cun, followed by some other 23 old built-up areas, including renewal of 3.65 million m<sup>2</sup> of poor settlements of huts and shacks (Shanghai Urban Planning & Design Research Institute, 2000, pp. 12). Since the reform and opening up, redevelopment has been speeded up by introducing foreign investment, land leasing, and readjustment of industrial land use in the central area.

- b. Planning for the development of new areas in Shanghai is closely linked to urban economic and social development. During 1950's, eight industrial quarters including Peng Pu and Tao Pu were planned in the inner suburban area of Shanghai. In the late 1950's and 1960's, five satellite towns were developed. In 1970's, the Bao Shan Steel Mill and Jin Shan Petro-chemical complexes were initiated. In the 1980's, in line with the reform and opening-up policy, the Cao He Jin New technical Development Zone and the Honggiao Economic & Technical Development Zone were Built (Shanghai Urban Planning & Design Research Institute, 2000, pp. 15). The Honggiao Economic and Technological Development Zone provides an area of 0.65 km<sup>2</sup> with a total gross space of over one million squares, with office towers, hotels, apartment buildings, commercial and service facilities and foreign consultants as well (Shanghai Society for Urban Studies, 1999). A World Trade Center with 260,000 m<sup>2</sup> of floor space rose has added much vitality to the Zone as well as the newly developed Cubei New Area. In the 1990's, the focus of new area development was switched to the Pudong New Area, Lujiazui Financial and Trade Zone, Waigaoquio Free Trade Zone, Jinqiao Export Oriented Processing Zone and Zhangjiang High Tech Park.
- c. Conservation of historic and scenic tourist attractions is an important component of city planning. The She Shan Scenic Tourism Area is designated as national scenic area. The Dian Shan Lake Scenic Tourism Area has been developed in response to environmental protection needs. The three islands of Chong Ming, Chang Xin and Heng Sha to the north are planned as future holiday resorts for

Shanghai citizens (Shanghai Urban Planning & Design Research Institute, 2000, pp. 21). The outstanding historical architectural ensemble in the Bund, Yu Yuan Garden (1994); Shanghai Municipal Administration Building (1994), the People's Square (1998), and historic culturally famous towns including Song Jiang, and Zhu Jia Jiao all form parts of the cultural heritage of Shanghai. The Shanghai Museum (1994), Shanghai New Library (1996), Shanghai Grand Theatre (1997), and Jin Mao Building (1998) have all opened to the public since 1990.

d. The growth of Shanghai led to the Shanghai Comprehensive Traffic Plan (Shanghai Urban Planning & Design Research Institute, 2000,pp. 24) which has involved: the West-East Elevated Road (The Yan'an Elevated Road) completed in 1999; the inner ring road built in 1994; line 1 of the the Shanghai metro opened in 1995; line 2 of the metro finished in 2000; the Shanghai light rail Pearl Line that started operations in 2000; the Fengpu Bridge built in 1995 that provides an important route from Fengxian and South Pudong to Shanghai; three other new bridges linking Pudong to Shanghai, the Nanpu (1992), the Yangpu (1994) and the Xupu (1997); the grade separation of Far Eastern Avenue (1999) and of the Shanghai Xin Zhuang Overpass (1998); the new Pudong Shanghai International Airport (1999); and the regionally significant Shanghia-Hangzhou Expressway (Shanghai Section) completed in 1998.

## 2. Pudong New Area Master Plan

An administrative district of Shanghai, Pudong New Area is situated on the eastern side of the Hangpu River, facing bustling Nanjing Road and the Bund, and covers an area of 522.75 km<sup>2</sup> occupied by 1,560,000 inhabitants. (Shanghai Pudong, 2000) Pudong New Area Master Plan has been completed in accordance with the development control requirements of the Party Central Committee and the State Council. During the rapid economic development of the 1990's, Pudong's annual average GDP growth reached 20%. In 1999 the area's GDP grew by 16%, to RMB\$800 billion, exceeding the total generated by Shanghai. By the end of 1999, 5,942 investment projects had come to Pudong from 67 different countries, 181 of the projects being associated with some of the world's largest enterprises (Shanghai Pudong: 2000).

As flag-bearer for China's reform and opening-door policy in the 1990s, the development of Pudong is at the forefront of the development of Shanghai as an international economic, financial and trade center. It is

also a driver of the economic regeneration of Yangtze River Valley and Delta .

The rapid changes during Pudong's first ten years are almost beyond the imagination of the ordinary citizen. In the district the vigorous economy has state-of-the art infrastructure, constantly expanding banking and trade sectors and new and high technology industry and a people-friendly environment. This export-oriented, multi-functional and modernized new town is on the eastern bank of the Huangpu River is going the symbol of the  $21^{st}$  century Shanghai (Shanghai Pudong, 2000).

Among the key new construction projects are:

- a. The 17 km<sup>2</sup> Lujiazui central financial district with 4,000,000 m<sup>2</sup> of floor space providing finance, trade, commerce, real estate, information and consulting services, and fast becoming an essential part of the Central Business District of the 21<sup>st</sup> century Shanghai.
- b. The 17,000 m<sup>2</sup> Zhangjiang Hightech Park development zone has into 4 districts: science, industry, research and education, business and residential quarters and focuses on biomedical engineering, electronics and information, and photo-electricity, 20 projects having already been introduced from abroad.
- c. The Waigaoqiao Free Trade zone and Jinqiao Export Oriented Processing Zone were built to attract investors to Shanghai Harbor and to help develop Pudong into a truly global city.

## **3.The Shanghai Harbor:**

Shanghai harbor was already an important international trade port in the Sung and Yuan dynasties, becoming an open port in 1842. The Bureau of Shanghai Port was established in October 1950. With the advent of the open policy, Shanghai, along with other 13 ports became an open city in 1984. From January 1986, the port was managed both by the city and the Ministry of Transportation. In April 1990, after the announcement of the Pudong Development Plan & Yangtze River Basin Development Strategy, the harbor and Pudong together were set lead the development of the whole area.

However, at present more than 90% of Shanghai's container business is transported by inner route mainly because of shallow water in Shanghai harbor. Therefore, 'the Along the River Development Strategy' initiated on April 21, 1993 aimed at developing the economic ring along the river covering the seven provinces and cities of Sichuan, Hupei, Hunan, Chiangsi, Anhui, Chiangsu, Jechiang, and Shanghai and expediting the



Figure 8 Pudong New Area and Newly Development Zones

Source : Compiled by this study from Shahghai City government, http://www. Shahghai.gov.cn ; http://www.wa-do.com.tw/china/sh/shg/shg\_index.asp

construction of infrastructure and major construction.

Since Shanghai harbor cannot intake container shipments beyond 100,000 TEU, various plans for development of the harbor and plans for expanding outports at Yquochien, Lochin, Chingshan or Taiyangpu, have been put forward over the years. Many administrative, political and financial factors have delayed any decision, but it appeared by 2000 that Shanghai city has finally reached the agreement with Jechaiang province to use the Ta- and Hsiao-Yangshan as the main supplementary port and that connections with Ningpo harbor will be greatly strengthened.

## **IV. CONCLUDING REMARKS**

Using indicators of Resources (Infrastructure, Capital Formation and Investment, Reputation and Data Bank), Knowledge (Manpower

Resources & Market, Technological Environment, Management Capability, Government Policy Efficiency), Value Perception (Quality Perception and Service Perception), Organization Monitoring and Operational Procedures, and Others (Commodities Demand, Overall Economic Situation, etc.) to rank 10 major harbors in Asian Pacific Region (Transportation Research Institute: 2000) industry professionals rated Hong Kong as number 1 port in this region, followed by Singapore and Kaohsiung, with Shanghai ranked seventh. However, in scholars' and experts' eyes of the same study, Singapore was listed first, followed by Hong Kong and Kaohsiung, and Shanghai eighth. Ship Companies in Taiwan held the following order: Singapore, Hong Kong and Kaohsiung, with Shanghai ninth. Among Shipping Companies outside Taiwan, the top three ports remained Singapore, Hong Kong and Kaohsiung with Shanghai seventh.

Container port	2000 Volume	1999 Volume	1998 Volume	1997 Volume
Hong Kong	18,098 (1)	16,211 (1)	14,650 (2)	14,567 (1)
Singapore	17,087 (2)	15,945 (2)	15,100(1)	14,135 (2)
Busan	7,540 (3)	6,440 (4)	5,753 (5)	5,234 (5)
Kaohsiug	7,425 (4)	6,985 (3)	6,271 (3)	5,693 (3)
Rotterdam	6,300 (5)	6,400 (5)	6,032 (4)	5,495 (4)
Shanghai	5,613 (6)	4,210 (7)	3,066 (10)	2,520 (11)
Los Angeles	4,879 (7)	3,829 (8)	3,378 (8)	2,960 (9)
Long Beach	4,600 (8)	4,408 (6)	4,098 (6)	3,505 (6)
Hamburg	4,250 (9)	3,750 (9)	3,550 (7)	3,337 (7)
Antwerp	4,100 (10)	3,614 (10)	3,266 (9)	2,969 (8)
Sinjan	3,393 (11)	2,984	1,970	1,149
Tanjung Priok	3,368 (12)	2,273 (16)	1,898 (19)	1,909 (19)
BaSin	3,206 (13)	2,550 (15)	1820	
NY/NJ	3,178 (14)	2,863 (11)	2,450 (13)	2,457 (12)
Dubai	3,058 (15)	2,845 (2)	2,800 (11)	2,600 (10)
Tokyo	2,960 (16)	2,700 (13)	2,450 (14)	2,322 (15)
Felixstowe	2,800 (17)	2,700 (14)	2,500 (12)	2,251 (13)
Bulaymay	2,712 (18)	2,181	1,812	1,703
GIOIA TAURO	2,652 (19)	2,253	2,126	1,448
Yokohama	2,400 (20)	2,130 (18)	2,200 (15)	2,347 (14)

 Table 2
 Top 20 Container Ports in the World

 Unit : Thousand Ten

Note : ( ) By gone year Ranking

Source : Transportation Research Institute, 2000, International Ports Competition. Ranking in Asia-Pacific Region ; Ministry of Transportation and communications , http://www.motc.gov.tw/service/index.htm

Up to 1999, the top three container harbors in the world have been that of Singapore, Hong Kong and Kaohsiung. (Containerization International Yearbooks) World container businesses have increased fastest in the Far East with at least 40% annual growth, particularly in

Table	3	Forecasted	Growth	Rote	of	Container	Volume	for
		Asia-Pacific	e Ports					
							Uni	t:%

Year	1007	1998		1999		2000		2005		2010	
Area	1))/										
Northeast Asia											
Japan	10.98	11.25	10.98	11.74	11.22	12.26	11.47	16.02	13.49	20.94	15.87
South Korea	5.30	5.43	5.28	5.78	5.50	6.26	5.73	9.37	8.04	13.58	10.91
Eastnorth China	2.58	2.97	2.87	3.45	3.22	4.00	3.62	8.12	6.48	14.70	11.27
Russia Far East	0.11	0.12	0.12	0.14	0.14	0.15	0.15	0.40	0.25	1.04	0.42
Subtotal	18.97	19.77	19.25	21.11	20.08	22.67	20.97	33.91	28.26	50.26	38.47
China											
Eastsouth China	6.37	7.70	7.37	9.40	8.61	11.48	10.07	24.11	18.55	42.29	31.33
Hong Kong	14.50	15.15	14.96	16.40	15.59	17.75	16.25	26.39	19.96	37.88	24.52
Taiwan	8.26	8.83	8.73	9.46	9.26	10.14	9.81	14.28	12.52	19.66	15.61
Subtotal	29.13	31.68	31.06	35.26	33.46	39.37	36.13	64.78	51.03	99.83	71.46
Southeast Asia											
Singapore	14.12	15.01	13.41	16.38	14.48	17.87	15.64	26.74	20.93	38.75	27.23
Indonesia	3.25	3.25	2.99	3.50	3.11	4.07	3.32	8.74	5.88	17.89	10.40
Philippines	3.02	3.29	3.15	3.70	3.50	4.17	3.92	8.16	6.80	15.32	10.91
Malaysia	3.03	3.17	3.17	3.63	3.52	4.15	3.90	8.14	6.51	15.33	10.43
Thailand	2.42	2.45	2.32	2.67	2.44	3.05	2.66	5.98	4.82	11.26	8.38
Vietnam	0.93	1.12	1.06	1.41	1.31	1.78	1.62	4.73	3.70	11.15	7.94
Other	0.16	0.28	0.26	0.42	0.37	0.53	0.44	1.06	0.71	2.12	1.15
Subtotal	26.93	28.57	26.36	31.71	28.73	35.62	31.50	63.55	49.35	111.82,	76.44
Total	75.03	80.02	76.67	88.08	82.27	97.66	88.60	162.24	.128.64	261.91.	186.37

Source : Transportation Research Institute, 2000, International Ports Competition Ranking in Asia-Pacific Region, p.7-4.

 Table 4
 Forecasted Container Volume for Asia-Pacific Ports

Unit: Ten thousand Teu:%

Port	Kee -lung	Tai -chung	Kao- hsiung	Hong kong	Shen -zhen	Xia -men	Shang -hai	Singa pore	Kobe	Pusan
1998 ( Real )	171	88	627	1,458	195	65	307	1,514	209	575
2010 (Prediction)	439*	192*	934*   1,029*	2,920 *	750	260	600   700	2,723   3,875		868*   871*
Increase	268	104	307   402	1,462	555	195	293   393	1,209   2,361		293   295
Growth rate	157%	118%	49%   64%	100%	285%	300 %	95%   128%	80%   156%		51%   52%

Note: "\*" denotes the 2011 estimated Volume

Source : Transportation Research Institute, 2000, International Ports Competition Ranking in Asia-Pacific Region, p. 8-4

Mainland China (Hong Kong included), Singapore, Japan and Taiwan. An overall growth in container traffic in the region of 70% is expected in the decade to 2010. (Containerization International Yearbooks) By 2010, the container volume is expected to grow by 49% --64% for Kaohsiung, 95% --128% for Shanghai, 80%--156% for Singapore, 51%--52% for Pushan, 300% for Xienmen, 285% for Shencheng, 100% for Hong Kong, 118% for Taichung, 157% for Keelung.

Given the excellent location, more than adequate harbor facilities, and the relative viable economy of the region, the Government of Taiwan has tried to capture the opportunity to make Kaohsiung into a "Transshipment Management Center" for the 21st century. In light of this, Kaohsiung Harbor Bureau has worked hard to not only liberalize some of its operations, promote offshore shipping center and shipments across Taiwan Strait, transform the Export Processing Zone into high-tech industrial park, but also to make Kaohsiung the international logistic service center. The city, on the other hand, recognizes the importance of the harbor, financially and/or otherwise, in May 2001 won the campaign to unite with the harbor under one administrative entity. However, the realization of such ambition is not easy. First of all, given the slowing down of the domestic economy in 2000-2001, attraction of adequate new investment for the planned multifunction park will be a big challenge for the city authorities. As major transportation projects require huge investments from home and abroad, the incentives and measures that the government will operate to ensure these plans are carried out remain to be seen. Particular problems may arise if a city government inexperienced in transportation management exerts a major influence on harbor planning. Furthermore, time may be a critical factor for Kaohsiung given that Shanghai will be totally supported by her central and city governments in pushing forward the rapid growth and inward in vestment income of Pudong.

Actually, just within the past 20 years post reform era, the whole world has witnessed tremendous transformation of Shanghai not just in its outlook but also in its socio-economic structure. This is demonstrated by her magnificent commercial buildings, industrial parks, and convenient transportation networks, which are unprecedented in Chinese history. Under the "Development is an Immutable Truth" guideline, Shanghai has experimented with various measures such as land leasing, which as efficient as they may be are often unthinkable, if not unworkable, under a much more democratic system like Taiwan.

Yang, T. C. (1998:42) has proposed the idea of networking transshipping. If Mainland China opened up five major ports along the

coast (Quochou, Dairen, Shanghai, Chingtou and Tientsin) and Taiwan in turn may consider opening her Taichung and Keelung harbor as offshore transshipping ports. Should it be difficult to open up all these ports at once, Mainland China may at least consider opening up small-medium ports after Fuchou and Xsiamen as feeder ship ports providing feeder services.

Competition among Asia's four top container ports will continue to be keen. Kaohsiung and Shanghai, are both striving for a leading role in ocean shipping, and are instituting revised laws and regulations with regard to custom, taxation, finance and e-commerce, establishing network systems such as EDI and Trade Van, as well as setting up e-commerce signature systems. The key question may whether Kaohsiung and Shanghai become partners or opponents in becoming the Transshipment Management Center for the Region and a global player. Within the global context, however, whether or not the present challenges can be converted into opportunities certainly require both governments to seize and utilize their comparative advantages promptly and accurately. At the moment, it seems that both Kaohsiung & Shanghai ought to "think globally and act locally."



Figure 9 Transhipment Routes in Asia-Pacific Region

Source : Transportation Research Institute, 2000, International Ports Competition Ranking in Asia-Pacific Region, p8-3.

## References

Chan, Bing, (1999) "Expedite Harbor Development to Cope With the International Container Transportation Demand", *Harbor Loading*, Vol. 2, pp.1 ~ 3.

Chang, Chia-chu, Cheng-chung Chen, and Kuo-chien Lin, (1993) "To Ensure the Kaohsiung Harbor's Comprehensive Development Strategic Goals and Functions under the 'Development of Taiwan into the West Pacific Transshipment Center' Policy", *Transshipment Journal*, Vol. 2, No. 2, June, pp. 1~12.

Chang, Yia-fu, (2000a) "An Exploration of Developing Kaohsiung Harbor into An International Logistics Center", *Transshipment Monthly Journal*, December, pp. 13 ~ 26.

Chang, Yia-fu, (2000b) "A Study on Kaohsiung Harbor's Container Transport Problems", *Transshipment Monthly Journal*, March, pp. 2 ~ 19.

Chein, Su-shen & Hong, Ru-kuo, *The Transformation of Taiwan's Economic Special Zones in 1990s: An Example of Export Processing Zones in 1995*, <u>http://www.moea.gov.tw/-ecobook/season/sab23.htm</u>

Chen, Chun-yi, (2000) "Prospect for Developing Kaohsiung into An International Logistics Center", *Logistics Technology & Strategy*, April, pp. 84 ~ 91.

Chen, Lo (translated) (1998) " A Future of Container Transshipment for World Top 20 Companies", *Transshipment Monthly Journal*, December, pp. 24 ~ 29.

Chen, Tou, How-ming Hseuh, and Kou-shun Tseng, (1999) "Competition Analysis from Harbor & Transshipment Development Trend: A Hong Kong, Singapore, South Korea & Taiwan Comparison" (I, II) 1999, *Transshipment Monthly Journal*, November--December, pp. 2 ~ 11 and pp. 2 ~ 12.

Chen, Wu-cheng and Kou-ying Huang, (1999) "An Assessment of Kaohsiung Harbor's Load-Unload Operations Prior and After Privatization", *Transshipment Monthly Journal*, August, pp. 2 ~ 13.

Cheng, Lucy and Chu-jou Hsia, (1997) *Intercity Networks in the Asia-Pacific Region*, Taipei: Department of Urban Development, Taipei Municipal Government.

Chu, Ching-yuan, (1997) "The Transshipment Comparative Study among Kaohsiung, Hong Kong & Singapore", *Journal of Harbor Technology*, Vol. 12, January, pp. 57-80.*Containerization International Yearbook*, *various* years.

Council for Economic Planning & Development, (2000) *Global Transshipment Development Plan.* 

Council for Economic Planning & Development, (1995) To Develop Taiwan into Asia-Pacific Transshipping Management Center Plan, Taiwan: CEPD.

Dobson, Wendy and Chia Siow Yue, (eds.) (1997) *Multinationals and East Asian Integration*, Canada: International Development Research Center.

Export Processing Zone Administration, (1991) *Export Processing Zone* on Its 25<sup>th</sup> Anniversary, Taiwan: Ministry of Economic Affairs.

Export Processing Zone Administration, (1996) The Export Processing Zone of the Republic of China: Reviewing the Past and Mapping out the Future, Taiwan: Ministry of Economic Affairs.

Fujita, Masahisa, Paul Krugman, and Anthony J. Venables, (1999) *The Spatial Economy: Cities, Regions, and International Trade*, Cambridge, Massachusetts: The MIT Press.

Graduate Institute of Architecture and Urban Planning, National Taiwan University, (1998) *Global Development Strategy Plan for Kaohsiung City*, Kaohsiung: Department of Urban Development, Kaohsiung Municipal Government.

Hsing, Yulan Magnolia, "Regional Hub Port Performance And Institutional Evaluation: Data Envelopment Analysis for the Port of Kaohsiung", Unpublished PH. D. Dissertation, George Mason University. http://mail.kite.com.tw/essay/summary.htm

Hsu, Chien-hwa, (1999) "To Build Free Port for Shanghai: Lu-young Transshipment Special Zone", *International Trade Problems*, Vol. 1, pp. 52 ~ 56.

Hu, Chein-hsin, (1999) "Some Thoughts on Cultivating China's International Harbor Cities", Vol. 4, *International Trade Problems*, pp. 29 ~ 36.

Hui, Lu, (1996) "A Study on Mainland China's Transshipment Industry", *Today's Magazine*, Vol. 348, August, pp. 46 ~ 53.

Kaohsiung Harbor Bureau, (2001) *Master Plan & Future Development Plan for Kaohsiung Harbor* (2002 ~ 2006) Kaohsiung: Kaohsiung Harbor Bureau, Ministry of Transportation.

Kaohsiung Harbor Bureau, (2000) Port of Kaohsiung.

Knox, Paul L., (1995) *World Cities in A World-System*, Cambridge: Cambridge University Press, pp. 3~20.

Ku, Kung, (1999) "Shanghai: An International Shipping Center Towards the 21<sup>st</sup> Century", *Science & Technology*, August, pp. 39~40, 47.

Kuo, Chi-jeng, (2000) Frothing the Summoning of A New State—" The Development of Greater Shanghai" and the Urban Politics of Shanghai, 1927~1937.

Lee, Yun-tze, (1995) "Kaohsiung City's Change Over the Past Century and Future Prospects", *Journal of City and Planning*, Vol. 22, No. 1, pp. 123 ~ 137.

Li, Wu-chou, (1999) "The Development & Prospect of China's Coastal Harbor", *China Harbor Engineering*, No. 5, October, pp. 1 ~ 2.

Li, Wu-chou, (1999) "Fifty Years of PRC's Harbor Construction", *China Harbor* Engineering, No. 3, June, pp. 1 ~ 3.

Liu, Ben-den and Huang, Tun-chun, "Shanghai's Economic Development and Prospect for 21<sup>st</sup> Century", No.15, May, pp. 3~21.

Naughton, Barry (ed.) (1997) *The China Circle: Economics and Electronics in the PRC, Taiwan, and Hong Kong*, Washington, D. C.: Brookings Institution Press.

Planning Section, Transshipment Division, (1996) "An Overview on Shanghai International Shipment Center and Shanghai Harbor Planning", *Transshipment Monthly* Journal, May, pp. 3~17.

Pudong New Area Administration, (2000) *Shanghai Pudong: 1990* ~ *2000*, Shanghai: Information Office, Pudong New Area Administration.

Pudong New Area Administration, (2000) *Shanghai Pudong*, Shanghai: Information Office, Pudong New Area Administration.

Pudong Reform & Development Research Institute, (1994) *Pudong Development Report*, Shanghai: People's Publishing Company.

Sassen, Saskia, (2000) "Spatialities and Temporalities of the Global: Elements for A Theorization", *Public Culture*, Vol. 12, No. 1, pp. 215~232.

Sassen, Saskia, (1994) "The Urban Complex in a World Economy", *International Social Science Journal*, No. 139, pp. 43~61.

Sassen, Saskia, (1993) "Economic Globalization: A New Geography, Composition, and Institutional Framework", *Global Visions*, pp. 61~66.

Sassen, Saskia, (1989) "Finance and Business Services in New York City: International Linkages and Domestic Effects", *Deindustrialization and Regional Economic Transformation*, pp. 132~154.

Sassen, Saskia, (1984) "The New Labor Demand in Global Cities", *Cities in Transformation*, pp. 139~171.

Scott, Allen J. (2000) Regions and the World Economy: The Coming Shape of Global Production, Competition, and Political Order, England: Oxford University Press.

Shanghai Society for Urban Studies, (1999) New and Trans-Century Architecture in Shanghai, Volume I~III.

Shanghai Urban Planning Administrative Bureau, (2000) Shanghai Urban Planning Administrative Bureau (1979~1999).

Tai, Hui-huang and Cheng-chi Chung, (1997) "A Study of the Potential Disadvantages of Kaohsiung Port in the Competitive Role of Transshipment and Hub By Analyzing Their Locational Attributes of Various Container Ports, *International Transship Management Research*, No. 2, pp. 167~183.

The World Bank, (1997) China 2020: Development Challenges for the New Century.

Tsai, Ming-chi and Yia-fu Chang, "To Break the Trade and Transshipment Industry Myth and Pave A Sum-Sum Gain Way for Kaohsiung City and Harbor", http://203.75.213.226/chunghwad/article/art89/art0628.html

Wang, He-sheng and Chang-feng Li, (2000) "Fully Utilize Existing Port Institutions, Build Shanghai International Shipping Center As Soon As Possible", *The 21<sup>st</sup> Century Young Scholars' Forum*, Vol. 21, No. 3, pp. 74~78.

Wang, Li, (1999) "An Overview on Mainland China's Transshipment Industry", *Water Shipping Technology Information*, Vol. 1, pp. 7~10.

Wen, Kung, (1999) " To Develop Sea-Rail Transport for Container Business: To Expedite the Construction of Shanghai as the International Transshipment Center", *Water Transportation Management*, No. 11, pp.  $7 \sim 10, 18$ .

Wu, Wei-ming, (2000) "The Feasibility Study of Combining Airport-Sea Transport for Kaohsiung Harbor", *Maritime Quarterly*, Vol. 9, No. 3, pp. 1~13.

Yang, Chun-cheng, (1998) "Future Direction of the 'Offshore Transshipping Center' after the Direct Transportation Across the Taiwan Strait: From 'Offshore Transshipping Center' to 'Trade Management Special Zone'", *International Transshipping Management Research*, No. 3, pp. 41~52.

Yao, Wei-fu, (1999) "Prospects for China's Coastal Transshipment Market in 1999", *World* Shipping, No. 1, pp. 1~2.

Yeung, Yue-man, (2000) Globalization and Networked Societies: Urban-Regional Change in Pacific Asia, Honolulu: University of Hawaii Press.

You, Feng-lai, (1999) "How Can Asian Harbors Keeping Ahead Under Rapid Changing Transshipment Environment? *Transshipment Monthly Journal*, July, pp. 33~39.

You, Feng-chi, (1996) "An Exploration on Mainland China's Inner River Transshipment Business", *Mainland China Study*, Vol. 30, No. 8, pp. 34 ~ 55.

You, Lin and Wei-chiang Li, (2000) "An Exploration on Spatial Layout of Shanghai's Urban Hierarchy", *Urban Problems*, Vol. 3, pp. 37~39.

Yusuf, Shahid, Weiping Wu, and Simon Evenett (eds.) (2000) *Local Dynamics in An Era of Globalization*, Washington, D. C.: The World Bank.