Volume 2

Master Plan and Short-term Plan of Jambi Port

Part 4

General Environments relative to the Port Development

13. REGIONAL MARITIME TRENDS

13.1 Singapore

13.1.1 Port Management

Singapore Harbor Board had been responsible for the management of Port of Singapore until 1964. Port of Singapore Authority was established in April 1964 and it assumed complete responsibility for port construction and operation. In 1996, the former PSA was split into two, PSA corporation limited and MPA (Maritime and Port Authority of Singapore). The new PSA was established as a private entity responsible for port operation, although the government still holds its entire equity. On the other hand, MPA is in charge of the regulatory functions relative to the port including port planning, harbor master, ship registration, and port industry issues.

Since May 1997, PSA comprises two main divisions, administrative division and strategic business division. The strategic business division is made up of three main groups, container terminal operation, storage and distribution, and overseas business. PSA established a subsidiary, PSA Marine, which takes care of tug and pilot services. Consequently, PSA now focuses on container terminal operation. PSA was privatized mainly because it would help streamline the government sector and facilitate PSA's overseas business. Currently, PSA operates nine ports overseas including Dalien (China) and Aden (Yemen). PSA's investment activity is now focused on overseas projects rather than domestic projects. PSA predicts that its overseas operation will become profitable in 2007.

MPA and PSA are completely independent with no exchange of employees. Taking port development as an example, MPA prepares a development plan and PSA constructs and operates port facilities. The government continues to own the land and leases it out to the operator for a period of 20-30 years. Channel dredging is taken care of by a terminal operator if the channel is dedicated to the terminal. Otherwise, MPA is responsible for channel dredging.

13.1.2 Port Operation

(1) Throughput

Container throughput in Singapore reached 17 million TEUs in 2000, 80% of which was transshipment. The existing terminals have a capacity of 19-20 million TEUs/year. On top of that, PSA terminals developed overseas handled another 2.7 million TEUs in 2000. PSA is the only operator in Singapore and it has no plan to invite other operators.

(2) Facilities

Singapore has 37 container berths with 120 gantries, which are developed in four areas (Table 13.1.1, Figure 13.1.1). Among them, Pasir Panjang Terminal is still under construction. Development of Pasir Panjang is now in the second phase of a four-stage development in which 26 berths will be provided in total. The draft of Pasir Panjang is 15m at present, but PSA is ready to increase it to 16m if users request

it. In fact, areas 40m from the quay line are already dredged to 16m. MPA and URA (Urban Redevelopment Agency) have a plan to convert older terminals, Tanjong Pagar and Keppel, into urban use. Their plan is to transfer port activities in the two terminals to Pasir Panjang. This will reduce the intra-terminal transportation. The schedule of the redevelopment is not yet fixed because of the slow economy in recent years.

Table 13.1.1 Container Terminals in Singapore

Terminal	Tanjong Pagar	Keppel	Brani	Pasir Panjang	Total
Number of berths (Mother) (Feeder)	 6 2	 3 11	 5 4	 6 -	 20 17
Operator	PSA	PSA	PSA	PSA	PSA
Draft (m)	11-14.6	9.8-14.6	12-15	15	
Yard Handling	RTG	RTG	RTG	Overhead Bridge Crane, RMG	
Gantries	29	36	30	24	119
Yard Cranes	117	106	105	44 bridge Crane, 15 RMG	387
Yard Area (ha)	80	96	79	84	339
Storage Capacity (TEU)	15,308	20,290	15,424	14,020	65,042

Source: PSA

(3) Terminal Operation

All the container terminals are for common users, though some shipping companies request dedicated terminals. In order to provide efficient services, PSA offers " Virtual terminal agreement" to shipping companies. With this agreement, major users are given almost dedicated use of a terminal. If a user is offered a berth different from a usual one, PSA pays the transportation cost between the berths. This intra-berth transportation somewhat decreases the overall productivity. PSA also offers "Volume rebate service" to major users which promise to bring in a certain amount of cargo.

PSA is responsible for all port-related services including cargo handling, pilotage, tug, and bunkering. Port charge is determined by a negotiation between PSA and users. Fixed tariff has therefore not been published since 1997. Crane operators are PSA employees, while contractors provide rushers and truck drivers.

IT system of Singapore comprises two systems, PORTNET and CITOS (Figure 13.1.2). PORTNET was established in 1989 to provide an efficient link of information on vessels and cargoes between users and PSA. It links 7000 domestic users and carries out 5 million transactions a year. It established an internet link in 2000 to provide services to users overseas. CITOS is a terminal operation system introduced in 1988. It allocates workers, equipment, and berths. Supported by this system, gate

processing time is now 25 seconds (In-gate) and 35 seconds (Out-gate) per box, a remarkable reduction from the 5 minutes per box required in 1982.

Container berths are equipped with four gantries each. Maximum seven (usually 5-6) gantries are deployed to cater for large vessels. Quay Productivity is 25-28 boxes/hour.

13.1.3 Traffic between Indonesia and Singapore

(1) Container

MOL (Mitsui OSK Line) provides container feeder services from Singapore to Indonesia using local shipping companies. It has a Jakarta service (4-5 calls a week with 500-1,000 TEU vessels), a Surabaya/Sumaran service (4-5 calls a week each with 300-700 TEU vessels), a Belawan/Palembang/Panjan service (3 calls a week each with 300-500 TEU vessels), and a Pontianak service (weekly). Currently, no major Japanese shipping companies provides direct container services between Japan and Indonesia. A source in Singapore indicated that Tanjung Priok was not suitable for calls by large vessels at present because of the insufficient draft and turning basin. The source also pointed out that calling Tanjung Priok would need a two-day deviation from the trunk line. Mainly because of these reasons, shipping companies provide Indonesian ports with feeder services not from Tanjung Priok but from Singapore. Containers to/from smaller ports in Indonesia are often carried by barges, though PSA discourages the use of barges due to safety reasons. These barges are requested to moor at the inner harbor of Marine Bay or conventional berths at Pasir Panjan.

Exports from Jakarta are electric appliances, machinery, robot parts, textile, and cloths. Imports from Singapore are mainly heavy cargo such as parts. Exports and imports are relatively well balanced between Indonesia and Singapore. Imports to Indonesia are mostly by 20 feet containers, while many 40 feet containers are deployed for exports from there. A source in the shipping industry indicated that Indonesian ports needed to expedite the processing of port-related documents by introducing an EDI system.

(2) Break Bulk

Singapore used to be a distribution hub of break bulk cargo for Indonesia. That changed four years ago when PSA revised its regulation reducing the free storage time from 28 days to 14 days. Storage time is now counted from day one if the time exceeds 14 days. This move is aimed to provide containers with as much yard space as possible and greatly discouraged shippers from using Singapore for break bulk cargo. Due to the above reasons, there is almost no move of break bulk cargo between Singapore and Indonesia. Considering the operation costs, Port Klang and Medan will likely to take over the position as a distribution center of break bulk for local ports in Indonesia.

Figure 13.1.1 Container Terminals in Singapore

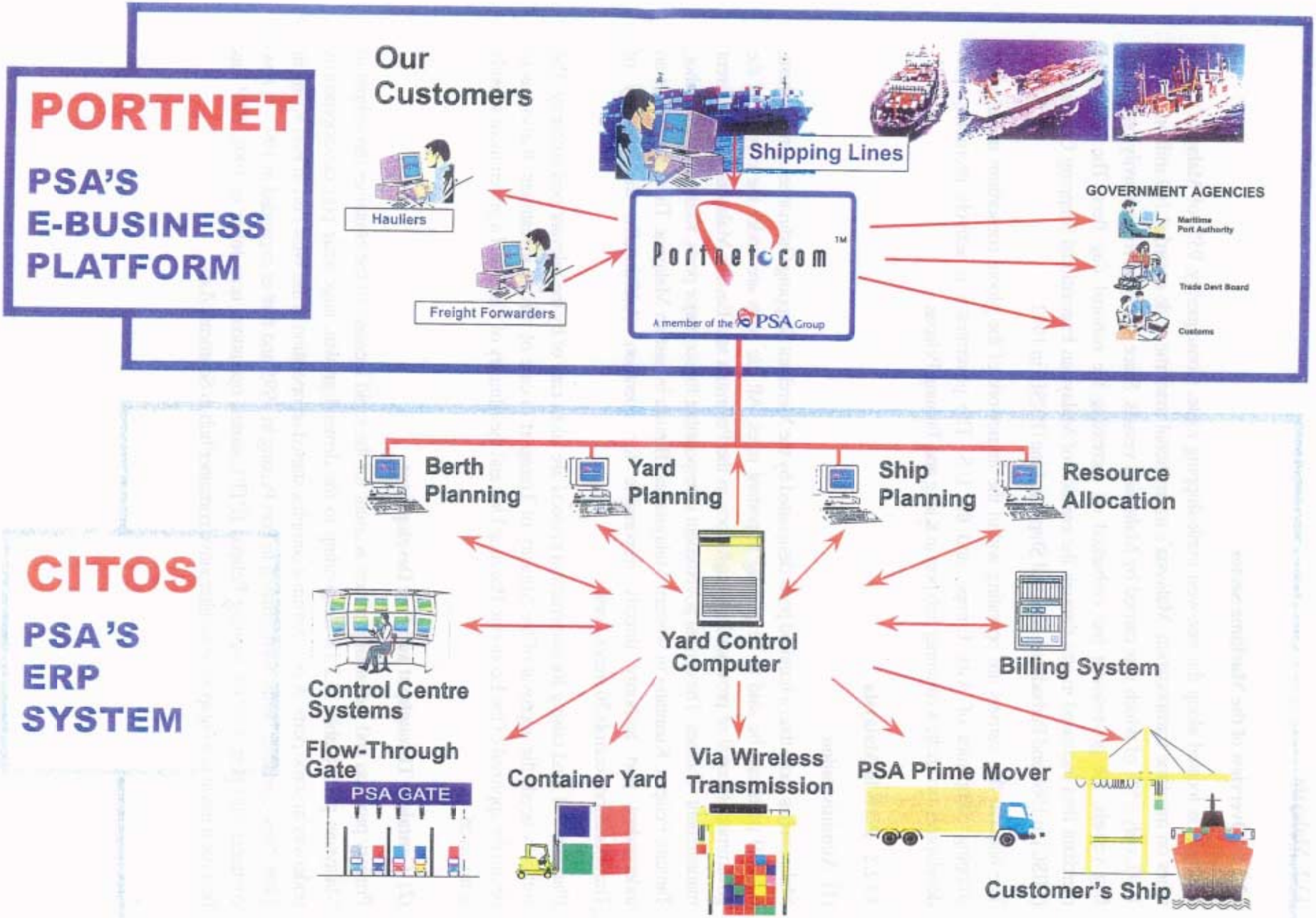


Figure 13.1.2 IT System in Singapore

13.2 Malaysia

13.2.1 Overview of the Maritime Sector

Malaysia is located along the east-west trunk-shipping route. Consequently, 95% of Malaysia's trade relies on maritime transportation. Malaysia's international maritime trade recorded 160 million tons in 1997, only 15% of which was carried by Malaysian vessels. Since Malaysia relies heavily on foreign flag vessels, the government has embarked on increasing the national flag fleet. The Malaysian merchant fleet increased in size through the creation of Malaysian International Shipping Corporation (MISC) in 1968 and Perbadanan National Shipping Line (PNSL) in 1982.

The national flag carriers are operating within the framework of the global consortium made up of shipping companies of Asia, Europe, and the U.S. The government is actively promoting port development to create a container hub port in Klang and Tanjung Pelapas.

13.2.2 Ports in Malaysia

(1) Administration

Malaysia has more than a hundred ports designated by the Merchant Shipping Ordinance. Among them, only 20 ports can be said to be playing important roles. All the ports are under the control of the government (central or provincial), though ports in the Peninsula and Eastern Malaysia have different management schemes. The central government is responsible for six major ports, Klang, Penang, Johor, Tanjung Pelapas, Kuantang in western Malaysia and Bintulu in eastern Malaysia. These ports have an independent port authority directly responsible for operation. Additionally, the Ministry of Transportation controls 30 minor ports.

Planning and fund raising for construction projects are taken care of by the relevant port authority. The authority needs the approval of the Ministry of Transport in case of private investment. It also has to obtain the approval of the Economic Planning Unit and the Ministry of Finance if a government subsidy is involved.

(2) Container Throughput and Port Development

Primary products and industrial products account for the rapid increase of the container throughput in Malaysian ports (Table 13.2.1). Responding to the demand growth, large-scale port development is underway in some ports. A new terminal complex started an operation at the West Port in Port Klang in 1996. New container berths were created in Port Penang in 1995 and further expanded in 1997. A new container hub port, Port of Tanjung Pelapas (PTP), started operations near Johor in 1998. PTP has become a threat to Singapore as an alternative container hub in Southeast Asia.

Table 13.2.1 Container Throughput in Malaysian Ports

Port	1997	1998	1999	Remarks
Klang	1,684,513	1,819,958	2,550,419	
Klang Container Terminal	993,014	788,703	938,924	
Klang Port Management	578,628	570,916	810,439	
West Port	112,871	460,339	801,056	
Penang	506,863	510,307	566,409	
Johor	429,448	439,661	558,056	
Kuching	105,320	79,602	96,962	
Kota Kinabalu	102,446	77,499	85,181	
Kuantan	54,855	50,989	56,056	
Rajang	40,009	28,032	37,100	
Bintulu	32,571	29,536	36,541	
Tawau	30,473	25,865	31,541	
Tanjung Pelapas (PTP)	-	-	20,400	Opened in October 1999
Sandakan	21,749	18,881	19,949	
Labuan	9,562	9,634	11,430	
Miri	3,917	2,904	2,505	

13.2.3 Port of Tanjung Pelapas (PTP)

(1) Outline

Development of PTP started in 1995 as a green field project with private sector participation (Figure 13.2.1). It began to operate in October 1998. AP Moller (Maersk-Sealand) acquired 30 % of the equity in August 2000. The remaining stake is owned by a Malaysian share holding company (Sea Port Terminal). PTP is one-hour drive from Singapore with an excellent highway access linking PTP with various destinations in Malaysia and Thailand. PTP finances all the costs involved in port development and procurement. Maersk provides terminal operating experts and job training for local employees. The total work force is about 900, 200 of which are in the administrative section.

(2) Facilities

PTP boasts a state-of-the-art container terminal (Table 13.2.2). Since Maersk already occupies 4-4.5 berths of the total six berths, PTP has a plan to expand the terminal providing the draft of 17m, which will make PTP the deepest container hub in the region. Due to the topographical features, PTP is quite easy to expand, which is a major advantage. An inter-modal yard, the first of its kind in Southeast Asia, will become operational at the end of 2001.

Table 13.2.2 Container Terminal in PTP

Terminal	Existing Facilities	Short-term Plan	Expansion Plan
Number of Berths	6		3
Operator	PTP		PTP
Draft (m)	15		17
Yard Handling	RTG		
Gantries	14 (18 boxes across)	10 gantries will be introduced in early 2002	Gantries will be 22 boxes across
Yard Cranes	36 (1 over 5)	6 RTGs will be introduced in early 2002	
Yard Area (ha)	120		
Storage Capacity (TEU)	110,000		
Handling Capacity (TEU/year)		4-4.5 million	

Source: PTP

(3) Terminal Operation

PTP handled 418,000 TEUs in 2000 and 923,000 TEUs from Jan.-Jun. 2001. The throughput since the beginning of 2001 is expected to exceed 2 million TEUs in November. In the middle of 2001, PTP achieved around 200,000 TEUs/month and 40+ vessels/week. Transshipment makes up 95% of the throughput and Maersk's cargo accounts for 91% of the total.

With the productivity at 27-30 moves/hour/crane, PTP provides the most efficient handling service in South East Asia. On average, more than 2,000 TEUs are handled per vessel call taking 13-14 hours, which is equivalent to 150 TEUs/hour. Up to 6-7 cranes are deployed to cater for a container vessel. Mother- to-mother transshipment is sometimes carried out at PTP in order to make up for a delay in other ports, though it is not encouraged. Marshalling yard is made up of nine blocks with a stacking height of 5 tiers.

Average dwelling time is 3-4 days and PTP offers a free storage time of 14 days (transshipment) and 5 days (local cargo). In order to deal with yard planning, ship planning, and container management, PTP adopted a renowned operation system, NAVIS.

13.2.4 Port Klang

(1) Outline

Port Klang is located 40 km to the west of Kuala Lumpur and serves as the main port of Malaysia. This port comprises three sub ports, South Port, North Port, and West Port, in order of establishment (Figure 13.2.2).

Port Klang is served by highways and railways for cargo distribution. The North-South Expressway runs from Bukit Kayu Hitam at the Malaysia-Thai border to the Johor Causeway in the south, covering a distance of 900 kilometers. This Expressway along the western side of the peninsula together with the

Klang Valley Expressway and the Federal Highway Route 2, play an important role in the distribution of both import and export cargo between Port Klang and its hinterland. Keretapi Tanah Melayu Berhad (KTMB), a private railway company, operates a daily block train service between Port Klang and Penang and Bangkok. There is also a 6-day-a-week rail service between the Ipoh Cargo Terminal (an inland port in the northern state of Perak) and Port Klang.

(2) Management

Klang Port Authority (KPA), a government organization, is responsible for port administration including navigational safety, asset management, port promotion, and port planning. In accordance with the privatization policy of Malaysia, port operation has been privatized in Port Klang. Operation of the container terminals was privatized in 1986 and Klang Container Terminal (KCT) was established as an operating company. Conventional terminals were also privatized in 1992 and Klang Port Management (KPM) was established for their operation. KCT and KPM later merged and formed North Port Corporation. PNB, an investment arm of the government, holds 53% of its stake, while KPA owns 5.3% of the share. The local government and private investors hold the remainder. In 1994, Klang Multi-terminal was created in the Westport on a 30-year BOT scheme. Huchison, an international terminal operator, acquired 30% of the Westport's equity at the end of 2000.

(3) Facilities

Port facilities are spread across the three sub ports of Klang. Among them, the Westport is equipped with the most modern facilities (Table 13.2.3). Three berths in the North Port are going to be converted to container berths and extension of the container quay is contemplated in the West Port.

Table 13.2.3 Container Facilities in Port Klang

Facility	KCT	KPM	Westport
Berths	4	6	5
Quay length (m)	1,079	1,313	1,600
Draft (m)	13.2	14	15
Quay cranes	12	12	11
Storage capacity (TEUs)	20,000	25,000	20,000
Ground slots (TEUs)	10,308	7,080	7,797
Annual capacity (million TEUs)	1.4	1.2	1.7

Source: Port Klang Authority

Table 13.2.4 Break Bulk Facilities in Port Klang

Facility	North Port (KPM)	South Port (KPM)	Westport
Berths	4	4	4
Quay length (m)	803.5	332.5	800
Draft (m)	12	10.5	15
Transit shed (m^2)	20,471	3,555	9,630
Warehouse (m^2)	7,990	32,530	18,198
Open storage (m^2)	68,300	14,500	92,942

Source: Port Klang Authority

Table 13.2.5 Liquid Bulk Facilities in Port Klang

Facility	North Port (KPM)	South Port (KPM)	Westport
Berths	2	2	2
Quay length (m)	426	353.6	1,050
Draft (m)	11.5	10.5	13.6
Petroleum storage (kl)	100,000	-	942,221
Chemical storage (t)	-	25,143	140,030

Source: Port Klang Authority

Table 13.2.6 Dry Bulk Facilities in Port Klang

Facility	North Port (KPM)	South Port (KPM)	Westport
Berths	2	2	4
Quay length (m)	426	167.7	935
Draft (m)	11.5	10	15
Covered storage (m^2)	30,935	-	264,660
Open storage (m^2)	12,356	-	-

Source: Port Klang Authority

Table 13.2.7 Passenger Terminals in Port Klang

Facility	North Port (KPM)	South Port (KPM)
Berths	1	3
Quay length (m)	43	350
Draft (m)	11	11

Source: Port Klang Authority

(4) Operation

Port Klang handled 3.2 million TEUs in 2000, 1.1 million TEUs of which were transshipment. Transportation between the port and hinterland is by railways (10-15 %) and trucking (85-90 %). 98 % of customs clearance is carried out through an EDI system. The North Port handles 70 % of the total container throughput of Port Klang and it is in competition with the West Port. Its productivity is 22-23 moves/crane/hour and the average dwelling time is 2-3 days.

(5) Throughput

Container throughput of Port Klang has shown remarkable growth in recent years (Table 13.2.8). It has almost tripled since 1995 and reached 3.1 million TEUs in 2000, ranking 13th in the world. In 1994, the Malaysian government decided to develop Port Klang as a container hub. The government encourages all Malaysian cargo to be transshipped in Malaysian ports. Accordingly, the government loosened the regulation on cabotage transportation allowing foreign flag vessels to carry out feeder transportation within Malaysia.

Klang Port Authority (KPA) claims that it has not raised the tariff for 35 years and its tariff is around 40% lower than that of Singapore. KPA offers various incentives to attract customers including a discount for transshipment (up to 50 % for a transshipment within 3 days) and an incentive to feeder operators (RM 20 to a 20 feet container and RM 35 for a 40 feet container). Through these efforts, the proportion of Singapore transshipment to the cargo to/from Penang decreased from 70 % in 1994 to 40 % at present.

Table 13.2.8 Cargo Statistics

(1,000 FWT)

Year	Dry Bulk	Liquid Bulk	General Cargo	Container	TOTAL
1995	6,384	4,353	7,558	21,740	40,034
1996	8,381	5,085	8,542	27,016	49,025
1997	9,568	5,578	8,703	31,918	55,768
1998	6,202	5,490	4,221	31,429	47,432
1999	6,114	5,176	5,827	43,853	60,970
2000	6,477	4,710	5,993	48,097	65,277

Source: Port Klang Authority

Table 13.2.9 Container Statistics

(TEU)

Year	Laden	Empty	TOTAL
1995	986,862	146,949	1,133,811
1996	1,216,793	192,801	1,409,594
1997	1,452,884	231,624	1,684,508
1998	1,466,261	353,757	1,820,018
1999	1,960,353	590,066	2,550,419
2000	2,551,553	655,220	3,206,753

Source: Port Klang Authority

Table 13.2.10 Vessel Calls

Year	Dry Bulk	Liquid Bulk	General Cargo	Container	Passenger	TOTAL
1995	566	1,102	2,349	2,715	1,138	7,870
1996	576	1,211	2,520	3,798	1,428	9,533
1997	602	1,283	2,667	4,889	1,543	10,984
1998	438	1,378	1,906	5,830	1,212	10,764
1999	374	1,427	2,002	6,734	902	11,439
2000	387	1,299	2,297	7,444	989	12,416

Source: Port Klang Authority

Table 13.2.11 Passengers

Year	Number of Ships	Passengers
1995	1,138	314,692
1996	1,428	359,473
1997	1,543	377,747
1998	1,212	403,200
1999	902	215,502
2000	989	286,563

Source: Port Klang Authority

13.2.5 Traffic between Indonesia and Malaysia

Containers for Indonesia are mostly transshipped at Singapore, though Port Klang also provides some feeder services covering Belawan (5 calls a week), Jakarta (4 calls a week), and Palembang (weekly). Low transshipment cost is a competitive advantage of Malaysia over Singapore. A maritime source indicates that the transshipment costs at PTP or Klang are 30-40 % lower than that of Singapore.

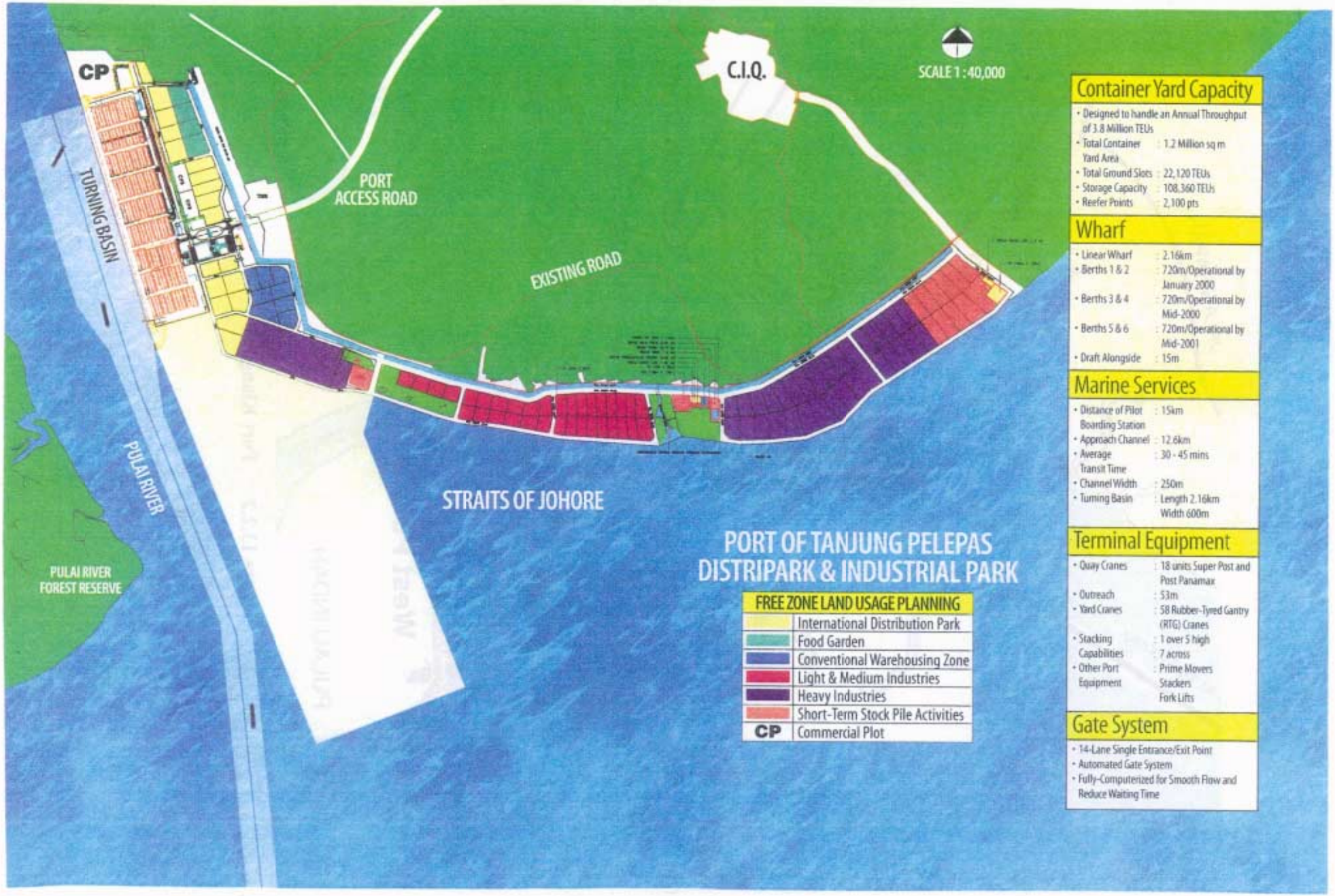


Figure 13.2.1 Port of Tanjung Pelapas

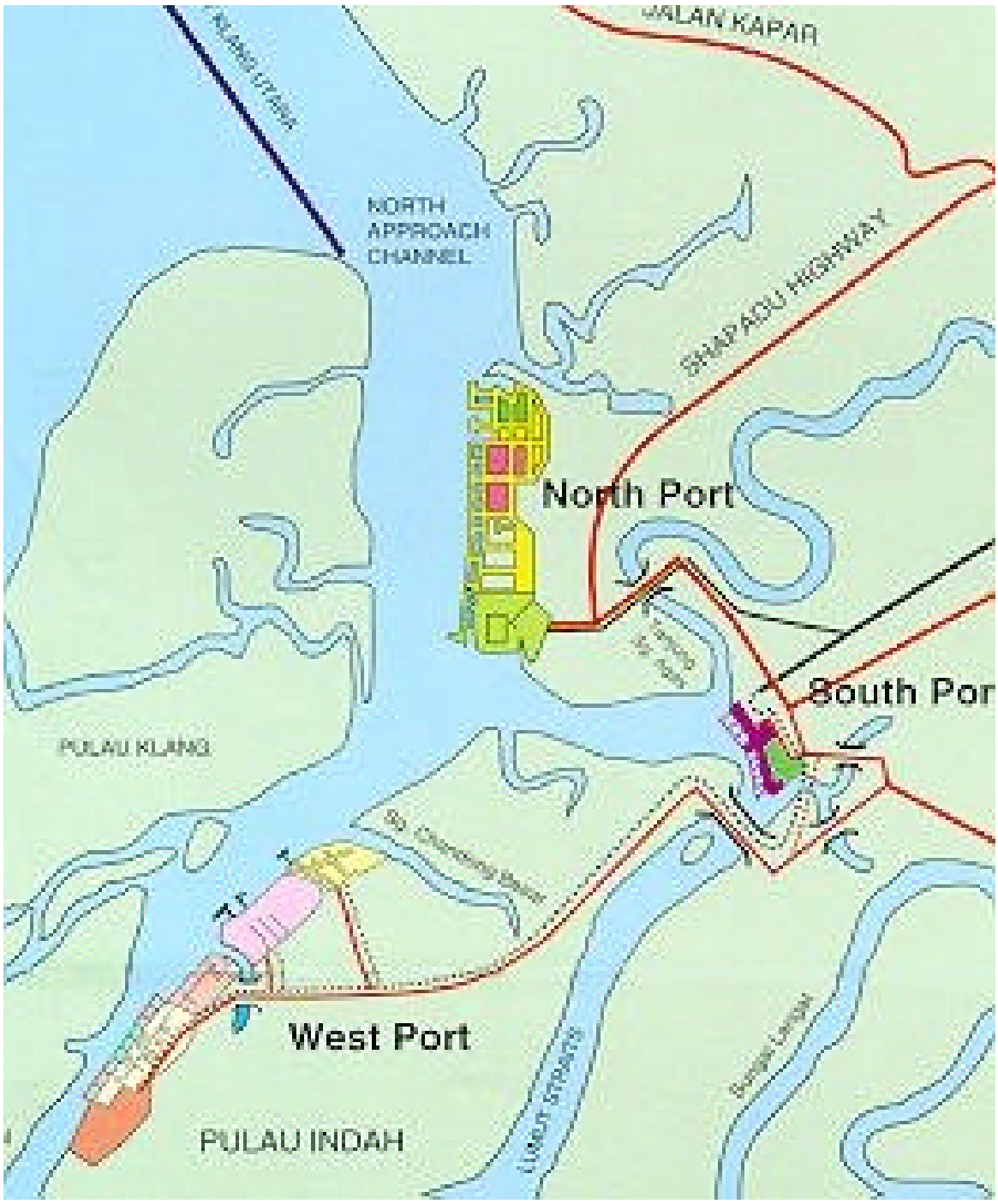


Figure 13.2.2 Port Klang

13.3 Vietnam

13.3.1 Present Condition of Ho Chi Minh Port Group

The existing Ho Chi Minh (HCMC) Port Group consists of 28 ports along the Saigon River, Dong Nai River, Nha Be River, Long Tau River and Soai Rap River, of which 21 ports are specialized ports for petroleum, wood, cement or shipyard, and remaining 7 ports are handling general cargoes treated by public sectors or joint venture companies.

Out of seven general cargo ports in HCMC, four major ports, that is, Tan Can (New Port), Saigon, Ben Nghe and Vietnam International Container Terminal (VICT) are handling containers at present.

Due to the depth and width of rivers in Ho Chi Minh City (HCMC), calling vessels bound for these ports have draft and LOA restrictions. Furthermore, road transport is heavily restricted due to traffic congestion in HCMC. On the other hand, many industrial zones such as the Tan Thun Export Processing Zone (EPZ) exist just behind some of the above ports, or in the hinterland of those ports. The export products manufactured at EPZ and consumers goods for HCMC are main container cargoes at the above ports in HCMC.

(1) Present Condition of Four Major Ports in Ho Chi Minh City

1) Saigon Port

The Saigon Port is owned, managed and operated by Ho Chi Minh City. The port area is 50 hectares in total, and consists of 4 terminals, 15 wharves for ocean going vessels, 25 buoy berths, 29 warehouses/sheds and open storage area. Handling cargoes are mainly containers, general cargoes and bulk cargoes such as rice, fertilizer, cement/steel products and so on. Cargo throughput in 2000 was 9,701 thousand tons (16% up in comparison with 1999 record) in total, including containers. Container cargoes handled at this port was 237 thousand TEUs in 2000. 2.6 million tons, that is, 27 % of total cargo throughput was handled at buoy berths. The number of calling vessels at this port was 1,811, including 745 container vessels in 2000. The reason for the rapid increase of cargoes can be attributed not only to economic growth in Vietnam, but also to the improvement of port management.

Maximize size of calling vessels at this port is 30,000 DWT, or 9 m draft vessels, though the access channel is currently –8.5 m in depth. A vessel of 32,000 DWT at wharves, and 60,000 DWT at buoy berths can be accepted with the permission of the Port Authority. The outline of the existing facilities at each terminal is shown in Table 13.3.1 to Table 13.3.3.

Table 13.3.1 Mooring Facility

Terminal	Berth Length	Water Depth	Cargo Handling Type
Nha Rong (5 Berths)	883 m	8.5 to 9.1 m	General Cargo/Passenger
Khanh Hoi (5 Berths)	861 m	8.5 to 10.0 m	General Cargo/Container
Tan Thuan (4 Berths)	713 m	9.6 to 11.0 m	General Cargo/Container
Tan Thuan II (4 Berths)	485 m	2.5 to 10.5 m	Bagged Cargo/Bulk
Buoy Berth (25 Berths)	4,591 m	3.3 to 13.5 m	General Cargo/Container
Total (43 Berths)	7,533 m	Max 13.0 m	

Table 13.3.2 Storage Facility

Terminal	Shed	CFS	Open Storage	Container Yard
Nha Rong	19,559 m2		30,891 m2	
Khanh Hoi	28,168 m2	2,800 m2	13,845 m2	35,700 m2
Tan Thuan	7,760 m2	5,400 m2		81,600 m2
Tan Thuan II	6,480 m2		17,000 m2	
Tan Thuan Inland Depot			34,000 m2	
Total	61,967 m2	8,200 m2	95,736 m2	117,300 m2

Table 13.3.3 Cargo Handling Equipment

Equipment	Capacity	Nha Rong	Khanh Hoi	Tan Thuan	Tan Thuan II
RTG	40 t		2		
Mobile Crane	80 to 100 t		2	2	
Mobile Crane	10 to 40 t	4	4	5	1
Crawler Crane	60, and 200 t		2		
Rail Mounted Quay Crane	6 to 12.5 t		5		2
Reach Stacker	42 t		5	2	
Reach Stacker	8 t		2		
Fork Lift	10 to 40 t	2	6	8	
Fork Lift	2.5 to 7 t	21	26		3
CFS Fork Lift	1.5 to 2.5 t		9	9	
Tractor	20’ to 40’	1	11	6	
Dozer/Trimmer		2	13	10	
Cargo Truck	12 t		34		
Reefer Point	220 V		117	50	
Weigh Bridge	60 t/ 80 t		2	2	
Hopper for Bulk Cargo	10 m3				9

2) Ben Nghe Port

The Ben Nghe Port is owned, managed and operated by Ho Chi Minh City (HCMC). There are four quays and seven buoy berths at the port. Total land area consists of 32.22 ha, of which the developed area is 22 ha. Maximum-sized vessel which can be accommodated to this port is 30,000 DWT with the draft of 10 m. The number of calling vessels was 670 in 2000. The general cargo stockyard of this port is currently being converted into container yard in order to cope with rapidly increasing container cargoes in HCMC. Cargo throughput in 2000 was 2,770 thousand tons, including 111 thousand TEUs of containers. About 30 % of the total cargo throughput was handled at buoy berths in 2000. The outline of the existing facilities at each berth is shown in Table 13.3.4 to Table 13.3.6.

Table 13.3.4 Mooring Facility

Berth	Length of Berth	Water Depth	Handling Cargo	Objective Vessel
K 14	88 m	7.5 m	General Cargo	5,000 DWT
K 15	265 m	9.0 m	General Cargo	15,000 DWT
K 15 B	175 m	9.5 m	Container	20,000 DWT
K 15 C	288 m	10.5 m	Container	30,000 DWT
Buoy Berth (11 Berths)	1,422 m	8.0 to 9.5 m	General Cargo/Bulk	9,000 to 30,000 DWT
Total	2,238 m	Max 9.5 m		Max 30,000 DWT

Table 13.3.5 Storage Facility

Storage	Area	Handling Cargo
Shed (9 Shed)	10,800 m2	General Cargo
Open Storage	145,000 m2	General Cargo/ Container
Container Yard	51,000 m2	Container
Reefer Container Yard	4,500 m2	Reefer Container
Total	211,000 m2	

Table 13.3.6 Cargo Handling Equipment

Equipment	Capacity	Number of Equipment
Mobile Crane	64 to 104 t	2
Mobile Crane	20 to 30 t	5
Reach Stacker/Top Lifter	42 t	4
Forklift	10 t	4
Forklift	2.5 to 3 t	8
Tractor/Trailer	10 to 30 t	10
Bagging System	500 t/h	4
Bagging System	250 t/h	6
Reefer Point	220 V	60
Weigh Bridge	60 t	1

3) Vietnam International Container Terminal (VICT)

Vietnam International Container Terminal (VICT) is owned, managed and operated by the joint venture company. VICT is the first true container terminal in Vietnam, having 12 ha ground area with 1,332 TEUs ground slots and 305 m pier with two Rail-mounted quayside container cranes and four Rubber-tired gantry cranes (RTGs). Container cargo throughput was 129, 852 TEUs in 2000. The number of calling vessels at this port was 460, including domestic container vessels and barges carrying containers between VICT and ICDs. The number of regular calling vessels to the port is scheduled as 12 vessels per week with ten shipping lines as of July 2001. Maximum size of calling container vessels at the port is 1,000 to 1,500 TEUs, 20,000 DWT, 200 m LOA, 28.7 m Beam, and 10.0 m draft. The outline of the existing facilities at each wharf is shown in Table 13.3.7 to Table 13.3.9. Vessel calling schedule to VICT is shown in Table 13.3.10, and the port facility layout is also described in Figure 13.3.1.

Table 13.3.7 Mooring Facility

Berth	Length of Berth	Water Depth	Handling Cargo	Remarks
Present 2 Berths	305 m	10.0 m	Container	Max 200,000 TEUs
Future 5 Berths (Final Stage)	715 m	10.0 m	Container	Final Plan 600,000 TEUs

Table 13.3.8 Storage Facility

Storage	Area
CFS NO. 1	2,000 m2
CFS NO. 2	1,650 m2
Container Yard	80,000 m2
Administration Office	1,200 m2
Amenity Compound	820 m2
Maintenance Shop	740 m2
Total	86,410 m2

Table 13.3.9 Cargo Handling Equipment

Equipment	Capacity	Number of Equipment
Rail-mounted Shore Gantry Crane	35.5 t	2
RTG	35 t	4
Reach Stacker	41 t	2
Side-lifter	8 t	2
CFS Forklift	2.5 t	8
Yard Tractor	40’	10
Yard Chassis	40’	16
Reefer Point	220 V	112
Weigh Bridge	80 t	1

Table 13.3.10 Vessel Calling Schedule at VICT (Vietnam)

VESSEL SCHEDULE CALLING AT VICT.

Shipping Line	*Vessel name*	*Schedule*	*Destination*
APL / NOL (Vietfracht) Tel: 8226622	- Cape Cleveland	ETA - every Saturday ETD – every Sunday	Singapore - Europe, America, Middle East, Intra-Asia, etc.
RCL (Vinatrans) Tel: 8259561	- Kiti Bhum	ETA – every Monday ETD – every Wednesday	
	- Lila Bhum	ETA – every Saturday ETD – every Saturday	
Samudera /Mitsui O.S.K. (O.S.T./Vietfracht) Tel : 9140272(SSL) Tel: 8219121 (Mitsui)	- Ocean Brilliancy	ETA – every Saturday ETD – every Saturday	Singapore – Indonesia, India Sub Continent, Malaysia, Japan, Hong Kong, Shanghai – China
Kien Hung Shipping (Vietfracht) Tel: 8217517	- Diligence Container	ETA- every Sunday ETD- every Sunday	Thailand, Hong Kong – USA, Mexico, South America, South Africa, China
Wan Hai Lines (Inlaco) Tel: 8225720	- Hansa Stralsund - Hansa Rostock - Hansa London	ETA - every Friday ETD – every Friday	Taiwan - Japan, Korea, Hongkong, China, Philippines, etc.
Uniglory /Evergreen (Viconship) Tel: 8263987	- Uni Forever - Achim	ETA - every Friday ETD – every Friday	
Kuang Ming Shipping Corp (Saigon Container Co. Ltd.) Tel:8239212			
Korea Marine Transport Co. Ltd./ KMTC (Gemartrans) Tel: 8214430	- Banowati - Citrowati - Ernts Rickmers	ETA – every Friday ETD – every Saturday	Thailand, Taiwan, Korea, Japan
NYK/HYUNDAI (Vitamas/Huu Nghi) Tel: 8235616	- Asian Gyro - Asian Zephyr - Inga S	ETA – every Saturday ETD – every Saturday	Laem Chabang , Bangkok , Hongkong, Japan, Taiwan, Korea, Philippine
NYK (Vitamas) Tel: 8235616	- Ratana Thida - ACX Cherry - ACX Cosmos	ETA – every Wednesday ETD – every Wednesday	Japan
C.N.C. Lines (Vietfracht) Tel: 8215864	- Canadian Express - Jurong Bauhinia - Cumbrian Express	ETA – every Thursday ETD – every Friday	HongKong, Taiwan, Philippines – Japan, Indonesia,China, Korea
HEUNG-A Shipping Co. (Vietfracht) Tel: 8210806	- Orient Freedom - Heung-A Asia - Heung – A Dragon	ETA – every Wednesday ETD – every Thursday	Bangkok, L. Chabang, Hongkong, Pusan, Inchon - Japan, N.China

4) Tan Can Saigon

Tan Can Saigon was re-established in compliance with the enterprise law, and owned, managed and operated by Vietnam military force. As a result, this port has become the biggest port in Vietnam in terms of container handling and operation. The port is still being expanded along the river. Two rubber-tired quayside container cranes are also being installed in B 4 terminal of the existing port.

Tan Can Saigon has an advantageous location compared with other container port in Ho Chi Minh City, since it is adjacent to the National Highway NO.1 A, and relatively near to some of IDCs in the port hinterland, especially near the Bien Hoa Industrial Zone. Container cargo throughput was 386 thousand TEUs in 2000, and 423 thousand TEUs in 1999.

The port has 97 ha port area, including 20 ha port area at Cat Lai Terminal and 50 ha port area at Song Than ICD. The port is handling import/export/domestic containers and general cargoes, including military cargoes as well. There are two container terminals and two buoy berths along the Saigon River. A new container terminal, named Cat Lai Terminal, is now under construction.

Maximum size of vessels to be accepted at this port is 16,000 DWT with 9.5 m to 12 m of her draft. . The outline of the existing facilities at each wharf is shown in Table 13.3.11 to Table 13.3.13.

Table 13.3.11 Mooring Facility

Berth	Length of Berth	Water Depth	Handling Cargo	Objective Vessel
B 3	171 m	9.5 m	Container	12,000 DWT
B 4	535 m	9.5 m	Container	12,000 DWT
Buoy Berth (2 Berths)	N.A.	10.5 m	Container/General Cargo	16,000 DWT
Total	706 m	Max 10.5 m		Max 16,000 DWT

Table 13.3.12 Storage Facility

Storage	Area	Handling Cargo
CFS (10 Sheds)	18,786 m2	Container
Container Yard (5 Yards)	179,000 m2	Container

Table 13.3.13 Cargo Handling Equipment

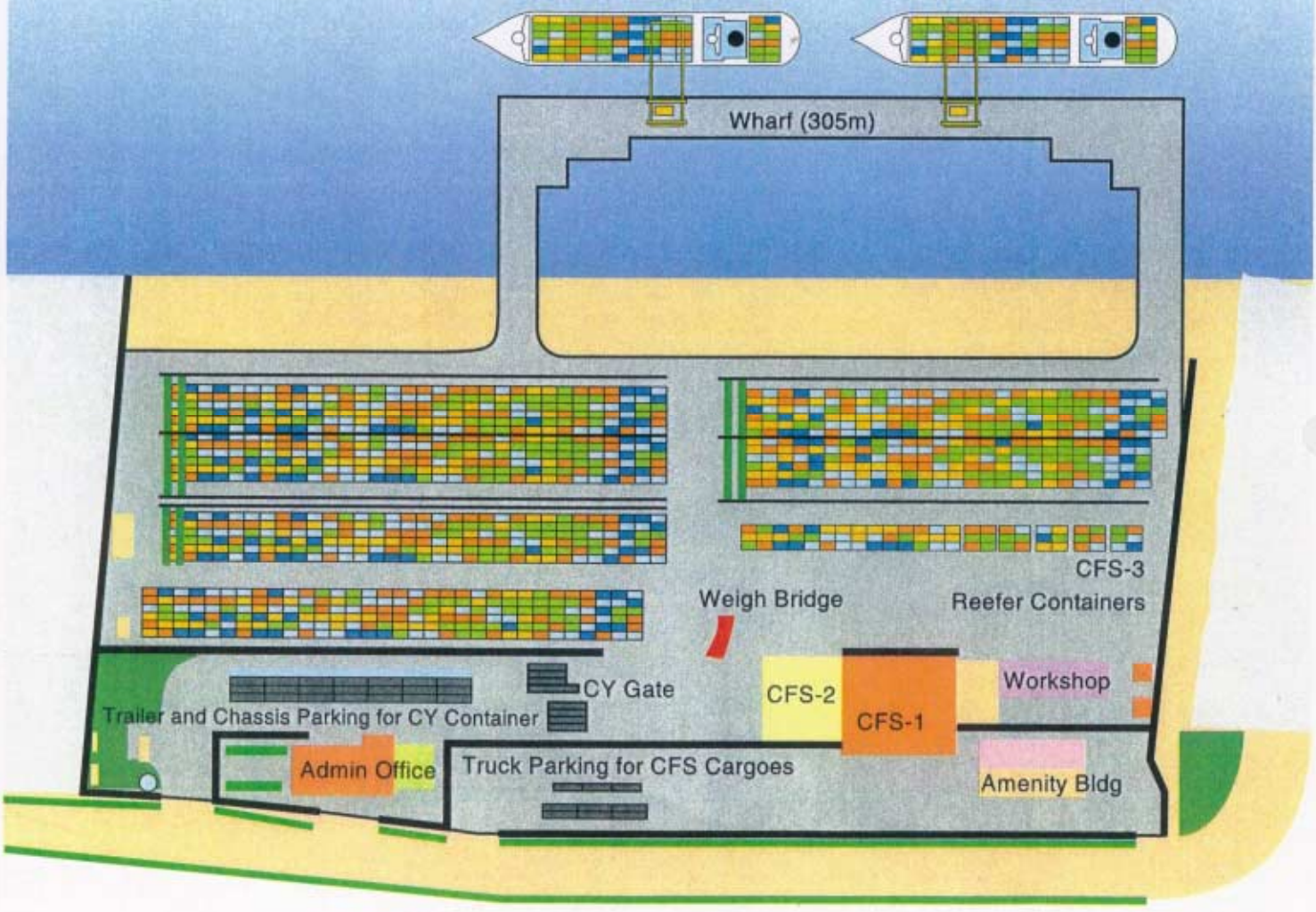
Equipment	Capacity	Number of Equipment
Floating Crane	100 t	1
Fixed Quay Crane	36 t	4
Fixed Quay Crane (Under Procurement)	36 t	4
RTG	35 t and 40 t	9
Crawler Crane	15 t and 25 t	5
Forklift for Full Container	30 t and 45 t	13
Forklift for Empty Container	4 t and 7 t	7
Tractor/Trailer		60

13.3.2 Container Traffic between Indonesia and Ho Chi Minh City

As described above, the main role of HCMC's container ports in Vietnam is to handle export products manufactured at Export Processing Zones in the port hinterland, and to import consumer's good needed in HCMC, through the Port of Singapore. In other words, HCMC's container ports are typical feeder ports of Singapore. Consequently, most containers are being transshipped at Singapore. There is very few containers transported from HCMC to Indonesia directly.

VICT LAYOUT PLAN

Figure 13.3.1 VICT's Port Facilities Layout (Vietnam)



13.4 Philippines

13.4.1 Manila International Container Terminal

Manila International Container Terminal (MICT) is a Philippine private company, involved in management, operation, and development of ports and terminals. MICT lies between the North Harbor and the South Harbor, protruding westward into the Bay of Manila. MICT has been operating since June 1988. MICT has continuous line container wharves with length of 1,300 m. MICT's container wharves have 5 berths, whose water depth is 12.5 to 14.5 m. MICT terminal can take on five to six container vessels at any one time. The fairway channel has length of 2,000 m and width of 250 m.

Today, MICT is the Philippines' most modern and largest container terminal with annual handling capacity of 1.5 million TEUs. Annual container traffic growth has been averaging 12 per cent over the past five years. Container throughput averages 70,000 TEUs in a month, and MICT handles 60 per cent of all international containers passing through the Port of Manila.

MICT's main infrastructures and equipments are as follows:

(1) Infrastructure

- Container Wharf	:	1,300 m, 5 Berths
- Wharf Draft alongside	:	12.5 m for Berth No.1 to No.4; 15 m for berth No.5
- Container Yard	:	29 ha
- CFS	:	2 CFSs; Total Area of 18,723 m2 for Inbound Cargo.
		1 CFS ; Total Area of 8,515 m2 for Outbound Cargo
- Rail Marshalling Yard.	:	1 Unit

(2) Equipment

- Mitsubishi Heavy Industries (MHI) Quay Cranes	:	6
- Liebherr Quay Cranes	:	3
- Gottwald Heavy-lift Mobile Crane	:	1
- MHI Rubber-tired Gantry Cranes	:	21
-Mitsui/Keppel Rubber-tired Gantry Cranes	:	2
- Ottawa Prime Movers	:	63
-Hino Prime Movers	:	2
-Capacity Prime Movers	:	6
-Forklift	:	54

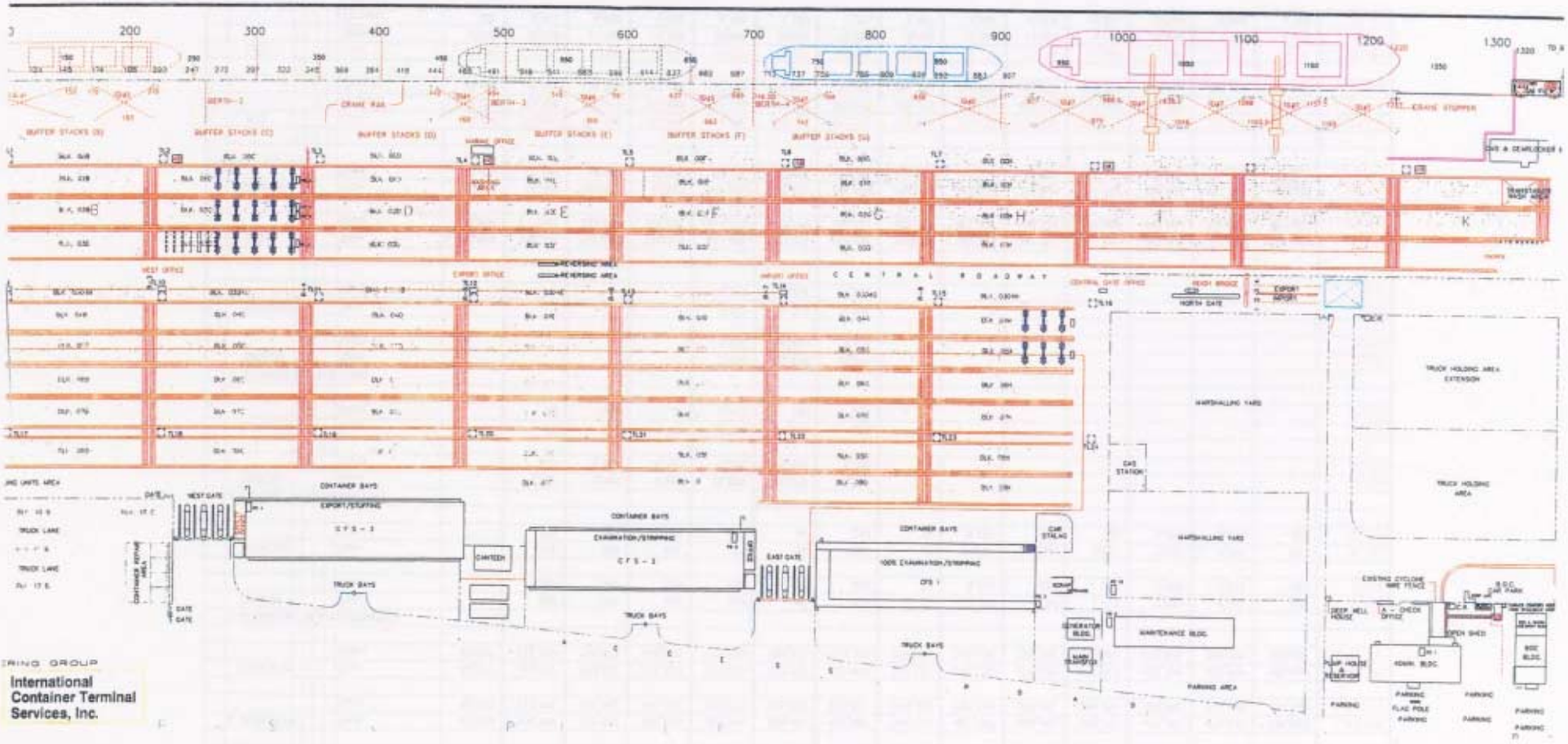
and so on.

13.4.2 Container Traffic between Indonesia and Manila

The Port of Manila is one of main container feeder ports in Southeast Asia. The port has a strong feeder service connection between Manila and Taiwan, and between Manila and Hong Kong. Major cargo from Manila is export products manufactured at export processing zones in the greater Manila Metropolitan area. The port also imports foreign consumer's goods needed in Manila by means of transshipment at Taiwan and Hong Kong. There are very few direct container transport service between Manila and Indonesia, because Indonesian ports are all located comparatively remote from the major container transport service routes between Asia and Europe, or between Asia and U.S.A. In general, container traffic between Indonesia and Manila will not play an important role in the South-east Asia for the time being.

On the other hand, there are several container vessel services between Indonesia and Manila Tokyo Senpaku Kaisha has three container transport services between Japan and Indonesia through Hong Kong and Singapore. The "Pegasus Service" vessel calls at Manila, Singapore, Port Klang, Jakarta, Pasir Gudang. The "Southern Cross Service" vessel calls at Keelung, Hong Kong, Singapore, Jakarta, Port Klang. And the "Gemini Service" vessel calls at Keelung, Port Klang, Singapore, Jakarta, Surabaya, Hong Kong. The vessel size of those container services is 25,000 DWT (1,500 TEUs), 180 m LOA, and 8-9 m draft. Main cargo for Indonesia is automobile parts, and main cargo from Indonesia is electric products manufactured in Indonesia. However, cargo volumes between Indonesia and Japan are not so large, and tend to slightly decrease in these days.

Figure 13.4.1 MICT's Port Facilities Layout (Philippines)



INTERNATIONAL CONTAINER TERMINAL SERVICES, INC.															
CONTAINER TRAFFIC AT MICT															
FOR THE PERIOD FROM JUNE 1988 TO MAY 2001															
						?	?								
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
	June-Dec														
I. CONTAINER THROUGHPUT:															
1. TOTAL Teus	127,053	332,609	426,744	474,034	546,584	622,419	671,141	708,191	848,017	901,881	735,696	865,819	944,731	369,512	8,574,431
Units	90,346	235,753	305,422	332,124	382,544	438,089	453,903	473,157	561,527	593,658	486,583	566,225	617,259	246,585	5,783,175
2. IMPORTS Teus	65,516	168,764	210,523	230,304	267,054	286,404	321,097	348,914	427,297	450,146	360,543	437,385	474,640	184,857	4,519,848
Units	46,349	119,903	151,942	161,861	185,575	196,425	215,431	234,223	285,135	298,951	240,451	289,582	314,548	124,742	2,865,118
EXPORTS Teus	61,537	161,677	210,335	232,833	251,409	272,929	321,635	359,251	396,238	450,472	372,917	422,594	452,609	182,869	4,149,305
Units	43,997	115,309	153,077	162,809	173,562	186,263	213,708	238,914	260,106	293,765	244,655	272,651	290,593	120,681	2,770,090
3. FOREIGN TRANSHIPMENT															
DISCH Teus		360	281	416	160	48	314	13	12,195	559	1,113	2,920	8,741	893	28,013
Units		265	200	318	122	27	238	10	8,100	427	735	1,996	6,059	581	19,078
LOADED Teus		376	279	447	177	58	347	13	12,287	704	1,123	2,920	8,741	893	28,365
Units		276	203	348	135	36	250	10	8,186	515	742	1,996	6,059	581	19,337
4. LOCAL TRANSHIPMENT															
DISCH Teus		1,353	5,007	9,987	11,803	8,278	3,318								39,746
Units		865	3,261	6,757	9,048	5,962	2,590								28,483
LOADED Teus		79	319	47	2,794	216	402								3,857
Units		64	208	31	2,547	176	343								3,369
5. DOMESTIC VOLUME															
DISCH Teus					5,490	22,976	10,200								38,666
Units					5,125	21,966	9,758								36,849
LOADED Teus					7,697	31,510	13,828								53,035
Units					6,430	27,234	11,585								45,249
6. FULL Teus	97,024	246,524	322,851	386,864	447,487	489,358	514,491	540,086	642,226	671,783	582,133	681,010	741,889	283,953	6,647,679
Units	63,866	177,101	232,209	272,485	314,071	345,193	352,621	363,918	427,325	445,228	387,320	445,953	486,073	189,080	4,502,443
EMPTY Teus	30,029	86,069	103,892	86,868	101,000	133,976	156,649	168,093	203,932	230,098	153,566	184,808	202,841	85,555	1,927,376
Units	20,157	61,440	76,680	59,675	68,156	92,856	101,282	109,227	132,837	148,430	99,263	120,272	131,186	57,505	1,278,966
7. FCL Teus	84,696	229,846	299,140	356,334	404,652	426,730	472,662	517,979	596,424	647,742	580,231	653,599	707,628	275,761	6,253,424
Imports	55,234	153,298	190,347	203,488	247,044	264,658	298,957	326,243	407,118	426,873	343,494	405,687	442,331	170,826	3,935,598
Exports	29,462	76,548	108,793	152,846	157,608	162,072	173,705	191,736	189,306	220,869	236,737	247,912	265,297	104,935	2,317,826
LCL Teus	5,009	14,593	17,934	19,640	19,937	19,582	21,891	22,094	23,178	22,786	19,368	21,580	16,781	6,410	250,783
Imports	4,042	10,616	11,026	10,592	10,946	10,453	12,655	12,607	13,284	11,858	8,517	11,031	5,793	1,931	135,351
Exports	967	3,977	6,908	9,048	8,991	9,129	9,236	9,487	9,894	10,928	10,851	10,549	10,988	4,479	115,432

Table 13.4.1 Container Cargo Throughput at MICT from 1990 to 2001 (Philippines) : (Form-1)

INTERNATIONAL CONTAINER TERMINAL SERVICES, INC.															
CONTAINER TRAFFIC AT MICT															
FOR THE PERIOD FROM JUNE 1988 TO MAY 2001															
					?	?									
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
8. PER SIZE															
20' Footers	53,786	141,045	192,017	192,664	221,363	258,253	238,795	240,016	276,325	275,203	240,792	269,692	293,075	124,930	3,017,956
Imports	-	-	-	-	104,956	107,309	110,732	120,405	143,918	148,990	121,957	143,213	155,999	65,216	1,222,695
MT					2,655	3,286	2,369	1,917	1,754	2,144	2,900	2,063	2,779	2,160	24,027
FCL					98,395	100,369	104,357	114,700	138,279	143,669	117,294	139,350	151,358	62,374	1,170,145
LCL					3,906	3,654	4,006	3,788	3,885	3,177	1,763	1,800	1,862	682	28,523
Exports	-	-	-	-	96,807	100,746	106,907	119,609	125,188	125,592	118,117	124,333	130,322	59,176	1,106,797
MT					32,714	35,158	38,476	48,842	60,300	59,078	43,219	54,678	57,856	27,748	458,069
FCL					61,105	62,154	65,067	67,631	61,477	62,764	70,762	66,592	69,459	29,946	616,957
LCL					2,988	3,434	3,364	3,136	3,411	3,750	4,136	3,063	3,007	1,482	31,771
Transhipment	-	-	-	-	19,600	12,397	-	-	-	-	-	-	-	-	
MT					3,846	3,557									
FCL					15,754	8,840									
Transhipment (foreign)	-	-	-	-	-	13	315	2	7,219	621	718	2,146	6,754	538	18,326
MT															-
FCL						13	315	2	7,219	621	718	2,146	6,754	538	18,326
Transhipment (local)	-	-	-	-	-	2,643	2,152	-	-	-	-	-	-	-	4,795
MT						153	160								313
FCL						2,490	1,992								4,482
Domestic Cargoes	-	-	-	-	-	35,145	18,689	-	-	-	-	-	-	-	53,834
MT						11,281	5,370								16,651
FCL						23,864	13,319								37,183
40' Footers	35,961	93,268	112,946	131,200	154,541	174,884	206,592	225,510	275,202	294,527	232,511	284,298	311,042	116,587	2,649,069
Imports	-	-	-	-	77,185	85,667	100,833	110,326	137,438	145,030	112,110	140,634	152,383	57,172	1,118,778
MT					2,469	2,860	2,360	2,626	1,470	2,026	7,539	4,881	7,066	3,046	36,343
FCL					71,396	79,514	94,475	103,644	131,490	138,855	101,288	131,355	143,578	53,538	1,049,133
LCL					3,320	3,293	3,998	4,056	4,478	4,149	3,283	4,398	1,739	588	33,302
Exports	-	-	-	-	72,389	80,925	102,298	115,178	130,062	149,176	119,642	141,822	153,295	58,791	1,123,578
MT					24,590	32,110	49,351	54,250	68,065	76,515	40,977	54,633	59,069	22,742	482,302
FCL					45,461	46,527	50,675	58,304	59,517	69,984	76,043	84,431	91,445	34,983	617,370
LCL					2,338	2,288	2,272	2,624	2,480	2,677	2,622	2,758	2,781	1,066	23,906

Table 13.4.2 Container Cargo Throughput at MICT from 1990 to 2001 (Philippines) : (Form-2)

INTERNATIONAL CONTAINER TERMINAL SERVICES, INC.															
CONTAINER TRAFFIC AT MICT															
FOR THE PERIOD FROM JUNE 1988 TO MAY 2001															
					?	?									
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
Transhipment	-	-	-	-	4,967	2,075	-	-	-	-	-	-	-	-	
MT					1,523	976									
FCL					3,444	1,099									
Transhipment (foreign)	-	-	-	-	-	29	173	6	7,702	321	759	1,842	5,364	624	16,820
MT							58								58
FCL						29	115	6	7,702	321	759	1,842	5,364	624	16,762
Transhipment (local)	-	-	-	-	-	1,641	756	-	-	-	-	-	-	-	2,397
MT						83	59								142
FCL						1,558	697								2,255
Domestic cargoes	-	-	-	-	-	4,547	2,532	-	-	-	-	-	-	-	7,079
MT						2,676	1,238								3,914
FCL						1,871	1,294								3,165
45' Footers	589	2,228	3,926	8,297	7,817	8,800	8,516	7,619	8,635	10,955	13,280	12,235	13,142	5,069	111,108
Imports	-	-	-	-	3,234	3,449	3,866	3,492	3,779	4,931	6,384	5,735	6,166	2,354	43,390
MT					653	858	1,065	1,287	978	2,321	4,558	3,932	4,269	1,711	21,632
FCL					2,403	2,338	2,511	1,891	2,604	2,441	1,610	1,611	1,696	611	19,716
LCL					178	253	290	314	197	169	216	192	201	32	2,042
Exports	-	-	-	-	4,366	4,588	4,503	4,127	4,856	6,024	6,896	6,496	6,976	2,715	51,547
MT					1,296	947	674	305	270	179	70	85	147	99	4,072
FCL					2,480	3,046	3,239	3,332	3,909	5,206	6,173	5,537	5,754	2,232	40,908
LCL					590	595	590	490	677	639	653	874	1,075	384	6,567
Transhipment	-	-	-	-	217	309	-	-	-	-	-	-	-	-	-
MT					104	88									
FCL					113	221									
Transhipment (foreign)	-	-	-	-	-	8	-	-	-	-	-	4	-	-	12
MT															
FCL						8									-
												4			12
Transhipment (local)	-	-	-	-	-	117	25	-	-	-	-	-	-	-	142
MT							2								2
FCL						117	23								140
Domestic cargoes	-	-	-	-	-	329	122	-	-	-	-	-	-	-	451
MT						268	100								368
FCL						61	22								83

Table 13.4.3 Container Cargo Throughput at MICT from 1990 to 2001 (Philippines) : (Form-3)

INTERNATIONAL CONTAINER TERMINAL SERVICES, INC.																
CONTAINER TRAFFIC AT MICT																
FOR THE PERIOD FROM JUNE 1988 TO MAY 2001																
					?	?										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
II. NUMBER OF SHIPCALLS:	350	876	1,120	1,272	1,288	1,413	1,456	1,507	1,444	1,791	1,820	1,880	1,941	812	18,970
III. DELIVERIES:															
A. CY - Full															
20'			87,099	87,462	102,774	114,337	110,543	113,076	133,082	141,688	113,694	135,922	147,100	60,912	1,347,689
40'			48,099	55,242	70,953	79,280	93,865	103,466	127,173	136,470	97,873	127,303	139,521	52,432	1,131,677
45'			819	2,029	2,562	2,335	2,524	1,950	2,552	2,405	1,564	1,575	1,674	614	22,603
Empty															
20'			2,870	5,596	7,077	12,525	7,356	3,328	2,545	2,784	2,920	2,557	3,207	2,293	55,058
40'			4,716	6,793	4,502	4,914	3,818	3,457	2,563	2,699	7,355	7,075	4,362	2,314	58,568
45'			801	1,205	625	702	922	1,276	775	2,223	3,855	3,373	3,298	1,452	20,507
Total - Units	-	-	144,404	158,327	188,493	214,093	219,028	226,553	268,690	288,269	227,261	277,805	299,162	120,017	2,632,102
Total - Teus	-	-	199,244	224,405	267,932	302,083	321,019	337,509	402,585	433,223	339,263	418,368	449,260	177,346	3,872,235
Average Teus/day	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
IV. RECEIVING:															
Full															
20'			43,431	57,846	62,936	72,019	67,557	65,646	61,360	68,797	69,148	66,284	70,613	29,370	735,007
40'			28,229	39,009	43,708	44,797	49,754	57,543	60,090	69,229	74,512	79,955	87,175	32,457	666,458
45'			1,294	2,820	2,327	2,916	3,003	3,281	3,901	5,176	5,682	5,048	5,429	2,062	42,939
Empty															
20'			45,192	31,123	35,382	45,121	41,591	48,525	62,156	75,046	55,625	62,220	64,300	29,316	595,597
40'			23,182	20,268	26,263	35,184	49,962	52,792	69,976	85,386	51,782	64,569	72,220	27,026	578,610
45'			325	1,198	1,620	1,228	872	420	800	1,153	1,641	1,547	1,010	563	12,377
Total - Units	-	-	141,653	152,264	172,236	201,265	212,739	228,207	258,283	304,787	258,390	279,623	300,747	120,794	2,630,988
Total - Teus	-	-	195,088	216,564	247,141	286,426	317,299	343,168	394,225	467,313	393,838	432,391	468,191	183,558	3,945,201
Average Teus/day	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Table 13.4.4 Container Cargo Throughput at MICT from 1990 to 2001 (Philippines) : (Form-4)

14. PORT AND CHANNEL MANAGEMENT OF INDONESIA

14.1 Outline

In Indonesia, the Shipping Law (Law No.21/1992) separates ports into two groups, public ports and special ports. Public ports are managed by the central government (MOC) and public corporations (IPC). On the other hand, special ports are managed by the private sector. There are 2,293 ports in Indonesia of which 656 are public ports (including 110 commercial ports and 546 non-commercial ports) and 1,484 are special ports (including special wharves). Ports and channels are administrated according to the New Port Regulation (Government Regulation No.69/2001) and the Minister of Communication Decree (Keputusuan Menteri No.26/1998). 110 Commercial ports are operated by four port corporations (IPC). IPC is responsible for the planning, construction and management of the commercial ports. Since the central government owns the entire equity of I PC, I PC is still considered to be a part of the government.

ADPEL (Port Administrator Office) and KANPEL (Port Administration Office), local branches of the Ministry of Communications, are in charge of safe navigation in ports and channels. In addition, KANPEL is responsible for port administration in non-commercial port **S** . Until the end of 2000, KANWIL had been functioning as a local branch office of the Ministry of Communications overseeing ADPEL and KANPEL. KANWIL has started to be transferred to the provincial government in line with the decentralization process since 2001.

Port Working Area (water area and land area) and Port Interest Area (water area) are established in public ports to secure enough areas for port operation. The new Port Regulation (Government Regulation No.69/2001) requires the revision of these areas.

14.2 Current System of Ports and Channels Management (Government Regulation No.70/1996)

The former management system of ports and channels in the commercial ports and non-commercial ports is summarized below.

Table 14.2.1 Current Port Management System of Commercial Ports (Government Regulation No.70/1996)

Responsible Party	Central Government	I PC	Local Government (Province and Municipality)	Private
< Basic Functions >				
Port Management (Commercial Activity)		○		
Port Management (Navigational Safety)	○			
<Responsibility for the Development of the Facilities >				
Navigational Aids	○			
<Port Facilities>				
Basins		○		□
Access Channels (inside the Port Working Area)	△	○		□
Channel(outside the Port Working Area)	○	△		※ (Musi River)
Breakwater	○	△		
Wharf/ Loading Point	△/○	○/△		P
Port Road	△/○	○/△		P
<Support Facilities>				
Yard	△/○	○/△		P
Equipment	△/○	○/△		P
Warehouse	△/○	○/△		P
Tug	△/○	○/△		P
<Industrial Facilities>				
Business Area		○	○	P
Industry Area		○	○	P

Note: ○ Principal Responsible Party
△ Secondary Responsible Party (providing subsidy or sharing costs)
□ Port Charge
※ Voluntary Contribution
P Private Sector Participation

Table 14.2.2 Current Port Management System in Non-Commercial Ports

Responsible party	Central Government (KANPEL)	I P C	Local Government (Province and Municipality)	Private
< Basic Functions >				
Port Management (Commercial Activity)	○			
Port Management (Navigational Safety)	○			
<Responsibility for the development of the facilities >				
Navigational Aids	○			
<Port Facilities>				
Basins	○			
Access Channels (inside the Port Working Area)	○			
Channel(outside the Port Working Area)	○			
Breakwater	○			
Wharf/Loading Point	○			P
Port Road	○			P
<Support Facilities>				
Yard	○			P
Equipment	○			P
Warehouse	○			P
Tug	○			P
<Industrial Facilities>				
Business Area			○	P
Industry Area			○	P

Note: ○ Principal Responsible Party
P Private Sector Participation

14.3 Port Working Area (DLKR) and Port Interest Area (DLKP)

14.3.1 The Functions of Port Working Area and Port Interest Area

The Shipping Law (No.21/1992), Government Regulation (No.69/2001) and Decree of Ministry (No.26/1998) determine the functions of the Port Working Area and Port Interest Area.

(1) Port Working Area (DLKR: Daerah Lingkungan Kerja)

Port Working Area (DLKR) comprises the water area and land area needed for the port activity in public ports.

(2) Port Interest Area (DLKP: Daerah Linkungan Pelabuhan)

Port Interest Area is the water area surrounding the Port Working Area (water area) needed to secure navigational safety.
Formerly, DLKP was established not for water area but only for land area. Consequently, areas of DLKR and DLKP in some ports are the same. It is necessary to review the range of DLKR and DLKP by the new Port Regulation (G.R. No. 69.2001) due to decentralization at this time and set a proper range.
The Functions of Port Working Area and Port Interest Area are stipulated as below (Table 14.3.1).

Table 14.3.1 Functions of Port Working Area and Port Interest Area

Functions	Port Working Area (DLKR)	Port Interest Area (DLKP)
Objectives of the Area	Land working area used for the activity of major facility and supporting facility <Land Major Facilities> 1) Wharf 2) Warehouse 3) Stacking yard 4) Passenger terminal 5) Container terminal 6) Roll-on-roll-off terminal 7) Reception facilities 8) Bunker facility 9) Fire fighting facility 10) Warehouse facility for danger and toxic/goods 11) Facility of equipment maintenance and repairing	1) Ship/Access Channel to from the Port 2) Emergency Needs 3) Long-term Port Development 4) Ships' Movements in the anchorage 5) Placement of abandoned ships 6) Sea Trial 7) Compulsory pilotage Waters 8) Ship Yard and Ship Repairs

	and Navigation Aid < Supporting Facilities > 1) Offices for Port Users 2) Public Facilities 3) Waste Reception Facilities 4) Tourism, Port and Telecommunication Facilities 5) Hotel and Restaurant 6) Area for Port Development Commerce/Trade Estate Industrial Estate Water working area used for the activity of channels and water facilities 1) Access Channel for Ships 2) Anchorage Area 3) Port Basin for Mooring and Ship Maneuvering 4) Waters for Transshipment 5) Waters for Ships which carry Dangerous Goods 6) Waters for the Quarantine Activity 7) Channel Waters for Intra Port Connection 8) Pilot Waters 9) Waters for Government Ships	
Obligation of the Government	1) To provide Government Activity 2) To provide Port Service 2) To provide Area Service Activity 3) To provide Port Supporting Activity	1) To provide Navigational Aids 2) To guarantee Security and Order 3) To provide and maintain Shipping Channels 4) (4) To protect the Environment
Determination of the Area	・Minister of Communications 1) International Hub Port 2) International Port 3) National Port (after recommendation from Governor and Regent/City mayor) ・Governor of province 1)Regional port (after recommendation	・Minister of Communications 1) International Hub Port 2) International Port 3) National Port (after recommendation from Governor and Regent/City mayor) ・Governor of province 1)Regional port (after recommendation

	from Regent/City mayor) ・Regent/City mayor 1)Local port	from Regent/City mayor) ・Regent/City mayor 1)Local port

Note: Republic of Indonesia's Government Regulation No. 69/2001

14.3.2 Distribution of Roles between the Central Government and Local Governments

(1) Administration of River Ports

Indonesian ports are classified into two groups: 656 public ports which are under the jurisdiction of MOC and I PC, and 1,484 special ports (including special wharves) which are operated by the private sector. Within the 656 public ports, 110 commercial ports are managed by four Indonesian Port Corporations (I PC). The remaining 546 non-commercial ports are managed by MOC (KANPEL). Among them, 24 commercial ports and 19 non-commercial ports are river ports. A port has a port working area (DLKR) and a port interest area (DLKP). The port authority manages these areas.

In accordance with the Regional Government Law (Law No. 22/1999) and the Financial Balance Between Central Government and Regional Government (Law No. 25/1999), the decentralization process of Indonesia has just started. A part of the responsibility of port management is being transferred from the central government (including I PC) to local governments. The port working area and port interest area of river ports should be reviewed to reflect this change.

1) Current Borders of Port Working Area and Port Interest Area in Commercial Ports

A commercial port (river port) generally has a large port working area including the coastal area. The port working area covers special wharves along the river and an access channel as well as anchoring basins. MOC is responsible for port management and safe navigation. I PC manages commercial ports (river port) as well as KNPEL manages non-commercial ports as a port authority, and ADPEL and KANPEL are in charge of safe navigation.

2) New Borders of Port Working Area and Port Interest Area

The Revised Port Regulations stipulates the function of the port working area and port interest area as follows.
Port working area (DLKR) is the water area and land area of a public port directly used for port activity. Port interest area (DLKP) is the water area surrounding the port working area and it is used for guaranteeing ship safety. The port working area and port interest area are determined based on the port master plan. Port working area consists of the land area that is used for main facilities and supporting facilities, and water area used

for an access channel, berthing area, transshipment area, port basin for mooring and ship maneuvering, pilotage activity, and ships repair.
Port interest area consists of waters out of the port working area and it is used for an access channel to and from port, emergency needs, long term development, beached ship placing, trial run, pilot age activity, facility for development and maintenance of ship.

3) Management of Port Working Area and Port Interest Area

The study team proposes the revision of the port working area and port interest area in each river ports. As follows:

a. A port authority is responsible for the port working area covering the entire river channel to the river mouth.

b. The central government is responsible for the port interest area covering the outer sea including the access channel and anchoring basin.

The central government should take charge of this area due to the following reasons:

a. Navigational safety is one of the most important areas of the marine transportation sector.
b. The central government will continue to be responsible for navigational safety after decentralization.
c. Navigational safety should be ensured across the nation in a uniform way.
d. The central government of many developed countries manages access channels out of the port basin on its own.

15. RESPONSE TO THE DECENTRALIZATION PROCESS IN INDONESIA

15.1 Ports and Marine Safety after the Decentralization

15.1.1 Ports after Decentralization

The Regional Governments Law (Law No.22/1999), and the Financial Balance Between Central and Regional Government Law (Law No.25/1999) were enacted in April 1999 under the Habibi Administration. Distribution of roles between the central government and local government used to be governed by two other laws, the Local Administration Law (Law No.5/1974) and the Village Administration Law (Law No.5/1979), which were enacted under the Suharto Administration.

The Regional Governments Law and the Financial Balance Between Central and Regional Government Law define the financial responsibility of the central government. The local government can no longer rely entirely on the central government for its development needs. Instead, initiatives of the local people are encouraged. There is a downside in the decentralization policy as well. Relatively rich local governments can promote development projects, while poor local governments cannot. The new laws clearly separate local administration from legislation. The method to elect the head of a local government was also changed. Financial decentralization is one of the major features of the new laws. According to these laws, local governments are entitled to the following sources of revenue: their own revenue, balance fund, and loan.

DGSC started a review of the Port Regulation (Government Regulation No.70/1996) in February 2001.
The following aspects were currently examined and after that the new Port Regulation (Government Regulation No.69/2001) was established in October 2001.
As the decentralization process proceeds, the distribution of roles for port development changes as shown below.

Table 15.1.1 Ports Managed by IPC in Ports Management System
(Government Regulation No.69/2001)

Responsible Party	Central Government	I P C	Local Government (Province and Municipality)	Private
<Basic Functions>				
Port Management (Commercial Activity)		○		
Port Management (Navigational Safety)	○			
<Responsibility for Development of Facilities >				
Navigational Aids	○			
Port Facilities				
Basins		○	△	■
Access Channels (inside the Port Working Area		○	△	■
Channel (outside the Port Working Area)	○	△	△	■
Breakwater	△	○		
Wharf/Loading Point		○	△	P
Port road		○	△	P
<Support Facilities>				
Yard		○	▲	P
Equipment		○	▲	P
Warehouse		○	▲	P
Tug		○	▲	P
<Industrial Facilities>				
Business Area		○	○	P
Industry Area			○	P

Note: ○ Principal Responsible Party
△ Financial Assistance
▲ Cost Sharing by Local Governments
■ Special Charge for Channel Use
P Private Sector Participation

Note: Projects financed by a foreign loan may need a different scheme.

Table: 15.1.2 Ports Managed by Municipal Government in Ports Management System (Government Regulation No.69/2001)

Responsible party	Central Government	Local Government (province)	Port Authority (municipal)	Private
<Basic Functions>				
Port Management (Commercial Activity)			○	
Port Management (Navigational Safety)	○			
<Responsibility for Development of Facilities >				
Navigational Aids	○			
<Port Facilities>				
Basins		△	○	■
Access Channels (inside the Port Working Area)		△	○	■
Channel (outside the Port Working Area)	○	△	△	■
Breakwater	△	△	○	
Wharf/Loading Point		△	○	P
Port Road		△	○	P
<Support Facilities>				
Yard			○	P
Equipment			○	P
Warehouse			○	P
Tug			○	P
<Industrial Facilities>				
Business Area		○	○	P
Industry Area		○	○	P

Note: ○ Principal Responsible Party
△ Subsidy
■ Special Charge for Channel Use
P Private Sector Participation

Considering the importance of the shipping industry in Indonesia, it is necessary to establish a new burden-sharing scheme for port development and clearly define the role of the central government.

A port consists of various facilities in water area and land area and functions as a synthesized organ. As the requirement for a port becomes more diversified and complex, the cost of port development gets higher and a wider variety of port facilities becomes necessary. Appropriate measures need to be taken to ensure the financial soundness of the

government (central and local) and the private sector as well as a fair distribution of the costs among the concerned parties.

Table 15.1.3 Port Development Scheme

Points to be examined	Alternatives	Others
Who should assume the financial burden of port development?	Central Government, Local Government, Port administrator or Private Sector	
How should the port development costs be shared?	Central Government, Local Government and Port Administrator depending on Port Class	
How should the port development costs be recovered?	Operational Revenue, Bond, Subsidy or Loan	
How should the port facilities be used?	Common Use or Exclusive Use changes how with the Classification	
Who should assume the financial burden of port maintenance?	Central Government, Local Government, Port Administrator or Private Sector	

Central Government's Role in Port Management is as follows:

1) Policy formulation for the development and administration of nationwide ports and harbors
2) Establishment of necessary laws and regulations
3) Providing advice and guidance on port administration and operation to port management bodies
4) Authorizing development plans for major ports
5) Financial assistance for port management bodies in relation to port construction projects
6) Implementation of port construction projects (projects under the direct control of the central government)
7) Improvement and maintenance of shipping channels outside the port area
8) Establishment of technological standards for planning, design, and construction of ports and harbors
9) Surveys and research concerning port technology

15.1.2 Marine Safety Administration in Indonesia

The sea traffic and marine safety administration of Indonesia is managed by DGSC, MOC. The Directorate of Maritime-Safety & Seamanship of DGSC is responsible for marine safety implementing safety rules and standards and carrying out ship inspection. The Directorate of Guard & Rescue of DGSC is in charge of search and rescue in and out of ports. It is also responsible for marine disaster prevention and control of port

traffic.

ADPEL (port administration office) and KANPEL (port office) are local offices of MOC and established as shown below.

Class	ADPEL (DGSC direct control)	ADPEL	KANPEL
Class I	4 (Belawan, Tanjung Priok, Surabaya, Makassar)		
Class II		5	1
Class III		14	8
Class IV		21	20
Class V		44	160
Total	4	84	189

ADPEL and KAPEL may be transferred to local governments in the near future in line with the decentralization process. The Directorate of Sea Transport & Traffic of DGSC has 82 boats to install navigation aids. It installs, operates, maintains and manages aids such as lighthouse and sea marine communication facilities. It is in charge of hydrographic survey within ports as well as in the coastal area. The Directorate of Navigation has 24 district offices (District Navigasi) and 217 marine communication stations around Indonesia. Port users based in Singapore and Malaysia are requesting that the procedures relative to marine safety should be simplified and expedited.

15.2 Channel Dredging Scheme after the Decentralization

15.2.1 Outline of Channel Dredging in Indonesia

Indonesia has 34 river ports in the commercial ports throughout the country. In addition, there are also seaports that require maintenance dredging. For this reason, funds for dredging need to be secured every year. However, IPC finds that it difficult to secure enough funds for dredging due to the budgetary constraints of the central government. After IPC was established, IPC took over the responsibility about port administration and construction in commercial ports fundamentally. When the budget of IPC is not enough, the central government pays a part of the cost. According to the agreement between IPC IV and Private Companies in Samarinda port, 50% of the port charge should be allocated to the dredging expense. On one occasion, private companies along Musi River had agreed to assume a part of the dredging expense.

RUKINDO, a government organization, is mainly responsible for the dredging in Indonesia. In order to keep RUKINDO operational, various issues need to be addressed, such as its large staff and old dredger fleet.

15.2.2 Cost Sharing Scheme for Maintenance Dredging Expenses

As long as a river port is operational, siltation cannot be avoided. Maintaining the navigable draft is indispensable. The Indonesian government has had difficulty in securing the funds for dredging. Shipping companies and owners of special ports are greatly benefiting from river ports. The economic impacts of a port on the regional economy are substantial. Development of a river port should be carried out by a joint effort of the local community and port users. It is necessary to identify the zone where public management is required. In Samarinda, a new cost-sharing scheme is under study for dredging in fiscal 2001.

15.2 3 Channel Dredging Scheme for the Principal River Ports

A careful study to determine a new cost-sharing scheme for channel dredging is required.

1) The outline of the channel of the principal river ports

The outline of the channel of the principal river ports is as follows (Table 15.2.1).

Table 15.2.1 Channel Length and Dredging Volume of the Principal River Ports

River Port	River	Port Authority	Distance form River Mouth	Dredging Volume and Cost (per year) (13,000Rp/m3) (Existing Condition)	River Channel	Outer Channel
					Dredging Volume and Cost (per year)	Dredging Volume and Cost (per year)
Pekanbaru Port	Siak River	IPC I	Pekanbaru 165km Perawang 135km	Negligible	0	0
Jambi Port	Batang Hari River	IPC II	TalangDuku 155km Muara Sabak 25km	350,000m3 Rp 4,550 million	0	350,000m3 Rp 4,550 million (16km)
Palembang Port	Musi River	IPC II	BoomBaru 105km SungaiLais 98km	2,060,000m3 Rp 26,780 million	400,000m3 Rp 5,200 million	1,660,000m3 Rp 321,580 million (24km)
Pontianak Port	Kapus Kecil River	IPC II	30km	700,000m3 Rp 9,100 million	0	700,000m3 Rp 9,100 million (15km)
Kumai Port	Kumai River	IPC III	Kumai 25km Bumiharjo 36km	450,000m3 Rp 5,850 million	230,000m3 Rp 2,990 million	220,000m3 Rp 2,860 million (8km)
Sampit Port	Sampit River	IPC III	75km 55km	450,000m3 Rp 5,850 million	230,000m3 Rp 2,990 million	220,000m3 Rp 2,860 million (8km)
Samarinda Port	Mahakam River	IPC IV	65km	1,000,000m3 Rp 13,000 million	250,000m3 Rp 3,250 million	750,000m3 Rp 9,750 million (15.6km)

River Channel: The port of the channel inside the river
Outer Channel: The port of the channel outside the river mouth

2) River Port Management and Maintenance in line with Decentralization

In order to implement port administration in line with decentralization, the Study Team proposes the following schemes.

It is necessary to separate the access channel into two: river channel and outer channel. The portion of the channel inside the river is defined as “river channel”. The remaining portion of the channel is defined as "outer channel". The port working area and the port interest area need to be reviewed accordingly. In developed countries, various schemes are adapted. It is common for the central government to take the responsibility for the dredging cost in "outer channel". Port authority is usually responsible for the dredging in "river channel".

a. Case -1 The Port Authority (IPC) is responsible for the Entire Reach of the Channel.

In this case, the port working area continues to be wide. IPC will pay the entire channel dredging costs, while receiving the revenue from the anchoring charge. Local governments might be requested to subsidize the dredging cost. They can give a subsidy within the budgetary limitation in order to realize the regional development.

Distribution of the Responsibility for Maintenance Dredging

Channel	Management	Revenue	Dredging Cost
River Channel	IPC (Port Authority)	IPC	IPC
Access Channel	IPC (Port Authority)	IPC	IPC

b. Case-2 The Central Government is responsible for the "Outer Channel" and the Port Authority (I PC) is responsible for the "River Channel".

In this case, the port working area is limited within the river reaching as far as the river mouth. The "River Channel" is managed by the port authority. Because the port working area is shorter, the maintenance dredging cost can be reduced. (*-1) IPC maintains authority over special ports in the river. (*-2) I PC may be assisted by local governments as mentioned in case 1. The central government is responsible for the management of the "Outer Channel" and the anchoring area to ensure safe navigation. The area covering the "Outer Channel" and the anchorage should be defined as the port interest area.
Note: (*-1 and *-2)

Distribution of the Responsibility for Maintenance Dredging

Channel	Management	Revenue	Dredging Cost
River Channel	IPC (Port Authority)	IPC	IPC
Outer Channel	Central Government	Central Government	Central Government

c. Case-3 The Central Government entrust the Port Authority with the Management of the "Outer Channel".

In this case, port authority (IPC) manages the port interest area including the "Outer Channel" and anchoring area entrusted by the central government. A similar practice is under way in Japan. The central government constructs major port facilities and entrust the port authority with their management.

The Team proposes this scheme for the managing of river ports.

The port working area is limited inside the river reaching as far as the river mouth. The river channels are managed by IPC. The dredging cost is comparatively small. (same as in -1) same. In addition, IPC can get the port charge for the "Outer Channel" and anchoring area. The dredging cost of the "Outer Channel" is shared by the central government and IPC though negotiation (same as in -2) same. It is also necessary to examine whether the existing port charges on special wharves should be revised.

Distribution of the Responsibility for Maintenance Dredging

Channel	Owner	Management	Revenue	Dredging Cost
River Channel	IPC	IPC (Port Authority)	IPC	IPC
Outer Channel	Central Government	IPC	IPC	IPC and Central Government

d. Case-4 Conceptual Cost Sharing Scheme for Maintenance Dredging in Jambi Port without Master Plan

Jambi Port

Parties concerned	Current Scheme (until 1998)	Provisional Scheme (1999-2001)	Future Scheme (Draft)	Note
River Channel				
Central Government	0 % (50%)	0 %	0 %	
Port Authority IPC Ⅱ	100 % (50%)	100 %	50 ～80%	
Local Government	0 %	0 %	10～40%	※ 1.
Related Business Circles (beneficiaries)	0 %	0 %	5 %	Beneficiary Charge
Calling vessels (greater than 105 GRT)	0 %	0%	5 %	Channel Use Charge
Outer Channel			16km 350,000m3	
Central Government	0 % (50%)	0%	50 % Rp 2,275million	
Port Authority IPC Ⅱ	100 % (50%)	100 %	50 % Rp 2,275million	

Note: Beneficiaries include the owners of special ports and vessels larger than 105t
Note: ※ 1. Subsidy (within the budgetary limitation) from Province and Municipality
Note: Currently, maintenance dredging is carried out only in the outer channel.

e. Case 5) Conceptual Cost Sharing Scheme for Maintenance Dredging in Samarinda

Port without Master Plan

Samarinda Port

Parties concerned	Current Scheme (until 1998)	Provisional Scheme (1999-2001)	Future Scheme (Draft)	Note
River Channels			270,000m3 Rp 3,510 million	
Central Government	50-100%	50 - 90%	0 %	
Port Authority IPC Ⅳ	0 - 50%	10 - 50%	50 % Rp1,755 million	
Local Government	0 %	0 %	40 % Rp1,404 million	※ 1.
Related Business Circles (beneficiaries)	0 %	0 %	5 % Rp 175.5million	Beneficiary Charge
Calling Vessels (greater than 150 GRT)	0 %	0 %	5 % Rp 175.5million	Channel Use Charge
Cannel out of Port (Access Cannel)			15.6km 740,000m3	
Central Government	50-100%	50 - 90%	50 % Rp 4,810million	
Port Authority IPC Ⅳ	0 - 50%	10 - 50%	50 % Rp 4,810million	

Note: Beneficiaries include the owners of special ports and vessels larger than 150t.
Note: ※ 1. Subsidy (within the budgetary limitation) from Province and Municipality

15.2.4 Port Administration Scheme

In October 17th 2001, New Government Regulation Regarding Port Affairs with the relevant organization and port administration scheme has been revised by DGSC, MOC. Five port classes are proposed in the (Government Regulation No.69/2001) (Table 15.2.2).

Table 15.2.2 Matrix of Authority Arrangement for Each Hierarchy of Role and Port Function(1/2)

No	Function / Port System/Classification		Government																			
			State Authority Mandate for Safety						Regulation of Port Organization													
			Shipping Safety						Founding				Organization									
			Inspection of Port Activity	Inspection of Ship Work House	Inspection of Piloting and Tugging	Inspection of Ship Operation and Development	Security and Orderliness	Prevention and Combart of Pollutio	Decision of Location	Decision of Port Master Plan	Decision of Building License	Decision of Operation	Decision of Working Area/Interest Area of Port	Decision of Dredging and Reclamation	Decision of operation status	Decision of port performance	Decision of Coordination Function	Decision of Certification for Equipment and Facility	Decision of Guidelines for Business Cooperation	Sea Transportation Traffic	CIQ
I	Primary Trunk Port (International Hub Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
		RPP69/01	P	P	P	P	P	P	P	P	P	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
II	Secondary Trunk Port (International Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P DUMN	P DUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
		RPP69/01	P	P	P	P	P	P	P	P	PR KK	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
III	Tertiary Trunk Port (National Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
		RPP69/01	P	P	P	P	P	P	P	P	PR KK	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
IV	Primary Feeder Port (Regional Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
		RPP69/01	P	P	P	P	P	P	P	P	PR	PR	PR BUMN	PR BUMN	P BUMN	P BUMN	P BUMN	PR BUMN	P BUMN	PR	P
V	Secondary Feeder Port (Local Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P	P
		RPP69/01	P	P	P	P	P	P	P PB	P	KK	KK	PR BUMN	PR BUMN	P BUMN PB	PR BUMN	P BUMN PB	PR BUMN	P BUMN	KK	P
1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

P=Government PR=Province Government KK=Regency/City Government D=Deconcentration PB=Supporting BUMN=State-Owned Corporation BUMD=Region-Owned Corporation

PP70/96: Port Regulation (No.70/1996) RPP69/01: Revised Port Regulation (No.69/2001)

Matrix of Authority Arrangement for Each Hierarchy of Role and Port Function (2/2)

No	Function / Port System /Classification		Organiseer / Service Provider																									
			Main Buisiness													Supporting Business												
			Ship Service					Passenger & Cargo service				Terminal				Land and Building Lease						Others						
			Telematic	Piloting,Tugging and Making Alongside	Berthing	Mooring	Water Bunker and Refine Fuel Oil(BBM)	Wharf	Warehouse	Container Yard	Equipment	Passenger	Container	Bulk Goods	Office	Industry	Trade	Recreation	Parking	Storehouse	Utilization of Outer Space /	Waste	Telematic	Scales	Port Boarding Pass	Electricity , Gas
I	Primary Trunk Port (International HubPort)	PP 70/96	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN
		RPP69/01	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P PR BUMN BUMD	P PR BUMN BUMD	P BUMN	P BUMN	PR KK BUMN BUMD	P BUMN	PR KK BUMN BUMD	P KK BUMN BUMD	P BUMN	PR KK BUMN BUMD	P BUMN	PR KK BUMN BUMD
II	Secondary Trunk Port (International Port)	PP 70/96	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P DUMN	P DUMN	P BUMN	P BUMN	P BUMN	P BUMN	P DUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN
		RPP69/01	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P PR KK BUMN BUMD	P PR KK BUMN BUMD	P PR KK BUMN BUMD	P PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	P FR KK BUMN BUMD	P PR KK BUMN BUMD	P PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	P PR KK BUMN BUMD
III	Tertiary Trunk Port (National Port)	PP 70/96	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN
		RPP69/01	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P BUMN	P PR BUMN BUMD	P PR BUMN BUMD	P PR BUMN BUMD	P PR BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD	PR KK BUMN BUMD
IV	Primary Feeder Port (Regional Port)	PP 70/96	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
		RPP69/01	PR BUMN	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD	PR BUMD
V	Secondary Feeder Port (Local Port)	PP 70/96	PR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
		RPP69/01	KK BUMN	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD	KK BUMD
1	2		22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

P=Government PR=Province Governmer KK=Regency/City Governn D=Deconcentration PB=Supporting BUMN State-Owned Corporation BUMD=Region-Owned Corporatic

16.PORT AND CHANNEL MANAGEMENT SYSTEM IN FOREIGN COUNTRIES

16.1 Ports in Japan

16.1.1 Overview

In Japan, the maintenance and administration of ports and harbors is governed mainly by the Port and Harbor Law (Law No.218/1950), the Law Concerning Dissolution of Port Development Authorities and Succession of Their Functions, and the Emergency Measures Law for Port and Harbor Development. In addition, activities carried out in ports and harbors must adhere to the following laws:

- Immigration-Control and Refugee-Recognition Act (Ministry of Justice)
- Quarantine Law (Ministry of Health, Labour and Welfare)
- Plant Quarantine Law (Ministry of Health, Labour and Welfare)
- Livestock Infectious Diseases Prevention Law (Ministry of Agriculture, Forestry, and Fisheries)
- Customs Law (Ministry of Finance)
- Foreign Exchange and Foreign Trade Control Law (Ministry of Finance, Ministry of Economy, Trade and Industry)
- All laws related to the prevention of environmental pollution(Ministry of Environment, Ministry of Land, Infrastructure and Transport)

The Japanese government shoulders a portion of the cost for the development of port that significantly affect the national interest (specially designated major ports, major ports and harbors of refuge) based on the characteristics of the port and its benefits to the public. When a particular need is recognized and the national budget allows, the government may assist the port management bodies with the costs of port construction, in order to support the use by the general public.

The Ministry of Land, Infrastructure and Transport also assists them when they issue local bonds for port development. The Japanese government takes some measures to promote private sector participation in port projects. The measures include tax incentives and concession loans.

Table 16.1.1 Port Facility Development System in Japan

Project	Type of Facilities	Financial Responsibility	Government Assistance
Development of Port Infrastructure	Breakwaters, Basins, Channels, Berthing Facilities, Port Roads,	Central Government or Local Government	Subsidy
Port Environment Improvement	Ecological Conservation Works	Local Government	Subsidy
Development of Port Superstructure	Cargo Handling Facilities (Warehouse, Cargo Handling Equipment, Marshalling Yards) Storage Facilities, Industrial Sites, Urban Redevelopment	Local Government	Public Financing (Government Bonds)
Private Sector Projects	Passenger Terminals Offices, Museums	Private Sector	Tax Incentives, Subsidy , Concession Loan

Table 16.1.2 Cost Sharing Scheme for Port Development in Japan

	Breakwaters, Basins, Channels	Berthing Facilities	Port Roads
Specially designated Major Ports (22 ports)			
Projects implemented by Central government	N .G 5.5 /10 M. B 4.5 /10 The central (N.G 2/3 M.B 1/3 for facilities needed for deep-draft container terminals)	N. G 5.5 /10 M. B 4.5 /10 (N.G 2/3 M.B1/3 for reinforcement of deep draft containers terminals in the gateway ports	N. G 2 /3 M. B 1 /3
Projects by the central government	N. G 5 /10 M. B 5 /10 (N.G 4 /10 M.B 6/10 for minor facilities.)		N. G 5 /10
Major ports (106 ports)			
Projects implemented by Central government	N. G 5.5 /10 M. B 4.5 /10	N. G 5.5 /10 M. B 4.5 /10	N. G 5.5 /10 M. B 4.5 /10
Projects subsidized by the central government	N. G 5 /10 M .B 5 /10 (N.G. 4 /10, M.B 6/10 for minor facilities).		5 /10
Local ports (892 ports)			
Projects subsidized by the central government	N. G 4 /10 M. B 6 /10		
Shipping channels outside the port area			
Channels	N. G 10 / 10		

Note: As of 2000

Note: N.G.: National Government

Note: M.B.: Port Management Body (mostly local government)

Table 16.1.3 Types of Ports and Harbors and Port Management Bodies in Japan

(As of April 2001)

Classification	Number	Port Management Bodies					Article 56 ports
		Prefectures	Municipalities	Port authorities	Local government association for port management	Total	
Specially designated major ports	22	11	8	0	3	22	0
Major ports	106	86	17	1	2	106	0
Local ports (including harbors of refuge)	960 (35)	522 (29)	370 (6)	0 (0)	0 (0)	892 (35)	68 (0)
Total	1088	619	395	1	5	1020	68

Notes: Specially designated major ports: Port of paramount importance for the international marine transport network.

The revision of the Port and Harbor Law in 2000 increased the central government's share for the construction of quay walls and shipping channels which concern the national interest. Conversely, its share for the construction of minor facilities was reduced.

16.1.2 Applicability to Indonesia

Every port in the world has its port management body. In carrying out port development, port management bodies usually receive a subsidy from the government. Local communities and beneficiaries shoulder a part of the development costs as well. Public ports in Indonesia are managed by IPC. IPC receives a government subsidy in some ports but does not get a contribution from the local communities. Since port activity generates a large amount of economic benefits for the regional economy, it is quite reasonable to ask for a financial contribution to port development. In Indonesia, many port facilities have been developed by private companies such as special ports and special wharves. It would be worth encouraging private companies to form a cooperative to help develop efficient port facilities for specific cargo items such as timber, palm oil, and coal.

16.2 Present Conditions in Major Countries

16.2.1 Contribution of the Central Government toward Port Development

The share of port infrastructure development cost (including shipping channels, navigation aids and break-waters) borne by the national government and port management authorities in Germany, the Netherlands, Belgium, France, the United States, and Great Britain is shown in the following table.

Table 16.2.1 Financial Scheme of Port Development in Major Countries

<table>
<tr><th>Country</th><th>Channel</th><th>Navigation Aids</th><th>Breakwater</th><th>Berth, Dock, Reclamation</th></tr>
<tr><td>Germany</td><td colspan="3">Construction/Maintenance
Out of Port Area Inside Port Area
CG: 100% CG: 0%
PB: 0% PB: 100%</td><td>Construction/
Maintenance
CG: 0%
PB: 100%</td></tr>
<tr><td rowspan="2">Holland</td><td colspan="2">Construction
CG: 100% PB: 0%</td><td rowspan="2">Different by each Port</td><td rowspan="2">Construction/
Maintenance
CG: 0%
PB: 100%</td></tr>
<tr><td colspan="2">Maintenance
CG: 100% PB: 0%</td></tr>
<tr><td rowspan="2">Belgium</td><td>Construction
CG: 100%
PB: 0%</td><td rowspan="2">Installation/Maintenance
Out of Port Area
CG: 100%
PB: 0%
Inside Port Area
CG: 0%
PB: 100%</td><td>Construction
CG: 100%
PB: 0%</td><td>Construction
CG: 60-100%
PB: 40-0%</td></tr>
<tr><td>Maintenance
CG: 100%
PB: 0%</td><td>Maintenance
CG: 0%
PB: 100%</td><td>Maintenance Sharing between Local Government &PB</td></tr>
<tr><td rowspan="2">United Kingdom</td><td>Construction CG: 0%
PB: 100%</td><td rowspan="2">Installation/Maintenance
Out of Port Area
CG: 100%
PB: 0%
Inside Port Area
CG: 0%
PB: 100%</td><td rowspan="2">Construction/
Maintenance
CG: 0%
PB: 100%</td><td rowspan="2">Construction/
Maintenance
CG: 0%
PB: 100%</td></tr>
<tr><td>Maintenance
CG: 0%
PB: 100%</td></tr>
<tr><td rowspan="2">France</td><td>Construction
CG: 80%
PB: 20%</td><td rowspan="2">Installation
Out of Port Area
CG: 100%
PB: 0%
In Port Area
CG: 60-80%
PB: 40-20%
Maintenance
CG:100%
PB: 0%</td><td>Construction
CG: 80%
PB: 20%</td><td rowspan="2">Construction/
Maintenance
CG: 0%
PB: 100%</td></tr>
<tr><td>Maintenance
CG: 100%
PB: 0%</td><td>Maintenance
CG: 100%
PB: 0%</td></tr>
</table>

U.S.	Construction Out of Port Area CG: 80-40% PB: 20-60% In Port Area CG: 0% PB: 100%	Installation/Maintenance CG: 100% PB: 0%	Construction/ Maintenance CG: 0% PB: 0%	Different by each Part
	Maintenance Out of Port Area CG: 100% PB: 0% In Port Area CG: 0% PB: 100%			

Source: ESPO Fact Finding Report 1996

Note: CG: Central Government, PB: Port Management

16.2.2 Applicability to Indonesia

Port users are requested to bear a part of the channel dredging costs in most countries. It would be worth introducing a new cost-sharing scheme in Indonesia as well, asking port users and local communities for a fair financial contribution.

16.3. River Administration in Japan

16.3.1 Japanese System

(1) Outline

The River Law (law No.167/1964), the basic law for the management and administration of rivers, stipulates that rivers be managed by river management bodies. All of the Japanese rivers are managed by the national government or the local government (metropolitan, prefecture, etc.). A river needs to be managed with the entire catchment area taken into consideration. Japanese rivers are classified into two, the 1st class rivers (managed by the national government), and the 2nd class rivers (managed by local government). Japan's river maintenance has been carried out mainly as a mitigation measure against floods and drought. Recently, rivers are expected to have a wider range of functions, such as habitats and an area for recreation. It is becoming important for the government to achieve various policy goals regarding the river administration. The cost sharing system is shown below.

Table 16.3.1 Cost Sharing for River Maintenance in Japan

Matters	The 1st Class Rivers		The 2nd Class Rivers
	Central Gov. Section	Local Gov. Section	
Ordinary River Maintenance	C.G. 2/3 L.G. 1/3	C.G. 1/2 L.G. 1/2	C.G. 1/2 L.G. 1/2
Urban River Maintenance	C.G. 1/3 L.G. 1/3 City 1/3	C.G 1/3 L.G 1/3 City 1/3	C. G 1/3 L. G 1/3 City 1/3

Note: C.G.: Central Government

Note: L.G.: Metropolitan and Prefectural Government

Table 16.3.2 Cost Sharing for River Environment Improvement in Japan

Matters	The 1st Class Rivers		The 2nd Class Rivers
	Central Gov. Section	Local Gov. Section	
Ordinary River Environmental Improvement	C.G. 1/2 L.G. 1/2	C.G. 1/3 L.G. 2/3	C.G. 1/3 L.G. 2/3
Urban River Environmental Maintenance	C.G.1/3 L.G. 1/3 City 1/3	C.G. 1/3 L.G. 1/3 City 1/3	C.G.1/3, L.G. 1/3 City 1/3

Note: C.G.: Central Government.

Note: L.G.: Metropolitan and Prefectural government.

(2) River Administration

River management bodies have the following authorities. Actually, a large portion of the authority is assumed by municipal governments.

Table 16.3.3 Authority of River Management

1)	River Zone Establishment
2)	Storage of River Data
3)	Formulation of River Management Principles
4)	Formulation of River Management Plan
5)	Permission of the Use of River Water
6)	Permission of the Use of Land
7)	Permission of the Building of a New Structure
8)	Permission of the Land Excavation

Table 16.3.4 Authority Assumed by Municipal Governments

1)	Consultation on the Creation of a Structure
2)	Enforcement of a River Condition Recovery
3)	Supplementary Construction Works
4)	Compensation of the Loss accompanying Construction
5)	Request for a Payment to an Accountable Party
6)	Request for a Payment by a Beneficiary
7)	Burden Command of the Expense which – Incidental Construction takes
8)	Compulsory Collection
9)	Entry for Investigation and Construction

(3) River Transportation

River Transportation used to be an important transportation means of goods and people in Japan. It requires renewed attention as a means to alleviate traffic congestion and to promote tourism. It is indispensable to establish a fundamental principle to prevent damage in river structures and to coordinate various uses of rivers. Japanese government enacted an ordinance based on the River Law, which stipulates the rules for vessel navigation.

16.3.2 Applicability to Indonesia

Major rivers in Indonesia play an important role as a traffic infrastructure, assuming a wider range of roles than the rivers in Japan. On the other hand, there is no established river administration system in Indonesia. It is expected that more activities will be carried out in the rivers in Indonesia, such as installation of structure, private use of the water surface, implementation of construction works, and water supply. Therefore, it is necessary to build a river administration system covering various functions. Since DGSC has the authority over river traffic, it needs to exercise leadership in coordinating the use of rivers.

16.4 Marine Safety Administration in Japan

16.4.1 Japanese System

Japan has the Sea Traffic Safety Law (Law No.115/July, 1972), Port Regulation Law (Law No.174/July, 1948) and Sea Collision Prevention Law (Law No.62/June, 1977) to secure the safety of vessel traffic. Sea Collision Prevention Law was enacted to ratify an international convention.

(1) Sea Traffic Safety Law (Law No.115/July 3, 1972) in Japan

To achieve the safety of ship traffic, the Sea Traffic Safety Law is enacted as a special law of the Sea Collision Prevention Law to cover three areas (Tokyo Bay, Ise Bay and Seto Inland). Sea navigation channels are established in areas where sea traffic is badly congested including Uraga channel.

(2) Port Regulation Law (Law No.174/July 15, 1948) in Japan

Port Regulation Law is enacted to achieve the safety of ship traffic and the orderly use of the port area. It is a special law of the Sea Collision Prevention Law. Port Regulation Law covers the ports, which have a great number of vessel calls. It regulates construction works and fishing activities within the port area. 501 ports are covered by this law as of July 2000. In addition, 86 ports are specified as a special port and managed by a harbormaster as of July 2000. In these ports, this law designates anchorage areas and regulates night port calls. This law has a nature of police regulations, requiring a fair and equal treatment to all vessels.

(3) Marine Safety System

Maritime Safety Agency is one of the branch organizations of the Ministry of Land Infrastructure and Transport. It has 11 Regional Maritime Safety Headquarters. This agency is in charge of the following: maintaining security, securing traffic safety, preventing a disaster and preserving marine environment.

Work Force of the Maritime Safety Agency (as of March 2000)

	Number of Officials		
Total	12,247		
Head Office	1,654		
Local Office	Subtotal	Seaborne and Airborne	Land-based
	10,593	6,199	4,394

(4) Standard Processing Period of Administration Procedures

Maritime traffic control concerns the public interest. Therefore it should be taken care of by a governmental agency. The following table shows the record of permissions relative to the port traffic in Japan. The standard (expected) processing time is also shown in Table 16.4.1.

Table 16.4.1 Standard Processing Period of Administration Procedures

Permissions		2000	1999	Standard Time for Permission
Limitation or Prohibition of Vessel Traffic		308	307	
Designation of a Anchorage		87,391	89,745	10 min. - 60 min.
Permission Concerning Port Traffic	Sub-Total	315,780	318,551	
	Permission of a Port Call at Night	6,472	5,283	10 min. - 60 min.
	Permission of a Vessel Shift	37,811	37,661	10 min. - 60 min.
	Permission of Dangerous Cargo Handling	219,850	223,306	10 min. - 60 min.
	Permission to conduct Civil Works	19,462	19,692	within 1 month
	Permission of a Port Event	2,872	2,759	within 1 month
	Granting Omission of a Port Call Report	11,507	11,271	about 1 - 2 days
	Permission of Bamboo Wood Cargo Handling	1,236	1,445	10 min. - 60 min.
	Permission of Raft Mooring and Operation	9,233	9,926	about one hour
	Others	7,337	7,208	
Reports of Port Traffic Control		1,220,161	1,186,736	10 min. - 60 min.
Total		1,623,640	1,595,145	

16.4.2 Application to Indonesia

Port users are required to obtain permission from ADPEL and KANWIL for various matters for example shipping license, movement license, and towing license. A considerable period of time elapses before permission is granted. Applications by port users need to be treated in a fair and swift manner.