Chapter 15 General Assessment of the Major Port Project

15.1 General Assessment of the Major Port Project

15.1.1 Port Project in HCMC Area

Container feeder transport is mainly within Asia and local regions of Vietnam. Present data indicate that container feeder size for Asian route is from 500TEU to 1,400TEU. It is reasonable to choose vessel size from 1,000TEU to 2,000TEU for Asian routes. Cat Lai and Hiep Phuoc are candidate sites for this purpose. The existing four (4) major ports in HCMC should be relocated to the suburban areas. The existing port in the centre of HCMC should be developed with waterfront amenities.

(1) Cat Lai IZ Port

The construction of a new road from the NR1 to the Cat Lai Port has almost been completed. In addition, in the future, the construction of the under river tunnel and the bridge across Sai Gon River linking the main road through Cat Lai area will create an important access road for cargo transport from/to the East of the city.

The establishment of Cat Lai IZ and the related port which serves the IZ and the hinterlands is in line with the HCMC Master Plan which includes the relocation of ports along Saigon River and the improvement of urban transportation conditions in the area. The river channel in the expected port area is approximately wide and deep enough for the navigation of 20,000 DWT vessels. Therefore, this is an ideal location for the construction of port facilities serving Cat Lai IZ and the hinterlands.

(2) Hiep Phuoc IZ Port

It is necessary to develop a port in Hiep Phuoc area in order to reduce the traffic load in Nha Be and Sai Gon River Channel and to harmonize the development of the city and ports. Hiep Phuoc IZ Development Plan in the south of the city has been prepared for the relocation and expansion of the port sites in HCMC. Selection of the future permissible vessel size for this site is very difficult due to the nature of technical issues related to the dredging in the lower of Soai Rap River. Therefore, in the short-term, it is better to use the Long Tau-Soai Rap River Channel rather than the Long Tau-Sai Gon River Channel for up to 20,000DWT vessels. In this case, it is necessary to improve the Soai Rap Channel in the upper bend and the height of the cable.

(3) Re-Development and Rehabilitation of Existing Ports

Cargo Operation of Ports along Saigon River should be relocated to the outskirts of the city center step by step for the appropriate urban development and the urban environmental improvement. As a result, those port areas should be redeveloped as beautiful waterfronts with international business functions and an appropriate level of cargo handling function. A bridge crossing Sai Gon River will be constructed in Thi Vai, linking Binh Thuan Road to the outer ring road through Cat Lai. Such a bridge will restrict the navigation of many vessels to the existing

inner city ports. The under clearance of the bridge over the main navigational channel should be kept up to 55m.

15.1.2 Port Project Sites in Thi Vai - Vung Tau Area

(1) The Port Site at Thi Vai

Along the Thi Vai River, there are a few possible port development sites, all of which have been mentioned in the Vietnam Seaport System Development Master Plan up to 2010. In fact, some ports have already been constructed and put into operation such as ports at Phu My, ports at Go Dau and Cai Mep. Thi Vai General Port is planned in the downstream of Phu My area. Thi Vai is located between Bien Hoa and Vung Tau and about 50km from Bien Hoa City. The land area allocated for General Port in Thi Vai is 2km long and 500m wide each in the downstream and the upstream of Baria Serece Port. The port uses the water area in Ganh Rai Bay (about 30km from the port) as an anchorage area. Thi Vai site is only 3km from NR 51.The road embankment behind the port is already established.

The Thi Vai River Channel through Cai Mep accesses Thi Vai. There are two sharp bends, 800 m apart, and the radius of each is 920 m, which make it difficult to meet the international channel standards for large vessels more than 30,000 DWT. Therefore, the vessel traffic for vessels more than 30,000 DWT should be restricted to one-way in this section.

In Thi Vai area, the major roles of these new ports, if realized, will be to serve only for the potential cargo traffic to/from their limited direct hinterland, in other words, mainly cargo from the Phu My IZ.

(2) Potential Sites for Deep Container Ports

The size of container vessels continues to rapidly increase. Currently, the Post Panamax Fleet represents over 30% of total container vessels in the world. When undertaking their services trans the Pacific, the Atlantic, and on Europe - Far-East routes, most shipping companies use Panamax or Post Panamax. The vessel size for intra-Asian feeder transport has also been increasing. Therefore, a new port should be able to accommodate vessels that ship cargo to European and American markets. Cai Mep and Ben Dinh-Sao Mai are candidate sites for this purpose.

1) Port Site at Cai Mep

As confirmed in the Vietnam Seaport System Development Master Plan up to 2010, the left bank area of Cai Mep is also a possible port site to be developed. Actually, Cai Mep is located about 10km downstream of Phu My, and just upstream from Thi Vai River Mouth. This area includes 100ha of land available for port facilities. The shoal exists in the upstream of Buoy B5. Cai Mep is only about 9km from National Highway 51. In the short term, the traffic system behind the port at Cai Mep site is not as advantageous, but there is no serious problem.

2) Port Site at Ben Dinh- Sao Mai

+ General Character

Ben Dinh-Sao Mai is located in the northwest of Vung Tau City on the left bank of Dinh River. The project site of the port is at the tip of the Ben Dinh Peninsula. The land area allotted to the port has the elevation from -4.0m to +2.0m above CDL. The access channel to the Ben Dinh- Sao Mai area is located along Dinh River. Its parameters are 7.0m deep and 150m wide. The distance from Buoy 5 to Ben Dinh-Sao Mai is about 3.5km. This is the advantage of the Ben Dinh-Sao Mai site in comparison with other sites but winds and waves in the monsoon season are rather strong and thus investment in a breakwater is necessary.

+Maritime and Industrial Development Potential

The costal area in Ben Dinh-Sai Mai is limited and it is not appropriate for large-scale industry development due to the urban activities and tourism. If the new deep ports are developed in the Cai Mep and Thi Vai, the maritime industrial development potential upstream will be enhanced through the Development of New Thi Vai Navigation Channel

+Urban Development

Vung Tau is now a crowded city and so shall be the future Ba Ria city. That means if the port project site is planned inside the city, the same problems as in HCMC shall be generated here in future. Therefore, Cai Mep, which is on the outskirts of Vung Tau, is considered highly suitable in the long-term development of Ba Ria - Vung Tau province.

+Negative Impact on Natural Enviroment

The natural depth of water is insufficient and the volume of initial dredging work will be large. The huge amount of the disposal of dredging materials and the wide reclamation will cause negative influence on the natural environment in Ganh Rai Bay.

+Impact on Tourism

Currently, thousands of people visit Vung Tau City to enjoy maritime activities such as seafood restaurant, seaside hotel, sea bathing, fishing, etc. There are a few ways to access toward Vung Tau City. It would be unwise to have port related heavy traffic entering Vung Tau City through narrow 2 lanes road.

+Impacts on Fishery Activities

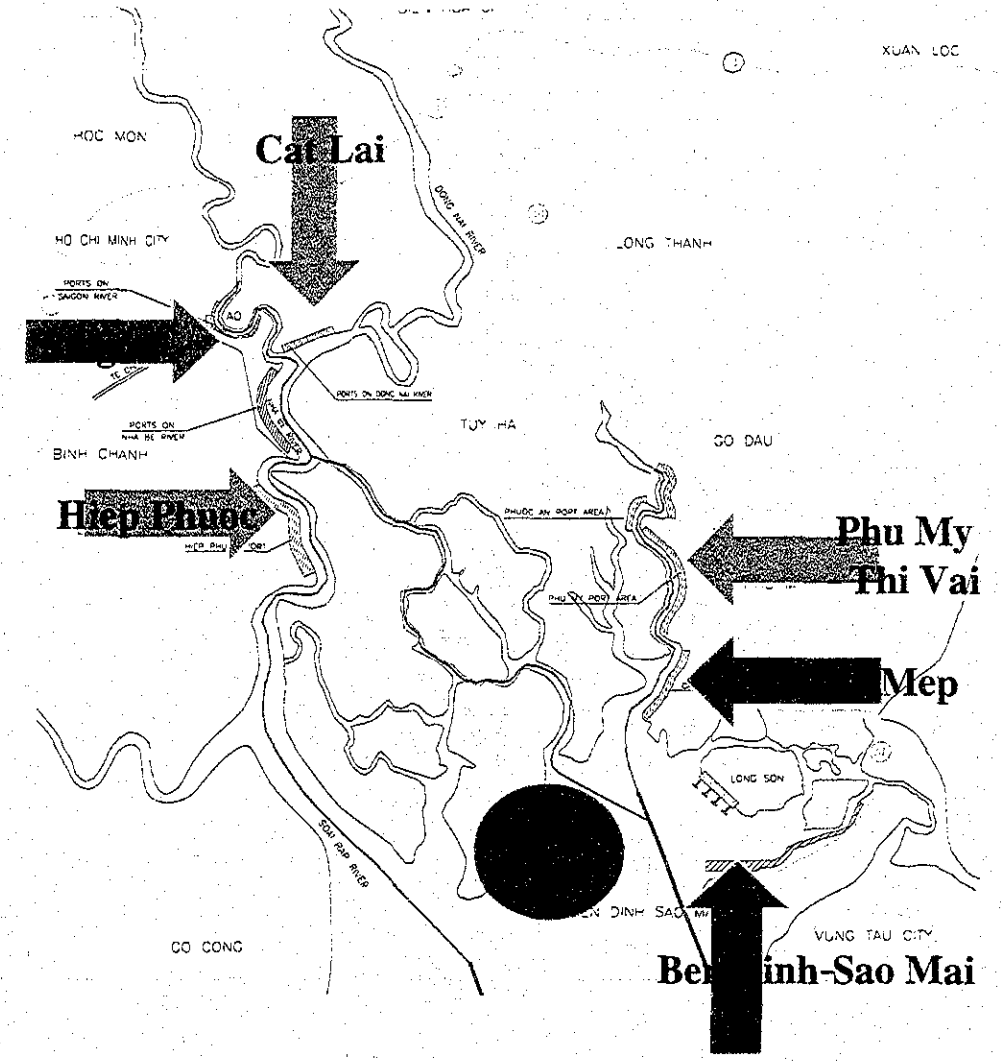
Along the east coast of the Vung Tau cape, there are coastal fishing activities, such as fishing by fixed net and troll fishing. Huge volume of dredging in Ben Dinh-Sao Mai is likely to cause negative impacts (increasing turbidity, changing natural current characters) on these activities.

+ Relocation of Local Inhabitants

According to Traffic Volume Forecast from the New Ports, the related road needs four lanes in 2010. However, Vung Tau is already crowded city and National Road 51 inside Vung Tau city can provide only two lanes due to the narrow space caused by local inhabitants along the road. These inhabitants should move to another place in order to make space for extension of road or a new bypass be constructed.

Considering the above, the large-scale development in this area should be carefully examined.

Figure15.1 Major Port Project Sites



15.2 Layout Plans for the Major Port

15.2.1 Passenger Terminal

If a passenger terminal will be provided, the following points should be considered:

- The location of the terminal should be such that traffic jams will cause minimum disruption to cargo flows to and from the port;
- Open and sheltered areas will be required for the freight to be carried out;
- Car parks are required for staging of vehicles if ro/ro service is offered, and for vehicles meeting passengers;
- The terminal building will provide facilities for a number of services and be connected to the passenger vessel by telescopic gangways;

The passenger traffic, and the cargo and vehicle traffic should be separated. The terminal building is likely to have several floors. The ground floor will have shops, foreign exchange, car-hire agencies, shipping companies, a tourist information office and waiting-rooms. The first floor will be assigned to services and controls such as immigration, customs, police, luggage, operating staff, shipping company, forwarding agents, post office and telephones. The upper floors are reserved for caterers with restaurants and self-service cafeterias. The terminal building will also be provided with ramps or lifts for disabled people and for the transfer of luggage from different levels.

To promote this traffic, procedures to facilitate passenger should be simplified by the authorities. A sufficient number of control stations should also be provided to prevent long delays to passengers and vehicles.

Layout plan of the passenger terminal is shown in Figure 17.2.

15.2.2 General Cargo Terminal

(1) Planning of cargo handling and storage facilities

The size of cargo handling and storage facilities including the storage yard, transit shed and warehouse have to be decided in consideration of the types, quantities of cargoes and the conditions of handling.

1) Transit shed

The required area of the transit sheds is determined by the following formula:

$$A = (N \times p) / (R \times a \times W) / B$$

Where:

A	:	Required area of transit shed (m^2)
N	:	Annual volume of cargoes handled (tons)
R	:	Turnover of transit shed
a	:	Utilization rate (=0.5)
W	:	Volume of cargoes per unit area (tons/$m^{2)}$

P	:	Peak ratio (=1.3)
B	:	Efficiency storage rate (=0.75)

Based on the above, the required area of the transit shed is as follows:

$$A = 8{,}000\ m^2 \text{ for } 50{,}000 \text{ DWT Berth}$$

2) Open storage yard

The required area for the open storage yard is determined by the following formula:

$$A = (N \times p) / (R \times a \times W) / B$$

Where:

A	:	Required area of open storage yards (m^2)
N	:	Annual volume of cargoes handled (tons)
R	:	Turnover of open storage
a	:	Utilization rate (=0.5)
W	:	Volume of cargoes per unit area (tons/$m^{2)}$
P	:	Peak ratio (=1.3)
B	:	Efficiency storage rate (0.75)

Therefore, the required area of the open storage yard is as follows:

$$A = 58{,}000\ m^2 \text{ for } 50{,}000 \text{ DWT Berth}$$

Layout plan of the general cargo terminal is shown in Figure 26.1.

15.2.3 Container Cargo Terminal

Since the introduction of containerization on the major trade routes, there is a trend towards larger storage areas for container terminals, but in many planned developments the space requirements are still under-estimated. Sufficient operational area should be left for interchange areas for both ship-to-shore and stack-to-inland operations, as well as for vehicle parking, maintenance, workshops and administrative buildings.

In addition to the container yard and container freight station areas, the terminal requires space for marshalling areas, vehicle parking, rail and road access, customs, damaged containers, reefer cargoes storage facilities.

(1) Container Yard

1) Calculation of storage volume

The required storage number of containers is calculated by the following formula:

$$M_1 = (M_y \times D_w / D_y) \times P$$

Where:

M_l : Required storage number of containers (TEUs)
M_y : Annual container throughput (TEUs)
D_w : Average dwelling days (days)
D_y : Operation days (days)
P : Peak ratio (=1.3)

2)Required number of ground slots

$S_l = M_l / L$

Where:

S_l : Required number of ground slots (TEUs)
M_l : Required storage number of containers (TEUs)
L : Stacking height of containers (Layers)

The results of the calculation are shown in Table 15.2.1.

Table 15.2.1 Required Storage Capacity in Container Yard

Item	Unit	50,000 DWT Berth	80,000 DWT Berth
Annual Container Throughput (My)	'000TEUs	370	550
(My x Dw / Dy) x P	TEUs	8,300	12,400
Stacking Height	Layers	3	3
Required Number of Ground Slots	Slots	2,800	4,200

(2) Container Freight Station (CFS)

The required area for the CFS is calculated based on the formula below:

$A = (M_c \times D_w \times P) / (w \times u \times D_y)$

Where:

A : Required floor area of CFS (m^2)
M_c : Annual handling volume of containerized cargo through CFS (tons)
D_w : Dwelling time at CFS (days)
P : Peak ratio (=1.3)
w : Volume of cargoes per unit area (tons/m^2)
u : Utilization rate of CFS floor (=0.5)
D_y : Operation days of CFS (days)

Considering less demand of LCL(Less Container Load) containers in future, the required area of the CFS is as follows:

$A = 3,000\ m^2$ for 50,000 DWT Berth
$A = 4,000\ m^2$ for 80,000 DWT Berth

Layout plan of the container terminal is shown in Figure 26.2.

15.2.4 Harbor and Port Traffic Facilities

1) Breakwater

New breakwaters are arranged in consideration of the dominant wave direction S-SW in case that a new port will be constructed in Vung Tau Area. The length of the breakwater will be 150m which is decided in consideration of the critical wave height for cargo handling.

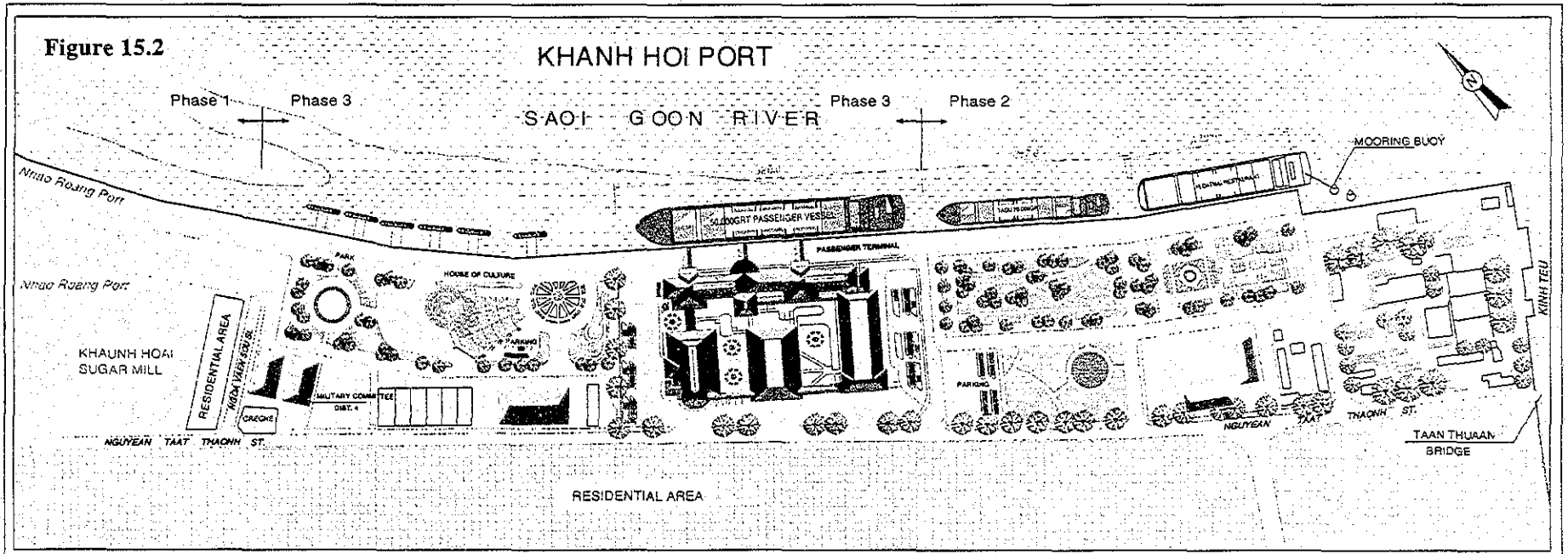
2) Road Plan

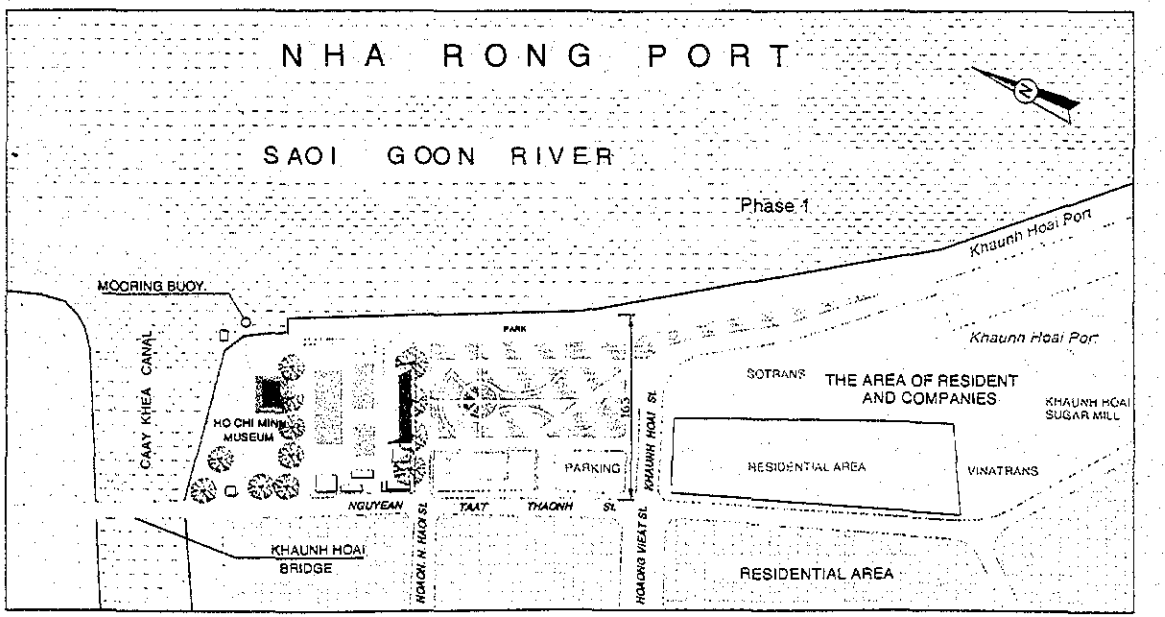
An access road and inner port road connecting with the national road are proposed to smoothly distribute port traffic generated at the port. Future port roads in the master plan have to be able to cope with such a qualitative and quantitative changes as the increase in volume of port cargo and the introduction of container transportation. The length of the access road is indicated in Table 15.2.2.

Table 15.2.2 Length of the Access Road

Name of Port	Length (Km)	Note
Thi Vai General Cargo Terminal	2.0	4 lanes & 2 ways
Lower Cai Mep Container Terminal	3.0	4 lanes & 2 ways

Figure 15.2





SCALE:

JAPAN INTERNATIONAL COOPERATION AGENCY

THE PORT DEVELOPMENT STUDY IN THE SOUTH OF VIETNAM

NHA RONG - KHANH HOI PORT AREA (2020)

SCALE: | DRAWING No.:

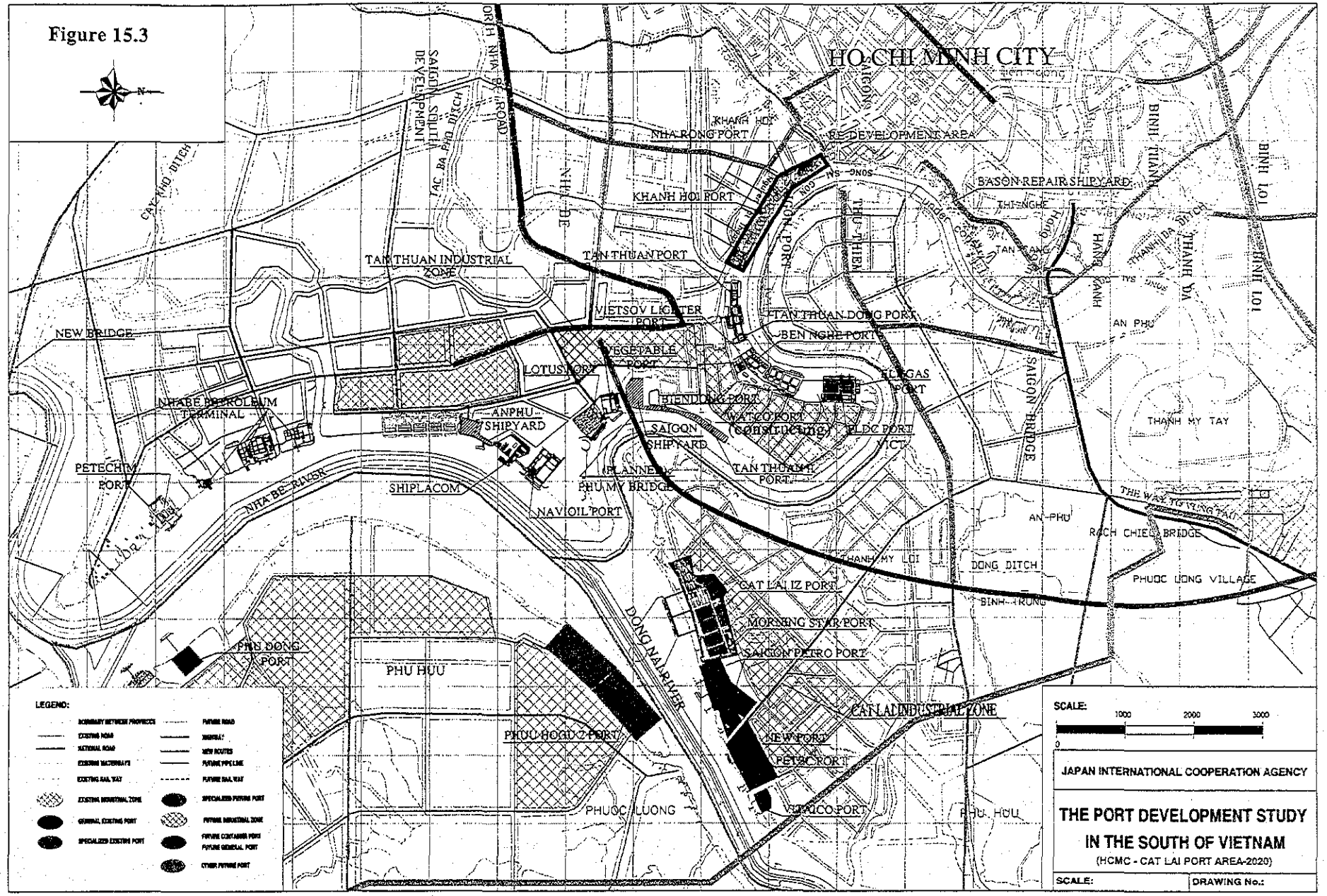
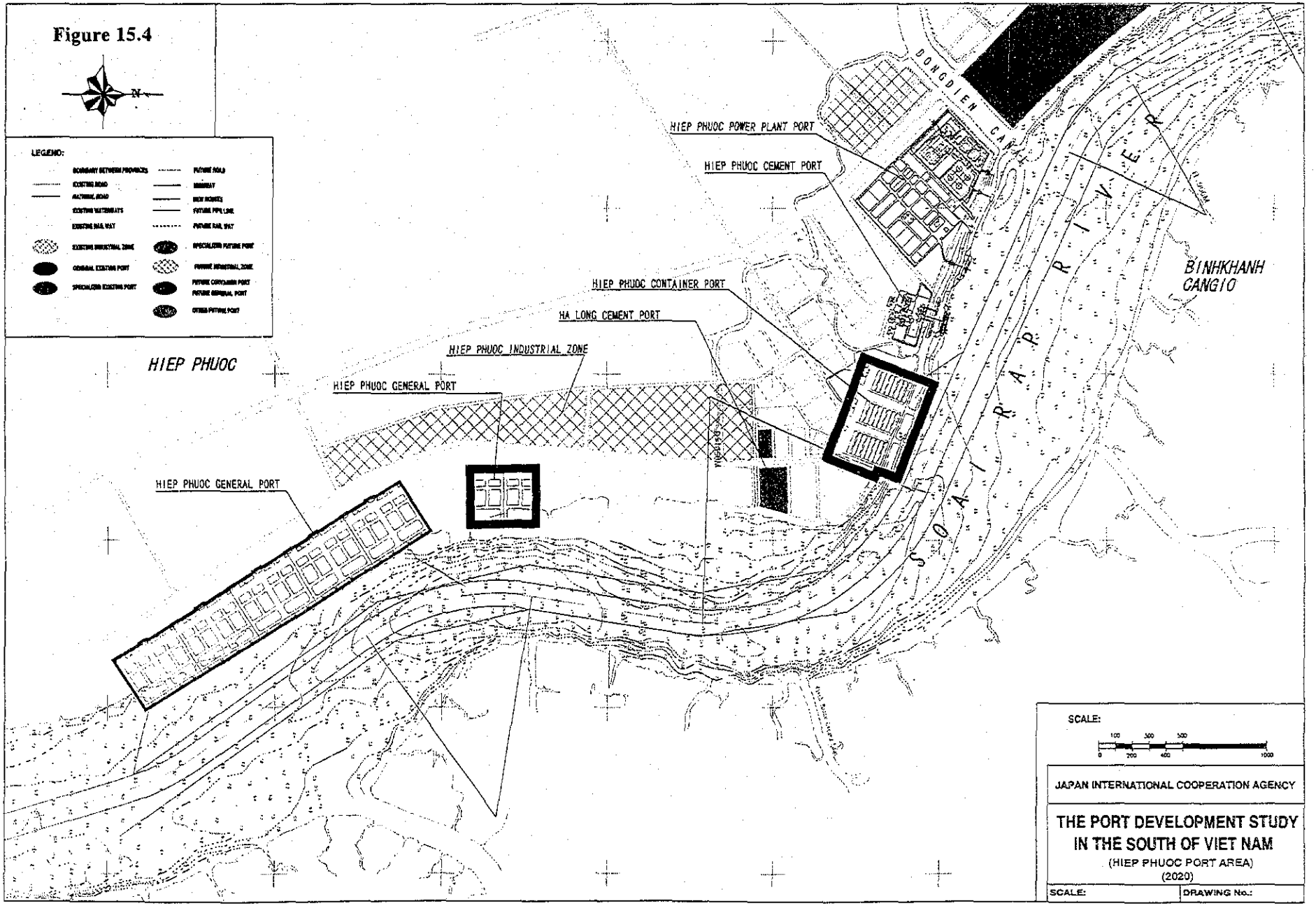


Figure 15.3
HO CHI MINH CITY
SAIGON SOUTH DEVELOPMENT
CAT LAI - BA SO DITCH
NORTH NHA BE ROAD
CAT LAI DITCH
KHANH HOI
NHA RONG PORT
RE-DEVELOPMENT AREA
KHANH HOI PORT
SAIGON REPAIR SHIPYARD
THI NGHE
SONG SAIGON
THU THIEM
TAN THUAN INDUSTRIAL ZONE
TAN THUAN PORT
VIETSOV LIGHTER PORT
TAN THUAN DONG PORT
BEN NGHE PORT
NEW BRIDGE
VEGETABLE PORT
LOTUS PORT
AN PHU
SAIGON BRIDGE
THANH DA DITCH
THANH DA
BINH LOI
BINH THANH
NHABE PETROLEUM TERMINAL
ANPHU SHIPYARD
SAIGON SHIPYARD
HIENDUONG PORT
WATCO PORT (CONSTRUCTING)
PLDC PORT
VICT
THANH MY TAY
PETECHIM PORT
NHA BE RIVER
SHIPLACOM
(PLANNED) PHU MY BRIDGE
TAN THUAN I PORT
NAVIOIL PORT
THE WAY TO VUNG TAU
RACH CHIEC BRIDGE
AN PHU
THANH MY LOI
DONG DITCH
PHUOC LONG VILLAGE
BINH TRUNG
CAT LAI IZ PORT
MORNING STAR PORT
SAIGON PETRO PORT
PHU DONG PORT
PHU HUU
DONG NAI RIVER
CAT LAI INDUSTRIAL ZONE
NEW PORT
PETEC PORT
PHUOC HOGU Z PORT
PHUOC LUONG
VINACO PORT
PHU HUU
LEGEND:
SCALE:
1000
2000
3000
0
JAPAN INTERNATIONAL COOPERATION AGENCY
THE PORT DEVELOPMENT STUDY IN THE SOUTH OF VIETNAM
(HCMC - CAT LAI PORT AREA-2020)
SCALE:
DRAWING No.:

Figure 15.4


LEGEND:
HIEP PHUOC POWER PLANT PORT
HIEP PHUOC CEMENT PORT
HIEP PHUOC CONTAINER PORT
HA LONG CEMENT PORT
HIEP PHUOC INDUSTRIAL ZONE
HIEP PHUOC GENERAL PORT
HIEP PHUOC GENERAL PORT
HIEP PHUOC
DONGDIEN CANAL
SOAI RAP RIVER
BINHKHANH CANGIO
SCALE:
JAPAN INTERNATIONAL COOPERATION AGENCY
THE PORT DEVELOPMENT STUDY IN THE SOUTH OF VIET NAM
(HIEP PHUOC PORT AREA)
(2020)
SCALE:
DRAWING No.:

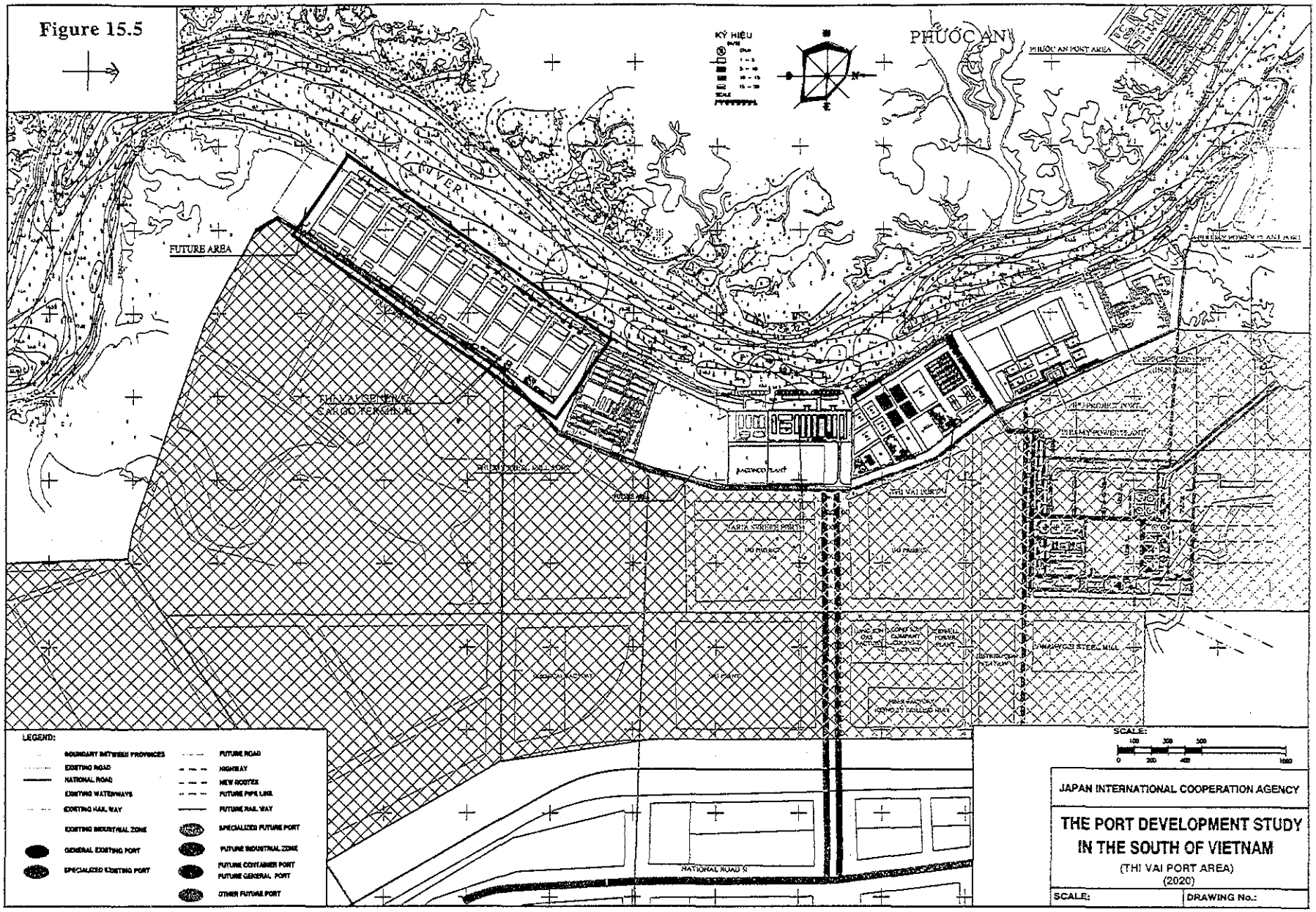


Figure 15.5
PHUOC AN
PHUOC AN PORT AREA
FUTURE AREA
THI VAI PORT
LEGEND:
JAPAN INTERNATIONAL COOPERATION AGENCY
THE PORT DEVELOPMENT STUDY
IN THE SOUTH OF VIETNAM
(THI VAI PORT AREA)
(2020)
SCALE:
DRAWING No.:

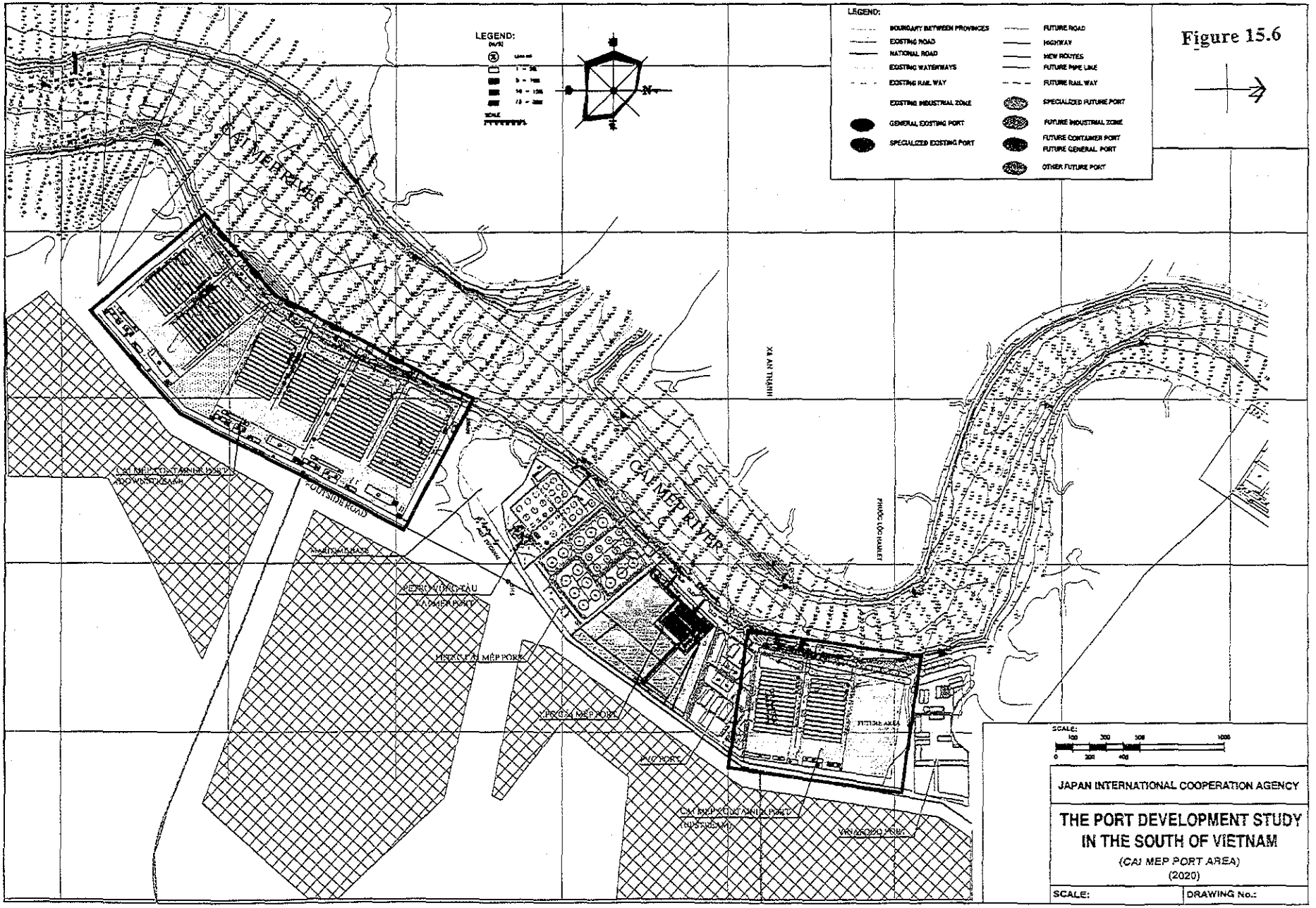
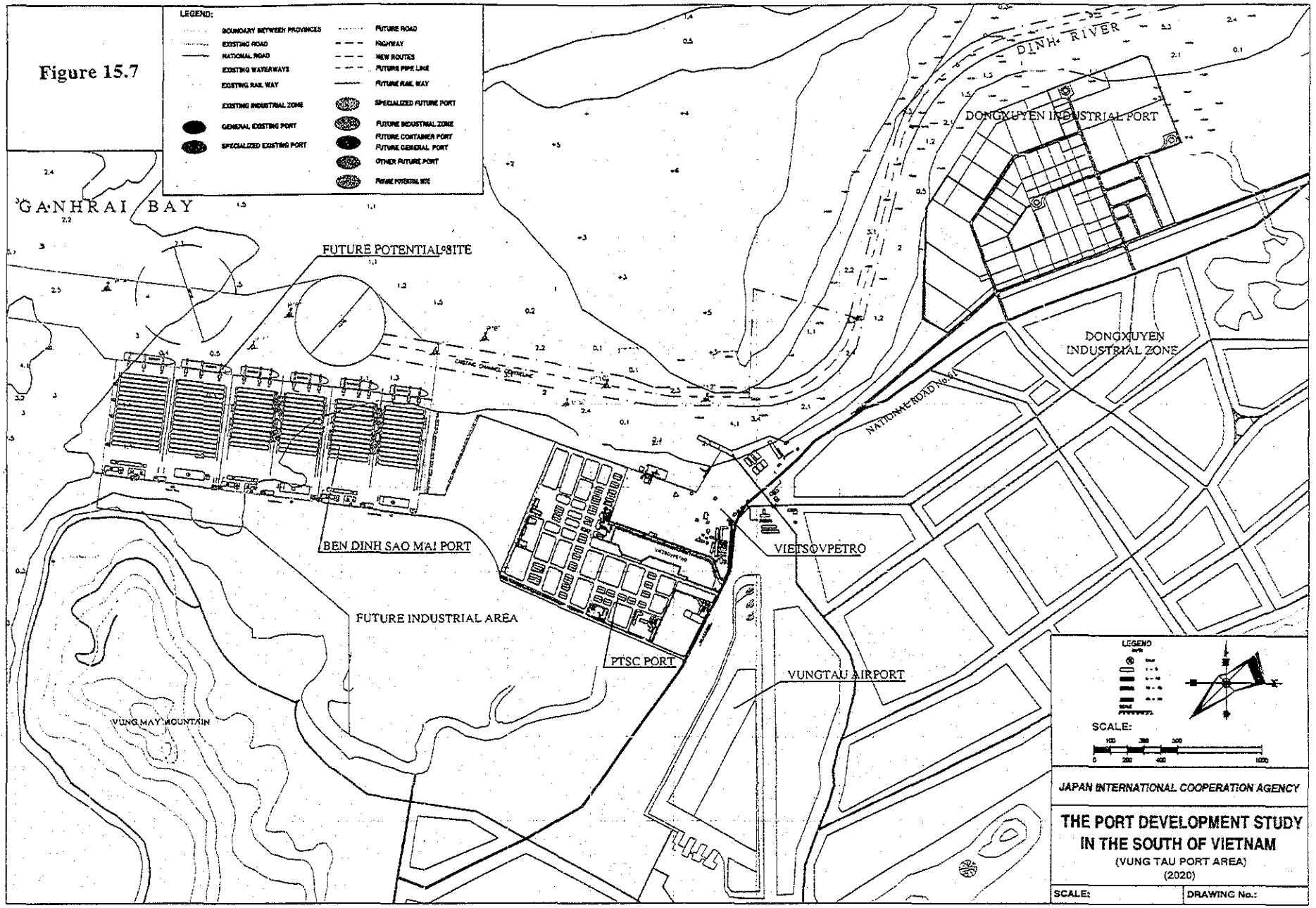

LEGEND:
BOUNDARY BETWEEN PROVINCES
EXISTING ROAD
NATIONAL ROAD
EXISTING WATERWAYS
EXISTING RAIL WAY
EXISTING INDUSTRIAL ZONE
GENERAL EXISTING PORT
SPECIALIZED EXISTING PORT
FUTURE ROAD
HIGHWAY
NEW ROUTES
FUTURE PIPE LINE
FUTURE RAIL WAY
SPECIALIZED FUTURE PORT
FUTURE INDUSTRIAL ZONE
FUTURE CONTAINER PORT
FUTURE GENERAL PORT
OTHER FUTURE PORT
Figure 15.6
LEGEND:
SCALE:
N
THI VAI RIVER
CAI MEP RIVER
CAI MEP CONTAINER PORT (DOWNSTREAM)
CAI MEP CONTAINER PORT (UPSTREAM)
PROPOSED CAI MEP PORT
PROPOSED PORT
PROPOSED PORT
JAPAN INTERNATIONAL COOPERATION AGENCY
THE PORT DEVELOPMENT STUDY IN THE SOUTH OF VIETNAM
(CAI MEP PORT AREA)
(2020)
SCALE:
DRAWING No.:

Figure 15.7


LEGEND:
BOUNDARY BETWEEN PROVINCES
EXISTING ROAD
NATIONAL ROAD
EXISTING WATERWAYS
EXISTING RAIL WAY
EXISTING INDUSTRIAL ZONE
GENERAL EXISTING PORT
SPECIALIZED EXISTING PORT
FUTURE ROAD
HIGHWAY
NEW ROUTES
FUTURE PIPE LINE
FUTURE RAIL WAY
SPECIALIZED FUTURE PORT
FUTURE INDUSTRIAL ZONE
FUTURE CONTAINER PORT
FUTURE GENERAL PORT
OTHER FUTURE PORT
FUTURE POTENTIAL SITE
GANHRAI BAY
FUTURE POTENTIAL SITE
DONGXUYEN INDUSTRIAL PORT
DONGXUYEN INDUSTRIAL ZONE
NATIONAL ROAD No.51
BEN DINH SAO MAI PORT
VIETSOVPETRO
FUTURE INDUSTRIAL AREA
PTSC PORT
VUNGTAU AIRPORT
VUNG MAY MOUNTAIN
SCALE:
JAPAN INTERNATIONAL COOPERATION AGENCY
THE PORT DEVELOPMENT STUDY
IN THE SOUTH OF VIETNAM
(VUNG TAU PORT AREA)
(2020)
SCALE:
DRAWING No.:

Chapter 16 Preparation of Port Administration and Management Programs

16.1 Improvement Program on Port Administration

(1) Classification of Ports

In order to identify the importance of ports, to clarify the investment priority, and to distribute effectively limited budgets, fundamentally, ports in Vietnam should be divided functionally into the following three categories.

a) "Major-port"
Major-port is a port that has been significantly contributing to the development of national economy and international trade, and that will be certainly able to bring the future development of Vietnam. This class can be further sub-divided into "Specially Designated Major Port" for those ports which are extremely vital to the national interest.

b) "Other-port"
Remaining ports in general ports are classified as "Other-port".

c) "Specialized-port"
Ports, which are specializing in serving the needs of particular users or particular commodities, are classified as "Specialized-port".

This classification has the intention of being differentiated about ports all over the country from a viewpoint of the difference in the contribution degree to national interest and others, and is just a relative classification. And, the role and responsibility of the central government concerning port administration and management need to be identified in each port categories.

For reference, the classification of ports in Japan is shown in Table 16.1. In accordance with these port classes, the contents and degree of participation over port management of the central government such as a subsidy rate and port planning are different.

Table 16.1 Classification of Ports in Japan

Classification	Number of Ports	Name of a Typical Port
Specially designated major port	22	Yokohama, Tokyo, Kobe, etc
Major port	106	Sakata, kochi, Nagasaki, etc
Local port	960	

Prepared by OCDI

The following criteria will be useful for the classification of ports respectively or jointly.

+ Kind and function of the port
+ Contents and quantity of international cargo handled in the port
+ Amount of money of international trade through the port
+ Total numbers of passengers of the port

+ Size of hinterland territory
+ Scale of socio-economic activity in the hinterland of each port

(2) Establishment of the Policy to be suitable for Major-port

Some ports proposed in the Port Master Plan will certainly be authorized as Major-ports in the port classification because of its characteristic and scale. Namely, these ports will greatly contribute to regional and national economic growth by treating many amounts of international container cargo, other cargo and passenger.

Port administration and management policy for these ports needs to be established as a policy to be suitable for a Major-port.

(3) Determination of One Administrative Apparatus for Port Administration

In the countries of the world, it is common that the central ministry of "Ministry of Transport" and "Ministry of Transport and Communication" chiefly takes charge of port administration.
Also in Vietnam, MOT has administrative power and state management responsibility for maritime transport, and substantial administration and management functions for ports are under the mandate of VINAMARINE, which is one of the specialized management departments under the MOT.

It is considered to be the most suitable that port administration in Vietnam is carried out by one administrative apparatus which consists of MOT and VINAMARINE.

(4) Execution of Some Measures to be useful for Improvement of Institutional Framework

a) Formulation and authorization of Port Master Plan for individual Major-port

a-1) Significance of planning for individual port development

- Ports have close relation to the regional, national and international economic activities. In this respect, it is essential that port services be offered under careful planning so that they can support these activities and generate overall prosperity.
- Ports cannot play their roles without proper connection with inland transport facilities such as roads and railways. This implies that the systematic development of such facilities cannot be realized under absence of a comprehensive port plan.
  - Ports are always requested to fulfill many requirements from various parties concerned including local residents and port users as well as representatives of economic, industrial and administrative organizations. Port planning process is indispensable in exchanging views and opinions with these parties so that their opinions can fairly be reflected and incorporated in the port development plan.
  - It is almost impossible for PMBs to conduct proper port operation and management activities without definite port plan which can provide them with specific guidelines.

Thus, Port Master Plan has a positioning just called the framework for realizing the ideal port condition, and for systematic port development and proper management, it is very important to formulate a Port Master Plan for individual Major-port. Moreover, this Plan needs to be reviewed

periodically and revised when necessary and needs to be made public.

a-2) Port planning body and composition of the plan

Port should first serve to satisfy local needs of its hinterland as well as regional and national requirements as a final target. It is therefore desirable in principle that the port master plan is originated by the individual PMB which is responsible in promoting their regional prosperity through planning and developing ports in their region. Major items to be stipulated in port master plan are generally as follows:

- Basic policy, objectives and target year of port plan
- Estimated port capacity in target year in terms of cargo handling requirement and number and size of ship calling
- Required scale and layout of major port facilities
- Environmental impacts of port development
- Land use of direct hinterland and additional land requirement
- Water use and additional water area requirement
- Others

a-3) Authorization of the plan

Before a Port Master Plan is officially authorized, the draft plan has to be understood and agreed upon by the various parties concerned. Opinions from government agencies, local people, users and people of academic fields should be invited and reflected in the master plan accordingly. The authorization of a Port Master Plan should be strict and open, and if possible, it is desirable that the mechanism such as a procedure is decided under law or regulation.

For reference, Figure 16.1 shows the port planning procedure in Japan. Most port management bodies of Japan form bureaus of local government. In Japan, the Central and Local Port Council have been established. They are to investigate and discuss the draft plans on the important items including basic port policy, development of port facilities, financing and management affairs. Port Master Plan needs to be approved by these councils as a part of authorization procedure.

a-4) Standardization of port planning factors

In order to secure high applicability and practicability of Port Master Plan to every type of port development schemes of the country, it is necessary to have a nationally unified standard for port planning factors, which includes basic planning objectives and method, cargo traffic demand forecast, type and size of port facilities and ship calling, port capacity estimation, investment requirements and cost allocation, port environmental standards and assessment, and so on. Since quality of port plans is most controlled by the above port planning standards, they should be established under detailed analyses and careful consideration on the actual conditions of the respective country and internationally accepted standards as well.

b) Formulation of short-term investment plan

In order to show the strict will of a country towards the port development and avoid the duplication investment, it is very significant to formulate the short-term investment plan for the Major-port.

The short-term investment plan prescribes the amount of annual investment of every Major-ports

during specific period. Although the government will have the certain duty of the execution of this plan, the guarantee to the steady development will be given to all agencies including a port management body concerned. In addition, it is desirable that this plan is prescribed and authorized by law and regulation.

Taking the financial situation and so on of Vietnam into consideration, it will be anticipated that various difficulties follow on formulation of this plan. However, it is very important for the government to make an effort from now on towards establishment of the investment plan formulation.

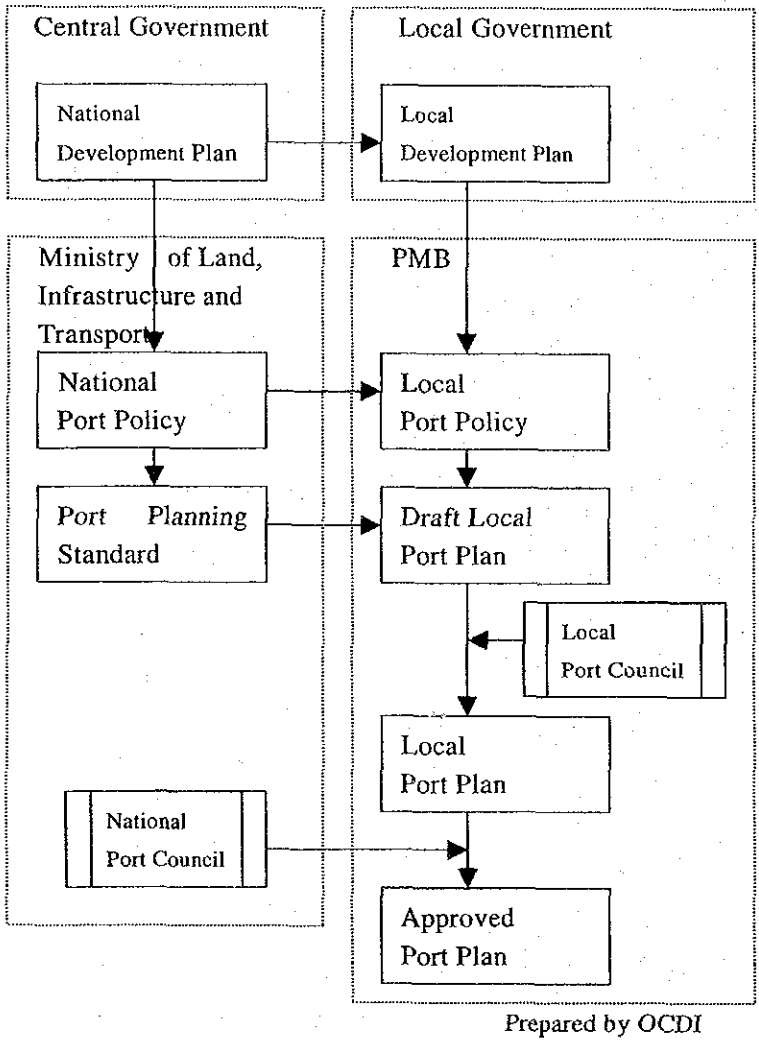


Figure 16.1 Port Planning Procedure in Japan

(5) Establishment of Good Relation between MOT/VINAMARINE and PMB

It is very important to confirm again that MOT and VINAMARINE has overall responsibility as the central government concerning the port development and management in Vietnam. MOT and VINAMARINE especially should make an effort to realize the port policy of a country about the

Major-port which play an important role for further development of Vietnam. In this sake, it is indispensable to establish and maintain the suitable and close relation between MOT/VINAMARINE and PMB of Major-port. For this, it is required to advance a further improvement of the whole port administration system, and to be in charge of daily port administration and management by using the improved system positively. Although overlapped, the following administrative acts are especially effective to build up a good relation about an institutional framework:

- Formulation and authorization of port development/management plan of each port,
- Formulation and authorization of short-term investment plan of each port,
- Establishment of the council which are discussed about the port development,
- Procedure of the application and recognition for various acts.

(6) Establishment of Appropriate Port Tariff Base

a) Efforts towards further reduction of port tariff base

The following two policies can be proposed to establish the appropriate port tariff base.

One is to perform a drastic reduction of port tariff base as a national policy in order to correct the gap which exists between the Sai Gon port and neighboring Asian ports concerning a charge of entry into port for the foreign vessels. Table 16.2. shows the result which compared the charge of entry into port for the foreign vessels between the Sai Gon Port and Singapore Port under the same conditions according to an item (except a maritime safety charge).

Table 16.2 Comparison of Charge under the Same Condition between Sai Gon Port and Singapore Port

Item	Sai Gon Port (A)	Singapore Port (B)	Ratio (A)/(B)
Tonnage Due	1,120	700	1.6
Pilot Charge	440 (per 1 hour-1 ship)	220 (per 1 hour-1 ship)	2.0
Tugboat assistance Charge	200 (per 1 hour-1 ship)	250 (per 1 hour-1 ship)	0.8
Wharfage for Ship	1,100	2,200	0.5

Note: 1) Calculation condition is as follows.
- Ship size:13,188 GRT
- Horse power of tugboat:600 HP
- Necessary pilot time at the Sai Gon Port is 4 hours

2) The number in the table is rounded.

Prepared by OCDI

By referring to this comparison, the efforts towards a further reduction for port tariff base should be continued. Although the enforcement of this policy means simply that the income of the country secured until now will be decrease, it may be also expected that the increase of foreign vessels calling to Vietnam by this further reduction of port tariff base will supplement the greater part of this reduction.

The other is to raise the port tariff base for domestic vessels. The tariff rate for the domestic vessels is approximately 20% of that applied to international vessels in regard to tonnage dues, and

is 50% in regard to pilot charges. This idea is to enlarge the value of these percentages as much as possible. However, according to a trial calculation, it is estimated that the effect of introducing this idea is not so large. It is because that the positioning of domestic vessels in the whole charge income is small.

On the other hand, the amount of income by a port charge is a matter which directly influences the financial soundness of a country and a port management body. Each port tariff base has to be determined carefully through detailed examination for these matters.

b) Introduction of "time-conscious" tariff structure
It is very important for the government to introduce a "time-conscious" tariff structure in order to become a "user-oriented" port. This means that time is very important for cargo owners and shipping companies and, therefore ports in Vietnam always have to be conscious of time to encourage efficient and effective use of port facilities.
This system enable s a port management body to reduce the berthing time of ships and promotes quick turn-round of the cargoes for users. This system will be useful for Major-port in Vietnam.

The following Table 16.3 shows some differences in the tariff structure concerning the time between Vietnam and Singapore. It can be seen that Singapore's puts much more emphasis on time.

Table 16.3 Some Differences of Tariff Structure between Vietnam and Singapore

Description	Vietnam	Singapore
Pilot Charges	Per Ship/GRT-sea miles	Per GRT classes/every 1st hour and every subsequent 1/2hour
Tugboat assistance Charges	Per Ship/HP-hour	Per GRT classes/every 1st hour and every subsequent 1/2hour

Prepared by OCDI

The Government also should make a study of the introduction of this concept towards the port tariff structure of Vietnam to promote quick berthing and swift turnaround of cargoes.

c) Other incentives
In addition, in the Singapore Port, "Volume Rebate System" is adopted to the shipping company which will guarantee the annual fixed cargo handling volume. Although the discount of charges is applied to the excess volume over the notified volume, however, a penalty is imposed in the case of being less. This is a concept of this system.

In order to attract many calling vessels, it also is important to examine the introduction of these incentives.

16.2 Improvement Program on Port Management

(1) Introduction of EDI (Electronic Data Interchange) System

a) World trend of the introduction of EDI

EDI is defined by the following four keywords and aims at exchange of the business document among companies.

+ Between different types of industry
+ By standardized data
+ Based on the rule that has been agreed widely.
+ Through the computers

Namely, as the introduction of EDI is expanded towards different business and international business, standard EDI agreement is needed. Generally, this standard agreement is called an "EDI standard" and "business protocol standard." On the process of introducing EDI, it is important to improve the related various standards, for example, a connection of a computer and a network, a using rule and a condition of commercial transactions by EDI, besides EDI standard.

In major ports in the world, EDI of a considerable advanced level has already been introduced as shown in Table 16.4.

Table 16.4 Situation about Introduction of EDI in the Main Ports in the World

Name of Port	System for port entry and departure of a vessel	System for freight customs clearance	Other related system
1. Busan	**KL-NET (PORTMIS)**	**KT-NET**	PORTMIS
2. Kaohsiung	As of 1999.10, operation by the hard copy	**Trade-VAN**	Utilization of internet or hard copy
3. Hong Kong	**EDI**		COSMOS
4. Singapore	**Port-NET**	**Trade-NET**	Intra-Net (VAN)
5. Tokyo	**Port-EDI**	**Sea-NACCS**	Ship-Net Intra-net (VAN)
6. Le Havre	**ADEMAR+**	**SOFI**	Intra-Net (VAN)

7. Rotterdam	RDODOS		(DEBIS)
8. NewYork / NewJersey	Intra-Net (VAN)	ACS	Intra-Net (VAN)
9. Los Angeles	Intra-Net (VAN)		Intra-Net (VAN) Internet

Note: 1) ▭ : This means that one-stop-service system entirely has been established.
Prepared by OCDI

b) TRADENET and PORTNET in Singapore Port

In the Singapore Port, both "TRADE NET" (application for trade and custom clearance) and "PORT NET" (application for port management body) were introduced from 1989. While TRADE NET is managed by TDB (Trade Development Board), PORT NET is managed by PSA. TRADE NET provides various kinds of services related to trade such as import/export declaration, access to trade statistics database, etc. Today, almost all of import/export custom declarations are performed through TRADE NET. As a result of introduction of TRADE NET, treatment time for documentation of trade procedures has been shortened from 1-4 days to 15 minutes.

On the other hand, "PORT NET", established in 1989, is a 24-hour on-line electronic data communications system between PSA and its customers. PORT NET is now connected with approximately more than 1,400 users (shipping agencies, consignees, forwarders, truck companies, etc.). In addition, "PORT NET" also can provide easy access service to "TRADE NET". It allow customers to electronically communicate with PSA as follows (see Figure 14.2.4):

+ To submit their declaration, plans and manifest
+ To submit information for the planning of loading and unloading operations on a ship
+ To place bookings for berths, tugs and pilots
+ To allow freight forwarders to book a time to pick up or offload their containers
+ To check the progress of activities at the container terminals and cruise terminal

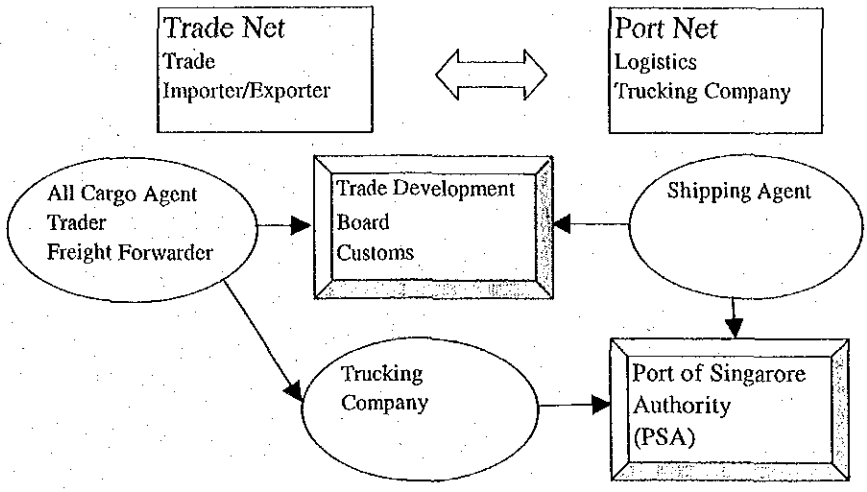


Figure 16.2 System Outline of "Trade Net" and "Port Net"

Prepared by OCDI

c) Strong leadership of the government for promoting EDI

The central government is expected to show strong leadership in introducing EDI system as follows:

+ The government needs to act to establish consensus and cooperation among concerned parties.
+ At that time, the government needs to listen to the views of port users and users associations as much as possible.
+ At the same time, the government needs to cooperate with related world organizations in order to establish EDI system based on world standard as mentioned above.
+ Based on the domestic and world based-consensus, the government needs to enact or amend relevant laws and regulations.
+ In addition, it takes a lot of money to implement EDI network. Related business associations may be required to share a part of the costs.

MOT needs to make an effort to promote the establishment of "one stop service" system and EDI system with a close cooperation of related government ministries and port management bodies, in all Major-ports of Vietnam.

(2) Improvement of Port Statistics System

Especially, the study of the following matter is very important.

- Determination of the target port for port statistic
- Unification of a statistical data item
- Unification of an investigation and announcement style
- Standardization of the investigation method

It certainly is judged that Major-port has sufficient qualification as a target port for port statistics. The establishment of port statistics system for Major-port is desired as soon as possible.

Generally, the following items should be included in port statistic.

+ Number of ship calls
  - by month
  - by ship classification
+ Cargo throughput
  - by port
  - by month
  - by commodity type
  - by type of cargo
  - by berth
  - by nation
+ Number of containers
  - by port
  - by month
  - by maritime transportation route
  - by berth
  - by nation

(3) Introduction of Appropriate Staff Training System

First of all, in order to cope with the new efficient management and operation system proposed in the Master Plan, port management body should develop and conduct its training courses in terms of the following matters.

+ To make the new port management and operation system including cargo handling and information system understood by personnel
+ To recognize the importance of correct, proper, safe, responsible and efficient operation for the enhancement of the port
+ To instill a cost consciousness in personnel

In this sake, well-coordinated and appropriate training programs for the staffs and operators should be prepared by the port management body. Generally speaking, the following training courses are necessary to foster capable staffs, operators and engineers.

a) Training for administrative staffs

In this course, staffs can gain basic knowledge on general administration. In addition, more specialized courses on financial management, accounts system, related laws, regulations and so on, should be established.

b) Training for engineers

For better understanding of port construction and maintenance,
Training courses on civil engineering, architecture, electrical engineering, mechanical engineering and so on should be established and experts foe each field should be fostered.

c) Training for operators

In the courses of cargo handling, operation of port equipment, operators can attain a high level of skill and thus the efficiency of port operations will be enhanced.

d) Training for computer operators

For the employees who belong to not only cargo operation sections but also administrative sections, it is necessary to participate in training courses about on-line operation of terminal computers.

The company compiling programs and setting up network systems should dispatch instructors to every section where terminal computers are installed. Participants of training need to operate computers by themselves with the aid of instructors.

In parallel with these staff trainings, it is very useful that the several staff members are dispatched to foreign major ports in order to acquire knowledge or skill based on the latest management and operation or cargo handling techniques. The further improvement of educational facilities for raising the professional level of instructors also is important.

Furthermore, it must be taken notice that only acquirement of a professional knowledge is not the significance of the staff training. There are three elements to form an ideal office staff.
Those are "ethical pureness", "professional knowledge" and "willingness to his life". Of these three, "ethical pureness" and "professional knowledge" could be taught but "willingness" is difficult to be included in the training subjects. Many examples, however, show that one who has ethical pureness and professional background easily finds a way from a good place to a better one. In this sense, it is sure to say that the best way foster an ideal staff is to make him or her ethically pure and a professional in the field. In terms of training hours, "professional knowledge" comes first, then "ethical pureness" next. "Willingness to life" is something self-taught.

For reference, the outline of the training program for the staff of the Ports and Harbors Bureau in Yokohama City which is one of the port management bodies of Japan is shown in Table 16.5.

Table 16.5 Outline of Staff Training Program in Yokohama City in Japan

《Fundamental training Course》		《Business training Course》	
Kind of Training	Outline of Training	Kind of Training	Outline of Training
Basic training	Acquisition of fundamental management ability and technical ability	A newcomer and transferee training	-
Step-up training	Further improvement of staff's ability (for bringing up leaders)	Training for Human-rights	Training which considers human-rights
Technical training	Improvement of the nature as technical staff	Treatment training	Good treatment to a Citizen is a main subject.
Dispatch of staffs	Dispatch to domestic and overseas research organization and company	On the job training (OJT)	-
Training for instructor	-	English training	-
Training for supporting self-enlightenment	-	Overseas port situation report meeting	-
		Port technical training	-
		System user training	-
		Homepage creation training	-
		Internet training	-

Prepared by OCDI

(4) Port Sales Promotion

Sales promotion efforts are indispensable for any economic organization, regardless of whether it is public or private, to survive the hard competitive world of today. The following promotion activities can be recommended.

a) Sales promotion seminar

It is an established practice for most world container ports to hold a yearly seminar featuring its port operating and sales policy to its users and customers. Those seminars are held in major cities of the world. The number of invitees including shippers, consignees, shipping lines and so on is generally between 100-200. An introduction video is often shown and brochures or other small items are distributed.

b) The internet

Practical use of the Internet is also one of the tools important for port sales and marketing. The Website, which includes essential information such as history of the port, contact address, statistics, port tariff and other application information, is now the most popular and can make contact with the user and customer of the world freely. In this connection, VICT has already opened an own Website and Sai Gon Port is now preparing for establishment of near future. This fact shows that these ports are highly motivated to this field.

c) Ports guide yearbook

There are some worldwide yearly publications of ports guide by the Fairplay magazine or Lloyd's and some others. They are available in printed format on CD ROM and on the Internet. It has to be reminded that these guide give the first impression and basic information of a port.

d) Video and CD

Video and CD would be useful not only in seminars, but also for elementary education purposes. To make the best use of Video and CD, it is to update the contents in a timely manner. For example, any change or scheduled change of the port development need to be immediately communicated to the users and public.

e) Brochure

Even in the age of the Internet, published hardcopy is still essential to marketing activities. While a yearly book also has value, handier brochures are desired for daily sales activities both domestic and abroad. The basic kinds of brochures recommended are as follows:

+ Yearbook
+ Handbook
+ Leaflet
+ Picture Card

16.3 New Organization Form of PMB

16.3.1 Examination for Appropriate Port Management Organization

(1) Preparation of Alternatives

In the Port Master Plan, appropriate port management system needs to be established.
Especially, the clarification of the future structure for a PMB is very important, and it has to be determined through the examination on the basis of a viewpoint mentioned below.

There are many types of PMBs found throughout the world. In general, they may be classified into the six types shown in Table 16.6. The Port Authority shown in this table is an independent organization body with the function of conducting entirely the management and operation of a port, and entirely differs from the Port Authority which is a special body under the VINAMARINE responsible for state management on maritime shipping. Henceforth in this report, in order to distinguish the both clearly, the new organization form of PMB is displayed as the Port Management Body. And the special body under the VINAMARINE is displayed as Port Authority (VINAMARINE).

In general, this Port Management Body has an individual decision-making mechanism such as "the Board of Commissioners". And, some following important activities of PMB are controlled by the central government:

- Construction of new ports,
- Termination of business in any port under operation,
- Maximum and minimum limits of the tariff,
- Increase or deduction of capital,
- Capital budget,
- Loans,
- Disposal of immovable properties,
- Management rules and regulations, etc.

Furthermore, having the central government participate as a member of "the Board of Commissioners" will promote good relations between the "Port Management Body" and the central government.

Table 16.6 Organizational Types of Port Management Body

Type No.	Organizational Type	Remarks
Type – 1	Organization of Central Government	A department of the central government directly manages a port.
Type - 2	Public Corporation	In Vietnam, a public service SOE which manufactures and provides public services will correspond to this type.
Type - 3	Local Government	A department of the local government directly manages a port.
Type - 4	Publicly owned Company	SOE is an economic organization which is capitalized, set up, organized and managed by the State.
Type - 5	Port Authority (A new port management organization is assumed to form itself into Type-5, namely, Port Authority, but is called "Port Management Body" in this Study.)	In major ports of the world, this is the most popular organizational type of PMB. This is an independent organization dedicated to port management. The detail of this organization will be mentioned in this chapter.
Type - 6	Commercial Company	Private company directly manages a port.

As described in 16.1.1 (3), the port management organization in Vietnam exists in the form where Type 2, Type 4 and Type 6 are mixed. A suitable type for the port management body of the new port as a Major-port will be determined out of these 6 types. First of all, Type 6 is denied from the philosophy that the port management by the public sector is desirable for Vietnam. Monopolistic port management by the private sector will bring about many problems such as "higher prices and lower service levels" and "over-capacity at some ports, and under-capacity at others". However, this only makes reference to the character of a port management body, and does not preclude the participation of the private sector in port investment and operation.

Next, judging from the viewpoint of decentralization, business-oriented and so on, the direct port management by the government of Type 1 and Type 3 would not be in keeping with the times.
Meanwhile, in order to raise the capacity of the port management body to its highest level, it is necessary to keep the following essential principles strictly.

+ Autonomy
In a view of the importance of the port to the national economy, it is desirable that proper relations are established with the central government while maintaining the independence of the port management body.

+ Financial independence
The management system is required to have its own budget, maintain a reasonable level of port charge, and be able to further depreciate and renew facilities besides repaying debts.
+ Principle competition
For port management, it is essential to have a clear definition of responsibilities and a rational organization based on it, so that an adequate profit level can be maintained without disregarding

competition with the outside world.

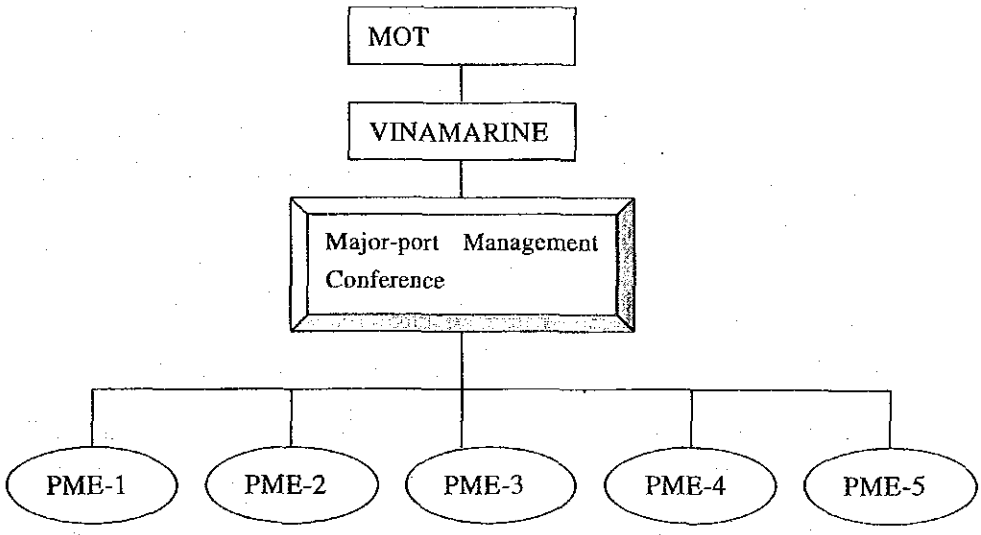
+ Unitary management
It is vital for the management system to have the necessary and sufficient authority over the port area and main functions.

Type 5 of "Port Authority" established in the major ports in the world can be judged the organization form which agrees most with these four principles.
On the other hand, if Type 2 and Type 4, which are major types of present port management bodies in Vietnam, are evaluated based on these principles, both types have the following problems, especially in the point of autonomy and financial independence:

+ The apparatus for the maintenance of a proper relation between central government and port management bodies does not be prepared. As a result, the relation between both sides is indefinite and it has not been established that the autonomy of port management bodies is certainly guaranteed.
+ The volition towards financial independence is thin because of an enterprise owned by the government.

Accordingly, the following two alternatives concerning future port administration and management system can be proposed:

- Alternative-1: An alternative which still continues the present structure of Type 2 and Type 4 by installing the apparatus of the "Management Conference" for maintaining a proper relation with the central government (see Figure 16.3).
- Alternative-2: An alternative which introduces "Port Authority" (Type 5) system as a future port administration and management system (see Figure 16.4).



Note: PME means Port Management Enterprises of Major-port.

Figure 16.3 Administration and Management System for Major-port controlled by the Management Conference (Alternative 1)

The member of a conference consists of the representative of the central government, the local government, and also each port management body. This is a system by which the central government view and the development direction of each port are argued and adjusted through a conference.

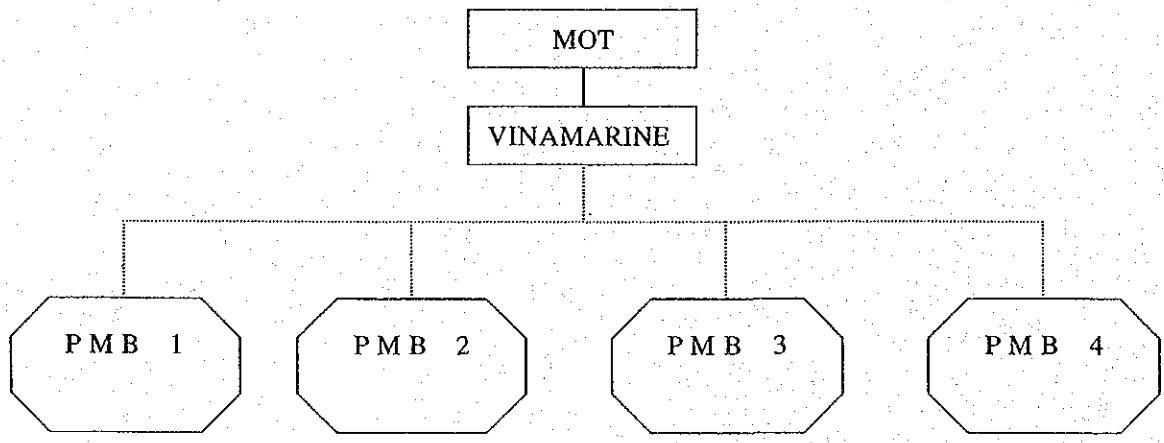


Figure 16.4 Administration and Management System for Major-port based on "Port Management Body" system (Alternative 2)

In Figure 16.4, the relation between the central government and PMBs is drawn by the dotted line with the meaning that the degree of participation of the central government to the port management is thinner than alternatives 1.
However, this never means that PMB is not restricted from the central government and that the participation of the central government is weak. As mentioned above, some important activities of the PMB still are controlled by the central government. Through the port development plan and investment plan of individual Major-port, the central government should lead and supervise the port management body.

(2) Evaluation of Alternatives

The following Table 16.7 shows the merits and demerits of above 2 alternatives.

Table 16.7 Merits and Demerits of Two Alternatives

	Alternative 1	Alternative 2
Merits	+ It is not necessary to change the present organization and structure a lot.	+ Port management with high independency can be certainly realized. + Each "Port Authority" can conduct the strategic port management. + Many examples of this organization type can be observable at main ports in the world.
Demerits	+ This is the structure having still the characteristics of centralization. + The autonomy of port management body cannot be fully maintained. + There is a tendency to become indefinite for the responsibility of the conference itself and each member.	+ It is necessary to change the present organization and structure a lot. + If there are no efforts of the organization itself, the severity on finances will increase.
Evaluation	○	◎

"Alternative 2" can be recommended to be the most suitable management system in future. The port management system in the Port Master Plan (2020) should be examined on the basis of the "Alternative 2". Namely, a "Port Management Body" should be responsible for port management of the New Port and others.

16.3.2 Organization Form of PMB in the Master Plan

The new form of the port management organization in the Port Master Plan (2020) would be proposed towards realizing the port administration and management policy as mentioned above. Namely, the type of "Port Management Body" system would be adopted as a new port management organization. The port management body of the New Port is managed by the Board of Port Commissioners and director general, assisted by deputy director generals and directors of the various departments who are responsible for day-to-day management and operations. Figure 16.5 shows the basic organization form of new PMB.

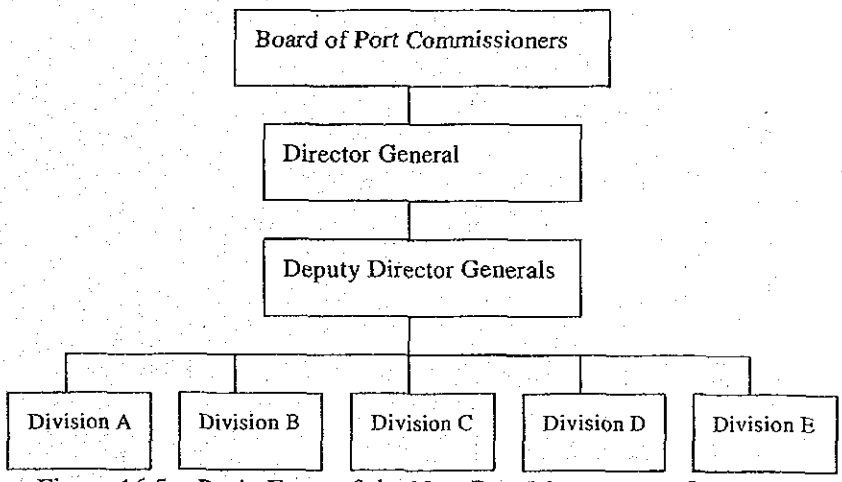


Figure 16.5 Basic Form of the New Port Management Organization

Each of departments of the new PMB has to respond strategically and positively to the broad request of the new times for port management. For this purpose, making a strategic organization is required. The following three-layer structure can be recommended as the organization of a new PMB (see Figure 16.6):

+ Department for supporting the organization
    - General administration
    - Finance and accounting
    - Human development (including staff training and welfare)
+ Department for realizing the steady management
    - Engineering and Technology
    - Business
    - Operation
+ Department for realizing the strategic management
    - Information Technology (including EDI)
    - International Business (including sales promotion and marketing)
    - Port Planning

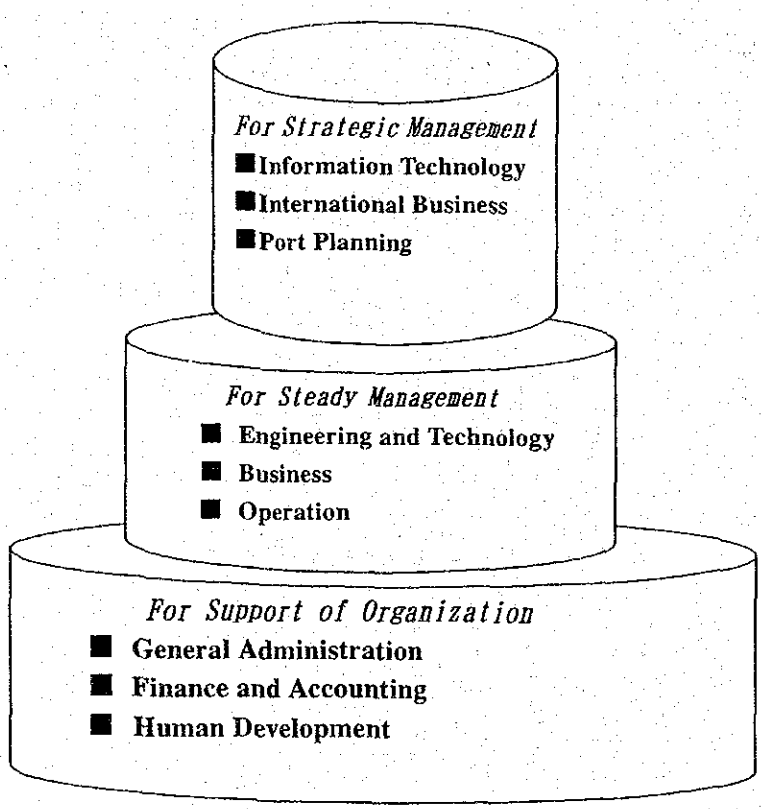


Figure 16.6 Three-layer Structure proposed for New PMB

(3) Definition of New Department

a) Administration division

This division is responsible for a continuation and development of organization itself through tasks of general affairs, accounts, management of property and improvement in human resources, etc. The division has the following sections:

+ General affairs
+ Finance and accounting (including the management of property)
+ Human resources (including the staff training and welfare)
+ Port security

b) Business division

This division is responsible for the substantial management and operation of the port. The division has the following sections:

+ Port planning
+ Business
+ Port maintenance
+ Control and inspection
+ Operations center

c) Engineering and technology division

This division has a responsibility of improving technical ability of the port itself, staffs and operators of the port, and is in charge of the planning and execution of the civil engineering works. The division has the following sections:

+ Design and technical
+ Civil engineering
+ Mechanical and electrical
+ Labor safety and labor environment

d) International business division

This division specially performs works concerning international business including port sales and marketing. This division has the following sections:

+ International relation
+ International business
+ Port sales promotion and marketing

e) Information technology division

This division is responsible for the operation and maintenance of port's EDI system, the development of computer system concerned, and the interface with other divisions in regard to the data and statistics. This division has the following sections:

+ EDI and system development
+ Information and statistics

(2) Organization Chart of PMB of New Port

Based on the above examination, the organization chart of PMB of the New Port can be arranged as shown in Figure 16.7.

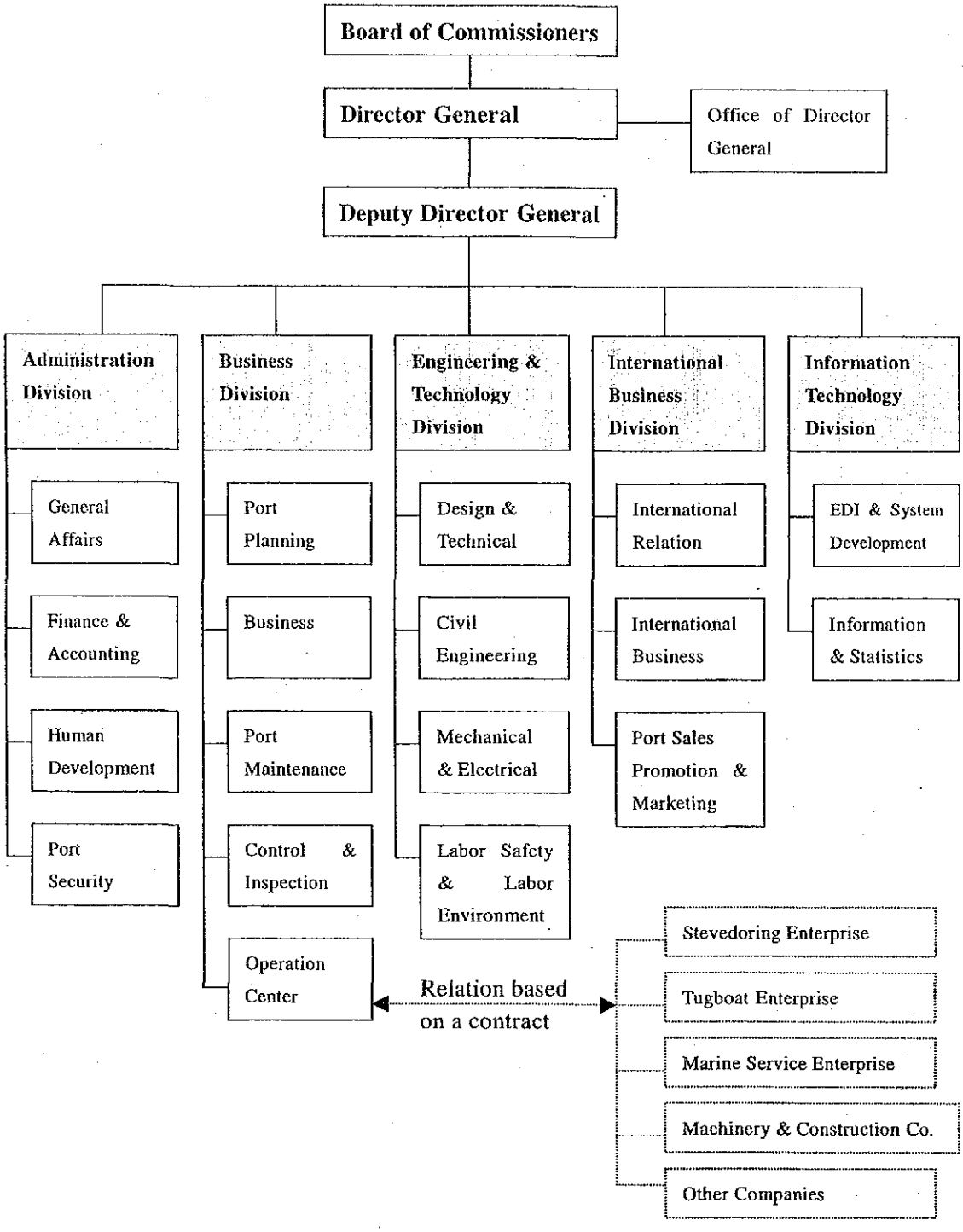


Figure 16.7 Organization Chart of Port Management Body of New Port

Moreover, from condition that the actual port services such as a stevedoring and a tugboat service shall be carried out by independent enterprises based on the contract, new PMB does not hold the departments, which will be in charge of these jobs, into its own.

16.3.3 Idea for Establishment of PMB

The idea for the establishment of new PMB is described below more in detail.

1) In principle, new PMB of the Port Management Body system should be established at all Major-ports in Vietnam.

2) When Major-ports are located in close proximity to one another, it is desirable to establish one single port management body under the Port Management Body system to manage these ports. In this way, a bigger synergistic effect from the viewpoint of efficiency and unification of port management and operation can be expected.

3) In the case of ports in Thi Vai-Vung Tau area, Phu My Port and Cai Mep Port, which will be designated as a Major-port inevitably, should be managed by one Port Authority system because of their geographic nearness. In this case, Baria Serece Port is excepted from this management organization because of the port's characteristic of a "Specialized Port". Figure 16.8 is a conceptual figure of this idea.

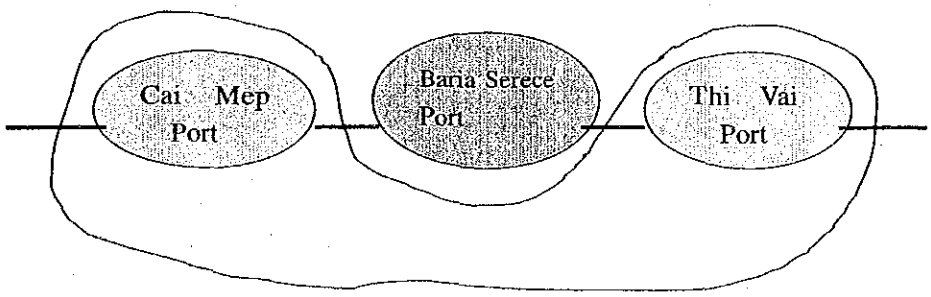


Figure 16.8 New PMB of "Port Management Body" system

4) On the other hand, Ben Dinh Sao Mai Port is desirable to be managed by another "Port Management Body".

Chapter 17 Promotion Strategy of Private Sector Participation (PSP) for Port Development and Operation

PSP is a main stream of port management businesses of the world regardless containerized or not. Also in Vietnam, PSP for developing a public infrastructure and so on has positively been conducted in recent years.

This chapter describes the possibility of further promotion about PSP in the port development and management/operation, especially, focusing on participation of foreign capital.

17.1 General Philosophy for Promoting PSP

17.1.1 General Philosophy for Promoting PSP

(1) Reconfirmation of Significance of PSP

It is important for the government and investor to reconfirm the significance of PSP in order to promote PSP in the field of port development and operation. Those significances are summarized as follows:

- to relieve government from high investment burden
- to increase capacity of port facilities
- to introduce higher standards of efficiency through fair competition
- to provide high quality of service with cheaper price to users
- to transfer technology and know-how
- to facilitate fast-track implementation

(2) Necessity of Appropriate Control by Government

With respect to PSP, there is a tendency only for a merit to be emphasized. But at the same time, more careful attention should be paid to the negative aspects. Some potential problems can be pointed out as follows:

a) Unlimited PSP tends to ignore the public interests including environmental consideration and living conditions of the people. Moreover, it sometimes results in monopolization, which leads to high-costs of service.
b) Generally, the private sector tends to put emphasis on what is connected with a direct profit. As a result, a bottleneck may occur to the non-profitability infrastructure and the whole efficiency of an infrastructure may fall.
c) The incentive of doing maintenance work required in the long operating period is lacking. This tendency is remarkable before the transfer of the infrastructure concerned.

In this sense, appropriate control through "Port Master Plan" and laws & regulations by the government in private sector is strongly required. And, the most important point is to realize infrastructure development and to make operations more effective and efficient through healthy competition and technology and know-how of the private sector.

(3) General Principles and Basic Requirements for PSP

It is important to establish a general principle and a basic requirement in order to promote the PSP for port projects.

a) General principle

Concerning a general principle, in particular, the following three concepts should be stressed by the government:

+ "Fairness" and "Neutrality"
+ "Certainty", "Transparency" and "Predictability"
+ "Competitiveness" and "Creativity"

b) Basic requirement

Whether private sector will invest or not will depend upon the attitude of the government to PSP. In general, the following four basic requirements are necessary:

+ Political Stability
+ Administrative framework for PSP
+ Legal framework for PSP
+ Guideline for PSP

17.1.2 PSP for Port Development and Operation Project

(1) Classification of PSP Types

The classification of PSP types for port projects is shown in the following Table 17.1.1. A lot of countries nearby have been trying to induce the private sector into BOT-based port projects one way or another. Generally speaking, BOT style is the most suitable for development and operation of large-scale facilities such as container, conventional, bulk and passenger terminals. However, Vietnam has little experience for BOT port projects. A clear strategy for promoting PSP needs to be established immediately.

Table 17.1.1 Classification of PSP Types

Degree of Privatization	Type of PSP	Role of each sector		
		Ownership	Management/ Operation	Financial Risk
Weak ↕ Strong	Management Contract	Public	Public/Private	Public
	Lease	Public/Private	Private/Public	Private/Public
	Concession/Joint Operation	Public	Private	Private
	BOT	Private → Public	Private	Private
	Joint Venture	Public/Private	Private	Private
	Privatization	Private	Private	Private

Prepared by OCDI

(2) PSP for Port Development Project

So far, progress has not been very rapid in introducing PSP into the port development projects. The port field especially has the feature that the investment scale per affair is very large among improvement of a traffic infrastructure. Consequently, the investment risk accompanying the development naturally cannot but become large.

Investment for a basic infrastructure of a channel, a basin and a breakwater has very low profitability. In general, the private sector is interested only in profitable port projects. The government should patiently and carefully consider how to induce the private sector in port development through appropriate measures such as the establishment of the risk-allocation mentioned later.

Table 17.1.2 shows some projects about the port development by PSP in neighboring Asian ports.

Table 17.1.2 Some Projects about Port Development by PSP in Neighboring Asian Ports.

Name of Country	Name of Port	Outline of Project	Type of PSP	Contract Period	Progress Situation	Contractor (Developer/Operator)
Indonesia	Tg. Priok	Container Terminal 3 450m(-14m)	JO	-	Full open on 1998.2	PT. HUMUPUSS TERMINAL PETI KEMAS
	Kota Baru	Coal Terminal	BOT	30 years	Full open	PT. Indonesia Bulk Terminal
Thailand	Laem Chabang	Container Terminal 400m Container Yard 18ha	BOT	30 years *1)	Full open	Laem Chabang International Terminal Co.Ltd. (LCIT)
Malaysia	Port Klang	Development of West Port	BOT	30 years	Full open	Kelang Multi Terminal Sdn Bhd (KMT)
Myanmer	Yangon	Container Terminal 4 berths 1,000m, Yard 75 ha	BOT	25 years	Full open	Myanmer International Terminals Thilawa, C&R
People's Republic of China	Hong kong	Container Terminal No.9 4 berths 1,280m, Yard 60ha	JV and BOT	50 years	Full open	Modern Terminal Ltd., Jardine Matheson Ltd., Hong kong International Terminal Ltd.
	Yantian	Container Terminal 6 berths, Yard 118 ha	JV	50 years	Full open	Yantian International Container Terminals (YICT)
	Dalian	Consulting for redevelopment of Donggang	JV	-	Signed in Nov. 1998	Dalian Marina Centre Development Co. (DMCDC)

Note: *1) with a further 5 year renewable option
Prepared by OCDI

It can be checked that the public sector is performing the great risk assignment towards conclusion of the contract in these projects. In the case of Laem Chabang Port, the factor of project realization is said as follows:

a) The investment for the improvement of a breakwater, a channel and a road was performed in advance by the public sector.
b) As a national policy, the handling of cargo was led to the Lem Port from the Bangkok port.
c) Since natural condition of a wave and a soil was better, the investment to an infrastructure was not so large. And, the construction period also was short.
d) The annual lease charge was controlled to a little lower level for nine years from the operating start.

Consequently, if conditions, such as conditions of location and a sufficient support of a public

sector, are arranged, PSP for port development project is fully possible and its promotion is fully worthy.

(3) PSP for Port Operation Project

As the neighboring major ports in Asian countries, the service of container terminal have been provided by private sector through lease, management and operation contract agreement. Table 17.1.3 shows the difference among lease, management and operation contracts.

Table 17.1.3 Difference among Lease, Management and Operation Contracts

Type		Contract type	Developer of facilities	Funding	Management /Operation	Collecting port charges	Ownership
Lease	Land lease	Lease contract	Private sector provides stevedoring services	Private	Private	Private	Public
	Lease	Lease contract	Public/Private for only providing of machinery	Public/ Private	Private	Private	Public
Management contract		Contract for stevedoring service (long term)	Public/Private for only providing of machinery	Public/Private funding for only cargo handling facilities	Public/ Private	Private	Public
Operation contract		Contract for stevedoring service (short term)	Public	Public	Public/ Private	Private	Public

Prepared by OCDI

Namely, there are many different types, however, the most clear differences among them are in who develops the facilities and who provides cargo handling facilities with whose funding.
Table 17.1.4 shows some projects about the port management and operation by PSP in neighboring Asian ports.

Table 17.1.4 Some Projects about Port Management and Operation by PSP in Neighboring Asian Ports.

Name of Port	Name of Country	Name of C.T.	Management Body	Contractor (Operator)	Contract Type	Contract Period
Laem Chabang	Thailand	B1	PAT	Laem Chabang Container Terminal Co. Ltd. (LCB)	Lease	12 years
		B5	PAT	Laem Chabang International Terminal Co. Ltd. (LCIT)	Lease BOT base	30 years
Manila	Philippine	Manila International C.T. (MICT)	PPA	International Container Service Terminal Inc. (ICTSI)	Lease	25years
		Multi-purpose Terminal at South Harbor	PPA	Asian Terminal Inc. (ATI)	Lease	25years
Pusan	South Korea	Kang Mang C.T.	PDMPA	4 shipping companies	Lease	25years

Note: PAT: Port Authority of Thailand, PPA: Philippine Port Authority, PDMPA: Pusan District Maritime & Port Authority

Prepared by OCDI

In major neighboring Asian ports, PSP for a container terminal operation is extensively introduced as described above Table. A lease system as a contract type is common. However, in recent years, PSP combined with port development and operation by BOT style can be also observed like Laem Chabang Port in Thailand. The construction and operation of C.T. B5 at Laem Chabang Port was left to a tender based on BOT style in 1996. LCIT has started part of its operation on December 1997, and has realized full-scale operation in 1998. Under the BOT-based contract, LCIT has to build infrastructure such as quay wall and acquire all necessary facilities on its own. It was required to pay construction costs as well as the rent.

On the other hand, what recently should be observed for is an appearance of the international terminal management service companies which specially perform a management of the container terminal in the world. The five following companies are especially typical, six companies which added ICTSI to these manage the terminal of 80 ports in the world, and it is said that 40% of the container cargoes of the whole world is handled by these 6 companies:

- HPH (Hutchison Port Holdings)
- PSA Corp. (Port of Singapore Authority Corporation)
- Eurogate
- SSA (Stevedoring Service of America)
- P & O Ports

It is judged that it is certain that management and operation of the first full-scale container terminal in Vietnam is an object attractive for them. In order to promote the participation to the container terminal operation in Vietnam of various private sectors also including them, the establishment of the framework and conditions with the transparence and strictness is indispensable.

17.2 Promotion Strategy of PSP

17.2.1 Expansion of Participation Field of Private Sector

It is important that the participation field will be enlarged on not only port development projects but also port service projects. The most effective way to make port activities more "market-oriented" is to introduce the private sector to port operation to a considerable extent.
While the government and port management body should take responsibility for the whole management and operation, it is advisable for public sector to entrust the terminal operation to private sector based on "market principles".

The government needs to gradually expand working field by private sector in order to promote more efficient operation and provide higher quality of service with cheaper prices to users. The government shall gradually dismantle "monopolistic structure" and introduce "competitive theory" in the port operation by including participation of the private sector.
On the other hand, "globalization of economy" is another important issue. The injection of foreign capital in maritime industries will force Vietnamese industries to become more competitive.

Generally, port management system is classified into three types ("Service Port", "Land-lord Port", "Private Port") by ownership. The respective names derive from the financial share of the public sector. Table 17.2.1 shows each characteristic of four types of port management and operation, which "Private Initiative Port" such as the port by BOT is added to above-mentioned three types.

Table 17.2.1 Type of Port Management and Operation

	Service Port		Landlord Port		Private Initiative Port		Privately-owned Port
Patterns	A	B	C	D	E	F	G
Making Port Development Plans	○	○	○	○	○	○ or ●	●
Construction							
Channel/Anchorage	○	○	○	○	○	○	●
Breakwater	○	○	○	○	○	○	●
Berthing Facilities	○	○	○	○	●	●	●
Yard Area	○	○	○	○	●	●	●
Transit Shed	○	○	○	●	●	●	●
Cargo Handling Equipment	○	○	○	●	●	●	●
Ownership							
Land	○	○	○	○ (Lease)	○	●*)	●
Terminal Facilities	○	○	○	●	●*)		●
Terminal Operation	○	●	●	●	●	●	●
Tug and Pilot	○ or ●						
Remarks		Service Contract	With Equip-ment	Without Equip-ment	Concession/BOT		

Notes : 1) ○: Public Sector, ●: Private Sector
2) *) : Transferred to public sector after contract period

Prepared by OCDI

Types of container terminal operation in Vietnam are "Service Port" type and "Privately-owned Port" type. The following Table 17.2.2 shows the merits and demerits of each pattern of port management and operation.

Table 17.2.2 Merits and Demerits of each Pattern of Port Management and Operation.

Type	Merits	Demerits
Service Port	- (Both Patterns) Since public sector owns berths, public sector can improve facilities or equipment easily in case of need according to a master plan in the future. - (Pattern B) Cargo handling performed by private stevedoring companies is more efficient than that of Pattern A.	- (Pattern A) Cargo handling efficiency of public sector is lower compared with the private sector due to the absence of competition in the market. - (Pattern B) There is possibility that only some selected shipping companies can use the berth and other shipping companies stop calling to the port.
Landlord Port	- (Both Patterns) In the case of need for the master plan in the future, public sector can improve facilities and equipments since it owns the land, although the berths are occupied by a private sector. - (Pattern D) Since the superstructure is built by the private sector, this type is useful when the public sector does not have sufficient funds and construction is urgent.	- (Pattern C) Since the public sector is responsible for construction work, public sector needs to provide funds.
Private Initiative Port (Pattern E)	- In case of need according to a master plan in the future, public sector can improve facilities and equipments since it owns land, although the berths are occupied by a private company. - Since a private company reclaims land from the sea and builds the berth, public sector does not need to provide funds.	- In the case that a private company performs reclamation, inappropriate development of public property can not be prevented. Therefore the master plan should be drawn by the public sector.
Private Initiative Port (Pattern F)	- Since a private company reclaims land from the sea and builds the berth, public sector does not need to provide funds.	- Because the berth are owned by a private company for a long time, public sector can not improve port facilities and equipments easily in case of need for the implementation of own development plan in the future. In particular, in the case that main berths of the port are occupied by specific shipping companies, there is a risk that public sector cannot control the port.

Prepared by OCDI

Among these, the "Land-lord Port" type is popular in major ports of the world including Japan and neighboring Asian ports, the port management bodies of these ports play the role only of "Land-lord". It is desirable to shift the port management system gradually from "Service Port" to "Landlord Port".

17.2.2 Establishment of Risk Allocation Policy

In BOT projects, only private sector tends to take a risk. For example, private sector may need the further funds for development to recovery of the investment. The risks regarding BOT projects from the viewpoint of the private sector are summarized in the following Table 17.2.3.

These risks should be allocated, avoided or minimized as much as possible by the government so that private sector will participate in them more easily. In order to eliminate or minimize the market risks, it is necessary to balance the risks between public and private sector. Especially various kinds of government support are thought to be essential for large-scale projects based on BOT. The appropriate measures should be considered carefully by the related government agencies and port management bodies to avoid risks incurred to BOT participants.

Table 17.2.3 Risks of BOT Projects

Imaginable Risks	Contents of Risks
1. Funding	- Only private sector must take all risks from funding to recovery of the investment. - Investors tend to be involved themselves in non-profitable infrastructure developments such as a channel dredging and land acquisition. - Construction costs tend to increase.
2. Financial risks	- Long-term period of payment often brings financial risks such as a foreign exchange risk and inflation.
3. Tariff	- Although it is common that tariff system exclusively and uniformly is regulated by the government, this discourages PSP. - The private sector has no discretion to amend the tariff in line with inflation rates.
4. Cargo volume	- There is always a danger that "cargo volume" will be less than that projected.

Prepared by OCDI

Table 17.2.4 shows some examples of the risk allocation policy.

Table 17.2.4 Some Examples of Risk Allocation Policy for BOT Projects

Item	Risk Allocation Policy
1. Funding and Financial Risks	+ Government's borrowing on behalf of developer (for example, a long-term "soft loan" on "bond")
	+ Allowing of issue of government "guaranteed bonds"
	+ Allowing of issue of bonds with "tax credit"
2. Tariff	+ Deregulation to tariff determination
	+ Allowing "different" tariff rates and tariff based on "Cost Accounting"
	+ Allowing tariff rate in line with "Inflation" (Accurate charge adjustment mechanism)
3. Cargo Volume	+ Providing guarantees of minimum cargo volume to private sector
4. Incentive for Private Sector	+ Offer of "Special Tax Concession"
5. Others	+ Government's full responsibility for related infrastructure development
	+ Offering other profitable concession to private sector

Prepared by OCDI

Also in Vietnam, the following tax concession for the foreign direct investment including BOT projects is adopted based on the "Law on Foreign Investment" and the Decree concerned:
+ Preferential rates of corporate income tax

+ Exemption from import duties
+ Exemption from value added tax in respect raw materials and materials imported

The appropriate "risk allocation policy" including the further concession and the introduction of new incentives should be examined carefully among related government agencies from now on.

17.2.3 Establishment of Transparent Procedure for PSP

It is desirable that the government should establish a strict and concrete "selection criteria" of PSP applicants. Because, the arbitrary use of the selection criteria is sure to create distrust among the investors. In order to attract widely foreign investors, the preparation of a guideline which plainly and politely explains the framework of PSP of Vietnam is also very useful. Furthermore, the government should make every effort to open the PSP-related information to the public as much as possible in order to upgrade the quality of PSP system.

17.2.4 Incentives through Deregulation

Generally speaking, it is important to give appropriate incentives to domestic and foreign investors through promoting deregulation in order to attract more investment. Foreign investor's experience of PSP management, operational and financial skills will be indispensable to the quality and quick implementation of port projects. As described above, at the Laem Chabang Port in Thailand, most container terminals are developed and operated by "joint venture companies between local and foreign companies.

The government should arrange the "well-organized and trustworthy institutional frameworks" and provide " certain incentive package" to attract more foreign capital. In order to do so, appropriate tax incentive system for foreign investment and prioritized BOT projects needs to be carefully elaborated. Further simplification of licensing procedure for foreign investors also should be promoted.

Furthermore, it is necessary for the government to be able to flexibly cope with any changes in the situation. Making reference to examples in other countries, the government should make an effort to establish appropriate deregulatory and incentive measures.

17.3 Positive Introduction of PSP on New Port Project

It is very important to introduce the PSP positively for further port development and management. In this case, the PSP types except JV/Privatization shown in Table 17.1.1 can be bundled with the two following types still more greatly from the viewpoints of the difference on the ownership and financial risk.

Type A: the type represented by BOT type, a private sector occupies big weight in both of the ownership of land and facilities and its financial risks.

Type B: the type represented by Lease type, a public sector plays the great role on the matter of the ownership of land and facilities and its financial risks.

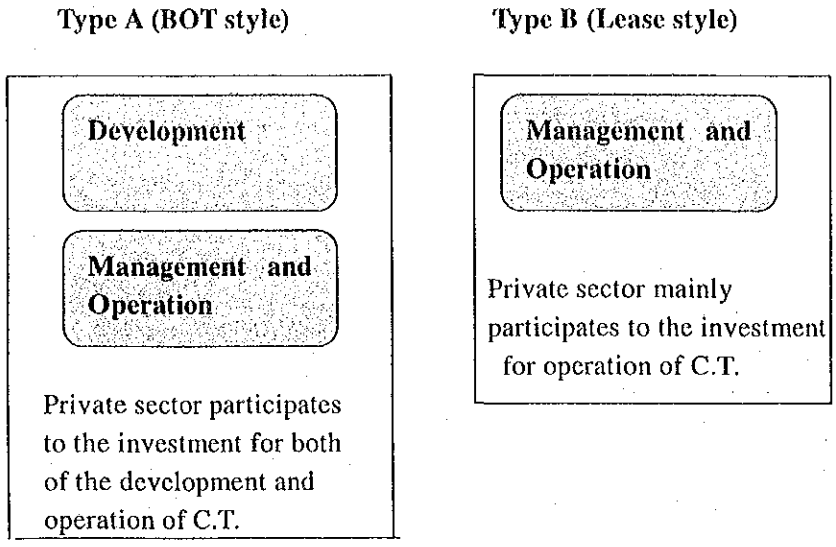


Figure 17.3.1 Two Typical PSP Types

Both types are introduced positively in many neighboring Asian ports, and many ports of these have succeeded, as stated before. On the assumption that the improvement of the framework for the promotion would be advanced further, it is judged that the realization possibility of PSP of both types is very large in also Vietnam

However, the type selection of PSP has to be performed by considering the feature of both types well. Table 17.2.5 shows typical advantages and defects of each type.

Table 17.2.5 Typical Advantages and Defects of Each Type

	Type A	Type B
Advantage	+ Private sector displays high operational ability.	+ It is not necessary to prepare public funds. + Private sector displays high operational ability.
Defect	+ It is necessary to prepare public funds.	+ Public sector will lose its control function during a certain period.

In the case that public sector can not obtain the sufficient funds, the most effective method for realizing effective port development and efficient port management may be to introduce PSP of BOT system. However, if the character of a port that is a public infrastructure linking directly to national interest is taken into consideration, it fundamentally can be recommended that the port infrastructure of Vietnam should be developed and owned under the responsibility for a public sector. In the case that the Government can gain the low interest foreign loans, the promotion of Type B will be more suitable than the Type A.
Consequently, the determination of the appropriate PSP type should be carefully conducted through the examination about a national policy, financial situation of a country, volition of a private sector and so on.