

# MASTER PLAN STUDY ON COASTAL SHIPPING REHABILITATION AND DEVELOPMENT PROJECT IN VIETNAM

Final Report  
**SUPPLEMENTARY  
REPORTS Vol.3**

Ports  
and  
Inland  
Waterways

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The Maritime International Cooperation Center of Japan (MICC)  
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J. Yen 110 = US\$ 1 = Vietnam Dong 11,000  
J. Yen 1 = Vietnam Dong 100  
(average during FY 1995-1996)

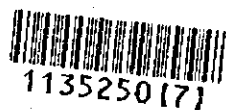
**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
MINISTRY OF TRANSPORT (MOT), VIETNAM**

**MASTER PLAN STUDY ON  
COASTAL SHIPPING REHABILITATION AND DEVELOPMENT PROJECT  
IN VIETNAM**

**FINAL REPORT  
SUPPLEMENTARY REPORTS Vol. 3  
Ports and Inland Waterways**

**March 1997**

**THE MARITIME INTERNATIONAL COOPERATION CENTER OF JAPAN (MICC)  
OVERSEAS SHIPBUILDING COOPERATION CENTER (OSCC)  
ALMEC CORPORATION**



# **SUPPLEMENTARY REPORTS VOLUME 3**

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## GLOSSARY OF TERMS

ADB	Asian Development Bank
ARPA	Automated Rader Plotting Aid
ATN	Aids To Navigation
BOT	Building, Operation and Transfer
CCID	Cement Consulting, Investment & Development Corporation
CRS	Coastal Radio Station
DGPS	Differential Global Positioning System
DWT	Dead Weight Tonnage
EIA	Environmental Impact Assessment
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMDSS	Global Maritime Distress and Safety System
GPC	Government Pricing Committee
GRT	Gross Registered Tonnage
GSO	General Statistics Office
HP	Horse Power
IEE	Initial Environmental Examination
IMO	International Maritime Organization
IWB	Inland Waterways Bureau
JICA	Japan International Cooperation Agency
JV	Joint Venture
LASH	Lighter Aboard Ship
MARPOL	International Convention for the Prevention of Pollution from Ships
MOSTE	Ministry of Science, Technology and Environment
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
MTTS	Maritime Technical and Training School
NTSR	National Transport Sector Review
OD	Origin - Destination
ODA	Official Development Assistance
OECF	Overseas Economic Cooperation Fund of Japan
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
OSRAP	Oil Spill Response Action Plan ASEAN
RCC	Rescue Coordination Center

RO-RO	Roll-On Roll-Off ship
SAR	Search And Rescue
SOLAS	Safety Of Life At Sea
STCW	Standards for Training, Certification & Watchkeeping
TEDI	Transport Engineering Design Incorporation
TESI	Transport Economic Scientific Institute
UNDP	United Nations Development Program
VIMARU	Vietnam Maritime University
VINALINES	Vietnam National Shipping Lines
VINAMARINE	Vietnam National Maritime Bureau
VINASHIN	Vietnam Shipping Industry Corporation
VIRES	Vietnam Register of Shipping
VISAL	Vietnam Salvage Corporation
VMS	Vietnam Maritime Safety Agency
VNR	Vietnam National Railways
VRA	Vietnam Road Administration Bureau
VISHIPEL	Vietnam Ship Communications and Electronic Company
VTs	Vessel Traffic Service

## **Chapter 1 THE CURRENT SITUATION AND ISSUES**

### **1.1 Ports**

#### **1.1.1 Location of Ports and Their Management Structure**

Since "port" is not clearly defined in legal terms in Vietnam, it is impossible to give the exact number of ports which is legally institutionalized.

Including small scale ports provided for individual shipping on the banks of rivers, it is considered that there are several hundred ports existing in this country, and less than one hundred ports among them, are owned and managed by the public sectors, such as central and local governments. These are considered to have the function of "ports" in terms of the size of facilities and the amount of cargo.

In the current situation, most privately-owned facilities are less developed than the publicly-owned ones, and with basic facilities, they have been provided as simple boat landing places for individuals. Therefore, at present there is still no private facility of any significant scale which can be identified as a port in Vietnam. This situation reflects the way in which state-owned corporations under the central and local governments take initiatives in the main economic sectors. In a way, the ports of the state-owned corporations can be regarded as private sea ports because the public corporations are involved in enterprise activities connected with the port industry.

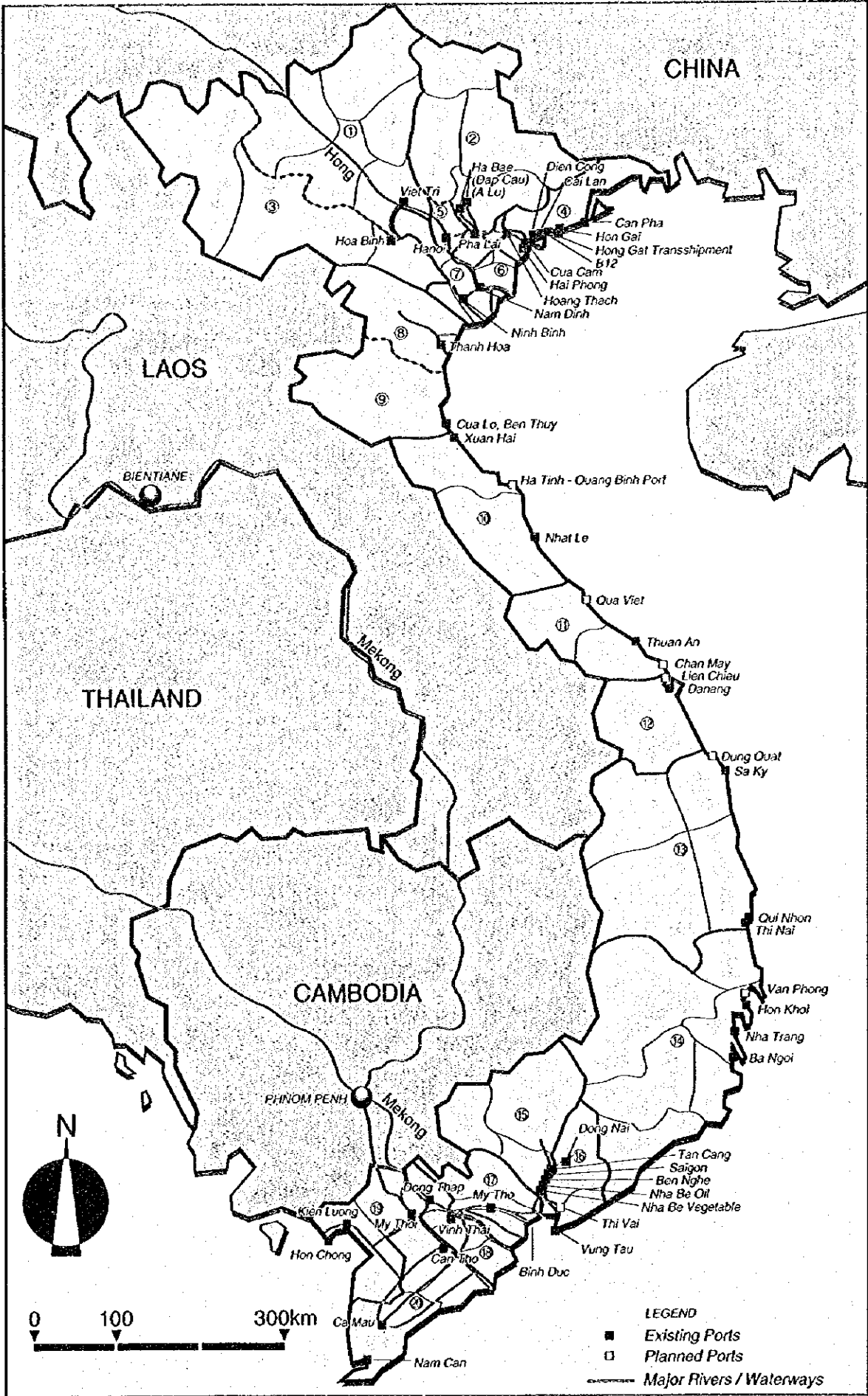
In short, hundreds of sea ports, including small scale ones provided for individual purposes, exist in Vietnam. Among them, less than one hundred ports, which are owned and managed by the public sector, serve the function of "ports," in consideration of the size of facilities and the amount of cargo.

The above one hundred ports are divided in two categories: port facilities open to the public (general ports) and ports provided for economic activities of a particular organization (specialized ports).

The location of main ports in Vietnam is indicated in Figure 1.1.1. In this figure, all general ports, as well as fifteen specialized ports which deal with substantial amounts of cargo, are shown. (However, there might be other large scale ports which cannot be shown in this figure due to the lack of up-to-date data.)

The Vietnamese maritime administrative framework is under the Ministry of Transport (MOT). Ports are divided into the following two categories: sea ports which guarantee sea-borne vessels the right to enter/leave ports; and river ports. (Most ports which are situated on the river belong to the latter category. Although, for convenience, they are called river ports in this report,, it does not mean that they are always located on the river.

### LOCATION OF PORTS IN VIETNAM



Basically, Vietnam National Maritime Bureau (VINAMARINE) is responsible for the sea ports, and Inland Waterway Bureau (IWB) is responsible for the river ports.

There are also two different forms of port administration. Three ports, Saigon Port, Haiphong Port and Tan Cang Port, and all specialized ports governed by state-owned corporations are under their own delegated management control. However, there is no such provision for other general ports.

The management corporation of Saigon Port, Haiphong Port and other specialized ports are given charters and responsibilities as public organizations under either central or local government. Tan Cang Port is an exceptional general port in terms of being administered by the Ministry of Defense.

According to the list which the JICA Study Team received from the government, 70 ports are listed as sea ports.

The management of ports is performed (except in the case of Tan Cang Port) by the following public organizations:

- a) central government (MOT)
- b) local government (Provinces, City authorities)
- c) a state-owned corporation organized and operated by the Prime Minister (Vietnam National Shipping Lines: VINALINES)
- d) state-owned corporations organized and operated by other central government ministries
- e) public corporations organized and operated by provincial governments

(a) Ports Managed by MOT

Presently, there are 13 ports which are managed by MOT, of which eight are sea ports managed by VINAMARINE and five are river ports managed by IWB. They are all general ports.

Table 1.1.1  
**LIST OF PORTS MANAGED BY MOT**

Name of Organization	Name of port
<b>VINAMARINE</b>	Quang Ninh Transshipment Port
	Cai Lan Port
	Cua Lo Port
	Ben Thuy Port
	Da Nang Port
	Qui Nhon Port
	Nha Trang Port
	Can Tho Port
<b>IWB</b>	Ha Bac Port
	Viet Tri Port
	Hoa Binh Port
	Ha Noi Port
	Ninh Binh Port

Seven of the eight VINAMARINE ports ( except for Ben Thuy Port) are main general ports in Vietnam. In addition to these seven ports, the following four sea ports are considered as main ports although they are not managed by VINAMARINE: Haiphong Port, Saigon Port Tan Cang Port and Ben Nghe Port.

The five river ports managed by IWB are situated on the riversides of either the Hong River in the North, or the Thai Binh River, and all of them are considered to be main river ports.

There are many other river ports which are considered to be main ports but not under the control of IWB, including Nam Dinh Port on the Hong River in the North, My Thoi (Long Xuyen) Port on the Mekong River in the South, and Binh Dong Port on the Dong Nai River also in the South.

**(b) Ports Managed by Local Government**

As explained above, there are five types of management of ports in Vietnam. Among them, the second category (managed by local government) is the most common in this country. Around 25 general ports (out of 35 to 40) are managed by local government. Most of them are managed by province, and only three are managed by city authorities as shown in Table 1.1.2.

Table 1.1.2  
**LIST OF PORTS MANAGED BY CITY AUTHORITIES**

Name of City	Name of Port
Haiphong	Cua Cam Port
Saigon	Ben Nghe Port
Saigon	Bihn Dong Port

Generally, the scale of ports which belong to this category is smaller than others, especially ports belonging to categories a) and c). However, the following ports in Table 1.1.3 are relatively large.

Table 1.1.3  
**LIST OF MAIN PORTS MANAGED BY LOCAL GOVERNMENTS**

Name of Province	Name of Port
Nam Ha	Nam Dinh Port
Khanh Hoa	Ba Ngoi Port
	Ben Nghe Port
	Binh Dong Port
Tien Giang	My Tho Port
Vinh Long	Vinh Long Port
An Giang	My Thoi Port

**(c) Ports Managed by VINALINES**

Presently, the first and second largest ports in Vietnam, Saigon Port and Haiphong Port are managed by VINALINES. VINALINES is a state-owned corporation and it was established under Decision No.250/Ttg by the Prime Minister in January 1996, in order to engage in comprehensive shipping and maritime related activities, including the management and operation of main ports. VINALINES took over the management of both Saigon and Haiphong ports from VINAMARINE when it was established.

This transfer of port operation/management of the above two ports was implemented because of a change in government policy that required port management/operation to be developed in more business related activity. However, little change has occurred through this transfer so far.

Although these two ports are under MOT, they are supervised directly by the Prime Minister in the same way that VINALINES is administered.

(d) Ports managed by State-Owned Corporations under Central Government

State-owned corporations manage important specialized ports for their own industrial activities ; such as ports for shipping out high quality coal from Hong Gai (managed by corporations under the Ministry of Industry); ports serving national cement factories (managed by corporations under the Ministry of Construction); ports for importing oil products (managed by corporations under the Ministry of Trade) and ports serving electric power station to ship in coal (managed by corporations under the Ministry of Industry).

Although the ports in this category follow the basic rules of MOT's regulations, they are supervised by the relevant ministries of the central government.

The exact number of these ports is still unknown , but it is said that from 30 to 40 ports in this category exist. The main ones are as follows:

Table 1.1.4  
LIST OF MAIN PORTS MANAGED BY STATE-CORPORATIONS  
UNDER THE CENTRAL GOVERNMENT

Name of Ministry in charge	Port Function	Name of Port	Location	Remarks
Ministry of Industry	(ports for shipping out coal from Hon Gai )	Cam Pha (Cua Ong) Port	North	This is the largest port shipping out coal from Hon Gai.
		Hon Gai Port	North	
		Dien Cong Port	North	
Ministry of Construction	(ports serving cement factories)	Chinh Phong Port	North	This cement factory is run by a state-owned corporation under a joint-venture with Taiwanese capital. This is a specialized port for the largest cement factory. This cement factory is run by a state-owned corporation under a joint-venture with Japanese capital.
		Hoang Thach Port	North	
		Nghi Son Port	North	
		Kien Luong Port	South	
Ministry of Foreign Trade	(ports for importing oil products from overseas)	B 12 Port	North	This port copes with the demand for oil products in the North. This port copes with the demand for oil products in the Central area. This is the largest port which copes with the demand for oil products in the South.
		My Khe Port	Central	
		Nha Be Oil Port	South	
Ministry of Industry	(ports serving electric power stations)	Pha Lai Port	North	
Ministry of Agriculture and Rural Development	(Ports for exporting agricultural products)	Nha Be Vegetable (Nha Be Commercial) Port	South	This port also deals not only with business for state-owned corporations, but also with general distribution.



(e) Ports Managed by Public Corporations under Local Government

As well as the central government, local governments own many public corporations under each province and city/authority. These corporations operate and manage ports in accordance with the need of their own industrial activities.

The detailed current situation of these ports is still unknown, but the number of ports in this category is considered to be from ten to 20. Table 1.1.5 shows the main two ports in this category.

Table 1.1.5  
**LIST OF MAIN PORTS MANAGED BY PUBLIC CORPORATIONS  
UNDER LOCAL GOVERNMENT**

Type of Industrial Activity of Public Corporation	Name of Port	Name of Province and Location
Salt	Hon Khoi Port	Khanh Hoa Province in the South
Import/ Export of Oil Gas	Cat Lo Port (part of Vung Tau Port)	Ba Ria-Vung Tau Province in the South

Note: This type of port also functions as a general port that serves general distribution needs as well as those of public corporation.

(f) Tan Cang Port

This is an exceptional port which is managed and operated by the Ministry of Defense.

**1.1.2 Overview of Main Ports**

**1) Quang Ninh Transshipment Port**

- Location: Ha Long Bay
- Administrating Organization: VINAMARINE
- This port is also called Chuyen Tai Port (port for re-packing).
- This port is used for cargo transfer between large ships used for foreign trade and small ships used for domestic trade. It also compensates for the limited capacity of Haiphong Port where large ships over 5000dwt have difficulty to enter or leave.
- The detailed amount of cargo at this port is unknown. However, according to reports from staff at the port, from 40,000 to 50,000 tons of cargo is handled per year.

**2) Cai Lan Port**

- Location: Bai Chay Bay in the depth of Ha Long Bay
- Province: Quang Ninh Province

- Administrating Organization: VINAMARINE
- Main Port Facilities:
  - (a)Wharf: Depth of water: 9m, Length: 166m1B, (constructed in June 1995)
- Cargo Volume: 12,000 tons (from June 1995 to January 1996)
- Maximum Ship Size: 10,000dwt
- JICA did a study of extension plans in 1993 and 1994.
- A loan agreement for the construction of a new wharf, 3B, has been made between the Japanese and Vietnamese governments.
- The new construction is expected to increase the role of Cai Lan as one of the main ports in the North, and to complement Haiphong Port which has a problem handling large ships. It could be the center of development in this region in the future.

### 3) Cua Lo Port

- Location: 15-20km north-east of Vinh City, at the mouth of the Lo River
- Province: Nghe An Province
- Administrating Organization: VINAMARINE
- Background: This port was constructed with support from USSR in the 1980s in order to create a relay point for cargo from/to Laos.
- Main Port Facilities:
  - (a)Wharf: Depth of water: 6-6.5m, Length: 320m2B, (constructed between 1986 and 1988)
  - (b)Sand barrier: The sand barrier 780m (673m according to other information) high is built to prevent from being buried at the mouth of river.
  - (c)Cargo handling equipment: 13 cranes including two large cranes having capacity of 30-60 tons, three folk lifts, a tractor, and a trailer. (Many are constructed more than 20 years ago)
  - (d)No. of Warehouses: 2
- Cargo Volume: 230,000 tons in both 1994 and 1995  
The breakdown of the amount of cargo in 1995 is in Table 1.1.6.
- Maximum Ship Size: 3,000dwt class (by using the tide level 2.5m)
- There is an anchorage on the open sea (near Hon Ngu Island), 6km from this port, which can accommodate a capacity of 30,000dwt. Barge transport is operated between the port and the anchorage.
- Sand from Nghi Ttuy Beach on the south buries the port at the mouth of the river.
- Number of Management Employees: 550 employees
- The port enjoys the following advantages: a large population in neighbouring areas; a good location for a relay point from/to Laos; and the possibility of extension. Once the problem of sand is dealt appropriately, this port has a large development potential in the future.

Table 1.1.6  
BREAKDOWN OF CARGO VOLUME AT CUA LO PORT

(Unit: thousand tons)

Items	Amount	Remarks
1. Export (Foreign Trade):	56	
Titanium Ore	21	A mine is situated 50km from the port.
Container	19	
Agricultural Products	15	Peanut is a main product.
2. Import (Foreign Trade):	63	
Fertilizer	39	
Asphalt	7	
Bulky Cargoes	17	
3. Shipping (Coastal Shipping)	36	
Sand and Gravel	11	
Other Cargoes	25	
4. Import (Coastal shipping)	52	
Grain	43	
Fertilizer	43	
5. Transit Cargoes for Laos		
Cargoes from Laos	20	Pine logs
Cargoes to Laos	1	

Note: Container for foreign export began to be handled in 1995.

#### 4) Ben Thuy Port

- **Location:** Close to Vinh City on the left bank of the Lam (Ca) River, 26km from the mouth of the river
- **Province:** Nghe An Province
- **Administrating Organization:** VINAMARINE
- **Background:** This port has been used for importing coals for a long time. Sawn wood of Laotian logs has been started to be exported in recent years because of the establishment of a Vietnamese, Laotian and Taiwanese joint sawing factory
- **Main Port Facilities:**
  - (a) Wharf: Depth of water: 2m, Length: 1,000m,
  - (b) Machine for Cargo: 3 cranes having capacity of 5-6tons
  - (c) No. of Warehouses: 2 (The joint sawing enterprise leases one.)
- **Cargo Volume:** Detailed statistics is unavailable. In addition to import of coal, sawn wood is exported. 76,000tons of coals in 1994, 80,000tons in 1995, of coal is carried in this port. Coal is imported as fuel to produce brick.
- **Maximum Ship Size:** 600-700dwt
- This port is relatively smaller than other ports which are managed by VINAMARINE.
- Due to the lack of space for extension and the lack of water depth of the River Lam, it is difficult to develop this port.

## 5) Danang Port

- **Location:** Danang City, the south part of Da Nang Bay. The estimated population of Danang City is 500 thousand (according to another survey, the estimated population is 830 thousand).
- **Province:** Quang Nam-Da Nang Province
- **Administrating Organization:** VINAMARINE
- **Background:** This port is of two parts: one is in Tien Sa district facing Da Nang Bay, and the other is in Song Han district facing the Han River which flows into the bay. The part in Song Han district was constructed by France in 1924 and the part in Tien Sa was built by the United States Navy in 1965. These two parts as a whole have been functioning as a commercial port since 1975.
- **Main Port Facilities:**

### Both Districts

- (a) **Wharf:** Depth of water: 10-10.5m, Length: 182m4B (two piers),  
The forth berth which is the least influenced by wind and wave is often used.
- (b) **Cargo Handling Equipment:** 15 cranes having maximum capacity of 80 tons, 21 folk lifts with maximum capacity of 41 tons, tractors, trailers and trucks
- (c) **No. of Warehouse:** 3

### Song Han district

- (a) **Wharf:** Depth of water: 7-8m, Length: 750m7B (2B on the upper stream are independent berths)
  - (b) **Sand barrier:** The sand barrier 16,00m high, is built to prevent from being buried at the mouth of river.
  - (c) **No. of Warehouses:** 4 (There used to be six, but two had been abolished.)
- **Cargo Volume:** Table 1.1.7 shows the trend of cargo volume, and the breakdown of volume in 1995 is in Table 1.1.8. Moreover, detailed information of containers is in Table 1.1.9.

Table 1.1.7  
TREND IN CARGO VOLUME AT DANANG PORT  
(Unit: thousand tons)

Year	Amount
1990	430
1991	260
1992	310
1993	370
1994	670
1995	830

Table 1.1.8  
**BREAKDOWN OF CARGO VOLUME AT DANANG PORT**  
(Unit: thousand tons)

Items	Amount
1. Export (Foreign Trade):	150
Wood	95
Container	42
Sand and Gravel	10
2. Import (Foreign Trade):	630
Cement	260
Fertilizer	200
Clinker	96
Machinery	47
Steel	20
3. Export (Coastal Shipping)	4
4. Import (Coastal Shipping)	46
Coal	23
Cement	9
Fertilizer	5

Note: In most cases, the exported wood include wood chip products produced in the Japanese-Vietnamese joint venture built in the port. The amount of cargoes handled by each district is unknown. However, 70-80% of the total cargo is handled in Tien Sa district, although Son Hang district also handles cargo for foreign trade.

Table 1.1.9  
**PROFILE OF CONTAINERS AT DANANG PORT**

1. Amount of Traffic	1993	1995	1996 (the first half of the year)
(TEU: Twenty Equivalent Unit)	5,600 TEU	7,000 TEU	6,500 TEU
2. Ratio of Export to Import (%)	Export 40	Import 60	
3. Export/ Import Items	Exported Items	Imported Items	
Name of Items	Coffee Peanut Frozen fish products Cloths Shoes Furniture	Ingredients of Beer Motor bicycle Parts of car	
4. Berth	Tien Sa fourth berth (behind a container yard)		
5. Route	Singapore - Da Nang - Saigon - Singapore (twice a week.) Loading capacity of the ship is 200 TEU.		

- Maximum Ship Size: (Tien Sa district) 20,000-25,000dwt; (Song Han district) 5,000dwt
- Number of Management Employees: 1,100 employees (In addition, 200 are employed during the busiest period.)
- There used to be a railway on the pier in both districts. However, the railway in Tien Sa district was abolished, and the one in Song Han district is also being dismantled.
- The distance between Tien Sa district and Route 1 is 15km, and counting heaving traffic, it takes approximately half an hour by car.
- There is a plan of tourism development on the south coast areas. BBI (American developer) has already got permission from the government.
- Due to continuous siltation in the port, i.e., 1.5m - 2.0m in the last decade, the dredging work required to maintain a sufficient water depth is estimated at 0.2 million tons every five years.
- Due to strong seasonal winds from October to February, the port is closed about 45 days per year. Ships are anchored on buoys in the bay.
- Transit Cargoes from/ to Adjoining Countries:
  - 1) At present, 30,000 tons of foreign trade from Laos transit through this port per year. (Import: machinery and steel, Export: Wood)
  - 2) Route 9 is usually used for foreign trade as inland transport, but there are many problems with this route in Laos territory.
  - 3) Asian Development Bank (ADB) is carrying out a feasibility study on improvements on both Route 9 and Da Nang Port.

Current Plans:

- 1) A container berth (Water depth: 11m, Length: 180m) is planned to be constructed in Tien Sa district. The construction work is expected to start in the near future.
  - 2) 2B at the upper stream, out of 7B, need to be converted for passenger transport.
  - 3) 2B on the side of mouth of the river in Song Han district need to be utilized as container berths.
- This is the third largest port, following Saigon and Haiphong, in Vietnam. This port is also the largest in the Central area.
  - Although there is not much space for extension, this port is considered to have a large potential for development in consideration of some advantages, such as the substantial scale of the port and city, and its location (the center of Vietnam and the relay point for neighboring countries).

6) Qui Nhon Port

- Location: Qui Nhon City in the south of Central Vietnam, in the Qui Nhon Bay
- Province: Binh Dinh Province
- Administrating Organization: VINAMARINE

- **Main Port Facilities:**
  - (a) **Wharf:**
    - Pier: Depth of water: 9.6m, Length: 155m2B (constructed between 1993 and 1995)
    - Wharf: Depth of water: 6-7.5m, Length: 350m2B (repaired in 1979)
  - (b) **Cargo Handling Equipment:** 20 cranes having a capacity of 5-20tons, four folk lifts of 4- to 6-ton capacity
  - (c) **No. of Warehouses:** 6
- **Cargo Volume:** The trend in cargo volume is illustrated in Table 1.1.10 and the breakdown of cargo volume in 1995 is in Table 1.1.11.

Table 1.1.10  
**TREND IN CARGO VOLUME AT QUI NHON PORT**  
(Unit: thousand tons)

Year	Amount
1990	300
1991	300
1992	340
1993	410
1994	400
1995	450

Table 1.1.11  
**BREAKDOWN OF CARGO VOLUME AT QUI NHON PORT**  
(Unit: thousand tons)

Items	Amount
1. Export (Foreign Trade):	170
Wood Products and Furniture	64
Agricultural Products (Tapioca and Coal)	43
Container	42
2. Import (Foreign Trade):	150
Cement	123
Fertilizer	10
Container	6
3. Shipping (Coastal Shipping)	30
4. Import (Coastal shipping)	94
Cement	80

Note: As transit cargo from Cambodia, logs and stones are included in 2.

- **Maximum Ship Size:** 10,000-15,000dwt
- **Number of Management Employees:** 500employees
- The port is situated in the bay well shelter.
- The land size is 27ha and it is also possible to reclaim land from the adjoining lake and the inlet.

- Due to typhoons and heavy rains, the port is closed about 15 days per year.
- In the Central area, this port is the second largest, with enough room for development. The port has a distinctive quality.

7) Nha Trang Port

- Location: Nha Trang City
- Province: Khanh Hoa Province
- Administrating Organization: VINAMARINE
- Background: The port operator was founded in 1976. Before the large berth was constructed in 1991, barge transport was operated between an offshore anchorage and the coast.
- Main Port Facilities:
  - (a) Wharf:
    - Pier: Depth of water: 9.6m, Length: 155m2B (constructed between 1993 and 95)
    - Wharf: Depth of water: 6-7.5m, Length: 350m2B (repaired in 1979)
  - (b) Cargo Handling Equipment: five mobile cranes having a capacity of 8-16tons
  - (c) No. of Warehouses: 3
- Cargo Volume:

Table 1.1.12  
TREND IN CARGO VOLUME AT NHA TRANG PORT  
(Unit: thousand tons)

Year	Amount
1990	220
1991	150
1992	150
1993	180
1994	210
1995	340



Table 1.1.13  
**BREAKDOWN OF CARGO VOLUME AT NHA TRANG PORT**  
 (Unit: thousand tons)

Items	Amount
1. Export (Foreign Trade):	20
Marine Products (frozen shrimp, fresh fish)	
Agricultural Products (Corn and others)	
2. Import (Foreign Trade):	220
Cement	180
Fertilizer	30
Machinery	10
3. Export (Coastal Shipping)	30
Marine and agricultural products	
4. Import (Coastal shipping)	90
Cement	70
Coal	20

Note: 50% of the freight is handled at the large berths, 30% at the inside berths, and 10 % at the small size berths.

- Maximum Ship Size: 10,000-15,000dwt
- Number of Management Employees: 176 employees
- The first container ship arrived in February 1996; the total volume in the first six month period is 966 TEU. All the containers exported contain goods such as coffee, furniture, and handicrafts. Twenty percent of imported containers contain machinery and tobacco leaves, while 80% are empty. The size of vessels are about 5,000dwt, and each container vessel may contain 55 TEU for loading and 77 TEU for unloading.
- The area is a well-known tourist spot. In 1995, ten cruising boats from overseas arrived (maximum vessel size: 51,000 GT, passengers landed per year: 3,000).
- The land area within the port is small, so about 3 km away from the port, a yard with 9.6 ha was built.
- A wharf (for 10,000DWT, 240-260m<sup>2</sup>B) is planned.
- Since there are coral reefs inside of jetties, development must take them into consideration.
- The port is naturally protected by islands.
- Dredging work is conducted every four years, although the volume of work is not so large.
- 45 days of port closure due to bad weather.
- The access road, which is narrow and steep, needs improvement.
- The land area for development is small and environmentally sensitive, but the port will be developed as one of the ports which represents the south.

8) Can Tho Port

- Location: Along the Bassac river, 71 km from the mouth of the river in Can Tho City
- Province: Can Tho Province
- Administrating Organization: VINAMARINE
- Background: In 1962, the first berth was constructed by the United States; 1981, an administrative organization was established; From 1981 to 1982, the second berth (84 meters) was constructed.

Main Port Facilities:

- a) Wharf: Depth of water: 9 to 10m, Length: 144m2B
- b) Cargo Handling Equipment: three cranes having a capacity of 25-75 tons (one of them is a crawler crane), 2 forklifts up to 5 t loads.
- c) No. of Warehouses: 2
- Cargo Volume:

Table 1.1.14

**TREND IN CARGO VOLUME AT CAN THO PORT**

(Unit: thousand tons)

Year	Amount
1991	110
1992	60
1993	50
1994	70
1995	130

Table 1.1.15

**BREAKDOWN OF CARGO VOLUME AT CAN THO PORT**

(Unit: thousand tons)

Items	Amount
1. Export (Foreign Trade):	66
Marine Products (frozen shrimp)	
Agricultural Products (Mainly rice)	
2. Import (Foreign Trade):	24
3. Export (Coastal Shipping)	36
Mostly rice	

- Maximum Ship Size: 5,000dwt because of the shallow parts at Cua Dinh An
- Number of Management Employees: 130 employees, 200 workers for loading/unloading, 500 workers at peak when rice is loaded.
- Hollow space in the existing bridged wharf is being filled to construct a solid wharf.
- The depth at Cua Dinh An became 4.5 meters as a result of dredging work in 1991. The water level difference, 3.2 meters is used for entry of vessels of 5,000dwt.

- The width of the river is 1.8 km; the depth at the center is 15 meters.
- There were some containers handled at the port in 1994, but the function was shifted to Saigon Port.
- The area is located in the center of the Mekong Delta, surrounded by large rice fields. Space for expansion is available. When the shallow portion at the mouth is deepened, the potential of expansion and development will be realized.

#### 9) Ha Bac Port

- Location: The port is located in the Thai Binh river system. It is composed of A Lu and Dap Cau districts. The former faces the Thuong River, the latter, the Cau River. The distances along the river from Haiphong are 80 and 100 km, respectively.
- Province: Ha Bac Province
- Administrating Organization: IWB
- Main Port Facilities:
  - (a) Wharf: none
  - (b) Cargo Handling Equipment: four cranes
  - (c) No. of Warehouses: 2 (Lu district)
- Cargo Volume: 50 thousand tons of domestic freight at A Lu district; 100 thousand tons of domestic freight at Dap Cau district

Table 1.1.16  
BREAKDOWN OF CARGO VOLUME AT HA BAC PORT  
(Unit: thousand tons)

Items	Amount
Import( Coastal Shipping)	
Sand and gravel	80-90
Coal	40

- Maximum Ship Size: 400dwt
- Number of Management Employees: 90
- In the past, under the distribution system by the government, the port functioned as one of logistics centers. At peak the handling volume reached 0.4 million tons, but the volume has decreased recently.
- The Dap Cau district does not have enough land for expansion. Port activities are limited along the river bank whose width is about 10 meters.

#### 10) Viet Tri Port

- Location: 70 km upstream from the Hanoi port along the Lo river
- Province: Vinh Phu Province
- Administrating Organization: IWB

- **Background:** Established in 1966, the port used to be the central port of the six provinces in the north. Cargo shipment, then, began shifting to trucks and railways; the cargo handling volume of the port decreased.
- **Main Port Facilities:**
  - (a) Wharf:
 

Berths: 7 berths total, 2 berths have are for larger boats with the height of 16.5 meters. One berth is a slope type for smaller boats. Only one berth has an adequate length. Others have 10 to 20 meters.
  - (b) Cargo Handling Equipment: nine cranes having a capacity of 2-1 tons
  - (c) No. of Warehouses: 3 (one is not used)
- **Cargo Volume:**

Table 1.1.17  
**BREAKDOWN OF CARGO VOLUME  
AT VIET TRI PORT**  
(Unit: thousand tons, 1995)

Items	Amount
1. Export (Coastal Shipping)	
Fertilizer	10
Waste from fertilizer factory	40
Sand and gravel	10
2. Import (Coastal shipping)	
Coal	100
Cement	30-40
Sand and gravel	30-40
Raw mineral for fertilizer production	10-20
Total	250

Note: 470 thousand tons was the largest, recorded in 1986

- **Maximum Ship Size:** maximum of 400 dwt (draft 2.8 meter), generally 250dwt
- **Number of Management Employees:** 270-280 employees
- **Seasonal conditions of the Hong river:** Rainy season is from July to early September, while dry season is from February to early March. Good weather is from March to July and September to early January. There are two shallow parts at 10 and 50 km downstream from the port.
- There are three bridges between Hanoi and the Viet Tri port. Out of the three bridges, the clearance at the Lon Bien bridge becomes 0 meter in rainy season.
- For the past 30 years, water depth in the port has not been changed much.
- The widths of the river are from 150 to 200 meters
- Inside of the port is not paved.
- The water level difference between the dry and rainy seasons is about 3 meters; when flooded, it is 6 meters.
- The distance of the port expansion to inland is about 800 meters.
- The intra-port sidetrack was completed in 1993 mainly transporting coal.

# 11) Hoa Binh Port

- Location: Along the Da river, 54 km away from the Ben Thuy port by the ocean route. The Hoa Binh port complex includes the following: the main port downstream from the hydroelectric plan; Bich Ha port; Tam Cap port (under construction); Van Yen port (under construction); Ta Hoc port (partially used); Ta Bu port (planned).
- Province: Hoa Binh Province
- Administrating Organization: IWB
- Main Port Facilities:
  - (a) Wharf: none (slopes are used along the riverbank.)
  - (b) Cargo Handling Equipment: three to four cranes having a capacity of 2-15 tons.
  - (c) No. of Warehouses: none
- Cargo Volume (Hoa Binh): 1991 to 1993: 150 to 200 thousand tons  
1994 & 1995: 300 thousand tons

Table 1.1.18  
BREAKDOWN OF CARGO VOLUME AT HOA BINH PORT  
(Unit: thousand tons, 1995)

Items	Amount
1. Export (Coastal Shipping)	
Sand and gravel	15-20
Bamboo	30-50
2. Import (Coastal Shipping)	
Coal	50
Cement	50
Sand and Gravel	75
Steel	15-20

- Cargo Volume (Bich Ha): 500 to 600 thousand tons (figures need to be verified.)

Table 1.1.19  
BREAKDOWN OF CARGO VOLUME AT HOA BICH HA PORT  
(Unit: thousand tons, 1995)

Items	Amount
1. Export (Coastal Shipping)	
Cement, steel, blocks	300
Agricultural products	20
General cargo	20
Fertilizer	20
2. Import (Coastal Shipping)	
Bamboo and logs	200

Exported freight is first collected at the Hoa Binh port, and then transported to Bich Ha port by trucks. Importing freight is the other way around.

- Maximum Ship Size: 100 dwt, mostly barges
- Number of Management Employees: 130
- Within the reservoir, among ports, passenger transport is in operation.

## 12) Hanoi Port

- Location: Hanoi City, along Hong river
- Province: Hanoi Special City
- Administrating Organization: IWB
- Background: In early 20<sup>th</sup> century, the French constructed. (It used to be called Pha Den—black barge)
- Main Port Facilities:
  - (a) Wharf: 11 berths (two locations have three continuous berths)  
The depth information is not available. The depth of the central part of the river at a berth is 7 meters in the dry season, and 10 meters in the rainy season.
  - (a) Cargo Handling Equipment: 8 key cranes (5t), 1 mobile crane (16t), 10 floating crane, bulldozer, forklifts, tractor shovel
  - (b) No. of Warehouses: 2
- Cargo Volume

Table 1.1.20  
TREND IN CARGO VOLUME AT HIA NOI PORT  
(Unit: thousand tons)

Year	Amount
1980	620
1985	670
1990	300
1991	370
1992	480
1993	720
1994	740
1995	720

Table 1.1.21  
BREAKDOWN OF CARGO VOLUME  
AT HANOI PORT

(Unit: thousand tons, 1995)

Items	Amount
1. Import (Coastal Shipping)	
Coal	150
Cement	140
Sand and Gravel	410
Steel, paper, others	

All the freight is imported.

- Maximum Ship Size: 300 dwt, mostly barges
- Number of Management Employees: 400
- There are three routes to the Hanoi port:
  - (1) North route: Kinh Thay River - Duong River - Hanoi Port
  - (2) Central route: Kinh Mon (or Thai Binh) River- Duong River- Hanoi Port
  - (3) South rout: Luoc River-Hong River - Hanoi Port

The order by use is (2), (3) and (1). The central route is closed during the months of July to September because of the low clearance at the Bien Lien Bridge.
- Semi-container vessels of 2,000dwt are planned to service the route between Bien Hoa port and the Hanoi port.
- Power services have been shifting from the steam generated to hydroelectric; therefore, coal importation is reduced.
- Shippers themselves watch their freight. For this purpose, there are several watch-houses in the port.
- Barges and vessels with 100 to 300dwt capacity are used. All cement and half of sand gravel are transported by freight vessels.
- The width of the river is about 1 km.
- The largest section of the port area is 300 meters inland from the river.

### 13) Ninh Binh Port

- Location: Along the Day river 54 km away from the mouth. There are Ninh Binh district, 2 km upstream, and Ninh Phuc district downstream.
- Province: Ninh Binh Province
- Administrating Organization: IWB
- Main Port Facilities:

#### (a) Wharf:

Ninh Binh District: four berths, 4 m deep (berth length is about 10 meters. The depth in the dry season is 3 meters, and 5 meter in the rainy season)

Ninh Phuc District: one berth (7.3 m deep, 43 meter long)  
another berth of the same depth is being completed adjacent to the existing berth.

- (a) Cargo Handling Equipment: 11 cranes, 5 bulldozers, unloader, one belt-conveyor
- (b) No. of Warehouses: one for each district
- Cargo Volume: 500,000 tons in 1995

Table 1.1.22  
BREAKDOWN OF CARGO VOLUME AT NINH BINH PORT  
(Unit: thousand tons, 1995)

Items	Amount
1. Import (Foreign Trade)	
Fertilizer	20
2. Import (Coastal Shipping)	
Coal	300
Cline	120
Steel, paper, others	
3. Export (Coastal Shipping)	
Fertilizer	20
Salt	

- Maximum Ship Size: 500 dwt maximum for both Ninh Binh and Ninh Phuc ports.
- Number of Management Employees: 1,000, coal processing in operation
- The best port under IWB.
- Four cement factories including Bim Son Factory (1.8 million ton/year)
- Coal is also transported by railways from Quang Ninh.
- Port areas: Ninh Binh (11 ha), Ninh Phuc (50 ha)
- The depths of the shallow sections at the mouth are 2 meter (low tide) and 5 meters (high tide).
- Fertilizers for export are carried by freight vessels of 400dwt size. All other freight is transported by barges.
- The ratio of freight handled at the Ninh Binh and Ninh Phuc is 2 to 1.
- The port operators would like vessels of up to 2,000 to 3,000dwt to enter the port.  
According to an interview, a study was conducted under IWB revealed that the amount of dredging for 2,000dwt vessel entry will be 1.24 million m<sup>3</sup> for the depth of 4.8 meters—2.8 meters deeper than the current depth, allowing 16 to 18 hours operation. In the case of 1,000dwt, the initial amount of dredging will be 44 thousand m<sup>3</sup> for the depth of 3.4 meters—1.4 meters deeper than the current depth.
- There are 45 days of port closure in a year because of heavy rain.
- It was learned that a new port was constructed at the mouth. It is located 4 km inland from the mouth of the Ninh Co River and managed by the Nam Ha Province.
- Dredging work in the port is not necessary.
- 0.12 million tons of coal is transported annually by railway to the Ninh Binh district.
- The width of the river in front of the port is 150 meters.



- The port is operating mainly for small boats. Cargo handling volumes are increasing and a port expansion is planned at the Ninh Phuc district.

#### 14) Cua Cam Port

- Location: Haiphong City
- Administrating Organization: Haiphong City
- Main Port Facilities: Two to three berths are reported to be in operation, but detailed information was not available.
- Cargo Volume: about 0.3 million in 1995  
Automobile, steel, and fertiliser are major freights. All of them are transshipped freight to smaller boats from the Haiphong and Quang Ninh ports.
- Maximum Ship Size: 1,000dwt; the depth is about 3.5 meters
- LASHs use this port.
- The freight handling volume is substantial, but it is a small port judging from the facilities and land area.

#### 15) Ben Nghe Port

- Location: Along the Saigon river, very close to the Saigon port
- Province: Ho Chi Minh City
- Administrating Organization: Ho Chi Minh City
- Background: Found in 1985, port operation started in 1987
- Main Port Facilities:
  - (a) Wharf: 1 berth (11.5 m deep, 170 m long), 2 berths (9.5 m deep, 265 m long), 1 berth for vessels with refrigeration (8 m deep, 78 m long), 7 buoys
  - (b) Cargo Handling Equipment: 7 cranes including one with 104 t capacity, forklifts (3.5 to 40 t), tractor, trailer
  - (c) No. of Warehouses: 6
- Cargo Volume

Table 1.1.23  
**TREND IN CARGO VOLUME AT BEN NGHE PORT**  
(Unit: thousand tons)

Year	Amount
1990	380
1991	580
1992	750
1993	800
1994	1,410
1995	1,760

Table 1.1.24  
**BREAKDOWN OF CARGO VOLUME  
 AT BEN NGHE PORT**  
 (Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign Trade):	630
Rice	200
Clothes, frozen marine products	
2. Import (Foreign Trade):	780
Fertilizer	250
Steel	100
Machinery	-
3. Export (Coastal Shipping)	250
Mostly rice	
4. Import (Coastal shipping)	110
Steel and others	

- Maximum Ship Size: 20,000dwt, a precedent of a 25,000 dwt vessel entry (after unloading 7,000 tons)
- Number of Management Employees: 220 to 240
- There is the Tan Tuan An EPZ (Export Processing Zone)
- Containers

Table 1.1.25  
**TREND IN CONTAINER VOLUME AT BEN NGHE PORT**  
 (Unit: thousand TEU)

Year	Amount
1990	20
1991	0
1992	0
1993	0
1994	24
1995	26

Note: The access route was under construction between 1991 to 1993. The containers during this period were shifted to the Tan Cang port.

Container port area: 15 ha

In this port, 1 TEU is equivalent to 11 tons of freight

The port began handling containers in 1989.

- Imported fertilizer is bulk; in the port, bagging facilities are available.
- Rice transported by small boats arrive at the port and loaded to larger vessels at buoys in the river.
- The width of the river is 250 meters; the width for navigation is 180 to 200 meters.
- The access road is narrow and the pavement is not sufficient. Since general traffic and pedestrians use the same road, cars passing at opposite directions find it difficult to traverse. The bridge on the way is deteriorated and the maximum

weight is set at 30 t with a 30-meter distance regulation.

16) Binh Dong Port

- Location: along the Kinh Te, Kinh Doi rivers branched from the Saigon river, extending 14 km.
- Administrative Unit: Ho Chi Minh City
- Administrating Organization: Ho Chi Minh City
- Main Port Facilities:
  - (a) Wharf: The total length of berths is 297 meter. Three berths at 297- meter distance.
  - (b) Cargo Handling Equipment: mainly manual.
  - (c) No. of Warehouses: 4 (3 were constructed in 1991)
- Cargo Volume: 0.1 to 1.2 million ton/year  
Small boats, 100 to 500dwt , transport rice (mostly transported to rice mills), wheat, and fertiliser. The handling volume, during the time of the distribution system, once reached 2 million tons.
- Maximum Ship Size: 500 dwt
- Number of Management Employees: 1,560 employees; 3,000 to 4,000 temporary staff may be hired during busy periods.
- The width of the river is approximately 20 to 30 meters.
- 3,935 tons of bagged rice and wheat were loaded by 286 persons in three days. This means one person carried 5.5 t per day.

17) Nam Dinh Port

- Location: 5 km away from the merging point of the Dao and Hong rivers.
- Province: Nam Ha Province
- Administrating Organization: Nam Ha
- Background: In the past, the port was the second largest next to the Haiphong port in the north. Because of the growth of the Ninh Binh port, its status declined.
- Main Port Facilities:
  - (a) Wharf: The total length of berths is 245 meter; the depth is reported to be 7 meters. Three concrete piles are placed for loading/unloading equipment.
  - (b) Cargo Handling Equipment: 2 bridge-type cranes, 4 mobile crane (3 to 16 t)
  - (c) No. of Warehouses: 2 to 3
- Cargo Volume: 120 to 130 thousand tons imported.

Table 1.1.26  
**BREAKDOWN OF CARGO VOLUME AT NAM DINH PORT**  
 (Unit: thousand tons, 1995)

Items	Amount
1. Import (Coastal shipping):	
Sand and gravel	120 - 130
Coal	90
Medication, fertilizer, others	30

- Maximum Ship Size: 400-600 dwt (mostly transported by barges)
- Number of Management Employees: 200 employees
- Except for barges, vessels access from the south because of a bridge clearance.

18) Thanh Hoa Port

- Location: Along the Ma river, 16 km from the mouth of the river
- Province: Thanh Hoa
- Administrating Organization: Thanh Hoa Province
- Background: The current port was constructed between 1976 to 1984.
- Main Port Facilities:
  - (a) Wharf: 2 berths (3 to 5 meter deep, 190 m long)
  - (b) Cargo Handling Equipment: 5 cranes (6 to 16 t)
  - (c) No. of Warehouses: 2 to 3
- Cargo Volume: 60 to 80 thousand tons (1994), 120 thousand tons (1995)

Table 1.1.27  
**BREAKDOWN OF CARGO VOLUME AT BEN NGHE PORT**  
 (Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign trade):	
Chromium ore	10
Cement	15
Medicine, fertilizer, others	
2. Import (Foreign trade):	
Fertilizer	30
3. Import (Foreign trade):	
Coal	50

Note: The largest handling volume 250 thousand tons was recorded in 1987.

- Maximum Ship Size: 500 dwt
- Number of Management Employees: 280 employees
- 4 km upstream from the mouth of the river is prone to sedimentation and shallow in the 16 km access waterway to the port. Since 1986, dredging work was conducted for the first time in 1994; the depth recovered to 1.5 meters. Entry of 600dwt class vessels became possible and the handling volume of the port doubled in 1995.

- The width of the navigable part of the river is 30 to 40 meters.
- Funding for dredging work is an issue, since it is the province which has to finance a provincial port.
- A cement factory, planned in the Nghi Son district, will preferably use the port.
- There are requests from Japan, Singapore, and Malaysia for use of the port; however, lack of funding for dredging work is preventing the province to give positive replies to the potential users.
- The height of the wharves stood out. (It was explained that the water level difference between the dry and rainy seasons is high)
- Logs from Laos to Taiwan was kept in open yard
- Wharves, apron, and handling equipment are deteriorated. Since there is a problem on dredging works, further expansion will not be feasible.

#### 19) Xuan Hai Port

- Location: along the Lam river at the right bank, 23 km from the mouth of the river
- Province: Ha Tinh
- Administrating Organization: Ha Tinh Province
- Background: Constructed during the Vietnam War
- Main Port Facilities:
  - (a) Wharf: 1 berth (7 meter deep, 55 m long), constructed to handle freight from Laos for transshipment; another berth
  - (b) Cargo Handling Equipment: 2 small cranes, forklifts
  - (c) No. of Warehouses: 1
- Cargo Volume:

Table 1.1.28

#### TREND IN CONTAINER VOLUME AT XUAN HAI PORT (Unit: thousand TEU)

Year	Amount
1991	34
1993	46
1994	120

Note: Container volume from January to April have been estimated. 60 to 70% of the freights are logs from Laos. Detailed information is not available.

- Maximum Ship Size: 3,000 dwt (to be verified)
- 25 km closer to Laos than the distance from the Cua Lo port.
- The condition of the access road from the route one (the national road) is being improved.
- The access waterway has adequate depths. The bed of the river is stable. The only section where dredging works are required is at the mouth of the river.
- Dredging work is planned to allow vessels of 5,000dwt size.
- The width of the river in front of the port is 1 km.
- The new wharf is equipped with suspended cantilever piers.

- Logs exported from Laos are transported by barges of 400 to 500 DWT to an anchorage place offshore of the Cua Lo port, and loaded to larger vessels.
- Further expansion of the port would be difficult since the land of the port is narrow, the distance from the mouth of the river is long, and facilities are inadequate.

20) Vung Ang (Mui Ron) Port (planned)

- Location: A beach area close to the southern end of the Ha Tinh province; 402 km from Hanoi by the Route 1.
- Province: Ha Tinh
- Background: In the past, the Hon La port (the northern end of the Quang Binh province) was planned to be the transshipment center for the freight from Laos, but the plan was changed and agreed by the Laos and Vietnam government to develop the Vung Ang port. In 1996, the Vice Prime Minister of Vietnam visited Laos to sign an agreement to conduct a feasibility study for the port.

- Other information:

- (a) The existence of rocks was not recognized by the geological study conducted by TEDI; thus, the construction cost is not high.
- (b) It is reported that the location of the port is closest to Laos by the route 12 (national road), but the fact may not be so.
- (c) Generally, the Vung Ang district includes the Vung Mon district on the opposite side of the headland.

Vung Ang District: A port for general cargo is planned to accommodate vessels of the 10,000 DWT class.

Vung Mon District: An industrial port, accommodating vessels of the 100,000 DWT class under planned.

- (d) There is a large-scale industrial development plan in conjunction with the port development. The planned productions are as follows:  
Steel manufacturing (2 million tons annually) using the Thach Khe mine;  
Oil refinery;  
Titanium processing; and  
Urban development for 100,000 population.

- Conditions of the development areas:

Vung Ang District:

- Geology in front of the planned site seems to be close to the reef area.
- The western part is a sandy beach. It seems to be a shoaling beach.
- The deteriorated condition of the access road from the national road Route 1, is not usable, unless improved.

Vung Mon District:

- There seems to be reefs toward the direction of the Vung Ang district.
- There are small islands 4 km offshore.
- The altitude of the peak of the headland is about 200 meters.

## 21) Hon La Port (planned)

- Location: The beach area of the northern end of the Quang Binh province.
- Province: Quang Binh
- Administrating Organization: Quang Binh Province
- No facilities exist.
- In the past, this was the planned location for the international transshipment for freight from Laos. Now the on-going plan for the Vun Ang became more realistic than this planned port.
- Other information:
  - (a) The site is 3 km away from the route one.
  - (b) A development plan was prepared.

There are two maps shown for two cases. One considers the port as a transshipment center for Laos only, and the other one considers for both Laos and Thailand.
  - (c) There are two islands 3 to 4 km offshore. Using these two islands, breakwaters were planned to keep the port area free from high waves.
  - (d) The site at present is a beautiful white sand beach with pine trees in the hinterland.

## 22) Cua Viet Port

- Location: Northern part of the Quang Tri province, the right bank at the mouth of the river.
- Province: Quang Tri
- Administrating Organization: Quang Tri Province
- Background: Aiming to develop a transshipment port servicing the southern part of Laos, and the north-eastern part of Thailand. The initial plan was prepared in 1983, the construction started in 1995, and it is now being constructed.
- Major information:
  - (a) A berth (6.2 m deep, 63 m long) is being constructed to accommodate vessels of 3,000 DWT class. It is planned to be completed in late 1996 or early 1997.
  - (b) Future Plan
    - Three more berths of the same scale will be constructed by 2005.
    - On the opposite side of the river bank (right side), large scale port facilities which accommodate vessels of 5,000 to 10,000 class will be constructed. (On the right side of the river bank, the U.S. constructed a port during the Vietnam War, but it is no longer functional.)
    - The construction for the first phase are: 1.8 million U.S. dollars for the wharf, and 2.5 million U.S. dollars for the 14 km access road.
- Direct access to the Sabanakhet district in Laos by the route 9 (national road). Improvement of the route 9 is planned to be completed in 1998, and the total cost of the improvement is 9.2 million U.S. dollars.

- Access waterway improvement plan: Waterway improvement is planned. The distance from the mouth of the river is 2 km, and the designed depth is 5.9 meters. The 900-meter segment of the waterway requires dredging work; the volume of the dredging work is estimated at 160,000 m<sup>3</sup>.
- The ocean side of the mouth of the river has some shallow parts because of sand eroded from the upstream. At the wharf, sand accumulation was observed.

### 23) Than An Port

- Location: 10km northeast of Hue City, the central part of the lagoon which is 100m long.
- Province: Thua Thien-Hue
- Administrative Organization: Thua Thien-Hue Province
- Background: Built in 1975 by the United States; transferred to the central government, and in 1984, transferred to the provincial government
- Major Port Facilities:
  - (a) Wharf: 3 berths (3.2 m deep at low tide (8.7 m deep at high tide), 92 m long, 21 m wide for 500 dwt, slope length 90 m,
  - (b) Loading & Unloading Equipment: four 10-15 t mobile cranes
  - (c) Warehouse: One

Table 1.1.29

### BREAKDOWN OF CARGO VOLUME AT THUAN AN PORT

(Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign trade)	10
Rattan and others mainly to China	
2. Import (Foreign trade)	10
Glass and other general cargo mainly from China	
3. Import (Coastal shipping)	
Coal	40
Cement	30

Note: It is not know if the amounts of foreign trade are directly traded.



- Maximum Ship Size: 600 dwt recorded; the new wharf may accommodate 1,000 dwt class.
- Number of Management Employee: 200 employees
- Port Area: 20 ha
- Days off: 3-4 months due to strong wind
- In 1995, the front of the new wharf was dredged to 3.7 m depth, and the 400 access waterway was dredged to 3.9 deep to accommodate vessels of 1,000 dwt class.
- Future Plan:
  - (a) Dredging work of 200 to 250 thousand m<sup>3</sup> in front of the wharves and the access waterway to accommodate 2,000 dwt class vessels.
  - (b) Construction of fuel port, fish port, and a port for tourism
- Other Information: A shallow space at the entrance of the lagoon.

#### 24) Chan May Port (Planned)

- Location: The south part of Thua Tien-Hue province. 50 km south of the provincial capital Hue.
- Province: Thua Tien-Hue Province
- Other Information:

It is a potential deep-port site in the central region in addition to other potential sites at Lien Chieu and Dung Quat. This site was proposed first among three. Depending on a location in the bay, The potential site may have an advantage of being protected by wind and wave, if the site location is properly selected within the bay. There is a large-scale industrial, urban and port development plans by the provincial government. The maximum vessels planned are 50,000 dwt class. The depths in the bay range 10 - 14 m, and its seabottom is laid with quality sand.

#### 25) Lien Chieu Port (Planned)

- Location: Da Nang Bay area, west of the existing Da Nang port.
- Province: Quang Nam-Da Nang Province
- Other Information: It is a potential site for a deep-port in the central region in addition to other potential sites at Chan May and Dung Quat. The potential site may have an advantage of being protected by wind and wave, if the site location is properly selected within the bay.

#### 26) Dung Quat Port

- Location: In the northern most bay of the Quang Ngai province.

- Administrative Organization: Quang Ngai Province
- Other Information: It is a potential site for a deep-port in the central region in addition to other potential sites at Chan May and Lien Chieu.
- Background: The very first oil refinery in Vietnam will be constructed. With the facility, the port is planned to function as a core of a comprehensive development which includes a large-scale industrial, urban, port development. Centering the members from the Ministry of Construction, the working group is composed of members from the central government and representatives from local governments.
- Type of Seabottom: Sand
- Length from the Rout 1: 12.5 km
- Other Information: The Churai airport is located 7 km away from the port. Two fresh water lakes nearby could become water resources for development. There are maps for industrial, urban, and port development. The scale of oil refinery is 100 to 130 thousand BPSD for the first phase of the project.

27) Thi Nai Port (secondary data, no on-site survey conducted)

- Location: Near the Qui Nhon Port
- Province: Binh Dinh Province
- Administrative Organization: Binh Dinh Province
- Major Port Facilities:
  - (a) Wharf: 5.4 m deep, 120 m long (180 m long in a different source)
  - (b) Loading & Unloading Equipment: One mobile crane (25t), forklifts
  - (c) Warehouse: None

Table 1.1.30

**BREAKDOWN OF CARGO VOLUME AT THI NAI PORT**

(Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign trade)	58-65
Cassava from China	2
3. Import (Coastal shipping)	
Cement from Hai Phong	n.a.
Qui Nhon	
Fertilizer from Thanh Hoa	n.a.
Export (Coastal shipping)	
Wood to the south	20

n.a. information not available

- Maximum Ship Size: 2,000 dwt
- Warehouses: none
- Number of Management Employees: about 40

#### 28) Ba Ngoi Port

- Location: Center of the Cam Ranh port, 50 km south from Nha Trang by way of the Route one; there is a navy base
- Province: Khanh Hoa Province
- Administrative Organization: Khanh Hoa Province
- Major Port Facilities:
  - (a) Wharf: a fork pier, 8.5 m deep, 81 m long, 10 m wide  
The depth at the front of the wharf is 8 m on the average--9 m at high tide.
  - (b) Loading & Unloading Equipment: 3 truck cranes (3-14 t); one 14 ton truck crane is made in Japan and was purchased in 1994; trucks, buckets for sand transport, nets for salt transport
  - (c) Warehouse: One (unused)

Table 1.1.31

#### BREAKDOWN OF CARGO VOLUME AT THI NAI PORT

(Unit: thousand tons, 1995)

Items		Amount
1.	Export (Foreign trade)	275
	* Sand	195 <sup>1/</sup>
2.	* Salt	55 <sup>2/</sup>
	* Cement, wood panels, steel, coal and others	

- 1/ The collection site is 30 km north of the base on the peninsula; the size of vessels are 500 - 1,000 dwt class. Major countries of trade are Japan and Korea.
- 2/ Bagged cargo shipped by vessels of 5,000 to 1,000 dwt.

- Maximum Ship Size: 15,000 dwt (tide used)
- Number of Management Employees: 140 employees
- Future Plans:
  - (a) Short-term plan: Both ends of the wharf will be extended to 104 m, and the wharf width expanded to 11 m. The expansion is on-going.
  - (b) Long-term plan: The port is planned to handle 30,000 dwt with a new

container berth and handling equipment. The total cost of the expansion is estimated to be US\$ 40 million. The amount of dredging works in front of the wharf is 510 thousand m<sup>3</sup>.

Cargo to be handled: Sand export 300-500 thousand tons, and 200 thousand tons of salt, tapioca, logs, corn and others.

- Other Information:

- \* There is no danger of deposit accumulation in the port area.
- \* Currently, there is no port area other than the wharf (10 m x 83 m)
- \* Year-round-operation
- \* The wharf is dilapidated and in need of repair.
- \* The port is located 5 km from the port entrance. The access way is 900 m long, 110 wide, and 11 m deep.

## 29) Dong Nai Port

- Location: The left bank of the Dong Nai river at the provincial capital Bien Hoa in the Dong Nai province.
- Province: Dong Nai Province
- Administrative Organization: Dong Nai Province
- Background: The construction commenced in 1990 and the operation started in 1993.
- Major Port Facilities:
  - (a) Wharf: Pier, 7 m deep, 62 m long
  - (b) Loading & unloading equipment: two mobile cranes (25, 45 tons)
  - (c) Warehouse: one

Table 1.1.32

### BREAKDOWN OF CARGO VOLUME AT DONG NAI PORT

(Unit: thousand tons, 1995)

Items		Amount
Total		120
* 1996 estimate total		160
1. Export (Foreign trade)	* Gum, coffee, corn <sup>1/</sup>	50
2. Import (Foreign trade) <sup>1/</sup>		30
3. Coastal Shipping <sup>1/</sup>		80

1/ 1996 estimate

- Maximum Ship Size: 2,000 dwt
- Number of Management Employees: 38 employees
- Other Information:
  - \* The population of the capital is 300,000. The depth of the river in front of the berth is passable by a 5,000 dwt class vessel. But since 7 km down the river, there is a shallow section with a depth of 5.3 m at low tide, only up to 2,000 dwt class vessels can navigate. If this section was dredged, 5,000 dwt class vessels could navigate to the port.
  - \* The port area is 9.3 ha.
  - \* The handling volume of the port is estimated to reach 500,000 tons as an industrial development progresses near-by areas such as Bien Hoa. There are logs transported at the end of the port from Da Nang.
  - \* Sphere shaped tanks and pipe lines for gas to be imported from the Thailand was observed. A vessels of 1,000 class reported to be used to transport.
  - \* The width of the river in front of the port is about 250 m.
  - \* There is an 5 ha area for expansion downstream adjacent to the port.
  - \* A beer factory or a distribution station is located upstream of the port. A jetty for berges was observed. (It is not individually owned but by the port operator. The relationship between the operation and use is not known.)

### 30) Go Dau Port

- Location: A part of the Chbai port complex.
- Province: Dong Nai Province
- Administrative Organization: Dong Nai Province
- Background: The public port authority was established in July, 1995. It was a fishing port before the establishment.
- Major Port Facilities: One berth, 6.5 m deep (completed in July 1995, 2,5000 dwt)
- Cargo: Ceramics, tiles, material for soap, steel and others
- Other Information:
  - \* It takes about 2.5 hours from the mouth of the river by a vessel of 1,000 dwt class. The port area has 14 ha and have a plan to accommodate 5,000 dwt class vessels.
  - \* A private corporation occupies the upper most area. It has its own berth for 6,000 dwt class vessels. Factories are located in the hinterland. A fertilizer and a gas factories are located downstream. Each factory has its own berth.
  - \* VINA-KYOEI is located 51km south of the port along the route one.

### 31) Thi Vai Port

- Location: Large areas along the Chi Bay river. The port is composed of Go Dau, Nhon Track, Phu My, Cai Mep districts.

- Province: Dong Nai Province and Ba Ria-Vung Tau Province
- Major Port Facilities:
  - (a) Go Dau District
 

The district is 4 km long.  
 Ajinomoto, Gozau port, phosphate fertilizer factory jetty, gas factory  
 6.5 m deep,  
 Maximum Ship Size: 5,000 dwt (because of the alignment of the river)  
 Future Plans: By straightening the river by dredging, vessels of 10,000 dwt class are planned for entry.
  - (b) Nhon Track District
 

Details not known. A port of 10 m deep for 20,000 dwt vessels is planned.
  - (c) Phu My District
 

Along the 8 km distance, there are VINA-KYOEI, a fertilizer factory (Vietnam, Taiwan, Japan), a cement factory, and a power plant are located. Ba Ria-Seace port (a fertilizer factory by a French partnership) is located also.  
 The depths of the port are 10 to 13 meters. The port accommodates 30,000 dwt class vessels. According to a plan by VINAMARINE, container berths may be constructed in the future.
  - (d) Cai Mep District
 

Location: At the left bank of the merging section of the Thi Vai and Lo Gia rivers. The depth of the port is 20 m. A crude oil port for vessels of 50,000 dwt class and container berths are planned to be constructed. A port development plan by a partnership with Gendai, and a container port development plan by a partnership with a Norwegian corporation are planned.

### 32) My Tho Port

- Location: The left bank of the Mekong river. 50 km away from the zero buoy.
- Province: Tien Giang Province
- Administrative Organization: Tien Giang Province
- Background: The commercial operation started in 1986. A beer corporation WAS established in 1992, and in 1993, a rice processing factory was constructed.
- Major Port Facilities:
  - (a) Wharf: 7-10 m deep, two 63 m bridged quays (12 m wide),  
 A 130 m slope for 400t class barges and small boats.
  - (b) Loading & Unloading: 3 crane (3-10 t)
  - (c) Warehouse: one
- Cargo Volume:

Table 1.1.33  
**TREND IN CARGO VOLUME AT MY THO PORT**  
(Unit: thousand tons)

Year	Amount
1994	180
1995	200

Note: 1994 and 1995 include container volumes of about 3,000 TEU each.

Table 1.1.34  
**BREAKDOWN OF CARGO VOLUME AT MY THO PORT**  
(Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign trade)	
Rice	15
2. Import (Foreign trade)	
Brick and tile	5
3. Export (Coastal shipping)	
Beer and other drinks	90 <sup>1/</sup>
Rice	100 <sup>2/</sup>

1/ 80% is to the Ho Chi Minh City by berges, and the rest by freight vessels of 200 - 1,000 dwt class.

2/ Some portion of beer is exported to Cambodia. Other commodity of export is perm oil.

- Maximum Ship Size: 2,000 to 3,000 dwt depending on the depth at Cua Tien.
- Depth at Cua Tieu: 3 m at low tide, 5 m at high tide. (Another source indicates the depth at low tide as 2.3 m.)
- Number of Management Employees: 16 employees (Contracted workers for loading and unloading works)
- Port area: 3.4 ha (including the area beyond the BGI)
- Other Information:
  - \* The population of Mito, the capital of the Tien Giang province, is 170,000. A rice processing factory to export "tasty rice" is planned by a Vietnam and Taiwan partnership. Dredging works are conducted in every three years. (70 cm of soil accumulation in three years equivalent to 20 thousand m3 of dredging works)
  - \* The two lanes access road paved with asphalt is in good condition.
  - \* Two berthing facilities handle equal amount of freight.
  - \* The river is shallow up to 10 km inland from the mouth, having a depth of about 3 m at low tide.

- \* The width of the river in front of the port is about 600 m and the depth in the center is 20 m. The depth at the berth front is 7 to 10 m.
- \* The warehouse is all rented to the BGI.
- Future Plans:  
A new berth development plan adjacent to the rice processing factory (3,000 - 5,000 dwt with possibility of container handling facilities).

### 33) Vinh Long (Vinh Tai) Port

- Location: At the right bank of the Co Chien river which is a branch of the Mekong river.
- Province: Vinh Long Province
- Administrative Organization: Vinh Long Province
- Major Port Facilities:
  - (a) Wharf: 3.5-5.5 deep, 80 m long (two extended jetty-type)
  - (b) Loading & Unloading: 3 crane (13-45 t), 3 forklifts (3.5 t)
  - (c) Warehouse: three (two warehouses are joined.)
- Cargo Volume:

Table 1.1.35

#### BREAKDOWN OF CARGO VOLUME AT VINH LONG PORT

(Unit: thousand tons, 1995)

Items	Amount
1. Export	
Rice <sup>1/</sup>	100
Tile, perm oil	
2. Import (Coastal shipping)	50
Coal, machinery for	5
agriculture, steel, fertilizer	

1/ Cargo is mainly transshipped at the Saigon port. Another transshipment port is the Kanto port.

Note: The cargo volume of the first half of the year increased by 12% compared with the same period previous year.

- Maximum Ship Size: 15,000 dwt  
The depths of at the Cua Co Chien is from 2.8 to 5.7 m.  
Vessels use the Cua Tieu port since the port is deeper, they have to travel 3 km more.
- Number of Management Employees: 22 employees (30 from a different organization for loading and unloading.)



- Other Information:
  - \* Width of the river in front: 700 m
  - \* Dredging works are conducted every 3 years. (30 cm accumulation in three years, equivalent to 3,000m<sup>3</sup> dredging works)
  - \* The wharf and cranes are very old. The existing port area has 1.9 ha. when an area downstream already purchase is added 4.1 ha. Expansion is possible upstream using land currently owned by the government.
  - \* During the past 40 years, the depths of the river have not been changed in the section from the main port to the mouth of the river.
  - \* An expansion work downstream was suspended 7 years ago.
  - \* Rice from neighboring communities are re-bagged to stronger bags for international trade.
- Issues Expressed by the Administrator:
  - (a) Finance
  - (b) The wharf is 30 years old.
  - (c) The wharf, yards, loading and unloading facilities are old.

#### 34) Dong Thap (Cao Lanh) Port

- Location: The left bank of the Mckong river, 260 km from the mouth.
- Province: Dong Thap Province
- Administrative Organization: Dong Thap Province
- Background: The construction completed in 1984, and the operation started in 1985. The river port became an sea port in 1990.
- Major Port Facilities:
  - (a) Wharf: 5.5 m deep (lowest), 67.5 m long, 10 m wide both sides extended berths
  - (b) Loading & Unloading: two tire crane (15, 25 t), forklifts, tractor, trailer.
  - (c) Warehouse: one for tobacco leaves, and another for corn
- Transport Method:

About 30 thousand tons were handled in 1995. Most of cargo types are rice exported directly. Other commodities are corn and beans directly exported. The volume in 1995 was 2,000 tons mainly shipped by vessels of 1,000 dwt class.. Before 1995, the annual volumes were about 5,000 to 7,000 tons. Currently, there is nothing exported from Cambodia, but corn, beans (1,000 t), tobacco leaves (1,000 t) transported by vessels of 200 to 3,000 ton class. In 1993, the handling volume peaked at 100 thousand tons.
- Maximum Ship Size: 3,000 dwt (Cua Tieu restriction)
- Number of Management Employees: 15 employees (During the cultivation seasons (April to June, 50% and September to October 30%) more employees are hired.)
- Port Area:

- (a) total of 2 ha, 600 m long along the river.
- (b) A construction company upstream and a military housing downstream adjacent to the port would not restrict the expansion of the port. When they are included 9 ha site 1,200 m along the river will become possible. There are more sites for development downstream of the military housing.
- (c) A plan for the second berth (100 m long, 15 m wide) has been prepared, but its implementation is not urgent.
- (d) The depth of the berth is 5.5 m during the dry season and 7.7 m during the rainy season.
- (e) Other Information:
  - \* An independent port exclusive for the use by the grain public corporation is located 400 m upstream of the port.
  - \* The port is not included in the jurisdiction of the Cao Lanh city.
  - \* Warehouses, cranes and buoys are needed. Buoys are used for mooring when the port is congested.
  - \* Tobacco leaves from Cambodia are not sold well and tend to be store in the storage for a long period.
  - \* The width of the river in the front is 1 km.
- (f) The port area is relatively large and the width is adequate. Since the condition of the access road is acceptable, when the port functions with the port for the grain public corporation, cargo handling capability will be augmented.
- The Port for the Grain Public Corporation:
  - (a) An old port since the French occupation.
  - (b) Rice is exported directly from the Don Thap port, but from this port, rice needs to be transshipped at the Saigon port. (Vessels of 1,000 to 1,500 dwt are generally used. The largest vessels are 3,000 dwt class.)
  - (c) Both bagged and bulk rice is transported to the port generally. Bagged rice are processed at the rice processing factory and bulk rice is unloaded by a vacuum pump and belt conveyors. After being processed, they are bagged and transported to the Saigon port.
- The province of the Don Thap is the second largest rice producers next to the An Giang province (1,750 thousand tons). Most of rice, 300 thousand tons, is transported to the Saigon port to be exported. There is a potential for the port, which could ship rice directly to foreign countries.

### 35) My Thoi (Long Xuen) Port

- Location: The right bank of the Bassac river 167 km from the mouth
- Province: An Giang Province
- Administrative Organization: An Giang Province
- Background: The construction commenced in 1985 and the operation started in 1990.
- Major Port Facilities:
  - (a) Wharf: 6 m deep, 76 m long, 14 m wide, (The depth used to 4.2 m, but

deepened by recent dredging works.)

(b) Loading & Unloading: two tire crane (7, 12t), two floating cranes (25, 40t), forklifts, tractors.

(c) Warehouse: two

- Cargo Volume: 110 thousand tons of rice are exported by way of the Hai Phong port annually. Other 20 tons are exported directly. 10 thousand tons of corn and beans are exported directly. Mostly 3,000 to 4,000 dwt class vessels are used. 200 dwt class freight vessels or sometime 250 ton berges carry commodities. Floating cranes are used to transfer commodities to large vessels. During the years in 1987 and 1988, when rice was in short supply in the north, the handling volume peaked and marked 200 thousand tons.
- Maximum Ship Size: 5,000 dwt (Generally, vessels which entered the Kanto port can enter this port.) Entry of 3,000 dwt class vessels is always possible. (There is a powerline between the two ports. Since the clearance is 42 m, it does not affect navigation.) The largest vessel to the port was recorded in 1992 by a sugar carrying vessel of 8,400 dwt (draft 5.3 m, sugar 5,000t).
- Number of Management Employees: 80 employees
- River front width: 700 m
- Port Area: 4.7 ha (650 m along the river)
- Future Plans: The second berth downstream (76m x 14m) and the third berth for containers are planned. Since there is no shallow section between the Kanto port and My Thoi port, navigation of vessels of 20,000 dwt would become possible. Cua Dinh An is the only issue of expansion.
- Dredging works are conducted every two years (30,000 m<sup>3</sup>). The cost of dredging work, if done by themselves, is 6,000 don/m<sup>3</sup>. When contracted, the cost triples.
- Other Information:
  - \* The city of Lon Suen is the capital of the province and has a population of 200,000.
  - \* All rice, beans and corn are bagged.
  - \* A port crane is used to load and unload cargo from vessels up to 2,000 dwt. Larger vessels use ships' cranes.
  - \* The rainy season is from July to September. During the month of July and August, cargo can neither be loaded nor unloaded.
  - \* The ship's crane has the largest capacity. The capacities of a crane on land and a floating crane follow.
  - \* There are three buoys for mooring three vessels ranging from 2,000 to 5,000 dwt class. Larger vessels use anchors.
  - \* The sites for the second and third berths are used as waiting areas at present.
  - \* According to the port authority, unknown demurring at inappropriate locations are too many to enforce the navigation laws by seven staff.
  - \* There is no import/export to/from Cambodia.
  - \* During the rainy season, the water level rises by 2m.
  - \* The depth in the middle of the river is 15 m. Shallow sections from the mouth

- of the river to the port are only at the Dai Ngai area with a depth of 7 m.
- \* Since the port area is relatively large and the condition of the access road is acceptable, expansion of the port is possible.

### 36) Ca Mau Port

- Location: The southern most section of the region
- Province: Minh Hai Province
- Administrative Organization: Minh Hai Province
- There is no port by the name of Cau Mau. The name must be used to call a collection of ports in the area. Therefore, no detailed data was collected. Judging from the information about the Nam Can port, the area does not have any facilities. Handling volume may be consistent, but the activities may be limited to small scale. Since the area's density of inland waterway is high, the port area has some central function in inland waterway transport.

### 37) Nam Can Port

- Location: Further south of the Ca Mau port
- Province: Minh Hai Province
- Administrative Organization: Minh Hai Province
- Major Port Facilities: There is a very old pontoon type facility. Others are none.
- Other Information:
  - \* Only access between the port and the Ca Mau port is a middle class river which is about 5 m deep. Road construction is on-going, but it will not be completed sometime until 1998.
  - \* There are two rivers to the ocean (23km to the west and 35km to the east) other than the one to the Ca Mau port. The western route is shallow. Even at high tide, vessels of severak hundred dwt class would be possible. The eastern route has the depth of 13 m at the front of the port. It gradually deepens toward the ocean. At the mouth of the river, the depth reaches 30 m or deeper, but the depth of a 1 km section, 5 km away from the mouth, is 2.4 m. Only vessels of 3,000 dwt class would be passable.
- Cargo Volume:
  - (a) 4 - 5 thousand tons of frozen shrimp are directly exported annually (mainly to Japan by 700 - 3,000 dwt vessels). Vessels of 10 to 20 dwt bring natural and cultured shrimp to the port which has a cold storage facility with a 500 ton capacity.
  - (b) Another route is through Ca Mau by vessels of 10 to 20 dwt class with cold storage facilities, and then, transported to the Saigon and Kanto ports by truck. The shrimp is shipped overseas from those ports.
- Number of Management Employees: 10 employees

- Port Authority: established one year ago with 6 staff within the provincial department.

The facilities for the port authority and the management office were the worst among the ones the consultant visited.

- Plans:
  - (a) First Phase (1995-1997): a wharf 100m long, warehouse, yard, internal road development
  - (b) Second Phase (1997-2005): another wharf 150m long and related facilities
- Other Information:
- There is an oil import base development plan by the province and Singapore partnership. (At present, oil is transported from the Ho Chi Minh city to Ca Mau by sea, and then, small tanker of 10 to 20 dwt class transport oil to the port.

The port, during the Vietnam war, was used by the Vietnamese navy.

### 38) Hon Chong Port

- Location: The west most area in Vietnam, only port facing the Thai bay in the southern region.
- Province: Kien Giang Province
- Administrative Organization: Kien Giang Province
- Background: The port began its operation in 1986. Until 1990, the annual cargo volume had been 100,000 tons. During the years from 1990 to 1994, the port had not been used, since no forwarder used the port. In the middle of 1995, the port resumed its operation.
- Major Port Facilities:
  - (a) Wharf: 4.7-5.7 m deep, 65m long, 1b (bridged quay)
  - (b) Loading & Unloading: one tired crane (15 t), one forklift, a truck
  - (c) Warehouse: two (one for cement, another for agricultural products)
- Cargo Volume:

1995:

4,000 tons (Construction materials such as steel and cement from the Thailand and Singapore to the Sao Mai cement factory)

Until 1990:

50 thousand tons of agricultural products such as rice and corn were exported annually to Singapore, the Philippines by vessels of 500 - 1,200 dwt. Once, foreign vessels of 130,000 dwt class exported rice to foreign countries. Land and sea transport to the port are 40% and 60%, respectively. (Two to four berges of 200 to 300 tons exit to the ocean and re-enter the port.) The volume of 50 thousand tons of marine products such as shrimp, squid, and other frozen marine products are exported to Singapore and the Thailand by vessels with cold storages.) The volume of import is about 2,000 to 3,000 tons.

- Maximum Ship Size: 2,000 dwt

There are two transshipment facilities offshore within the port area:

Table 1.1.36  
**TRANSHIPMENT FACILITIES AT HON CHONG PORT**

Name	Max. Vessel (dwt)	Depth (m)	Distance (km)
Base 1	3,000	6.5	3
Base 2	over 10,000	9	12

- Number of Management Employees: 5 employees (The port once hired 40 employees.)
- Other Information:

From 1986 to 1990, about 20% of the total was a transshipment volume. In 1996, the handling volume is expected to be about 100,000 tons. Dredging works have never been conducted. This is understood by the distance of the offshore transshipment bases and the fact that the level difference of the sea bottom from the port to a location 200 meter away from the port is only 0.5 meters. The port is naturally protected from weather by islands. Even during a typhoon, the wave height reaches only about one meter. There is no specific development plan for the port. The operation may be expanded nationwide to link other ports. The view of the islands and surrounding areas may have a potential to become sources of tourism development.

#### 39) Cam Pha (Cua Ong) Port

- Location: Eastern coastal area of the Ha Long bay
- Province: Quang Ninh Province
- Administrative Organization: Cam Pha Coal Corporation under the Ministry of Industry
- Cargo Volume:
- Maximum Ship Size: 30,000 to 40,000 dwt (information not confirmed)
- Other Information:
  - \* The ports to be exported: Hai Phong, Da Nang, Cui Niyon, Sangon and others
  - \* Ship type: Mainly 4,000 dwt, sometimes 10,000 dwt
- The distance between mining sites and the port range 7 to 20 km. A railroad connects the mining sites and the port.

Table 1.1.37

**BREAKDOWN OF CARGO VOLUME AT CAM PHA PORT**

(Unit: thousand tons, 1995)

Items	Amount
1. Export (International trade)	90 <sup>1/</sup>
Export (Coastal shipping)	30
Total	120

1/ to Japan, China, and others

- Maximum Ship Size: 30,000 to 40,000 dwt (information not confirmed)
- Other Information:
  - \* The ports to be exported: Hai Phong, Da Nang, Cui Niyon, Sangon and others
  - \* Ship type: Mainly 4,000 dwt, sometimes 10,000 dwt
- The distance between mining sites and the port range 7 to 20 km. A railroad connects the mining sites and the port.

## 40) Hon Gai Port

- Location: Eastern part of the Bai Chay bay within the Ha Long bay.
- Province: Quang Nihn Province
- Administrative Organization: A coal company (the name unknown) under the Ministry of Industry
- Maximum Ship Size: 12,000 dwt
- Other Information: The cargo volume may be about one third of the Cam Pha port's. The port facilities are obsolete and deteriorated.

## 41) Dien Cong Port

- Location: Along the Da Bac (Dien Cong) river, 17 km away from the mouth
- Province: Quang Ninh Province
- Administrative Organization: Vang Danh Coal Mining corporation under the Ministry of Industry
- Background: The port has been in operation since the French occupation. The distances between the mining sites and the port is about 20km.
- Cargo Volume: Coal (400 thousand tons) is the major commodity, others are lumber used for the mining. 330 thousand tons of coal are used for the Lai thermal power plant; 50 thousand tons are exported; and 20 thousand tons are for domestic use.
- Number of Management Employee: 120 employees

- Major Port Facilities: A belt conveyor is used to drop coal to berges. There are no other loading and unloading facilities.
- Other Information: Railways (8 to 10 cars carry 30 tons each.) owned by the corporation transport coal to the port. Four to five 200 ton-berges are used to Pha Lai. The depth in front of the port is about 7m. Dredging works have never been conducted, since there is no danger of deposit accumulation. In the long run, the port operator wishes to accommodate vessels of 5,000 dwt class. Since the port itself is old and there is no area for expansion, the growth and expansion of the port is not expected.

#### 42) Chinh Phong Port (under construction)

- Location: Along a river in Hai Phong city
- Province: Hai Phong Special District
- Administrative Organization: Chinfon Haiphong Cement Corporation incorporated by Vietnam Cement Corporation under the Ministry of Construction, Taiwan investors, and the City of Hai Phong.
- Background: The construction commenced in 1990 and the operation started in 1993.
- Maximum Ship Size: 3,000 dwt initially, and 6,000 dwt in the next phase (The berths are constructed for 6,000 dwt class.)

The distance between the Ching Phong port and the Hoang Thach port is about 15km.

Transportation method: To the central and southern regions, cement is bagged in 50kg sacs and shipped by vessels of 3,000 dwt class. To the northern region, four 200t berges are used to carry bagged cement. For the future, bulk transport is being considered.

Other Information: The port for a cement factory is being constructed. Its operation is aimed in the year 1997. A mining site for limestone is in the hinterland 1 to 1.5km away from the port. Silt mining sites are located within 3km distance. Four 200t berges are used to transport from Kan Nin to the port. A coal importing berth and a product exporting berth are separated. The distance between the Chinh Phong port and Hoan Tac port is 15km. The river becomes shallow at the mouth of the river; a vessels of 3,000 dwt class may have problems of navigation. The cement factory utilizes the latest technologies. The two berths for coal import and product export looked better than the ones in developed countries.

#### 43) Hoang Thach Port

- Location: Both banks of the Da Bac river
- Province: Quang Ninh and Hai Hung Provinces



- Administrative Organization: A cement factory under the Ministry of Construction
- Background: The operation of the cement factory commenced in 1984.
- Cement Production: The current cement production capacity for the first line is 1,100 thousand tons/year. In March or April, 1996, the second line will be in operation. The production capacity is 1,200 thousand ton/year. The total production capacity will be 2,300 ton/year. In the year 1995, the volume of production was 120 thousand.
- Transport Method: The total volume of coal (350 thousand tons) is transported from the Hoang Gai port by two to three 250 - 300 ton berges. The fleet's capacity is about 700 to 800 tons. Sometimes smaller berges (100 - 150 t) are used. Limestone for cement production is transported from the Betchy port by berges. Oil and other fuel (40t) are transported from B12 by small vessels. Limestone is transported by land. Craft paper to bag cement is imported to and carried from the Hai Phong port. Berges are used from the Hai Phong port. To the markets in the northern region, 65% of cement is transported by berges; 25-27% is by road; and 8-10% is by rail.
- Only four persons are assigned to the operation of the port.
- The company owns a fleet of berges totaling 4,000 dwt. Some portion is transported by berges of other owners.
- Dredging work is conducted every year.
- A product-exporting-berth and material-import-berth are located at the opposite sides of the river.
- Loading and unloading work is done by a tower crane and a glove.
- Most of clinker is brought by the company; some portion is transported by other corporations.
- The bridge over the river is built by the company with a belt conveyor. The bridge is open to the public.
- There are five silos for shipment.
- The site of the factory is quite large.
- The corporation is one of the largest tax payers in Vietnam.

#### 44) Nghi Son Port

- Location: The Nghi Son District in the southern most beach in the Thanh Hoa province
- Province: Thanh Hoa Province
- Administrative Organization: Nghi Son Cement Corporation established by a partnership of Vietnam Cement Public Corporation under the Ministry of

Construction, NM Cement established by two private cement corporations (Mitsubishi Cement and Mitsubishi Material)

- Background: January 1995, a partnership was signed. April 1996, a project license was issued--Nghi Son Cement Corporation was established. In April 1995, a commencement ceremony for construction conducted.
- Operation (Plan):
  - Production Capacity: 2,140 thousand ton/year
  - Operation date: 1998 or 1999
  - A terminal will be constructed in one district in the Ho Chi Minh city. The capacity of the silo will be 15 thousand tons.
- Transport Method:
  - Export (international trade): 40% by vessels up to 35 thousand dwt.
  - Export (coastal shipping): To the southern region where about 50% is shipped, the proct (10,000t) is transported to the terminal described above.
- From the mining sites of limestone and silt, a belt conveyor is used to transport a 7km distance.
- Major Port Facilities:
  - Berthing facilities are located 1.5km offshore where the depth is 6-8 m deep (sea berth method). A 3km distance from the berths to the factory is transported by a belt conveyor.
    - \* Cement exporting berths: 35 thousand dwt
    - \* Material import berths: 5,000 dwt
- Other Information:
  - \* The seabottom is steep.
  - \* The Nghi Son island is located one kilometer away from the port; it protects the port from weather and wave. (When low-tide, it is passable. A temporary road connects to the island. About 1,000 houses exist in the island.)
- Mining sites are located in the Nghe An province.

#### 45) Kien Luong Port

- Location: The west most area in Vietnam; a northern part of the Hon Chon port, along the Bon Hon river; 4 km from the mouth.
- Province: Kien Giang Province
- Administrative Organization: Ha Tinh Cement No.2 in the Vietnam Cement Group under the Ministry of Construction
- Background:
  - First Phase: 240 thousand tons of clinker produced in 1964
  - Second Phase: 900 thousand clinker produced in 1991
  - Third Phase: 60 thousand tons of cement; 900 thousand tons of clinker in 1992

1995: 120 thousand of clinker and 60 thousand of cement

- Cement Transport:

All cement is transported by sea due to bad road conditions. All the cement is bagged to be transported. The markets are 10 provinces in the Mekong Delta: 100 thousand tons to Ho Chi Minh City, and 50 thousand tons to Kanto City. There is no international export.

- Clinker Transport:

600 thousand tons of clinker, which is not used in the factory, is transported to the Ho Chi Minh City by three 300t berges.

- Transport of Other Materials: 500 thousand tons of oil is transported to/from the Hna Be port by 300 to 600 dwt class tankers. It would be possible to import oil directly, if a inland waterway was available from the port to the Hon Chon port. A limestone mining site is in the hinterland 1 km away from the factory. Close to the port, a Sao Mai Cement factory established by a partnership with a Swiss corporation, is being constructed.

- Major Port Facilities:

(a) Wharf: One 800 m berth for clinker export and oil import; another 70 m berth for cement export and export of secondary materials. The depths of the berths range from 3-4 m (5m in the rainy season).

(b) Loading and Unloading:

Clinker loading: two bridge-type cranes (5, 10t), a belt conveyor

Oil: vacuum pipe

Cement: man power

- Other Information:

Port workers: 12 persons (4 persons in three shifts)

The river in front has a width of 20m which is too narrow, and deposit accumulation has been observed. A dredging work is conducted every year. In the center of the river, mooring of a vessel of 700 dwt class is possible. A possibility of growth and expansion of the port is limited, since the factory is old; the site is used to the maximum extent; and the river is too narrow.

#### 46) B12 Port

- Location: The west bay area in the Bai Chay bay

- Province: Quan Ninh Province

- Administrative Organization: B12 Oil Corporation in a group of PETROLIMEX under the Ministry of Trade.

- Cargo Volume: 1,100 thousand tons of oil is imported from Singapore. The rate of annual increase ranges from 9 to 13%. 80% of the total imported through a pipeline laid in the northern region. Over 10% is shipped to the Ha Tin province and north by vessels.

- The port is the second largest oil port in Vietnam next to the Nha Be port.
- Major Port Facilities:  
Five buoys at a location of 12 to 14 meter deep for one berth.  
A 5,000 dwt tanker was moored when the Consultant visited.
- Ship Type: 28-38 thousand dwt (international import), 100-300 dwt (domestic transport). In order to accommodate larger vessels, buoys are improved and the mooring sites are planned to be deepened. By 2000, two berths are planned to be installed to accommodate vessels of 30 thousand dwt.
- Oil tank: Oil tanks for the secondary domestic transport are located within the port area. Oil tanks for pipeline transport is located 8km away from the port.
- \* Inside of the port was well maintained.

#### 47) My Khe Port

- Location: South of the Da Nang City
- Province: Quang Nam-Da Nang Province
- Administrative Organization: A oil company in the group of PETROLIMEX under the Ministry of Trade
- Other Information: The third largest port in Vietnam; the annual handling volume is 500 thousand tons. Entry of 50,000 dwt vessels is possible. Oil imported by a tanker is transported by pipelines to the Hong river, and shipped to each port by smaller tankers.

#### 48) Nha Be Oil Port

- Location: The right bank of the Nha Be river 20 km downstream of the Saigon port.
- Province: Ho Chi Minh City
- Administrative Organization: PETROLIMEX under the Ministry of Trade or a corporation belonging to the group.
- Background: The port operation used to be separated by Great Britain (Esso), France (Shell), the United States (Caltex) were operating separately. Then, the port resumed as a single oil port.
- It is the largest oil port in Vietnam.
- Cargo volume: 2,500 to 2,600 thousand m<sup>3</sup> of oil, LPG, asphalt was imported from Singapore in 1995.
- Major Port Facilities: 9 berths grouped in A, B, and C districts, 3 berths, in one of the districts, are for domestic export (24-28 thousand dwt); (1-5 thousand dwt for export)
- Methods of Transport and Loading & Unloading:

Imported oil is stored in a tank through a pipeline. Large tankers, small tankers, and trucks transport oil nationwide. Mainly trucks are used to large consuming areas such as Ho Chi Minh City, the Kanto region, Vung Tau region, Da Nang region, and areas in the southern region. Use of inland waterway transport shall be considered.

- The shortage and deterioration of berths are the issues to be tackled. At present, the existing berths are planned to be repaired and improved.

#### 49) Pha Lai Port

- Location: At the left bank of the Thai Binh river
- Province: Hai Hung Province
- Administrative Organization: Fo Lai Oil Power Plant
- Background: The power plant started its operation in 1983. It has 440,000 kw capacity.
- Coal Transport:  
The amount of coal transported in 1995 was 1,200 thousand tons. 800 tons were transported by sea, 400 tons were by railways. When all the coal was to be transported by sea, four 200t and two 400 t barges would be needed to transport cargoes from Cam Fa and Hon Gai ports. The operations by shipping corporation under IWB. To accelerate loading and unloading works, 400t-barges are preferred. At the port four 5 ton cranes are used for unloading works. Coal can be transported from the Mao Khe mine operated by the Uong Bi mining company 40 km away by railways. The capacity of railway transport is adequate, but the mining capacity is limited. The cost of transport by railways is half of the sea transport.
- Navigating through the Kinh Thay river is the shortest route. But since during the dry season the passage way become narrower, the southern route is usually taken.
- Cargo: coal only
- Major Port Facilities: 260 m long, 1 m deep during the dry season
- Other Information:
  - \* Dredging work in front of the wharf is done twice a year.
  - \* There are two warehouses for coal storage, but since coal is directly transported to a factory, usually only one with 100 thousand ton capacity, is used.

#### 50) Nha Be Vegetable (Nha Be Commercial) Port

- Location: At the merging point of the Saigon and Don Nai rivers
- Province: Ho Chi Minh City
- Administrative Organization: VEGETEXCO

- Background: The port was incorporated in 1991.
- Cargo Volume: about 300 thousand tons/year. Out of 300 thousand tons, 20% of rice, corn, fruit and marine products exported; 80% are fertilizers, cement and steel imported.
- Major Port Facilities:
  - (a) Wharf: 8.5 m deep, 162 m long, 21 m wide, 10,000 dwt (A 60m-extension of the wharf is under construction.)
  - (b) Loading & Unloading: one crane (15 t), forklifts, refrigeration vehicle. Mainly ships' cranes are used.
  - (c) Warehouse: one for general purpose, one for cold storage (the cold storage was build by the Soviet's financial assistance. Only a part is in operation.)
- Port Area: 6 ha
- Number of Management Employees: 160 employees (excluding loading and loading works)
- Future Plans:
  - Container handling operation

Dredging works are conducted 10 to 20,000 m<sup>3</sup> annually.

#### 51) Tan Thuan Port

There is no port by this name. A port constructed and operated by Mitsui Trading and Neptune is sometimes called the Tan Thuan port. The port is planned to have a 300 - 350 meter container berth, and two gantry cranes will be installed. The operation is planned to start at the end of 1997.

#### 52) Hon Khoi Port

- Location: 40 km away from Nha Chan within Van Phong Bay
- Province: Khanh Hoa Province
- Administrative Organization: Salt Public Corporation under Khanh Hoa Province
- Background: The administration was transferred to the provincial government in 1990.
- Major Port Facilities:
  - (a) Wharf: 3.2 m deep, 120 m long, 15 m wide, 500 dwt  
Offshore transshipment is possible by using buoys for 1,000 dwt, 4,000 dwt, and 10,000 dwt class vessels.
  - (b) Loading & Unloading: man-power
  - (c) Warehouse: one
- Cargo Volume: 40 to 50 thousand tons/year

The major commodity of trade is salt. Internationally, it is shipped to Thailand, Singapore, Malaysia and others; domestically, it is shipped to northern ports. Volumes by destination are not known.

50% of salt in the Khanh Hoa province is produced by the public corporation. 30 to 40 thousand tons of salt is transported from the Hon Khoi port and the Khanh Hoa port each. Other cargoes are coal and fertilizers domestically transported to the port.

- Number of Management Employees: 10 employees (40 to 80 workers may be hired for loading and unloading works. About 200 workers for packing and counting employees are hired.)
- Access waterways: The depth of the bay is 20 m or deeper. But the access waterway is shallow; the depth is about 3.2 m.
- Future Plans:
- The future directions are:
  - (a) To handle Fertilizers for near by companies and logs from the Dac Lac province;
  - (b) To conduct dredging work to accommodate 1,000 dwt; and
  - (c) To install more cranes.
- Development Movement:
  - (a) Silica is being produced with a Japanese partnership.
  - (b) There is a plan to construct a ship-building yard with a Korean partnership.

#### 53) Van Phong Port

- Location: Van Phong Bay Area
- Province: Khanh Hoa Province
- The operation of the port was reported to be commenced to import oil by large tankers and to transfer oil to secondary vessels offshore. Details are not known, yet.

#### 54) Cat Lo Port

- Location: 5 km north of the Vung Tau city center along the Dinh river, 18 km away from the zero buoy.
  - Province: Ba Ria-Vung Tau Province
  - Administrative Organization: Oil/Gas Import Service Cooperation under Ba Ria-Vung Tau Province
- The name, Vung Tau port, generally indicates the port complex including newly planned ports; however, currently, the only port operating is the Cat Lo port.
- Background: The port operation started in 1986.
  - Major Port Facilities:

- (a) Wharf: 7 m deep, 250 m long,
- (b) Loading & Unloading: two mobile cranes (12, 45 t), forklifts, trucks, and tractors
- (c) Warehouse: 10 general warehouses, three warehouses for taxing

Table 1.1.38  
**TREND IN CARGO VOLUME AT CAT LO PORT**  
(Unit: thousand tons)

Year	Amount
1993	52
1994	62
1995	75

Note: 1994 and 1995 include container volumes of about 3,000 TEU each.

Table 1.1.39  
**BREAKDOWN OF CARGO VOLUME AT CAT LO PORT**  
(Unit: thousand tons, 1995)

Items	Amount
1. Export (Foreign trade) Agriculture and food products (to Singapore)	25
2. Import (Foreign trade) Backhoe oil drilling machinery, chemical products for oil-drilling Fertilizer, chemical products Construction material	49

Note: Trading countries are mainly Singapore, Hong Kong and Taiwan.

- Maximum Ship Size: 5,000 - 10,000 dwt, max draft 6.5
- Number of Management Employees: 64 employees (170 may temporarily hired for loading and unloading)
- Access Waterway: 3.5 m deep at low tide
- Port operator's Expansions:
  - (a) To construct a 168 m wharf between the port and a fishing port upstream.
  - (b) Widening of all the wharves are planned to be widened to 30 meters including the planned port.
  - (c) To expand the yards
  - (d) To accommodate vessels of 10,000 dwt class--dredging work of 3,000 thousand m<sup>3</sup> to the zero buoy, 18 km away, will be necessary.



- Large vessels transship their cargoes to smaller vessels to lower the drafts at around the zero buoy before entering the port.
- The port area has adequate hinterland for expansion.

#### 55) Vung Tau Port

Vung Tau Port, as usually called, include the port complex including the newly planned port. However, currently, the only port is the Cat Lo port and the planned port is the one in the Dinh-Sao Mai district. The following information is about the planned port.

- Location: The land and reclaimed area of the northern tip of the peninsula in the Vung Tau city. (mostly reclaimed area)
- Province: Ba Ria-Vung Tau Province
- The plan
  - (a) The port is planned to accommodate 60 to 80 thousand dwt class vessels with transshipment facilities like the port of Singapore.
  - (b) Total development cost: US 600 to 900 million
  - (c) Financing method: BOOT (requested by the Vietnam government)  
The Vietnam government signed a contract with Tredia Vung Tau Port Development Corporation composed of Evergreen, Mining (Malaysia), Japanese shipping companies and other 20 corporation. The total development cost is about \$US 6.4 billion, and the port is planned to accommodate vessels of 60,000 dwt or larger. The volume of containers to be handled is estimated to be 400 thousand TEU. The goal of handling capacity is set at 1,200 TEU or more.
- Problems of the plan:
  - (a) The hinterland of the development area is a collection of fishing villages. The development will require large-scale relocation of those communities.
  - (b) Being located inside of the peninsula, the site is relatively calm; however, the depth is not adequate and deposit accumulation from the Dinh river could affect the port operation.
  - (c) The whole peninsula is a well-known tourism resource in Vietnam.
  - (d) The port needs to be positioned in a large context including the factors of international container transport demand and roles of container handling facilities in the Saigon and Thi Vai districts.

#### 56) Haiphong Port

- Location: Along the left bank of the Cam river, a branch of the Mekong river, 35 to 40 km from the mouth of the river. Four districts are included: they are from the upstream, Vat Cach, Doan Xa (former Chua Ve), Chua Ve districts.  
There is the Cua Cam port between the main port and the Doan Xa district.
- Province: Hai Phong City