

Appendix 2

Main Shipping Operators in Vietnam: their Organisations and Fleets

Table A2.1
SHIPPING FLEETS OF MAJOR OPERATORS

	Ship Operator	Number of Ships	Capacity (dwt)
CENTRAL GOVERNMENT			
1	VOSCO	23	249,222
2	VITRANSCHART	12	129,381
3	VINASHIP	5	33,299
4	Maritime Technical Training School No. 1	6	3,350
5	Maritime Technical Training School No. 2	3	2,100
6	TRAMASCO	1	1,192
7	National Store Department	1	400
8	INLACO	1	4,375
9	Vietnam Maritime Safety Company No. 1	3	2,070
10	VIETFRACHT	3	14,979
11	Northern Waterway Transport Corporation	3	5,989
12	Pacific Company ⁴	3	2,700
13	VISERITRANS	18	18,350
14	SEAPRODEX Saigon	5	3,783
15	SEAPRODEX Hanoi	2	1,380
16	VITACO	7	12,887
17	VIETPETRO Company No. 1	7	14,242
18	MAPETRANSCO	17	6,461
NON-CENTRAL GOVERNMENT			
1	DAMATCOSCO ²	5	1,920
2	SAIGON SHIPPING ²	6	12,353
3	HAMATCO ²	5	10,127
4	QUANG MINH ³	4	10,396
5	EASTERN DRAGON ⁴	4	25,387
6	SALFES ¹	3	18,653
7	VIETSOVPETRO ⁴	2	1,117

NOTE: (1) VINAMARINE and VINALINES report that the 18 central government operators have 127 ships with 638,467 dwt compared to 120 and 506,160 in this table. The discrepancy could be due to inclusion of additional operators and ships in VINAMARINE's figures (particularly the joint venture VIETSOVPETRO which has a 155,000 oil tanker).

(2) Provincial operator.

(3) Co-operative operator.

(4) Joint venture operator.

SOURCE: VINALINES/VINAMARINE (Situation as at March 1995)

Table A2.2
VESSELS OWNED BY MAJOR SHIPPING COMPANIES (MARCH 1996)

DAMATCOSCO (5)

Name of Vessel	Nationality	Built-in	L.O.A	Draft	DWT	GRT	Capacity Bale/Grain	Ave. Speed	H.P.	No. of Hold
Chu Lai	Vietnam	1977 Japan	92.40	6.2	4,505	2,912.00	5,450/5,847	11.0	3,200	1
My Son	Vietnam	1990 Vietnam	48.00	3.2	400	376.78	-	9.0	408	2
Phu Ninh	Vietnam	1983 Vietnam	48.50	3.2	400	385.19	-	7.5	400	2
Vinh Dien	Vietnam	1984 Vietnam	48.45	3.2	400	385.19	-	7.5	400	2
Ha Than	Vietnam	1988 Vietnam	53.55	3.2	400	327.00	-	7.3	305	2

VINASHIP (5)

Name of Vessel	Nationality	Built-in	L.O.A	Draft	DWT	GRT	NRT	Capacity Bale/Grain
Truong Son	Vietnam	1959 NOR	155.60	9.40	12,430	9,242	5,984	18,581/20,133
Hung Vuong 01	Vietnam	1981 JPN	90.00	6.45	4,747	2,608	1,606	5,015/5,553
Hung Vuong 02	Vietnam	1981 JPN	107.18	6.88	7,071	4,393	2,810	8,938/9,671
Tan Trao	Vietnam	1966 GER	105.85	6.50	4,302	3,354	1,800	5,775/6,261
Bach Long VL	Vietnam	1981 JPN	71.00	4.75	2,118	1,439	783	3,124/3,434

VOSCO (20)

Name of Vessel	Nationality	Built	GRT	DWT	Bale Capacity (m ³)	Derrick or Crane Capacity	Vessel's Type
Song Duong	Vietnam	1978	9,173	15,210	19,636	5Tx10; 60Tx1	Twin Decker
Thai Binh	Vietnam	1979	9,173	15,210	19,636	5Tx10; 60Tx1	Twin Decker
To Lich	Vietnam	1980	9,173	15,210	19,636	5Tx10; 60Tx1	Twin Decker
Luc Nam	Vietnam	1980	9,173	15,210	19,636	5Tx10; 60Tx1	Twin Decker
Hau Giang	Vietnam	1977	9,703	12,800	20,520	12,5Tx3; 35Tx2	Roro
Hau Giang 02	Vietnam	1978	10,476	12,665	17,000	40Tx4; 20Tx1	Container
Vinh Phuoc	Vietnam	1986	7,166	12,300	14,638	25Tx4	Single Decker
Chuong Duong	Vietnam	1974	7,100	11,849	14,267	15Tx4	Single Decker
Ben Hai	Vietnam	1974	7,100	11,849	14,267	15Tx4	Single Decker
Tra Khuc	Vietnam	1974	7,100	11,849	14,267	15Tx4	Single Decker
Song Thuong	Vietnam	1976	6,051	10,029	12,449	15Tx2; 20Tx2	Single Decker
Song Day	Vietnam	1976	6,051	10,029	12,449	15Tx2; 20Tx2	Single Decker
Dien Bien 01	Vietnam	1975	5,109	8,294	10,085	15Tx4; 25Tx1	Single Decker
Dien Bien 02	Vietnam	1976	5,109	8,294	10,085	15Tx4; 25Tx1	Single Decker
Dien Bien 03	Vietnam	1975	5,109	8,294	10,085	15Tx4; 25Tx1	Single Decker
Fortune Navigator	Vietnam	1978	3,778	6,560	7,909	15Tx4	Single Decker
Fortune Freighter	Vietnam	1978	3,778	6,560	7,909	15Tx4	Single Decker
Cabot Orient	Vietnam	1984	2,494	4,485	5,452	15Tx3	Single Decker
Nhat Le	Vietnam	1975	3,266	5,924	6,932	10Tx4	Single Decker
Hai Au 01	Vietnam	1982	3,811	6,477	8,054	15Tx2; 20Tx2	Single Decker

SAIGON SHIPPING COMPANY (6)

Name of Vessel	Nationality	Built-in	L.O.A	Draft	DWT	GRT	Capacity Bale/Grain	Ave. Speed	H.P.	No. of Hold
Duyen Hai	Vietnam	1977 JPN	95.20	5.96	5,081.0	2,769	5,981/6,364	11.5	3,600	2
Ben Thanh	Vietnam	1979 JPN	77.04	5.20	2,544.0	1,536	3,846/4,012	11.5	2,000	1
Thanh Da	Vietnam	1972 JPN	66.10	4.45	1,507.0	1,066	2,213/2,564	11.0	1,800	1
Nha Rong	Vietnam	1971 JPN	65.80	4.57	1,544.0	1,002	2,272/2,482	11.5	1,600	1
Gia Dinh	Vietnam	1990 Vietnam	71.60	3.70	1,125.0	985	1,600	10.7	980	2
An Phu Dong	Vietnam	1970 JPN	58.60	3.72	832.70	499	1,010	12.0	1,500	2

VITRANSCHART (14)

Name of Vessel	Nationality	Built-in	L.O.A	DWT	GRT	Capacity Bale/Grain	Ave. Speed	H.P.	No. of Hold
Long Khanh	Vietnam	1968 UK	152.24	16,745	9,873	21,294/23,744	12.5	9,600	5
Scottan Express	Malta	1980 UK	144.00	15,547	8,940	19,536/21,379	14.0	7,600	5
Far East	Bahamas	1982 UK	144.00	15,622	8,927	19,536/21,379	12.5	7,600	5
Saigon 1	Vietnam	1973 UK	141.00	15,625	7,760	19,662/21,440	12.5	7,500	5
Saigon 2	Vietnam	1973 UK	141.00	15,625	7,760	19,662/21,440	12.5	7,500	5
Song Saigon	Vietnam	1965 JPN	151.40	11,191	8,775	15,180/16,210	13.0	10,000	5
Long Thanh	Malta	1978 JPN	125.30	11,815	6,804	14,580/15,576	12.5	6,200	2
Long An	Panama	1982 JPN	118.57	9,873	4,850	10,329/11,082	12.0	4,550	3
Long Binh	Bahama	1984 Spain	120.00	9,062	5,717	11,302/11,782	14.0	5,000	3
Vietnam Namtu	Vietnam	1970 JPN	124.17	9,112	5,710	12,985/12,364	11.0	5,700	3
Long Hai	Vietnam	1974 JPN	117.96	8,579	4,619	9,869/10,139	11.0	5,000	3
Phuong Hong	Vietnam	1980 JPN	96.20	5,207	2,511	5,473/6,082	10.0	3,200	2
Thang Loi 01	Vietnam	1969 UK	86.00	2,635	1,375	4,511/4,793	9.5	2,460	2
Thang Loi 02	Vietnam	1970 UK	86.85	2,596	1,459	4,511/4,793	10.0	2,460	2

VIETSOVNETRO (26)

Name of vessel	Nationality	Built (year/country)	Type of vessel	Draft	DWT	GRT	Ave. speed	H.P
Ben Dinh 01	Vietnam	1983 / Poland	M - Extinguish	4.69	425	2008	16	2160
Chi Lang	Vietnam	1976 / Sweden	M - oil tanker	16.81	155505	75134	10	28400
Chi Linh	Vietnam	1975 / USSR	Oil Tanker Barge	17	150500	88692	*	*
Con Dao 11	Vietnam	1979 / Norway	M - Tug	*	*	62	*	564
Con Son	Vietnam	1969 / France	Floating Crane	*	6952	7962	*	*
Hai Son	Vietnam	1983 / Korea	M - Supply	3.24	392	881	*	1100
Hoang Sa	Vietnam	1983 / Singapore	Floating Crane Ship	4.48	*	13913	*	*
Ky Van 01	Vietnam	1983 / Japan	M - Tug	4	1100	888	13	2400
Ky Van 02	Vietnam	1985 / Japan	M - Tug	4	1100	888	13	2400
Lam Son 01	Vietnam	1983 / Finland	M - Supply	4.7	1178	1491	14	2 x 4175
Long Hai 01	Vietnam	1985 / USSR	M - Supply	1.9	44	288	11	221
Long Son 01	Vietnam	1963 / Japan	M - Refrigerated Cargo	2.9	660	593	12	1200
Phu Qui 01	Vietnam	1985 / Yugoslavia	M - Tug	4.69	377	356	16	1840
Ponton No.1	Vietnam	1982 / Vietnam	Ponton / General Cargo	3	800	700	*	*
Ponton No.2	Vietnam	1982 / Vietnam	Ponton / General Cargo	3	800	700	*	*
Ponton No.3	Vietnam	1986 / Vietnam	Ponton / General Cargo	3	800	694	*	*
Ponton No.4	Vietnam	1986 / Vietnam	Ponton / General Cargo	3	800	694	*	*
Sao Mai 01	Vietnam	1981 / Norway	M - Tug / Supply	4.72	1050	*	13	4080
Sao Mai 02	Vietnam	1981 / Norway	M - Tug / Supply	5.2	1080	*	13	5181
Sao Mai 03	Vietnam	1977 / Norway	M - Tug / Supply	5.2	1080	497	13	5181
Seaprimfco 01	Vietnam	1986 / USSR	M - Refrigerated Cargo	4.33	492	677	12	589
Seaprimfco 02	Vietnam	1990 / Vietnam	M - Refrigerated Cargo	3.4	625	380	9	750
Song Dinh 01	Vietnam	1985 / Poland	M - Tug	4.94	1582	*	13	2650
Tam Dao 01	Vietnam	1988 / Singapore	Jack - up	4.5	3883	*	*	*
Trung Sa	Vietnam	1984 /	M - Crane Ship	7.99	3343	19813	11	2516
Vung Tau 01	Vietnam	1991 / Korea	M - Supply	6.36	1897	*	17	6680

Figure A2.1
ORGANIZATION OF VINALINES

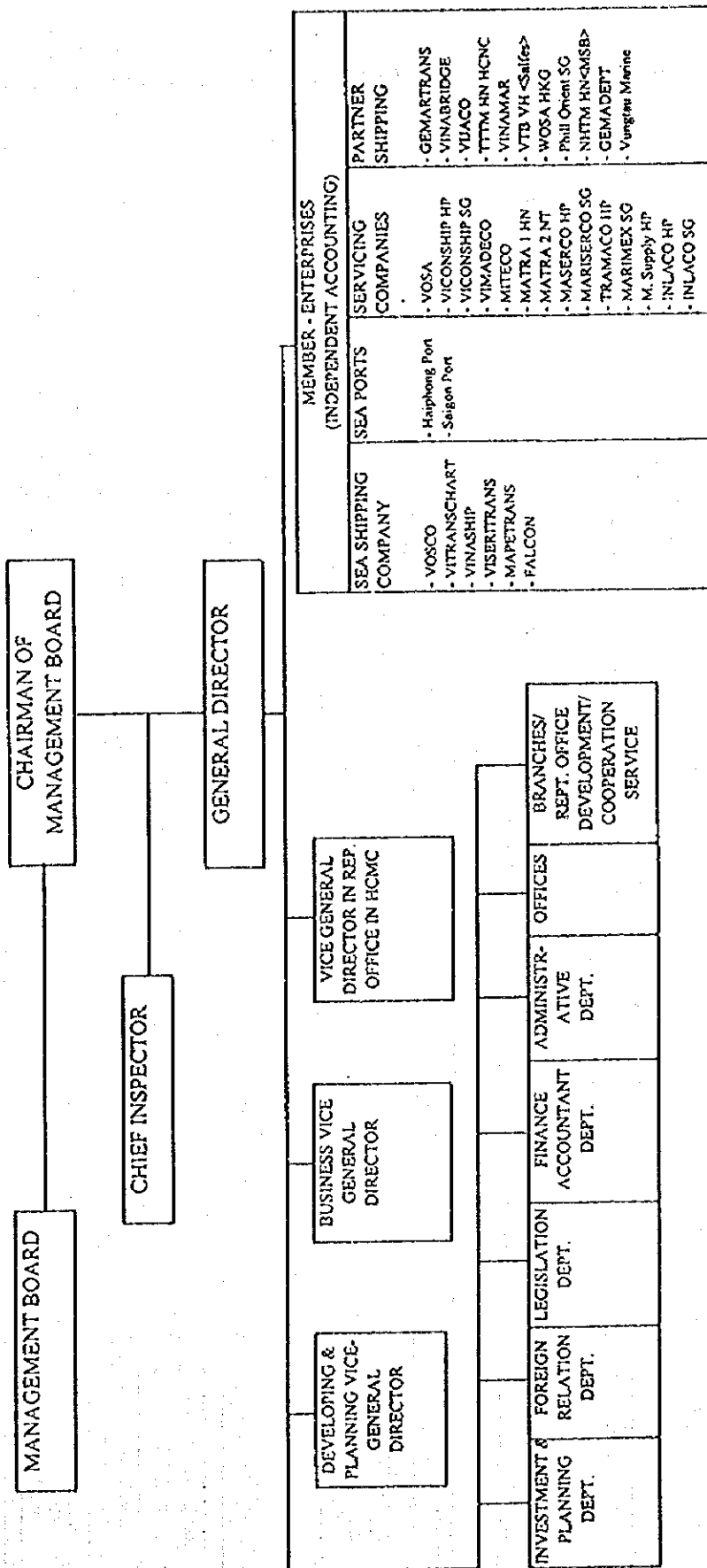
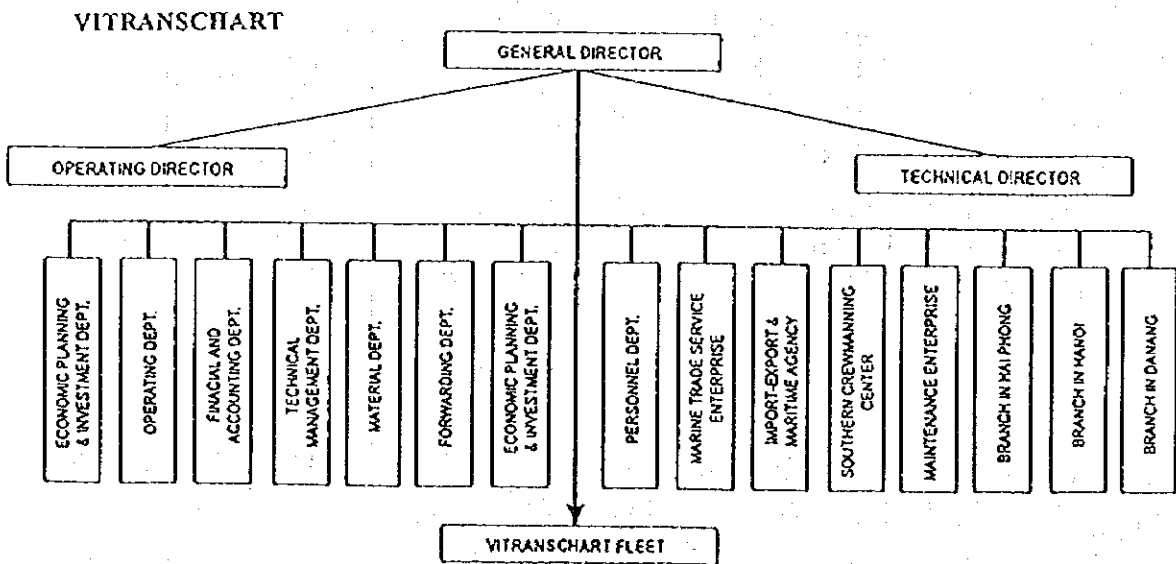
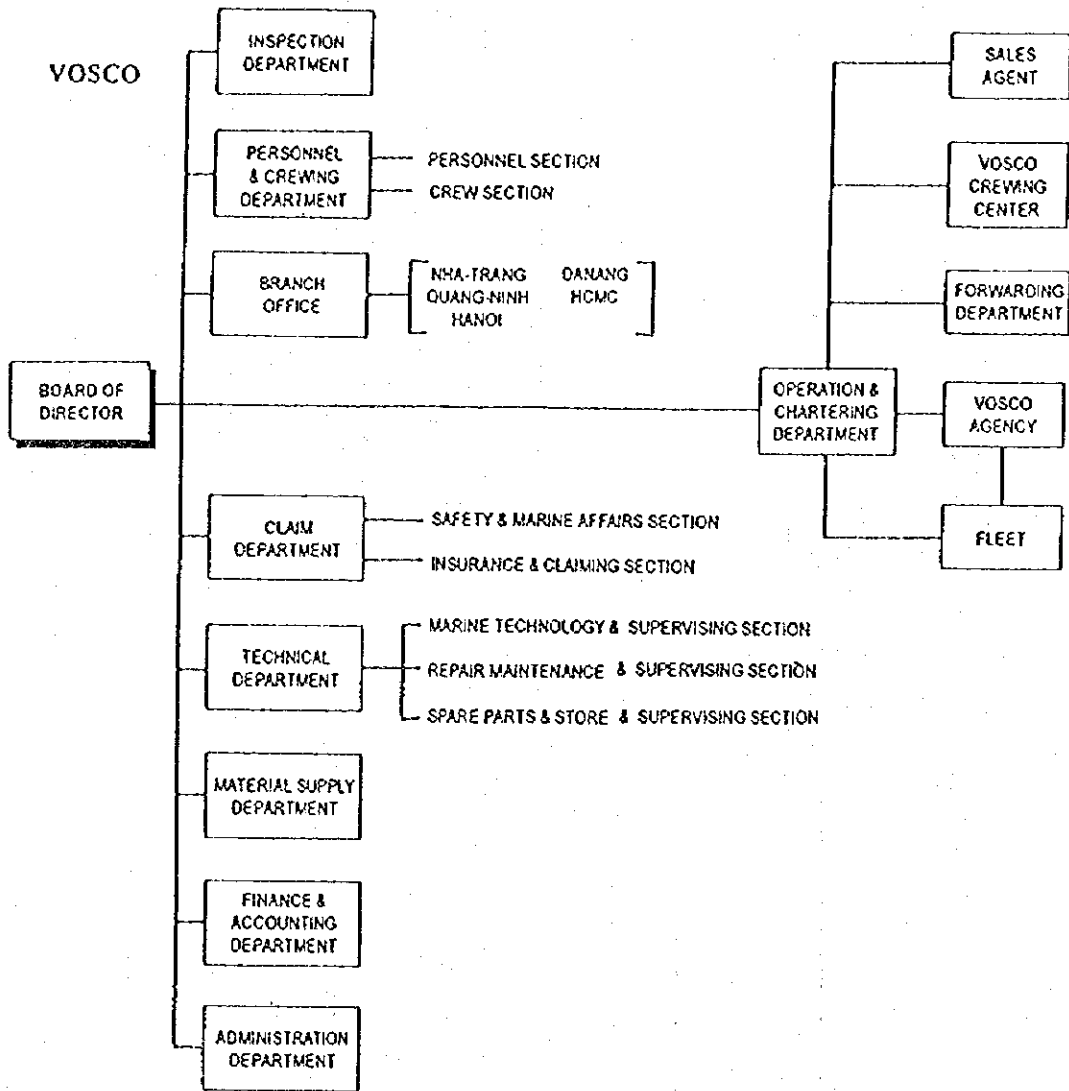
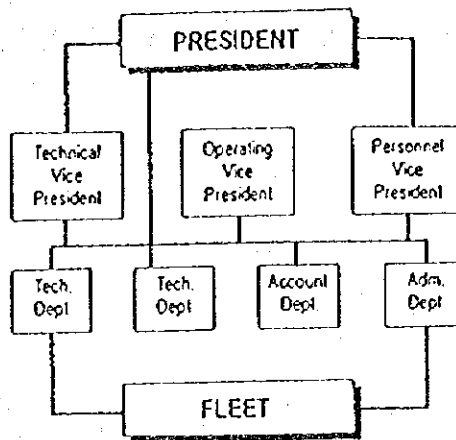


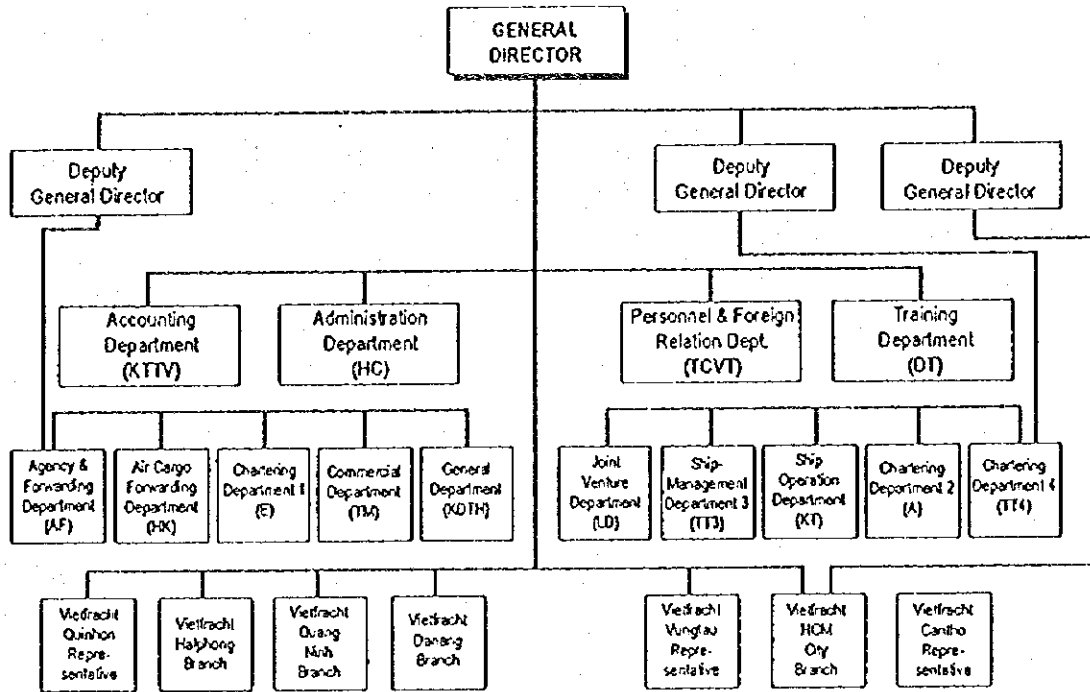
Figure A2.2
 ORGANIZATION CHARTS OF MAJOR SHIPPING OPERATORS (2 PAGES)



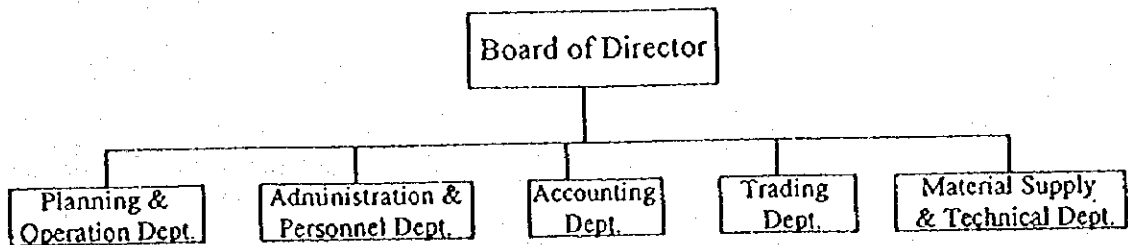
VINASHIP



VIETFRACHT



DAMATCOSCO



Appendix 3

Shipping Operator Financial Statements

Shipping companies under the control of VINAMARINE used to have to prepare their yearly business plans and submit these to VINAMARINE for approval and budget allocation. After the fiscal year ending 31st December, each company had to submit their balance sheets to VINAMARINE, and after auditing by the state management authorities, a financial statement would be confirmed by the chairman of VINAMARINE, which would then be submitted to MOF officially.

On 1 January 1996, a new accounting system was implemented which required VOSCO, VITRANSCHART, and VINASHIP to submit financial statements to VINALINES in accordance with a revised system.

With interviews and data collection, the Study Team worked out the income statements of three major shipping companies (VOSCO, VITRANSCHART and VINASHIP) as shown in Table 1 below.

It was estimated that the big loss incurred by VINASHIP in 1994 was caused by a considerable decrease in freight revenue. The main components of transportation expenses in 1994 are shown in Figure A3.1.

Table A3.1
INCOME STATEMENTS OF THREE MAJOR SHIPPING COMPANIES

VOSCO (unit: Million VND)

Account Titles	1992	1993	1994	1995
Asset Value	697,113	676,659	713,846	702,357
Fixed Capital	478,985	449,279	414,506	483,665
Transportation Turnover	306,719	308,857	295,713	328,251
Transportation Expenses	298,765	300,375	289,645	316,083
Turnover Tax	6,134	6,432	5,914	6,423
Transportation Profit	1,820	2,050	154	5,745
Net Profit after Tax	3,406	3,424	299	8,310

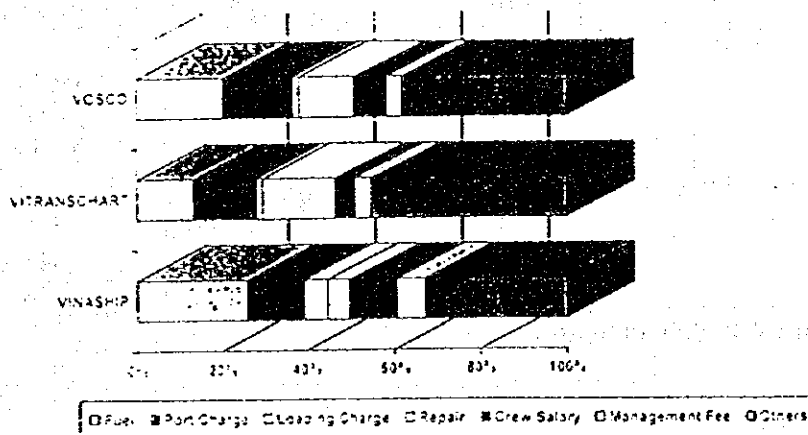
VITRANSCHART

Account Titles	1992	1993	1994	1995
Asset Value	250,849	222,233	225,296	300,644
Fixed Capital	132,482	122,596	123,601	123,834
Transportation Turnover	161,234	151,931	162,600	190,713
Transportation Expenses	161,412	155,415	167,321	185,753
Turnover Tax	3,224	3,038	3,250	2,160
Transportation Profit	-3,402	-6,522	-7,971	2,800
Net Profit after Tax	585	-3,069	382	7,550

VINASHIP

Account Titles	1992	1993	1994	1995
Asset Value	66,949	69,790	66,759	67,213
Fixed Capital	55,666	56,169	50,754	50,029
Transportation Turnover	70,227	63,747	56,133	52,126
Transportation Expenses	68,775	62,824	60,750	52,633
Turnover Tax	1,404	1,274	1,122	609
Transportation Profit	48	-351	-5,739	-1,116
Net Profit after Tax	277	69	-5,705	+194

Figure A3.1
SHERE OF THE MAJOR COMPONENTS OF TRANSPORTATION EXPENSES



APPENDIX 4

CHARGES FOR INLAND TRANSPORT SERVICES

1 Cargo Transport

A. Inland Waterways

The Government Price Committee has stipulated the cargo freight charges for inland waterway transportation (effective July 15, 1995) but, same as coastal shipping, the rates are negotiable provided these rates do not exceed the prescribed rates. The rates are prescribed specifically for transportation service enterprises that are allocated funds from the state budget, for their operations.

1) Cargo Tariff

Inland waterway tariff rates are charged according to the type of river channel reflecting the relative difficulty of navigation through each channel, related to the depth, clearance and width. For river type 2, the charge is equivalent to 1.5 km of river type 1 and for river type 3, 1 km. is equivalent to 3 kms. on river type 1. Cargo transport rates are also categorised according to types of cargo:

- Cargo 1 - various types of coal, soil, sand, gravel and bricks;
- Cargo 2 - tile, food in bag, oil, stone and termite killer; and
- Cargo 3 - fertiliser, insecticide, cement and salt.

Cargo consignment volumes transported using inland waterway differ but the maximum consignment size is around 1,000 tons for a minimum distance of 30 kms.

The tariff for inland waterway takes into account the following (1) distance; (2) commodity value and (3) type of river/ inland navigation channel through which these goods will be transported as shown in Table A4.1.

Table A4.1

INLAND WATERWAY TRANSPORT CHARGES

Item	River 1	River 2	River 3
Up to 30 kms (VND/ton)			
Cargo 1	19,700	19,700	19,700
Cargo 2	21,600	21,600	21,600
Cargo 3	23,900	23,900	23,900
31 kms and above (VND/ton/km)		(x 1.5)	(x 3)
Cargo 1	135	202.50	405
Cargo 2	148	222	444
Cargo 3	162	243	486

Source: Government Price Committee, 1994

2) Operator's Cost

For transport operators using inland waterway, the Vietnam Inland Waterway Bureau (IWB) charges a tonnage fee, formality fee, pilot fee, river vessel support fee and fines while individual port operators levy a cargo handling charge, storage fee and berthing fee. It is assumed that these fees paid by transport operators will ultimately be passed on to shippers and consignees as part of their transport charges.

- Tonnage fee for every entrance and exit of vessel 150 VND per ton capacity
- Minimum pilotage (entry and exit) 100,000 VND (or \$ 9.09).
- Waiting fee for pilot per hour 12,000 VND
- Formality fee (entry and exit) 5,000-40,000 VND
(depending on vessel tonnage)

Cargo handling charges depending on cargo categories and handling procedures, are presented in Table A4.2. The handling procedure (a) whereby the cargo is unloaded from the vessel/barge and brought to the storage area is charged the highest since it is a two-step process : ship-to-wharf and wharf-storage area (storage shed is located far from the wharf). The other cargo handling procedures (b) to (e) have relatively lower rates since they consist mainly of a single step in cargo transfer or the relatively smaller distance involved for transferring cargoes e.g. barge-to-barge.

Further, the handling rate per ton is based on the cargo type, i.e. cargoes belonging to higher cargo types are charged higher rates. (Refer to Table A4.3) Cargo type 7 is charged the handling rate that is four times the rate charged for type 1 cargoes. The cargo handling tariff does not fully reflect the relative difficulty of handling cargoes according to each type and handling method.

Table A4.2

CARGO HANDLING CHARGES OF THE FIVE IWB PORTS (in VND per ton)

Cargo Type	(a) From ship, barge to storage, yard or v.v.	(b) From ship, barge to truck trailer or v.v.	(c) From barge to barge	(d) From storage, yard to truck or v.v.	(e) From storage, yard to trailer or v.v.
1	7,500	5,600	5,000	4,300	5,800
2	9,000	6,700	6,000	5,200	7,000
3	12,900	9,600	8,600	7,400	10,000
4	15,200	11,400	10,100	8,700	11,800
5	19,200	14,400	12,800	11,050	14,900
6	25,300	18,900	16,900	14,500	19,600
7	28,500	21,300	19,000	16,300	22,000

Source: Government Price Committee, 1994

Table A4.3

CARGO TYPES FOR INLAND WATERWAY TRANSPORT

Category	Commodities
1	Coal dust, sand, gravel, pebble.
2	Old coal, lump coal with grain \leq 35 mm., peat.
3	Foodstuffs in bags as: rice, popcorn, sugar, bean, manioc, sweet potato, peanuts. Also include ores, broken bricks, clinker, bulk fertiliser and apatite, sulphur.
4	Cargoes in paper and nylon bags as insecticide, chemicals, salt, cement, fertiliser, ore, coal $>$ 35 mm.
5	Steel and iron (roll, plates, pipe). Plates of cast iron, steel pipe, steel net, aluminium, iron and cargoes in wooden box (both close and open) with weight $<$ 300 kg. Also include bags made from cloth, nylon, hemp with weight from 301 kg. to 500 kgs., sewn wood, bamboo trees and rots, twigs.
6	Cargoes in tanks as asphalt, chemicals, calcium, carbide, petroleum and poultry products. Cargoes in tanks (close or open containers) with weight of 301 kg. to 2000 kgs. Also include general cargoes as house furniture, sport equipment, stationery, detergents, medical equipment, products from bamboo and husk and plastic products.
7	Cargoes in closed or open box (wooden or iron box) with weight over 200 kgs. (except containers, cargoes and cars of $>$ 1.2 m long, $>$ 3 m wide, $>$ 2.5 m high and $>$ 15 tons weight. Also include wood for building boats.

B. Rail Transport**1) General Cargoes**

The rail charges (VND/ton/km) for general cargo are categorised into five product groups. Unit rates for each cargo category decline as the transport distance increases. (Refer to Table A4.4) In addition to being distance-related, the unit rates also depend on the commodity value. The lowest value commodities are grouped under Category I and the higher value goods are grouped in the higher categories, up to Category 5. Following are the various commodities under each category:

Table A4.4

UNIT RATES FOR RAIL TRANSPORT
(in VND per ton-km)

Category	1-200 km	201-500 km	501-900 km	901- 1,400 km	1,401 km or more
1	190	175	165	155	150
2	215	195	180	170	165
3	238	215	205	135	190
4	257	235	220	210	205
5	282	255	240	230	225

Source: Master Plan on Rehabilitation and Improvement of Railway in Vietnam (1996, JICA)

Table A4.5

CARGO CATEGORIES FOR RAIL TRANSPORT

Category	Commodities
1	Coal, mining ores, apatite, soil/stone, bricks, ice/water and paper/wood chips, etc.
2	Rice, rice bran, maize, packaged foodstuffs, sugar/sugar cane, vegetables, cotton/linen/other fibres, gravel/shaped stone/plaster, logs, roof tiles/tiles, petrol/kerosene, vegetable oils, asphalt, rubber, metal construction materials and chemicals, etc.
3	Salt, fertiliser, cement, machinery, tyres/tubes, agrochemicals and timber etc.
4	High class foodstuffs (ham and cheese, etc.), alcoholic drinks, coffee, cigarettes, silk, fur, watches, cameras, television and works of art, etc.
5	Foreign fruits, flowers, foreign cigarettes/alcoholic drinks, crystal glass, gold, silver, jewellery, high class clothing, cosmetics, birds/goldfish, money/cheques and explosives, etc.

Source: Master Plan on Rehabilitation and improvement of Railway in Vietnam (1996, JICA)

From the above cargo classification, the lower cargo categories, cargo types 1 to 2 can be considered "basic" commodities. There was no indication of "shut-outs" of certain cargoes particularly during peak months as a result of competition. This may indicate the situation that rail transport is not an attractive transport mode for shippers or that the other transport modes offer sufficient capacity.

2) Wagon-Loaded Cargoes

Wagon-loaded cargoes have specific rates based on cargo category and special unit rates for short-distance transport of up to 30 km. and 100 kms.

Table A4.6

UNIT RATES FOR WAGON-LOADED CARGOES

(in VND per ton - km)

Category	1-200 km	201-500 km	501-900 km	901- 1,400 km	1,401km or more
1	176.4	150	144	136	135.6
2	202	169	156	152.4	150
3	216	195	176.4	172.3	170.4
4	234	200.4	190.3	186	183.6
5	256.8	220.8	21.2	206.4	204

Source: Master Plan on Rehabilitation and improvement of Railway in Vietnam (1996, JICA)

Table A4.7

UNIT RATES FOR SHORT DISTANCE WAGON-LOADED CARGOES

Category	Up to 30 km. (VND/ ton)	31-100 km (VND/ton-km).
1	7,200	148.8
2	7,800	163.2
3	8,520	186.0
4	9,360	200.5
5	9,960	223.2

Source: Master Plan on Rehabilitation and improvement of Railway in Vietnam (1996, JICA)

The rail transport charges for goods that are loaded on a wagon for distance 31-100 kms. are lower by 13-16 percent (refer to Table A4.7) compared to unit rates for longer distance of 31-200 kms shown in Table A4.6. Further, for much shorter distance of up to 30 kms., unit rates for wagon loaded goods are 45-60 % higher than unit rates exceeding 30 kms. up to 100 kms. This reflects the situation whereby fixed costs of rail transport should be adequately covered by the rate charges. Thus for transport distance of up to 30 kms. flat rates are charged which include amount of fixed operating cost. In addition, special rate provisions for rail tariff are imposed such as:

- a 10% surcharge for special packed items;
- a surcharge of 200 VND/ton/km. is imposed on goods transported on the revenue-losing routes;
- a 30% reduction on standard rail charges for stone and gravel used in road repairs;

C. Truck Transport

There were around 96,940 trucks registered in the country in 1993 including 40,499 trucks registered in the North. TESI's findings on the structure of this industry are as follows:

- only 16% of the trucks are privately owned and the rest are owned by the central government (35%) and provincial government (39%) although private ownership has increased since 1991; and
- majority of the trucks were in the 5-7 ton category and only 5-10% have load capacity greater than 7 tons. NTSR established truck loads of 4.2 tons (empty trucks included) and 6.7 tons (empty trucks excluded).

The current rates for trucking for the Hanoi - Haiphong route (one way) is 120,000 - 150,000 VND/ton for general cargo. If the shipper has "backload" the trucking operator charges on the average 180,000 VND/ton (both ways). In effect, the trucking charge for the backload cargo amounts to only 30,000-60,000 VND/ton. For breakbulk cargoes and containers, the current trucking charge from Hanoi to Ho Chi Minh City is given below:

4 tons (breakbulk)	600-1000	USD/ truck
10 tons (breakbulk)	800-1,500	USD/ truck
20-ft. container	1,500-2,000	USD
40-ft. container	1,800-2,200	USD

The rates for container transport includes both the cost of trucks and container rental. Shippers prefer their cargoes to be loaded in containers to prevent pilferage particularly during night time. It is noted that an ordinary truck is used in transporting containers in most cases. Travel time between Hanoi and Ho Chi Minh City takes between 3 and 6 days and there is no trucking operation at night. Two problems encountered by the trucking industry on this route are one hilly section with poor alignment and two river crossings by ferry barges (necessitated for trucks because there is a weight limitation on the bridges). Neither problem prevents operation of large trucks with 40' containers. However there are plans to build a tunnel to avoid the hilly section.

Following is a detailed schedule of charges in VND for transporting containers from Ho Chi Minh city to any destination:

Table A4.8

TRUCKING CHARGES FOR CONTAINER TRANSPORT

Destination	Distance	20' (in VND)	VND/ton-km.	40' (in VND)	VND/ton-km	Hrs./days Travel time
Bien Hoa	40	600,000	833	900,000	937.5	1.5
My Tho	80	1,000,000	694.4	1,800,000	937.5	3.0
Vung Tau	120	1,100,000	509.2	1,800,000	625.0	3.0
Can Tho	200	2,800,000	777.8	3,500,000	729.0	1.0
Phnompenh	300	-	-	-	-	-
Dalat	300	4,500,000	836.1	6,500,000	902.9	1.0
Nha Trang	450	4,800,000	592.8	6,800,000	629.6	15.0
Qui Nhon	600	5,500,000	509.28	7,500,000	520.8	20.0
Buon Ma Thuot	600	5,500,000	510.1	7,500,000	520.8	20.0
Play Cu	700	6,000,000	476.2	8,000,000	475.8	1.0
Danang	1000	7,000,000	388.9	9,500,000	395.8	1.5
Hanoi	1700	14,000,000	457.5	20,000,000	490.0	3.0
Hai Phong	1800	15,000,000	462.4	21,000,000	486.3	3.5

Source: JICA Study Team, 1996.

1/ 20-ft. container is assumed to have maximum load of 18 tons and 24 tons for 40-ft. container.

The above trucking rates for container transport indicate decreasing rates for longer distances both for the transport of 20-ft. and 40-ft. containers. However, for short distances of up to 120 kms. the decrease in rates differ between 20-ft. and 40-ft. containers - a 50% increase in transport distance results in only a 27% decrease in the unit rate per ton-km. for 20-ft. compared to 33% decrease in rate per ton-km. for 40-ft. container. Thus, it is more economical to transport large consignment which can utilise 40-ft. rather than 20-ft. containers.

For medium distance hauling, i.e. from 200 km. to 600 kms., the rate per ton-km. for 40-ft. container is higher than the rate per ton-km. for 20-ft. container by a percentage difference of 2-7%, depending on the destination. For long distance hauling, transport distance exceeding 600 kms., the rates per ton-km. for 40-ft. containers are higher by 5-7% than the rates for 20-ft. containers, depending on the destination. It is noted that fluctuations in hauling rates happen due to seasonal demand, fuel increases and other related factors.

D. Air Transport

There are 17 airports excluding military airports among which, three are considered international airports: Hanoi International Airport (Noi Bai), Danang International Airport and Ho Chi Minh International Airport (Tan Son Nhat). Four other airports have a fixed schedule of domestic flights: Haiphong, Nha Trang, Buon Me Thuot and Quot.

Air freight for both domestic and international rates is considered minimal and is mainly mail cargo. Domestic commodities carried are predominantly fresh fruits and personal effects. Production of high value commodities is still limited in Vietnam so there are few commodities that can afford high airfreight charges. In fact, air cargo was only 1,400 tons from Hanoi and 2,000 tons from Ho Chi Minh City in 1993. The government's target for air cargo transport for the year 2010 is 3,000 tons from Hanoi and 7,600 tons from Ho Chi Minh City and this already includes international cargo. These volumes are negligible compared to national cargo demand volumes.

Table A4.9

VOLUME OF AIRFREIGHT 1990-1993 ('000 Tons)

Year	Domestic	Foreign	Total
1990	2.5	1.5	4.0
1991	0.2	5.8	6.0
1992	4.0	6.0	10.0
1993	5.4	6.6	12.0

Source: General Statistical Office, 1994

2 Passenger Transport

Passengers have a choice of mode: rail, road or air transportation. It was reported in most transport studies that the major modes preferred by travellers and commuters are buses and automobiles. Inland waterway is likewise used but the network is not considered competitive with other transport modes. The share of rail transport in terms of passenger traffic volumes is about 4.6 percent; for air traffic the share is even smaller (only 0.5 percent).

The total volume of trips made by travellers and commuters in Vietnam is estimated at 191 million trips and this excludes the intra-provincial trips in 1994. This represents 2.7 trips per person in a year.

A. Bus Transport

Around 45,760 buses are registered in Vietnam as of the recent survey (1993). Of this number, 38,580 buses are used as public transport, of which, half are mini-buses and tricycles. More than 80% of the bus companies are private as a result of the rapid progress of privatisation reforms instituted by the Government but most of these are small. About 45% of the bus fleet is more than ten years old. The bus fare generally costs 70 to 100 VND per km-person, and it can be lower than 70 VND per km-person in the competitive routes. One problem of the industry is that few operators would want to serve the remote areas due to the very low passenger fares set by government.

Bus transport has been generally preferred to other modes by the Vietnamese for intra-provincial trips. The current fare levels are quite competitive and services are provided mainly by private bus operators. The recent fare levels are presented below:

Table A4.10
BUS FARE LEVELS, 1996

	Distance (kms)	Price in VND	VND/passenger-km
Hanoi - Thai Nguyen (State Company)	80	8,800 - 11,000	110 - 137.50
Hanoi - Lang Son (Private)	154	50,000	324.70
Hanoi - Haiphong	110	12,000	109

Source: JICA Study Team, 1996

The passenger fare for rail is 16,000 VND for Hanoi - Haiphong route or 150.90 VND per passenger-km which is higher than the bus fare of around 110-120 VND passenger-km. by more than 30%. This partly explains why passengers preferred bus services, in addition to convenience, over rail passenger services.

B. Rail Transport

Passenger tariffs are set by the VNR subject to government approval. Student fares are discounted and these are compensated by the government. Passenger tariffs differ according to the type of train. The passenger rate for a place in a sleeping car ranges from 175 to 200 VND per km., 170 per km. for a soft seat and 90-130 VND per km. for a hard seat. The baggage rate is 120 VND for 100 kg. per km. and in addition, an insurance certificate of 100 VND must also be purchased and the amount of 10 USD is sometimes charged for stop-overs.

Rail passengers fares are based mainly on travel distance multiplied by the unit fare plus an insurance premium. The unit fare decreases as the travel distance increases. Included in the passenger fare is the fee for the express charge and sleeping berth charge for each type of train. There is a passenger fare table provided at each station by destination and train type. This system does not allow convenient purchasing of

tickets for passengers who would be travelling in more than one train; and in most cases, passengers have to purchase new tickets each time they change class or train.

Table A4.11 presents the passenger fares from Hanoi to various cities while Table A4.12 shows the fares according to class or train types. First class berth and special berth are charged 70% higher than the standard seat. Foreigners are charged three times the fare for local passengers.

Table A4.11
FARE TABLE FOR S1 TYPE TRAINS, EFFECTIVE APRIL 1994
(in '000 VND)

Destination	Seat			Compartment (6 berths)			Compartment (6 berths, air-conditioned)			Compartment (2 berths)
	4 Seater	Soft	Hard	Lower	Middle	Upper	Lower	Middle	Upper	
Hue	193	116	108	162	149	132	202	180	158	199
Danang	222	134	124	186	172	151	233	207	182	229
Dieu Tri	307	185	171	258	238	209	322	287	251	317
Nha Trang	403	243	225	338	312	275	423	376	330	416
Saigon	483	292	269	406	375	330	508	452	396	499

Notes 1/ Child fares for 5-10 year olds are half of the adult fares.

2/ Fares for foreigners are 3 times higher than those given in the table.

Table A4.12
PASSENGER FARE TABLE BY TRAIN TYPE (1994)
(in VND/km.)

Seating Class/Train Type	S7/8 and 9/10	CM5/6	S3/4
Standard Seat	132	-	-
First Class Seat	143	155	169
Standard Berth (Upper)	150	168	191
Standard Berth (Middle)	174	191	217
Standard Berth (Lower)	200	215	235
First Class Berth	230	250	-
Special Berth	230	270	-

Source: Masterplan on Rehabilitation and Improvement of Railway in Vietnam (JICA, 1996)

The travel time of express passenger trains from Hanoi to Ho Chi Minh City takes around 36 to 45 hours. It is planned that frequent services will be provided in the priority sections and this shall reduce the waiting time and inconvenience to both domestic and foreign commuters. There is a preference for this mode of transport for long distance trips by Vietnamese as compared to air transport due to the obvious reasons of cheaper fare and the greater amount of luggage that can be carried.

C. Air Transport

At present, air transport accounts for less than 0.2 % of land transport trips and it carried only 0.25 million passenger trips in 1993. However, it accounts for around 30% of the long-distance trips between Hanoi and Ho Chi Minh since there is a limited number of long distance trips for passengers. This should not give an impression that aviation is competitive with land transport since air services are mainly used by the government and business employees (52 percent of the travellers are on official travel). Air fare is more expensive compared to the average income of Vietnamese and thus only high income businessmen can afford the cost air travel. Time savings was the main reason given by air passengers for taking this mode.

Only Vietnam Airlines operates domestically. With a presently low density air traffic within the country, there is no need for deregulating the industry. It should be noted that the seemingly low potential domestic air traffic demand is a temporary situation and once the economy progresses much rather, this might result to a larger air passenger market. At present, the passenger capacity of domestic air routes is restricted and this may be explained by the fact that only 10% of passengers are foreigners who pay in USD while the remaining 90% are Vietnamese who pay in VND. Since Vietnam Airlines is operating a fuel inefficient aircraft, it needs more foreign exchange revenues to pay for its fuel imports. The Government has thus restricted the frequency to minimise its operating losses. As long as the present aircraft is utilised, domestic operations will remain costly and may only have break-even operations. USD fares are based on standard international tariffs for similar distances, while VND fares are adjusted according to Vietnamese income levels as shown below:

Table A4.13

DOMESTIC ONE-WAY FARES

Origin-Destination	US Fare	VND	USD Equiv.	% of US Fare
Hanoi - HCM	165	750,000	68	41%
- Danang	90	400,000	36	40%
- Nha Trang	130	600,000	54	42%
HCM City - Hanoi	165	750,000	68	41%
- Danang	90	400,000	36	40%
- Haiphong	165	800,000	73	44%
- Nha Trang	60	200,000	18	30%

Source: Vietnam Airlines, 1996

APPENDIX 5

International Experience in Coastal Shipping

This appendix describes experience in three countries in South East Asia, Japan (pages 1-173 to 181), Indonesia pages 1-182 to 188, and the Philippines (pages 1-189 to 195).

For each country, the economic situation and domestic shipping market are described. Then service characteristics, structure of the Maritime Transport Industry and ways of regulation are outlined. Finally accounts are given of attempts to develop coastal shipping services.

PROFILE OF THE DOMESTIC SHIPPING IN JAPAN

1. General

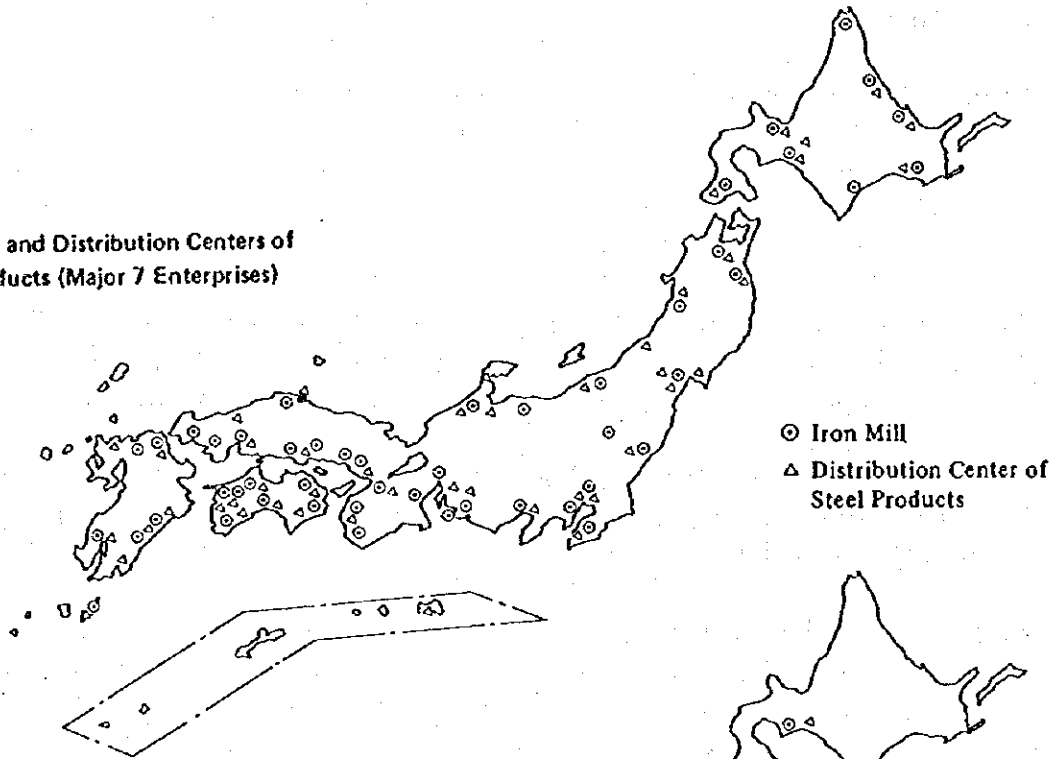
Japan, an archipelago nation, is a cluster of 4 large islands and more than 3,900 small islands with a total land area of 377,780 sq. kms. The country's arable and habitable land is considerably limited owing to its vast steep forest lands (67% of total land mass) and numerous volcanic mountains. The population of Japan has reached to 125 millions in 1995, the seventh most populated country in the world.

As an archipelagic nature of the country, cargo distribution has historically depended on domestic shipping. Therefore, many of trials to foster domestic shipping have been practised from time to time. The historical change in domestic shipping is briefly described as follows:

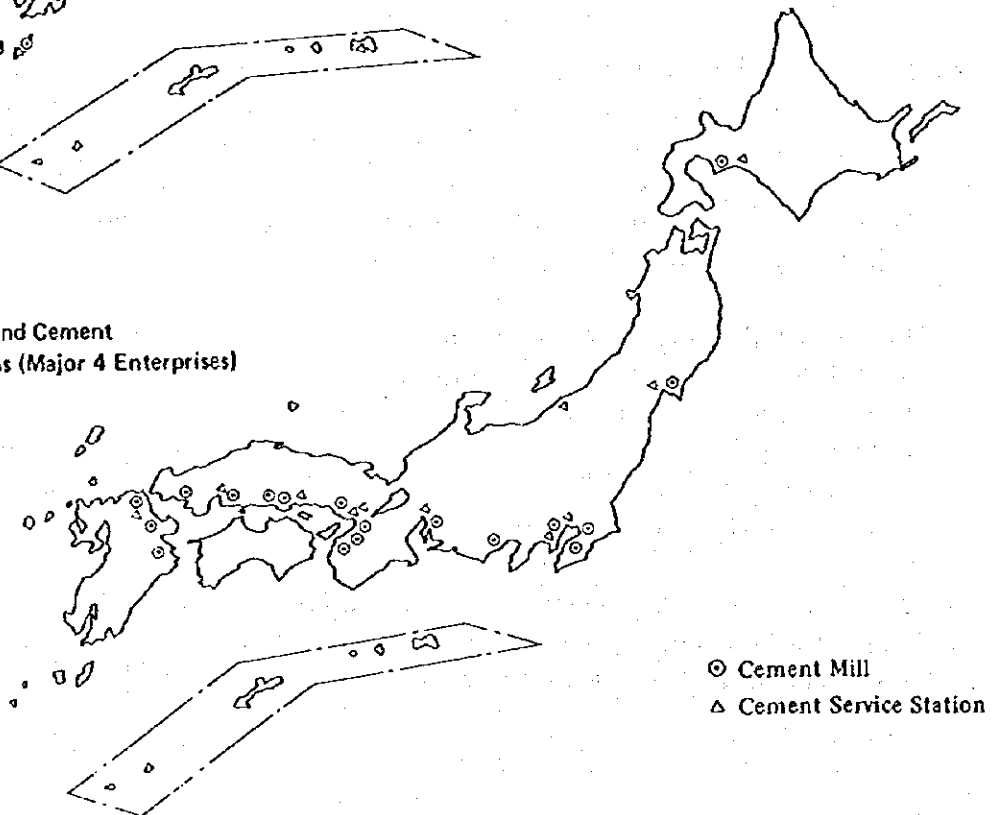
- During the decade after the World War II (1945-1955), domestic shipping, although suffered from more than 80% loss in assets, gradually recovered to its pre-war traffic level in terms of quantity.
- Facing the high economic growth period (from 1955 till the "Oil Shock" in 1973), stabilization of domestic shipping became a major concern. In particular, the replacement of war standard ships during the World War II and played an important role during the ware restoration and economic recovery period was a sharp issue. In this connection, Fleet Development corporation or Senpaku Seibi Kodan (SSK) in Japanese was established and implemented the ship replacement program.
- In line with the fleet replacement, modernization of domestic shipping in Japan took place from 1955 thereafter. Modernization commenced with diversion from wooden to steel vessels. Associated measures were enlargement of vessel size, improvement of cargo handling capability, increase in turn-around times of vessels and operating efficiency such as those for coal, limestone, cement, automobile, LPG, asphalt, container etc. RoRo ships were also developed and extensively used since 1965.
- Nowadays, domestic shipping can be characterized by modern major operators and conventional minor ones. The subsidy system to protect such minor operators and reservation of domestic seafarers are controversial issues in administration.

Figure A5.1
DOMESTIC SHIPPING PORTS AND NODES IN JAPAN

Iron Mills and Distribution Centers of
Steel Products (Major 7 Enterprises)



Cement Mills and Cement
Service Stations (Major 4 Enterprises)



2. Domestic Shipping Market

The domestic shipping demand for cargo was 529 million tons in 1993 and it has been stable since 1980. The average trip length has ranged from 400 km to 450 km constantly. Major commodities as of 1993 are as follows:

Oil Products	154 million tons
Steel	57 million tons
Cement	52 million tons
Limestone	39 million tons
Coal	13 million tons

Table A5.1
TREND IN CARGO TRAFFIC BY DOMESTIC SHIPPING

Year	Million Ton	Billion Ton - Km
1970	377	151
1975	452	184
1980	500	222
1985	452	206
1990	575	245
1993	529	234

Source: MOT, Japan

On the other hand, the magnitude of passenger traffic was estimated at 157 million persons and 6,601 million person - km in 1993. Same as the cargo traffic, no remarkable change has been found in passenger traffic in the recent years.

3. Domestic Shipping Industries

1) Shipping Operator

The number of shipping operators in 1995 is 6,719 consisting of 2,321 for licensed operators and 4,398 for registered operators. Both the numbers indicate a decreasing tendency, e.g. a reduction of 21.0% during the last decade.

There are many small operators. For instance, the registered operators who have only one vessel account for about 2,600.

2) Fleet

There are 11,272 ships or approximately 5.4 million GRT engaged in domestic shipping. (Refer to Table A5.2) Remarkable characteristics are as follows:

- Small-size vessels are dominant, e.g. 479 GRT on the average and 83% of vessels less than 500 GRT. So-called the 199 GRT type and the 499 GRT type are prototypes in domestic shipping.

Table A5.2
FLEET COMPOSITION OF DOMESTIC SHIPPING (as of 1995)

Type	No. of Ships	Total GRT	Average GRT
Cargo Ship	5,235	1,656,173	316
Sand/Stone Carrier	1,027	449,513	438
Cement Carrier	203	440,271	2,169
Car Carrier	66	226,136	3,426
Oil Tanker	1,772	996,278	562
Specialized Tanker	536	270,975	506
Passenger Ship	1,940	145,583	75
Ro-Ro	493	1,217,765	2,470
Total	11,272	5,402,694	479

Source: MOT of Japan

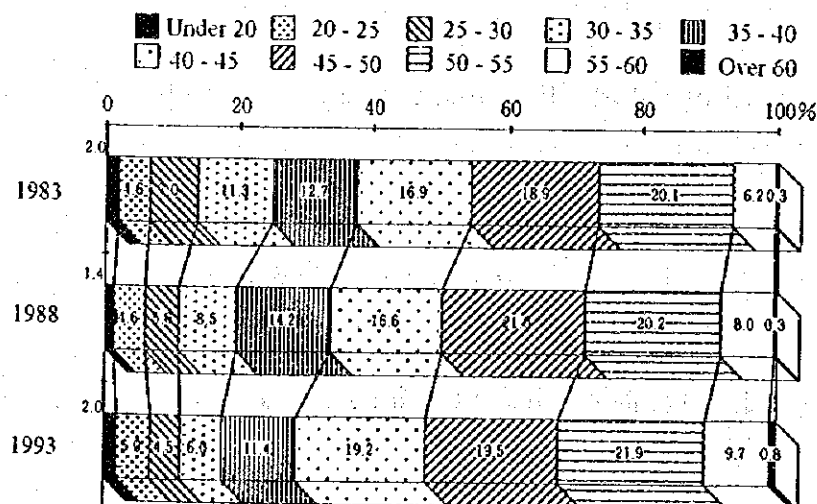
- A variety of specialized vessels has been introduced in domestic shipping. Of which, cement carriers and car carriers are medium in size.
- Regarding to vessel age, Japan has three classes: economic vessel (less than 7 years), non-economic vessel (7-13 years) and aged vessel (more than 14 years). Aged vessels account for 47.1% in number and 29.8% in tonnage.

3) Seafarer

The number of active seafarers is estimated at 41,380 in 1993. It should be noted that the number include family crew when a vessel owner operates a vessel in assistance with his family.

The domestic shipping suffers from the shortage of young seafarers. As a result, many active seafarers are aged (those who are 40 years old or elder share 71.1% of the total) and the total number has been decreasing (a reduction of 16.5% in the last decade).

Figure A5.2
TREND IN AGE STRUCTURE OF DOMESTIC SEAFARERS



4) Remote Island Service

As an archipelagic nature of Japan, many remote islands are inhabited and these islanders need frequent shipping service badly. To meet such daily needs, 125 shipping companies operated 130 remote island routes in 1994. However, most of them are small and suffering from financial deficits. Under such situations, the Central Government in association with municipalities extends the following assistant programs to the shipping companies:

- Subsidizing the deficits of the remote island services. In fact, 103 shipping companies or 108 remote island routes were subsidized in 1994. The amount of subsidy reached to 4.1 billion Japanese Yen.
- Building new vessels under joint ownership with the SSK. This program intends to modernize fleet with less financial burden on the shipping companies. The SSK provides privilege to the shipping companies than other ordinary ones. The SSK is described in detail in the latter section.

4. Experience of SSK

1) Introduction

Among various Government assistance to shipping industry in Japan, the one provided through "Senpaku Seibi Kodan" or Fleet Development Corporation (hereinafter referred as SSK) was the most significant with regard to this study. A brief history is given below:

1961: "Specified Vessel Improvement Corporation (Tokutei Senpaku Seibi Kodan)" was established to undertake replacement of ware standard ships through joint ownership/building method by ship owner and the corporation. Ratio between ship building and breaking was basically 1 is to 1.5

1966: "Specified Vessel Improvement Corporation" was reorganized to SSK to expand the replacement of cargo vessels and undertake financing and interest subsidy for the joint ship replacement project.

1961-1968: The ship replacement implemented by SSK covered breaking of 3,696 old ships or 629,000 tons and building of 377 new ships or 462,000 tons.

2) Objective and Coverage

Basic objective of the SSK is centered on the "contribution to the provision of adequate and smooth shipping and port transport". Although the statement is simple and abstract, it aims to promote social stability and economic growth.

In order to meet the objective, two principles are stated:

- a) Assistance to be provided by SSK will be limited to operators who suffers from obtaining adequate finance, and at the same time can assure financial viability of the assistance, and

- b) Assistance covers the two major areas, that of investment (joint ownership vessel project) and finance (financing project)

3) Joint Ownership Vessel Project

Outline of the Project

The project aims to promote building quality vessels jointly with SSK and ship operators. Reason of applying joint ownership method is that mere financing would only tend to tempt operators to gain excessive profits while building substandard vessels. Return on investment by SSK is the equivalent to the depreciation cost of their share and the interest for their invested amount and all the revenues and expenses belong to the ship operators. Advantages of the project are briefly as follows:

- a) Collateral is not necessary which enables to attract minor operators.
- b) Repayment period could be lengthened according to the actual utilization time of vessel. Grace period and low interest rate are also provided.
- c) Technical assistance/control is more effectively practiced on design, supervision and inspection of vessels.

This project covers passengers ship, cargo ship, port ship and port cargo handling equipment, and is composed of the following steps:

- a) Building (including remodeling and new building) of ship/equipment to be owned jointly at shared cost between SSK and project implementor.
- b) Utilization of ship/equipment by the party of the project.
- c) After the period of joint ownership, the SSK share is transferred to the partner of the project.

Share of Building Cost

Percentage share of building cost, period of joint ownership, and charging conditions are summarized as shown in Table A5.3.

**Table A5.3
SUMMARY OF JOINT OWNERSHIP CONDITIONS**

Category	SSK Share	Period of Joint ownership (A): (years) From the Date of Completion	Charging Conditions		
			Grace Period (B): (years)	Depreciation method	Interest Rate (%)
Passenger Ship New Building	70%, 80%	18 (Steel), 10 (wooden) agreed years	2	fixed	7
Remodeling	50%				
Cargo Ship	70%	16 - 18 ^{1/}	3	fixed	8.2
• General		14 - 16 ^{2/}	3		8.2
• Oil Tanker		14 ^{1/2} - 18	3 ^{1/2}		1.2
• Coal Vessel					
Port Ship	70%	12	none	fixed	8.2
• Barge		16			
• Tugboat					
Cargo Handling Equipment	70%	5 - 7	none	fixed	8.2
• On-board		5			
• On-land		4			
• Forklift					

Source: Publication "10 Year History of SSK"

1/ 16 years for vessel with less than 500 tons

2/ 14 years for vessel with less than 500 tons

4) Financing Project

Outline of the Project

This project comprises the following:

- a) Financing for ship breaking: This covers breaking or export of old ships.
- b) Financing for conversion to mooring ship:
This intends to encourage conversion of excess ships to parking, hotel, restaurant etc. for which financing is provided based on joint ownership method.
- c) Financing for oil pollution protection.

Financing Conditions

Condition of financing and summarized as shown in Table A5.4.

Table A5.4
FINANCING CONDITIONS

Classification	Limit of Loan	Interest Rate (%)	Repayment Period/ (Grace Period)	Repayment Method
Ship Breaking Finance	4,800 - 7,200 yen/DWT ^{1/}	3.5	8 ^{1/2} / (1 ^{1/2}) 9 ^{1/2} / (2 ^{1/2})	Semi-annual equal payment
Mooring Ship Finance	1,045 - 2,065 yen/DWT	5.5	7 / (1)	Same as above
Oil Pollution Protection Finance	50%	first 3 yrs: 7% second 3 yrs: 7.5%	6 / (1)	Same as above

Source: Publication "10 Year History of SSK"

1/ Average price of breaking ship was assumed to be 12,000 yen per ton, while loan amount was 40% of the total value for those completed in 1968 and 50% for those completed in 1969.

5) Other Services

Other areas of services include the following:

- a) Finance for rebuilding of ships such as change of engines, extension of hull, energy saving measures of passenger and cargo vessels.
- b) SSK provide guarantee for operators when they borrow money from financial institutions in the following areas:
 - Short-term loan for new building up to completion.
 - Short-term loan (without collateral) necessary for replacement building of cargo ships,
 - Operating capital needed by joint owner of SSK cargo ship.

6) Supplement

Over 30 years' undertakings, the SSK is considered to have fulfilled most of her appointed task, that is, to promote social stability and economic growth through the development of domestic shipping. On the other hand, the Government is keen to reduce the number of subsidized public corporations as a measure of administration reform. Under such circumstances, the Government determines to combine the SSK with Railway Development Fund until 1998 and cut down both their activities.

After the amalgamation, however, the new organization will be still aware of the following issues:

- Structural reform of the domestic shipping including vessel hull adjustment, reservation of domestic seafarers and fare adjustment'
- Speed-up and enlargement of passenger vessels;
- Modal shift from trucks to vessels and rails; and
- Preservation of maritime pollution.

5. Port Administration

After World War II, Japan was under American occupation for several years. During the occupation period, the US troops occupied major ports and restricted new port development. The government of Japan then enacted the Port Law 1950 which stipulates the general direction of port development, administration and operation in compliance with the restoration of democracy. With this law, the US troops returned the occupied major ports to the Government.

The Port Law 1950 defines that the Government entrusts local governments such as prefectures and municipalities to develop, administer and operate individual ports. With this key policy, the competent central authority, the Port Bureau of the Ministry of Transport, has developed the following administrative arrangement:

- The Government prepares a national port system development program every five years;
- The government classifies all ports into 3 categories such as specially designated international ports (21), other national ports (112) and local ports (969). National ports may affect economic activity at a national level but only the 21 international ports are designated for foreign trade.
- In constructing and improving a port, the Government may give a subsidy to the corresponding local government. To receive the subsidy, a port must be publicly operated.
- Port administrators prepare the port development plans while the government inspects only the plans for national ports.
- Only local governments can become port administrators. Private entities such as big manufacturing enterprises can invest capital in port construction and thereafter may use port facilities exclusively for the time being.

The Port Law has undergone about 30 revisions. Through the many revisions, the Law now places stress on environmental considerations and allows competent operators to operate ferry and container terminals. The Government is still responsible for overall port administration by means of the 5 year national port system development program, distribution of subsidy and its supervision.

PROFILE OF THE DOMESTIC SHIPPING IN EASTERN INDONESIA

1. General

Indonesia is composed of many islands (approximately 11,000) but we can find different figures in different statistics. Population as well as economic activities are deeply concentrated in Java Island while Eastern Indonesia shares 61% of population.

Indonesia has a population of 189 millions in 1993 with the growth rate of 1.98% annually. Economic has been favorably growing in the recent quarter century and now GDP per capita is estimated at more than US\$ 800. During the economic growth period, however, disparity between Western Indonesia (Java and Sumatra) and Eastern Indonesia has been expanded.

To unify many islands under one nation, sea transport is an inevitable means, especially in Eastern Indonesia. However, sea transport in Indonesia was insufficient in the 1970's and the Government's involvement in it consequently hampered the activities of private sector. Cognizant of the importance of sea transport, the Government has set up an increase in public investment as well as initiated deregulations. Today, domestic shipping in Indonesia is in the course of deregulation.

2. Domestic Shipping Market

Since the backbone of Indonesia's national economy is Java Island, the sea transportation in Eastern Indonesia is strongly connected with Java. Concerning daily commodities, the traffic flow from Java to Eastern Indonesia is frequent and considerable. On the other hand, that of the opposite direction and within Eastern Indonesia is limited and erratic except for raw materials such as oil, wood and metal.

In 1990 a total of 72 million tons of cargoes was transported within Indonesia by ships, of which 12 million tons moved within Eastern Indonesia. On the other hand, a total of 2.7 million passengers utilized the Indonesian ports for sea travel in 1990. Among 986,823 passengers originating from Eastern Indonesia, 918,422 passengers had destinations within Eastern Indonesia. In conclusion, cargo traffic flow is dominant between Western Indonesia and Eastern Indonesia while most of the passenger traffic demand is rather short.

"The Study on Integrated Modernization Plan for Sea Transportation in Eastern Indonesia" funded by JICA (1993-1994) forecasted traffic demand (Refer to Table A5.5) and formulated future shipping network (Refer to Figure A5.3).

Table A5.5
TRAFFIC DEMAND FORECAST

	Year 1990 (actual)	Year 2005 (projected)
Cargo Traffic		
- Whole Indonesia	72 million tons	225 million tons
- Within Eastern Indonesia	12 million tons	39 million tons
Passenger Traffic		
- Whole Indonesia	27 million persons	11.3 million persons
- Within Eastern Indonesia	0.9 million persons	4.5 million persons

Source: JICA

3. Domestic Shipping Industries

1) Shipping Types

Inter-island Shipping: Inter-island shipping is the most important part of the entire domestic shipping in terms of serving the national backbone of sea transportation. Today, around 50 operators offer liner and tramper services in this field. Due to total deregulation and the increase in the number of operators, the excessive competition has put a strain on their management. Meanwhile, the deregulation, particularly, PARK NOV 21/88, has attracted foreign vessels into inter-island shipping. Therefore, a cabotage policy does not make any sense in Indonesia.

Rakyat (People) Shipping: One of the structural characteristics of domestic shipping is the existence of Rakyat shipping as a traditional form besides modernized shipping. Rakyat ships, consisting of wooden hull vessels measuring around 100 grt, accounted for about 39% of the total number of domestic vessels while their cargo handling volume accounted for only 5.7% in 1990. Because of their traditional and small vessels, they are totally dependent on human labor for loading and unloading.

Perintis (Pioneer) Shipping: Perintis shipping operation is being subsidized by the Government. It has 28 routes with 13 base ports. In 1992, 26 vessels or a total of 15,800 DWT are involved in this operation. This subsidized system is described in the latter section.

2) Operational Characteristics.

PELNI (Pt. Pelayanran Nasional Indonesia) established in 1952, was reorganized from a state enterprise to a state owned limited liability company in 1976. However PELNI is still responsible for the execution of governmental policies in sea transport. At present, PELNI has 61 vessels.

In addition to PELNI, around 50 operators, of medium and small sizes, have been engaged in inter-island shipping business. Most of the shipping operators, with the exception of Rakyat operators, organized the Indonesian National Shipowners' Association (INSA). The number of members is total 521 as of October 1992. On the other hand, Rakyat operators formed the Dewan Pimpinan Pusat Pelayaran Rakyat (DPP PELRA) as their own association. There are about 500 member companies or about 70,000 individual members.



Figure A5.3
2005 SEA TRANSPORTATION NETWORK PLAN FOR COMMON CARRIERS

In general, the efficiency of Indonesia's domestic shipping is low because of the following reasons:

- a) high number of old vessels;
- b) long anchorage period and turn-around time due to the shortage of port facilities, poor stevedoring service and cargo waiting time; and
- c) many non-commission days due to drydocking and repairs.

3) Fleet

The number of domestic fleet once decreased in 1984 due to the enforcement of the scrapping policy, resulting in the shortage of vessels. The domestic fleet is estimated at around 7,000 vessels in 1991. It is noted that chartered foreign vessels are widely used in inter-island trade.

When scrapping policy was strictly enforced between 1984 and 1988, the average vessel age went down. At present, however, inter-island cargo vessels more than 16 years of age (and which should already be replaced), account for 72.4%.

According to BKI (Indonesian Ship Classification Society) where in all Indonesian flag vessels in excess of 100 GT or 20 meter in length or 100 horse power of propulsive machinery have to be registered, a total of about 2.6 million gross tons' steel fleet is navigable. Major vessel types are as follows:

- Dry cargo ship - 1.2 million gross tons (1,777 gt on the average)
- Oil tanker - 0.9 million gt (4,132 on the average)
- Passenger ship - 0.1 million gt (7,362 gt on the average)

Among the BKI classed dry cargo ships over 500 gt, totaling 365 ships and 700,000 gt, about 70% were built in 1977 and before and only 11.5% were domestically built.

4. Experience of Subsidized Shipping Service (Printis Shipping)

1) Historical Background

Printis shipping is being subsidized by the Indonesian Government. It has 28 routes plying 13 base ports. In 1992, 26 vessels or a total of 15,8000 DWT are involved in this operation. Among them, PELNI has 13 routes while eight local operators have 15 routes. The total number of voyages made is 488.

The Navigation Law No. 21/1992 states the position of Printis clearly as a subsidized service for remote, undeveloped areas. Such being the case, traffic demand is limited and so Printis shipping mainly carries passengers and daily commodities.

The history of Printis shipping is summarized as follows:

- a) 1974/75- 1980/81 (7 years): Printis shipping started in 1974. Direktorat Navigasi furnished its own vessels. The shortage of hull was offset through bidding among private operators.

- b) 1981/82 - 1986/87(6 years): SWAKELORA (self-management) method was applied during this period. In this connection, the Indonesian Government built 14 vessels for the purpose of Printis shipping and the actual operation of these vessels was entrusted to PELNI. The shortage of hull was offset by PELNI and private operators without bidding. This SWAKELORA method caused some problems because PELNI was designated both as an administrator and as an operator.
- c) 1987/88- 1989/90 (3 years) the SWAKELORA method was modified to KONTRAK MURNI (contract-based) method. Accordingly, the above mentioned government-owned 14 vessels were transferred to PELNI which was appointed as the solo operator of Printis shipping. Under this method, PELNI got all operational income and operational deficits were compensated with government subsidy.
- d) 1990/91- present: Under the KONTRAK MURNI method, the Government makes route plans and decides on an operator for each route through bidding.

As stated above, the current operation method is based on public bidding which decides the responsible operator and the amount of subsidy. The subsidy can be paid to an operator after every voyage through the inspection of government officers concerned. If the voyage is made ahead or behind schedule, the expected subsidy would be reduced as penalty. As regards contract conditions, PELNI has no advantage compared with private operators.

2) Performance

Table A5.6 shows the performance of Printis shipping between 1986/87 and 1990/91. The results of biddings under the current operation method are summarized in Table A5.7.

Table A5.6
PERFORMANCE OF PRINTIS SHIPPING

	SWAKELOLA		KONTRAK MURNI		
	1986/87	1987/88	1988/89	1989/90	1990/91
Budget Fund: (in Rp 000,000)	8,923	6,302	7,981	8,294	16,093
Routes	24	16	16	18	28
Base Ports	14	10	10	11	13
Call Ports	247	178	152	154	176
Pioneer Ships					
No. of Vessels	21	14	16	16	26
DWT	9,066	7,150	8,741	8,741	15,800
Cargo: (in metric tons)	19,735	24,418	26,714	35,742	53,555
Passengers: (no of persons)	115,672	141,100	181,128	214,070	175,558
Load Factor: %	-	4.7	3.9	6.6	-
Pass. Factor: %	-	51.4	55.8	65.0	-
Subsidy Ratio: %	90.6	75.1	84.0	83.3	-

Source: DGSC

Table A5.7
RESULTS OF BIDDING UNDER CURRENT OPERATION METHOD

Fiscal Year	PELNI (routes)	Others		Joint Ventures (routes)	Total (routes)
		routes	operators		
1990/91	18	8	6	2	28
1991/92	14	14	12	2	28
1992/93	13	15	8	0	28

Source: DGSC

The Indonesian Government subsidizes the Printis service which is operated by PELNI, Table A5.8 indicates in detail the income and operating figures and subsidy. In brief, the amount of subsidy has been increasing yearly.

On the other hand, operating cost has been increasing with the slight increase in incomes. Eventually, PELNI had to sum up considerable deficits.

Table A5.8
PELNI PRINTIS SERVICE

Item	1986	1988	1990	1992	1993
Operating Income					
Cargo Freight	199	368	414	453	1,213
Passenger Fare	482	903	945	1,235	1,243
Other Income	3	3	2	23	49
Subsidy	4,438	7,114	7,712	8,138	8,857
Total	5,122	8,388	9,073	9,849	11,362
Operating Expenses					
Variable Exp.	1,332	2,215	2,289	2,780	3,441
Fixed Exp.	2,296	4,517	6,943	5,914	8,762
Depreciation	408	561	556	551	635
Total	4,036	7,293	9,788	9,245	12,838
Operating Profit/Loss	1,086	1,095	- 695	604	- 1,476
Overhead	582	987	1,016	1169	1,136
Net Profit/Loss	504	108	- 1,711	- 565	- 2612
Subsidy Ratio (%)	96.1	85.9	71.4	78.1	63.4

Source: PELNI

Note: Subsidy Ratio = $\frac{\text{Operating Expenses} + \text{Overhead}}{\text{Subsidy}} \times 100$

5. Experience of Standard Ships (Caraka Jaya Project)

1) Background

The scrapping policy was introduced in 1984 which ordered the vessels aged above 25 to be scrapped. Initially, this policy was strictly enforced but finally, it was suspended in 1988 owing to the shortage of vessels. Under such situations, to make shipping companies modernize and enlarge domestic fleet, the Government commenced Caraka Jaya Project in 1988.

2) Project Outline

Caraka Jaya Project is composed of the following aspects.:

- introduction of standard ships in design;
- building of standard ships in domestic shipyards, and
- financing from a state development bank to a domestic shipping company to purchase the standard ship.

The project has been performed as follows:

Phase I (1988 - 1990) : 3,000 dwt cargo ship (5 ships)

Phase II (1990 - 1993) : 3,650 dwt cargo ship (12 ships)

3,650 dwt semi container ship (12 ships)

Phase III (1994 - 1995) : 4,180 dwt semi container ship (24 ships)

In response to shipping companies' request, the standard ship has become large and adapted to containerization.

3) Project Evaluation

Since the project is still in the implementation, it is difficult to evaluate it comprehensively. But the following can be obviously stated:

- As a matter of fact, the project has contributed to the modernization and enlargement of domestic fleet. However, the project vessels are not cheap compared with new vessels built in foreign shipyards. Since the government compulsively allocated the project vessels to state-owned shipping companies, some companies are in financial difficulties.
- The main equipments except steel plates are supplied by foreign countries because supporting industries in Indonesia are not fully developed. The project has expanded and updated the activities of state-owned shipyards. In this sense, the contribution of the project to Indonesia's shipbuilding industry is remarkable.

PROFILE OF THE INTER - ISLAND SHIPPING IN THE PHILIPPINES

1. General

The Philippines are an archipelago of more than 7,100 islands, with a total area of 30,0000 sq. kms. The two largest islands are Luzon in the north, and Mindanao in the south. There are 14 administrative regions, 73 provinces, 1,593 municipalities and 60 cities. The national population was estimated at 64.8 millions in 1993.

The archipelagic nature of the country underlines the need for a maritime sector that will service the thousands of islands and a population that is growing at the rate of 2.5% annually. In the last quarter of this century, the government has taken serious steps to strengthen this sector of the transportation industry. While many may not be happy with the present situation, it can not be denied that substantial progress has been achieved. In fact, 35% of total cargo and 7% of total passenger traffic are utilizing inter-island shipping.

2. Inter-island Shipping Market

The inter-island shipping demand for passenger and cargo in 1991 was 15.9 million persons and 28.3 million tons, respectively. According to Study on Master Plan on Maritime Safety (MAPMAS), future inter-island shipping traffic demand was estimated below.

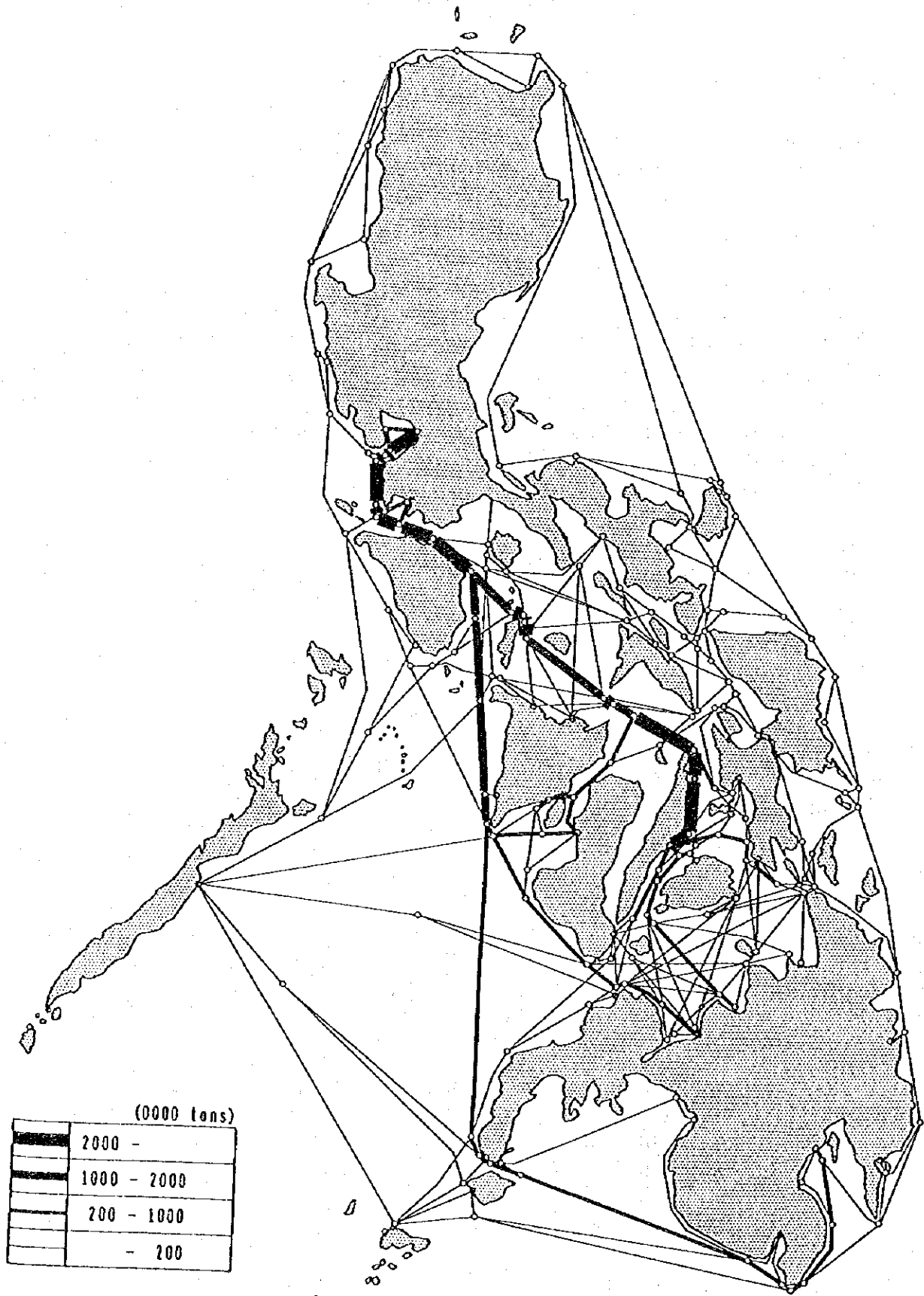
Table A5.9
PROJECTION OF MARITIME TRAFFIC VOLUME

Year	Passenger Carried (Millions)	Ave. Annual Growth Rate (%)	Cargo Transported (Mil. MTs)	Ave. Annual Growth Rate (%)
1980 (actual)	8.4		17.6	
1985 (actual)	8.6	0.5	16.8	-0.9
1990 (actual)	14.9	11.6	29.0	11.5
1995	18.0	4.2	39.0	6.9
2000	23.4	6.0	51.3	6.3
2005	29.4	5.1	65.0	5.3
2010	36.2	4.6	80.3	4.7

Source: JICA/MAPMAS 1992

The overall traffic, though being rather stagnant during the 1980's, started to increase again since 1987. The estimated increase of passenger and cargo traffic between 1992 and 2010 are 2.4 and 2.5 times, respectively.

Figure A5.4
PROJECTED CARGO TRAFFIC FLOW ON MAJOR ROUTES IN 2010



Source: JICAMAPMAS 1992

3. Shipping Industries

The basic feature of the Philippine shipping industry is, today, one that consists of "a few large shipping companies and a large number of small owners and operations". This situation seems to indicate a very inequitably dual structure of the industry. The industry is also characterized as a "secondhand industry", in that it generally utilizes secondhand vessels.

1) Shipping Operators

There are basically three categories of shipping operators existing, namely: a) large companies (12 companies); b) medium and small shipping companies (about 300 companies); c) companies without any authorizations.

2) Shipping Services

The inter-island or domestic shipping sector is composed of liners, trampers, tankers, barges (long distance or lighterage), and industrial or specific services. The two principal features of the Philippine shipping service are as follows:

The scheduled liner service apparently account for about half of the total domestic sea freight movement. The rest are carried by the largely unregulated and scheduled contract carriers (trampers) and privately owned bottoms. The regulated liner services also service a substantial percentage of passenger service demand or about 86%, in terms of reported gross revenue.

The liner services are dominated by five (5) companies which carry about 80% to 85% of total liner cargo and passenger traffic.

3) Fleet

There are 683 vessels which are over 100 GRT, with an average of 1,485 DWT per ship, in inter-island shipping.

Records show that the shipping fleet of the Philippines has grown at a remarkably high rate. At the end of World War II, the Philippines owned only three vessels with a total of 21,000 GRT. In 1960, the fleet grew to 365 vessels with a total GRT of about 240,000. In 1970, vessels registered in Philippines totaled 1.3 million GRT and in 1980 the total Philippine fleet reached approximately 2.9 million GRT.

Most of larger sized vessels in the domestic fleet are secondhand vessels, which were mainly purchased and/or bareboat chartered from Japan. There many practical and technical factors that encourage the importation of secondhand vessels and discourage new built. The acquisition of secondhand vessels, especially from Japan (whose policy is to encourage the early retirement of vessels), seems to be beneficial to and economically viable for the maritime industry of the Philippines, at present.

However, this practice has contributed greatly to the increasing age of the domestic fleet and this has become a concern, considering the now increased costs of operations, maintenance and

repair of older vessels. From the point of view of maritime safety, too, older vessels are not very desirable.

On the other hand, the average age of the smaller sized vessels, of less than 250 GRT, is relatively low. The majority of these vessels are wooden hulled and are locally constructed by small shipyards. The vessels are mostly owned by small shipyards. The vessels are mostly owned by small local operators who ply very short distance routes.

Table A5.10
AVERAGE SIZE/AGE OF DOMESTIC FLEET, 1989

Type	Less than 250 GRT			250 GRT and above		
	No.	Ave. Size (DWT)	Ave. Age	No.	Ave. Size (DWT)	Ave. Age
Pass/Cargo	43	102	13.0	47	1,809	21.7
Pass/Ferry	354	40	9.0	37	1,293	16.5
Cargo Ships	2,334	25	5.5	230	999	16.0
Containers	-	-	-	18	2,334	19.7
Total	2,731			332		

Source: MARINA

4) Shipping Routes

The maritime shipping routes are classified into the primary, secondary, tertiary, and/or developmental routes. These routes are designated by Maritime Industry Authority (MARINA) under its franchise system (as to which route a liner vessel can ply / operate). The authorized route of a vessel is indicated on its Special Permit (SP), Provisional Authority (PA), or Certified Public Convenience (CPC) granted specifically by MARINA to a particular vessel.

The primary routes have Manila as their terminus and are linked to the principal ports of Cebu, Tacloban (Leyte), Iloilo, Bacolod (Negros Occidental), Catbalogan (Western Samar), Puerto Princesa (Palawan), and the major ports in Mindanao (such as Cagayan de Oro, Davao, General Santos, and Zamboanga).

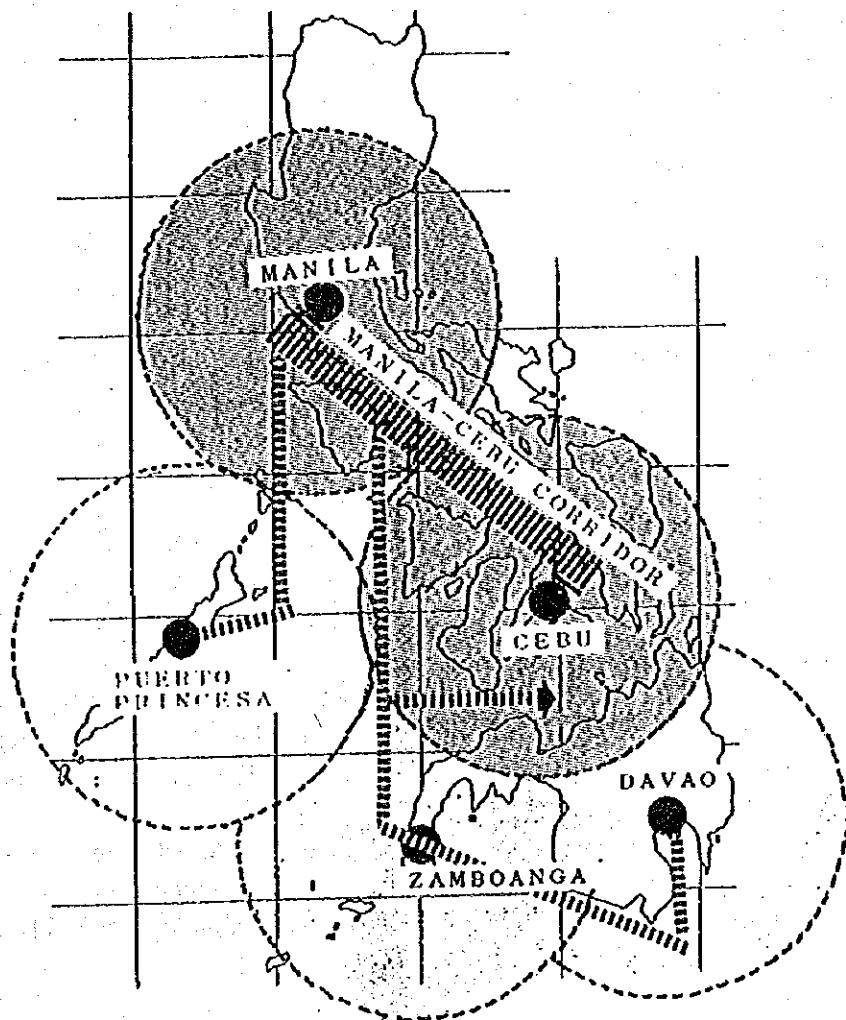
There are about 12 secondary routes. Nine (9) of these routes connect Cebu to neighbouring islands, two (2) connect Batangas to Calapan (Oriental Mindoro) and San Jose (Occidental Mindoro), and a ferry route connects Iloilo and Bacolod. There are more than a hundred tertiary, feeder, and developmental routes which do not, to this time, have liner services, but are served by small watercrafts (e.g. motor bancas and wooden hulled vessels.)

Table A5.11
ROUTE CONFIGURATION
 (as of December 1990)

	No. of Routes	No. of Vessels
Sea Routes		
Primary	10	95
Secondary	12	99
Tertiary/Developmental	145	437
Sub-total	167	631
River Routes	53	167
Total	220	798

Source: MARINA

Figure A5.5
PRIMARY ROUTES AND REGIONAL SEA AREAS



4. Domestic Shipping Modernization Program (DSMP)

1) Background

The inter-island fleet has been the subject of many studies to improve its safety profile. The fleet has, in the past suffered setbacks in safety reputation as a result of tragic accidents that have claimed thousands of lives. And accidents have continued to plague the domestic shipping fleet. In fact, more than 5,000 domestic passengers have died among the fifty million passengers that have used maritime transport during the 5 years from 1986 to 1990. One of the areas of concern is how the fleet can be modernized to improve individual ship seaworthiness. It means, new ships must replace the old dilapidated ones in order to raise the level of safety of the fleet.

After a series of mishaps at sea, "Study on Master Plan on Maritime Safety (MAPMAS, 1991-1992) founded by JICA formulated master plan as well as short-term plan towards the improvement of maritime safety in the Philippines. Of which, fleet replacement and financing program was given high priority.

The Maritime Safety Improvement Project (MSIP - 1, 1993 - 1994) funded by OECF was a natural follow-up project to MAPMAS. Maritime Industry Authority (MARINA) directed that the MSIP - 1 embodied the fleet replacement and financing program for its implementation.

2) Fleet Demand

The acquisition of ships reflects the demand which is about 58,000 grt annually. The ship replacement component is about 28,000 grt, and the additional or new tonnage is 30,000 grt.

The annual funding requirement for vessel acquisition is estimated at 8.4 billion Japanese Yen or 25.2 billion Japanese Yen in three years.

3) Scope of the DSMP

The OECF - DSMP is a credit facility under the 19th Year Loan Package of the Overseas Economic Corporation Fund. This program is a policy-based lending project to support investments of enterprises engaged in domestic shipping and shipping related industries. The financing scope is defined as follows:

- a) The Development Bank of the Philippines (DBP) is the implementing agency of the DSMP. DBP plays the lender's role of the two step loan originally financed by OECF.
- b) Eligible borrowers under the DSMP are Filipino Citizens or Corporations who are duly accredited by concerned agencies of the government to engage in the business of domestic shipping; ship repair/shipbuilding; cargo handling and related terminal operations.

c) Possible Investment Projects include:

- acquisition of vessels, whether for replacement of a vessel to be condemned or for fleet expansion (replacement vessels would be preferred and these may be new building or second-hand vessels);
- conversion or modification of vessels;
- upgrading the technical standards of vessels or bringing a vessel into class; and
- shipyard modernization/expansion, where eligible purposes for financing are land improvements, acquisition of machinery and equipment, construction/expansion of dry docking facilities, necessary services and initial working capital.

d) Projects requested for financing shall undergo a technical evaluation process such as the adaptability of the vessel to the route, port, cargo handling, etc. All the vessels financed must be classed by any MARINA recognized classification society.

e) All projects under the DSMP have to comply with applicable laws and regulations governing environmental protection.

f) Each project loan ranges within the following amount:

Minimum	-	500,000 pesos	or	US\$20,000
Maximum	-	375 million pesos	or	US\$15 million

g) The variable interest rates are in principle, the WAIR minus 2% but not lower than 12%. "WAIR" means the Weighted Average Interest Rate of 91 - day Treasury Bills.

h) Repayment of sub-loan maturities shall range from 3 to 15 years, inclusive of the maximum grace period of 5 years.

APPENDIX 6

COMPARATIVE VESSEL OPERATING COSTS

6.1 Assumptions - Financial Costs of General Cargo Vessels

The financial operating costs per ton of cargo for coastal shipping vessels of various sizes (1,000, 3,000, 5,000 and 10,000 dwt) have been estimated for haulage from Saigon to Haiphong, a distance of 821 miles (1,520 km).

Variable costs include costs of

- fuel which have been estimated from the expected number of days spent in port loading and unloading, and at sea for this movement,
- port charges based on current charges at the two ports for domestic shipping (excluding loading and unloading charges), and
- other voyage expenses.

Fixed costs consist of

- seafarers' salaries,
- vessel maintenance costs,
- depreciation contribution, and
- vessel registration/tax and insurance.

Note that on-shore costs of business administration, including agency fees and overheads are not included.

Certain assumptions are common to all vessels. These include:

Fuel Price assumed to be VND 2,700 and 1,450 per litre for diesel and fuel oil respectively.

Salaries in VND per month assumed to be

- (a) 2,500,000 for captains and engineers
- (b) 2,000,000 for officers
- (c) 1,500,000 for ratings

Operating days per year assumed to be 300

Annual Fixed Costs (% of second hand value at 12 years)

Repair	5.0
Depreciation	12.0
Vessel Registration/Tax	2.6
Vessel insurance	1.1
TOTAL	20.7

Interest charges are not included because few operators incur capital charges at present. Other assumptions vary in accordance with vessel and are summarised in Table A6.1.

Table A6.1
**SUMMARY OF FINANCIAL COST ASSUMPTIONS
 FOR EACH GENERAL CARGO VESSEL TYPE**

Vessel Characteristics				
dwt	1,000	3,000	5,000	10,000
grt	868	2,000	3,000	6,000
h.p.	900	2,500	3,800	6,000
Cargo carried (ton)	900	2,700	4,500	9,000
Second-hand Price (12 years old, VND million)	11,000	17,000	31,000	53,000
Fuel Oil Consumption/day (thousand litres)				
- At sea	0.0	6.0	9.0	15.0
- In port	0.0	0.0	0.0	0.0
Diesel Oil Consumption/day (thousand litres)				
- At sea	4.0	0.6	0.8	1.0
- In port	0.4	0.6	0.8	1.0
Speed (knots)	8	8	10	10
Seafarers/ships				
Captain/engineer	2	2	2	2
Officers	8	8	10	10
Ratings	13	13	17	17
Journey Characteristics				
Days at sea	4.3	4.3	3.4	3.4
Days in port	3.0	6.0	9.0	16.0

Results - Financial Costs

The results of the financial cost estimate are shown in Table A6.2. The lowest overall cost per ton is obtained with vessels of 3,000 or 5,000 dwt, at about VND 80,000 per ton, whereas the highest is obtained with 1,000 dwt. The cost of the 10,000 dwt vessel is intermediate in value, reflecting increasing fixed costs due to longer loading and unloading times. The latter type of vessel would become more cost effective if the loading and unloading times were reduced using more efficient, specialised port facilities.

Table A6.2
**FINANCIAL OPERATING COSTS OF GENERAL CARGO SHIPS
 OF VARIOUS SIZE (VND THOUSAND/VOYAGE)**

Cost Item	Size of Vessel			
	1,000 dwt	3,000 dwt	5,000 dwt	10,000 dwt
Variable Costs				
- Fuel Oil	0	37,410	44,370	73,950
- Diesel Oil	49,680	16,740	26,780	52,380
- Loading Port Charges	4,400	9,100	14,870	37,700
- Unloading Port Charges	3,700	7,500	12,500	32,900
- Other Voyage Costs	1,000	1,000	1,000	1,000
Total Variable	58,780	71,750	99,520	197,930
Fixed Costs				
- Seafarers	11,990	16,920	25,390	39,720
- Depreciation	32,120	70,040	153,760	411,280
- Repairs, Tax, Insurance	23,290	50,780	111,480	298,180
Total Fixed	67,400	137,740	290,630	749,180
TOTAL VOYAGE COSTS	126,180	209,490	390,150	947,110
COST PER TONNE	140.2	77.6	86.7	105.2

6.2 Assumptions - Economic Costs of General Cargo Vessels

The economic operating costs differ from financial costs because taxes and other transfer payments are excluded (because these payments do not represent consumption of resources). The main tax affecting coastal shipping operating costs is diesel fuel tax which is levied at 20% of the CIF price. Shipping companies pay other registration fees/taxes amounting to about 2.6% of the value of the vessel (see assumptions described earlier). Adjustments are made to remove these taxes in the estimates below.

Economic operating costs have been estimated for the average length of haul expected in future years (about 1,000 km for dry cargo according to the demand forecasts), and for three sizes of general cargo vessel (1,000 dwt, 1,500 dwt and 3,000 dwt). The 1,000 dwt vessel represents the average size of vessel used for coastal shipping at the present time, while the 1,500 dwt vessel represents the average size (excluding tankers) expected in 2010 following implementation of the master plan recommendations (under the Alternative 3 fleet development plan). The costs for 1,000 dwt and 3,000 dwt vessels are based on the financial cost analysis described earlier whereas the costs for the 1,500 dwt vessel is estimated by interpolation.

A summary of the main cost assumptions is given in Table A6.3. The average load factor is assumed to be 60% (for the round trip), corresponding to the expected future loading conditions. In addition allowance is made for overhead costs (20% of other costs included in the economic operating costs). Note that depreciation is not included to avoid double counting capital costs in the economic evaluation. Insurance costs are also excluded to avoid double counting accident costs in the economic evaluation.

The results of the cost calculations are shown in Table A6.4.

Table A6.3
**SUMMARY OF ECONOMIC COST ASSUMPTIONS
 FOR EACH GENERAL CARGO VESSEL TYPE**

Vessel Characteristics			
dwt	1,000	1,500	3,000
grt	868	n/a	2,000
h.p.	900	n/a	2,500
Cargo carried (ton)	600	900	1,800
Second-hand Price (12 years old, VND million)	11,000	n/a	17,000
Fuel Oil Consumption/day (thousand litres)			
- At sea	0.0	n/a	6.0
- In port	0.0	n/a	0.0
Diesel Oil Consumption/day (thousand litres)			
- At sea	4.0	n/a	0.6
- In port	0.4	n/a	0.6
Speed (knots)	8	n/a	8
Seafarers/ships			
Captain/engineer	2	n/a	2
Officers	8	n/a	8
Ratings	13	n/a	13
Journey Characteristics			
Days at sea	2.8	n/a	2.8
Days in port	3.0	n/a	6.0

Table A6.4
**ECONOMIC OPERATING COSTS OF GENERAL CARGO SHIPS
 OF VARIOUS SIZE**

Cost Item	Size of Vessel		
	1,000 dwt	1,500 dwt	3,000 dwt
Variable Costs (VND thousand / voyage)			
- Fuel Oil	0		24,400
- Diesel Oil	27,900		11,900
- Loading Port Charges	4,400		9,100
- Unloading Port Charges	3,700		7,500
- Other Voyage Costs	1,000		1,000
Total Variable	37,000		53,900
Fixed Costs (VND thousand / voyage)			
- Seafarers	9,530		14,460
- Repairs	10,630		24,930
- Overheads	11,400		18,700
Total Fixed	31,560		58,090
TOTAL VOYAGE COSTS (VND thousand)	68,560	77,500	111,990
COST PER TONNE (VND thousand)	114.3	86.1	62.2
COST PER TONNE KM (VND)	114.3	86.1	62.2

6.3 Assumptions - Financial Costs and Revenues of Liner Service Vessels

The financial operating costs and revenues of coastal shipping vessels on liner services on the main north - south corridor have been estimated for the following:

- a) a 1,000 dwt vessel operating between Saigon and Hanoi,
- b) a 2,000 dwt vessel operating between Saigon and Hanoi for three months per year and between Saigon and Haiphong for the remaining nine months,
- c) a 3,000 dwt vessel operating between Saigon and Haiphong, and
- d) a 5,000 dwt vessel operating between Saigon and Haiphong.

Similar cost assumptions have been made as for the general cargo vessels described above but allowance has been made for

- the use of more modern vessels with lower operating costs and higher performance (higher utilisation and speed),
- carrying capacity for specific cargoes, including containers,
- more efficient cargo handling at ports,
- costs of loading and unloading, agency fees, container provision, administration and overheads, and profits tax.

Revenue has been estimated taking account of potential charges that could be levied for the main cargoes. These charges would vary with the following factors.

- rates of competing road and rail services,
- rates of competing tramper (and even other liner) shipping services,
- packing characteristics, especially volume/weight and whether special handling costs are involved (for example, using container cranes),
- cargo nature, such as whether refrigerated storage or special handling for dangerous goods is required,
- cargo value, which would determine what the customer might be willing to pay for transport.

Based on the charges described in Table 1.3.8 of the Maritime Transport Industry report, the following charges are assumed:

- Containers (20') Hanoi-Saigon VND 9,300, Haiphong-Saigon VND 8,000
- Rice (per ton) Hanoi-Saigon VND 188, Haiphong-Saigon VND 150
- Cement (per ton) Hanoi-Saigon VND 200, Haiphong-Saigon VND 160
- Other general cargo (per ton) Hanoi-Saigon 380, Haiphong-Saigon VND 260.

Two sets of costs and revenues have been estimated. The first estimates the average annual costs and revenues for each of the four types of vessel/route combination defined above, allowing for depreciation and interest charges (assuming amortisation over an eight year life of vessel, purchased at the age of 12 years, and a real interest rate of 10%, which is similar to current interest rates). The second set of costs is for a 3,000 dwt vessel only, and gives the annual costs from 1997 to 2000 assuming annual inflation of 7%. Capital charges are estimated assuming that the vessel is purchased under either (a) a nominal interest rate of 15% and a repayment period of four years,

similar to the terms available in Vietnam from domestic banks at present, or (b) a nominal interest rate of 12% and a repayment period of six years following a grace period of two years (similar to the preferential terms that could be offered if ODA finance was made available).

The cost assumptions are summarised in Table A6.5.

The annual costs for each vessel for shown in Table A6.6. The container costs were estimated assuming that second-hand containers, of average cost US \$ 582 (including shipping cost to Vietnam), are depreciated over four years. Three times the maximum number on board the vessel are assumed to be purchased. Annual maintenance costs of containers is VND 500,000 per container per year. Administration cost is based on the minimum number of management and administrative staff, plus office costs, required to run the shipping operation with between one and three ships. An average of two ships is assumed to be owned in practice. Profit tax is assumed to be paid at 25% after deduction of depreciation and interest charges on vessel and containers. A 60% load factor and 329 working days per year were assumed.

The annual costs from 1997 to 2000 for the 3,000 dwt vessel are shown in Table A6.7. All costs and revenues are assumed to increase by 7% per year except for depreciation (which is estimated at 12% per year), interest payments (which are based on the loan value) and tax (which is based on profits after depreciation and interest charges). Overall profits after deduction of capital repayments, but excluding depreciation, are indicated.

Table A6.5
SUMMARY OF FINANCIAL COST ASSUMPTIONS
FOR EACH LINER VESSEL SIZE

Vessel Characteristics				
dwt	1,000	2,000	3,000	5,000
grt	1,000	1,760	2,800	4,200
h.p.	980	1,400	1,900	3,200
North-bound Cargo Carrying Capacity (ton)				
- rice	300	670	900	1,830
- general cargo	75	167	220	460
- containers (12ton/TEU)	288	672	720	1,008
South-bound Cargo Carrying Capacity (ton)				
- cement	95	210	285	580
- general cargo	220	490	660	1,350
- containers (12ton/TEU)	288	672	720	1,008
Second-hand Price (12 years old, VND million)	15,400	22,000	29,700	42,900
Fuel Oil Consumption/day (thousand litres)				
- At sea	3.8	5.0	6.0	9.0
- In port	0.0	0.0	0.0	0.0
Diesel Oil Consumption/day (thousand litres)				
- At sea	0.3	0.4	0.6	0.8
- In port	0.3	0.4	0.6	0.8
Speed at Sea (knots)	11	11	11	11
Speed in River (knots)	8	8	n/a	n/a
Seafarers/ships				
Captain/engineer	2	2	2	2
Officers	8	8	8	10
Ratings	13	13	13	17
Voyage Characteristics for Round Journey				
Days at Sea (Saigon/Hanoi)	7.4	7.4	n/a	n/a
Days at Sea (Saigon/Haiphong)	n/a	6.2	6.2	6.2
Days in port	6.0	8.0	10.0	16.0

Table A6.6
FINANCIAL COST ESTIMATES FOR VARIOUS SIZES OF LINER VESSELS
(VND Million per Year per Vessel)

dwt	1,000	2,000	3,000	5,000
Revenue	9,356	14,974	16,570	19,213
Operating Cost				
Port charges	455	358	411	526
Fuel expenses	762	853	977	1,144
Agency fees	67	106	110	128
Stevedorage	731	2,033	2,347	2,989
Container crane	28	61	58	0
Others	80	100	120	150
Total Operating Costs	2,123	3,511	4,023	4,937
Fixed cost				
Crew	434	438	438	545
Repair	770	1,100	1,485	2,145
Vessel tax	400	572	772	1,115
Insurance	169	242	327	472
Container provision	370	884	959	1,372
Administration	1,840	1,840	1,840	1,840
Interest	892	1,298	1,735	2,504
Depreciation	1,848	2,640	3,564	5,148
Total Fixed Costs	6,723	9,014	11,120	15,141
Grand Total	8,846	12,525	15,143	20,078
Pre tax Income	510	2,449	1,427	-865
Tax	127	612	357	0
Net Profit	383	1,837	1,070	-865

Table A6.7
ANNUAL COSTS AND REVENUE FOR 3,000 DWT LINER VESSEL
(VND Million per Year per Vessel)

	1997	1998	1999	2000
Revenue	16,570	17,730	18,971	20,299
Operating Cost	4,023	4,305	4,606	4,928
Fixed Ship Cost	3,022	3,234	3,460	3,702
Container Cost	959	1,026	1,098	1,175
Administration	1,840	1,969	2,107	2,254
Depreciation	3,564	3,564	3,564	3,564
Interest (15% per year) ⁽¹⁾	3,600	2,700	1,800	900
Profit Before Tax	-438	932	2,336	3,776
Tax	0	233	584	944
Profit Before Capital Repayment	-438	699	1,752	2,832
Profit After Capital Repayment ⁽¹⁾	-2,874	-1,737	-684	396
Profit After Capital Repayment (With Concessionary Finance) ⁽²⁾	3,776	4,128	866	1,631

NOTE (1) Assuming VND 24 billion is borrowed (80% of the value of the vessel when purchased), repayable over four years. Profit after capital repayment excludes depreciation provision.

(2) Assuming VND 24 billion is borrowed, repayable over six years following a grace period of two years, with an interest rate of 12%.