4.4.5 Management Aspects

Generally, capital sources for the transport sector include state budget, credit loans and foreign aid, cooperation and joint venture capital, income from transport activities, etc. For inland waterway sector, VIWA collects fees from shippers/carriers involved in transport activities such as port operation, waterway transport, ship repair services, and dredging. Shippers/carriers are public operators, several cooperatives and numerous small and independent private operators.

The tariff for inland waterway transport is stipulated by the Government Pricing Committee and arrived at by taking into account the distance, commodity value and type of waterway through which cargoes are transported (see Table 4.4.10).

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

Item		River 1 Type 1 ^{4/}	River 2 Type 2 ^{4/}	River 3 Type 4 ^{4/}
Lin to 20 km	Cargo 1 ^{1/}	19,700	19,700	19,700
(VND/ton)	Cargo 2 ^{2/}	21,600	21,600	21,600
	Cargo 3 ^{3/}	23,900	23,900	23,900
			(x 1.5)	(x 3)
31 km	Cargo 1 ^{1/}	135	202.5	405
(VND/ton)	Cargo 2 ^{2/}	148	222	444
	Cargo 3 ^{3/}	162	243	486

Table 4.4.10 Inland Waterway Transport Charges

Source: Government Price Committee, 1995

1/ Various types of coal, soil, sand, gravel, and bricks

2/ Tile, food in bag, stone and termite killer

3/ Fertilizer, insecticide, cement, and salt

4/ For river type 2, the charge is equivalent to 1.5 km of river type 1; and for river type 3, 1km is equivalent to 3 km of river type 1

For transport operators using inland waterway, VIWA charges tonnage fee, formality fee, pilot fee, river vessel support fee, and fines, while individual port operators levy cargo-handling charge, storage fee and berthing fee (see Table 4.4.11). 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.

Cargo-handling charges depend on cargo categories and handling procedures. The highest cargo type is composed of wood and boxed cargo weighing more than 200 kg, while cargo unloaded from the ship/barge and brought to the storage area is charged the highest. Container cargo is treated separately.

Moreover, port operators and shippers/carriers negotiate tariff rates within government-stipulated rates, but these may also change depending on the season.

Table 4.4.11 IWT Fees and Charges

	Fees	Rate
1)	Tonnage fee for every entrance and	VND 150 per ton capacity
	exit of vessels	
2)	Minimum pilotage (entry and exit)	VND 100,000
3)	Waiting fee for pilot per hour	VND 12,000
4)	Procedural fee (entry and exit,	VND 5,000 – 40,000
	depending on vessel tonnage)	
5)	Cargo handling charge	VND 7,500 – 28,000 per ton depending on
		commodity type in the case of ship/barge to
		storage
6)	Container handling charge	VND 250,000 per stuffed container 20'
		VND 370,000 per stuffed container 30'
		in the case of ship/barge to yard
7)	Storage fee	VND 100 – 200 per ton/day
		VND 1,000 – 3,000 per container/day
8)	Wharfage	VND 6 per GRT/hour
		VND 800 per ton
		VND 500 per passenger
9)	Navigational aids fee	VND 2,500 per HP – hour
Sou	Irce: VIWA	

The business environment in the sector is severe due to strong competition. In addition, because of poor lighting and navigational aids, the available productive time for transport is reduced, and the cost effectiveness of investment is not considered high.

4.5 **Port and Shipping**

4.5.1 Administrative Framework and Industry Profile

Vietnam National Maritime Bureau

The administrative duties and functions of Vietnam's maritime transportation subsector are under the mandate of VINAMARINE. This organization is authorized to assume governmental responsibilities over the administration of maritime activities and agencies including port authorities, search and rescue (SAR) operations and registration of seagoing vessels and seafarers (see Figure 4.5.1). On behalf of the MOT and directly reporting to the Prime Minister, the VINAMARINE chairman administers the maritime subsector throughout the country including all state-run maritime enterprises, organizations and individuals. However, the Bureau's administrative management is weak, perhaps due to its equally weak institutional organization and regulatory functions and the lack of expertise in shipping. A recent VINAMARINE report indicates a proposal submitted to the MOT for the Bureau's administrative mechanism, (2) reinforcement of maritime administrative apparatus at all levels and (3) training of government officers.

This proposal led to the MOT's issuance of Directive No. 356/1998/CT-BGTVT dated 3 November 1998, which addresses the intensification of administrative reform in the transport subsector. VINAMARINE then issued notification 1950/TB-CHHVN dated 14 December 1998 to all its units in compliance with the MOT directive. Under the new directive and notification, a more effective and enhanced administration of the maritime subsector is expected in the near future.

Vietnam National Shipping Lines

VINALINES was established on 1 January 1996 in accordance with the Prime Minister's Decision No. 250/TTg dated 4 April 1995. To pursue organizational reform, operational management and commercial functions were transferred from VINAMARINE to VINALINES (see Figure 4.5.2 and Table 4.5.1). As a result, a number of SOEs, many of them leading ocean-going and coastal shipping companies in Vietnam, such as VOSCO, VITRANSCHART, VINASHIP, and FALCON, were placed under VINALINES. One of the organization's major functions is to operate five major ports in Vietnam, namely, Hai Phong, Quang Ninh, Danang, Saigon, and Can Tho, and the respective companies operating in their ports.





Figure 4.5.2 Organizational Chart of VINALINES



Scope	Specific Organization/Area
Port Operators	(1) Hai Phong Port (port and container terminal operation)
·	(2) Quang Ninh Port (port operation)
	(3) Danang Port (port operation), joined in 1997
	(4) Saigon Port (port and container terminal operation)
	(5) Can The Port (port operation) joined in 1997
Shipping Companies	(1) Vietnam Ocean Shipping Agency (V/OSA)
ompanies	(2) Vietnam Maritime Development Corporation (VIMADECO)
	(2) Vietnam Container Shipping Company, Hai Dhong (VIICONSHID HD)
	(4) Vietnam Container Shipping Company – Flar Florig (VICONSHIP FIF)
	(4) Vietnam Container Shipping Company – Salgon (VICONSHIF SG)
	(5) Manume momalics and rechnology Company (MITECO)
	(b) Hanoi Mantime Trading Center (MATRA – T)
	(7) International Labor Cooperation Company (INLACO Salgon)
	(8) Maritime Supply and Service Company (MARISERCO)
	(9) International Labor Cooperation Company (INLACO Hai Phong)
	(10) Marine Technical Material Import/Export & Supply Company
	(11)Marine Import/Export and Trading Company (MARIMEX)
	(12)Marine Servicing Company (MASERCO)
	(13)Marine Trading and Servicing Company (TRAMASCO)
	(14)Marine Trading Center No.2 (MARTA 2 – Nha Trang)
Service Companies	(1) Vietnam Ocean Shipping Agency (VOSA)
	(2) Vietnam Maritime Development Corporation (VIMADECO)
	(3) Vietnam Container Shipping Company – Hai Phong (VICONSHIP HP)
	(4) Vietnam Container Shipping Company – Saigon (VICONSHIP SG)
	(5) Maritime Informatics and Technology Company (MITECO)
	(6) Hanoi Maritime Trading Center (MATRA – 1)
	(7) International Labor Cooperation Company (INLACO Saigon)
	(8) Maritime Supply and Service Company (MARISERCO)
	(9) International Labor Cooperation Company (INLACO Hai Phong)
	(10) Marine Technical Material Import/Export & Supply Company
	(11) Marine Import/Export and Trading Company (MARIMEX)
	(12) Marine Servicing Company (MASERCO)
	(13) Marine Trading and Servicing Company (TRAMASCO)
	(14) Marine Trading Center No 2 (MARTA 2 – Nha Trang)
Joint Venture Holding &	(1) GEMATRANS (Vietnam) Co. Ltd : Feeder service operator liner
Subsidiary Companies	agency and container-related service provider with CGM- France
Cuberarary Companies	(2) Vietnam- Japan International Transport co. 1 td. (VLIACO): Freight
	forwarder CES operator, truck and warehouse operators, with group of
	lananese companies
	(3) Vinabridge Co. Ltd : Freight forwarder, truck and warehouse operator
	shipping agency and CES operator, with K-Line of Japan
	(4) Phili Orient Lines Vietnem Ltd. Freight forwarder with Singapore partner
	(5) Hanoi Maritima Commercial Conter (HCMC): Hotel and office
	(5) Tranoi Manume Commercial Center (TICMC). The and once
	apartment services (with foreign partment)
	ipland container depet operator, chipping accord, trucking and
	manu container depot operator, snipping agency, trucking and
	warenouse operator and treight forwarder
	VINALINES' Consulting Company: Marine consulting firm

Table 4.5.1 Business Activities of VINALINES

Source: VINALINES

Since its inception, VINALINES has expanded its business activities in shipping, port operation and other services with the objective of improving cargo-handling capacity and increasing transportation capacity. Together with its member companies, VINALINES has become a major stockholder in several joint-venture and holding companies in the maritime industry and has grown to be one of the top economic groups in Vietnam.

Other Related Organizations

Under VINAMARINE, there are two organizations on maritime safety and ship registration. They are Vietnam Maritime Safety Agency (VMSA) and Vietnam Maritime Register (VMR) (see Figure 4.5.3 and Figure 4.5.4).

The VMSA was created on 1 January 1995 with the primary responsibility of providing conventional aid to navigation services. The VMR, on the other hand, started as a section in 1964 and was upgraded as a bureau on 19 July 1979. In 1990, VMR started the technical supervision and classification of offshore installations.

On 16 December 1998, Notice No. 1959/CHHVN-TTATHH was issued, informing everyone concerned that the Vietnamese government and the MOT has signed the Memorandum of Understanding (MOU) on Port State Control in the Asia-Pacific region in Tokyo on 1 December 1998. This MOU took effect on 1 January 1999. As a result, Vietnam adopted Resolution A.787 (19) of the International Maritime Organization (IMO) on port state control procedures, thereby intensifying the roles and functions of the VMSA and VMR.

In aiming for "safe ships and clean seas" and the elimination of substandard ships, both organizations are required to improve procedures on ship inspection, issuance of certificate and marine safety enforcement.

Port Administration

Port administration and management are under VINAMARINE, VINALINES, local governments (provinces and cities), state-owned corporations organized and operated by other central government ministries, provinces and cities, and the private sector:

- 1) VINAMARINE: It manages three ports, namely, Nghe Tinh Port, Qui Nhon Port and Nha Trang Port.
- 2) VINALINES: It operates five ports including Hai Phong, Quang Ninh, Danang, Saigon, and Can Tho.



Figure 4.5.3

Source: VINAMARINE, September 1999

Figure 4.5.4 Organizational Chart of the Vietnam Maritime Registry



Source: VINAMARINE, September 1999

- Local governments: Around 20 existing general ports are managed by local governments. Of these, cities manage three ports (Cua Cam Port by Hai Phong, Ben Nghe and Binh Duong ports by HCMC). Some provincial ports are handling a considerable volume of cargo.
- 4) State-owned corporations organized and operated by other central government ministries: State-owned corporations under other ministries have many specialized ports for efficient shipment. The representative ports are listed in Table 4.5.2.

Responsible Ministry	Ports	Operational Characteristics
Ministry of Industry	Cam Pha Port	Export and domestic loading of
	Hong Gai Port	coal from Hong Gai mine
	Dien Cong Port	
	Phai Lai Port	Import and domestic unloading of
		coal and oil for power plants
Ministry of Trade	B 12 Port	Import of refined oil and its
	My Khe Port	domestic distribution
	Nha Be Port	
Ministry of Agriculture &	Nha Be Vegetable	Domestic export of main
Rural Development	Port	agricultural products such as rice,
		etc.
Ministry of Construction	Chin Phong Port	Handling of construction
	Hoang Thach Port	materials, i.e. cement, sand
	Nghi Son Port	gravel
	Kien Luong Port	

Table 4.5.2 Specialized Ports under other Ministries

- 5) Public corporations organized and operated by provinces and cities: Like stateowned corporations, some publicly owned corporations under the control of provinces and cities have specialized ports. For example, Hong Khoi Port is managed by a salt company under the control of Khanh Hoa province.
- 6) New Saigon Port: It should be noted that this port does not belong to any of the above categories since it is managed by the Ministry of Defense, yet the port itself functions as a general port.
- 7) Private sector: A joint venture project, Ba Ria Serece Port, established by French, Norwegian and local Vietnamese investors at Phu My, is the first port in Vietnam to have private sector investors. It commenced operation in 1996. The Vietnam International Container Terminal (VICT) is the second port and a joint venture of Singaporean, Japanese and Vietnamese state corporations. It is located beside Tan Thuan Industrial Zone in HCMC and started operation in November 1998.

Shipping and Related Industries

There are different types of shipping operators and related service companies, namely: (1) state-owned operators, (2) local government operators, (3) joint-venture operators, (4) public and private operators, and (5) shipping-related service companies.

- State-owned operators: Vietnam Ocean Shipping Company (VOSCO), Vietnam Sea Transport and Chartering Company (VITRANSCHART), Vietnam Shipping Company (VINASHIP) and FALCON Shipping Company (FALCON) under VINALINES are the major players in the country's shipping industry, where there are about 70 state-owned operators. These four operators own 48 vessels (including six foreign-registered vessels) or 568,030 DWT in total.
- 2) Local government operators: Hanoi Maritime Transport Company in Hanoi, Danang Maritime Transportation and Commercial Services Company in Danang and Saigon Shipping Company in HCM City are major operators owned by local governments. They are engaged in sea-cum-river and coastal shipping, and even overseas shipping.
- 3) Joint-venture operators: Some joint-venture operators were established, particularly in container feeder services. Successful cases include GEMATRANS established in 1989 between VINALINES and a French partner (CGM), APM -Saigon Shipping established in 1997 between Saigon Shipping and a Danish partner (AP Moller) and TRANSVINA established in 1998 between VINALINES and a Japanese partner.
- 4) Public and private operators: In the north, six inland and sea-cum-river transport companies and four river port operators organized NOWATRANCO (Northern Waterway Transport Corporation in Hanoi). It is reported that some shipping cooperatives are mainly engaged in domestic operation, while some private operators assign their fleet to foreign and domestic shipping, such as the Mekong Shipping Company which has two cargo vessels (1,232 DWT and 22,140 DWT).
- 5) Shipping-related service companies: Shipping-related services may encompass forwarding, warehousing, CFS operation, and trucking. In this field, VINALINES holds 14 state-owned companies, such as Vietnam Overseas Shipping Agency (VOSA) and International Labor Cooperation Company (INLACO), and five jointventure companies such as Vietnam-Japan International Transport Co., Ltd. (VIJACO) and Vinabridge Co., Ltd.

4.5.2 Existing Port System

Vietnam's ports are grouped based on geographic region – north, central and south. Each region has major general port(s), small subordinate ports and independent industrial and private ports (see Figure 4.5.5, Table 4.5.3 and Table 4.5.4). In the north, Hai Phong Port has functioned as a gateway port ever since it began operations in 1876 with only a 60-m long quay wall. Its physical nature as a river port, however, hardly allows large vessels of more than 7,000 DWT to call at the port. The port also requires substantial and continuous dredging to maintain its access channel. Under such circumstances, Cai Lan Port, 40 km northeast of Hai Phong, was proposed as an alternative deep-sea port in the first master plan in 1970 done by the former USSR. After several revisions of the port development plan, three additional berths are now being constructed to supplement the existing one. In the course of planning, designing and construction, there has been an increasing awareness to preserve the precious heritage of Ha Long Bay's environment.

Besides the two ports, there is a local port network that includes small river ports such as Ninh Phuc, Hanoi, Viet Tri, and Nam Dinh. Industrial ports for special cargo, such as coal, cement and oil, are also located along the sea and river.

In central Vietnam, Danang Port's function as a gateway has decreased since the country's reunification. But due to the area's small population and insufficient industrial establishments in the hinterland, the port's throughput is far behind from that of Hai Phong and Saigon ports, even though the Tien Sa jetties can accommodate vessels of 30,000 DWT. Port development is very active in the region. The existing facilities at Danang Port are being expanded with the construction of a specialized container heavy-lift pier (adjacent to the Tien Sa jetties). Port development, however, will have to overcome present problems such as high tidal waves, narrow cargo-handling area and a weak access road to the city center. With port improvement and/or additional infrastructure, the three other major ports serving the long central coastline – Cua Lo, Qui Nhon and Nha Trang – can receive vessels of 10,000 DWT throughout the year. But with the limited traffic demand at present, the region needs industrial boom towns and transshipment/transit ports to generate sufficient traffic demand in many places such as Vung Ang, Chan May, Lien Chieu, Dung Quat, Van Phong, etc.

In the south, Saigon River, the busiest navigational route, has numerous ports and can accommodate various kinds of vessels and barges with capacity up to 20,000 DWT. Saigon Port, established in 1860, is the most important port in the country. Located in Ho Chi Minh City, it can hardly modernize due to narrow cargo-handling space and congested road traffic outside. Since Saigon River cannot accommodate the bigger, modern overseas shipping vessels, the Vung Tau – Thi Vai Port area is becoming a focal point for planning new deep sea port facilities. Although there are already many private ports and some small public ports in operation, there is no alternative to Saigon Port yet.

Similarly, many ports are distributed in the Mekong delta. Among them, the largest and most promising is Can Tho Port which, after its rehabilitation and expansion, will allow direct export of agricultural and fishery products to neighboring countries. With a well-developed inland waterway network, other delta ports, such as Vinh Thai, Cao Lanh, My Tho, Nam Can, My Thoi, etc., can be effectively linked to Can Tho Port and Ho Chi Minh City port groups.



Figure 4.5.5 Existing Port Systems in Vietnam

Table 4.5.3 Port Facilities in Vietnam

No.	Owner	Berth Length (m)	Berth Area (m ²)	Storage Area (m ²)	Terminal Area (m ²)
1	MOT	8,267	137,827	183,585	780,590
2	Province	2,288	48,993	52,420	170,400
3	Joint Venture	2,059	35,977	81,542	76,823
4	Other Ministries	7,544	85,500	525,947	1,156,113
	Total	20,154	307,797	843,494	2,183,926

Source: MOT-TDSI, 1998

Table 4.5.4
Facilities in the Three Main Ports

		Borth Longth	Type of Sh	Type of Ship Accommodated		
Port	Terminal	(m)	Max. Size (DWT)	Cargo Handled		
<u>Hai Phong</u> Total Storage: 431,800 m ²	Hoang Dieu (conventional)	1,300	10,000	General, Bagged, Bulk		
Jib Cranes: 35 Reach-Stackers: 7	Hoang Dieu (container)	410	10,000	Container, General, Metal		
Floating Cranes: 2	Vat Cach	311	10,000	General, Bagged, Bulk, Metal		
	Doan Xa	200	10,000	General, Bagged, Bulk, Liquid		
	Chua Ve	335	10,000	Container, General		
Danang	Tien Sa	732	30,000	Container, Passenger		
Total Storage: 186,225 m ²	Song Han (1,2)	235	5,000	Container, Passenger		
Mobile Cranes: 16	Song Han (3,4,5)	465	3,000	General, Passenger		
Forklift, Reach-S: 16	Song Han (6,7,8)	273		General		
Saigon	Nha Rong	689	30,000	General, Passenger		
Total Storage: 500,000 m ²	Khanh Hoi	1,389		General, Passenger		
Mobile Cranes: 2	Khanh Hoi B	140		Bulk		
Jib Cranes: 7 Forklift, Reach-S: 86	Tan Thuan	713		Roro, Container, Bulk		

Port Tariff

Decision No. 127/VGCP-CNTD.DV dated 28 October 1997 set forth port tariffs for international cargo ships. Normal operation in ports starts at 07:00 and ends at 17:00 on weekdays. With excess charges ranging from 20-50%, ports provide year-round, 24-hour services. Different port tariffs are set forth, especially in container cargo handling (see Table 4.5.5).

Cargo-handling charges depend on cargo categories and handling procedures. The types of cargo attracting the highest fees per ton are fresh fruits, live animals and frozen goods. Cargo unloaded from the ship/barge and brought to the storage/yard is charged especially high rates for handling. Vehicles and containers are treated separately.

Meanwhile, Decision No. 128/VPCP-CNTD.DV dated October 1997 set forth port tariffs for domestic cargo vessels. Some tariffs, such as tonnage fee and navigational aids, are extremely low for Vietnamese vessels - only 5-15% of the rate applied to overseas shipping.

Table 4.5.5 Port Tariffs

	Item	Rate
1)	Tonnage fee for every entrance and exit of vessels	US\$ 0.1 per GRT
2)	Navigational aids fee (channel due) for every	US\$ 0.209 – 0.282 per GRT
	entrance and exit of vessels	
3)	Pilotage fee	US\$ 0.00232 – 0.0032 per GRT.NW
		or minimum fee (US\$)100-170
4)	Towage fee	US\$ 0.34 x HP x hours
		(tug boat less than 500 HP)
5)	Moving/unmoving fee	US\$ 10 – 149 depending on ship size and
		either at buoy or at berth
6)	Berthing (Dockage) fee	US\$ 0.0035/GRT for ship
		US\$ 0.3/ton for cargo; US\$ 2/person for
		passenger
7)	Charge for opening and closing hatch covers	US\$6.5 – 36.5/time
•		depending on ship size and service type
8)	Garbage removal	US\$ 20 at berth; US\$ 50 at buoy and bay
9)	Water supply charge	US\$ 2.5/m° at berth; US\$ 3.5/ m° at buoy and
4.0	0	bay
10)	Cargo tallying fee	US\$ 0.25 – 0.50 per ton by cargo type
11)	Cargo handling charge	US\$ 2.9 – 6.46 ton depending on commodity
		type in the case of ship/barge to
40)		warehouse/yard
12)	Vehicle handling charge	US\$ 25 – 70 per unit
13)	Container handling charge	US\$ 50 – 57 per 20' stuffed container,
		US\$ 76 – 85 per stuffed 40' container, both in
4.4)	Otana na fa a	the case of snip/barge to warehouse/CY
14)	Storage tee	US\$ 0.2/ton-day; US\$ 2.0 - 4.5/stuffed
45)	Dress dura sharra	
15)	Procedure charge	600 GRT of less US\$ 20/call
		601 – 1000 GRT US\$ 50/call,
16)	Other miscellaneous charges	
10)	Water transport charge in port	
	- Charge for hiring labor	
	- Charge for renting equipment	
	- Charge for occupying berth (not for handling	
	cargo)	
	- Charge for repairing package of cargo	

Source: VINAMARINE

Identified Problems

Administratively, there are eight major general ports and port areas including Hai Phong, Quang Ninh (Cai Lan, etc.), Nghe Tinh (Cua Lo, etc.), Danang, Quy Nhon, Nha Trang, Saigon, and Can Tho. They are required to support the country's industrialization and modernization so as to allow the country to become a competitive player in the global market. They are, however, unproductive and less competitive due to the following reasons:

- Port area is small: The total length of berths in the eight ports/port areas of 8,267 m is, for example, roughly equal to Tanjung Priok Port in Jakarta (8,911 m), Port Klang (8,648 m), Manila Port (7,592 m). Vietnamese general ports are small. Worse, the country's two main ports, Hai Phong and Saigon, suffer from limited land area for berth surface, storage and terminal due to congested urban areas.
- Port depth is shallow: Vietnamese general ports are shallow at less than 10 m deep, except for Danang Port (94 berths 11 m, new berth under construction 12 m) and Cai Lan Port (3 additional berths under construction 12 m at the maximum). On the other hand, international shipping operators are competing for the investment in larger vessels, especially in container haulage. For instance, the ESCAP Study¹ indicates that the suitable fleet size for future container operation (target year 2006) is as follows:
 - Vessel class of 3,000 to 6,000 TEU for trans-Pacific routes;
 - Vessel class of 1,000 to 2,000 TEU for intra-Asian trunk routes.

Since only berths 12-m deep and 250-m long can accommodate under-Panamax type vessels (breadth: 17-31 m, length: 110-210 m, capacity: less than 1,700 TEU), most Vietnamese public ports must be designed to connect with intra-Asia feeder routes regardless of traffic demand.

 Port operation is unreliable: Inefficient operation in Vietnamese general ports is well known among shippers and shipping operators. There may be many reasons which contribute to this unfavorable reputation. Previous studies pointed these out: shallow water depth and limited navigable time, poor navigation service, lack of well-maintained cargo-handling equipment, lack of trained port labor, inadequate supervision and management, and lack of incentives and unclear port charges. One state-owned operator reported that in 1998 they suffered a demurrage of 1,122 days from operating 21 general cargo vessels mainly because of wasteful waiting time for high tide and poor cargo handling.

Foreign operators face difficulties in dealing with "dispatch money" and other incentives to port labor and management to achieve faster turnaround.

¹ ESCAP: Intra-regional Container Shipping Study 1997.

• The container cargo handling operation is in its fledgling stage: The present container traffic demand pattern is roughly estimated at 20% in the north, 10% in central Vietnam and 70% in the south. Even in the south, the busiest container port, New Saigon Port, does not have enough space, modern equipment and technology in container handling.

4.5.3 Transport Demand Characteristics

Overview

Throughput amounted to 57 million tons in 1998, 38.5% of which was liquid cargo, 40.6% dry cargo and 7.1% transit cargo. The combined share of the 10 main ports was about 42%: Saigon handled the largest volume (14%), followed by Hai Phong (10%) and New Saigon (7%).

Vietnamese import volume was larger than export except in 1992 and the disparity is especially pronounced in Hai Phong. Foreign trade volume exceeded domestic trade volume except in 1991 in Haiphong and HvHHHHHai Phong and 1996 in Can Tho. Figure 4.5.6 indicates the trend of port cargo.

Past trends show that cargo handling of cement and fertilizer at Saigon and Hai Phong ports is slightly affected by the market served by HCMC. On the other hand, rice is affected by the market served by Hai Phong. Concerning general cargo, the volume loaded and unloaded at Hai Phong Port is greater than that of Saigon (refer to Table 4.5.6 and Figure 4.5.7).

Transport by Vietnam Flag Ships

VINAMARINE estimated the total throughput and output of maritime transport by Vietnam flag ships in 1998 at 56.6 millions tons and 12.8 million tons (or 22.6% of the total, respectively (see Table 4.5.8).





Shipment	Unit	1995	1996	1997	1998
Cargo Throughout	Total	34,000	36,656	45,760	56,899
Container	000 TEU	315	465	761	800
Export	000 TEU	153	226	381	376
	000 Tons	1,200	-	3,222	3,079
Import	000 TEU	163	239	372	382
	000 Tons	1,464	-	3,418	4,333
Domestic	000 TEU	-	-	6,898	42
	000 Tons	-	-	33,637	469
Liquid Cargo	000 Tons	13,180	15,511	18,127	21,889
Export	000 Tons	-	-	9,779	11,786
Import	000 Tons	-	-	6,330	7,926
Domestic	000 Tons	-	-	2,018	2,178
Dry Cargo	000 Tons	14,470	17,523	20,927	23,123
Export	000 Tons	-	-	8,181	7,925
Import	000 Tons	-	-	7,538	7,748
Domestic	000 Tons	-	-	5,209	7,450
Transit Cargo	000 Tons	-	2,085	3,151	4,039
Passenger	000 Persons	-	55,981	64,296	47,683

Table 4.5.6 Traffic Volumes for 1995-1998

Source: VINAMARINE

Table 4.5.7 Port Traffic in Major Ports

					7	ons 000
Port	1994	1995	1996	1997	1998	1998/94
Hai Phong	3,249	4,515	4,809	4,600	5,442	1.7
Saigon	6,439	7,212	7,340	6,821	7,700	1.2
Quang Ninh	521	704	813	820	1,011	1.9
Nghe An	306	310	462	480	474	1.6
Danang	667	830	847	882	829	1.2
Quy Nhon	403	447	554	838	954	2.4
Nha Trang	214	343	426	424	485	2.3
Can Tho	66	126	183	202	332	5.0
Total	11,864	14,488	15,436	15,067	17,227	1.45
Growth Rate (%/yr)	18%	22%	7%	-2%	14%	10%

Source: Statistical Yearbook, 1997, and Annual Report by VINAMARINE, 1999

Table 4.5.8

Total Throughput and Output by Vietnam Flag Ships

		1998	Increase over 1997 (%)
Total Throughput	Export	24,142	10
(000 tons)	Import	20,772	19
	Domestic	11,644	55
	Total	56,558	23
Carried by Vietnam		Tonnage (1998)	4.8
Flag Ships (000 tons)	Overseas	9,440	8
	Domestic	3,405	
	Total	12,845	10

Source: VINAMARINE



















Comparison of Port Throughput with Designed Capacity

The Study gathered data on the designed port capacity of 89 seaports as of 1998 and compared it with the port throughput in the same year. The following are the main findings:

- At the national level, the port throughput utilized 78% of the designed capacity. Solid bulk ports handling specific cargoes in bulk, such as cement and coal, were not so congested (52%) while oil terminals were fully used (89%).
- The designed capacity of general ports, however, is very difficult to fully utilize, since they must be open to any operator and shipper. Its utilization rate of 78% (national average) indicates near saturation level. The expansion of general ports is an urgent development issue, particularly in northern Vietnam.

It is thus observed that there is very limited reserve capacity at general ports, mainly because of the delayed development of public ports. For instance, in the eight major public ports under the MOT, the mainstay of Vietnam's general ports, combined berth length increased only 1.2 times between 1991 and 1998, from 6,647 m to 8,267 m, whereas traffic increased 2.1 times during the same period: from 80 million tons in 1991 to 17.0 million tons in 1998.

		Throughput (million ton)	Capacity (million ton)	Port Utilization Rate (Throughput to Capacity, %)
Northern	Total	13.1	15.1	87
Group	General Port	6.6	6.6	100
	Solid Bulk	4.9	6.5	75
	Oil	1.6	2.0	80
Central	Total	5.0	9.3	54
Group	General Port	3.4	7.2	47
	Solid Bulk	0.1	0.5	20
	Oil	1.5	1.6	94
Southern	Total	37.3	45.8	81
Group	General Port	18.0	22.5	80
	Solid Bulk	0.4	2.2	18
	Oil	18.9	21.2	89
TOTAL	Total	55.4	70.2	79
	General Port	28.1	36.3	77
	Solid Bulk	5.4	9.2	59
	Oil	21.9	24.7	89

Table 4.5.9Port Throughput and Estimated Capacity, 1998

4.5.4 Shipping Operation and Management

Shipping Operation

VINALINES has concentrated its fleet expansion program on container vessels, resulting in an increase in GEMATRANS' loading share in intra-Asian container services. Other shipping lines under VINALINES operate specific types of vessel. VOSCO operates bulk and specialized cargo vessels, VITRANSCHART operates general cargo vessels, and FALCON is a liquid-cargo vessel operator. INLACO Saigon is mainly a service company providing crew and training services, acting as shipping agency to foreign shipping companies for freight forwarding. This firm is aggressively expanding its business and now owns vessels for crew training and carriage of oil products.

According to VINALINES, the funding for fleet expansion by each firm is through bank loans, with each respective company accountable for the loan. In cases where huge investments are required, VINALINES serves as co-guarantor, for example, in the purchase of a 60,000 DWT tanker by FALCON.

During the last three years, VINALINES and its group of companies purchased 20 various types of vessels. All are second-hand vessels built during the period 1982-1989, but mostly in 1983 and 1985. The acquisition of used vessels is primarily due to financial constraints and partly because of the lack of shipbuilding capacity in Vietnam.

International Shipping

Though the Vietnamese government intends to boost the share of imported and exported cargoes, carried by the national fleet, from its current share of 11% to an eventual figure of 40%, it is not feasible at present in the face of fierce competition from foreign carriers. Given the present inadequate capacity of the national fleet and the less competitive trade terms and volumes, it would be quite difficult to achieve the government's target. Therefore, the critical issue here is the urgent need to expand and modernize the national fleet.

These days, most of the valuable cargoes are containerized and carried by semicontainer or full container vessels. Currently in Vietnam, container shipments are mainly handled by some state-owned shipping companies and a local governmentcontrolled company with two nationally registered semi-container vessels, and feeder container vessels. The latter are operated by joint-venture companies.

VINALINES established a joint-venture company with a foreign counterpart for the carriage of feeder containers and they have been successful so far. But the expansion plan of vessel ownership has not satisfactorily developed yet.

Domestic Shipping

In the north-south domestic-cargo traffic route, there are regular demands for shipment of coal, cement and other mining products in bag or bulk. The return leg mainly carries agricultural products and other general cargoes. In relation to the economic growth of and the growing regional industrial zones in the north, center and south of Vietnam, cargo volumes in the near future will exceed the available traffic capacity of other modes such as rail and truck. This being the case, the establishment of an adequate service channel between north and south should be closely related to trends in cargo and passenger demand. Allocation of liner services to this route will increase traffic demand in coastal shipping. TRANSVINA, a joint venture company between VINALINES and Japanese partners, started a scheduled liner container services in 1998.²

VINALINES has dominated the market for domestic container transport. With the recent launch of TRANSVINA, both companies can be expected to maintain lion's shares of the domestic market for container transport services. In any event, the increase in supply of available space on the main traffic route would provide better transport conditions for shippers and complement the expected increase in demand as the coastal shipping industry develops.

Container Operation

Major container transportation services are provided by feeder vessels being operated by foreign and joint-venture shipping companies, mainly to/from Singapore, Hong Kong, Kaohsiung, and Bangkok.

Two joint ventures, GEMATRANS and APM-Saigon Shipping, are presently enjoying a dominant share (about 60%) among various feeder service operators in Vietnam, such as Wan Hai and Unigroly (Taiwan), Strait Shipping and APL-NOL (Singapore), and RCL (Thailand), in the carriage of feeder containers. Many foreign shipping companies serving international routes have also availed themselves of the feeder vessel services provided by these operators.

According to VINAMARINE's annual report, there was a 20.57% increase in total throughput of container at ports in 1998, broken down as follows:

Export	376,790 TEU	(3,139,545 tons)
Import	373,429 TEU	(4,439,442 tons)
Domestic and transit	40,827 TEU	(467,143 tons)
TOTAL	791,046 TEU	(8,064,130 tons)

² Two vessels, named m/v E Linh and m/v An Xuan (8,384 GRT, service speed of 14.50 kts, built in 1983, owned by VINALINES), provide regular container services. TRANSVINA also utilizes feeder vessels, with a space charter contract with its associated companies, to carry domestic cargoes.

Container cargo flow in Vietnam varies by area: with proportions of 70%, 20-22% and 8-10% being handled within the southern, northern and central Vietnam, respectively.³

The charge table for cargo handling in Vietnam is controlled to a large extent by the Government Pricing Committee (GPC). Thus, all ports are covered with a single tariff provided under Decision No. 127/VGCP-CNTD.DV issued on 28 October 1997 and enforced since 1 January 1998.

Several container ports are operating in Vietnam, as follows:

 Vietnam International Container Terminal (VICT): This is a Joint Venture-owned container terminal that began operation in November 1998 in HCMC, the major container-handling port in the south. This terminal is equipped with an automated transport and handling system and modern crane facilities, and can provide an efficient mechanical operation similar to other dominant hub container ports like Singapore and Hong Kong.

For the initial year of operation, VICT planned to handle approximately 170,000 TEU. However, there were only two shipping companies, NOL and Wang Hai, which regularly used its services. Moreover, poor road conditions in HCMC hampered inland container movement, making it difficult for VICT to attain its initial target.

2) New Saigon Port: This port is enjoying the lion's share, with 75% of total container cargo handling in Saigon. It is a commercially-operated terminal located at Binh Thanh district in HCMC, but owned and operated by the defense force. It has a very accessible location, making it the primary choice for shipping companies.

However, due to some limitations (e.g. no modern gantry crane, limited space in the container yard due to high volume of import/exports, domestic and military cargoes, etc.), New Saigon Port has extended its container collection/delivering services through two inland container depots (ICDs) located close to the port. These two depots, Van Phong ICD Nos. 1 & 2, have a combined area of 105,000 sq m for two container depots and 82,000 sq m for four container depots, respectively. They are directly connected to National Road No. 1A. The container is directly discharged onto barges from feeder vessels, for forwarding to the ICDs.

This port company intends to transform this port into a terminal that will offer modern and specialized container-handling facilities and also invest in its new port at Cai Lai. With these investments, the company expects an annual handling capacity of 800,000 TEU at each port.

³ The share of Vietnamese ships in the total cargo movement in 1998 was 57% (454,000 TEU or 4,040,432 tons), or a 15% increase in volume compared to 1997.

3) Hai Phong Port: the port of Hai Phong handles about 20% of total container transport in Vietnam. However, port equipment for cargo operation at this conventional port does not allow efficient container operation.

In the central area of Hai Phong port, there are two berths available for container operation out of a total of 14 berths. However, shore cranes can only carry five to 16 tons. At Chua Ve berth, which has a 300 m LOA and 7.0 m depth, shore cranes can accommodate as much as 10 to 40 tons, making it more suitable for container operation.

Given these port capacities, usual container operations are being handled mainly by the vessel's cranes, which however, result in inefficient operation and slow dispatch of vessels. Rehabilitation of cargo handling equipment is therefore a major issue not only for container operation but also for conventional cargo operation. One of the Vietnamese leading shipping companies with a registered homeport in Hai Phong, reported that in 1998 alone the company suffered from demurrage (costs for extra stay) of 1,122 days from the operation of their 21 general cargo vessels. This was mainly caused by waiting for high tide and for their turn for cargo loading/unloading. Rehabilitation of port facilities and dredging of river channels are therefore other key aspects that need to be improved to achieve better port and shipping efficiency.

Operational Efficiency

Vietnamese seagoing vessels and coastal shipping vessels generally consist of old (average age of 21 years) and small-size vessels, except for some specialized cargo vessels. Major ports in Vietnam are still not well equipped with cargo-handling equipment, such as gantry or shore cranes on wharves, and some existing cranes are obsolete and cannot be used effectively.

Thus, shipping vessels are often forced to handle cargo from berths or at anchor, using obsolete equipment for cargo loading and discharging, to and from wharves or floating barges alongside their ships. This system is neither efficient nor quick, and prolongs the vessels' stay in the port. The situation is different, however, at HCMC's Tan Can Port which handles a substantial number of containers. Here, cargoes are unloaded directly to barges and forwarded to the ICD. The problem though is that the ship's responsibility for cargoes extends only up to their delivery at the ICD.

Another problem affecting shipping operations is the insufficient water depth of the access channel to the main ports, particularly in the north. Vessels have to wait for high tide before they can approach or depart from the port, further decreasing the ship's productivity. As mentioned earlier, one of the leading state-owned shipping companies reported that in 1998, they suffered an average demurrage of 55 days per vessel, due to time spent waiting for tides and their turn for cargo handling.

The VICT in Saigon, which offers a more efficient container operation, is regularly serving four feeder service companies, all of which are its investment partners. Given the legal restrictions on container haulage operation in the urban area, other shipping lines do not utilize this efficiently-operated port despite its proximity to Saigon District.

Management Efficiency

One shipping SOE, FALCON, specializes in the transport of liquid cargoes such as crude oil and other oil products. In 1998, this company acquired a large oil tanker built in 1986 with a capacity of 60,600 DWT, aiming to transport 60,000 tons of crude oil from Vietnam to Japan. However, due to a depression in the market price of crude oil, the Japanese contractor subsequently insisted on an increase in vessel capacity to 80,000 DWT. FALCON lost its original contract and had to look elsewhere for another contract.

Specialized cargo vessels, such as oil tankers and bulk carriers, are used to carry out long-term contracts between cargo supplier/shipper and trader/buyer. Generally in this case, basic trade terms, such as freight on board (FOB) term and a nomination right to shipping line, are fully handled by the trader/buyer. Since there are only occasional offers for chartering vessels to transport specific consignments, it would be cost-effective to first conduct a study on the feasibility of investing on this type of operation prior to the acquisition of vessels. It may be more appropriate to charter vessels given the unstable conditions of the market.

Financial Viability

Investments in shipping fleet expansion by state-owned companies under VINALINES are usually shouldered by each company without government subsidy. Shipping companies usually apply for bank loans from the Investment Development Bank.

Although VINALINES is authorized to administer the finances of its subsidiary companies, financial arrangements are generally attended to by each individual company, except in cases of large acquisitions such as the case of FALCON. VINAMARINE, on the other hand, has its own investment plans and it cannot easily assist its subsidiaries.

4.6 Air Transport

4.6.1 Administrative Framework

Overall Organization Setting

In 1976, the General Civil Aviation Administration (GCAA) was formed under the Ministry of Defense with the main responsibility of managing civil aviation. In 1989, the control of the Administration was passed to the Council of Ministers. It was then divided into two: one was the Civil Aviation Department (CAD) under the Ministry of Transport and Communications and the other was the General Company of Vietnam Airlines. At this time, Vietnam Airlines provided airport and air navigation services in addition to operating the national air carrier.

The Civil Aviation Administration of Vietnam (CAAV), on the other hand, was formed as a wholly state-owned and managed entity through the National Civil Aviation Law promulgated in 1992. The CAAV, which handles civil aviation, is under the direct authority of the Office of the Government. The CAAV plays the role of regulator in the air transport subsector in Vietnam. Airport operators, the three airport authorities, and the air navigation service provider, i.e. the Vietnam Air Traffic Management (VATM), belong to the CAAV. However, air carriers Vietnam Airlines and Pacific Airlines are separate bodies (see Figure 4.6.1).



Figure 4.6.1 Relationship among Air Transport Sector Organizations

Civil Aviation Administration of Vietnam

The CAAV is composed of three major suborganizations: state-owned enterprises, administrative organizations and other organizations (see Figure 4.6.2). The CAAV has 164 employees working at its headquarters.

The four state-owned enterprises under the CAAV are: (1) Northern Airport Authority, (2) Central Airport Authority, (3) Southern Airport Authority, and (4) VATM.

The administrative organizations include: (1) Planning and Investment Department, (2) Air Transport and Traffic Department, (3) Aviation Safety Department, (4) Aviation Security Department, (5) Science and Technology Department, (6) Financial Department, (7) Legal Office, (8)Personnel Department, (9) Administration Department, and (10) administration offices.

Other organizations are: (1) Aviation Health Care Center; (2) Civil Aviation Training Center of Vietnam; and (3) Aviation Magazines.

The responsibilities of CAAV, stipulated in Decree No. 68/CP dated 25 October 1995, are as follows:

- 1) Submit to the government draft laws, ordinances, strategies, planning, and policies regarding the development of civil aviation and organize its implementation;
- Submit to the government the set up and exploitation of air routes; prohibit or restrict flight areas; participate and represent the country in international treaties on aviation; be signatory to documents on civil aviation with countries and international organizations as stipulated by government;
- 3) Issue technical, professional processes, and norms on civil aviation safety and participate in developing tax and fee regimes in civil aviation activities;
- Organize and control the exploitation of civil airlines, flight information regions and control areas, planning and control information and technical systems serving civil aviation. Coordinate with related agencies in airspace control for protection of national security;
- 5) Preside over and coordinate with the Ministries of Defense and Interior, concerned state agencies and local administrations the chartered flights, special flights, airports, civil airports, and the common use of airports with national defense to assure air security and safety; coordinate with related branches and localities in search, rescue and investigation of civil aviation accidents;
- 6) Submit to government's Prime Minister proposals on setting up and dissolving air transport enterprises, projects for foreign cooperation and investment in the field of civil aviation, and on setting up and exploitation of airports;
- Control transport of goods handled by domestic civil air carriers as provided for and stipulated by the government; control activities of foreign air companies operating on Vietnam territory according to Vietnam law and common international practices;



- 8) Control civil aircraft registration; coordinate with the Trade Ministry in the control of aircraft import and export, equipment, facilities and materials serving civil aviation; control and supervise the repair and maintenance of aircraft, aircraft engines, production of aircraft facilities and equipment, and special equipment serving civil aviation activities;
- 9) Provide, suspend, extend, correct, and revoke certificates, diplomas and permits related to civil aviation activities as stipulated by the government;
- 10) Control science and technology activities in the field of civil aviation; organize the research and application of scientific progress and technology in the field of civil aviation; coordinate with the Ministry of Science, Technology and Environment to protect the environment from the adverse impact of civil aviation activities;
- 11) Control the organization, personnel, training, recruitment and development of civil aviation manpower resources; coordinate with the Ministry of Education and Training in the works of cadre training for the civil aviation branch;
- 12) Control properties and land as entrusted by the State;
- 13) Control investment and building of civil aviation projects as assigned by government; and
- 14) Organize control, inspection, and settlement of petitions and denunciations; deal with violations in civil aviation activities as provided for by the law.

Regional Airport Authorities

Each of the airport authorities operates one international airport and several other domestic airports. The directors of these authorities are, at the same time, the directors of their respective international airports. Decision No. 113/1998/QD-TTg dated 6 July 1998, transferred airport authorities became state public enterprises.

The Northern Airport Authority (NAA) currently operates five airports including (1)NoiBai (Hanoi) International Airport, (2) Nasan (Son La) Airport, (3) Cat Bi (Hai Phong) Airport,(4) Vinh Airport, and (5) Dien Bien Airport. The NAA currently employs 1,422 staff.

The Central Airport Authority (CAA) currently operates six airports including (1) Danang International Airport, (2) Phu Bai (Hue) Airport, (3) Nha Trang Airport, (4) Phu Cat Airport, (5) Pleiku Airport, and (6) Tuy Hoa (Dong Tac) Airport (no scheduled flight as of April 1999). The CAA employs 710 staff.

The Southern Airport Authority (SAA) currently operates seven airports including (1) Tan Son Nhat (Ho Chi Minh) International Airport, (2) Lien Khuong (Da Lat) Airport, (3) Buon Me Thuot Airport, (4) Rach Gia Airport, (5) Phu Quoc (Kian Giang) Airport, (6) Camly Airport (no scheduled flight as of April 1999), and (7) Ca Mau (Quan Long) Airport. The SAA has 1,254 staff.

The responsibilities of airport authorities, stipulated in Decision No. 950-TTg dated 19 December 1996, are as follows:

1) Control and exploit airports in the region as stipulated by the law; collect fees and charges as provided for by the State; invest in projects, programs for repair, and

transformation, as provided for by the law and as assigned by the Vietnam's CAD;

- 2) Supply or organize the supply of aeronautical services and public services at the airport in compliance with the cost and cost frame stipulated by the State;
- 3) Control and exploit land surface, water surface and other projects pertaining to infrastructures under the airport group's control and use, or transfer the right of use and exploitation to units, enterprises, organizations, and individuals operating within the airport area as stipulated by the State, at the price and price frame stipulated by the State;
- 4) Preside over the coordination among agencies, units, organizations, and individuals operating at the airport and with the local administration in assuring security, safety, public order, and environmental hygiene, against intrusion and illegal intervention of operations by civil aviation and civil aircraft; carry out emergency and rescue operations at the airport and the surroundings;
- 5) Build and plan options on development, exploitation and security program for airports in the region to be submitted to the CAD head for approval; organize its implementation;
- 6) Build programs and plans to upgrade, extend and build new airport infrastructures, develop manpower resources, renew equipment, apply scientific and technical achievements, control skill, develop new technology, formulate projects for cooperation and joint venture at home and abroad, and submit these for approval and organize their implementation;
- Organize the control, supervision and implementation of environmental protection measures meant to overcome environmental pollution caused by airport activities; coordinate with concerned agencies in protecting the environment in relation to airport control and exploitation activities;
- 8) Assure absolute security and safety of passengers and chartered aircraft in all airports of the region.

Vietnam Air Traffic Management

The VATM is a state-owned, nonprofit enterprise established in 1993 from the General Civil Aviation Administration of Vietnam. It was then known as the Air Navigation Department of Vietnam. Through Decision No. 15/1998/QD-TTg dated 24 January 1998, it became Vietnam Air Traffic Management, a public utility enterprise with 1,380 staff. The services it provides are air traffic control, provision of aeronautical information and maintenance of facilities used in the above service such as radar and VOR/DME. In case an airport authority has difficulty in maintaining its airport equipment, such as NDB, airfield lighting and markers, it enters into a formal agreement with the VATM for equipment maintenance.

Civil Aviation Training Center of Vietnam

The CATCV was established on 24 March 1979 and is the only civil aviation training center authorized by the government. It should be noted, however, that an aviation training program was carried out since 1975. The training program covers all aviation fields such as air traffic control, transport service agent,

communications/operations, electronics maintenance, aircraft maintenance, civil aviation security, flight attendants, languages, etc. Since its establishment, CATCV has trained 7,353 officers. Training facilities have been offered to Lao and Cambodia.

The pilot *ab-initio* training is not yet carried out but conversion courses are provided for military pilots to become civil pilots. Nonetheless, there is a plan to start the pilot ab-initio training in 2001.

The French Government ODA project, "A Project to Develop and Upgrade CATCV" has started in June 1999. This FF 46 million project will provide new facilities and equipment.

4.6.2 Airlines

Two airlines are currently operating in Vietnam – the former monopolistic, state-owned Vietnam Airlines and Pacific Airlines, a joint venture of state-owned companies.

There are two general aviation operators. One is Vietnam Air Services Company (VASCO), which is a member unit of Vietnam Airlines Corporation, and the other is Service Flight Corporation of Vietnam (SFC), which is a state-owned enterprise under the military. All of them are members of Vietnam Airlines Corporation.

Vietnam Airlines Corporation

Vietnam Airlines Corporation (VAC) was established through Decision No. 4-C dated 27 January 1996, as a state-owned enterprise. A seven-seat management board directs VAC whose members are appointed by the Prime Minister. VAC is composed of the following member units – the independent accounting enterprises, dependent accounting enterprises and nonbusiness units:

Member units with independent accounting:

- 1) Aviation Petrol Supply Company (VINAPCO)
- 2) Aviation Import Export Company (AIRMEX)
- 3) Aviation Service Supply Company
- 4) Aviation Construction, Survey and Design Company
- 5) Aviation Project Construction Company
- 6) Aviation High-quality Plastics Company
- 7) Aviation Motorized Transport Company
- 8) Aviation Printing Company
- 9) Noi Bai Air Service Company (NASCO)
- 10) Tan Son Nhat Air Service Company (SASCO)
- 11) Danang Air Service Company (MASCO)

Member units with dependent accounting:

- 1) Vietnam National Air Service (Vietnam Airlines)
- 2) Vietnam Air Services Company (VASCO)
- 3) Noi Bai Ground Trading Enterprise
- 4) Tan Son Nhat Ground Trading Enterprise
- 5) A75 Aircraft Repair Enterprise
- 6) A76 Aircraft Repair Enterprise

Joint venture units with capital contributed by Vietnam Airlines Corporation:

- 1) Tan Son Nhat In-flight Meals Joint Venture Company (VAC)
- 2) Tan Son Nhat Goods Service Company Itd. (TCS)
- 3) Noi Bai In-flight Meals Joint Venture Company (NSC)
- 4) Vietnam Airlines Hotels Joint Venture Company ltd. (VNH)
- 5) Aviation Stocks Company (Pacific Airlines)
- 6) Global Distribution Company (ABACUS-VIETNAM)

Vietnam Airlines

International services by Vietnam Airlines cover major cities in East and Southeast Asia, some European capitals and two Australian cities. Its share in international passengers from/to Vietnam in 1997 accounted for 38.6% of the total market, while it had a share of 93.7% in the domestic market.

1) Fleet Plan: VA has a fleet of 23 aircraft (see Table 4.6.1). The fleet plan was revised and finalized at the end of 1999.

Aircraft Type	Seat Capacity	Number of Aircraft	Ownership
B767	221	3	Dry lease
A320	150	10	Dry lease
F70	79	2	Owned
ATR72	64	5	Owned

Table 4.6.1 Fleet of Vietnam Airlines

2) Operation, Maintenance and Training: Light maintenance and checking are carried out at Noi Bai Airport and Tan Son Nhat Airport. All engine maintenance is carried out abroad by subcontracting. Brake and wing maintenance for ATR72 is carried out in the maintenance hangar at Tan Son Nhat Airport.

Vietnam Airlines has a plan to expand the capability of its maintenance facilities at Tan Son Nhat Airport and includes the construction of two new maintenance bases. It is seeking a partner for these maintenance facilities. A new maintenance hangar is under construction east of the terminal at Noi Bai Airport that will be completed in the middle of year 2000. Vietnam Airlines carries out staff training at the CATCV in Ho Chi Minh City and in its own facilities, even providing a mock-up of Tan Son Nhat Airport. It hires foreign experts on aircraft maintenance and some foreign pilots.

3) Cargo: In 1997, Vietnam Airlines in cooperation with Asiana Airlines and Korean Air launched B767-300 and A300 freight services between Seoul and Ho Chi Minh City every week. Cargo cooperation agreements with Air France, Cargolux, among others are also in service. Vietnam Airlines also operates cargo charter service by TU134 on domestic and regional routes (Cambodia, Thailand, Laos, China, and Singapore, etc.).

Pacific Airlines

Pacific Airlines, based in Ho Chi Minh City, is a joint venture enterprise and was established in 1995. This company is the first holding company in Vietnam. According to Vietnam Airlines, VAC owns 30% of the shares and the other 70% is owned by six other Vietnamese companies¹.

Pacific Airlines flies to domestic routes between Ho Chi Minh City and Hanoi. Its MD-82 aircraft has 165 seats and a liquid crystal screen installed in front of each seat for in-flight entertainment. Its international services connect Ho Chi Minh City with Kaohsiung and Taipei.

Vietnam Air Services Company

VASCO is one of VAC's member units and provides flight services using small aircraft such as Jetstream and King Air B200. VASCO also provides emergency service flights for medical, social and economic purposes and air taxi services. It has regular flights from Tan Son Nhat to Con Dao Island, Vung Tau, Ca Mau, Danang, Hue, Nha Trang, Buon Ma Thuot, and Phu Quoc.

Service Flight Corporation of Vietnam

SFC provides helicopter services. Its main customers are offshore petroleum industries whose equipment and people must be transported to and from offshore oilrigs. SFC also provides other services such as tourist flights, aerial works, among others. Super Puma ML2 332-L2 is one of its possessions.

¹ According to Pacific Airlines, VAC holds 40% of the shares and 60% are held by other Vietnamese companies.

4.6.3 Air Network

International Flight Routes

Vietnam Airlines operates in 24 international routes, 54 international flights a week at Noi Bai Airport and 157 flights at Tan Son Nhat Airport. Since June 1999, scheduled flights between Hong Kong and Danang and between Bangkok and Danang have operated (see Table 4.6.2).

Compared with the long haul flight, such as to Dubai, Moscow, Melbourne, and Sydney, there are many short haul international flights to surrounding Southeast Asian cities including Bangkok, Hong Kong, Kuala Lumpur, Singapore, and Taipei. In fact, 82% of its total flights are to/from Southeast Asia.

Vietnam Airlines expressed its interest to open five new international routes including: (1) Danang-Bangkok, (2) Danang-Siem Reap, (3) Hanoi-Kunming, China Republic, (4) Ho Chi Minh-Siem Reap, Cambodia, and (5) Ho Chi Minh-Los Angeles, U.S.A.

Domestic Flight Routes

Domestic flight routes are structured around the three international airports which serve as regional hub airports. Regular flight routes connecting these three airports are mainly operated with A320 and B767 by Vietnam Airlines and with MD82 by Pacific Airlines (see Figure 4.6.3).

ATR-72 and F-70 are both operated in all domestic airports except Hai Phong, while A320 is operated in Ho Chi Minh City.

VASCO operates on regular flights from Tan Son Nhat to Con Dao Island, Vung Tau and Ca Mau through small aircraft such as Jetstream and King Air B200.

Table 4.6.3 shows domestic flight routes from Hanoi, Ho Chi Minh City and Danang in March 1999. Vietnam Airlines expressed its interest to open the new domestic routes in (1) Vinh City-Ban Me Thuot, (2) Vinh City-Pleiku, (3) Hanoi-Vinh City, (4) Ho Chi Minh-Tuy Hoa, (5) Danang-Qui Nhon, (6) Danang-Hai Phong, and (7) Danang-Da Lat.

Between		Distance (km)	Airlines ^{1/}	Aircraft type	Number of flight
Hanoi			VN	A320	7
	Bangkok	969	TG	A300	3
			AF	B747-400	3
	Guangzhou	797	VN	F70	3
	Dubai	5.158	VN	763	2
		074	CX/VN	A340	2
	Hong Kong	871	CX/VN	A320	7
	Kuala Lumpur		MH	B737-400	2
	Nanning		CZ	733	2
	Singapore		SQ/VN	A310	3
	Magazi	0.700	VN	763	1
	IVIOSCOW	6,700	SU	IL9	2
	Taipei	1,661	VN	A320	6
		ŕ	VN	ATR72	4
	Vientiane	486	QV	ATR72	2
			QV	F70	5
	Subtotal	-	-	-	54
HCMC			VN	A320	7
	Bangkok	742	TG	A300	7
	5			B737-400	3
	Guangzhou		CZ	733	2
	Dubai	5.618	VN	763	3
		1,510	VN/CX	A320	7
	Hong Kong			A330	2
	. long i long			A340	5
		3,946	VN	763	3
	Osaka		JL	B767-300	1
			JL	DC10	6
			CI	A320	4
	Kaohsiung	1,962	BL	MD82	7
	K ala basa a	4.044	VN/MH	A320	3
	Kuala Lumpur	1,011	MH/VN	B737-400	4
	Manila		VN	A320	2
	Malkauma	0.700	VN	763	1
	Melbourne	6,708	QF	763	1
	Dharam Daah	040	VN	ATR-72	16
	Phnom Penn	212	VJ	ATR-72	4
	Cooul	2 502	KE/VN	A300	3
	Seoul	3,392	OZ	B767-300	4
			VN	A320	3
	Singapore		VN/SQ	A320	7
			SQ/VN	A310	12
	Sudaci	6.940	VN	763	1
	Sydney	0,849	QF	763	1
			VN	A320	7
	Toin ai	2 2 2 2	BL	MD82	7
	Taipei	2,229	CI	A300	7
			BR	747	7
	Vientiane		QV	ATR-72	1
	Subtotal	-	-	-	148
-	Total	-	-	-	202

Table 4.6.2International Direct Flight Route (as of April 1999)

Source: OAG World Airways Guide March 1999

AF: Air France, BL: Pacific Airlines, BR: EVA Airways, CX: Cathay Pacific, CI: China Airlines, CZ: China Southern Airlines, JL: Japan Airlines, KE: Korean Air, KLM: KLM Royal Dutch Airlines, MH: Malaysia Airlines, OZ: Asiana Airlines, QF: Qantas Airways, QV: Laos Aviation, SQ: Singapore Airlines, VN: Vietnam Airlines

Between		Distance (km)	Airlines ^{1/}	Aircraft Type	No. of Flight/Week
Hanoi	Danang	607	VN	320	9
	Danang	007	VN	F70	4
	Dien Bien Phu	301	VN	AT7	4
	Huo	540	VN	F70	8
	Tide	545	VN	AT7	3
	Na San	1,040	VN	AT7	2
	Nha Trang	1,138	VN	AT7	7
			VN	320	41
	HCMC		VN	767	11
			BL	M80	16
	Subtotal				105
HCMC	Buon Ma Thuot	261	VN	AT7	7
	Da Lat	214	VN	AT7	3
			VN	320	12
		602	BL	M80	2
		603	VN	AT7	5
			VN	F70	2
	Lioi Dhong	1 110	VN	320	4
	Hai Phong	1,112	VN	F70	1
	Hanoi		VN	320	41
		1,138	VN	767	11
			BL	M80	16
	Line .	004	VN	AT7	5
	Hue	631	VN	F70	8
	Nha Trang	317	VN	AT7	14
	Phu Quoc	301	VN	AT7	3
	Pleiku	383	VN	AT7	7
	Qui Nhon	430	VN	F70	3
	Rach Gia		VN	AT7	3
	Subtotal				147
Danang	Buon Ma Thuot	375	VN	AT7	3
	Llevei	607	VN	302	9
	Hanoi	607	VN	F70	4
			VN	320	12
	110140	000	BL	M80	2
		603	VN	AT7	5
			VN	F70	2
	Nha Trang	436	VN	AT7	5
	Pleiku	227	VN	AT7	3
	Vinh City	401	VN	AT7	3
	Subtotal			1	48
	Total				300

Table 4.6.3 Domestic Flight Route from Hanoi, Ho Chi Minh and Danang

Source: OAG World Airways Guide March 1999 1/ BL: Pacific Airlines, VN: Vietnam Airlines 2/ 767: Boeing 767-300, M80: McDonell Douglas MD82, AT7: Aerospatiale ATR-72, F70: Fokker 70.

Figure 4.6.3 Domestic Air Routes



4.6.4 Air Traffic Demand

Air Passenger Traffic

Air passenger traffic was growing sharply during the 1990s until the region was hit by subsequent financial and economic crises. Vietnam was not an exception. The current level of air passenger traffic of the country in 1998 was 2.3 million international and 3.3 million domestic passengers. Tan Son Nhat and Noi Bai Airports accounted for 77% and 23%, respectively, of the international passenger traffic. On the other hand, the share of Tan Son Nhat, Noi Bai, Danang and other airports in domestic passenger traffic is 34%, 31%, 12% and 18%, respectively. With the gradual recovery of the regional economy, it is expected that both the international and domestic traffic will again increase (see Table 4.6.4).

Air Freight

In 1998, approximately 60 thousand and 47 thousand tons of air freight were carried by international and domestic flights, respectively. Although the volume is still small, the growth trend is more significant than that of passenger traffic. As the country's economy further diversifies and international regional linkages are strengthened, the demand is expected to increase sharply.

Aircraft Movement

While air passenger and freight traffic steadily increase, aircraft movements increase moderately due to increased deployment of aircraft with larger carrying capacity.

			1994	1995	1996	1997	1998	1998/ 1994
International	Noi Bai		428	402	550	555	549	1.28
Passenger	Tan Son Nh	at	1,265	1,665	1,896	1,848	1,782	1.42
(000)	Total		1,694	2,126	2,446	2,403	2,341	1.38
	Noi Bai		690	926	1,044	1,044	1,029	1.49
Domestic	Tan Son Nh	at	870	1,149	1,354	1,344	1,309	1.50
Passenger	Danang		258	359	463	431	407	1.58
(000)	Others		236	488	534	615	585	2.48
	Total		2,054	2,922	3,395	3,434	3,330	1.62
Internetional	Noi Bai		5,015	6,380	9,701	11,440	9,853	1.96
Cargo (Tops)	Tan Son Nh	at	27,129	34,159	42,999	50,699	49,693	1.83
Cargo (10113)	Total		32,144	40,539	52,700	62,139	59,546	1.85
	Noi Bai		10,004	17,994	24,092	21,223	19,736	1.97
Domostio	Tan Son Nh	at	10,920	19,296	26,667	22,811	21,432	1.96
Cargo (Tons)	Danang		1,405	1,458	1,354	2,552	2,733	1.95
Cargo (Toris)	Others		1,226	2,147	2,844	3,025	2,601	2.12
	Total		23,555	40,895	54,957	49,611	46,502	1.97
	Noi Boi	Int'l	6,188	6,258	6,524	6,202	5,270	0.85
Aircraft	NOI Dai	Domestic	7,642	10,072	10,626	9,836	9,978	1.31
Movement		Int'l	-	-	-	-	-	-
wovernent	1.3.Mhat	Domestic	12,863	15,017	17,708	19,019	17,940	-
	Danang	Domestic	3,152	3,427	4,608	6,032	2,960	0.94

Table 4.6.4 Air Traffic Trend

4.6.5 Airport Facilities

General

There are 135 airports/airstrips for civil, military and police use in Vietnam. Of these, 18 airports are under the jurisdiction of CAAV. As of April 1999, regular flight services are operating in 15 airports. The location of these airports is shown in Figure 4.6.4. CAAV plans to increase the number of airports for civil aviation use to 24. In the three international airports of Noi Bai (Hanoi), Danang and Tan Son Nhat (Ho Chi Minh), scheduled international flights are operated and immigration, customs and quarantine services are available. There is a 3,200-m runway at Noi Bai Airport and two parallel runways at Danang and Tan Son Nhat airports. Runway length of other airports is between 1,051 m and 3,050 m (see Table 4.6.5).

Airport	Runway	Runway	Taxiway	Apron Area	Dovomont Strongth
Airport	Length (m)	Width (m)	Configuration	(sq m)	Favement Strength
Noi Bai	3,200	45	Complete parallel	165,224	PCN 55 R/C/X/T
Cat Bi	2,400	50	Single connecting	15,129	PCN 36 R/C/X/T
Na San	2,400	45	Single connecting	5,225	
Dien Bien	1,830	30	Single connecting	5,225	PCN 13 R/C/Y/U
Vinh	2,147	30			PCN 28 F/C/Y/U
Phubai	2,700	40	Partial parallel	42,000	PCN 42 F/B/W/T
Chu Lai	3,050	45			
Danang	3,048	45	Complete parallel	117,298	PCN 46 F/A/W/T
Phucat	3,050	45	Parallel	40,000	Up to 90t
Tuy Hoa	2,900	45			Up to 112.5t
Nha Trang	1,860	45	Complete parallel	15,000	Up to 40t
Pleiku	1,830	36	Complete parallel	10,000	C130
Buon Ma Thuot	1,800	30	Dual connecting	10,800	Up to 50t
Tan Son Nhat	3,045	45	Complete parallel	162,500	PCN 60/R/B/X/U
Lienkhuong	2,354	37	Single connecting	23,925	Up to 21.5t
Rach Gia	1,500	30	Single connecting	5,500	11ton SIWL
Phu Quoc	1,500	30	Single connecting	7,200	Up to 50t
Can Tho	1,830	30			
Ca Mau	1,051	30	Single connecting	9,600	27t ESWL

Table 4.6.5 Summary of Main Airside Facilities

Source: CAAV

Complete parallel taxiways are provided at Noi Bai, Danang, Nha Trang, Pleiku, and Tan Son Nhat airports.

Figure 4.6.4 Airports in Vietnam



The new terminal (T1) is under construction at Noi Bai Airport, with a floor area of 77,000 sq m. After Phase 1, the capacity will cater to approximately four million passengers per annum. An expansion of the terminal building is also being carried out at Tan Son Nhat Airport. When completed, the total floor area will be 32,000 sq m and the capacity will be approximately five million passengers per annum. Cargo facilities are available in three international airports, Noi Bai, Danang and Tan Son Nhat (see Table 4.6.6)

	Passenger Terr	Cargo Area	
Airport	(sq r		
	Domestic	International	(sq iii)
Noi Bai	2,437	10,487	1,624
Cat Bi	1,942	-	-
Na San	550	-	-
Dien Bien	500	-	-
Vinh	570	-	-
Phu Bai	2,000	-	-
Danang	4,554	2,148	600
Phucat	500	-	-
Tuy Hoa	Not Available	-	-
Nha Trang	1,500	-	-
Pleiku	1,000	-	-
Buon Ma Thuot	1,380	-	-
Tan Son Nhat	5,000	14,000	3,000
Lienkhuong	720	-	-
Rach Gia	578	-	-
Phu Quoc	700	-	-
Ca Mau	158	-	-

Table 4.6.6 Summary of Terminal Facilities

Source: CAAV

Descriptions of major airports are in detail in Technical Report No. 9 (Air Transport).

Assessment of Existing Facilities and Systems

Since most airports in Vietnam were constructed more than 20 to 30 years ago, facilities in the airports have deteriorated and become outdated. Airside pavement, runway, passenger terminal buildings, and cargo-handling facilities are now facing a capacity problem. Airport facilities can be categorized into airside facilities, landside facilities and air navigation facilities. Airside facilities mainly enhance aircraft capacity and its safety operations, while landside facilities provide service to passengers and cargo.

1) Airside Facilities

<u>Runway</u>: Current air traffic volume in most of the airports in Vietnam is not very high, even the number of runways and runway systems in Vietnam do not face any capacity constraint. Besides increasing capacity, an additional runway is necessary to avoid total airport closure in case of accident, runway repair, etc. especially in important airports such as the three international airports. Although there are already two runways at Danang Airport and Tan Son Nhat Airport, an additional runway may still be useful for Noi Bai International Airport.

According to CAAV, weight restriction due to insufficient runway length occurs at Noi Bai, Danang, Tan Son Nhat, and Cat Bi airports.

Another factor that limits aircraft takeoff weight in Vietnam includes obstacles in the approach and takeoff surface, particularly at Dien Bien and Phu Quoc airports.

Airports with a runway width of less than the ICAO recommendation apply to Dien Bien, Vinh, Phu Bai, Pleiku, Buon Ma Thuot, and Lien Khuong airports.

<u>Taxiway</u>: Because current traffic volume is low, taxiway systems in Vietnam are not facing capacity problem. Dimensions of taxiways meet ICAO recommendations, though a review of taxiway utilization plan is required.

Apron: There is no current capacity constraint in the apron of most airports.

<u>Airfield Pavement</u>: Since most airports in Vietnam are old, it is presumed that pavement conditions are poor. In general, the life of asphalt pavement is 10 to 20 years with good maintenance. According to CAAV, weight restrictions are applied in many airports because of insufficient pavement strength.

2) Terminal Facilities

Terminal facilities consist of passenger terminal, cargo terminal, control tower, parking area, and access road.

<u>Passenger Terminal</u>: In Vietnam passenger terminals are constructed separately and connected only by corridors to cope with growing traffic demand. However, this may cause congestion and inconvenient flows of both passengers and vehicles in the terminal. Facilities and systems for the disabled and elderly, such as slopes and elevators which are currently not provided in most terminals, should be included in renovation plans.

By comparing their respective estimated capacity and total number of passengers in 1998, airport terminals with insufficient floor area are those of Phu Bai, Danang, Nha Trang, Pleiku, Tan Son Nhat, Lien Khuong, and Phu Quoc (see Table 4.6.7). A detailed study will be required to confirm this result.

Airport Name	Passenger Terminal Building Total Floor Area (sq.m)	Estimated Capacity (Annual Pax)	Annual Total Passenger in 1998
Noi Bai ^{1/}	77,000	11,681,475	1,578,134
Cat Bi	1,942	120,828	50,814
Nasan	550	22,000	8,135
Dienbien	500	20,000	15,715
Vinh	570	22,800	11,249
Phubai	2,000	125,909	147,355
Danang	6,702	462,750	407,324
Phu Cat	500	20,000	19,302
Nha Trang	1,500	84,177	143,459
Pleiku	1,000	47,724	53,278
Buon Ma Thuot	1,380	74,905	54,140
Tan Son Nhat ^{2/}	31,000	2,210,286	3,100,797
Lienkhuong	720	30,134	38,544
Rach Gia	578	23,120	10,526
Phu Quoc	700	28,969	30,230
Ca Mau	158	6,330	458

Table 4.6.7Floor Area and Floor Area/Peak Hour Passenger

1/: After completion of T1

2/: After completion of expansion of existing PTB

<u>Cargo Terminal</u>: There are cargo warehouses at Noi Bai and Danang. Cargo warehouses in Noi Bai are located in the landside which causes the mix of landside and airside traffic. CAAV plans to convert the existing domestic terminal building into a cargo terminal after the completion of the new passenger terminal building. Warehouses at Danang Airport have become insufficient due to the recent increase in air freight traffic.

The cargo terminal building at Tan Son Nhat International Airport is operated by a VAC subsidiary, named Tan Son Nhat Air Service Company (SASCO). The terminal has an annual handling capacity of 100,000 tons, sufficient for the current cargo demand.

3) Air Navigation Systems

Due to the forthcoming introduction of the new CNS/ATM concept there is a need for considerable investment in equipment and facilities. In summary, the following will be required to meet the new procedures and air traffic management techniques:

(1) <u>Air Traffic Management:</u> The flight plan processing systems in the Approach Control Centers (ACCs) at Noi Bai and Ho Chi Minh City airports and at the ACC at Danang airport have to be upgraded or replaced.

- (2) <u>Communications</u>: New communications and control equipment will be required for the ACCs at Hanoi and Ho Chi Minh. New multimode VHF equipment will be required including controller-pilot and air-ground data communications and digital data links for automatic dependent surveillance (ADS) at various locations. AFTN message switches at Hanoi and Ho Chi Minh communication centers must also be replaced.
- (3) <u>Navigation</u>: For the next two years at least, there will be a continuing need to install a minimal number of conventional navigational facilities that have been used by air navigation for the past four decades, namely VOR/DME, NDB and, possibly, ILS. For the CNS/ATM era, area augmentation systems will be required in each of the three international airports and at least three major domestic airports where final approach and landing guidance is required.
- (4) <u>Surveillance</u>: Three new radars will be required and the existing SSRs at HCM (Qui Nhon) and Danang (Sontra) will be upgraded or replaced in order to provide Mode S capability. The equipment and facilities of the Civil Aviation Training Center in HCMC also require upgrading. Specific needs include a new ATC procedural trainer, an ATC radar simulator and a multimedia language laboratory.

4.6.6 Operational Aspects

Aeronautical Operation

Aeronautical operation covers services related to handling passengers and cargo safely and efficiently. Air carriers provide a number of passengers, cargo and aircraft handling services in terms of facilities while space is provided by airport authorities. Airport authorities also provide rescue and fire fighting services, security, and facility maintenance.

<u>Air carriers</u>: International services by Vietnam Airlines cover major cities in the East and Southeast Asia, some European cities and two Australian cities. According to Vietnam Airlines, its share in the international passenger market from/to Vietnam accounted for 38.6%, while it had a share of 93.7% in the domestic market in 1998. Vietnam Airlines operates 10 A320s, 3 B767-300s, 6 ATR-72s and 2 Fokker 70s. A320s are used in short haul international routes in Asia and major domestic routes between Noi Bai, Tan Son Nhat, Danang and Cat Bi airports. B767-300s are used in long haul international routes, such as to Europe, Middle East, Japan, and Australia. ATR-72s and Fokker 70s are used in most of the domestic routes and subregional international flights to Lao and Cambodia.

International services offered by Pacific Airlines are between Ho Chi Minh City and Taipei and Kaohsiung. For domestic services, it flies between HCMC and Hanoi. The annual utilization of Vietnam Airlines comes close to the average of the other Asian airlines.

Hours

		110010
Domestic	International	Total
688	4,293	4,981
1,354	1,287	2,642
1,345	210	1,554
1,400	426	1,826
	Domestic 688 1,354 1,345 1,400	DomesticInternational6884,2931,3541,2871,3452101,400426

Table 4.6.8 Annual Aircraft Utilization

Source: Timetable of Vietnam Airlines from 4 October 1999 to 19 March 2000 http://www.vietnamair.co.vn

The estimated average load factor on domestic routes is 67.9% and 82.9% in 1998 and 2000, respectively. This indicates that the current domestic fleet matches the current traffic volume but the seat capacity needs to be expanded in the near future. Compared with the load factor in domestic routes, that of international routes is low, less than 60% (see Table 4.6.9).

In 1998, the average load factor of some international routes including Ho Chi Minh -Dubai - Paris, Hanoi - Dubai - Paris, Hanoi - Ho Chi Minh - Melbourne, and Hanoi – Ho Chi Minh - Sydney was more than 75%. According to the media, occupancy rate of international flights was 80-90% and that of domestic was 70% in May 1999. In general, a load factor of 60-70% means that passengers can easily reserve a seat and is relatively efficient. The occupancy rate of seats in some routes is already high, and it is expected that air carriers will face fleet shortages in these routes (see Table 4.6.10).

		Domestic	International	Total
Annual Available Seats in 1999 to 2000		2,258,972	1,596,709	3,855,681
	Annual Passenger	1,534,610	905,455	2,440,065
1998 E	Estimated Load Factor	67.9%	56.7%	63.3%
	Annual Passenger	1,872,288	937,534	2,809,822
2000	Estimated Load Factor	82.9%	58.7%	72.9%

Table 4.6.9Comparison between Available Seats and Demand

Routes	Aircraft Type	Seat Capacity	Load Factor (%)	Routes	Aircraft Type	Seat Capacity	Load Factor (%)
International Routes							
SGN-DXB-CDG	B767	221	76.78	SGN-TPE	A320	150	69.82
HAN-DXB-CDG	B767	221	80.85	SGN-KHH	A320	150	70.55
SGN-HAN-MOW	B767	221	71.22	HAN-BKK	A320	150	72.48
HAN-SGN-MEL	B767	221	75.61	SGN-BKK	A320	150	65.92
HAN-SGN-SYD	B767	221	76.54	SGN-MNL	A320	150	47.32
SGN-KIX	B767	221	61.84	HAN-SGN-KUL	A320	150	61.61
HAN-HKG	A320	150	67.51	HAN-SGN-SIN	A320	150	55.62
SGN-HKG	A320	150	54.37	HAN-VTE	F70	79	59.31
SGN-HAN-CAN	A320	150	56.57	SGN-PNH	F70	79	65.88
HAN-TPE	A320	150	51.87	SGN-PNH	ATR72	64	66.27
Domestic Routes							
DAD-BMV	ATR72	64	77.05	PXU-DAD	ATR72	64	75.20
DAD-VII	ATR72	64	57.91	SGN-BMV	ATR72	64	78.76
HAN-DAD	A320	150	76.45	SGN-DAD	A320	150	76.71
HAN-DAD	F70	79	75.88	SGN-DAD	F70	79	83.67
HAN-DIN	ATR72	64	70.40	SGN-DLI	ATR72	64	70.65
HAN-HUI	A320	150	75.80	SGN-HPH	A320	150	72.12
HAN-HUI	ATR72	64	75.62	SGN-HPH	F70	79	80.38
HAN-HUI	F70	79	75.62	SGN-HUI	A320	150	68.76
HAN-NHA	ATR72	64	74.03	SGN-HUI	ATR72	64	78.04
HAN-NHA	F70	79	71.11	SGN-HUI	F70	79	75.79
HAN-SGN	B767	221	78.64	SGN-NHA	ATR72	64	78.04
HAN-SGN	A320	150	78.64	SGN-NHA	F70	79	80.06
HAN-SQH	ATR72	64	68.54	SGN-PQC	ATR72	64	70.10
NHA-DAD	ATR72	64	75.48	SGN-PXU	ATR72	64	77.38
PQC-VKG	ATR72	64	64.91	SGN-UIH	ATR72	64	76.44

Table 4.6.10 Load Factor in 1998

Source: Vietnam Airlines Corporation

<u>Regional Airport Authorities</u>: Regional airport authorities operate airports and provide services such as the operation of the terminal building, rescue and fire-fighting service, airport security, and airport maintenance. A committee was established consisting of the CAAV, Public Security Office, Immigrations, Customs, and other relevant bodies for a smooth operation of airports.

Data on rescue fire-fighting services are not available during the conduct of the study. From the limited information available, rescue and fire-fighting categories fall short of what ICAO recommends for Phu Bai and Tan Son Nhat airports. It is recommended that adequate facilities and personnel be provided to meet ICAO's required level of service for operational safety.

According to CAAV, security facilities, such as detector, baggage X-ray machine and hand scanner, are provided in all airports. However, most airports are not fully fenced because of budget constraints.

Airport authorities are responsible for the maintenance of airside surfaces, such as grass and pavement surface inspections. They also carry out minor maintenance of air navigation facilities in the airport. If there are difficulties in repairing navigation and communications equipment, VATM's technical department assists them.

<u>Vietnam Air Traffic Management</u>: VATM provides services such as air traffic control, aeronautical information services and maintenance of facilities in these services. VATM should institute the improvements recommended in the ICAO Civil Aviation Master Plan such as the organization of a maintenance group.

Commercial Operation

Commercial operation refers to services that do not involve aeronautical services at airports. It is frequently referred to as non-aeronautical operation. Here, spaces at terminals are rented to commercial enterprises, such as duty-free shops and airlines. The CAAV sets rental rates and submits these to the Government Pricing Committee for approval. Commercial operations in most regional airports are not very active because of the current low traffic volume. Of the three international airports, Tan Son Nhat International Airport has the largest number of concessionaires.

Operational Safety

All airports, particularly the international ones, should have a crash alerting system, possibly in the form of an alarm bell circuit and direct telephone line to the airport fire station. In addition, fire vehicles should be equipped with VHF transceivers capable of operating on the airport and emergency VHF channels. All civil passenger aircraft registered in Vietnam should be required to carry emergency locator transmitters (ELTs). Moreover, the construction of a security fence around regional airports is strongly recommended to prohibit unauthorized access to the airfield.

4.6.7 Finance and Management

Fees and Charges

1) Aeronautical Fees

Landing, parking and passenger service charges are collected by airport authorities, while navigation charges are collected by VATM.

(1) Landing Charges: Basic charges are based on the maximum takeoff weight of aircraft (see Table 4.6.11). An extra 50% of the basic charges will be added for nonscheduled flight and 25% for using landing lighting system at night or in case of bad weather, as requested by the aircraft crew.

Maximum Take-off Weight	Charges per Landing	Adding Charge for Each
of Aircraft (Ton)	(US\$)	Exceeding Ton (US\$)
Less than 20	65	
20 to 50	65	3.5
50 to 100	170	4.0
100 to 150	370	5.0
150 to 190	620	6.0
190 to 240	800	7.0
240 and above	1140	8.5

Table 4.6.11 Landing Charges

Source: AIP Vietnam FAL3-1, 25 Mar 1996

(2) Charges for the Use of Air Navigation Facilities and Air Traffic Services: Basic charges are based on the maximum takeoff weight of the aircraft as shown in Table 4.6.12. An extra 20% of basic charges will be added for nonscheduled flight and 30% for a flight to/from any Vietnamese airport during Vietnamese public holidays.

Table 4.6.12
Air Navigation and Air Traffic Services Charge

	Charges for Arr	ival Flight (US\$)	Charges for Overflight (US\$)		
< 500 km	Flown	Flown			
	Distance	Distance	< 500 km	500 km ≤	
	< 400 km	400 km ≤			
Less than 20	254	310	115	129	
20 to 50	388	474	176	197	
50 to 100	564	689	255	286	
100 to 150	730	893	330	370	
150 to 190	850	1040	384	431	
190 to 240	956	1171	420	460	
240 to 300	1072	1313	450	490	
300 and above	1132	1387	480	520	

Source: AIP Vietnam FAL 3-2, 25 March 1996

(3) Parking Charges: Basic charges are based on the maximum takeoff weight of aircraft as shown in the Table 4.6.13. The minimum parking charge US\$ 2.80 will be charged for airlines that unexpectedly, for some reason or another, have to park.

Table 4.6.13 Parking Charges

Number of Parking Hours	Charges for Each Ton (US\$)
Above 03 hours to 05 hours	2.8
Above 05 hours to 08 hours	3.5
Above 08 hours to 12 hours	3.8
Above 12 hours to 18 hours	4
Above 18 hours	4.2

Source: AIP Vietnam FAL3-3, 25 March 1996

- (4) Discount for Vietnamese Air Carriers: There is an agreement, effective 1 May 1995, that Vietnam Airlines will pay 80% of landing and air navigation charges set forth in the AIP for international flights and 50% for domestic flights. It has also been agreed that a lump-sum fee for aircraft parking and terminal usage will be paid to airport authorities. The same condition applies to Pacific Airlines.
- (5) Passenger Service Charge: Passenger service charges are shown below.

Airporto	International	Domestic
Allpoits	Passenger (US\$)	Passenger (VND)
Tan Son Nhat International Airport	10.00	20,000
Noi Bai and Danang International	10.00	20,000
Airports		
Other Airports		10,000

Table 4.6.14 Passenger Service Charges

Source: Vietnam Airlines Time Table 31 October 1999-25 March 2000

2) Airfare

Airfares were decided based on Decision No. 818-TTg of the Prime Minister on the Management of Airfares of Vietnam Civil Aviation dated 13 December 1995.

International airfares' conformity with transportation fares is provided for in international treaties to which Vietnam has signed or based on transportation fares announced by international airlines. International airfares are proposed by airlines and ratified by the CAAV.

There are two different domestic airfares in Vietnam: one is applicable to foreign citizens and overseas Vietnamese and the other is for local Vietnamese. Fares on domestic routes for the former are based on international air transportation fares, particularly those applied in neighboring regions. Airfares for Vietnamese locals are decided by the CAAV (see Table 4.6.15). The maximum airfare

applicable to Vietnamese passengers on domestic flights between Hanoi and Ho Chi Minh City is decided by the CAAV and Government Pricing Committee and approved by the Prime Minister. Based on this maximum airfare, airfares in other routes are proposed by airlines and the CAAV ratifies them.

	Route	Distance (km)	Class	Air	fare (VND 000)	Airfare/km (VND)		
				Foreigner	Vietnamese	Ratio	Foreigner	Vietnamese
	Hanoi-Danang	607	С	1,200	850	1.41	1,977	1,400
Business	Hanoi-Hue	549	С	1,200	750	1.60	2,186	1,366
	Hanoi-HCMC	1,138	С	2,450	1,500	1.63	2,153	1,318
Class	HCMC-Danang	603	С	1,200	850	1.41	1,990	1,410
	Average	-		-	-	1.51	2,068	1,365
	Hanoi-Danang	607	Y	1,000	500	2.02	1,647	824
F	Hanoi-Hue	549	Y	1,000	480	2.08	1,821	874
Economy	Hanoi-HCMC	1,138	Y	1,900	1,000	1.90	1,670	879
Class	HCMC-Danang	603	Y	1,000	570	1.75	1,658	945
	Average	-		-	-	2.17	1,831	927

Table 4.6.15 Domestic Airfare

Financial Conditions of Airport Authorities and the VATM

All airport authorities and the VATM were financially profitable in 1998 (see Table 4.6.16).

Table 4.6.16

Revenue and Expenditure Record of Airports Authorities and VATM

						VND million
Airport Authority	Item	1994	1995	1996	1997	1998
Northern Airport	Revenue Expenditure	38,839 41,194	54,048 53,963	66,382 85,453	78,398 88,267	109,330 97,718
Authority	Balance	-2,355	85	-19,071	-9,869	11,612
Central Airport	Revenue	24,713	57,632	74,553	82,259	70,459
	Expenditure	25,267	47,301	50,383	74,707	62,778
rationty	Balance	-554	10,331	24,170	7,552	7,681
Southern Airport	Revenue	193,765	308,896	372,140	389,429	521,056
	Expenditure	150,511	197,103	240,050	263,898	341,279
Admonty	Balance	43,254	111,793	132,090	125,531	179,777
х <i>и</i> х: т и	Revenue	196,268	490,278	541,254	619,568	679,000
Management	Expenditure	90,456	177,451	225,932	223,790	268,775
management	Balance	105,812	312,827	315,322	395,778	410,225

Source: CAAV

International Comparison of Airfares

A comparison of the airfare cost per kilometer in the regional countries, such as Thailand, Malaysia, Philippines, Indonesia and Japan, indicates that for every 1,000 km, airfare cost for a Vietnamese citizen is cheaper than in Thailand, Philippines, Indonesia, and Japan. Only Malaysia is cheaper by comparison. However, the airfare for foreigners traveling to Vietnam is almost double as compared to a Vietnamese citizen traveling to Thailand, Philippines and Malaysia and costs almost the same as if the destination is Japan (see Table 4.6.17).

Country	Vietnam	Vietnam	Thailand	Philippines	Indonesia	Malaysia	Japan
Route	Hanoi - Ho Chi Minh City (Vietnamese)	Hanoi - Ho Chi Minh City (Foreigner)	Bangkok - Phuket	Manila - Davao	Jakarta - Padan	Kuching - Kuala Lumpur	Narita - Kagoshima
Distance [km]	1,040	1,040	795	1105	1065	1145	1113
Local Price	1,000,000	1,900,000	2,300	-	-	-	-
Local Currency	[VND]	[VND]	[Baht]				
Exchange Rate	14,042	14,042	0.028	-	-	-	-
Price in US\$	71.21	135.31	64.4	122	272	57	148
Price per km in US\$	0.07	0.13	0.08	0.11	0.26	0.05	0.13
Ratio (Vietnamese Price = 1.00)	1.00	1.90	1.18	1.61	3.73	0.73	1.94
Ratio (Foreigner Price = 1.00)	0.53	1.00	0.62	0.85	1.96	0.38	1.02

Table 4.6.17 Comparison of Domestic Airfares for a 1,000-km Route

Note: Economy class, one-way full fare price, as of 20 January 2000

Table 4.6.18Comparison of Domestic Airfares for a 500-km Route

Country	Vietnam	Vietnam	Thailand	Philippines	Indonesia	Malaysia	Japan
Route	Hanoi - Hue (Vietnamese)	Hanoi - Hue (Foreigner)	Bangkok - Phrae	Cebu - Davao	Jakarta - Pankalpinang	Kuala Lumpur - Langkawi	Narita - Akita
Distance [km]	549	549	544	461	522	468	519
Local Price	570,000	1,000,000	1,625	-	-	-	-
Local Currency	[VND]	[VND]	[Bahts]				
Exchange Rate	14,042	14,042	0.028	-	-	-	-
Price in US\$	40.59	71.21	45.5	64	142	41	91
Price per km in US\$	0.07	0.13	0.08	0.14	0.27	0.09	0.18
Ratio (Vietnamese Price = 1.00)	1.00	1.75	1.13	1.88	3.68	1.18	2.37
Ratio (Foreigner Price = 1.00)	0.57	1.00	0.64	1.07	2.10	0.68	1.35

Note: Economy class, one-way full fare price as of 20 January 2000

A comparison of the airfare cost per kilometer for a distance range of 500 kilometers in the same countries indicates that the cost is less in Vietnam for a Vietnamese citizen than in any of the other countries.

The airfare cost per kilometer remains constant in both Vietnam and Thailand for both 1,000-km and 500-km routes, whereas more expensive fares are applied for the shorter route in Malaysia, Philippines, Indonesia, and Japan.

In general, aircraft operation cost consists of aircraft leasing or depreciation cost, aircraft fuel cost, staff cost, aeronautical charges, ground handling, catering, etc. Most of these are dependent on route distance. If price per distance is set on the longer distance, airfare for short distance becomes cheaper and airlines will shoulder the operational cost for such cheap fares. As can be gleaned from the figure (see Figure 4.6.5), there is no significant difference in airfare per distance between longer and shorter routes.



Figure 4.6.5 Airfare and Route Distance

4.6.8 Institutional and Management Aspects

Competitive Environment

Although there is more than one Vietnamese airline, the domestic market is dominated by Vietnam Airlines. Its main competitor, Pacific Airlines, is 30% owned by VAC. Two companies among six shareholders are subsidiary companies of VAC.

According to a statement by Nguyen Tien Sam, Director General of the CAAV at the 35th annual conference of civil aviation directors held last September 1999, Vietnam has pledged to steer the airline industry toward a more liberalized market by creating a "fair and competitive" environment for the sustainable development of the air transportation sector.

This statement poses a challenge for the industry since the government does not allow foreign direct investment in the air transport subsector. The only way to tap into foreign business investment is through joint venture arrangements.

No plan has yet been developed to level the playing field among the various organizations in the air transport subsector. However, airports have recently been established as SOEs to allow them to develop related business interests such as shops, hotels, advertising, etc. A number of joint venture operations are engaged in hotel, food processing, forwarding and storage activities, but many still have financial difficulties.

Management Information System

Information necessary for airport planning and management is insufficient and not adequately processed for use in decision-making. The financial situation of airlines and airports are not clear because financial information is not made available.

The CAAV should ensure that sufficient copies of ICAO documents are available and circulated to the parties concerned (It was mentioned at CATCV that it has not received such documents from CAAV.).

Some aeronautical facilities are not listed in the AIP. The list therefore must be updated and reorganized to conform to the new ICAO format.

Environmental Considerations

Airports have inadequate means of dealing with sewerage and solid waste. In the light of growing traffic levels, this should be properly addressed and requires immediate attention. Although noise pollution does not pose much of a problem at the moment, the amount of noise from the aircraft will grow and this will particularly affect surrounding communities at Danang and Tan Son Nhat airports.

Interagency Coordination

The CAAV is under the Office of Government rather than the MOT, making the development of an integrated transport network and overall policy framework for transport more complicated. The links between CAAV and VAC are very close and it is possible that CAAV has insufficient authority in practice to regulate VAC effectively. There is a need to strengthen CAAV's ability to plan and regulate the subsector.

The separation of the functions of regulator and operator is almost established between the CAAV and air carriers. Three regional airport authorities and the air traffic control service provider, VATM, are state utility enterprises. They became financially independent bodies since 1998. On the other hand, regional airport authorities and the VATM belong to the CAAV.

Ensuring a safe, effective and efficient air transportation system requires that the operator and the regulator must be independent from each other. Almost exclusively the Government of Vietnam has assumed the ownership, development and operation of airports in Vietnam. The CAAV functions both as an operator and regulator, hence regulatory activities have been conducted on a rather informal basis. To separate its operator and regulator roles, it is necessary to review and restructure CAAV's regulatory functions.

Moreover, there should be more cooperation between the various government departments. For example, the Post and Telecommunications Department should give priority to the restoration of telephone lines to the CAAV when outages occur.

Better coordination in planning activities is essential. For instance, the new Terminal 1 at Noi Bai International Airport may have to be improved since it obscures the Control Tower's view of a large portion of the taxiway up to the threshold of Runway 11.

For airports jointly used for civil and military purposes, improved coordination can be achieved by using only one control tower that will oversee operations for both civil and military aircraft. Controllers from both sides will man the tower. This will avoid the problem when communications are lost between the two separate towers. The situation at Noi Bai International Airport is particularly disturbing, since during periods of joint civil-military operations, civil controllers are required to leave the civil tower and travel by car across the runway to the military tower where civil operations are re-established. This puts the civil controllers at a disadvantage since this interferes with civil operations at major international airports. At such airports, civil operations should take precedence over those of the military except in times of hostilities.

4.6.9 Human Resource Development

General

Discussions with CAAV indicated a need for staff training in some disciplines where no training facilities exist locally or which the locally available level of training available is not advanced. The comments in this section of the report therefore refer to overseas training opportunities for qualified personnel. The requirements are reviewed in two parts:

 Training required to meet the needs of the new CNS/ATM systems and techniques that will be introduced between now and 2010.
 This is expected to form the bulk of training needs over the next few years. Available overseas training should be availed of in the short term, as it will take time for the Civil Aviation Training Center (CATC) to prepare for new technologies; and

2) The advanced training required in what may be regarded as the 'conventional', or general, aviation subjects.

Careful planning and scheduling of personnel that will undergo training must be taken to ensure that facilities are adequately manned and operations are not compromised.

4.7 Rural Transport

General

Rural transport, which was outside the original scope of the VITRANSS, has been included in view of its critical role in supporting socio-economic activities in rural areas and in providing effective network linkages with higher levels of the transport system. The policy on rural transport infrastructure development also affects the allocation of available public funds.

In the VITRANSS, however, the study of rural transport is limited to the analysis of existing information and conduct of case studies for three districts, namely, Dong Xuan and Tuy Hoa of Phu Yen province and Moc Hoa of Long An province.¹

Poor Accessibility and Lack of Integration with National and Provincial Road Networks

Many districts in mountainous regions, as well as both the Red River delta and the Mekong River delta, have low accessibility of road transport as illustrated in Figure 4.7.1. Most districts, which have poor accessibility by national and provincial road networks, especially those in mountainous areas, are not densely inhabited; the population density of these districts is less than 100 persons per square kilometer (refer to Figure 4.7.1). In contrast, densely inhabited districts are in the two delta regions where inland waterway transport is developed.

	Communes without Road to Provincial Capital	% to Total Number of Communes
Red River Delta	0	0.0
Northeast	122	20.1
Northwest	81	13.4
North Central Coast	125	20.6
South Central Coast		
Central Highlands	9	1.5
Northeastern South	7	1.2
Mekong River Delta	262	43.2
Total	606	100.0

Table 4.7.1 Existing Accessibility in Rural Areas by Region

Source: Seminar on Rural Road Development in Vietnam (TDSI)

NOTE: Since this estimate was made, the number of communces without motor vehicle access has been reduced to 515 according to MOT information presented to the Rural Transport Strategy Study on 31 March 2000.

¹ Surveys including household interviews, traffic count, etc. were conducted in Dong Xuan and Tuy Hoa districts in October 1999 and Moc Hoa district in November 1999.





Existing Conditions of Rural Roads

The quality of rural roads is still very low. Less than 10% of district roads are paved with asphalt concrete or gravel. Almost all commune roads are in the category of laterite or earth roads (see Table 4.7.2).

By the end of 1998, as many as 606 out of 9,816 communes could not access provincial capitals by motor vehicle (this figure had been reduced to 515 by 31 March 2000). In the Mekong delta, as much as 43% of communes have no accessibility to provincial capitals, followed by about 20% in the northeast and north central coast. Although in other communes people have access to provincial capitals, many of these communes become nearly inaccessible during rainy season.

Road Classification		Asphalt Concrete	Gravel	Laterite	Earth	Total
District Road	Length (km)	53	3,558	17,932	15,362	36,905
	% Composition	0.1	9.6	48.6	41.6	100.0
Commune	Length (km)	0	2,922	52,446	76,687	132,055
Road						
	% Composition	0.0	2.2	39.7	58.1	100.0
Total	Length (km)	53	6,480	70,378	92,049	168,960
	% Composition	0.0	3.8	41.7	54.5	100.0

Table 4.7.2 Rural Road System by Pavement Type

Source: July 1999

Travel Characteristics of Rural Residents

Although the problem of accessibility in rural areas is recognized and attended to, there is only very limited information both on infrastructure and demand aspects of rural transport. The selected districts for case studies in the VITRANSS have different physical and socio-economic characteristics: While Dong Xuan and Tuy Hoa are served by land transport, Moc Hoa, with relatively high household income, is mainly served by water transport (see Table 4.7.3).

The analysis of the surveys conducted on the residents of the selected districts revealed their travel characteristics as follows:

1) Different transport modes are used for different purposes of travel, though walking and biking are the most popular modes. In rural areas in the deltas both motorized and nonmotorized boats serve various transport needs.

		Phu Yen	Long An Province			
		Dong Xuan	Tuy Hoa	Ν	Moc Hoa	
	 No. of Household 	11,340	54,684		13,47	0
Demography	 Population 	53,152	253,171		62,93	5
	 Ave. No. of HH 	4.7	4.6		4.	7
- Ave. HH Incom	ne (VND 000/month)	733	892	1,643		
- % of HH with le	ess than VND	34%	20%	3%		
500,000/month	า					
	Boat availability	None	None	None	One ^{1/}	Two ^{2/}
Vehicle	No B/C, No M/C	14.3	0.7	5.7	8.6	32.9
Availability	Bicycle only	27.4	41.5	5.7	10.0	28.6
	One Motorcycle	52.4	53.3	-	1.4	7.1
(70)	Multiple M/C	3.6	4.4	-	-	-
	Others	2.4	-	-	-	-

Table 4.7.3 Profile of Selected Districts for Case Studies

Source: VITRANSS

1/Boat without engine available

2/Boat with engine available

2) The modal choice for to-work trips varies by purpose (agricultural work and others) and area (land or delta). Non-agricultural trips frequently use motorcycle (see Table 4.7.4).

				Water					
District Purpose	Wolking	B/C	Animal	M/C	Bus (Othora	Nonmotor-	Motorized	
	waiking		Cart			Others	ized Boat	Boat	
Dong	Agriculture	72.5	19.8	0	7.7	0	0	-	-
Xuan	Others	29.2	25.0	0	41.7	4.2	0	-	-
Tuy Hoa	Agriculture	57.7	26.8	2.7	8.7	0	4.0	-	-
	Others	12.5	38.8	1.3	38.8	6.3	2.5	-	-
Мос	Agriculture	53.8	1.1	4.4	0	-	0	4.4	40.7
Hoa	Others	52.2	8.7	4.3	0	-	0	4.3	34.8

Table 4.7.4 Modal Choice for To-work Trip

Source: VITRANSS

- 3) To-school trips are mostly done by walking and biking, especially for lower levels of education. There is little increase in the use of motorcycles and buses at secondary level. The use of boats is popular in Moc Hoa district (see Table 4.7.5).
- 4) Shopping is done in the neighborhood, at commune and district centers and provincial capital. The pattern of choosing shopping places is greatly affected by the physical setting of the area. People in Dong Xuan equally visit shopping areas

in the neighborhood, commune center and provincial capital. On the other hand, people in Moc Hoa travel to the district center (see Table 4.7.6).

		Land					Water		
District	Level	Walking	B/C	M/C	Buc	Othore	Nonmotorized	Motorized	
		waiking	D/C	W/C	Dus	Others	Boat	Boat	
Dong	Primary	86.4	13.6	0	0	0	-	-	
Xuan	Middle	42.4	51.6	0	3.0	3.0	-	-	
	Secondary	0	60.0	6.7	33.3	0	-	-	
Tuy Hoa	Primary	82.4	17.6	0	0	0	-	-	
	Middle	10.0	90.0	0	0	0	-	-	
	Secondary	0	94.7	9.3	0	0	-	-	
Мос	Primary	61.8	9.1	0	0	0	18.2	10.9	
Hoa	Middle	13.5	51.4	0	0	0	16.2	18.9	
	Secondary	0	72.7	0	0	0	9.1	18.2	

Table 4.7.5
Modal Choice for To-school Trip

Source: VITRANSS

Table 4.7.6
Modal Choice for Shopping ^{1/}

				Water				
District	Destination	Walking	B/C	M/C	Buc	Othore	Nonmotorized	Motorized
		waiking	D/C		DUS	Others	Boat	Boat
Dong	Neighborhood	37.5	31.3	25.0	6.3	0	-	-
Xuan	Commune Center	31.8	44.7	23.5	0	0	-	-
	District Center	8.3	16.7	66.7	8.3	0	-	-
	Prov'l Capital	0	0	70.6	29.4	0	-	-
Tuy Hoa	Neighborhood	38.0	50.5	5.4	0	0	-	-
	Commune Center	10.9	55.5	30.9	0	2.7	-	-
	District Center	4.4	29.4	61.8	1.5	3.0	-	-
	Prov'l Capital	1.1	4.3	70.2	19.1	5.3	-	-
Мос	Neighborhood	25.0	0	25.0	0	0	50.0	0
Hoa	Commune Center	6.7	46.7	13.3	0	0	6.7	26.7
	District Center	0	12.4	12.4	0	0	7.9	67.4
	Prov'l Capital	0	0	0	50.0	0	0	50.0

Source: VITRANSS

1/ The types of market in the three districts are shown in the following table:

			0
Tupo of Market for Shapping	Phu Yen	Long An Province	
Type of Market for Shopping	Dong Xuan	Tuy Hoa	Moc Hoa
Neighborhood	11	66	4
Commune Center	79	69	19
District Center	38	38	98
Provincial Capital	20	61	8

In general the choice of transport modes more or less follows the hierarchy of shopping distinctions. Neighborhood and commune centers are mostly accessed by walking and biking, district centers are reached more by bicycles and motorcycles, and provincial capital by motorcycles and buses in Dong Xuan and Tuy Hoa districts. In Moc Hoa district, nonmechanized boat is frequently used to go to the neighborhood market and mechanized boat to commune center, district center and provincial capital.

5) Transporting agricultural produce is affected by the availability of transportation. A wide range of transport modes, including walking, bicycle, animal cart, motorcycle, truck, and boat, are used depending on the specific purpose of transporting agricultural produce (see Table 4.7.7).

	Dong Xuan			Tuy Hoa			Moc Hoa		
Mode	Transport of Produce to			Transport of Produce to			Transport of Produce to		
	Drying	Proces- sing	Market	Drying	Proces- sing	Market	Drying	Proces- sing	Market
Walking	42.9	28.6	19.3	14.0	13.3	19.2	6.7	0	0
Bicycle	0	20.4	21.1	26.7	60.0	38.4	0	0	5.9
Animal	7.1	0	0	2.3	0	0	0	0	0
Animal Cart	42.9	26.5	0	46.5	7.6	11.0	0	0	0
Motorcycle	0	20.4	22.8	5.8	12.4	24.7	0	1.5	0
Cong Nong	0	2.0	0	4.7	0	0	6.7	0	0
Truck	0	0	36.8	0	5.7	5.5	0	0	0
Boat w/o Motor	-	-	-	-	-	-	4.0	16.7	0
Boat w/ Motor	-	-	-	-	-	-	49.3	81.8	94.1
Others	7.1	2.0	0	0	1.0	1.4	33.3	0	0
Total	100	100	100	100	100	100	100	100	100

Table 4.7.7 Modal Choice for Transporting Agricultural Produce

Source: VITRANSS

Problems and Issues

Rural transport development and improvement are the wheels on one side of a vehicle, the other being primary transport. Without an efficient primary transport network, rural transport will be handicapped. Without an effective rural transport, the primary system will be underutilized. Although rural transport should not be looked at from the transport sector viewpoint alone and is not fully included in the VITRANSS scope, it is the viewpoint of the VITRANSS that rural transport should be effectively integrated with interprovincial transport.

1) Poor Accessibility in Most Rural Areas: There are 515 communes which have no access road to provincial capitals by four-wheel motor vehicle. The northern mountainous areas, Central Highlands and Mekong River delta particularly lack

accessibility due to the difficult topography. Moreover, the rural road network is not properly configured based on a clear planning philosophy.

- 2) Lack of Infrastructure Development and Management Capabilities at Local Level: Although the government has recognized the necessity of rural road development and placed policy priority in the forefront of its poverty alleviation efforts, with particular emphasis on handicapped areas, problems and issues related to management still persist. These are:
 - Lack of basic information
 - Absence of plans and lack of planning capability
 - Limited financial and human resources
 - Lack of clear policy and strategy for rural transport development
- 3) Lack of a Development Plan for Rural Transport: Many provinces have established a rural transport development plan. However, the necessity of infrastructure facility has not been well documented and the criteria for giving priority to construction or improvement of infrastructure have not been clearly established. The common practice in prioritizing projects at provincial level is to select them through discussion in the district level. Thus each district would have its own project list. There seems to be no coordination among districts at provincial level. There is no established method to evaluate rural transport development.

4.8 Cross-border Transport

Overview

International attention and initiative were reoriented from restoring political stability to the enhancement of economic development for a new growth center. Initial efforts were made in 1992 when the six nations comprising the Greater Mekong Subregion (Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and the Yunnan Province of China) began working out a joint development program with assistance from the ADB.

Although it is true that individual transport development projects of each country in the subregion cannot match the pace of subregional economic growth, serious issues can be observed regarding the gap between the demand of cross-border trade and the supply of cross-border transport. These are:

- <u>Poor Infrastructure</u>: In almost all locations, infrastructure and other facilities are poorly provided, notwithstanding ongoing improvement projects for the Phnom Penh-Ho Chi Minh City corridor and Danang-Savannakhet corridor. Inadequate infrastructure and other facilities cause higher transport costs, as well as damage and security risk to cargoes and inconvenience to passengers.
- <u>Weak Institutional Support</u>: Procedures facilitating cross-border and cargo traffic are not properly institutionalized. Nor are they implemented to facilitate smoother movement. Cross-border transport users often add high transport costs to institutional problems like compulsory transshipment, time-consuming immigration/custom procedures, strict passenger control, and expensive visa fees.
- <u>Increased Illegal Activities</u>: Various illegal activities, such as smuggling, cannot be suppressed because of the import ban and taxation on trade. Opening of gates and improvement of cross-border transport infrastructure have contributed to the increase in such activities.

The importance of cross-border transport can be taken from both the national and local economic viewpoints. In addition to major transport corridors between adjoining countries and major growth centers/transshipment points, there are a number of smaller cross-border routes that largely benefit specific localities. These are mostly located in places where accessibility is often limited. Because of this, cross-border transport needs a strong institutional support as well as infrastructure development. This is a new horizon in transport development for land-connected, less-developed countries such as Vietnam and her neighbors.

Cross-border Trade

Vietnam has more than 4,639 km of border with China, Lao PDR and Cambodia. Six of its northern provinces face China, 10 western provinces face Lao and eight southwestern provinces face Cambodia. Most of these 24 border provinces are mountainous and generally underdeveloped. Today it is said that Vietnam is open to cross-border transport at 16 border gates. Cross-border trade markets have mushroomed in Vietnam. About 40 such markets are in active operation in nine western and southern provinces bordering Cambodia. The same situation probably exists on both the Vietnam-Laos border and the Vietnam-China border.

Since Vietnam's trade volume with its four neighboring countries was pegged at US\$ 1,906 million in 1997, the magnitude of cross-border trade is estimated at several million US dollars which is several percent of its national total (US\$ 20,777 million in 1997). Although the share of cross-border trade is small in national trade, border trade development provides significant economic impact on border provinces (refer to Table 4.8.1 and Table 4.8.2).

Cross-border trade helps overcome old difficulties and enhance locational advantages and economic efficiency as well. The following are some experiences to affirm this trend:

- A number of Vietnamese products, which hardly entered foreign markets, have now found buyers. They are low-heat-producing coal dust, low-quality rubber materials, aqua products, detergents, plastic wares, etc.
- Since 1997 Quang Ninh province has been visited by Chinese tourists through the border town of Mong Cai. The town collected some VND 200 million in tax in 1997, six times the 1991 level, surpassing even the annual budget of other provinces.
- Since a border gate opened at Lang Son, the provincial economy has become active. The year 1997 saw an import-export turnover of fourteen-fold over the 1991 level. This development promotes services, including delivery, transport, processing, packing, and storage, and create more jobs.

Notwithstanding these positive results problems still exist, especially smuggling which is rampant in the area. Commodities imported illegally are tobacco, beverage, textile, eggs, etc., products over which the State has a monopoly but cannot adequately produce.

The exchange of goods take several forms including goods exchanged by border people, import and export activities on quota, etc. In recent years, the Vietnamese government has liberalized cross-border trade through the following measures:

- To encourage spot production and trade by both parties, they can legally transact VND 500,000 worth of goods tax-free per capita per day at Vietnam-Laos border markets and VND 200,000 worth of goods at Vietnam-China border markets.
- A number of provinces, like Quang Ninh, Lang Son, Lao Cai, Ha Tinh, Quang Tri, and Kien Giang, have been recently licensed to pilot liberalization policies at some border-gate economic zones.

						(US\$ n	nillion, at	current prices)
		1992	1993	1994	1995	1996	1997	Ave. Annual Growth (1992-1997)
	Cambodia	6.4	96.2	77.3	94.6	99.0	108.9	76%
Export To	China PR	95.6	135.8	295.7	361.9	340.2	474.1	38%
'	Lao PDR	16.0	14.4	20.9	20.6	24.9	30.4	14%
	Thailand	71.5	71.8	97.6	101.3	107.4	235.3	27%
	The world	2,580	2,985	4,054	5,449	7,256	9,185	29%
Shares of the for countries/World	our d	7.3%	10.7%	12.1%	10.6%	7.9%	9.2%	
	Cambodia	6.7	7.6	17.7	23.5	17.9	24.7	30%
Import	China PR	31.8	85.5	144.2	329.7	329.0	404.4	66%
from	Lao PDR	7.7	24.8	102.9	84.0	68.1	52.7	47%
	Thailand	41.2	99.5	225.7	439.7	494.5	575.2	69%
	The world	2,540	3,924	5,826	8,155	11,14 4	11,59 2	35%
Shares of the four countries/World		3.4%	5.5%	8.4%	10.8%	8.2%	9.1%	

Table 4.8.1 Trend in Bilateral Trade with Neighboring Countries

Table 4.8.2 Border Provinces in Vietnam

Area	Area (km ²)	Population 1997 (000)	GDP 1997 (bil. VND)	GDP Per Capita (mil. VND)
6 Border Provinces with China ^{1/}	53,525	4,029	9,118	2.26
10 Border Provinces with Lao PDR ^{2/}	91,231	13,924	28,898	2.08
8 Border Provinces with Cambodia ^{3/}	64,136	10,033	32,084	3.20
24 Border Provinces in total (A)	208,892	27,986	70,100	2.50
Country Total (B)	330,992	75,665	273,966	3.62
(A)/(B)	63.1%	37.0%	25.6%	69.1%

Source: GSO

1/ Cao Bang, Lang Son, Quang Ninh, Lao Cai, Ha Giang, Lai Chau

2/ Son La, Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, Quang Ngai, Kon Tum

3/ Gia Lai, Dac Lac, Binh Phuc, Tay Ninh, Long An, Dong Thap, An Giang, Kien Giang

Cross-border Road Traffic

Although many roads link up with neighboring countries, cross-border traffic is limited and often uncertain. With China and Cambodia, vehicles are not allowed to cross except commuter traffic like interstate regular bus operations. With Lao PDR, its government only allows state-owned truckers to enter. However, the three neighboring countries do not announce any statistical data, only data on cross-border traffic by Vietnamese vehicles are available, as shown in Table 4.8.3.

At the Vietnam-Cambodia border, the number of passengers is declining relative to air traffic. According to the Ministry of Public Works and Transport of Cambodia, before 1990, 60 to 80 trucks per day plied the borders and carried 50,000-70,000 tons of cargo a year. The Ministry estimates the same volume of cargo movement at present. At the Vietnam-China border, road transport does not play an important role compared with railway and shipping. But the number of passengers is increasing. At the Vietnam-Laos border, traffic is larger since road transport is more liberalized compared with the other two countries. Within Vietnam is a considerable number of Laotian trucks exporting goods and carrying transit goods.

Country	Voor	Freight	Traffic	Passenger Traffic		
Country	i eai	Ton	Ton-km	No.	Pass-km	
Cambodia	1995	0	-	70,287	na	
	1996	0	-	83,129	na	
	1997	0	-	61,464	na	
	1998	0	-	41,627	na	
China	1995	0	-	14,732	na	
	1996	0	-	14,811	na	
	1997	0	-	18,178	na	
	1998	0	-	24,169 (584)	na	
Lao PDR	1995	(139)	(28,85)	66,823	na	
				(11,519)	(6,039,800)	
	1996	(148)	(45,510)	68,549	na	
				(14,007)	(6,570,198)	
	1997	(203)	(60,649)	55,649	na	
				(16,722)	(7,069,411)	
	1998	(154)	(57,734)	118,376	na	
				(10,818)	(5,136,285)	

Table 4.8.3 Cross-border Road Traffic by Vietnamese Vehicles

Source: Ministry of Defense, Provincial Transport Departments, Ministry of Transport Note: Figures in () refer to traffic volume by state-owned enterprises.

Cross-border Rail Traffic

International trains are operated in the lines bound for Kunming via Lao Cai and Beijing via Dong Dang from Hanoi. It took three years since both lines were reconnected with China. The frequency was two return trips per week per line as of 1998. Cross-border rail traffic during the 1996-98 period indicated a sharp increase, especially in freight (Table 4.8.4). Vietnam imported industrial products such as plaster, salt and fertilizer from Yunnan Province, while it exported ore mined in Lao Cai province. Meanwhile, via Dong Dang, Vietnam did not have a substantial export product and imported industrial products such as steel, machinery and chemicals.

Passenger rail service is not popular among traders and tourists (see Table 4.8.5). Compared with bus, rail trip frequency is low and the fare is relatively costly.

Table 4.8.4					
Cross-border Rail Freight Traffic					

(Via Lao	o Cai)		
		Т	ons
	1996	1997	1998
Import Total	41,316	136,926	188,940
Plaster	2,770	77,258	96,241
Salt	n.a.	9,620	22,465
Fertilizer	n.a.	8,735	23,204
Chemical	n.a.	n.a.	9,405
Coal	n.a.	n.a.	2,123
Steel	n.a.	n.a.	3,152
Other Metal	n.a.	n.a.	3,036
Tobacco	n.a.	n.a.	153
Cement	31,007	11,033	0
Others	n.a.	n.a.	29,161
Export Total	n.a.	n.a.	n.a.
Ore	n.a.	36,035	87,200
Wood	n.a.	n.a.	4,050
Fire Wood	n.a.	n.a.	670
Chromium	n.a.	n.a.	1,200
Paper	n.a.	n.a.	757
Rubber	n.a.	n.a.	60
Lubricant	n.a.	119	0
Others	n.a.	n.a.	n.a.

(Via Dong Dang)

			Tons
	1996	1997	1998
Import Total	5,451	46,632	83,619
Steel,	665	30,499	56,143
Machinery			
Chemical	720	14,160	14,594
Rice	0	0	120
Sand	0	0	300
Cement	2,000	0	0
Brick	0	1,897	990
Others	2,066	76	11,472
Export	n.a.	600	n.a.

Source: Vietnam Railways

Table 4.8.5 Cross-border Rail Passenger Traffic

				Pass/month	
Cross-border Point		January 1998	June 1998	September 1998	
Lao Cai	Outgoing	67	82	102	
	Incoming	138	91	42	
Dong Dang	Outgoing	106	205	362	
	Incoming	227	192	304	

Transit Cargo at Vietnamese Ports

According to the VINAMARINE, Vietnamese ports handled 3,601,000 tons of transit cargo in 1998. The Study Team estimated that 2,639,000 tons or 73% of this amount were connected with the three neighboring countries (see Table 4.8.6).

Mekong River is an important transit route to Cambodia. But vessels going to Cambodia must drop by Vung Tau Port and request pilotage service up to the Vietnam-Cambodia border. Vung Tau Port counts the cargo loaded on these vessels as transit cargo. Meanwhile, Phnom Penh Port, the biggest river port in Cambodia, handled 650,000 tons in 1997. Direct trade with Vietnam accounted for 27%, the remaining 474,500 tons was regarded as transit cargo via Vietnam.

Northern Vietnamese seaports, like Hai Phong and Cai Lan, handled transit cargo from neighboring Chinese provinces, Yunnan and Guangxi. Hai Phong, a busy port with many ship calls, presently attracts such transit cargo to some extent.

Lao PDR owns two ocean-going vessels. Since their homeport is Danang, most of Laotian transit cargo is shipped out and in at Danang Port.

			Tons
	Cambodia	Lao PDR	China
Vung Tau	1,634,933		-
Quy Nhon	218,252		-
Dong Nai	9,752		-
Dong Thap	436		-
Danang	-	224,292	-
Nghe Tinh	-	16,307	-
Haiphong	-	-	356,193
Quang Ninh	-	-	150,145
Total	1,863,376	240,599	536,338

Table 4.8.6	
Estimated Transit Cargo to/from Neighboring Countries, 1	1998

Source: Estimated based on the data from VINAMARINE

Cross-border Transport Infrastructure

Today, six cross-border points are open to interstate as well as transit traffic: three with China (Dong Dang, Lao Cai and Mon Cai), two with Lao (Keo Nua and Lao Bao) and one with Cambodia (Moc Bai). It is reported that six other cross-border points with Lao and four others with Cambodia deal only with local traffic, whereas a third of national passengers cannot pass through, and long-distance cross-border traffic is restrained (see Figure 4.8.1).

<u>China:</u> The VR network extends to the Chinese border. It has two connections: onemeter gauge at Lao Cai and one standard gauge at Dong Dang. Interstate operation services have been provided in recent years. Due to old equipment and poor efficiency, VR intends to rehabilitate both sections.

Three national roads are linked with Chinese cross-border points: NR1 at Dong Dang, NR18 at Mong Cai and NR70 at Lao Cai. Based on the Study Team's observation, NR1 and NR18 can serve heavy-vehicle traffic with sectional improvement works, while NR70 hardly receives traffic due to its narrow, winding and rolling alignment.



Figure 4.8.1 Cross-border Transport/Transit Routes and Points

In Yunnan province, the Study Team observed that since 1992 both governments jointly conducted surveys on how to utilize the Red River. However, the Vietnam government has not concluded any initiative as a downstream country. Yunnan is a land-locked province and ships out its trading goods from a seaport outside the province. There are two alternatives:

<u>Origin</u>		Transfer Point		Transit Seaport
Kunming	-	Nanning	-	Fang Cheng/Bei Hai
Kunming	-	Hanoi	-	Cai Lan/Haiphong

Although the Vietnam route is 866 km shorter than the Chinese route (971 km), the roads and railways in China are much better than those in Vietnam, and Fang Cheng Port and Bei Hai Port (under construction) are much bigger than the development plan of Cai Lan Port.¹ The Vietnam route is considered less competitive.

Lao PDR: A combination of road and port is effective in meeting the traffic demand between Lao and Vietnam, and beyond. There are four possible alternatives:

- Road No. 8 and Cua Lo Port
- Road No. 9 and Danang Port
- Road No. 12 and Vung Ang Port (under construction)
- Road No. 19 and Quy Nhon Port

Presently, Lao collects its transit cargo at Danang Port. Taking account of the volume (224,292 tons in 1998), one berth is enough to handle it. However, National Road No. 9 currently hardly allows heavy traffic, such as container trailers, and thus needs to be improved.

<u>Cambodia:</u> In December 1998, ADB approved the Phnom Penh-HCM City Highway Project. Civil works to construct an intercapital four-lane highway commenced in 1999. For interstate water transport, river mouths, such as Cua Dinh An and Cua Tieu, are critical points since large vessels (3,000-5,000 DWT) can enter rivers only during high tide. In this connection, Belgium extended a technical assistance² to expand the access channel to accommodate vessels of 10,000 DWT. However, project implementation is uncertain.

There is a missing railway link between VR and Royal Cambodia Railway: 280 km or 145 km in Vietnam and 135 km in Cambodia. This is a partial section under the Trans-Asian Railway Project monitored by the UN ESCAP as well as the Singapore-Kunming Rail Line Project initiated by the Association of Southeast Asian Nations (ASEAN). However, project implementation is also quite uncertain.

¹ Bei Hai Port will have 15-m deep berths to accommodate vessels of 100,000 DWT, while Cai Lan Port's 12-m deep berths are good for vessels of 30,0000 DWT (1st phase).

² Feasibility Study for the Improvement of the Access Channel to the Basic River (1996-1998)

Cross-border Transport Arrangements

In addition to infrastructural development, institutional development is very important for an efficient, effective and reliable transportation system for goods and people. In particular, interstate traffic is always hampered by nonphysical, or institutional, barriers such as immigration, customs clearance, recognition of vehicle (ship, aircraft) certificates, insurance, and driver's licenses. In many cases, transit traffic is also restricted. To fully use the designed capacity of infrastructure, nonphysical barriers should be minimized or removed by coordinating and harmonizing related rules and regulations.

The achievement of institutional development can be gauged at bilateral, regional and global levels.

<u>Bilateral Agreements</u>: Vietnam has made efforts to engage in bilateral arrangements with neighboring countries for the facilitation of cross-border transport.

- Vietnam China: It is said that Vietnam and China has signed agreements on railroads, roads and border trade. However, the implementation of this agreement is not as expected for numerous reasons.
- Vietnam Cambodia:
 - The Agreement on the Transit of Goods, April 1994
 - The Agreement on Road Transportation, June 1998
 - The Agreement on Inland Waterway Transportation, December 1998
- Vietnam Lao PDR
 - The sub-agreement on Road Transport and the Protocol on the Management Inland Transport Vehicle Crossing, 1991
 - The Transit Agreement, 1994

With China, Vietnam has taken slow steps and has not developed a comprehensive framework for cross-border transport. Institutional building should be required. On the other hand, with Cambodia, the new road transportation agreement can minimize the nonphysical barrier and therefore, its early implementation is required.

<u>Regional Arrangements</u>: The aim of regional arrangements in cross-border transport is to enhance regional economic competitiveness and integration by way of transport facilitation. The merit is for countries to discuss regional issues with less political affection than discussions in the case of bilateral agreements.

In fact, intensive discussions have been made in this region in the late 1990s. As one of the achievements, ASEAN economic ministers signed the Framework Agreement on the Facilitation of Goods in Transit in 1998. In this connection, the Hanoi Plan of Action (1999-2004) directs the following regional cooperation agreements:

- Operationalize the ASEAN Framework Agreement on the Facilitation of Goods in Transit by year 2000
- Target the conclusion and operationalization of the ASEAN Framework Agreement on the Facilitation of Interstate Transport by year 2000
- Implement the ASEAN Framework Agreement on Multi-modal Transport

On the other hand, the ADB has been promoting economic cooperation in the Greater Mekong Subregion (GMS) since 1992. The ADB, in cooperation with ESCAP, finalized a subregional framework for facilitation of cross-border movement of goods and people in the GMS. The ADB intends to use it as a condition when a country requests it to fund a cross-border transport project within the scope of the GMS Program.

<u>Accession to International Conventions</u>: Accession to international conventions is considered the most economical way to provide a stable basis for diplomatic discussions. However, it sometimes takes time to modify domestic legal framework. The accession status of Vietnam and its neighboring countries to the nine international conventions on the facilitation of land cross-border transport is indicated in Table 4.8.7. Vietnam has not acceded to any of them while neighboring countries have little progress. According to the country report to the GMS forum³, Vietnam's MOT translated the relevant conventions into Vietnamese to enlighten personnel of various ministries. The MOT is in the process of getting concerned agencies to accede and consider these conventions.

Table 4.8.7

Accession Status of Vietnam and Neighboring Countries to the International Conventions on Cross-border Land Transport

Country	Vietnam	Thailand	Lao PDR	China	Cambodia
Convention on Road Traffic (1968)		Х			
Convention on Road Signs and Signals (1968)		Х			
Customs Conversion on the International Transport of Goods under Cover of TIR Carnets					
Customs Convention on Temporary Importation of Commercial Road Vehicles (1956)					Х
Customs Convention on Containers (1972)				Х	
International Convention on the Harmonization of Frontier Control of Goods (1982)					
Convention on the Contract for the International Carriage of Goods by Road (CMR) (1956)					
Convention an Statue on Freedom of Transit (Barcelona, 1921)		Х	Х		Х
Convention on Transit Trade of Land-locked States (New York, 1965)			Х		

Source: ESCAP 1998 Note: "X" means acceded

³ Proceedings of the Third Meetings of the Subregional Transport Forum (December 1996), GMS Economic Cooperation Program, ADB