

Chapter 2 GLOBAL TREND IN SHIPPING AND RELATION TO VIETNAMESE COASTAL SHIPPING

2.1 The Role of Coastal Shipping

This chapter examines the coastal shipping situation in other countries in the South East Asia region and compares this with Vietnam. Conclusions are then drawn about the likely trends in Vietnamese coastal shipping. Full descriptions of coastal shipping in Japan, the Philippines and Indonesia are given in Appendix 5.

Coastal shipping plays a major role in the inland transport system of Vietnam, carrying about 37% of total tonne km as shown in Table 2.1.1. Even higher figures can be found in other countries - for example 44% in Japan. The ratios of annual coastal shipping traffic to GDP and population in Vietnam are 0.17 tonne km per US\$ and 49 per capita respectively. Higher traffic per GDP is found in Philippines and Indonesia, but lower in Japan (where domestic shipping is in decline). On a per capita basis, Vietnamese coastal shipping is much smaller than all other countries, reflecting the low incomes of Vietnam.

The role played by coastal shipping in each country reflects the economic and geographical situation of the countries. Japan, Philippines and Indonesia are all archipelago nations with populations and economic activities distributed among several islands. Consequently a considerable amount of inter-island traffic is generated which would not be expected on the same scale in Vietnam, and the role of coastal shipping would vary correspondingly.

For example, in the Philippines a considerable amount of coastal shipping capacity consists of ferry boats which provide links along major arterial routes. This results in a low average length of haul - about 540 km compared to over 1,000 km in Vietnam and Indonesia. In Japan, Ro-Ro ferries constitute 23% of coastal shipping capacity and contribute to the low average haul, 442 km, found there. In all three archipelago nations passenger services are a significant feature of coastal shipping. Vietnam's geographical situation, with only sparsely populated islands, would never generate such services on a similar scale.

A feature of coastal shipping everywhere is the role played in moving bulk cargoes such as oil, cement, coal, wood and steel. However Japan, the Philippines and Indonesia all have substantial volumes of general cargo carried too. In the case of the latter country, coastal shipping is used to distribute goods manufactured on the main island of Java to other islands in the country.

Because of this important role in transporting general cargo, scheduled liner services have been extensively developed in all three countries - constituting about half of all coastal shipping movements in the Philippines. By contrast Vietnam has no such services.

Table 2.1.1
COMPARISON OF ROLE OF COASTAL SHIPPING IN ASIA

	Vietnam (1994)	Japan (1993) ⁽²⁾	Philippines (1990) ⁽³⁾	Indonesia (1990) ⁽⁴⁾
Inland Traffic (billion tonne km)				
Coastal Shipping	3.5 ⁽¹⁾	234.0	15.6	108.0
Road, Rail, Water	6.0	301.7	n/a	n/a
Total	9.5	535.7	n/a	n/a
Inland Traffic (million tonnes)				
Coastal Shipping	2.7 ⁽¹⁾	528.8	29.0	72.0
Road, Rail, Water	71.0	5,901.7	n/a	n/a
Total	73.7	6,430.5	n/a	n/a
Coastal Shipping Capacity (thousand dwt)	170 ¹	10,000	1,014	n/a
Coastal Shipping Capacity (thousand grt)	102 ¹	5,400	612	2,600
Population (million)	72.0	125.0	60.1	179.4
GDP per capita (US\$)	288.0	31,450	830	730
Coastal Shipping tonne km/US\$ GDP	0.17	0.06	0.31	0.82
Coastal Shipping tonne km/capita	49	1,872	260	602
Tonne km/grt Shipping Capacity	34,300	43,300	25,500	41,500
Average Annual Maritime Accidents	147.0 ⁽⁵⁾	2,147.7	224.0 ⁽⁵⁾	270.4 ⁽⁵⁾
Average Annual Dead or Missing	21.0	261.8	525.6	273.6
Accidents per billion ton km	42	9	14	3
(including accidents involving vessels over 100 grt)	(8)	n/a	(4)	(1)
Deaths per billion ton km	6	1	34	3

- NOTES: (1) 1995 estimate. Shipping capacity is roughly estimated assuming 19% of total commercial general cargo and tanker fleet (by dwt) is used in coastal shipping (see Appendix 7) and ratio of grt : dwt is 60%.
- (2) Excluding small vessels less than about 100 grt. Including passenger ships with about 3% of total capacity. Total dwt only approximately estimated.
- (3) Estimated traffic carried by 683 vessels over 100 grt used mainly for domestic coastal shipping including passenger services (which make up about 25% of capacity). Freight traffic carried on road vehicle ferries is excluded. GDP is 1993 estimate.
- (4) Estimated tonne km assuming average of 1,500 km per trip. Fleet refers to Indonesian registered vessels over 100 grt. Chartered foreign registered vessels also provide services included in the traffic figures. GDP is 1993 estimate.
- (5) But, involving ships over 100 tons, only 29 in Vietnam, 70 in Philippines and 135 in Indonesia.

SOURCE: Vietnam (GSO and JICA Team survey), Japan (Annual Statistics), Philippines (JICA Master Plan Study, 1992), Indonesia (JICA Study on Sea Transport in Eastern Indonesia)

2.2 Operational Characteristics

2.2.1 Structure of the Industry

It is common to find three types of coastal shipping companies, almost entirely all privately owned:

- large companies with 10 or more vessels over about 1,000 dwt
- medium sized companies with few such vessels, and
- small operators often with one vessel, below 1,000 dwt, per owner.

In the Philippines there are 12 major coastal shipping companies, 300 medium sized companies and numerous small operators. Many of the large and medium companies form associations to co-ordinate services and dominate the liner service market, partly because of regulations which restrict competition but impose tariff controls to limit profits. Smaller operators tend to offer tramper, or unscheduled services, often over short distances.

In Indonesia there are about 50 medium or large sized operators providing liner or tramper services, one of which is government-owned and used to dominate the market until deregulation measures were introduced. At the other extreme, there are also about 70,000 small operators that use traditional wooden vessels of about 100 grt which account for about 39% of all domestic vessels but carry only about 6% of coastal shipping traffic.

In Japan there are about 2,600 small operators providing tramper services with, usually, one vessel below 1,000 dwt each. In addition there are about 3,900 medium sized operators and 200 large operators, many of which provide liner operation with larger vessels. Effectively coastal shipping operators are mainly from the private sector, except for 40 public sector operators on remote island services (consisting of about 40% of all operators on such services) and a number of local government-owned liner operators.

In Vietnam too, the two extreme forms of ownership can be found in coastal shipping - a few operators with large ships and many small ones with only a few small ships. An important difference is that most owners, even small ones, are government owned.

Freight carrying performance can be very roughly compared in Table 2.1.1 (but great care should be taken when making such comparisons because of the different circumstances of coastal shipping in each country). Coastal shipping traffic per grt of capacity in Vietnam, 34,000 tonne km, is intermediate between values found in other countries (between 25,000 and 43,000). Although capacity used for coastal shipping can only be approximately determined in Vietnam because many ships also provide international services, the figures suggest that higher figures are possible through increased efficiency measures: perhaps 20% higher as found in Japan and Indonesia.

2.2.2 Fleet Characteristics

In the Philippines and Indonesia most larger ships have been acquired second-hand or are operated on a bareboat charter basis from Japan or other developed country. The fleet replacement policies encouraged by the Japanese government provide a useful supply of medium-aged vessels in good condition to operators elsewhere in the region. Smaller vessels of about 500 dwt or less are often acquired new from domestic shipyards. This is similar to the situation in Vietnam where many shipyards can build small boats.

Whereas larger ships in the Philippines and Indonesia are steel hulled, many of the smaller vessels are still built from wood. A similar situation can be found in Vietnam where traditional craftsman still ply their trades. The average age of larger vessels tends to be high in many developing countries: the average age of vessels, over 250 grt, is over 16 years in the Philippines. In Indonesia there is an even higher proportion of old vessels - 72% of cargo vessels are over 16 years despite a government programme introduced between 1984 and 1988 aimed at eliminating such old vessels. Even in Japan about 47% of vessels are more than 14 years old, although most large vessels are less than this age due to stricter enforcement of safety regulations. In Vietnam only 25% of all commercial ships are over 15 years but the proportion of larger vessels used in coastal shipping which are over 15 years is likely to be much higher because the average age of large vessels is twice that of small vessels and older vessels are more likely to be used on coastal shipping than on international shipping. Indeed the designs of most larger vessels used in Vietnam are now regarded as obsolete.

In Indonesia specialised log and oil vessels are deployed by industrial carriers in coastal shipping. Little if any use is made of such vessels in Philippines. In neither countries are specialised container ships used, even on liner services which carry containers as part of their consignments. Until recently container traffic in Indonesia was negligible despite a high level of containerisation of international traffic (over 60% of general cargo), although it is very common in the Philippines where efficient road/shipping links are vital for its inter-island routes between major traffic generating/attracting centres. Even in Indonesia now there is an increasing demand for new semi-container ships for coastal shipping despite the high cost of providing container lifting equipment on ships or in coastal shipping ports. At the other extreme, a variety of modern specialised vessels are widely used in Japan. In Vietnam there are hardly any specialised ships used in coastal shipping.

2.2.3 Ports

Most major public (or general use) ports in South East Asia are owned by central government or by public corporations established under central government. Minor public ports in Indonesia and Eastern Malaysia are owned (similar to Beng Nhe Port in

HCMC) by local government. Many other ports are provided by industrial organisations for their own use.

Responsibility for regulating safety aspects of ports is always a government responsibility, assigned to an appropriate port authority. Such authorities rarely act as port operators.

In some cases, even though the port is owned by government or its corporation, other organisations may be responsible for operations: in China, operators are local authority organisations although in Hong Kong the port facilities are divided among private operators following a bidding system, and Singapore is also experimenting with private operators. In none of the South East Asian countries does a ship operator also act as port operator. However certain piers may be leased, especially for container traffic, to shipping companies who take responsibility for most aspects of cargo handling.

Two types of leasing port facilities can be found in the region. Firstly, existing facilities can be leased and, secondly, permission can be given for developing facilities. Examples of the first type can be found at various ports in Japan, Korea, Thailand and the Philippines. Length of lease is about 10 years and the leasee is responsible for daily maintenance and minor repair work, leaving the lessor to take responsibility for major maintenance.

The second type of leasing can be found in conjunction with foreign financing and a much longer leasing period, between 20 or 30 years, to allow the investors to recover their investment costs. The leasee takes full responsibility for all maintenance work under this arrangement. Examples in South East Asia of new terminal facilities being financed and owned or leased by foreign operators, include

- cranes silos, piers (in Shanghai) and even an entire port (in Fusan) in China,
- a terminal built under a BOT agreement in Rem Chaban port in Thailand, and
- a container terminal built under a BOT agreement in Colombo Port, Sri Lanka.

In Indonesia there are national, municipal and private ports used by coastal shipping. The national ports include all international ports and are under central administration, which is required to be financially self-supporting. Certain commercially viable municipal ports are also under this central administration. Many remaining municipal ports are not commercially viable and are subsidised either under the management of municipal authorities or a central organisation such as the Department of Public Works and Highways. There are also numerous private ports (making up the majority of all ports) which serve particular enterprises in the wood, oil, mining and cement industries.

In the Philippines the central port authority is responsible not only for all main ports which are commercially viable, but also for numerous unprofitable secondary ports which are cross-subsidised from the main ports. In the case of Japan, ports are

administered almost exclusively by local authorities. The central government develops the overall plan for ports and designates their function, as international, national or local. It may also subsidise the construction or improvement of ports. Some private companies have developed specialised ports, and certain shipping operators manage ferry and container terminals under lease agreements.

In developing countries, whereas priority tends to be given to improvement of the main ports serving international traffic, especially to provide the container facilities increasingly needed, attention is also being given more and more to the secondary ports which serve coastal shipping. These ports are upgraded, as and when economically justifiable, to handle container traffic. Similarly, consideration may be given to improving port infrastructure in remote locations to promote economic development in such areas.

Although management of the commercial ports is performed by state-owned enterprises these may, in theory, be given considerable freedom. However port charges are usually set or approved by central government (the most notable exception is in the case of leased container piers where controls are not generally needed because of competition between shipping operators). Cargo handling operations may be subcontracted or provided directly by the port operator. Sometimes in the past there has been a monopoly in the supply of labour in port: for example in Indonesia labour recruitment has been controlled by approved co-operatives. The trend in Indonesia and other countries is towards increased commercial freedom of port management, allowing them to employ staff more freely and even to set charges within guidelines established by government. These guidelines often maintain differentials between port charges for domestic and international traffic, but rarely involve discrimination between foreign and domestic ships.

Although the Vietnamese situation is constantly changing as part of the economic reform programme, certain similarities can be seen with other countries. Most major ports are under central administrations and are expected to be commercially viable within limits defined by government (in particular charges are controlled by the MOT). Secondary ports, usually under provincial management, tend to be less profitable and would have to be subsidised by government if necessary rather than relying on cross-subsidies from profitable ports. Industrial and private ports play important roles in coastal shipping.

2.3 Regulatory Environment

Maintaining safety standards is a major challenge in all countries, especially in developing countries. In both the Philippines and Indonesia it is a major issue due to the high rate of maritime accidents in coastal shipping (especially those involving passenger ships which have resulted in hundreds of people being drowned). The recorded maritime accident rate in Vietnam is higher than other countries (eight per billion tonne km involving vessels over 100 tons compared to four or less in other

countries). Except for the Philippines, the death rate is also higher (six times the rate in Japan). In practice the accident rate in Vietnam is probably much higher because many accidents, especially those involving fishing boats, are not recorded. Although typhoons and other adverse weather conditions are one major cause of accidents in these countries, human error is responsible for most collisions and occurrences of running aground. Better training and enforcement of seafarers rules are viewed as important measures to tackle this problem. For large vessels, accidents are often associated with the navigation system. Poor condition of vessel is another cause of many accidents.

In Indonesia an attempt was made in the 1980's to reduce the number of unsafe and inefficient vessels used in coastal shipping through a strict scrapping programme for old vessels. Unfortunately this reduced the number of vessels so much that there were insufficient vessels to meet demand. Although the average age was reduced for a few years it failed to remove all old vessels.

Government policy in Japan, the Philippines and Indonesia, like that of the government of Vietnam, is moving towards the simplification of regulations in the Maritime Industry in order to encourage competition and investment. This also serves to increase the substitutability of coastal shipping; that is, the extent to which a vessel that does not meet the minimum legal safety standards can be prevented from operating without depleting the fleet below that required to meet demand. This approach has been pursued most vigorously in Indonesia (from 1988, following the difficulties caused by the ship scrapping policy) where, as in Vietnam, there is freedom of domestic operators to carry out coastal shipping providing they meet minimum safety standards. Unlike Vietnam, however, foreign operated vessels are also allowed to carry domestic coastal shipping traffic in the course of carrying international traffic. Allowing foreign operators into domestic coastal shipping offers particularly large economic benefits where, as in Indonesia, there is a large overlap between domestic and international routes: it allows more efficient use of vessels as well as increasing competition in the shipping industry. However the effects on the domestic shipping industry may be devastating (as found in Indonesia) unless these operators can offer comparable services to foreign operators.

Most countries intervene in coastal shipping in order to provide services in remote areas. However the way they do this can differ. Indonesian coastal shipping has experience of the two principal approaches:

- general subsidies to specific operators, and
- specific subsidies for particular services.

In the first approach, which was used in Indonesia up until 1990, most subsidised services to remote islands were provided by one state-owned operator, called PELNI. This operator provided certain services required by government and compensated PELNI for the losses incurred. The basis for compensation varied:

- initially, the government supplied vessels so that PELNI only had to recover running costs from revenue (not vessel replacement),
- when revenue became insufficient to cover running costs, the government-owned vessels were transferred to PELNI and this operator provided the services under a contract in which government paid for the difference between costs and revenue.

Eventually this approach was abandoned because of rising subsidy costs, caused partly by inefficiency of PELNI which had little incentive to minimise costs. Now under the second approach, PELNI and other private operators have to compete to win contracts to supply the required services. Operators that offer to provide the service at lowest cost win the contract and are paid if and only if services actually operate. Initially PELNI managed to win most of the contracts but its share is falling as other operators become increasingly competitive. This system is not without its problems because the true costs of providing services are revealed clearly rather than being hidden in subsidies for new vessels, preferential credit terms and other privileges given to PELNI in the past. However such cost information is valuable to government when determining the value of subsidies to coastal shipping.

2.4 Developmental Measures

Governments in many countries have endeavoured to increase the supply of safe, efficient coastal shipping services through intervention in regulations and provision of special credit facilities. The experience of Japan, the Philippines and Indonesia can indicate some of the possibilities for Vietnam to consider.

In Japan the government has intervened since 1961 in the financing of shipping, as part of its general policy of intervention in specific industries to promote social stability and economic growth. Although this general policy has been successful in achieving these aims and has benefited certain producers, it has incurred substantial costs to tax payers and consumers of services. There are now mixed views within Japan about whether such policies were appropriate in the past and whether they should be continued. Present government policy in Japan now is to minimise these costs by reducing or even abolishing this type of intervention.

The principle means of intervention was through special credit terms and guarantees made available to ship yards and ship owners who build and operate "Joint Ownership" ships (and other equipment) of approved designs. It reduced the need for collateral for many operators and allowed loan repayments to be spread out over the full operating life of the vessel. It enabled the government financing agency to exert control over design, supervision and inspection of vessels. The scheme was supplemented by financing measures to encourage fleet replacement through scrapping or converting ships.

Although the current trend in government policy in the Philippines is to reduce intervention in shipping through licensing and other entry controls, a policy-based lending project in domestic shipping and related industries has been introduced with assistance from the Japanese fund OECF. This is implemented by the Development Bank of the Philippines using OECF funds for on-lending to organisations wishing to develop domestic shipping services. The credit terms are more favourable than those from normal banks (thanks to support by the Japanese government for OECF) but, in addition to requiring that the normal technical and financial feasibility conditions be satisfied, require that certain developmental aims be achieved such as

- introduction of new types of service in the country,
- involving a significant training component,
- improving safety or environmental standards.

This scheme has not had enough time to prove itself in practice: it is possible that the credit terms will attract insufficient interest from borrowers, which still require some form of collateral.

In Indonesia an attempt was made in the Caraka Jaya Project in 1988 to introduce new coastal shipping vessels of standard design in domestic ship yards and involved financial assistance for purchasing the ships (between 3,000 dwt and 4,180 dwt). However even though there was a shortage of ships caused by a government-enforced scrapping programme introduced in 1984 the ships proved to be unattractive to the ship operators (expensive compared to foreign vessels). The only operators to buy them were government-owned organisations who were forced to acquire the new vessels. This has resulted in excessive costs for these operators who are now in financial difficulties. Although it has introduced new technology to the ship building industry it has only done so at great cost to the country.

2.5 Implications for Trends in Coastal Shipping in Vietnam

The comparison of coastal shipping activity in various countries indicates that there is considerable scope for developing the amount and quality of coastal shipping in Vietnam. One of the most striking features of the comparison is the absence in Vietnam of any scheduled liner service which is a common feature of other countries in the region. Passenger services are also common in other countries but this appears to be attributable to the archipelago nature of these countries which generates much inter-island traffic.

The structure of the Vietnam industry also differs considerably in terms of ownership: there are hardly any government-owned shipping companies in other countries and, in Indonesia where one such company has been used as an instrument of government policy, the results have been a failure and the company is in financial difficulties. This suggests that establishing the state and provincial shipping fleets of Vietnam as genuinely independent, through reorganising them into joint-stock companies with private capital is likely to be an effective and even necessary way for them to develop.

In other respects, the Vietnam shipping industry is rather similar to that found elsewhere: there are a few operators with large ships and many smaller ones, often with just one small vessel. However, in the countries examined, there are ten or more large operators with an active involvement in coastal shipping and so it is clear that there is scope for growth in their number in Vietnam.

A characteristic feature of the vessel fleet is that while small vessels less than 1,000 dwt are often built domestically and used successfully in coastal shipping, most larger vessels are either acquired second-hand or are chartered from foreign sources. By contrast there appear to be few coastal shipping vessels in Vietnam which are chartered from foreign sources. In all countries the average age of vessels used in coastal shipping is rather high and this is partly attributable to using second-hand vessels in developing countries. However the continuing tradition of buying and chartering foreign vessels in other countries has avoided the concentration of obsolete designs found in Vietnam. This concentration highlights the need for new acquisitions in the Vietnam coastal shipping fleet.

The pattern of port ownership found in other countries is broadly similar to that found in Vietnam although, in Indonesia and the Philippines, most of the major ports are under one central administration rather than split as in Vietnam. However the trend in other countries is towards increased commercial autonomy in port management, as also found in Vietnam. Secondary ports often tend to receive little priority in other countries which, like Vietnam, accords priority to its main international gateways. However other countries have been pursuing measures to increase the range of cargo handling and other services available to shipping operators at ports. This suggests that there is scope for improving the competitiveness of port services through leasing of facilities within ports and through reducing monopolies in supply of labour and services within ports.

Safety and environmental pollution are important issues in all countries and so this can be expected to be a continuing theme of policy development in Vietnam, for years to come. Higher safety and environmental standards cost more money and some attempts to raise standards have incurred substantial costs which may not have been fully justified in some cases, and have even resulted in crises in supply of ships. This suggests that a step by step approach to increasing safety levels in Vietnam, based on proper analysis of the costs, benefits and effects on service levels, giving priority to the most cost-effective ones, is likely to be an appropriate course for the country.

In many other respects experience of regulation in other countries endorses the approach adopted in Vietnam of allowing free competition in the coastal shipping business subject to operators meeting minimum safety standards. In those countries where entry controls or franchises on particular routes had been introduced, these are now being removed in order to increase competition, efficiency and safety. Indonesia

has gone furthest in this regard: there is considerably more freedom there than in Vietnam for foreign vessels and operators to provide coastal shipping services within the country. This could make particular sense in countries such as Vietnam where domestic and international shipping routes overlap to a large degree and suggests that such an approach in Vietnam could also be considered. However there are risks with opening up the domestic market to foreign competition: the domestic shipping industry may have difficulties offering comparable services and so could lose market share. One way to minimise this risk would be to make reciprocal agreements between governments to grant mutual access to each other's domestic shipping markets. This could open up considerable opportunities for Vietnamese operators.

In other countries provision of subsidies appears to be targeted increasingly towards specific services rather than allocating them generally to certain operators. This is an area where Vietnam can avoid making the mistakes of other countries by introducing, where necessary, competitive tendering for shipping services to remote islands.

Intervention by government in coastal shipping is a controversial issue. Even in Japan, controlled development of the shipping and shipbuilding industries has only been achieved at some cost and the practice is now largely being abandoned. Under increasing internationally competitive conditions, operators in all countries must be able to compete on the same terms and have access to the same vessels. Experience in other countries suggests that if attempts to develop the ship building industry impose costs on the ship operators then the shipping industry will surely suffer (imposing yet further costs on the economy as a whole).

Chapter 3 PROPOSED IMPROVEMENTS

3.1 Network Development Plan

3.1.1 Objectives

Our proposals for improving the Maritime Transport Industry are based on the Study team's four objectives guiding the development of the overall Coastal Shipping Master Plan, which are summarised as follows:

- Expansion of coastal shipping in accordance with demand,
- Development of coastal shipping as a competitive transport system in the market economy where customers choose between modes and services,
- Coastal shipping to be developed to complement international shipping by linking the Economic Focal Areas to other regions of the country, and
- Development of safety and environmental controls where justifiable.

These objectives are in accordance with the government's economic reform programme and the priorities set out in the Minister of Transport's document "Transport Development till the Year 2000 in Order to Meet the Changing Economy towards Industrialisation and Modernisation". They emphasise the primary goal of coastal shipping in promoting economic development through responding to customer demand.

For the Maritime Transport Industry the consequences are clear. To meet the objectives of the Master Plan, shipping operators must be allowed to develop existing and new coastal shipping services in accordance with demand. This requires government to ensure that there are no unnecessary obstacles to shipping operators developing services and that the market mechanism works efficiently in matching supply and demand, taking account of external costs to the country such as environmental impacts of coastal shipping. This requires government action

- to provide infrastructure such as waterways and ports, where the private sector is less able to provide these themselves, and where this infrastructure is economically justifiable,
- to ensure that prices reflect social costs in the maritime industry (not only costs to transporters and customers but also infrastructure costs, and safety and environmental costs that affect others outside the industry)
- to establish a "level playing field" in the maritime transport industry with minimal entry controls for all shipping operators so that competition is free and fair,
- to put in place safety and environmental controls, where these are economically justifiable and where the pricing mechanism cannot fully encompass external costs.

These principles are applied throughout the Study Team's analysis of proposed improvements described below.

The foundation of the analysis is the potential demand for coastal shipping services, previously estimated in the Study, which is used to assess the potential need for new transport services up to 2010. In making this assessment account is taken of the relative competitiveness of each mode and the potential feasibility of developing infrastructure for each mode. For coastal shipping this involves defining, approximately, the waterways and ports likely to be used by coastal shipping vessels of various sizes. The results of this analysis are then used to indicate, in the remaining sections of this chapter,

- the vessels that could be required by operators to develop the future services,
- the management and related staffing measures required for developing the new services, and
- the improvements in the regulatory environment required to enable coastal shipping to play its full role.

Finally, based on this overview of long term developmental needs of the Maritime Transport Industry, short term priority projects in the Maritime Transport Industry are described in the final chapter of this report.

3.1.2 Options for Route Development

(a) Freight Services

In accordance with the definition adopted by the Study, coastal shipping freight services are those carrying domestic cargo between Vietnamese sea ports, using coastal seaways at least in part (they may also use sea-cum-riverways to reach certain sea ports). Usually Vietnamese-owned vessels (of the Vietnamese Maritime Transport Industry) are used for these services. However, when required and as permitted by government, foreign vessels are used.

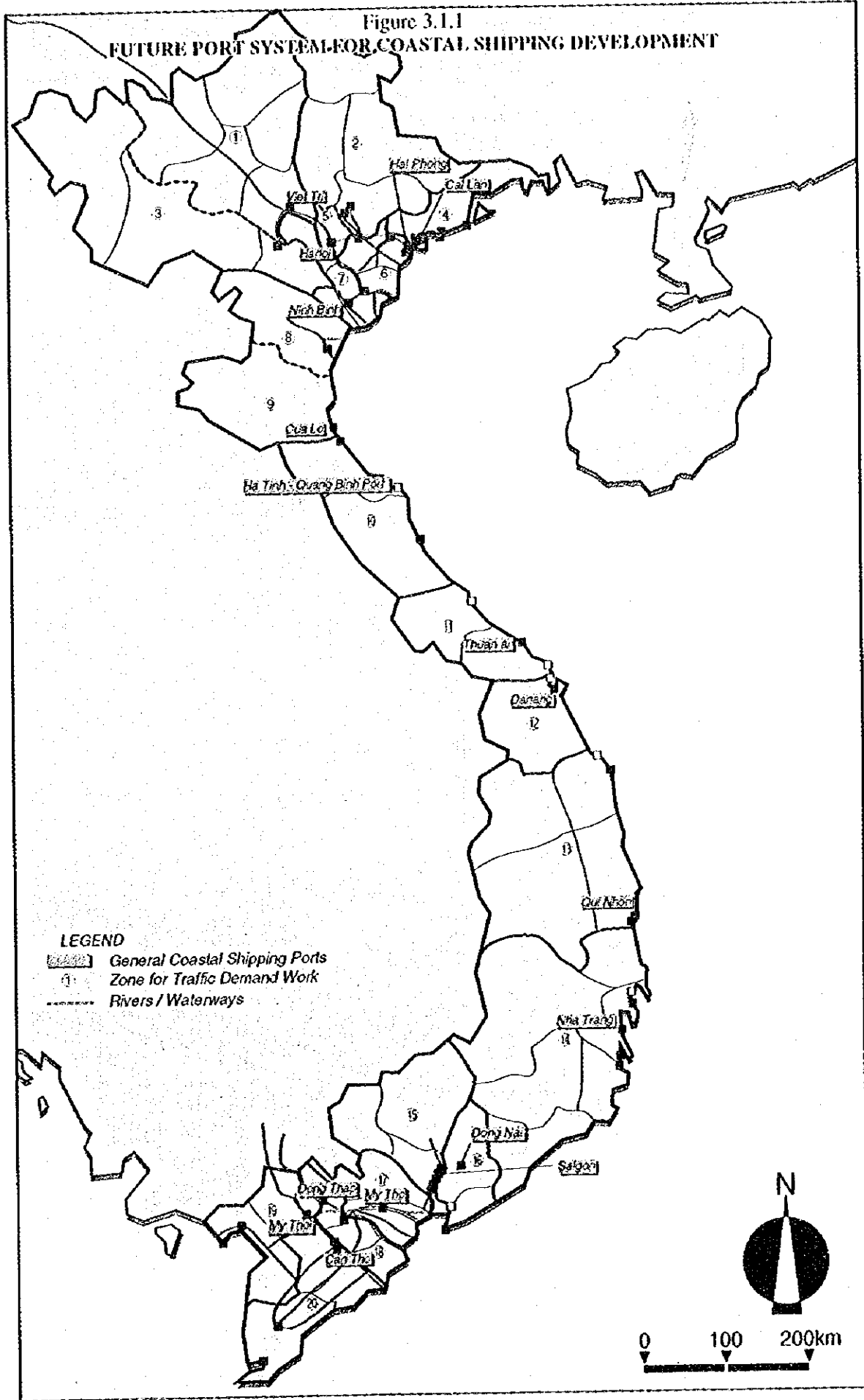
Vessels on coastal shipping services may also carry small amounts of foreign trade which has been or will be transhipped from/to another vessel at an international port. Because of the high handling costs involved only containerised cargo could be economically transhipped. However virtually no such transhipment occurs in other countries, even in Japan where containerisation of coastal shipping is more developed. Containerisation of coastal shipping in Vietnam is expected to remain very limited in future years, as found in other developing countries in South East Asia such as Indonesia, even where containerisation of international trade is highly developed. For example, only about 0.1% of Indonesian coastal shipping traffic was containerised in 1992. Therefore such transhipped foreign traffic would constitute a negligible proportion of traffic between Vietnamese sea ports.

Based on the demand analysis, coastal shipping requires 17 main general sea ports, 23 other general ports and 19 other ports dedicated for particular users such as oil, steel and cement producers (see Table 3.1.1). The ports are indicated in Figure 3.1.1.

Table 3.1.1
FUTURE PORT SYSTEM FOR DEVELOPMENT OF COASTAL SHIPPING

Region	National Seaport	Major General Seaport for Coastal Shipping	Other General Seaport	Dedicated Seaport	Traffic Demand Zone No.
NORTH	Cai Lan	Viet Tri			1,3
		Cai Lan	Quang Ninh (Floating Trans-shipment)	B12, Hong Gai, Cua Ong, Dien Cong, Quang Ning (Steel)	4
		Hanoi			5
	Haiphong	Haiphong	Ha Bach	Hoang Thach, Pha Lai, Chinh Phong	2,6
		Ninh Binh	Nam Dinh, Diem Dien, Hai Thinh		7
CENTRAL	Danang	Cua Lo	Ben Thuy, Xuan Hai, Thanh Hoa	Nghi Son	8,9
		Vung Ang	Nhat Le		10
		Thuan An (Ha Tinh-Quang Binh)	Cua Viet	Hue Oil	11
		Danang	Lien Chieu	My Khe	12
		Quy Nhon	Sa Ky, Thi Nai	Dung Quat	13
		Nha Trang	Ba Ngoi, Hon Khoi	Mui Chut	14
SOUTH	Saigon	Saigon	Ben Nghe, Tan Cang, Tan Thuan	Nha Be (Oil) Nha Be (Vegetable)	15
	(Vung Tau - Thi Vai)	Dong Nai	Vung Tau (Cat Lo)	Thi Vai (Phu My, Go Dau) Thu Duc, Chinh Phong	16
		My Tho			17
		Dong Thap	Vinh Long		18
		My Thoi	Hon Chong	Kien Luong	19
		Can Tho	Nam Cau Ca Mau		20

Figure 3.1.1
FUTURE PORT SYSTEM FOR COASTAL SHIPPING DEVELOPMENT



Some of the sea ports defined above are only accessible for certain sized vessels, through sea-cum-riverways. The 674 km of waterways which are expected, by 2010, to be used by sea-going vessels above 1,000 grt, are illustrated in Figure 3.1.2.

In particular the sections between Cua Cam and Haiphong, and between Cua Dinh An and Can Tho are expected to be developed to accept vessels of up to 10,000 grt by 2000, increasing the potential role played by Haiphong and Can Tho ports. The plans for development of the Nam Dinh - Hanoi river are to be studied in a forthcoming ADB study.

(b) Passenger Services

Based on the traffic forecasts of the Study, the pattern of passenger services is expected to continue to be similar to that found at present, although with an increased emphasis on the provision of tourist services connecting island destinations (where demand could double or triple by 2000 on some routes).

The pattern of future demand is shown in Figure 3.1.3.

3.1.3 Major Routes

(a) Freight Routes

In order to estimate the pattern of routes which is likely to be developed by operators in response to the forecast demand pattern the Study has assumed a vessel assignment summarised in Table 3.1.2. In accordance with this plan, the pattern of routes between general ports in 2010 (excluding specialised ports for coal, steel, cement and oil) would be as shown in Figure 3.1.4.

Table 3.1.2
VESSEL ASSIGNMENT PLAN

Major O-D Pairs by Traffic Demand (mil. ton-mile)	Possible Vessels to be Assigned				
	Average 300 DWT	Average 1,000 DWT	Average 3,000 DWT	Average 5,000 DWT	Average 10,000 DWT
4 - 19	x				
20 - 49	x	x			
50 - 99	x	x	x		
100 - 399	x	x	x	x	
More than 400	x	x	x	x	x

Figure 3.1.2
HINTERLANDS OF MAJOR SEAPORTS FOR COASTAL SHIPPING

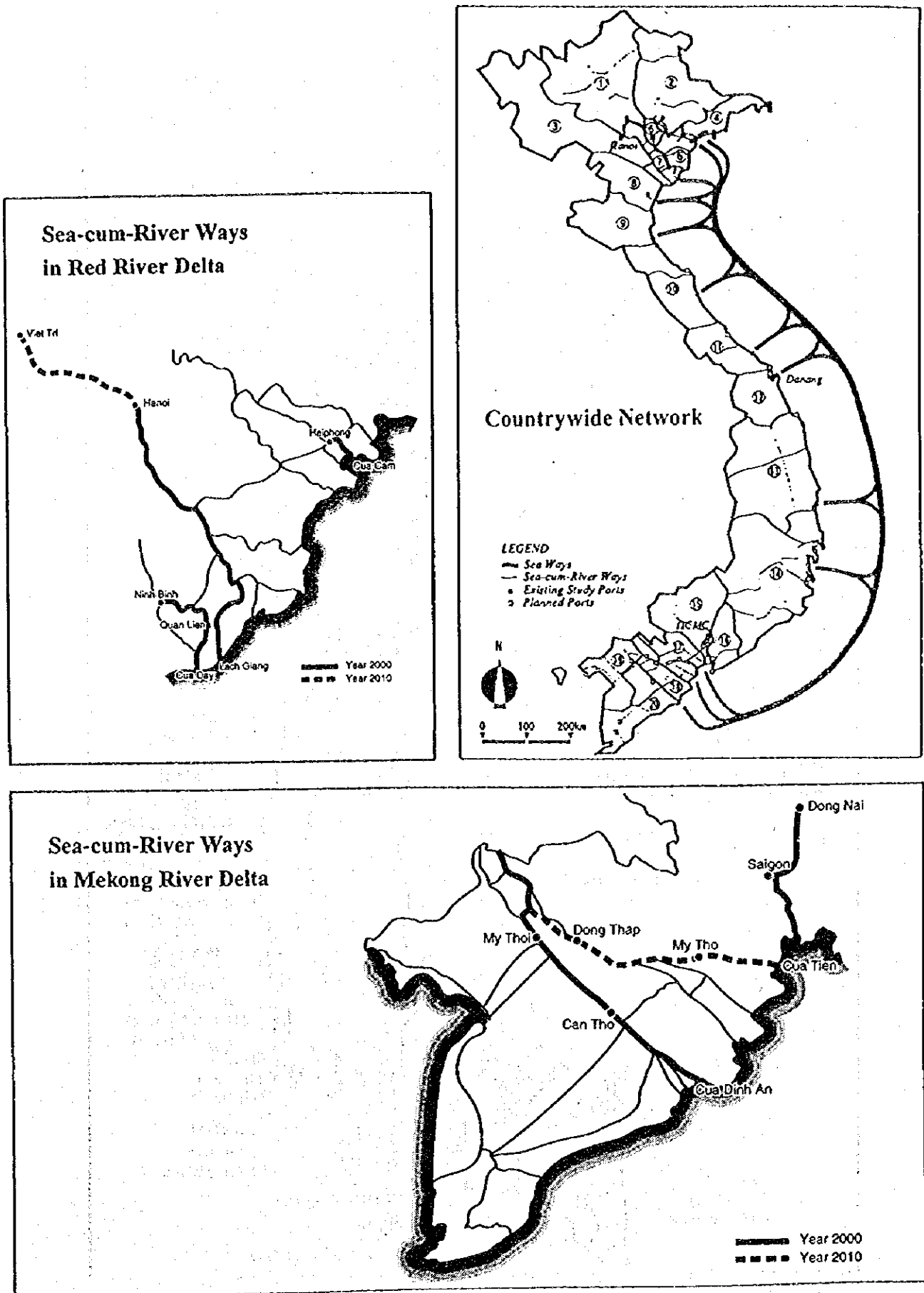
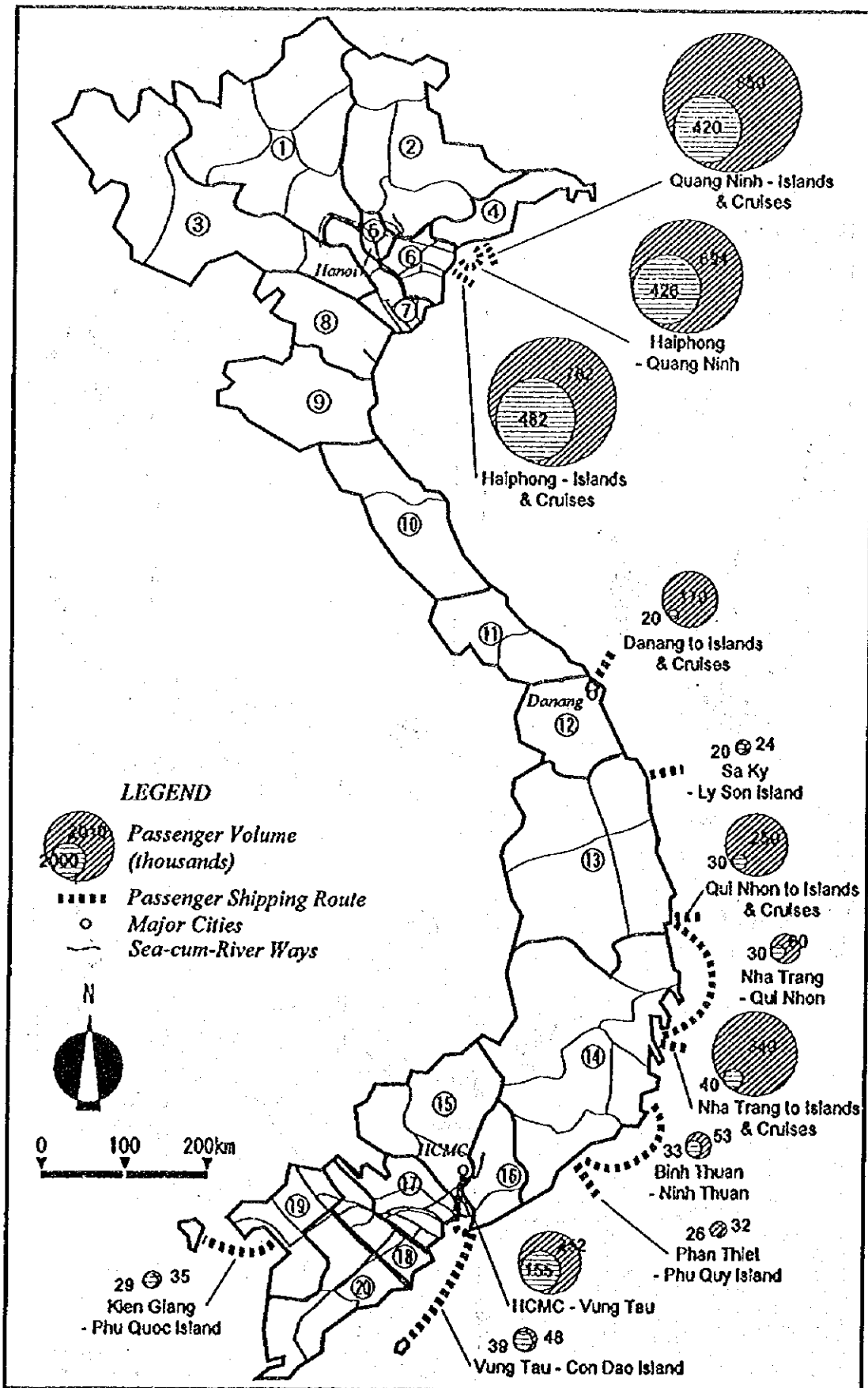


Figure 3.1.3
TRAFFIC VOLUME OF PASSENGER SHIPPING BY ZONE



Included in the service pattern would be certain main routes to be operated by general cargo 3,000 and 5,000 dwt vessels (or greater). In accordance with the assumptions of Table 3.1.2, these would be six main routes between general ports with forecast traffic greater than 100 million ton miles and therefore suitable for stable operation of 5,000 dwt vessels, and an additional six main routes with traffic over 50 million ton miles which are suitable for 3,000 dwt vessels. These routes are shown for 2010 in Table 3.1.3 and Figure 3.1.5.

Table 3.1.3
MEDIUM-SIZE VESSEL ASSIGNABLE ROUTES IN YEAR 2010

General Cargo/Bulk Ship of 5,000 dwt	General Cargo/Bulk Ship of 3,000 dwt
1. Cai Lan - Saigon	1-6 (same as left)
2. Haiphong - Saigon	7. Cai Lan - Qui Nhon
3. Cua Lo - Saigon	8. Haiphong - Nha Trang
4. Vung Ang - Saigon	9. Haiphong - My Thoi
5. Danang - Saigon	10. Vung Ang - Nha Trang
6. Qui Nhon - Saigon	11. Vung Ang - Dong Nai
	12. Thuan An - Saigon

NOTE (1) Excluding routes serving specialised ports

Traffic between specialised ports dedicated to traffic of particular types in order to maximise efficiency are anticipated to be as follows:

Commodity	Specialised Ports
• Oil	: B12 (moving to Hon Ac in Bai Chay Bay), My Khe (moving to Phu Loc River Mouth), Nha Be, Hue (new construction) and Dung Quat (new construction)
• Coal	: Hong Gai (moving to new area), Cam Pha, Dien Cong
• Cement	: Hoang Thach, Nghi Son (new construction), Chinh Phong (new construction), Kien Luong
• Steel	: Quang Ninh Steel Port (new construction)

The potential traffic movements between specialised ports, or by cement carriers between general ports, are illustrated in Figures 3.1.6 to 3.1.8. If the large bulk oil and cement traffic flows are excluded, then 3.7 million tons of coastal shipping traffic is forecast for 2000. Of this, 2.2 million tons (59%) is concentrated on the main north-south route, and the rest is on other routes to/from intermediate ports. Traffic between the eight major ports (Haiphong/Hanoi, Cua Lo, Danang, Qui Nhon/Nha Trang, Saigon/Dong Nai) is 1.8 million tons (48% of the total)

Figure 3.1.5
IDENTIFIED COASTAL SHIPPING ROUTES FOR
MEDIUM-SIZE VESSELS OPERATION
(YEAR 2010)

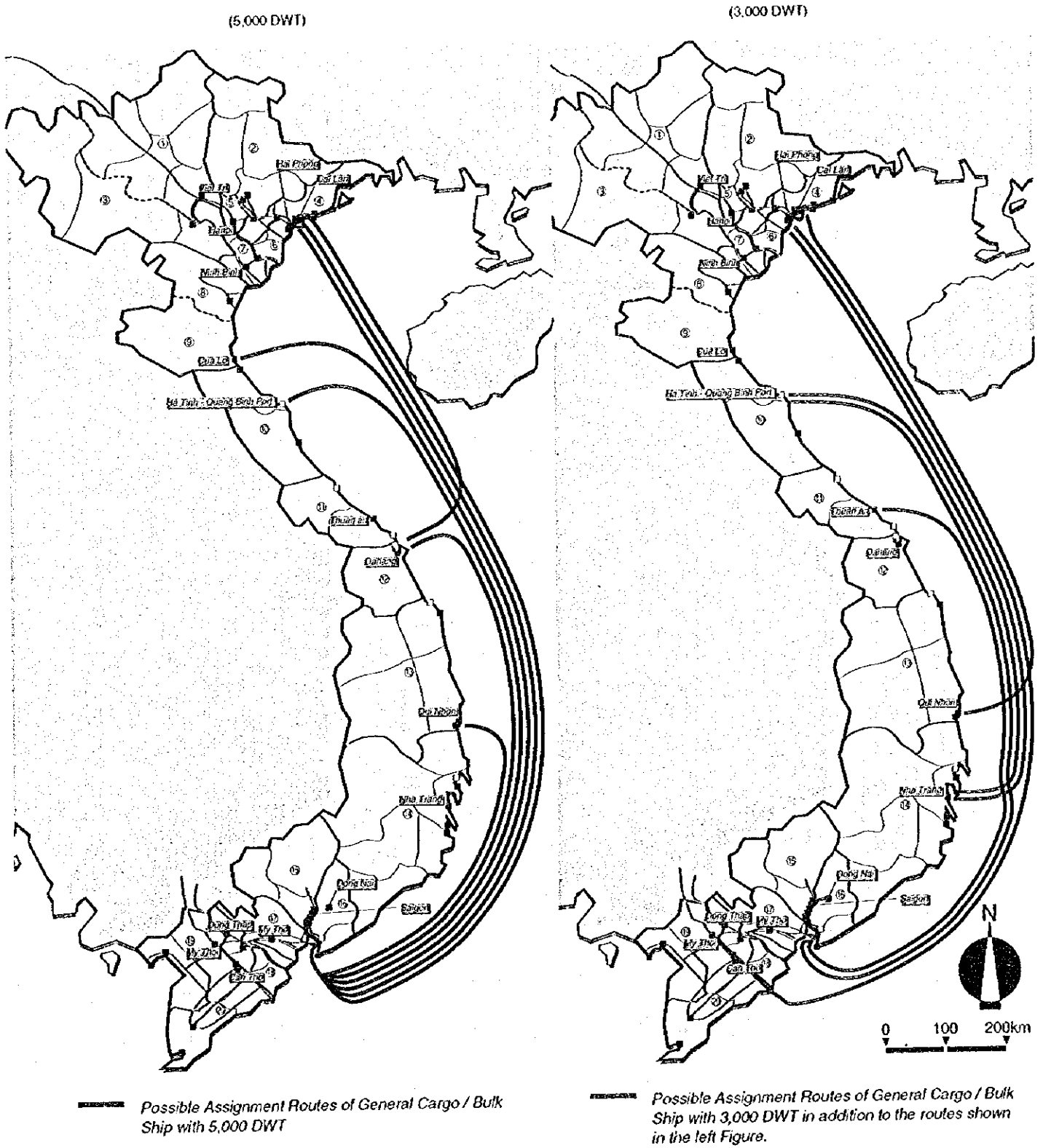


Figure 3.1.6
FORECAST PATTERN OF COASTAL SHIPPING OIL TRAFFIC

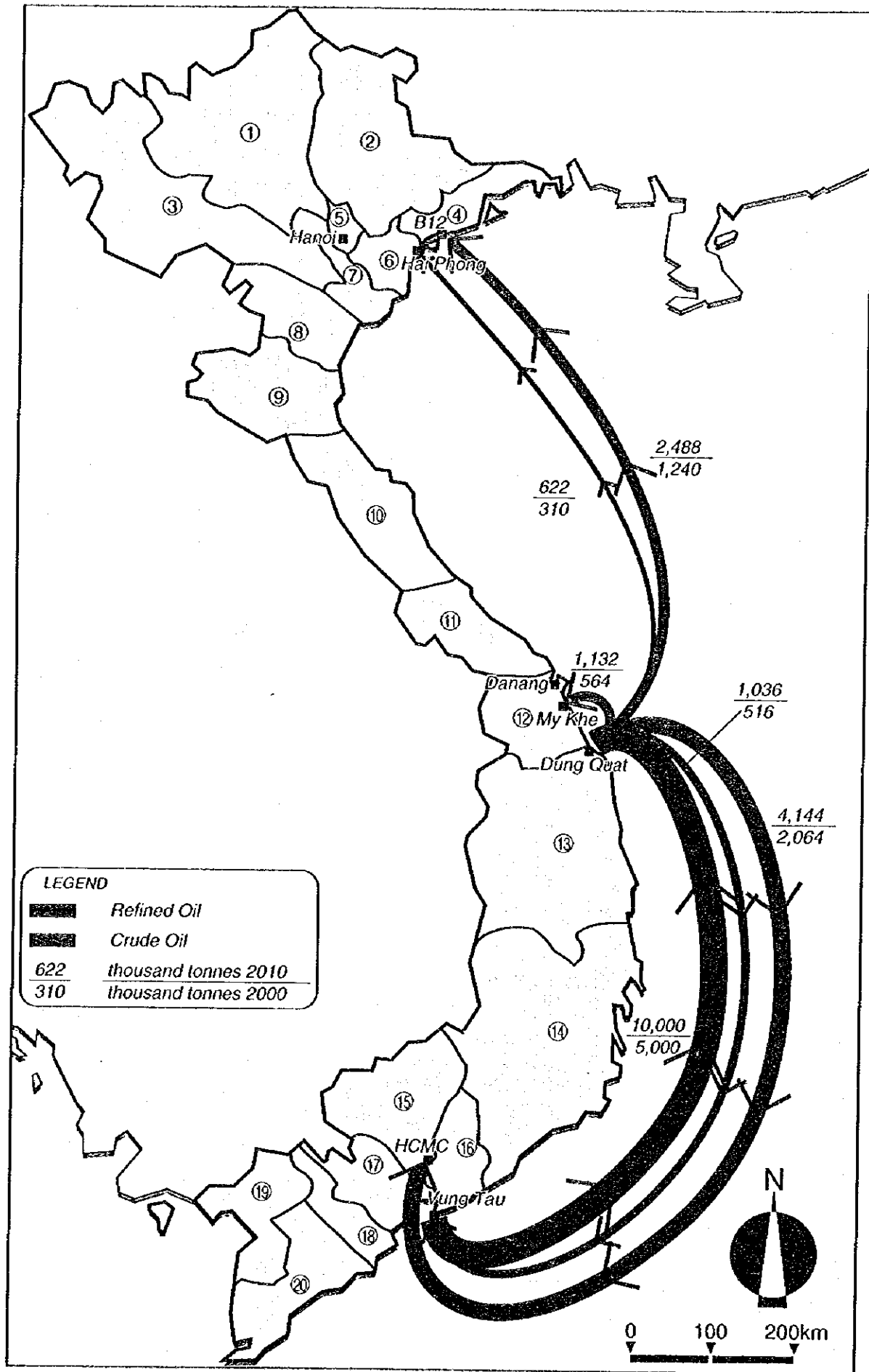


Figure 3.1.7
FORECAST PATTERN OF COASTAL SHIPPING CONSTRUCTION
MATERIALS AND MINING PRODUCTS
(BETWEEN SPECIALISED BERTHS)

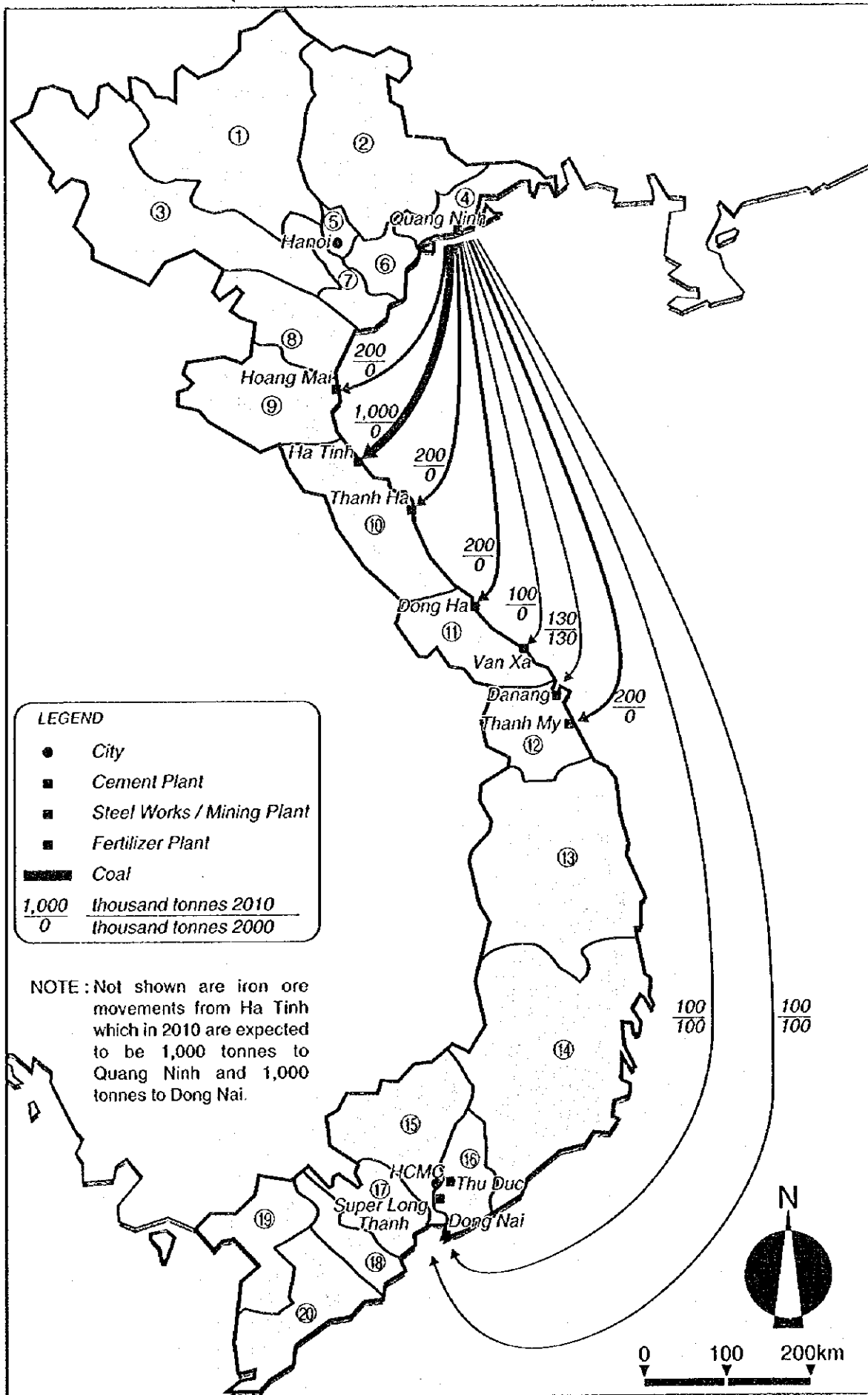
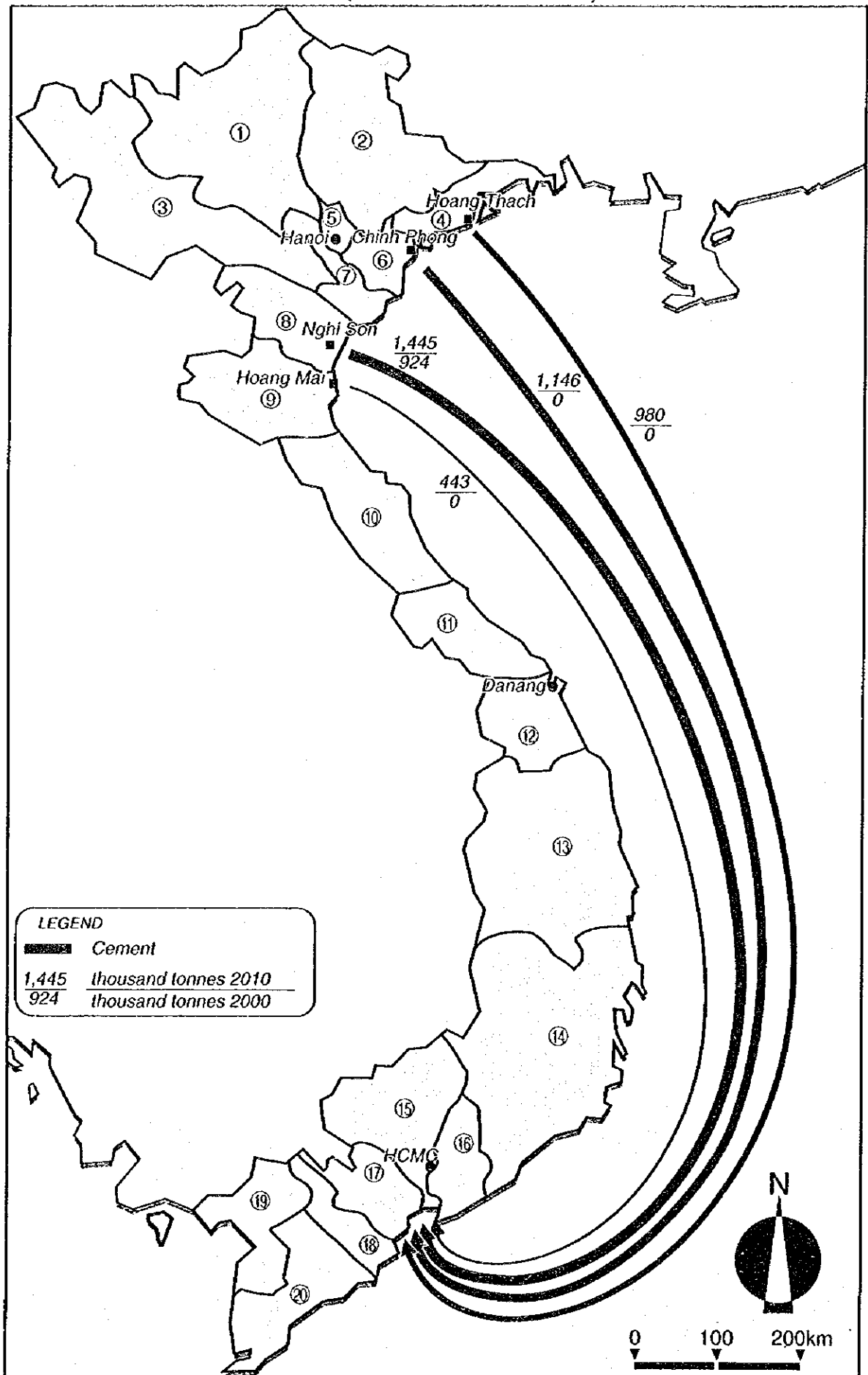


Figure 3.1.8
**FORECAST PATTERN OF COASTAL SHIPPING
 CEMENT (IN SPECIALISED SHIPS)**



(b) Passenger Routes

The main routes serving passenger services are shown in Table 3.1.4. Other local routes could develop in response to particular initiatives, especially in tourism. The main routes in 2010 would be the two interprovincial routes between Haiphong and Quang Ninh and between HCMC and Vung Tau, and the tourist services to the islands near Quang Ninh, Haiphong, Danang, Nha Tring and Qui Nhon.

Table 3.1.4
PASSENGER TRAFFIC DEMAND FORECAST (2000 / 2010)

Route	Number of Passengers (thousands)			Route Type
	1995	2000	2010	
Haiphong - Quang Ninh	336	426	694	Inter - province
Nha Trang - Qui Nhon	21	30	60	Inter - province
Binh Thuan - Ninh Thuan	26	33	53	Inter - province
HCMC - Vung Tau	122	155	252	Inter - province
Sa Ky - Ly Son island	18	20	24	Remote Island
Phan Thiet - Phu Quy island	24	26	32	Remote Island
Vung Tau - Con Dao island	35	39	48	Remote Island
Kien Giang - Phu Quoc island	26	29	35	Remote Island
Quang Ninh to Islands & cruises	112	420	850	Tourism
Haiphong to Islands & cruises	266	482	782	Tourism
Danang to Islands & cruises	Unknown	20	170	Tourism
Nha Trang to Islands & cruises	Unknown	40	340	Tourism
Qui Nhon to Islands & cruises	Unknown	30	250	Tourism
TOTAL	986	1,750	3,590	

Source: JICA Study Team, TESI

3.1.4 Issues in Service Development

The pattern of services outlined above for 2010 is merely indicative of future routes. Actual service patterns will be affected by numerous factors which cannot be predicted at present. However in accordance with the Study Team's concept of a master plan, revisions to these predictions of service patterns can be made in future years which take account of changing circumstances.

Naturally the predicted service pattern would be different if the traffic demand forecasts were to change. In the case of a major project such as the Dung Quat oil refinery this could have a radical change on the pattern between specialised ports, as described more fully in the Supplementary Report on Port Traffic Survey and Demand Forecast. This would not however affect the service pattern between general ports described above.

At this stage the following additional issues could affect service patterns.

(a) Development of Inland Waterways and Ports

The service pattern is based on current plans of the IWB and VINAMARINE for development of infrastructure. Implementing the service pattern requires minimal additional investment in inland waterways because, in most cases, the larger proposed vessels can be used under existing draught limitations.

It is possible that plans for developing inland waterways could change - for example the ADB financed study of the Nam Dinh - Hanoi river could result in a different standard of waterway being developed (either better or worse than that currently assumed by the IWB). This in turn could affect the possible service pattern.

The estimated service pattern assumes, of course, continued adequate port capacity, and this would require considerable investment over the master plan period. Failure to provide such capacity would clearly reduce the role of coastal shipping.

(b) Relationship of Coastal Shipping to Other Transport Activity

Coastal shipping forms part of a wider transport system and therefore may be affected by related traffic flows. Transshipment from one form of transport to another could affect the role of coastal shipping in the following ways:

- non-Vietnamese trade, especially that oriented towards Cambodia and Laos, requires port facilities shared with coastal shipping (however development of any specialised transshipment port serving ocean-going shipping would, by its very nature, have relatively little impact on coastal shipping),
- Vietnamese foreign trade requires port facilities shared with coastal shipping and even vessel capacity between Vietnamese ports for feeder and distributor services (although this is likely to occur only to a small extent because of the high transshipment costs, as mentioned earlier), and
- road, inland waterway and even rail services provide feeder and distributor services for coastal shipping at many ports, so any bottlenecks in these services

could adversely affect coastal shipping, causing alternative less favourable ports to be used or even complete loss of traffic.

In addition many vessels engaged in coastal shipping are likely to be also engaged in international shipping, even on the same voyage. In this sense the supply of coastal shipping services is inextricably linked to the supply of international shipping services, with important implications for vessel planning and operation which must be allowed for when planning coastal shipping services.

The main issue here is the extent to which planning of coastal shipping services by operators is affected by their plans for international services. However although it would affect detailed vessel scheduling and routing of particular vessels, by individual operators, it would be unlikely to affect strongly the overall pattern of coastal shipping services described in the Study.

(c) Potential Routes for Specialised Vessels

Clearly the introduction of specialised vessels or services in coastal shipping would be expected to have an impact on vessel operating patterns and services. In particular operation of large bulk carriers would tend to concentrate traffic on certain routes. Even here however changes in use of specialised vessels would have little impact on the general pattern of services described above although it would affect frequencies on them.

In the case of liner services it is far from clear at the present time which routes are most likely to be served by liner services. Initially the most likely candidates are routes between major traffic generators and attractors in the north or south of the country. However it is not clear to what extent services in the north would serve Haiphong rather than Hanoi. The latter would provide a direct service to the capital but would depend on the resolution of uncertainties about the navigation potential of the Nam Dinh - Hanoi river. It would almost certainly limit the potential size of vessel which could be deployed.

3.2 Fleet Expansion and Modernisation

3.2.1 Objectives

This section examines the possible ways that operators may develop the coastal shipping fleet in order to provide the capacity required to meet the forecast demand in an efficient way.

Different operators are likely to react in different ways to the development in the coastal shipping market. Some operators of sea-going vessels in Vietnam often have interests in inland waterway transport and therefore may seek to concentrate on short distance coastal services requiring small vessels. There is much evidence from other countries of a strong tendency for small scale operators to specialise in short distance coastal services using domestically built vessels. However others in this situation may

try to develop longer distance services as a complementary business activity, especially where ancillary inland waterway services can economically provide feeder or distributor services to coastal shipping.

Large scale operators currently focus their business activities on international shipping because of greater profit margins than in domestic shipping. Many large operators are unlikely to develop coastal shipping services except as a subsidiary activity to international shipping - carrying domestic cargo when vessels would otherwise be idle, when vessels have to be repositioned, or when operators can increase load factors on international routes that pass domestic ports. Other operators are likely to focus on the coastal shipping market in order to provide dependable services to domestic customers. Although it is not possible to anticipate the extent to which operators specialise in coastal shipping it seems reasonable to assume that current practices of mixing international and domestic business activities will continue for most large scale operators, and we have taken account of this in our estimates of fleet capacity required in coastal shipping.

3.2.2 Options for Fleet Development

The major strategic options facing coastal shipping operators when developing their fleet are concerned with

- choice of vessel type and design (general purpose or specialised ship),
- carrying capacity of vessel,
- method of acquisition (through purchasing or chartering), and
- age of vessel.

For passenger services, a wide variety of smaller vessels can be expected to be used according to the type of service, including small but fast tourist boats, traditional passenger vessels on short, low traffic density routes, with some larger vessels on the main routes (some of which would also carry freight).

The choice of cargo vessel depends to a large extent on the traffic characteristics expected in future years, especially:

- package style, which affects loading/unloading equipment required and operating efficiency (whether or not loading/unloading can be performed in rainy weather),
- variations in demand during the year, which affect utilisation of vessel,
- consignment size, which affects not only ship capacity but also on-shore facilities.

The main characteristics of Vietnamese domestic freight traffic are summarised in Table 3.2.1. To carry this range of traffic, there are various possibilities for mixing traffic on particular ship types as shown in Table 3.2.2. Based on these possibilities, the following six categories of ship type are required to serve coastal shipping cargo traffic:

Table 3.2.1
CHARACTERISTICS OF CARGO CARRIED BY COASTAL SHIPPING

Commodity	Package Size	Seasonality	Consignment Size
Agricultural Products	Bag, case, drum, carton	Varies greatly	Various, not so large
Construction Materials and Mining Products	Break-bulk	Fairly constant meeting industrial needs, but less constant meeting building needs	Depends on consumer's facility
Oil	Liquid	Constant	Depends on consumer's facility
Bulk Cargo	Bag, break-bulk	Fairly constant	Not so large
Cement	Bag, break-bulk	Fairly constant	Various
Other cargo	Mainly in case, carton, drum or loose (construction equipment, vehicles)	Fairly constant, although composition may change	Various

Table 3.2.2
POTENTIAL FOR CARRYING CARGO ON VARIOUS SHIPS

Commodity Type	Ship Type	Compatibility with Other Commodities
A. Agricultural Products	General Cargo/Bulk	Yes, with D, E and F
B. Construction Materials and Mining Products	Bulk General Cargo/Bulk	No
C. Oil	Tanker	No
D. Bulk Cargo	General Cargo/Bulk	Yes, with A, E and F
E. Cement	General Cargo/Bulk Specialised Ship	Yes, with A, D and F No
F. General Cargo	General Cargo/Bulk Container Ro-Ro	Yes, with A, D and E

- 1) General Cargo/Bulk Ship, which can carry most of the traffic types,
- 2) Bulk Ship, to carry break-bulk cargo only, with a shoulder tank and hold of suitable shape to unload cargoes efficiently (see Figure 3.2.1 for examples),
- 3) Oil Tanker/Chemical Tanker, which are specialised ships for transporting crude or refined oil, or chemicals,
- 4) Container Ship, for carrying containers only,
- 5) Semi-Container Ship, multipurpose ship for carrying not only containers but also general cargo, often in conjunction with wide holds for efficient loading/unloading and special fittings to secure containers,
- 6) Ro-Ro Ship, to carry trucks and other motor vehicles

Specialised barge and LASH (Lighter Aboard Ship) systems are not suitable for coastal shipping, even though they may appear to be attractive for Vietnam's mixture of sea and river services. Barges are not particularly sea-worthy. In particular, pusher barges (which are not used for coastal shipping even in Japan) cannot be safely navigated against high broadside waves.

LASH systems, which rely on special ships with cranes to lift and transport pre-loaded lighters have the following advantages for a wide range of cargoes

- loading and unloading times are minimised,
- they do not need port facilities for the ship, and
- direct access to customers along small rivers can be offered.

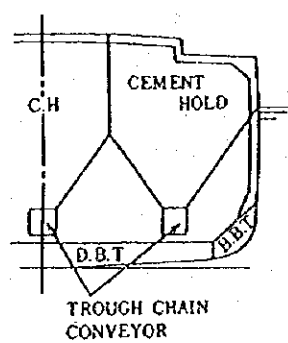
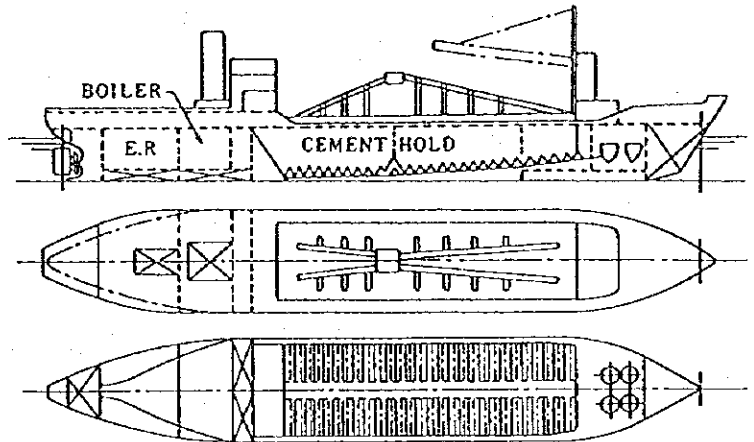
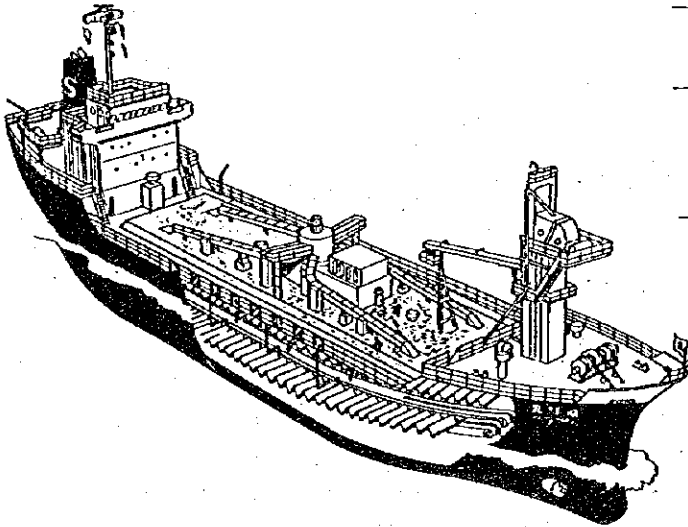
However they have the following disadvantages:

- high cost of ship, associated with special design and equipment,
- wide sheltered sea areas are needed for loading and unloading many lighters,
- lighters are not navigable in rough seas and this increases probability of delays,
- manoeuvring lighters incurs substantial costs for tug boats, and
- the system is paralysed when the ship's crane breaks down, possibly for many days until spare parts are obtained, because there is no alternative way of lifting 300 - 500 ton weights.

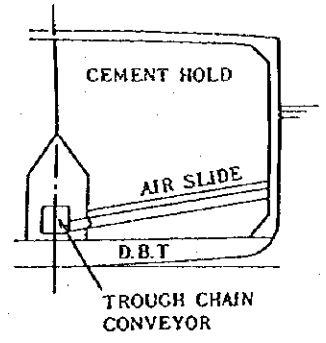
The LASH system can be economically advantageous on international shipping routes, serving areas with river systems, where large ships can economically be utilised for the trunk haul, in conjunction with quick loading and unloading times. For the short distances of Vietnamese coastal shipping with irregular traffic flows, such a system would almost certainly cost more than conventional shipping (even if a scaled-down version were specially developed for this application).

Figure 3.2.1
ILLUSTRATIONS OF SPECIALISED SHIPS

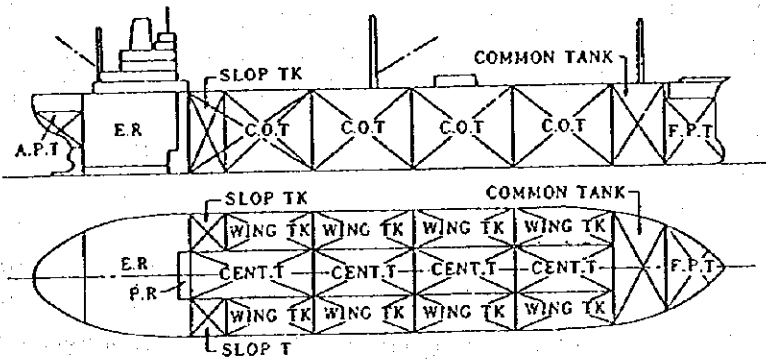
(Cement Tanker)



Hopper Type

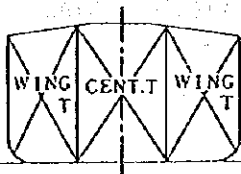


Air Slide Type

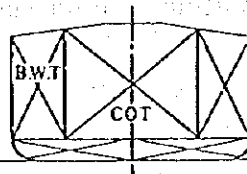


(Crude Oil Tanker)

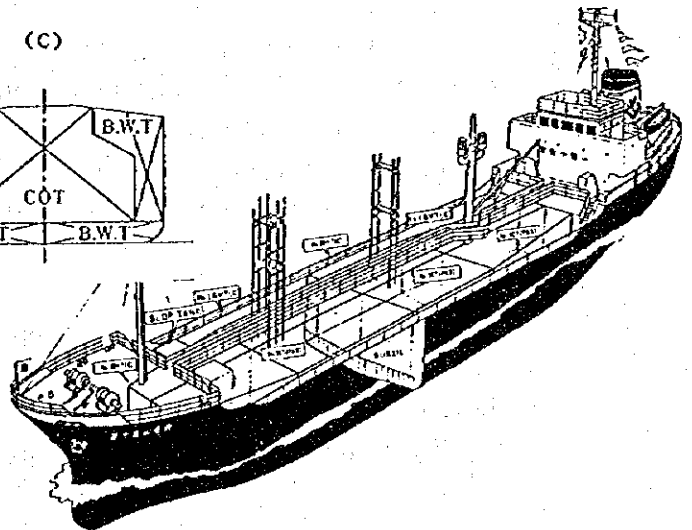
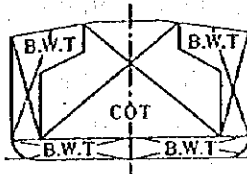
(A)



(B)



(C)



For most freight operators there seems little doubt that the advantages of general purpose ships outweigh their disadvantages. Most domestic cargoes can be carried on general purpose ships and although there would be potential cost and level of service advantages from using certain specialised vessels such as bulk cement carriers, the high capital requirements and risks associated with them would be expected to rule out their consideration except in particular circumstances where demand and revenue can be reliably predicted. This is in accordance with experience of coastal shipping in other developing countries. Consequently we have assumed that specialised ships are only of potential use in Vietnam in particular clearly identifiable circumstances (for the carriage of cement, coal/ore, container, Ro-Ro and oil).

The main factors affecting the choice of ship size are initial cost (and availability of finance), overall operating costs, physical constraints (particularly draught limits in ports and waterways) and management tradition/capability. Arguably the main determining factor in Vietnam is initial cost which acts as a strong constraint on all operators. Costs of capital in Vietnam are very high whereas labour costs are low. Even fuel costs are very low on a historic basis (in real terms similar to those pertaining before the "oil price shock" in the 1970's). The high level of investment risk prevailing in Vietnam due to uncertainties about the course of reform, about interpretation of vague regulatory rules and about future traffic levels, also deter large investments and make overall operating cost considerations secondary. The possibility of navigational difficulties on sea-cum-riverways with larger ships above about 1,000 dwt is currently an additional source of uncertainty which deters use of large ships, but it is assumed that over the period of the master plan such uncertainties will be removed. Many ship operators in Vietnam have little experience of operating medium/large ships over 1,000 dwt - there are few private operators with such vessels and many provincial owners of larger ships delegate management of the ships to other, more experienced operators. This lack of experience is likely to be an important factor in determining vessel size which must be allowed for in projections of fleet development.

Decisions over whether to purchase or charter ships depend on availability of finance, chartering costs and availability of suitable vessels for either purchase or charter. These factors can vary strongly from year to year depending on market conditions and availability of surplus vessels in the world market. In principle chartering offers many attractions to Vietnamese coastal shipping operators who wish to accumulate capital from a very low base. It may be the only way of acquisition for new entrants into the business and is therefore a vital consideration in policy making. However the world market in chartered vessels is dominated by large vessels and so this form of acquisition is of little use to many coastal shipping operators, especially small scale operators.

The difficulties of financing vessels obviously means that most operators prefer to buy second-hand rather than new vessels. The high cost of new vessels may mean that buying second-hand is the only option available to most operators. In addition capital can be accumulated more rapidly through operation of second-hand vessels and so,

given the lack of capital in Vietnam, most would opt for buying two or three second-hand vessels rather than buying one new vessel, even though these incur higher operating costs. However restrictions on imports of small vessels may prevent operators from purchasing second-hand foreign vessels in preference to a new Vietnamese built vessel.

3.2.3 Comparison of Options for Cargo Ships

Since capital costs pose such an important constraint on fleet development, the effect of three different cargo fleet development patterns on overall capital costs has been compared below. The development patterns have been defined for alternative assumptions about size, type and age of acquired vessels. For the sake of this comparison no chartering of vessels is assumed.

The alternative assumptions adopted are as follows:

ALTERNATIVE 1 - Expansion of the coastal shipping fleet with the same size and type of vessels as used at present, using new vessels less than 1,000 dwt and second-hand vessels above this size (similar to current practice). Under this alternative the average size of coastal shipping vessels remains at about 1,000 dwt.

ALTERNATIVE 2 - Expansion of the fleet with larger more modern designs, including specialised vessels, to minimise total overall operating costs (including both running and capital costs). All vessel replacements are assumed to be with new ships. Under this alternative the average size of vessels increases by 2010 to 2,000 dwt.

ALTERNATIVE 3 - An intermediate situation in which less of the larger vessels are acquired, all vessels below 3,000 dwt are acquired new and the rest second-hand. Under this alternative the average size of vessels increases by 2010 to 1,500 dwt.

The estimation of the vessels acquired under Alternative 2 has been based on an analysis of comparative costs of operating vessels of various sizes - 1,000, 3,000, 5,000 and 10,000 dwt. This analysis is described in Appendix 6 and is based on current recorded financial costs in Vietnam.

The overall operating costs include

- running costs of the vessel, including fuel,
- time based costs such as staff, maintenance, depreciation and vessel taxes, and
- port charges levied on the vessel.

The estimate is made for a typical voyage between Saigon to Haiphong ports carrying rice, based on common assumptions made by operators in Vietnam for operating a second-hand general purpose vessel acquired at the age of 12 years and operating it for a further eight years. Possible interest charges are not included because many large operators do not pay significant capital charges (payments for assets financed originally by the state rather than funded from revenue are low because they are apparently based

on deflated historic rather than real current values). However depreciation is based on typical current values in the world market. The assumptions made for each vessel are summarised in Appendix 6.

As shown in Table 3.2.3, the 1,000 dwt vessel incurs high costs because of many factors such as high fuel consumption, higher price of diesel compared to fuel oil, and lower running speed. The 10,000 dwt vessel incurs higher costs because it requires longer time loading and unloading (because ports are not well equipped to handle large vessels), which becomes especially significant in coastal shipping because haulage distances are shorter than for international routes. Consequently vessels with capacity between 3,000 and 5,000 dwt have the lowest costs. It has therefore been assumed that under Alternative 2 more of such vessels are deployed on general cargo routes. Even larger vessels are assumed to be deployed on specific routes between specialised ports in some cases where improved facilities could allow greater utilisation of large vessels.

Table 3.2.3
ESTIMATED OPERATING COSTS OF VARIOUS SIZES OF CARGO VESSELS
(VND THOUSAND/VOYAGE)

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

SOURCE: JICA Study Team

The number of vessels acquired under each alternative has been estimated in Appendix 7 allowing for the expected continued use of existing vessels, up to 20 years of age. This means in practice that many existing vessels must be replaced soon. Because vessels are used both for domestic and international shipping, it is necessary to define a hypothetical fleet that would be required if vessels were exclusively used on coastal shipping services. Under Alternative 1 it is assumed that the current contribution to coastal shipping capacity from various sizes of vessels varies from 5% for large vessels over 7,000 dwt (used mainly for international services) to 70% for vessels between 500 and 1,999 dwt as shown in Table 3.2.4.

Table 3.2.4
**ASSUMED COASTAL SHIPPING CARGO FLEET COMPOSITION
 (EXCLUDING TANKERS), 1995**

Ship Size (DWT)	Total Registered DWT	Assumed Assignment Rate for Coastal Shipping	Available DWT for Coastal Shipping
Less than 500	68,940	20%	13,788
500 - 1,999	93,707	70%	65,595
2,000 - 3,999	63,134	25%	15,784
4,000 - 6,999	117,543	15%	17,631
More than 7,000	342,078	5%	17,104
Total	685,402	19%	129,902

Source: JICA Study Team

According to this assumption about half of the coastal shipping capacity is derived from vessels between 500 and 1,999 dwt and the average capacity of vessels used in coastal shipping, excluding oil tankers, is about 1,000 dwt.

The number of vessels expected to be acquired under each alternative is as follows:

Alternative 1: A total of 623 general cargo/bulk vessels will be acquired with a total capacity of 710,500 dwt, of which 130 vessels (231,300 dwt) are required as replacements for existing vessels while 493 vessels (479,200 dwt) are required to meet increased demand. An additional 18 oil tankers (433,800 dwt) are also acquired with the Dung Quat project (eight tankers of total 16,000 dwt without).

Alternative 2: A total of 203 general cargo/bulk vessels with a total of 353,600 dwt, of which 99 vessels (114,300 dwt) are required as replacements while 104 vessels (239,300 dwt) are required for meeting increased demand. An additional 86 other vessels (639,000 dwt) such as cement carrier, coal/ore carrier, semi- and full-container, Ro-Ro and oil tanker are also required with the Dung Quat project (74 vessels of 215,200 dwt without).

Alternative 3: A total of 364 general cargo/bulk vessels with a total of 552,800 dwt, of which 120 vessels (209,300 dwt) are required as replacements while 244 vessels (343,500 dwt) are required for meeting increased demand. An additional 44 other vessels (555,800 dwt) such as cement carrier, semi-container, Ro-Ro and oil tanker are also required with the Dung Quat project (32 of 132,000 dwt without).

The composition of the fleet, up to 2000 and 2010, and the associated capital costs for new acquisitions are summarised in Table 3.2.5.

Table 3.2.5

FUTURE CARGO FLEET COMPOSITION ALTERNATIVES (WITH DUNG QUAT PROJECT)

	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Fleet Development Policy	Fleet expansion based on the existing fleet structure	Fleet enlargement, modernization and diversification	Moderate fleet enlargement, modernization and diversification
Average Fleet Size (excluding oil tankers)	1,000dwt in 2000 1,000dwt in 2010	1,700dwt in 2000 2,000dwt in 2010	1,300dwt in 2000 1,500dwt in 2010
No. of Ships (Year 2000 / Year 2010)	General Cargo Bulk Ship (3000dwt) 88 ships / 240 ships General Cargo Bulk Ship (1,000dwt) 123 ships / 322 ships General Cargo Bulk Ship (3,000dwt) 10 ships / 30 ships General Cargo Bulk Ship (5,000dwt) 7 ships / 22 ships General Cargo Bulk Ship (10,000dwt) 2 ships / 2 ships Oil Tanker (2,300-80,000dwt) 6 ships / 12 ships	General Cargo Bulk Ship (3000dwt) 43 ships / 84 ships General Cargo Bulk Ship (1,000dwt) 47 ships / 65 ships General Cargo Bulk Ship (3,000dwt) 19 ships / 23 ships General Cargo Bulk Ship (5,000dwt) 10 ships / 27 ships General Cargo Bulk Ship (10,000dwt) 2 ships / 6 ships Cement Carrier (5,000-7,000dwt) 4 ships / 16 ships Coal/Ore Carrier (1,000-3,000dwt) 5 ships / 35 ships Semi/Full Container (2,000-5,000dwt) 2 ships / 4 ships Ro-Ro Ship (5,000dwt) 0/2 ships Oil Tanker (2,300-80,000dwt) 6 ships / 12 ships	General Cargo Bulk Ship (3000dwt) 87 ships / 161 ships General Cargo Bulk Ship (1,000dwt) 50 ships / 118 ships General Cargo Bulk Ship (3,000dwt) 19 ships / 42 ships General Cargo Bulk Ship (5,000dwt) 12 ships / 28 ships General Cargo Bulk Ship (10,000dwt) 2 ships / 4 ships Cement Carrier (5,000-7,000dwt) 4 ships / 16 ships Semi-Container (2,000-5,000dwt) 2 ships / 2 ships Ro-Ro Ship (5,000dwt) 0/2 ships Oil Tanker (2,300-80,000dwt) 6 ships / 12 ships
Entire Coastal Shipping Fleet	236 ships (379,000dwt) / 628 ships (903,200dwt)	138 ships (370,500dwt) / 276 ships (826,400dwt)	182 ships (381,700dwt) / 385 ships (859,500dwt)
Fleet Procurement Method	Less than 1,000dwt - new vessels Over 1,000dwt - second hand vessels	All new vessels	Less than 3,000 dwt - new vessels Over 3,000 dwt - second-hand vessels
Estimated Fleet Procurement Cost (including replacement)	US\$ 237 mil. up to 2000 US\$ 897 mil. between 2001 and 2010 (US\$ 213 mil. and 836 mil. respectively without Dung Quat project)	US\$ 422 mil. up to 2000 US\$ 1,121 mil. between 2001 and 2010 (US\$ 315 mil. and 868 mil. respectively without Dung Quat project)	US\$ 212 mil. up to 2000 US\$ 711 mil. between 2001 and 2010 (US\$ 190 mil. and 627 mil. respectively without Dung Quat project)

Under Alternative 2 the high rate of replacement of existing vessels would increase short term capital requirements up to 2000 from US\$ 237 million to US\$ 422 million. Because of the difficulties of operators securing capital such an alternative would be impractical. However under Alternative 3, with greater acquisition of second-hand vessels the capital costs required can be substantially reduced, even lower than under the present procurement practices assumed for Alternative 1. The reduction in capital costs arises because of the lower capital cost per dwt of larger vessels compared to those for existing vessel types. Therefore despite the lower overall capital costs, the amount per ship would be higher, emphasising the financial difficulties for operators wishing to utilise large ships.

3.2.4 Expected Acquisition Programme

The most likely fleet acquisition programme to develop under Vietnamese conditions is Alternative 3. This combines both low capital costs and a trend towards lower operating costs. However in practice it is extremely difficult to anticipate how operators will develop their fleets, especially considering the financial difficulties of obtaining larger ships. Continued monitoring is needed to make better predictions of future fleet development.

Some of the vessels expected to be used by operators under Alternative 3 would be chartered rather than purchased because less capital would be required and less investment risks would be involved. These advantages would often outweigh the disadvantages of chartering; namely higher operating costs to the operator. However any estimate of the proportion of vessels that would be chartered is bound to be approximate because availability of vessels for chartering and charter rates vary from year to year and from region to region. Nevertheless an approximate estimate is made as follows.

Under the present uncertain circumstances in Vietnam there are considerable advantages from chartering because of the lower capital costs involved. This would imply that many of the larger vessels anticipated to be operated in coastal shipping would be chartered in the first instance (especially for specialised vessels that would have higher risks of failing to achieve the required utilisation). After a few years chartering would become less attractive because capital is more likely to be available in Vietnam (partly because of capital accumulation by operators), implying that a greater proportion of vessels would be purchased. However the proportion of smaller vessels, less than 3,000 dwt, which would be chartered could be rather low, even in the short term, because of the small number of vessels available for charter in the South East Asian market. It seems more likely that such vessels would be purchased provided suitable financing terms are available.

In accordance with the assumptions of Alternative 3, especially in the short term while credit remains tight, most vessels over about 3,000 dwt are likely to be acquired second-hand if available. However continued purchase of new vessels below 3,000 dwt (using second-hand engines and other equipment) can be expected because these could possibly be obtained at relatively low cost from Vietnamese ship-builders.

The number of cargo and passenger vessels which could be expected to be purchased up to 2010 is estimated in Tables 3.2.6 and 3.2.7, taking account of the above arguments.

Table 3.2.6
EXPECTED CARGO SHIP PURCHASES - ALTERNATIVE 3

Ship Type	Up to 2000			2001 - 2010		
	Newly Deployed Vessels	Proportion Purchased (%)	Expected Purchases (Vessels)	Newly Deployed Vessels	Proportion Purchased (%)	Expected Purchases (Vessels)
General Cargo/Bulk						
- 300 dwt	41	100	41	115	100	115
- 1,000 dwt	0	90	0	120	100	120
- 3,000 dwt	19	80	15	23	95	22
- 5,000 dwt	10	50	5	30	90	27
- 10,000 dwt	2	0	0	4	80	3
Cement Carrier						
- 5,000 dwt	4	50	2	14	100	14
- 7,000 dwt	0	0	0	2	100	2
Semi-Container Ship						
- 2,000 dwt	2	100	2	2	100	2
Ro-Ro Ship						
- 5,000 dwt	0	0	0	2	50	1
Oil Tanker						
a) With Dung Quat						
- 2,300 dwt	2	50	2	4	100	4
- 20,000 dwt	3	70	2	6	100	6
- 80,000 dwt	1	0	0	2	100	2
b) Without						
- 1,000 dwt	2	50	1	2	100	2
- 3,000 dwt	2	50	1	0	100	0
TOTAL						
a) With Dung Quat	84		69	324		318
b) Without	82		67	314		308

SOURCE: JICA Study Team

Table 3.2.7
EXPECTED PASSENGER SHIP PURCHASES

Service Type	Number of Passengers (thousand)		Number of Vessels Required		Number of Vessels Acquired	
	2000	2010	Up to 2000	2000-2010	Up to 2000	2000-2010
Interprovincial	644	1,059	4	6	2	4
Remote Island	114	139	1	2	1	1
Tourism	992	2,392	11	27	5	22
TOTAL	1,750	3,590	16	35	8	27

NOTE: (1) Assuming 200,000 passengers per year per vessel for 140 seat interprovincial services (using passenger/cargo ships of 490 grt) and 90,000 passengers per year per vessel for 200 seat inter-island services (using 95 grt vessels), and 90,000 passengers per year per vessel on 90 seat tourist services (using 60 grt vessels).

(2) Assuming 50% of 2000 demand can be met with existing vessels.

SOURCE: JICA Study Team

It can be expected that operators wishing to exploit market segments in particular ways will seek to obtain vessels with special features. Such features could include

- (a) modifications to the hull and propeller in order to reduce the draft, for easier operation in sea-cum-riverways,
- (b) installation of double ballast tanks for finer adjustment of loading conditions,
- (c) installation of top and/or bottom side tanks in the cargo holds for segregating cargoes, and
- (d) alterations to the gearing (no cranes at all or fitting cargo derrick cranes instead of deck cranes).

The need for such a range of options has to be taken into account when considering the advantages of introducing standardised, domestically-manufactured designs.

3.2.5 Financial Requirements

The expected capital required to finance the ship acquisitions under Alternative 3 (with the assumed level of chartering and assumed vessel life of 20 years) is shown in Table 3.2.8. In the short term, with the Dung Quat project, chartering of vessels could reduce the capital requirement appreciably to only about US\$ 161 million between 1995 and 2000 (US\$ 32 million per year). Without chartering these figures would be US\$ 226 million (US\$ 45 million per year). Continued acquisition of small locally built vessels at low prices could possibly reduce this investment still further.

However in the long run chartering is not an attractive proposition to operators because of its inherently high cost. The capital requirement between 2000 and 2010 is therefore expected to be about US\$ 739 million (74 million per year) with minimal chartering or, without any chartering at all, US\$ 761 million in total (which represents US\$ 76 million per year).

Table 3.2.8
EXPECTED SHIP PURCHASES - ALTERNATIVE 3

Ship Type	Up to 2000			2001 - 2010		
	Expected Acquisition (Vessels)	Price (US\$ mil)	Required Capital (US\$ mil)	Expected Acquisition (Vessels)	Price (US\$ mil)	Required Capital (US\$ mil)
General Cargo/Bulk						
- 300 dwt	41	0.6	24.6	115	0.6	69.0
- 1,000 dwt	0	2.3	0.0	120	2.3	276.0
- 3,000 dwt	15	4.0	60.0	22	4.0	88.0
- 5,000 dwt	5	2.8	14.0	27	2.8	75.6
- 10,000 dwt	0	4.8	0.0	3	4.8	14.4
Cement Carrier						
- 5,000 dwt	2	3.4	6.8	14	3.4	47.6
- 7,000 dwt	0	4.0	0.0	2	4.0	8.0
Semi-Container Ship						
- 2,000 dwt	2	7.0	14.0	2	7.0	14.0
Ro-Ro Ship						
- 5,000 dwt	0	4.8	0.0	1	4.8	4.8
Oil Tanker						
a) With Dung Quat						
- 2,300 dwt	2	6.4	12.8	4	6.4	25.6
- 20,000 dwt	2	7.3	14.6	6	7.3	43.8
- 80,000 dwt	0	11.2	0.0	2	11.2	22.4
b) Without						
- 1,000 dwt	1	4.0	4.0	2	4.0	8.0
- 3,000 dwt	1	8.0	8.0	0	8.0	0.0
Passenger Ship						
- 490 grt 140 seat	2	0.6	1.2	4	0.6	2.4
- 95 grt 200 seat	1	3.0	3.0	1	3.0	3.0
- 60 grt 90 seat	5	2.0	10.0	22	2.0	44.0
TOTAL						
a) With Dung Quat	77		161.0	345		738.6
b) Without	75		145.6	335		654.8

NOTE: (1) Assuming average prices of passenger vessels are (in US \$ million):
 0.6 for 490 grt (12 years old assuming US \$ 2.0 million new)
 3.0 for 95 grt (12 years old assuming US \$ 11.0 million new)
 2.0 for 60 grt (five years old assuming US \$ 3.0 million new)

SOURCE: JICA Study Team

To meet this capital requirement both domestic and foreign financial resources are needed.

(a) Domestic Finance

From the operators point of view there are three basic options to secure domestic finance for vessels. The first is bank credit. Little use is currently made of this potentially important source because of severe difficulties in obtaining credit. The rules for obtaining domestic credit are complicated and restricting, reflecting both the limited supply of credit and the inefficiency of the domestic banking industry. Shipping operators complain that the rules for obtaining credit keep changing and are never absolutely clear. Others say that credit is not given to some operators because they are simply not trusted and that banks will hardly ever consider giving credit to new businesses not known to them well. In all cases substantial collateral would have to be supplied by the borrower and although this could be mortgaged property, few shipping operators have such resources to mortgage. The terms of credit are typically 1.7% per month (variable) and usually restricted to short term periods of two or three years which is far below the expected earning life of the vessel. This interest rate is high in real terms - over 10% per year allowing for the current 10 - 12% annual inflation in Vietnam.

The second source of domestic finance is the main way of funding vessel acquisitions at present. Most existing operators use accumulated profits. Family businesses use loans from other family members, but few appear to be able to raise finance from non-family members because of the potential risks. Both of these sources have extremely limited potential to develop the coastal shipping fleet. Even assuming profits as high as 5% of turnover (most operators report lower figures) there is little surplus to reinvest. Even the limited finance available from family members can be expensive for the borrower unless it is on an equity basis in which interest is not charged, but rather the lender shares ownership and profits.

The third source of domestic finance is hardly ever used but is an important potential future source of affordable credit: the stock market. Such an institution has not yet been established, although government plans to introduce it before 2000 once the legal and institutional basis for this has become established. Vietnam's stock market would allow shipping operators to raise capital from a wide range of investors at lower cost than bank loans. Experience in other countries suggests that this will mainly be of assistance to the large shipping companies with US\$ 5 million or more of assets. Smaller operators are usually wholly-owned businesses rather than joint-stock companies and so would not obtain capital from the stock market.

(b) Foreign Finance

There are three main ways in which most shipping operators can tap foreign funds: through

- direct foreign investment from particular foreign organisations or individuals,
- ODA investment, and
- leasing arrangements.

Certain state-owned enterprises such as VINALINES can also, under certain circumstances, receive credit from the state budget, especially if this forms a deposit for a foreign loan approved by the government.

Under the first option, direct foreign investment can be on the basis of either equity involvement or through loans. Foreign commercial banks are prepared to loan capital to Vietnamese shipping companies provided certain conditions are satisfied. Often some form of political insurance is required against the possibility that the borrower cannot repay the loan, other than due to normal business difficulties. This insurance adds to the borrowing costs which may already be high because of the risks involved. The borrower must be able to convince the bank of the technical and financial viability of the investment. In this context, using foreign management who have experience of such investments helps to reassure the banks.

State-owned operators can obtain much easier credit terms from foreign banks if they can secure loan guarantees from the government. This gives such operators considerable advantages over other operators and deters private investment.

Under the government's foreign investment law there are three forms of foreign participation:

- joint venture enterprises or corporations between Vietnamese and foreign partners,
- establishing a 100% foreign owned enterprise, and
- making a business contract between Vietnamese and foreign partners.

In the absence of a stock market the options for joint Vietnamese and foreign partnerships are rather limited. For example an enterprise with only a minority foreign equity share holding may well be categorised as a 100% foreign owned enterprise. As described in Chapter 1, the rules for using, in domestic shipping, Vietnamese registered ships owned partly by foreign organisations or individuals (including all 100% foreign owned enterprises) are extremely restrictive. On the other hand exceptions can be made for foreign vessels used on an own-account basis provided they do not carry goods for third parties.

In all cases of foreign investment approval is required from the MPI, and there are particular areas in which tax concessions can be given to encourage foreign investment. It is not clear to what extent the government encourages foreign investment in domestic shipping, and the rules for giving permission are not defined. Furthermore establishing shipping companies is subject to authorisation by the Prime Minister according to Article 11 of the Law on Companies. Not surprisingly, given all these layers of controls, potential foreign investors are confused about government policy towards foreign investment in domestic shipping and how this is likely to be interpreted by VINAMARINE. This therefore deters direct foreign investment.

One adverse consequence of this is that foreign own-account vessels, which may be allowed currently to be used in domestic shipping, may displace Vietnamese general cargo carriers which could carry the cargo more efficiently.

The second way for shipping operators to obtain foreign finance is from development (or ODA) agencies. Major lenders such as the World Bank, the Asian Development Bank and Japan's OECF make large loans to governments rather than give the smaller loans required by individual organisations within countries. Therefore the scale of such loans is more appropriate for financing infrastructure, such as ports and waterways, than for the shipping fleet.

The scope for using ODA finance to acquire ships is further limited by the restrictive financing conditions which require broad developmental objectives to be achieved. Investments in shipping infrastructure, which benefit all users, are particularly suitable for achieving such objectives. However investments in ships may only benefit certain ship operators at the expense of others, with minimal overall benefit to users of shipping services or to the country as a whole. To reduce this danger, ODA organisations target funds for use in particular ways and monitor the use of finance.

In the context of coastal shipping, which may not be able to play its full role in domestic transport because of obstacles in supply of capital for vessels, one objective could be to introduce new operating concepts or types of ships, which pass on benefits throughout the economy. Since preferential credit terms are offered, care has to be taken to ensure that distortions are not introduced in the competitive conditions between modes, or more broadly between sectors of the economy. Unfortunately the diverse nature of activities of most Vietnamese shipping operators, including both coastal and international shipping, makes it difficult to target finance for particular purposes in coastal shipping. ODA agencies would be most unwilling to finance, at preferential credit terms, any Vietnamese ship which would be used in international shipping, and so ships acquired with ODA funds for domestic shipping would not be able to be used in international shipping.

More generally, distortions are also possible by upsetting the relative costs of labour and capital (displacing local cheap labour inefficiently with expensive foreign capital, or artificially increasing supply beyond long term demand causing unsustainable fleet development).

Some ODA agencies such as the World Bank's International Finance Corporation (IFC) lend on a commercial basis direct to organisations such as shipping operators, either through loans or through equity investment. In these cases the developmental objectives are less important than financial profitability.

The terms of ODA finance vary widely. The OECF and other development agencies usually provide loans on preferential repayment terms - low interest rates, with long repayment periods which include grace periods before payments are due to begin. Loans may be administered through domestic banks who are given specific objectives for on-lending the money, including evaluation of projects and terms of repayment. This administrative arrangement is appropriate where (as in the case of the coastal shipping industry) there would be many small borrowers requiring loans of less than about \$ 10 million. To qualify for loans the shipping companies would have to provide a technical and financial justification, and also show that the intended developmental benefits are likely to be achieved.

Typically the IFC will acquire an equity stake in the company and provide loans provided certain conditions are met - the borrower must make an acceptable financial and technical case for the investment, which often means that experienced international management must be included in the borrowing company. Expected returns must be high, 20 - 40% per year, to cover the risks.

The third way in which foreign finance for vessels can be made available to shipping operators is through leasing schemes. There are two types of schemes:

- financial leasing, in which a leasing company purchases the vessel and then resells it to the operator under a hire purchase agreement which covers the cost of credit, and
- operational leasing, in which a leasing company purchases the vessel and then rents it to an operator.

Under the first scheme the operator repays the total cost of the vessel over several years and then keeps the vessel. The lease agreement usually places responsibility for maintenance of the vessel on the operator, who therefore has an incentive to keep the vessel in good condition. Under the second scheme ownership remains with the leasing company who therefore undertake maintenance. The practice of chartering vessels is often one form of operational leasing that may also involve providing the crew to operate the vessel. Obviously the cost of leasing increases greatly with the additional responsibilities placed on the leasing organisation (although it minimises capital costs). Financial leasing is more advantageous to operators who can maintain and operate their vessels, but involves accepting the risk of repossession of vessels if they are unable to maintain payments.

There are at present no leasing companies in Vietnam who appear to be able to provide financial leasing services for new vessels (or imported second-hand vessels). The IFC is currently establishing a leasing company in Vietnam but it is likely that this would specialise in leasing assets smaller than ships. Therefore shipping operators will probably have to rely on foreign leasing services for the foreseeable future.

The review of available financial resources above suggests that the following policy measures could assist in improving the supply of finance for new or second-hand vessels used by coastal shipping operators.

- (1) In the first place the government should continue to provide a stable business environment with stable prices, low interest rates, a convertible exchange rate and transparent regulatory framework for business.
- (2) The establishment of the Vietnamese stock market is a priority measure which can provide the cheapest possible finance for larger shipping companies.
- (3) The terms of domestic credit should be made much more transparent so that potential borrowers can be treated on a more equitable basis and credit directed to the most promising borrowers.

- (4) The government should, at an early opportunity, make its policy clear regarding foreign investment in the shipping business, and in the domestic coastal market in particular.
- (5) The government should consider relaxing and making clearer the rules concerning involvement in domestic shipping of Vietnamese organisations that have a foreign participation of over 50%. This could achieve the following aims.
 - To enable Vietnamese operators to enter the business with foreign partners in order to accumulate capital which could eventually be used to establish wholly Vietnamese owned companies.
 - To develop new types of services using foreign expertise and capital which Vietnamese operators would otherwise find to be impossible. Examples of these include liner services and use of specialised vessels.
 - To allow the full development of the Vietnamese general cargo fleet without distortions caused by concessions being given to foreign own-account vessels.

This could, for example, include start-up concessions that allowed majority foreign-owned Vietnamese companies to carry domestic traffic for a period after entering the business. Such concessions could also be given to operators that introduced modern vessels suitable for innovative services such as liner services.

- (6) To provide credit for the coastal shipping business, the government should encourage ODA funds from OECF and other sources to be channelled into the sector to ensure that coastal shipping plays its full role in domestic transport.
- (7) Finally to minimise the cost of ship acquisition and allow Vietnamese operators to compete on the same basis as others on international routes and obtain the particular vessels which they need, the government should desist from any policy aimed at restricting choice - for example, through restrictions on imports of small vessels in order to support local ship building businesses.

3.3 Management Modernisation

3.3.1 Objectives

The aim of this section of the report is to analyse ways to develop the organisations and, especially, the skills of management and administrative staff of shipping operators and ancillary services to implement the service and fleet development plan outlined in the previous section.

Initially, possible developments in the shipping business up to 2010 are considered, which are related to changes to the institutional framework of the maritime industry, particularly with respect to the forthcoming reform of state-owned enterprises. These enterprises include many shipping companies that dominate coastal shipping.

Then the management development needs for shipping companies are examined, including those affecting new types of operation, the fostering of small operators and strengthening of ancillary services such as freight forwarders. Finally the scope for training is identified.

3.3.2 Development Perspectives for the Shipping Business

(a) Background

Under the Vietnamese government's programme of economic reform the state-owned enterprises are facing radical change. In particular

- the legalisation of the private sector has introduced competition to the enterprises,
- other administrative changes required for a market economy such as a legal system which guarantees property and investment rights and a competitive banking system, have introduced new management conditions,
- they have considerable financial autonomy for the first time, giving them new responsibilities and challenges, enabling them to engage in joint ventures with foreign partners,
- those enterprises which are not considered to be financially viable have been abolished,
- under the equitisation programme, private shareholding and control of the enterprises are possible in future, opening up yet further developmental possibilities, and
- other developments such as the proposed stock market will enhance these changes.

The government attaches great importance to the development of state-owned enterprises in key areas of the economy. It recognises too the dangers of these enterprises exerting monopolistic influences and the need for appropriate controls to ensure competition and efficiency. The government is also open to the possibilities for introducing improved management from the private sector or from foreign joint ventures.

Under the time period of the master plan up to 2010, therefore, considerable changes can be anticipated in the institutional framework of coastal shipping.

(b) Aims of Institutional Development

One important aim of the development of the maritime industry is to establish a "level playing field" for the industry, and the basic rules which are needed for business competition are examined in the following Section 3.4. An important related matter is the way in which government regulates the shipping industry through ownership of certain ship operators. In Vietnam, as in other countries, state-owned enterprises receive privileges not extended to the private sector - for example they can receive credit on easier terms. In return they may be expected to perform particular roles for government. This is the topic discussed below.

In accordance with the general aims of the master plan, especially to develop coastal shipping as a competitive transport system, it is assumed that the overall aim of institutional development is to increase the competitiveness of the industry as a whole, through increasing the effectiveness and know-how of management and administrative staff of state-owned shipping operators and ancillary services, and thereby implement more effectively the anticipated service and fleet development plan.

Domestic coastal shipping is distinguished, at the outset, from international shipping. The two markets often have quite different characteristics, even though there is also considerable

overlap. The government attaches high priority to developing the international fleet and has approved an ambitious plan for development of the VINALINES government-owned enterprise in order to increase the Vietnamese fleet. Such a role by state-owned shipping enterprises has been played in developing countries in attempts at initiating the development of the shipping industry. However such enterprises are often being privatised now because of inefficient management. Because of the overlap between coastal shipping and international shipping, the possible impact, on coastal shipping, of the VINALINES development plan must be taken into account.

Before considering the possible options for institutional reform in coastal shipping the basic characteristics of the Vietnamese coastal shipping business are described.

(c) General Characteristics of the Coastal Shipping Business

In many countries the coastal shipping business is characterised by a large number of small operators, many medium operators and a few large. The small operators are often family businesses using domestically built vessels. Generally, in a competitive market economy, state-owned operators play only a minor role and the market works efficiently without the need for intervention by government to control monopolies. This absence of monopolies (in market economies where government does not impose entry controls) can be understood in terms of economic theory.

In general, monopolies are only likely to occur in market economies where assets are fixed or specialised (where existing operators could dominate particular markets simply because they have assets which could be regarded as sunk costs with no alternative use), where the costs of entry are very high (acting as a barrier to new competition), or where there are economies of scale in the supply of services (which means that operators with many ships cannot undermine the prospects of new entrants into the business).

Most of the assets used in the shipping business are neither fixed nor specialised. That is, the vessels can be re-deployed according to demand conditions. There is no evidence of significant economies of scale in the industry. The costs of entry need not be high, even for operators using large vessels, because the flexible nature of the assets allows them to be leased rather than purchased. There are certainly marketing advantages for larger operators who seek to offer reliable scheduled services with designated port facilities. Operators without such a wide range of resources cannot offer the same level of dependability and convenience. However this does not prevent competition between these and operators of unscheduled (tramper) services.

Because monopolies are unlikely under free-market conditions with free entry and exit, the coastal shipping business should result in a competitive market with many suppliers, especially in the shorter distance/low traffic, general cargo segment where small vessels are required. Only in particular circumstances such as in operation of high cost, specialised vessels using specialised port facilities could there be any tendency towards monopolistic behaviour. However even in the case of liner services which use specialised vessels and facilities, monopolies are rare where free entry into the business is allowed.

(d) Government Policy towards Public Ownership of Coastal Shipping Enterprises

Although there is no doubt about the government's intention to reorganise into joint stock companies (or equitise) a large proportion of state-owned enterprises, as a first step towards privatisation, there is no clear policy yet regarding the extent of change planned in coastal shipping. So far progress towards privatisation of state-owned enterprises has been slow - only a handful has been sold so far raising less than US\$ 10 million. The following obstacles have been identified to equitisation.

- Enterprise managers have been slow to put their enterprises forward for equitisation, especially those with profitable businesses, because of fears that they would lose control of their activities. Understandably they are more willing to sell unprofitable parts of their businesses.
- Many state-owned enterprises have substantial debts, which amount in total to about US\$ 1.8 billion or 10% of GDP, rendering them unattractive to investors.
- Few enterprises have accounts which meet international standards and this reduces their attractiveness to foreign investors.

The basic policy of equitisation was set out in the Law on State-owned Enterprises, in Government Decree No. 39-L/CTN dated 30 April 1995. More precise rules governing the process are defined in Prime Minister Decree No. 28/CP, dated 7 May 1996. This decree introduced incentives to encourage equitisation - allowing those selling shares to get 50% tax reductions and access to loans under the same conditions as state enterprises.

Under the economic conditions outlined above there is no apparent case for government intervention in the ownership of coastal shipping businesses. Based on experience in other countries, the possible advantages of equitisation include

- better management due to increased responsibility plus appropriate incentives under competitive conditions to increase efficiency,
- more autonomy for management to pursue efficiency objectives without the risk of these being undermined through interference by government (for example, to carry particular goods at certain tariffs or to acquire vessels from particular ship yards)
- establishing a genuinely "level playing field" under which all operators compete on the same basis (in contrast to the present situation where state-owned enterprises (a) pay low charges for state capital based on deflated historic values rather than current market values, (b) enjoy easier access to credit and, (c) in the shipping sector, have easier access to international routes).

It could be argued that, on the contrary, government should support selected government-owned operators which have valuable management experience and expertise in order to develop certain services. However it is common experience in other countries that such approaches, which rely on targeted intervention, are unlikely to succeed because they undermine the competitive environment so essential to promote efficiency.

It could also be argued that government should subsidise state-owned shipping enterprises to provide socially important but financially unprofitable services, especially to remote island.

However in cases where subsidised shipping services have to be provided, these can be provided effectively at potentially minimum cost by contracting to private operators. The common alternative of using a subsidised government-owned enterprise usually gives management no incentive for efficient operation and is likely to be more expensive.

The difficulties that can be caused by state-ownership in the coastal shipping business appear to outweigh any possible advantage. The lack of a significant role for the public sector in coastal shipping in many other developing countries confirms this conclusion.

(e) The Options for Institutional Reform

Given the clear policy position of government towards equitisation, the main issues affecting reform, in the short term, concern procedural matters, especially in situations where the government wishes to maintain a degree of control in strategic industries:

- specifying the proportion of shares that the government should keep where it needs to maintain a controlling interest,
- who should represent the state's interest,
- clarifying how shares could be valued and made available to the public without a stock market.

Under Decree No. 28/CP, 10% of shares may be reserved for employees (plus an additional 15 - 20% by instalment). There may be a ceiling imposed of, say, 10% on ownership of shares by any one investor. Under these conditions government may only need 10 - 15% of the shares to retain a leading role rather than the 51% necessary to guarantee absolute control.

In order to make responsibility clear it may often be best to appoint just one person to represent the interests of government in the equitised companies (more would be appropriate if the state had a 51% holding). This person could be drawn from the Ministry of Finance, local authority, State Assets Management Board or, in the case of coastal shipping, the Ministry of Transport. To encourage active participation by representatives of other share holders it would be important for this person to have equal status with other board members, able to be elected as chairperson if they are most suitable.

Valuation of shares in the period before establishing a stock market requires an interim approach which protects the interests of the government (who would seek to sell the shares at the highest or fair market price). There are various ways in which this could be done, including using agents who handle sales either on a commission basis or are allowed to purchase shares at a reasonable discount for resale. Under both such arrangements the agent would have the incentive to maximise the value of the shares. In the latter case the agent would have a strong interest, as owner of shares, to take management action which would increase the value of the company and its shares.

In coastal shipping a range of situations could be anticipated which raise specific issues over reform.

(1) Attracting New Management and Investor Participation

New management and investors with expertise of shipping are most likely to come from foreign sources, but it could also arise from within the country. However equitised state-owned companies are unlikely to attract much investment from these sources unless the new investors can secure adequate control through ownership of a large proportion of shares and appropriate representation on the management board. Any ceiling on the proportion of shares owned by any single investor could seriously constrain investment. The government can assist by requesting ODA support for advice on preparing shipping companies for equitisation.

(2) Attracting Foreign Investment

For foreign investors better accounting procedures are required in state-owned enterprises. Bringing these up to international standards should be a priority of the shipping companies wishing to attract foreign investment. The government can assist by encouraging ODA support in implementing international accounting standards for operators wishing to enter into foreign partnerships.

(3) Implementing the VINALINES Development Plan

There is a danger that support, through preferential supply of credit and other measures, for VINALINES' international fleet development plan will undermine competitive conditions in the coastal shipping business. To minimise this, the government should target support carefully at those activities of VINALINES which only concern international shipping. For example operators receiving support could be barred from coastal shipping except under certain conditions specified by MOT (following analogous procedures to the way that foreign operators are permitted to engage in coastal shipping).

(4) Dealing with Unprofitable Shipping Companies

In important condition for efficient markets is that there should be freedom of exit from the market for inefficient suppliers. This means that less efficient operators who become unprofitable should be allowed to become bankrupt and their assets transferred, through auctions or other means, to more efficient operators. Although there is a bankruptcy law in Vietnam (passed in 1993) there is still limited experience of applying it.

Many government-owned coastal shipping enterprises (especially those owned by local authorities) could prove to be financially unviable. The obsolete nature of existing assets means that market valuations of the companies could be rather low. Some may have accumulated debts which render them as having negative net worth. Options for dealing with these include liquidating the whole company and its assets (and auctioning assets at the highest value, which would minimise government liabilities and offer the opportunity for new ship operators to enter the business with the auctioned assets) or reorganising the company into a smaller, more profitable unit and liquidating only the unprofitable units. The alternative option of absorbing unprofitable businesses into larger, more profitable ones may seem attractive because it avoids the problems of liquidation. However it would place a burden on the new combined business which would become unsustainable: this would only postpone liquidation. Here again, ODA advice could assist operators in restructuring during the equitisation process.