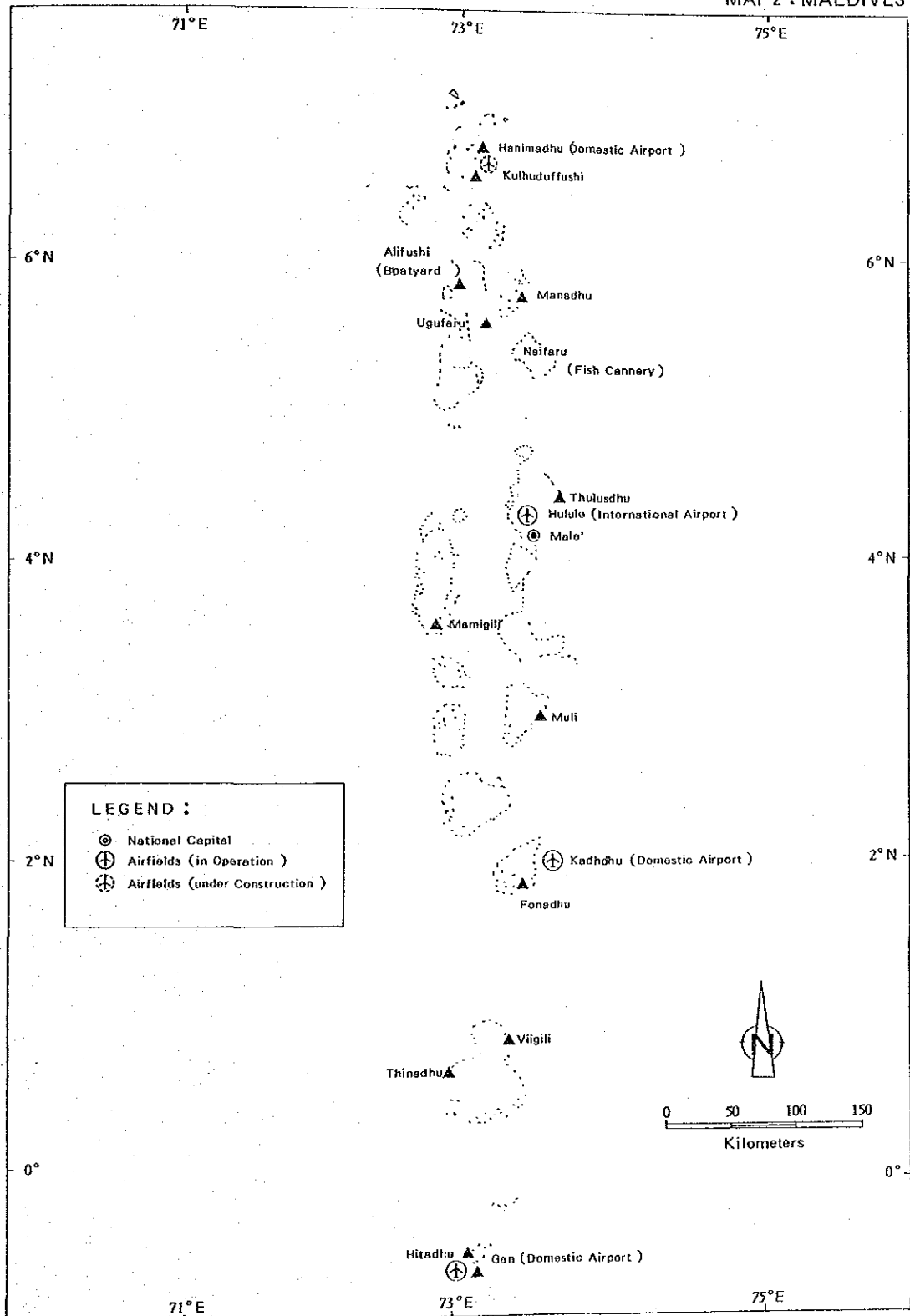
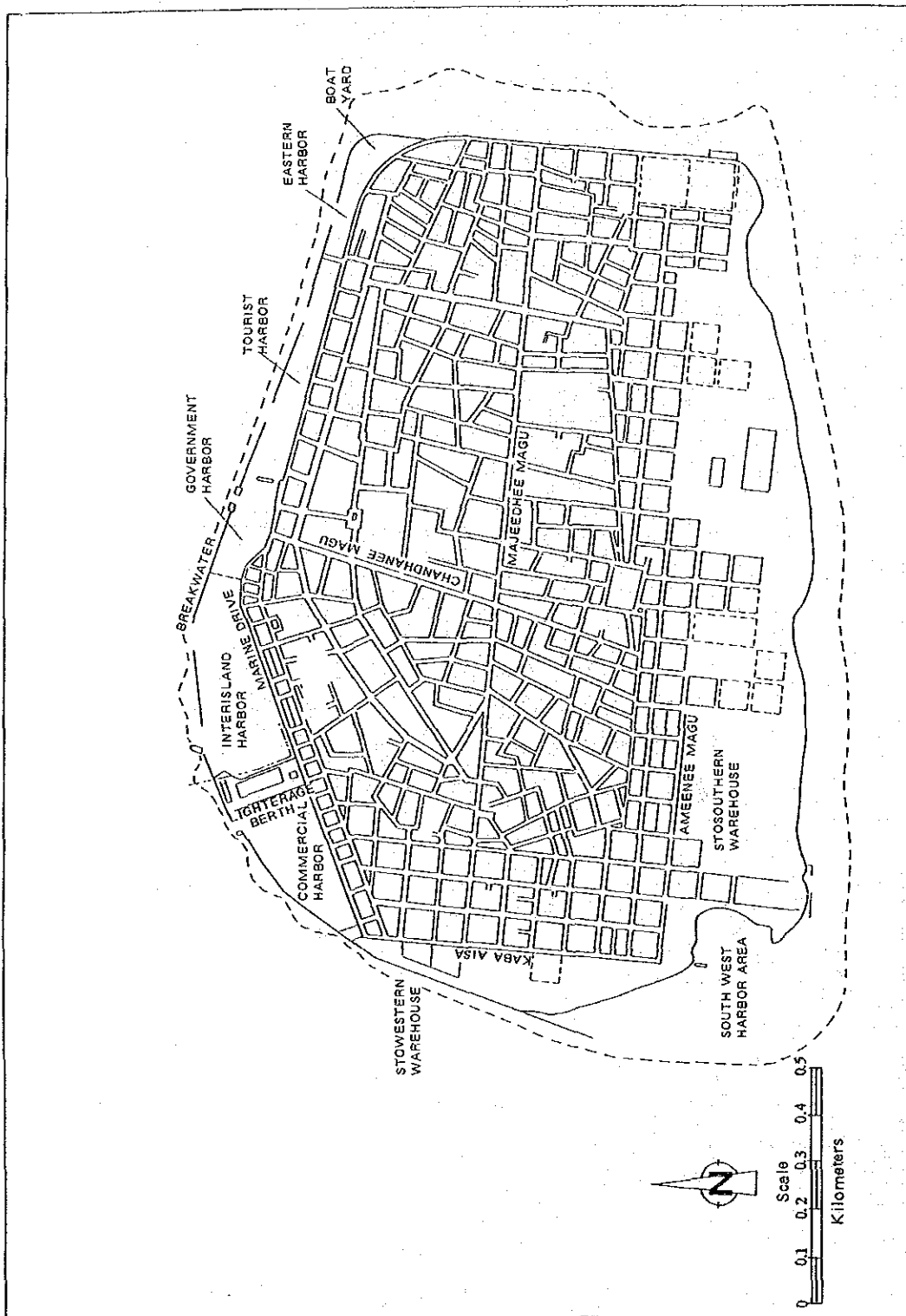


MAP 2 : MALDIVES



MAP 3 : MALE' ISLAND



D. VIETNAM

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VIETNAM

A. Economic Setting

1. The Socialist Republic of Vietnam is situated at the eastern part of the Indo-China Peninsular and is bounded by China in the north, Laos and Cambodia in the west, south China Sea with S-shaped coast lines of 2,260 km long in the east and the Gulf of Thailand in the south, stretching over 1,650 km from north to south and 600 km from west to east. Vietnam has a land area of 331,688 sq km. In 1989, the country had an estimated population of 64.42 million with an annual growth rate of 2.2 per cent. About two third of the population lives in rural areas developed in the plains along the Mekong in the south and the Red River in the north. The major urban centers accounting for about one third of the population are located in the two large delta areas of the Red River in the north and the Mekong in the south and along the coast, including Hanoi and Hiphong in the north, Ho Chi Minh, Mytho and Can Tho in the south, and Hue, Da Nang, Nya Trang, Qui Nhon, Camran and Vung Tau along the coast.

2. While the economy of Vietnam demonstrated noticeable performance during the early 1980s it then began to falter. The overall growth rate declined from an average of about 8 per cent per annum in 1984 to less than 4 per cent in 1986 and further to 2.1 per cent in 1989. While inflation soared from an average annual rate of about 700 per cent to nearly 1000 per cent during the period 1987-1988, thereafter it started to settle down to an estimated annual rate of about 40 per cent in 1989 reflecting the government's countermeasures urgently taken. Outstanding external debt rose from less than \$6 billion in 1983 to \$7.7 billion in 1986. Recognition of such serious situation of the economy and other related problems has led to the approach of a strategy for sweeping economic reforms by the Sixth Party Congress in December 1986. Included in these reforms were policy changes in the areas of procurement and pricing, government revenue and expenditure, the exchange rate, foreign investment, and greater autonomy for enterprises. It was also decided that investment should be oriented towards agriculture, light industry and exports for the last three years of the Fourth Five-Year Plan (1986-1990). Since then, the implementation of a number of major economic reforms have been accelerated. The principal elements of these reforms are: (i) a commitment to eliminating state subsidies; (ii) price deregulations; (iii) application of business accounting and financial autonomy to promote increased efficiency of the state enterprises; (iv) improvements in banking facilities; and (v) the introduction of a new and liberal Foreign Investment Code.

3. Currently, Vietnam is faced with major economic problems, including internal and external deficits, acute foreign exchange shortage, and rampant inflation. Despite such shortcomings, Vietnam has had some success in increasing foreign investment and trade, especially with non-socialist countries including

Japan, Singapore, Hong Kong, Indonesia and Australia.

4. Agriculture is the dominant sector in the economy of Vietnam, accounting for about 40 per cent of GDP and about two thirds of total employment. Grain production, especially rice, remains the major activity, although its share in total agriculture income has fallen, from 54 per cent in 1983 to 49 per cent in 1987, because of the relatively better output performance of non-food crops.

5. The industrial sector has increased its share of GDP from about 24 per cent in 1983 to 29 per cent in 1987. The sector currently employs about 11 per cent of the total labor force. The industrial growth rate was 11.3 per cent in 1987 and 10.4 per cent in 1988. The industrial sector, especially in the northern part of the country, continues to be hampered by poor transportation facilities and shortages of spare parts, imported inputs, and energy.

6. In 1989, the total labor force of Vietnam was estimated at 35 million, comprising about 54 per cent of the total population of 64.4 million. Because of the age structure of its population, the labor force is growing at about 4 per cent per annum, adding about 1 million new entrants to the labor market each year. The number of persons underemployed is estimated at about 7 million and job creation continues to be a pressing problem.

7. The Vietnamese economy is hopefully expected to be able to consolidate over the forthcoming several years its recovery from the downturn since the mid-1980s, helped by the beneficial effects of the economic policy reforms. The overall growth rate is forecast at over 6 per cent in early 1990s supported by improved allocation of resources and better producer incentives in agriculture sector and increased investment in new capacity and modernization of existing plant and equipment in the manufacturing sector. However such favorable developments in these production sectors may be constrained by the inadequate capacity of the existing transport infrastructures.

B. Transport Sector

8. Under the current system of economy almost all the information and data related to the performance and operation of the individual modes of transport are classified as confidential. There is an obvious lack of statistics. As a result, planning for the sector is not based upon proper assessments of demands with a consequence priorities focusing upon big new projects rather than focussing on protecting existing assets. To enable proper and meaningful management of the sector, greater openness and awareness are required and general statistical information including performance indicators and management information indicators need to be made available to managers of enterprises.

9. The development of the transport infrastructure has

been constrained by the topography of the country as well as its history. The two large river systems, namely the Red River in the north and the Mekong in the south, are areas of high population density and rich alluvial soils and in these deltas transport movements have developed historically through an extensive network of rivers and canals. Up to the present time the majority of movements have utilized the water and consequentially rail and road transport has had a relatively limited role. Between these two deltas, the narrow elongated shape with a mountainous spine has limited the major population centers and transport movements to the coast. The bifurcation of the country more than three decades ago led to the cessation of long distance movements between the north and south. The decades of war and conflict caused considerable wholesale damage upon the transport infrastructures which were strategic war targets. Since reunification in 1976 development of the sector has been rather rudimentary due to a severe lack of resources for reconstruction and development. The subsequent low-level of transport development reflects the level of economic development that has characterized the economy for the past decades. The transport sector as a whole is at this moment relatively ineffective in assisting the development of the country and the poor performance of this sector seems to impose constraints on the progress in other sectors of the economy.

C. Institutional Arrangements, Planning and Coordination

10. Under the current institutional arrangements, Ministry of Transport, headed by Minister of Transport is responsible for overall planning and administration of the transport sector. The Ministry comprises of three tiers of hierarchy, namely: departments, institutes and state enterprises. Included in the department level are: those for General Maritime Transport, Planning and Statistics, Organizations, Personnel and Labors, International Cooperation, Capital Construction, and Transport Science and Technology. Included in the institute level are: those for Mechanical Design, Transport Science and Technology, Transport Economy, Transport Engineering Design, Maritime University and Transport Vocational Schools. Included in the state enterprises are: three Unions of Railway Enterprises, Union of Motor Transport Enterprises, Union of Inland Waterways, Union of River Transport, three Shipping Companies, Union of Shipyards, Union of Mechanical Enterprises, Union of Transport Facility Construction Enterprises and Union of Port Construction Enterprises.

11. In general, the departments are in charge of administration. The planning, design and implementation supervision are charged with institutes. Actual construction works of the projects and operation and management of the completed facilities are carried out by state enterprises. In case of a port development project, for example, Transport Engineering Design Institute will be responsible for all the preparatory works including planning, investigations, design and funding arrangements. Once prepared by the Institute, all the plans need to be approved, first by General Maritime Department, then by the Minister of

Transport and finally by the State Planning Commission. Once approved, actual construction works will be carried out by Union of Transport Facilities Construction under the supervision of the Institute. Upon completion, the facilities will be handed over for operation and management to the Port Authority responsible for this particular port which is under the administration of Union of Maritime Transport.

12. The current economic planning system is typically characteristic of a centrally planned economy which concentrates upon achieving production targets. Because of this overall economic planning system, the current institutional set-up for the transport sector planning is also substantially constrained. The planning process fails to undertake economic or financial analyses to assess whether investments will be productive to the economy or financially sustainable. There is no planning based on a macroeconomic approach through which transport demands can be properly identified and assessed based on analyses of the population coupled with identification of areas of production and consumption. They don't seem to undertake any intermodal analyses and the planning in a certain mode is undertaken without particular consideration of other modes. Even within a certain mode of transport there is little interchange of information between state enterprises and operators on each other's plans and programs. As a result, state enterprises are unaware of their markets and important investment decisions are taken on the basis of rudimentary demand forecasts. There is an urgent need to develop improved planning techniques to support the recently adopted economic reforms particularly those relating to the financial autonomy of enterprises.

13. Both transport infrastructures and fleets are allocated with funding only when their deterioration has reached critical condition. Very little has ever been carried out to maintain transport infrastructures. While this has its historical routes in the north where few indigenous resources have been available during the last four to five decades, it is also widespread in the south which has adopted the centrally planned economy only after reunification. This form of planning does not appear to be suitable for undertaking routine maintenance which requires variable quantities of unforeseen inputs. The existing infrastructure and fleets including those acquired quite recently exhibit severe deterioration and decay. The value in economic and financial terms of efficient and effective maintenance programs and policies seems difficult to be understood and appreciated under the current system of economy. New investments would only further strain the already scarce resource position of the country, if efficient and effective maintenance policies are not adopted.

D. Management and Pricing

14. The management of the sectoral institutions requires to be strengthened across a broad spectrum of institutions as well

as within individual enterprises. The structure of the Ministry of Transport is typical of an institution which has a primary focus upon achieving stated targets rather than managing the sector from the point of view of needs. Under the existing system information and authority is vested in very few individuals and virtually only one individual, the Minister, who has access to all information and is the only decision maker. There is little horizontal flow of information between the different sections of the same organizations which hampers efficient decision making and forestalls realistic planning. Under the new economic reforms state enterprises are now instructed to manage all their own day-to-day operations. This requires managers trained in management skills quite different from the previous system which relied totally on carrying out given instructions and orders rather than creating or formulating plans or policies. The very large number of enterprises under the Ministry of Transport which employs an estimated 400,000 workforce, lack trained managers with management ability as aforementioned and entrepreneurial flair. This issue is unfavorably compounded with the fact that most of state enterprises are burdened with a very large workforce relative to the workload and perverting practices that a large number of staff rarely turn up for work in spite of an existing system to reprimand such behaviors.

15. Controlled prices have been identified to affect the economy in a number of ways. Over the several years there have been several notable achievements with respect to introducing market pricing mechanisms and elimination of subsidies which consumed a substantial proportion of the Government budget, while the further thrusts of introducing market economies still continues. Although the majority of goods and services are now not price-controlled, certain products of importance to transport continue to be price-controlled. Prices of cement, steel and fuel remain controlled if they are sold by state enterprises or if required for government projects, costing and accounting for construction projects is based upon the official prices which understates their effective cost. The cost of transporting price-controlled goods is also controlled. This results in a multi-price system with market distortions and with inevitable continuation of subsidies in various official sectors. While subsidies in certain sectors may need to be retained for social or political purposes, such subsidies should be designated for specific purposes so that it would be possible to monitor whether such purposes have been achieved under the subsidies. Under the current system subsidies are lost out of sight in the overall operations and accounting procedures of enterprises and it is not possible to monitor whether the efficiency of the service offered by state enterprises is being met or whether the need for subsidies is being minimized.

E. Civil Aviation

16. The total of 13 airports in the country are managed and operated by the General Civil Aviation Administration (GCCA)

which is a government agency independent from the Ministry of Transport. The administrator of GCCA is equivalent to the minister in its position in the cabinet. Under its administration three international airports, namely, Noi Bai (Hanoi), Danang (Danang) and Tausonnhut (Ho Chi Minh) and ten domestic airports, Dien Bien (Lai Chau), Nazan (Son La), Cat Bi (Hai Phong), Phu Bai (Binh Tri Thien), Olay Cu (Gia Lai Cong Tum), Phu Cat (Zuang Ngai), Nha Trang (Khang Hoa), Buon Me Thuot (Dac Lac), Da Lat (Lam Dong), Dac Da, Phu Zuoe (Kien Gien), Vung Tau (Dac Khu), Vung Tau (Con Dao), and Con Bon (Hai Hung).

17. In 1988 Noi Bai Airport handled 18,000 international passengers and 184,000 domestic passengers while Tausonnhut Airport 23,000 and 190,000 passengers, respectively. Noi Bai Airport is located about 40 km away from Hanoi city center and has a 3200 m long runway backed up by supporting facilities. Both airports have adequate capacity for handling passengers and freight traffic at the current level. The government controlled Vietnam Airline operates both international and domestic services. Noi Bai and Tausonnhut Airports are main international gateways, the former providing air connections with Vientian (Laos), Pnompen (Cambodia) and Bangkok (Thailand), and the latter with Manila (Philippines), Singapore, Jakarta (Indonesia) and Europe (Czechoslovakia, France, Germany, and USSR). For international flight, Vietnam Air operates TU134, while foreign airlines operate mainly B734 and B747 classes.

F. Ports

18. The major ports in Vietnam are administered by the General Maritime Department under the Ministry of Transport. They administer a total of nine ports, namely; Haiphong, Saigon, Da Nang, Ben Thuy, Nha Trang, Qui Nhon, Hon Gai, Cam Pha, and Vinh Tau. In addition there are about 50 local ports under the administration of provincial and local authorities as well as individual state enterprises and cooperatives. Detailed information on the facilities and operation of the ports is not available since it is considered that the sector is of strategic importance and dissemination of information is classified. In 1988, the major ports of Haiphong and Saigon are estimated to have handled approximately 6 million tons of cargo throughput in total.

19. At the present time it is clearly evident that maximum use is not being made of the existing facilities. Plans for the sector appear to largely concentrate upon the provision of additional facilities rather than examining options for improving the use of the existing facilities which would be the least cost alternative particularly in the short run. It is apparent that planning for the sector relies upon rudimentary traffic and commodity forecasts. General organization of operations is poor and much cargo space is lost due to it being occupied by rubbles and residues from previous cargoes and scrap metals and non-functional equipment. Productivity is low resulting in an arti-

ficially high level of berth occupancy. It is expected that the introduction of new cargo handling equipment, facilities and operational procedures would significantly decrease ship dwell times at the wharves as well as those at anchor. Improvements in physical facilities need to be accompanied by the introduction of operational planning and management systems to make better use of the existing facilities. It appears to be not unfair to say that there is a common absence of systems and procedures covering vessel loading and unloading, space allocation for stacking areas, yards and warehouses and in cargo receipt and delivery.

20. Haiphong is the main gateway serving the north of the country and in 1989 handled almost 3 million tons. The throughput is imbalanced in that imports comprised 50 per cent of tonnage, domestic trade 42 per cent and exports only 8 per cent. The bulk of the commodities consisted of steel, fertilizer, grain, machinery and ore including bauxite. Although growth over the past five years averages at 5 per cent a year it appears that it is probably masked by the large increase in rice shipments from the south to the north in 1988. Only a few number of containers (about 36,000 tons in 1988) are handled at the area.

21. Siltation is a major problem at Haiphong Port. Its location on the Red River delta makes it particularly prone to siltation during and following the wet season September to December. Siltation is a major cost against the port's budget. It is estimated that maintenance of an approach channel at the depth of 5 m which is adequate for 7,000 dwt class ships, requires the annual removal of 3 million cu m of silt. Maintenance works are currently carried out by means of two trailing section hopper dredgers of 4,000 - 5,000 HP and two bucket type dredgers, all of which are produced in USSR and very old. Because of this serious siltation problem, a new deep water port at Cai Lan, 60 km from Haiphong, is under construction and the first berth of seven which is mainly planned for container operations, was expected to be completed in 1990.

22. The cargo handled at Saigon Port has increased steadily from about half a million tons per annum in 1975 to 3 millions tons in 1988. Traffic has sharply increased during the past four years and throughputs have expanded by 50 per cent. Exports which consist of 22 per cent of total traffic largely comprise general agricultural products, rice, rubber and timber. The volume of rice exports is inversely proportional to the amount transported to the north which is logical in that in times of shortages rice travels north while in years of surplus it is exported. Imports comprise 53 per cent of the port's throughput and largely consist of fertilizers, cement, ores, foodstuffs and machinery. The remainder of the trade, 25 per cent, is domestic movements of rice, coal, fertilizer and cement. Access to the Saigon Port is through an 83 km long meandering channel of the Saigon River which requires 4 to 5 hours of navigation during day time. Pilotage is obligatory. At Saigon Port, siltation is not a major problem and dredging is required at five year intervals.

23. In general there appears to be a complete lack of civil and mechanical maintenance in the port sector. There is no evidence of the existence of any preventive maintenance programs and without exception wharves, cargo stacking areas and warehouses are in very poor state of repair. Cargo handling equipment is mostly old and dilapidated and in some instances the equipment availability is as low as 40 per cent. It is expected that a program of introducing new and modern cargo handling equipment as well as a refurbishment of existing equipment where possible will significantly improve the handling capacity of existing ports infrastructure.

24. Containerization is in an early stage of development, and the very limited container services serve the country. Both Haiphong and Saigon Ports have container facilities but in both cases the throughput is small although growing. This aspect of operations is expected to grow, perhaps substantially, as the economy of the country expands. In Haiphong Port currently two multipurpose rail-guided cranes are available at the Doam Xa container facility backed up by rail sidings and godowns. These USSR made shore cranes are very old and seriously dilapidated. In Saigon Port there is no land based crane for container handling and forklifts are used for landward movements and stacking of containers. In the light of the fact that there is not much room for expansion of Saigon Port and further in consideration of the locational disadvantages of the Saigon Port, a plan for a new container port at Thi Vai is under serious consideration. Thi Vai is located at about 45 km from Bun Tau Point and considered well suited for development of industrial estate, oil terminals, specialized facilities for mineral ores and other bulk cargoes as well as general cargo.

G. Shipping

25. There are three national shipping lines under the control of the Ministry of Transport, namely, the Vietnam Ocean Shipping Company (VOSCO), the Vietnam Sea Transport and Chartering Company (VITRANSCHART), and the Vietnam Shipping Company (VINASHIP). VOSCO operates a fleet of 20 vessels totaling 300,000 DWT comprising mostly dry cargo, bulk, semi container and Ro-Ro vessels ranging in size between 6,000 and 15,000 DWT. Vessels range between 9 and 28 years old with an average age of 15 years. VITRANSCHART operates 21 vessels comprising dry cargo, bulk and semi container between 3,000 and 16,000 DWT. The fleet transport about 700,000 tons annually of which 300,000 tons is international and 400,000 tons cabotage between south and north Vietnam. The average age of the fleet is 18 years. VINASHIP has a fleet of 30 vessels with a total tonnage of 105,000 DWT comprising dry cargo and bulk vessels ranging between 750 and 16,000 DWT. The majority of the vessels are small and the average age of the fleet is 26 years. In addition there are eight smaller companies owned by provincial authorities largely involved in southeast Asia and domestic trade.

26. Due to the age of the vessels they require frequent and costly maintenance. The vessels originate from a large number of countries and this requires a broad range of spares such as propulsion, machinery, deck gear and auxiliaries which are difficult to procure owing to foreign exchange shortages and problems with supply.

H. Railways

27. Vietnam National Railways (VNR) currently operates 2,776 km of single line track, with 2,446 km in main lines and 330 km in branch lines. The network consists of three gauge systems with 2,099 km in meter gauge (MG - 1,000 mm), 123 km in standard gauge (SG - 1,435 mm) and 223 km in dual gauge (MG + SG). VNR is the largest department under the Ministry of Transport with a staff strength of 63,000, being headed by a Director General who reports directly to the Minister. The railway is divided into three Unions of Railway Enterprises each of which is responsible for day to day operations based upon area coverage. The Union No.1 is based in Hanoi and covers all sections north of Dong Hoi; Union No.2 is based at Da Nang with jurisdiction from Dong Hoi to Quy Nhon, while the Union No.3 is based in Ho Chi Minh (HCM) and covers the area south of Quy Nhon. Each of the Unions is headed by a Director who reports to the Director General.

28. At the end of the war the railway was left virtually devastated and inoperable. Since then the railway has been considered to be the highest priority in the transport sector for rehabilitation and repair. The line to HCM was reopened approximately one year after reunification although much of the rehabilitation was only temporary in nature particularly with bridges. The network has a total of 1,767 bridges with a length of 38,543 m. Due to both the temporary repairs of many of the bridges and the lack of maintenance of others a high proportion of bridges have speed restrictions: all major bridges have a speed restrictions of 30 kph and 10 per cent of these are as low as 5 kph. These restrictions have an extremely detrimental impact upon the efficient operation of the system. Many bridges are in need of urgent rehabilitation throughout the network.

29. While much of the network has been laid with 43 kg/m and 38 kg/m rails, there remains 658 km of track with the lighter 30 kg/m and 24 kg/m rails which need to be replaced. Approximately two-thirds of the network has been relaid with steel or concrete sleepers but the remainder requires replacement of old and deteriorated wooden sleepers. The portions of poor track and deteriorated sleepers are imposed with speed restrictions which hampers efficient operations. The signaling system on the single line network is also in a deteriorated condition causing severe capacity constraints and hampering efficient operations.

30. VNR uses both steam and diesel motive power units. There are 88 MG and 25 SG steam locomotives and over 300 MG

diesel locomotives. The maintenance of motive power constitutes a major problem for VNR as the railway operates many different locomotive types sourced from nine different countries and this necessitates a large variety of spare parts. The lack of foreign exchange, limited access to technology from the west and the very old equipment operated extenuate the problems of acquiring spares and holding sufficient stocks to minimize down-time. Currently less than 50 of the steam locomotives are in operation and VRN propose to phase them out over the next decade. As with the diesel units only about 50 per cent are in actual operation at any one time due to a lack of spares, back-up maintenance and overhauling facilities for each type. It is currently estimated that over 150 diesel locomotives are overdue their overhaul schedule and this adversely affects their performance with consequential common breakdowns in service.

31. The rolling stock in operation on VRN comprises 910 passenger coaches and 5,200 freight wagons. The availability of coaches and wagons is estimated at only about 60 per cent largely due to the lack of spare parts particularly of wheels, axles and helical springs. Although there is a capability to manufacture both coaches and wagons locally, the quality of production is below that normally expected and this also influences the amount of maintenance required during operation.

32. Track rehabilitation has enabled travel time to be substantially reduced in many sections. For example the travel time between Hanoi and Ho Chi Minh has been reduced from 6 days in 1976 to 80 hours in 1980, 72 hours in 1985 and 53 hours in 1989, compared to 48 hours in the early 1950s. Traffic over the period has been in general decline despite investments in improving the track, motive power and rolling stock and the subsidies accorded to the system and the passenger and freight tariffs. From the beginning of 1989 an appreciable increase in tariffs has been introduced in order that the railway might achieve its goal of fully covering its costs of operations. As a consequence freight rates were increased three times in 1989 already and further increases are under consideration. While the increases have been large, they still lag behind the severe rates of inflation and devaluation experienced over the past three years. While the recent statistics indicate a reduction in the use of the railway of 25 per cent, revenues have increased and overall total revenues were closer to total expenditures for 1989.

I. Roads and Road Transport

33. The road network is estimated at 105,500 km in total extension, with national roads amounting to 10,600 km: approximately half the remainder comprising city and municipal roads and about 40,000 km consisting of provincial and local roads. Much of this network and particularly that below the national level are in very poor condition and not available to motorized traffic. A large proportion of national roads is at or beyond its design life. Road maintenance activities are at a minimum due to

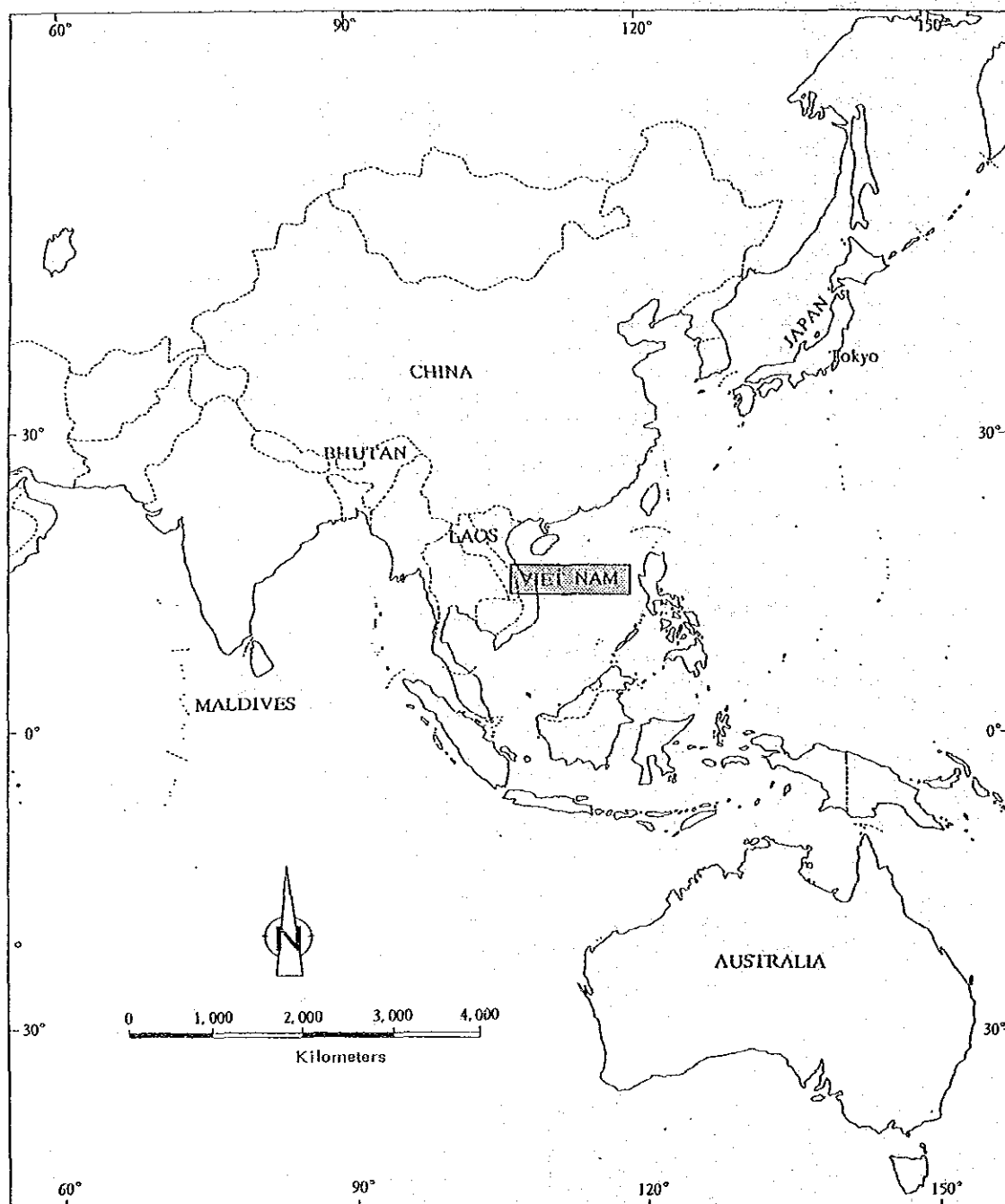
financial constraints and a general shortage of usable equipment and materials. Allocations for the sector are well below the minimum requirements with the consequential accelerated deterioration and decay.

34. The vehicle fleet is small and only amounts to 46,000 vehicles of which 25,000 are buses which are relatively small units with a capacity of 20 seats on average. Of the remainder of the fleet 16,000 are trucks; these are also relatively small sized units with the majority of trucks being of a 5 to 6 ton capacity. The exception is in the south where many of the vehicles are old American models with high payload capacity. These types of trucks are extensively used in the timber industry and many vehicles tend to be very severely overloaded and are causing the pavements to deteriorate rapidly. Private vehicles are few in number. With the expansion of the economy road traffic can be expected to increase substantially at significantly high growth rates. As a consequence of the small number of vehicles, traffic flows are at present relatively light but heavy vehicles comprise a relatively high proportion of total traffic. In the north of the country where the number of vehicles is less, traffic flows are low; the main road between Hanoi and Haiphong catered to 4,100 vehicles per day (vpd) in 1987 while the main road south of Hanoi registered 3,000 vpd. In the south traffic flows are higher and over large portions of Route No.1, motorized traffic generally exceeds 1,000 vpd and over considerable stretches exceeds 5,000 vpd.

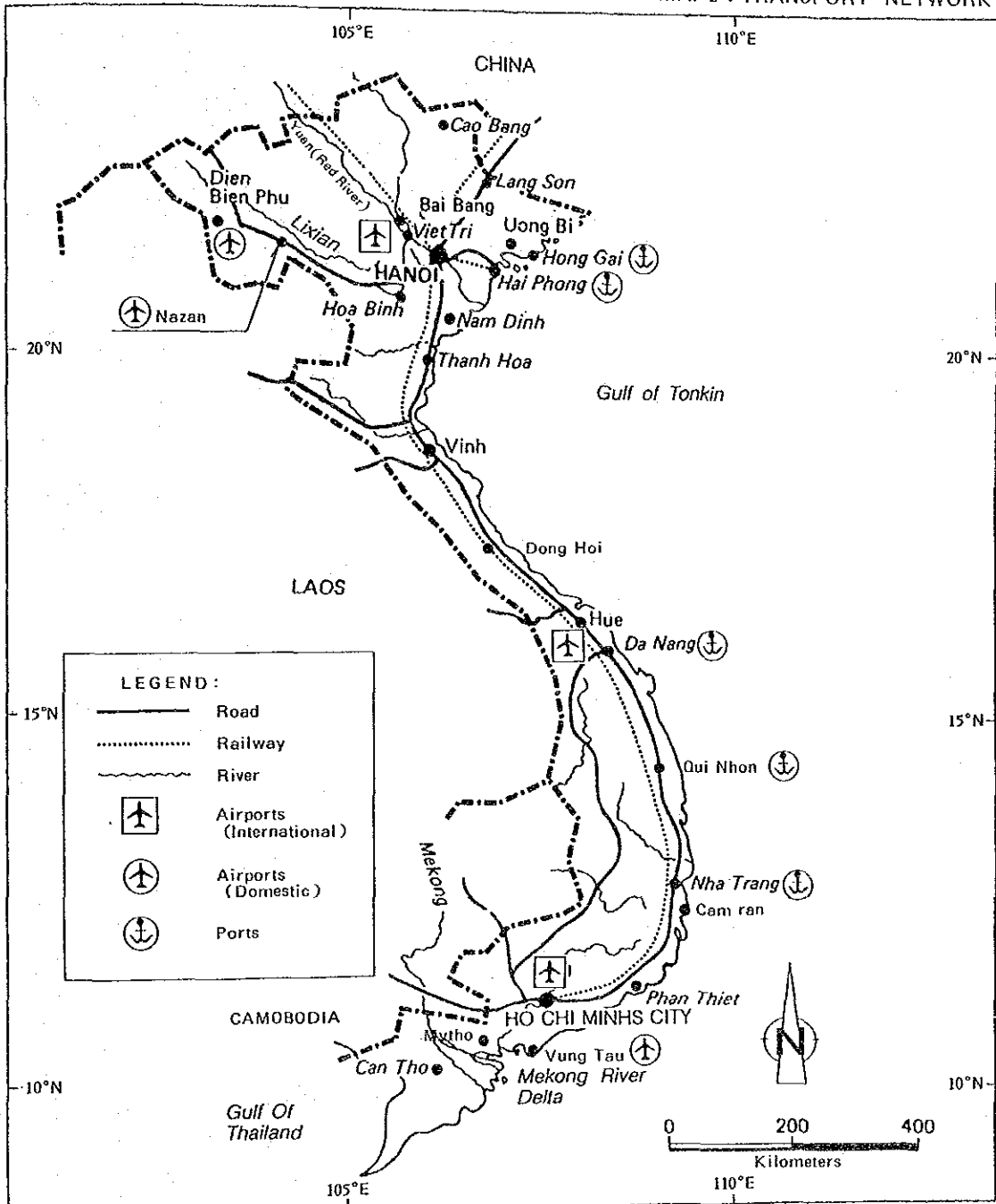
35. The roads sector is perhaps in the worst conditions compared with any other developing countries in the region. The major constraints relate to rehabilitation and maintenance both of which have been neglected in the past. Currently very little effort is expended upon their maintenance. Even without external resources there are considerable opportunities for improving maintenance activities, especially drainage using domestic resources. Bridges are generally in very poor condition and many have received superficial temporary repairs following reunification. There are many ferries on the network totaling 177 crossings which are also in poor condition. Plants and equipment for construction and maintenance are largely obsolete and many items are unmaintainable due to lack of spareparts.

VIETNAM

MAP 1 : Location



MAP 2 : TRANSPORT NETWORK



JICA