

Chapter 1 Project Profiles for Short-Term Projects

CHAPTER 1 PROJECT PROFILES FOR SHORT-TERM PROJECTS

Project Profiles for Short-Term Projects identified in transport mode of Road, Railway Port and Inland Waterway are compiled in this chapter. Each project profile of the project consist of followings:

- 1) Project description sheet which include: brief of project, and major development components and schedule
- 2) Project location map
- 3) Cost breakdown of the project

Some projects proposed to implement up to year 2000 (short-term) are not included. They are project already in implementation stage, at present, on only study such as feasibility.

Project profiles contained in this chapter are as followings:

Code No.	Project Name
----------	--------------

Road Projects;

RD 1	Improvement of National Road No. 1
RD 3	Improvement of National Road No. 2
RD 9	Improvement of National Road No. 18
RD 12	Improvement of National Road No. 70
RD 16	Improvement of National Road No. 379
RD 17	Urgent Bridge Improvement & Reconstruction of National Roads
RD 18	Urgent Bridge Improvement & Construction of Rural Roads
RD 19	Rehabilitation of National Roads in the Red River Delta Area
RD 21	Improvement & Rehabilitation of Rural Roads in the Northern Part of Vietnam
RD 22	Training Center & Procurement of Road Maintenance Equipment

Railway Projects;

RW 1	Ha Noi - Hai Phong Line Passenger Transport Improvement
RW 2	Establishment of a New Railway Education & Training Center
RW 3	Gia Lam Workshop and Rolling Stock Depots Improvement
RW 4	Long Bien Bridge Replacement and Repair of Other Bridges
RW 5	International Transport by Railways
RW 6	Establishment of Management Information System and Telephone Improvement
RW 7	Renovation of Rolling Stock
RW 8	Ha Noi Urban Transport by Railways
RW 9	Strengthen of Freight Transport

Code No.	Project Name
----------	--------------

Port Projects;

- | | |
|------|---|
| PS 1 | Hai Phong Port Urgent Rehabilitation |
| PS 3 | Cai Lan Port Development, including |
| | - Installation of Buoys and Construction of Light-House |
| | - Removing and Reconstruction of B-12 Oil Terminal |

Inland Waterway Projects;

- | | |
|------|--|
| IW 1 | Ninh Binh Port Rehabilitation and Extension |
| IW 2 | Ha Noi and Viet Tri Port Improvement |
| IW 3 | The Main Waterway Dredging and Rearrangement |
| IW 4 | Groyne Test Construction and Hydrologic Survey |
| IW 5 | Navigation Aids System Rearrangement |
-

Initial Environmental Examination (IEE) on the Short-Term Development Projects which listed above are compiled in the following Chapter 2.

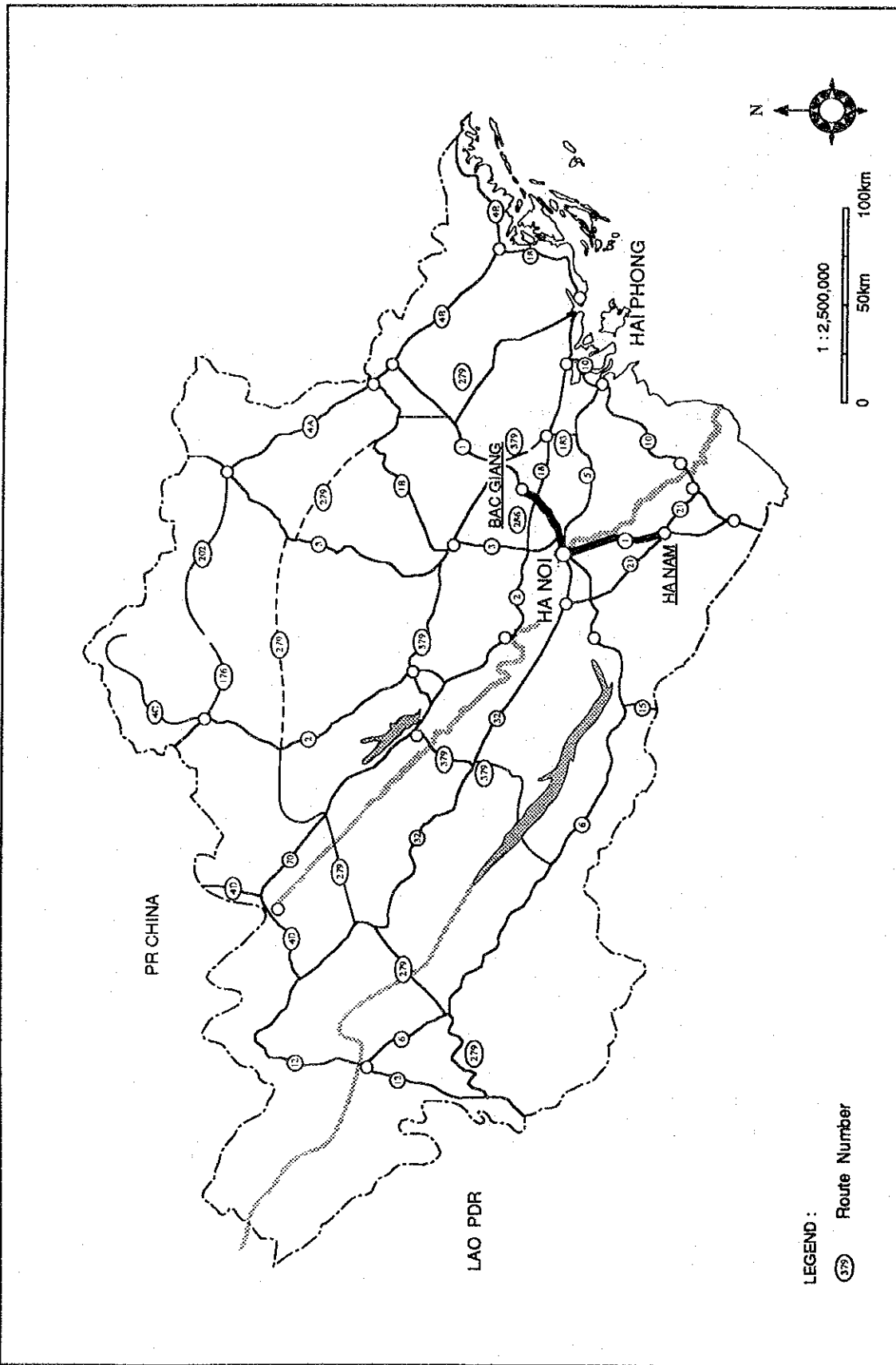
ROAD PROJECTS

(Project Profile) Short-Term Development

Code No. RD-1	Name of Project: Improvement of National Road No. 1	Mode: Road	Location: Bac Giang - Ha Noi - Ha Nam		
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$=)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd		
Operation Body: VRAB	Section:	10,800 Dong)	Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd		
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:			
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>In particular, National Roads in the Red River Delta area have key roles in road transportation, since about 80 % of origin-destination trips in the Northern part of Vietnam are concentrated in the delta area.</p> <p>National Road No. 1 functions as a major corridor between North and South in Vietnam. In particular the section from Bac Giang to Ha Nam is expected to have a rapid increase of traffic volume to 10,800 PCU/day in 2000 and 36,100 PCU/day in 2010 (this traffic volume does not include the intrazonal movement). Therefore, widening of the road from 2 lanes to 4 lanes will be required by the year 2000. A shoulder 3.0 m wide is needed on both sides to accommodate bicycles and pedestrians, and it is important that at least part of this shoulder also be smooth-surfaced, in order to successfully shift non-motorized users from the roadway proper.</p> <p>The road widening of the sections Lang Son - Ha Noi and Ha Noi - Vinh has been financed by the IBRD. Detailed design has been done and the construction work will be completed by the end of 1997.</p>		<p>The problem of widening the right-of-way should be resolved, and even this widening cannot entirely accommodate the traffic volume for the section from Ha Noi to Ha Nam in the year 2010. An additional road of freeway standard probably will be required.</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>			
Major Development Components:		<p>- Road Length ; 109 km</p> <p>- Number of Lanes ; 4 with shoulders (2 x 3 m)</p> <p>- Pavement Type ; Hotmix Asphalt Concrete</p> <p>Asphalt concrete, 10 cm</p> <p>As treated base, 15 cm</p> <p>Subbase, 30 cm</p> <p>- Typical Cross Section</p>			
Development Schedule	Serial Year	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()
Items	Calendar Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
	Serial Month				
1. Feasibility Study					
2. Detailed Design/Bid Documents					
3. Bidding/Negotiation					
4. Procurement & Implementation					

Code No.: RD - 1

Name of Project: Improvement of National Road No. 1



LEGEND :
③ Route Number

(Add sheets as required)

Code No.: RD-1

Name of Project: Improvement of National Road No. 1

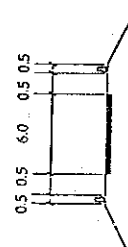
Unit: US\$1,000

Description	(2) Unit	(3) Qty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				6,762	4,057	2,705	60	40	
(2) Pavement				60,373	36,224	24,149	60	40	
(3) Bridges				22,369	2,270	20,099	60	40	
(4) Drainages/Others				24,839	14,903	9,936	60	40	
Sub-Total				114,343	68,606	45,737	60	40	
Contingency (10 %)				11,434	6,860	4,574	60	40	
A. Total of Direct Construction Cost				125,777	75,466	50,311	60	40	
B. Detailed Design & Supervision (A x 15 %)				18,866	11,320	7,546	60	40	
C. Land Acquisition Cost				29,564	0	29,564	0	100	
D. Total Project Cost				174,207	86,786	87,421	50	50	

Total Direct Cost (Price of 1993)

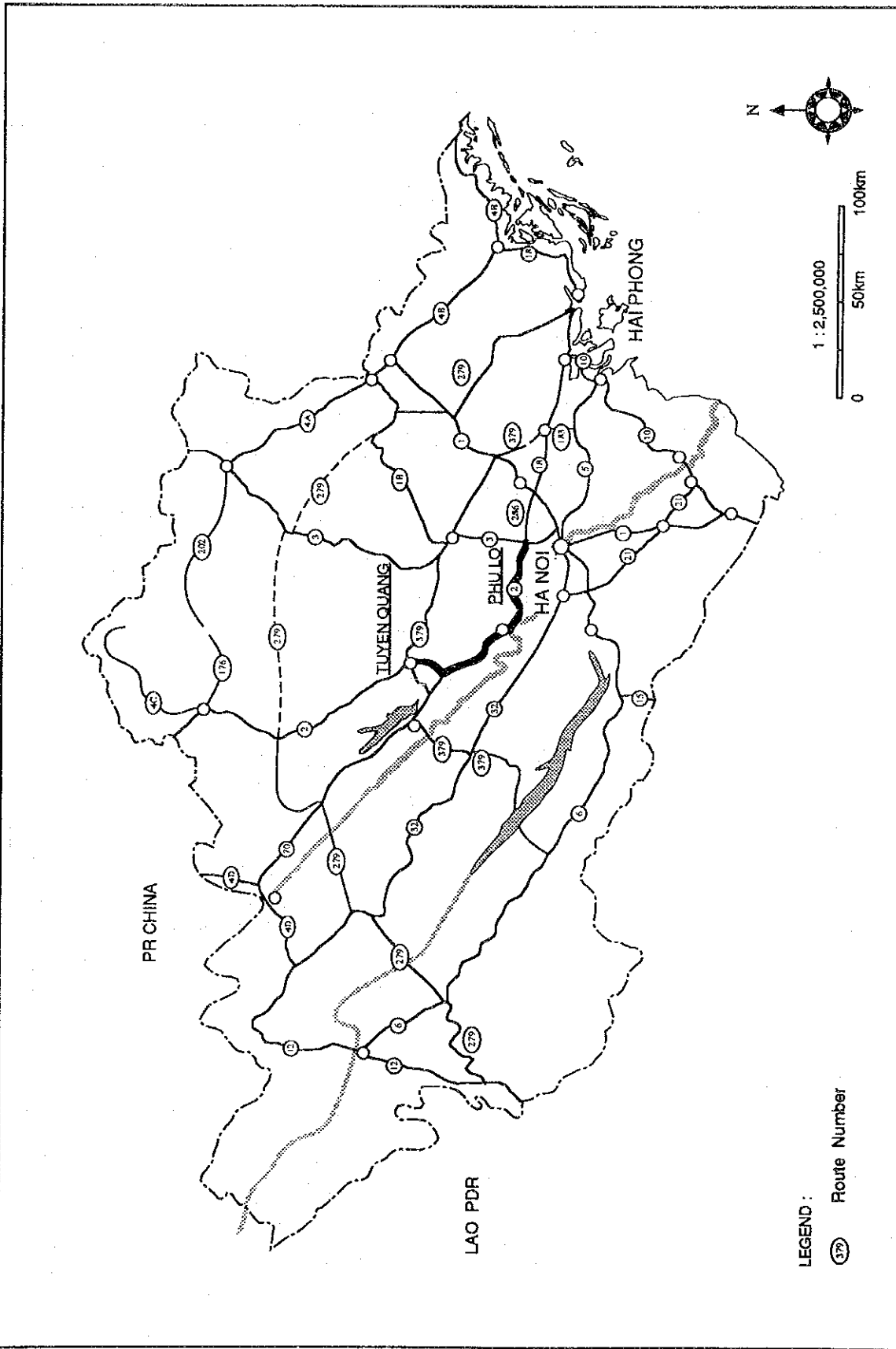
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-3	Name of Project: Improvement of National Road No. 2	Mode: Road	Location: Phu Lo - Viet Tri - Tuyen Quang																																																																																								
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>																																																																																								
Operation Body: VRAB	Section:	Foreign: 52,427,000	Financial Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>																																																																																								
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Vietnam: 51,231,000	Specific Issues Remaining:																																																																																								
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>In particular, National Roads in the Red River Delta area have key roles in road transportation, since about 80% of origin-destination trips in the Northern part of Vietnam are concentrated in the delta area.</p> <p>National Road No. 2 is a major corridor serving the north-western area in the region of Northern Vietnam. Traffic volume will increase rapidly to 8,600 PCU/day in 2000 and 33,500 PCU/day in 2010 for the section from Route 2 to Viet Tri. The section from Viet Tri to Tuyen Quang will carry 1,900 PCU/day in 2000 and 6,600 PCU/day in 2010, and these traffic volumes are understated because they do not include the intrazonal movement.</p> <p>These traffic increases require the strengthening of pavement and bridges, and the widening of carriageways and shoulders. It is especially important to maintain shoulders of adequate width and smoothness for bicycles and pedestrians, in order to successfully shift these non-motorized users from the roadway proper.</p>		<p>Major Development Components:</p> <ul style="list-style-type: none"> - Road Length : 138 km - Number of Lane : 4 from Route 3 to Viet Tri (57 km) ; 2 from Viet Tri to Tuyen Quang - Pavement Type : Hotmix Asphalt Concrete Asphalt concrete, 10 cm As treated base, 15 or 10 cm Subbase, 30 cm <p>- Typical Cross Section</p> 	<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>																																																																																								
Development Schedule	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Serial Year</th> <th colspan="3">1st. Year (1995)</th> <th colspan="3">2nd. Year (1996)</th> <th colspan="3">3rd. Year (1997)</th> <th colspan="3">4th. Year (1998)</th> <th colspan="3">5th. Year (1999)</th> <th colspan="3">6th. Year (2000)</th> <th colspan="3">7th. Year ()</th> </tr> <tr> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> <th>Calendar Month</th> <th>Serial Month</th> <th> </th> </tr> </thead> <tbody> <tr> <td>Items</td> <td>3</td><td>6</td><td>9</td><td>12</td><td>3</td><td>6</td><td>9</td><td>12</td><td>3</td><td>6</td><td>9</td><td>12</td><td>3</td><td>6</td><td>9</td><td>12</td><td>3</td><td>6</td><td>9</td><td>12</td><td>3</td><td>6</td><td>9</td><td>12</td> </tr> </tbody> </table>	Serial Year	1st. Year (1995)			2nd. Year (1996)			3rd. Year (1997)			4th. Year (1998)			5th. Year (1999)			6th. Year (2000)			7th. Year ()			Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Items	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12																						
Serial Year	1st. Year (1995)			2nd. Year (1996)			3rd. Year (1997)			4th. Year (1998)			5th. Year (1999)			6th. Year (2000)			7th. Year ()																																																																								
	Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month		Calendar Month	Serial Month																																																																							
Items	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12																																																																			
1. Feasibility Study																																																																																											
2. Detailed Design/Bid Documents																																																																																											
3. Bidding/Negotiation																																																																																											
4. Procurement & Implementation																																																																																											

Code No.: RD - 3

Name of Project: Improvement of National Road No. 2



(Add sheets as required)

Code No.: RD-3

Name of Project: Improvement of National Road No. 2

Unit: US\$7,000

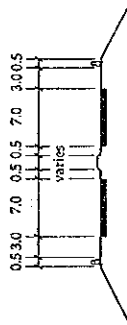
Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				4,131	2,479	1,652	60	40	
(2) Pavement				38,713	23,228	15,485	60	40	
(3) Bridges				10,377	6,226	4,151	60	40	
(4) Drainages/Others				15,852	9,511	6,341	60	40	
Sub-Total				69,073	41,444	27,629	60	40	
Contingency (10 %)				6,908	4,145	2,763	60	40	
A. Total of Direct Construction Cost				75,981	45,589	30,392	60	40	
B. Detailed Design & Supervision (A x 15 %)				11,397	6,838	4,559	60	40	
C. Land Acquisition Cost				16,280	0	16,280	0	100	
D. Total Project Cost				103,658	52,427	51,231	51	49	

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

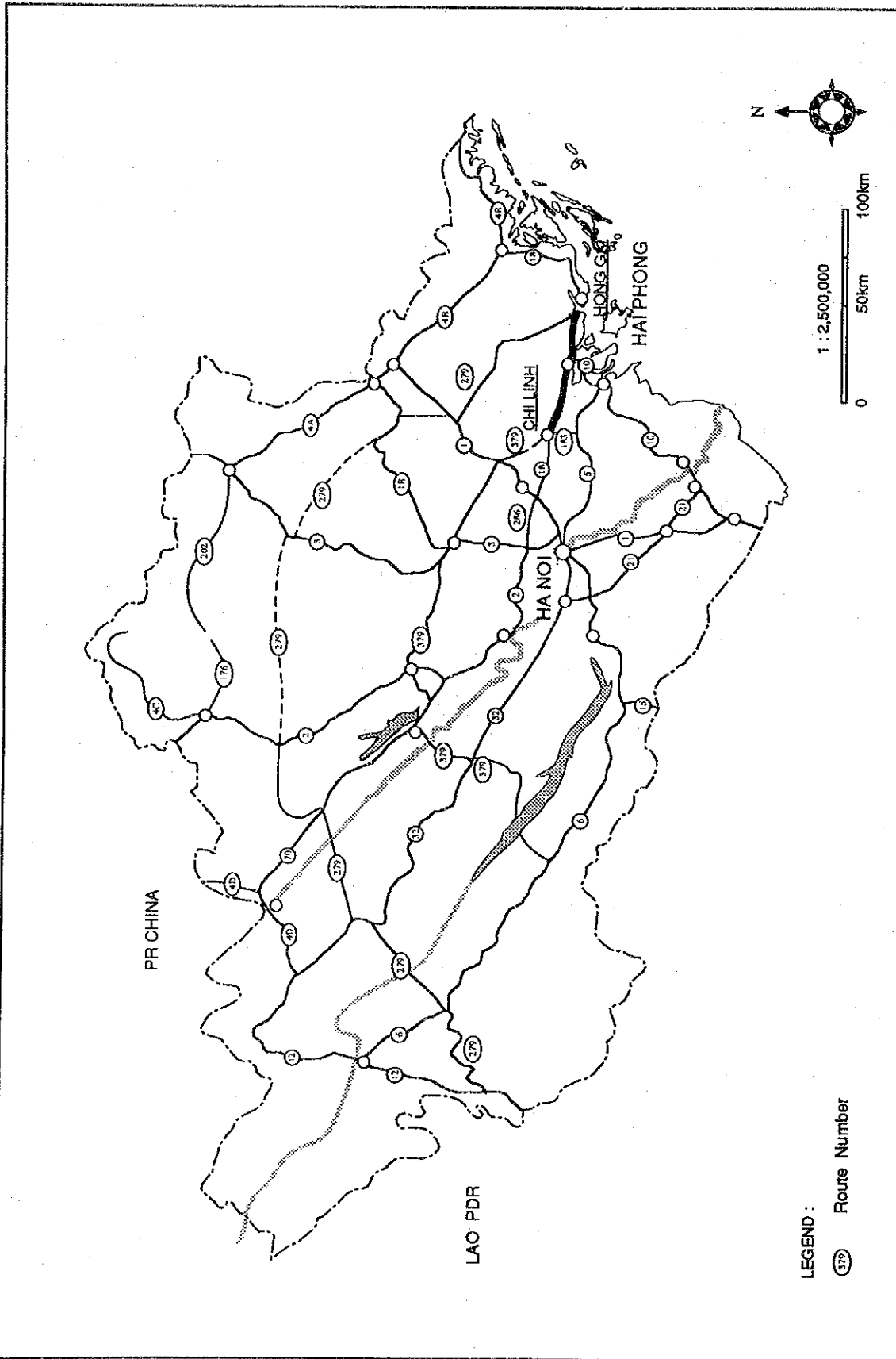
(Project Profile) Short-Term Development

Code No. RD-9	Name of Project Improvement of National Road No. 18	Mode: Road	Location: Chi Linh - Hong Gai					
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd					
Operation Body: VRAB	Section:	US\$ Total 139,137,000 Foreign 67,874,000 Vietnam 71,263,000						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.) The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements. Improvement of National Road No. 18 between Chi Linh and Hong Gai is very important as a major corridor of the North Triangle Zone, directly connecting Ha Noi and Cai Lan deep sea port of Hong Gai through routes No. 5 and No. 183. Traffic volume is expected to be 10,400 PCU/day in 2000 and 14,000 PCU in 2010. These traffic volume does not include the intrazonal movement. This improvement requires the improvement of Route No. 183 between Route No. 5 and Route No. 18 at Chi Linh.		Major Development Components: - Road Length ; 85 km - Number of Lane ; 4 - Pavement Type ; Hotmix Asphalt Asphalt concrete, 10 cm As treated base, 15 cm Subbase, 30 cm - Typical Cross Section	Specific Issues Remaining: As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.					
Development Schedule	Serial Year	1st. Year (1995)	2nd. Year (1996)	3rd. Year (1997)	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()
	Calendar Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
Items	Serial Month							
1. Feasibility Study								
2. Detailed Design/Bid Documents								
3. Bidding/Negotiation								
4. Procurement & Implementation								



Code No.: RD - 9

Name of Project: Improvement of National Road No. 18



LEGEND :
Route Number

(Add sheets as required)

Code No.: RD-9

Name of Project: Improvement of National Road No. 18

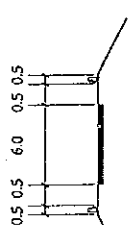
Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				5,884	3,530	2,354	60	40	
(2) Pavement				49,941	29,965	19,976	60	40	
(3) Bridges				12,945	7,767	5,178	60	40	
(4) Drainages/Others				20,656	12,394	8,262	60	40	
Sub-Total				89,426	53,656	35,770	60	40	
Contingency (10 %)				8,943	5,365	3,578	60	40	
A. Total of Direct Construction Cost				98,369	59,021	39,348	60	40	
B. Detailed Design & Supervision (A x 15 %)				14,755	8,853	5,902	60	40	
C. Land Acquisition Cost				26,013	0	26,013	0	100	
D. Total Project Cost				139,137	67,874	71,263	49	51	

Total Direct Cost (Price of 1993)

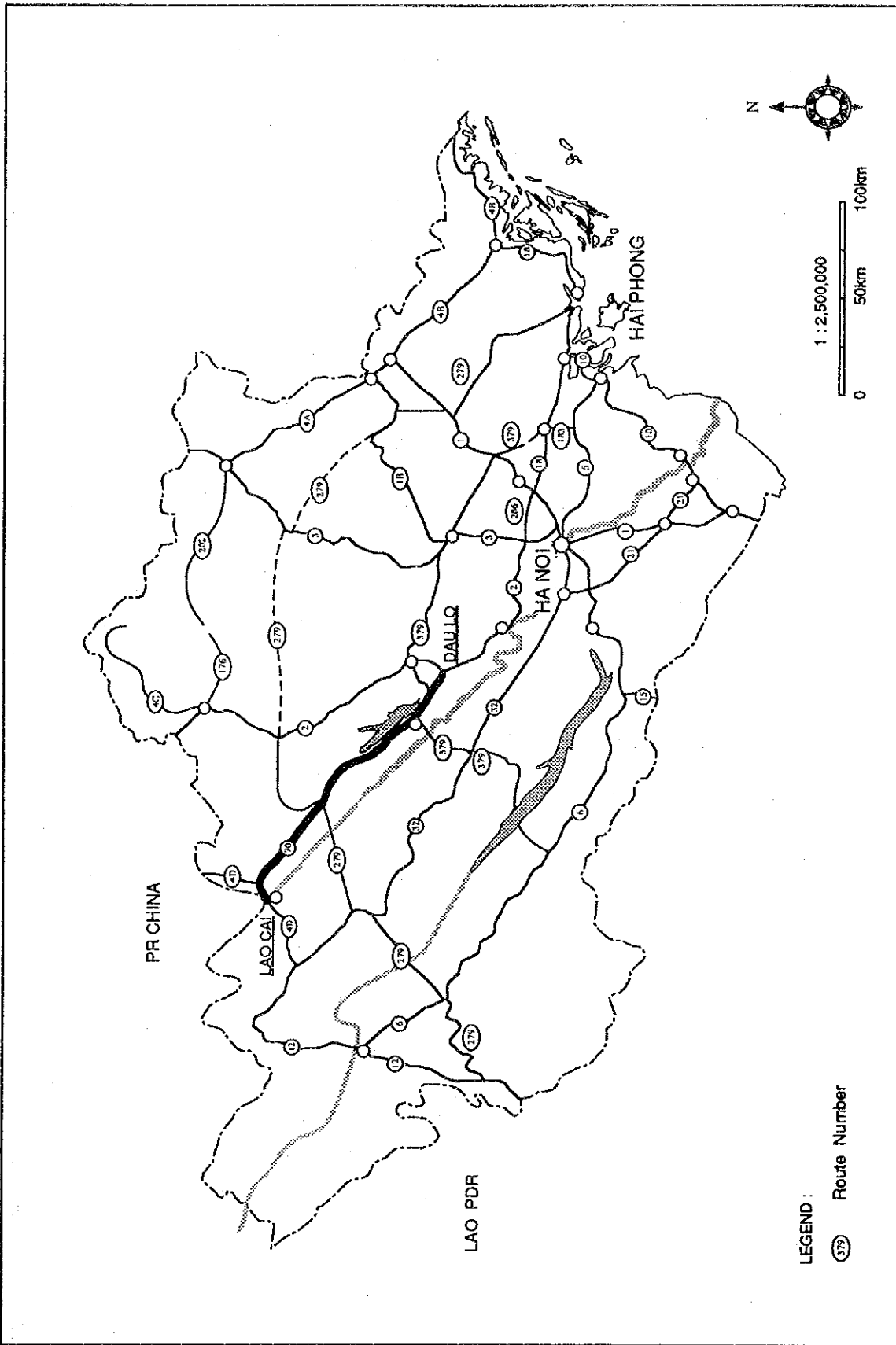
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-12	Name of Project: Improvement of National Road No. 70	Mode: Road	Location: Dau Lo - Lao Cai		
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>		
Operation Body: VRAB	Section:	US\$	Financial Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>		
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Total	req'd		
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>National Road No. 70 is a major corridor serving the north western area along the Red River, contributing to trade with China. Traffic volume will increase to 1,600 PCU/day in 2000 and 7,900 PCU/day in 2010, and these traffic volumes are understated because they do not include the intrazonal movement.</p> <p>Existing pavement is macadam penetration type, but mostly deteriorated due to the lack of road maintenance. The improvement work needed will include strengthening of the pavement and widening of the carriageway.</p>		Foreign	req'd		
		Vietnam	not req'd		
Major Development Components:		Specific Issues Remaining:			
<ul style="list-style-type: none"> - Road Length ; 193 km - Number of Lanes ; 2 - Pavement Type ; Hotmix Asphalt Concrete <p>Asphalt concrete, 10 cm As treated base, 10 cm Subbase, 30 cm</p> <p>- Typical Cross Section ;</p>		<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>			
					
Development Schedule	Serial Year	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()
Items	Calendar Month	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12
	Serial Month	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12
1. Feasibility Study					
2. Detailed Design/Bid Documents					
3. Bidding/Negotiation					
4. Procurement & Implementation					

Code No.: RD - 12

Name of Project: Improvement of National Road No. 70



(Add sheets as required)

Code No.: RD-12
 Name of Project: Improvement of National Road No. 70
 Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				5,660	3,396	2,264	60	40	
(2) Pavement				36,147	21,688	14,459	60	40	
(3) Bridges				6,189	3,713	2,476	60	40	
(4) Drainages/Others				15,468	9,281	6,187	60	40	
Sub-Total				63,464	38,078	25,386	60	40	
Contingency (10 %)				6,346	3,808	2,538	60	40	
A. Total of Direct Construction Cost				69,810	41,886	27,924	60	40	
B. Detailed Design & Supervision (A x 15 %)				10,472	6,283	4,189	60	40	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				80,282	48,169	32,113	60	40	

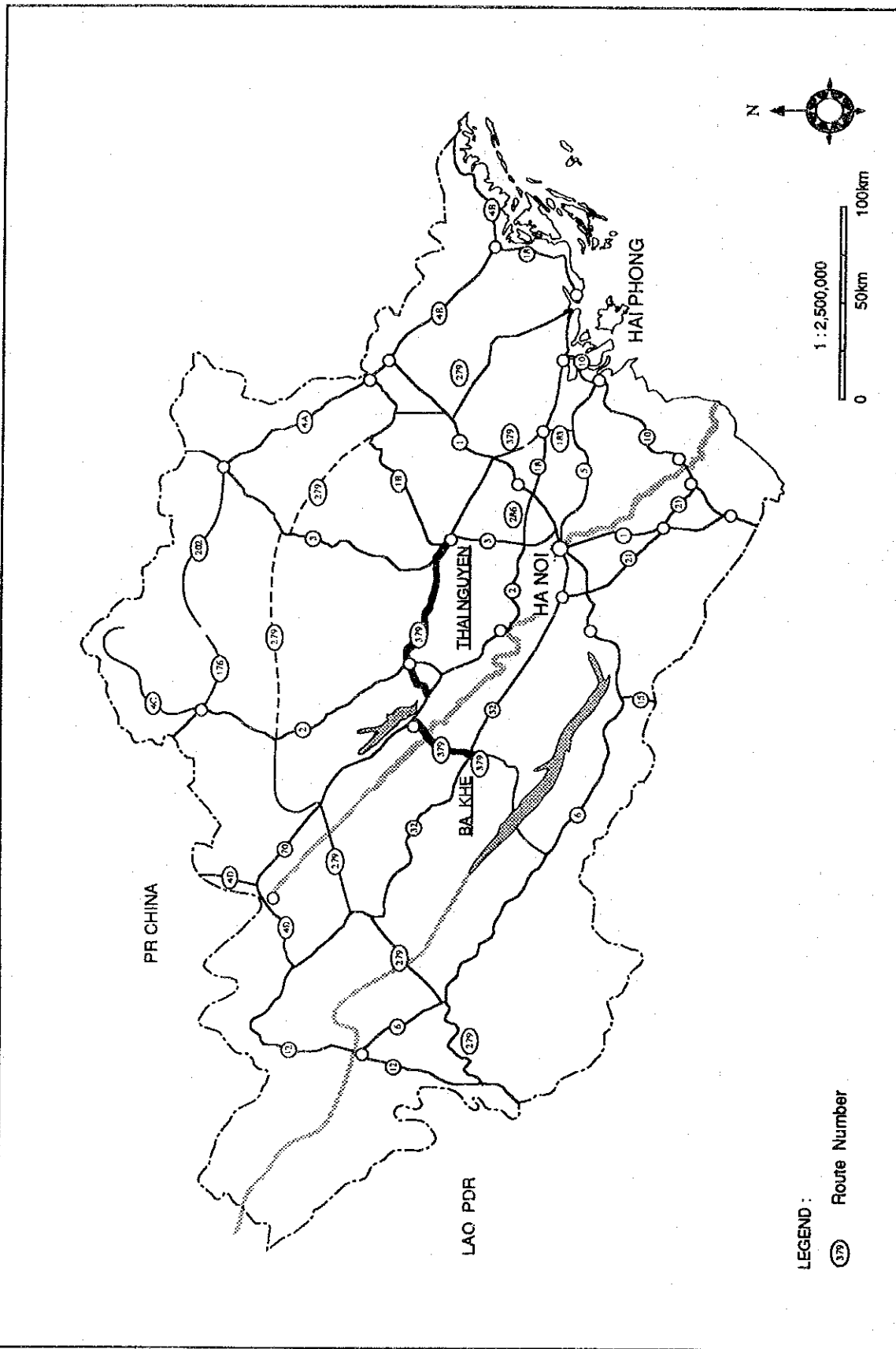
Total Direct Cost (Price of 1993) Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-16	Name of Project: Improvement of National Road No. 379	Mode: Road	Location: Ba Khe - Thai Nguyen																																																																																		
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd																																																																																		
Operation Body: VRAB	Section:	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td align="center" colspan="2">US\$</td></tr> <tr><td>Total</td><td align="right">67,331,000</td></tr> <tr><td>Foreign</td><td align="right">40,399,000</td></tr> <tr><td>Vietnam</td><td align="right">26,932,000</td></tr> </table>	US\$		Total	67,331,000	Foreign	40,399,000	Vietnam	26,932,000																																																																											
US\$																																																																																					
Total	67,331,000																																																																																				
Foreign	40,399,000																																																																																				
Vietnam	26,932,000																																																																																				
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:																																																																																			
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>The improvement of National Road No. 379 is quite needed to support the economy and social welfare in the midland area, connecting Ba Khe, Yen Bai, Tuyen Quang and Thai Nguyen. The midland area has important roles in the region from the stand points of economic growth and provision of basic human needs. The traffic volume will be increased to be 1,200 PCU/day in 2000 and 7,300 PCU/day in 2010, which requires 2 lane carriageway, and these traffic volumes are understated because they do not include the intrazonal movement.</p> <p>Existing pavement is macadam penetration type, but 75 % of the section is deteriorated to the point of being poor or very poor in condition.</p>		<p>Major Development Components:</p> <ul style="list-style-type: none"> - Road Length ; 132 km - Number of Lanes ; 2 - Pavement Type ; Hotmix Asphalt Concrete <p>Asphalt concrete, 10 cm As treated base, 10 cm Subbase, 30 cm</p> <p>- Typical Cross Section ;</p> <div style="text-align: center;"> </div>																																																																																			
Development Schedule																																																																																					
Items	Serial Year	1st. Year (1995)												2nd. Year (1996)												3rd. Year (1997)												4th. Year (1998)												5th. Year (1999)												6th. Year (2000)												7th. Year ()											
	Calendar Month	3			6			9			12			3			6			9			12			3			6			9			12			3			6			9			12																																						
1. Feasibility Study		Serial Month																																																																																			
2. Detailed Design/Bid Documents																																																																																					
3. Bidding/Negotiation																																																																																					
4. Procurement & Implementation																																																																																					

Code No.: RD - 16

Name of Project: Improvement of National Road No. 379



(Add sheets as required)

Code No.: RD-16

Name of Project: Improvement of National Road No. 379

Unit: US\$1,000

(1) Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				3,379	2,028	1,351	60	40	
(2) Pavement				30,185	18,111	12,074	60	40	
(3) Bridges				7,244	4,346	2,898	60	40	
(4) Drainages/Others				12,418	7,451	4,967	60	40	
Sub-Total				53,226	31,936	21,290	60	40	
Contingency (10 %)				5,323	3,194	2,129	60	40	
A. Total of Direct Construction Cost				58,549	35,130	23,419	60	40	
B. Detailed Design & Supervision (A x 15 %)				8,782	5,269	3,513	60	40	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				67,331	40,399	26,932	60	40	

Total Direct Cost (Price of 1993)

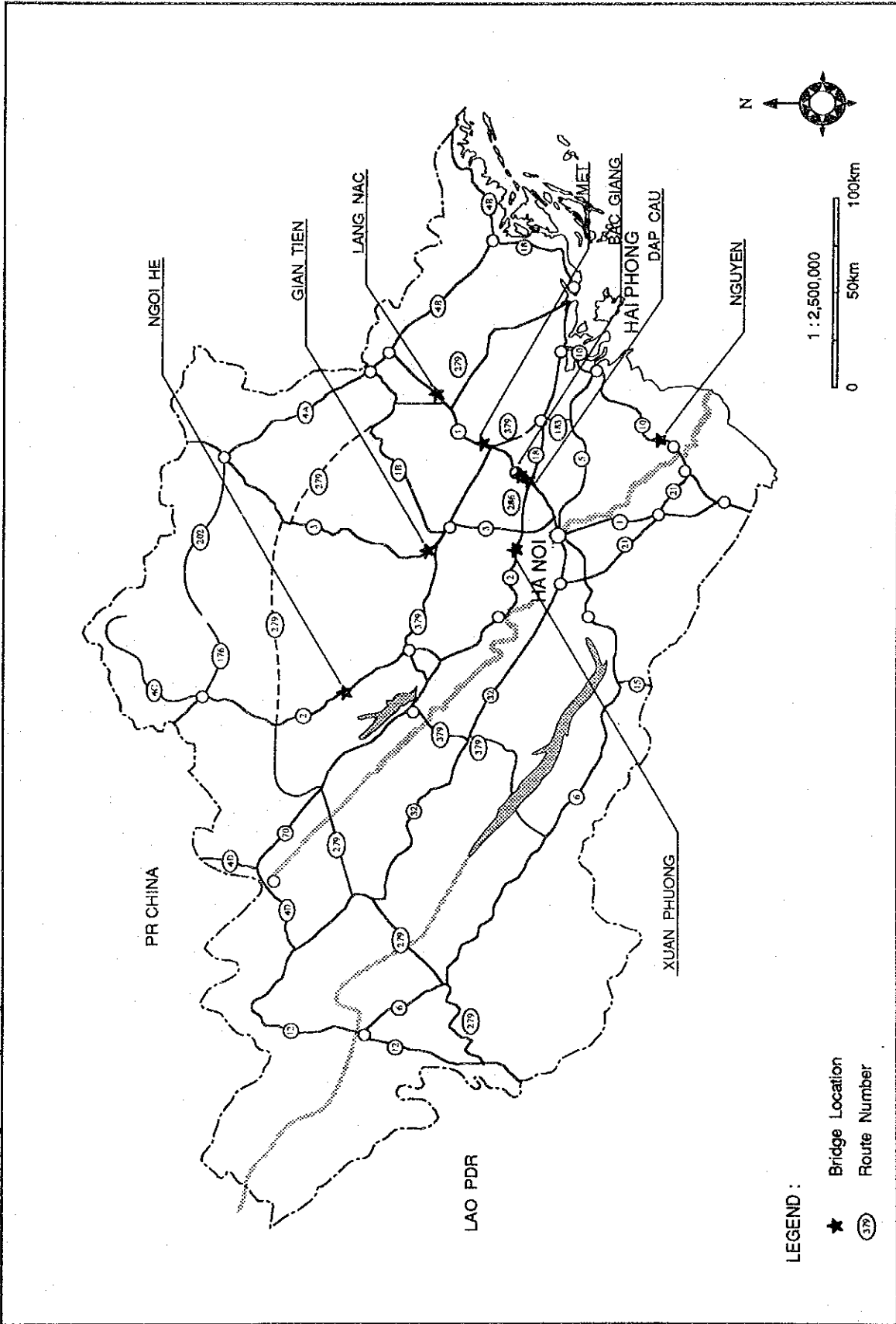
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-17	Name of Project Urgent Bridge Improvement and Reconstruction of National Roads	Mode: Road	Location: Northern Part of Viet Nam																																				
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$=	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd																																				
Operation Body: VRAB	Section: Vietnam Road Administration Bureau (VRAB)	10,800 Dong)	Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd																																				
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:																																					
<p>The National Road Network in Vietnam is one of the most important transportation systems which have directly a great impact on socio-economic development of the country. In particular, National Road Routes No. 1, 2, 3, 5, 6, 10, 21, 18 and 70 are major arterial roads in the Northern part of Vietnam. On these roads there are 695 bridges which are altogether about 14,200 m long. However, many of them are narrow in width and weak in bearing capacity due to relatively light-duty original construction damages and inadequate maintenance.</p>		<p>The following bridges should urgently be reconstructed or improved to meet transport needs;</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>National Road No.</th> <th>Bridge Name</th> <th>Location</th> <th>Length (m)</th> </tr> </thead> <tbody> <tr><td>1</td><td>Lang Nac</td><td>49 + 500</td><td>30</td></tr> <tr><td>1</td><td>Met</td><td>86 + 900</td><td>106</td></tr> <tr><td>1</td><td>Bac Giang</td><td>121 + 800</td><td>132</td></tr> <tr><td>1</td><td>Dap Cau</td><td>136 + 600</td><td>173</td></tr> <tr><td>2</td><td>Xuan Phuong</td><td>13 + 400</td><td>47</td></tr> <tr><td>2</td><td>Ngoi He</td><td>191 + 100</td><td>53</td></tr> <tr><td>3</td><td>Glan Tien 1</td><td>83 + 300</td><td>27</td></tr> <tr><td>10</td><td>Nguyen</td><td>89 + 500</td><td>103</td></tr> </tbody> </table> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>		National Road No.	Bridge Name	Location	Length (m)	1	Lang Nac	49 + 500	30	1	Met	86 + 900	106	1	Bac Giang	121 + 800	132	1	Dap Cau	136 + 600	173	2	Xuan Phuong	13 + 400	47	2	Ngoi He	191 + 100	53	3	Glan Tien 1	83 + 300	27	10	Nguyen	89 + 500	103
National Road No.	Bridge Name	Location	Length (m)																																				
1	Lang Nac	49 + 500	30																																				
1	Met	86 + 900	106																																				
1	Bac Giang	121 + 800	132																																				
1	Dap Cau	136 + 600	173																																				
2	Xuan Phuong	13 + 400	47																																				
2	Ngoi He	191 + 100	53																																				
3	Glan Tien 1	83 + 300	27																																				
10	Nguyen	89 + 500	103																																				
Major Development Components:																																							
<p>The budget allows to be allocated to the urgent bridge improvement, more than the listed bridges should be improved and reconstructed.</p>																																							
<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>																																							
Development Schedule	Serial Year	1st. Year (1995)	2nd. Year (1996)	3rd. Year (1997)	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()																															
Items	Calendar Month	3	6	9	12	3	6	9																															
	Serial Month																																						
1. Feasibility Study																																							
2. Detailed Design/Bid Documents																																							
3. Bidding/Negotiation																																							
4. Procurement & Implementation																																							

Code No.: RD - 17

Name of Project: Urgent Bridge Improvement and Reconstruction Roads



(Add sheets as required)

Code No.: RD-17

Name of Project: Urgent Bridge Improvement and Reconstruction of National Roads

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Bridge Works including Access Roads and Miscellaneous				20,924	13,810	7,114	66	34	
Sub-Total				20,924	13,810	7,114	66	34	
Contingency (10 %)				2,092	1,381	711	66	34	
A. Total of Direct Construction Cost				23,016	15,191	7,825	66	34	
B. Detailed Design & Supervision (A x 15 %)				3,452	2,278	1,174	66	34	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				26,468	17,469	8,999	66	34	

Total Direct Cost (Price of 1993)

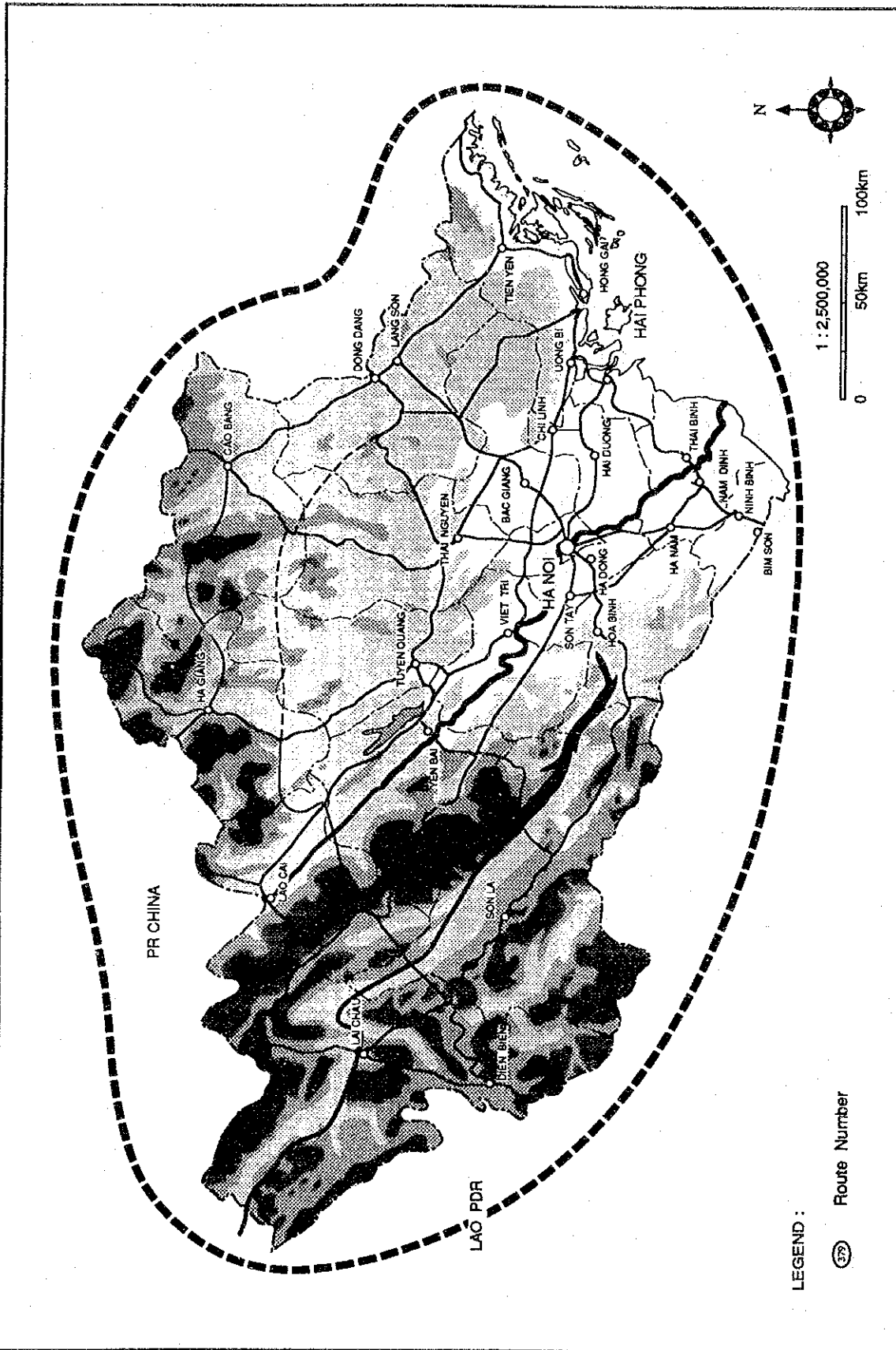
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-18	Name of Project: Urgent Bridge Improvement and Construction of Rural Roads	Mode: Road	Location: Northern Part of Viet Nam (20 provinces)																			
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input checked="" type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd																			
Operation Body: VRAB	Section:	Total 46,603,000 Foreign 30,758,000 Vietnam 15,845,000																				
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:																				
<p>The network of rural roads is a very important transportation system from the viewpoints of socio-economic development and fulfillment of basic human needs.</p> <p>In particular, bridges on rural roads are relatively costly compared with the roads themselves and bridge availability is directly connected with the people's life in the local area. About 1,300 bridges totaling 21,500 meters in length are needed in the Northern part of Vietnam (20 provinces). 33 % of the bridges will be designated as urgent bridge improvement and construction projects rural roads.</p>		<p>The improvement and construction of rural road bridges will be implemented urgently in the 20 provinces:</p> <p>Type of Road No. of Bridges Length of Bridges</p> <p>• Provincial } 426 7,177 m • District • Village • Urban</p>																				
Major Development Components:		As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.																				
Development Schedule																						
Items	Serial Year	1st. Year (1995)			2nd. Year (1996)			3rd. Year (1997)			4th. Year (1998)			5th. Year (1999)			6th. Year (2000)			7th. Year ()		
	Calendar Month	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	
1. Feasibility Study																						
2. Detailed Design/Bid Documents																						
3. Bidding/Negotiation																						
4. Procurement & Implementation																						

Code No.: RD - 18

Name of Project: Urgent Bridge Improvement and Construction of Rural Roads



(Add sheets as required)

Code No: RD-18

Name of Project: Urgent Bridge Improvement and Construction of Rural Roads

Unit: US\$1,000

Description	(2) Unit	(3) Qty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				1,800	1,188	612	66	34	
(2) Pavement				2,590	1,709	881	66	34	
(3) Bridges				31,340	20,684	10,656	66	34	
(4) Others				1,110	733	377	66	34	
Sub-Total				36,840	24,314	12,526	66	34	
Contingency (10 %)				3,684	2,432	1,252	66	34	
A. Total of Direct Construction Cost				40,524	26,746	13,778	66	34	
B. Detailed Design & Supervision (A x 15 %)				6,079	4,012	2,067	66	34	
C. Land Acquisition Cost				-	-	-	-	-	
D. Total Project Cost				46,603	30,758	15,845	66	34	

Total Direct Cost (Price of 1993)

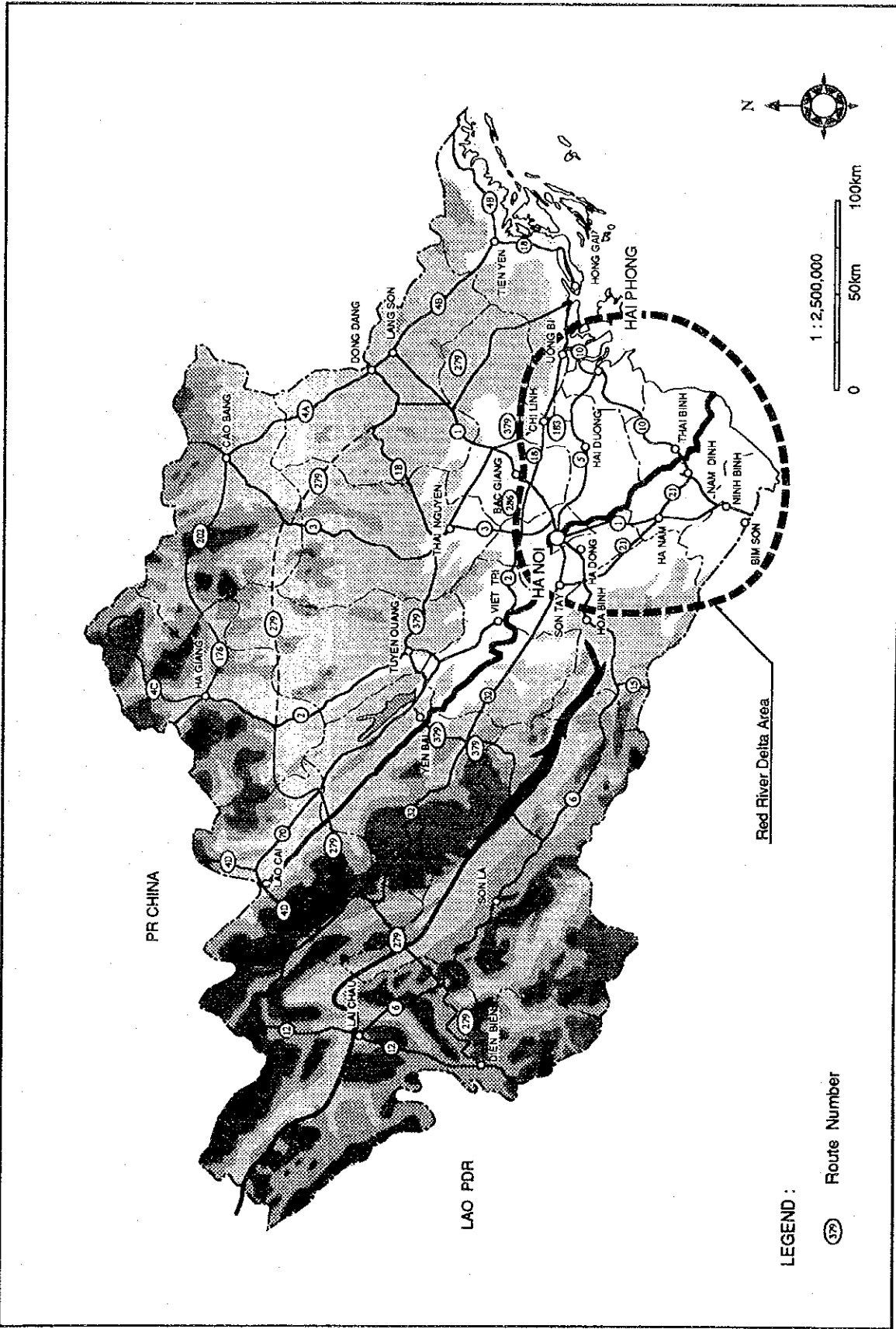
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-19	Name of Project: Rehabilitation of National Roads in the Red River Delta Area	Mode: Road	Location: Red River Delta Area		
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>		
Operation Body: VRAB	Section:	Foreign: 22,630,000	Financial Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>		
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Vietnam: 11,658,000	Specific Issues Remaining:		
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>In particular, National Roads in the Red River Delta area have key roles in road transportation, since about 80 % of origin-destination trips in the Northern part of Vietnam are concentrated in the delta area.</p> <p>Therefore, National Roads No. 1, 3, 6, 10, 18, 21 and 32 should be rehabilitated (overlaid) between the years 1994 and 2000 to accommodate the increasing traffic volume. Since most sections of these roads are deteriorated, and their improvement is costly and will be performed after the year 2000, due to budget constraints.</p>		<p>Major Development Components:</p> <p>Rehabilitation (Asphalt overlay t = 5 cm) of the following National Roads</p> <ul style="list-style-type: none"> • Route No. 1 (L = 103 km) from Lang Son to Bac Giang • Route No. 1 (L = 54 km) from Ha Nam to Bim Son • Route No. 3 (L = 72 km) from Route No. 1 to Thai Nguyen • Route No. 6 (L = 77 km) from Ha Noi to Hoa Binh • Route No. 10 (L = 103 km) from Hai Phong to Ninh Binh • Route No. 18 (L = 38 km) from Route 1 to Chi Linh • Route No. 21 (L = 30 km) from Ha Nam to Nam Dinh • Route No. 32 (L = 42 km) from Ha Noi to Son Tay 	<p>After the rehabilitation routine and periodic maintenance should be carefully performed until the improvement is carried out.</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>		
Development Schedule	Serial Year	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()
Items	Calendar Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
	Serial Month				
1. Feasibility Study					
2. Detailed Design/Bid Documents					
3. Bidding/Negotiation					
4. Procurement & Implementation					

Code No.: RD - 19

Name of Project: Rehabilitation of National Roads in the Red River Delta Area



(Add sheets as required)

Code No.: RD-19

Name of Project: Rehabilitation of National Roads in the Red River Delta Area

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Pavement				23,569	15,556	8,013	66	34	
(2) Drainages/Others				3,535	2,331	1,204	66	34	
Sub-Total				27,104	17,887	9,217	66	37	
Contingency (10 %)				2,711	1,789	922	66	34	
A. Total of Direct Construction Cost				29,815	19,676	10,139	66	34	
B. Detailed Design & Supervision (A x 15 %)				4,473	2,952	1,521	66	34	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				34,288	22,628	11,660	66	34	

Total Direct Cost (Price of 1993)

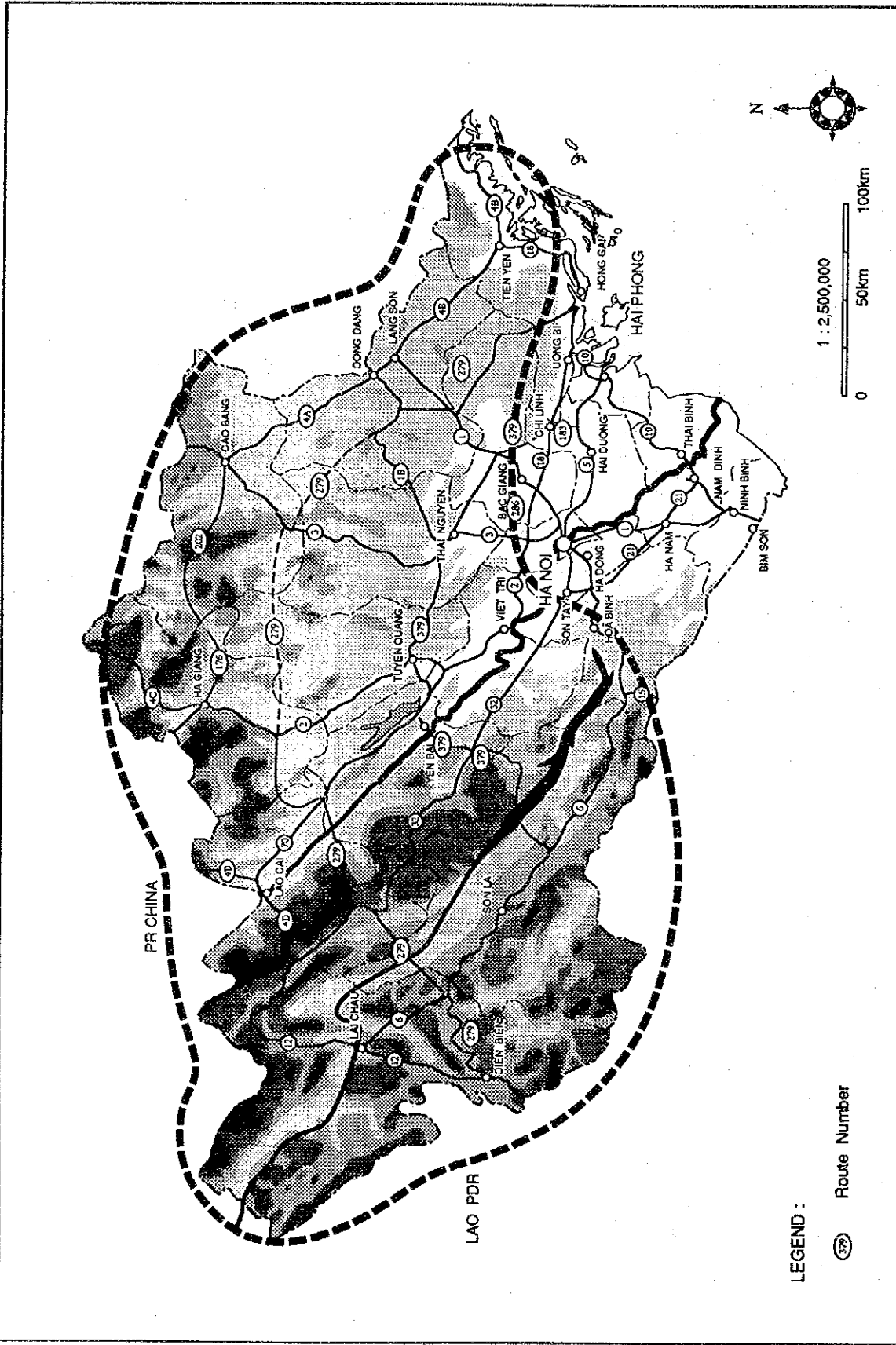
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-21	Name of Project Improvement and Rehabilitation of Rural Roads in the Northern Part of Vietnam	Location: Northern Part of Viet Nam (20 provinces)	Mode: Road															
Development Body: Provincial Department of Transport and Communications	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input checked="" type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd															
Operation Body:	Section:	US\$ Total 132,321,000 Foreign 79,293,000 Vietnam 52,928,000	Specific Issues Remaining: As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.															
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Major Development Components:																
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements.</p> <p>The network of rural roads is a very important transportation system from the viewpoints of socio-economic development and fulfillment of basic human needs.</p> <p>In the Northern part of Vietnam (20 provinces), rural roads comprise the following road classifications and lengths;</p> <ul style="list-style-type: none"> • Provincial Roads : 6,136 km • District Roads : 11,116 km • Village Roads : 25,445 km • Urban Roads : 393 km <p>About one third of the above roads, including bridges and drainage structures, will be improved or rehabilitated.</p>		<p>The improvement or rehabilitation of the following components will be implemented in the 20 provinces;</p> <table border="1"> <thead> <tr> <th>Type of Road</th> <th>Road Length</th> <th>Bridge Length</th> </tr> </thead> <tbody> <tr> <td>• Provincial</td> <td>2,045 km</td> <td>1,530 m</td> </tr> <tr> <td>• District</td> <td>3,705 km</td> <td>2,380 m</td> </tr> <tr> <td>• Village</td> <td>8,482 km</td> <td>830 m</td> </tr> <tr> <td>• Urban</td> <td>131 km</td> <td>-</td> </tr> </tbody> </table>		Type of Road	Road Length	Bridge Length	• Provincial	2,045 km	1,530 m	• District	3,705 km	2,380 m	• Village	8,482 km	830 m	• Urban	131 km	-
Type of Road	Road Length	Bridge Length																
• Provincial	2,045 km	1,530 m																
• District	3,705 km	2,380 m																
• Village	8,482 km	830 m																
• Urban	131 km	-																
Development Schedule	Serial Year	1st. Year (1995)	2nd. Year (1996)	3rd. Year (1997)	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year ()										
Items	Calendar Month	3	6	9	12	3	6	9	12									
	Serial Month																	
1. Feasibility Study																		
2. Detailed Design/Bid Documents																		
3. Bidding/Negotiation																		
4. Procurement & Implementation																		

Code No.: RD - 21

Name of Project: Improvement and Rehabilitation of Rural Roads in the Northern Part of Vietnam



(Add sheets as required)

Code No.: RD-21

Name of Project: Improvement and Rehabilitation of Rural Roads in the Northern Part of Vietnam

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(1) Earthwork				13,841	8,305	5,536	60	40	
(2) Pavement				69,127	41,476	27,651	60	40	
(3) Bridges				20,708	12,425	8,283	60	40	
(4) Drainages/Others				8,747	5,248	3,499	60	40	
Sub-Total				112,423	67,454	44,969	60	40	
Contingency (10 %)				11,242	6,745	4,497	60	40	
A. Total of Direct Construction Cost				123,665	74,199	49,466	60	40	
B. Detailed Design & Supervision (A x 7 %)				8,656	5,194	3,462	60	40	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				132,321	79,393	52,928	60	40	

Total Direct Cost (Price of 1993)

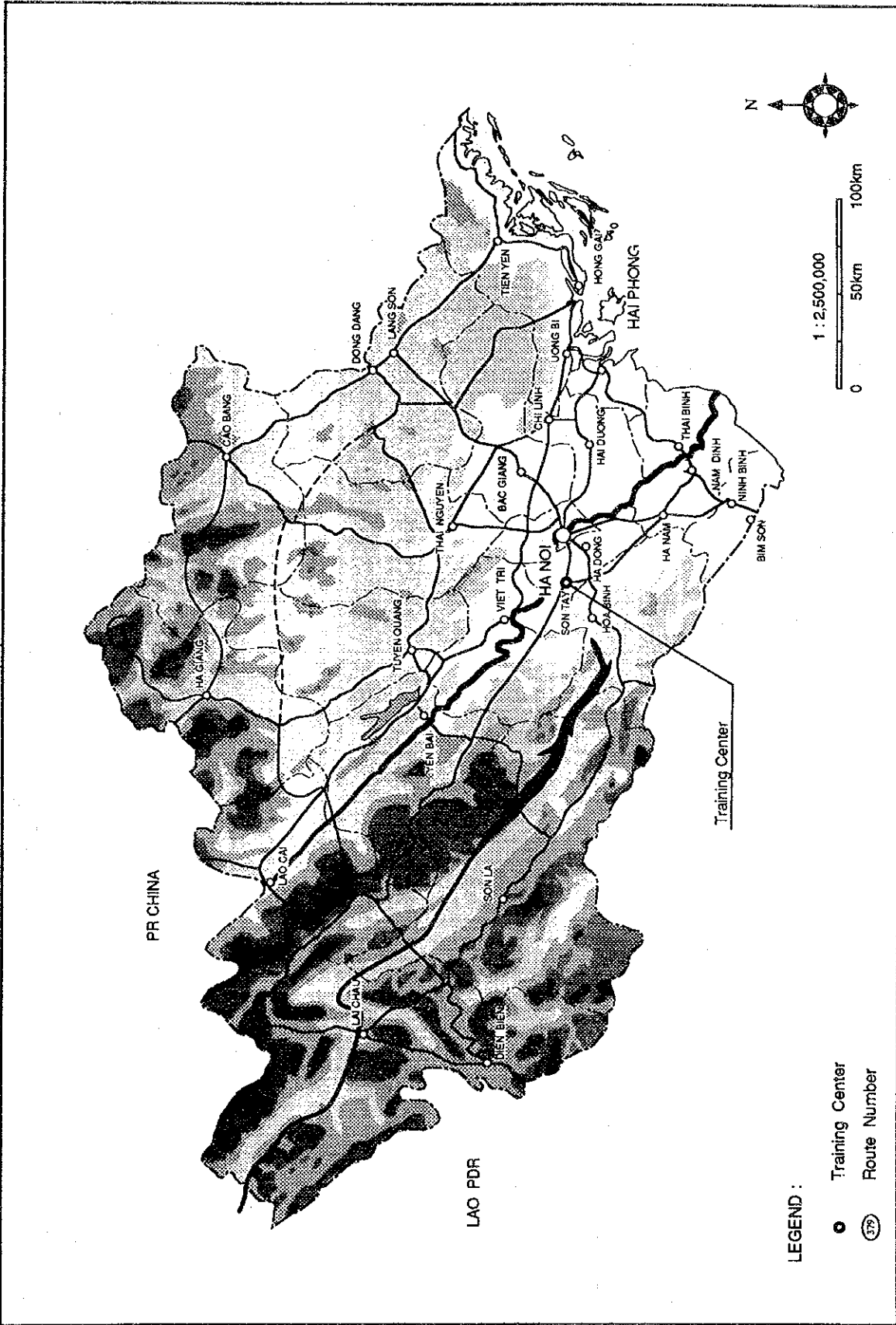
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RD-22	Name of Project: Training Center and Procurement of Road Maintenance Equipment	Mode: Road	Location: Training Center at Ba Vi District (Ha Tay Province) and workshops & depots at 3 locations in the Northern Part of Vietnam						
Development Body: Vietnam Road Administration Bureau (VRAB)	Ministry in-charge: Ministry of Transport and Communications (MOTC)	Project Cost: (1 US\$= 10,800 Dong)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Operation Body: VRAB	Section: VRAB	US\$ Total: 59,144,000 Foreign: 47,915,000 Vietnam: 11,829,000							
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:							
<p>The road traffic volume will tend to increase explosively along with economic growth, since road traffic has the apparent advantages of frequent mobility and door to door accessibility. However, these advantages can only be realized if congestion is avoided by a combination of traffic control measures and road improvements. Therefore, construction, improvement, rehabilitation and maintenance of National and rural roads must be performed as needed.</p> <p>The training of technicians and workers to operate and maintain construction equipment will be needed in order to meet the huge needs for road construction and maintenance in Vietnam.</p> <p>Advanced techniques and technology will be taught and practiced through the use of construction equipment at the training center and on site.</p> <p>Road maintenance (routine maintenance and repair) is conducted for the National Road of 1,256 km in the whole Northern part of Vietnam by 8 sub-regional Road Maintenance Divisions (R.M.D.) under Regional Road Maintenance No. 2, MOTC.</p> <p>The road maintenance activities are not sufficient to keep the roads in good and fair conditions due to the shortage of equipment and budget. Each R.M.D. has a limited kind and number of equipment such as roller, truck, asphalt kettle, small tractor, water spreader, etc.</p>		<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>							
Major Development Components:		<ul style="list-style-type: none"> • Training Center - Up-grading of management and instructors capabilities; - Procurement and repairs of construction equipment and machinery; - Renovation of training center buildings; • Procurement of Construction Equipment - Comprehensive study on the kinds and number of equipment required for the maintenance - Status survey for inventory of the equipment - Procurement of equipment and spare parts - Repairs of existing equipment 							
Development Schedule	Serial Year	1st. Year (1995)	2nd. Year (1996)	3rd. Year (1997)	4th. Year (1998)	5th. Year (1999)	6th. Year (2000)	7th. Year (2001)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: RD - 22

Name of Project: Training Center and Procurement of Road Construction Equipment



(Add sheets as required)

Code No.: RD-22

Name of Project: Training Center and Procurement of Road Construction Equipment

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
1. Training Center (1)									
(1) Procurement and Repair of Maintenance Equipment	set	30	Lamp Sum	3,000	2,400	600	80	20	
(2) Renovation of Training Center Building and Related Facilities	M ²	8,500	Lamp Sum	2,850	2,280	570	80	20	
(3) Instructors/Japanese	M/M	165	Lamp Sum	3,000	2,400	600	80	20	33 months
(4) Instructors/Vietnamese	M/M								
(5) Education Facility & Vehicles	-		Lamp Sum	400	320	80	80	20	
2. Workshops and Depots									
(1) Procurement and Repairs of Maintenance Equipment	set	400	Lamp Sum	32,000	25,600	6,400	80	20	
(2) Renovation and Construction of Workshops, Depots and Infra.	Lo	3	Lamp Sum	9,000	7,200	1,800	80	20	
Sub-Total				50,250	40,200	10,050	80	20	
Contingency (10 %)				5,025	4,020	1,005	80	20	
A. Total of Direct Construction Cost				55,869	44,220	11,055	80	20	
B. Detailed Design & Supervision (A x 7 %)				3,869	3,095	774	80	20	
C. Land Acquisition Cost				0	0	0	-	-	
D. Total Project Cost				59,144	47,315	11,829	80	20	

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

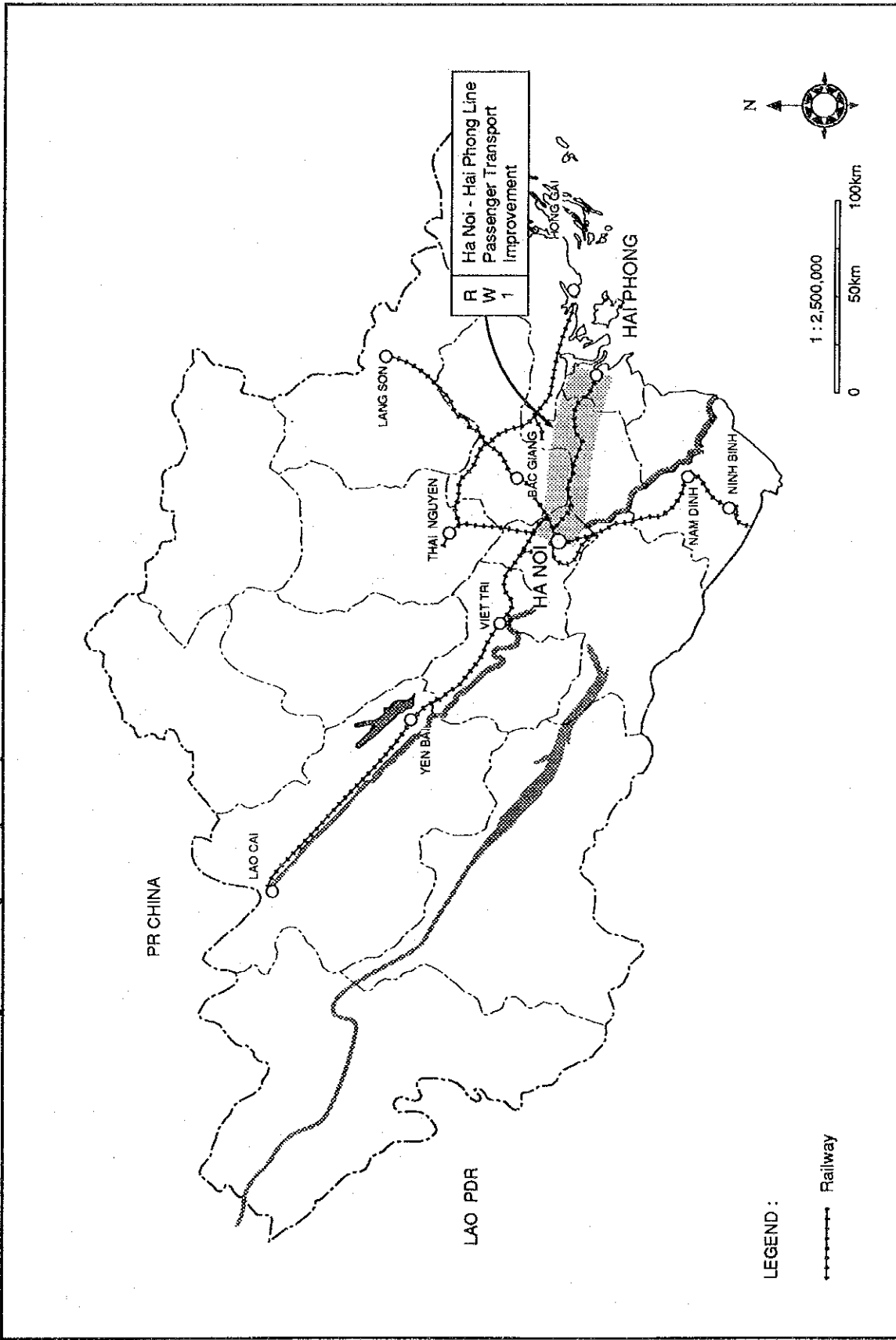
(Project Profile) Short-Term Development

Code No. RW - 1	Name of Project: Ha Noi - Hai Phong Line Passenger Transport Improvement	Mode: Railway	Location: Ha Noi - Hai Phong																										
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: (000\$) (1 US\$=	US\$ (000\$)																										
Operation Body: VNR	Section: VNR	Total Foreign Vietnam	21,400 18,600 2,800																										
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd																											
<p>Development in the Red River Delta will generate large passenger transport demand between Ha Noi and Hai Phong. 'Time value' will rise, and, as a result, the demand for fast train operations will increase. Necessary qualities of passenger transport will be developed including, fast train operation, frequent service, good car accommodations and good feeder services to and from stations. Modernization of passenger marketing and track maintenance works, and rationalization of track maintenance man power will be carried out. Related businesses and services, such as shops, restaurants and parking, will absorb overstaffing.</p> <p>This railway system implementation also includes items for improvement of basic functions. The project will contribute to development of the Red River delta area. VNR will learn the following modern technology and know-how through the project and the related contracts with experts abroad:</p> <p>(a) How to maintain of request train operations and good accommodations which will increase the number of passengers and resulting income; (b) How to perform marketing and pricing functions (c) How to implement rationalization and modernization (d) How to plan and implement a project in a market economy, including economic evaluation (e) How to borrow foreign loans for a project.</p> <p>Approximately 500 work-days of man power, contribute to the development of the Red river delta, will be created every day by the time saving effect on passengers. Employment for track maintenance work will be reduced by about 200 positions, however, new modernized jobs will be created for about 80 employees.</p> <p>The feasibility study on improvement of Ha Noi- Hai Phong Line is being undertaken by the British firm and will be completed by September 1994.</p>		<p>Specific Issues Remaining:</p> <p>Railway welding machines might be used on other lines: Hai Phong → Lao Cai → Dong Dang → Cai Lan lines As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>																											
Major Development Components:		Specific Issues Remaining:																											
<ul style="list-style-type: none"> - High speed and comfortable accommodation by new diesel rail cars (DC) and improvement of track. - Shortening the whole trip time by improvement of train speed, frequent train operations, feeder services and station facilities. - Strengthening of marketing by a modernized ticketing system. - Upgrading of safety by equipping level crossings with alarms and fences. - Rationalization of track maintenance by rail welding and new machines and tools. - Additional diesel rail cars in 2003. 		<p>4th. Year (1997)</p> <p>5th. Year (1998)</p> <p>6th. Year (1999)</p> <p>7th. Year (2000)</p>																											
Development Schedule		Development Schedule																											
Items	Serial Year	1st. Year (1994)				2nd. Year (1995)				3rd. Year (1996)				4th. Year (1997)				5th. Year (1998)				6th. Year (1999)				7th. Year (2000)			
	Calendar Month	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
1. Feasibility Study																													
2. Detailed Design/Bid Documents																													
3. Bidding/Negotiation																													
4. Procurement & Implementation																													

RAILWAY PROJECTS

Code No.: RW - 1

Name of Project: Ha Noi - Hai Phong Line Passenger Transport Improvement



(Add Sheets as required)

Code No.: RW - 1

Name of Project: Ha Noi - Hai Phong Line Passenger Transport Improvement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Procurement of railcars	car	10	1,005	10,050	9,850	200	98	2	
Improvement of passenger cars	car	12	150	1,800	1,300	500	72	28	
Improvement of track	km	100	189	1,890	1,500	390	79	21	
Procurement of track construction and maintenance machines	LS	1	820	820	760	60	93	7	
Renovation of stations	sta.	3	200	600	0	600	0	100	
Fence	km	4	25	100	80	20	80	20	
Improvement of signals	unit	32	10.3	330	300	30	91	9	
Level crossing alarm device	unit	20	70	1,400	1,000	400	71	29	
Ticket reservation system	set	1	210	210	200	10	95	5	
Contingency				1,700	1,500	200	88	12	
A. Total of Direct Construction Cost				18,900	16,490	2,410	87	13	
B. Detailed Design & Supervision (C x 13.2 %)				2,500	2,100	400	84	16	
C. Land Acquisition Cost									
D. Total Project Cost				21,400	18,590	2,810	87	13	

Total Direct Cost (Price of 1993)

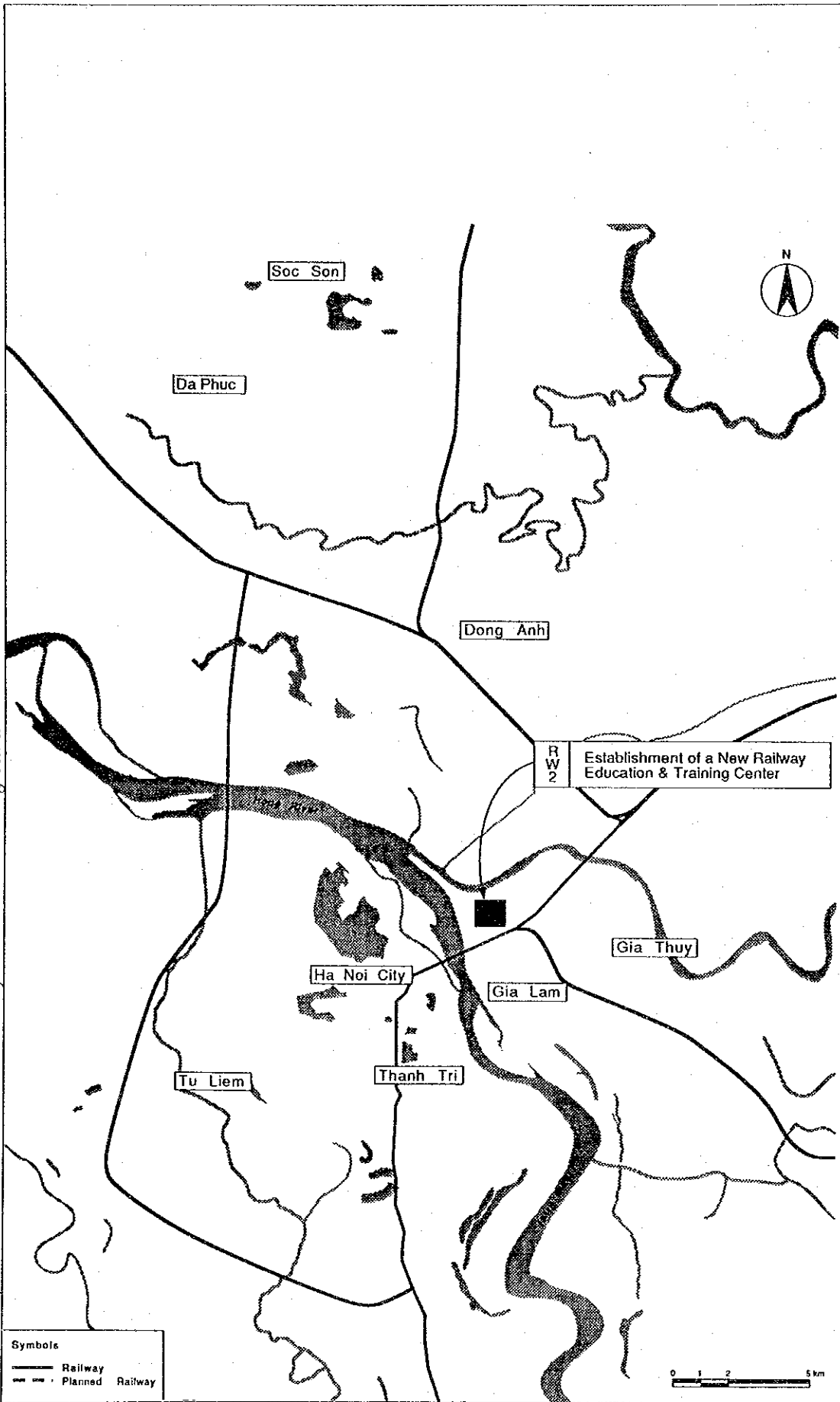
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 2	Name of Project: Establishment of a New Railway Education and Training Center	Mode: Railway	Location: Ha Noi (Gia Lam)						
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: ('000\$) (1 US\$ = 10,800 Dong)	US\$ ('000\$) 9,800						
Operation Body: VNR	Section:	Total	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd						
		Foreign	Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd						
		Vietnam	2,000						
<p>Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)</p> <p>It is essential to maintain reasonable levels of all the basic functions of railway management, such as management, marketing, operation, education and training. However, VNR needs improvement in most of these areas. It is necessary to upgrade and modernize railway systems in line with the development of the nation.</p> <p>This is the most important and item for improvement of basic function. Modernization and reform of VNR are executed by human resources. Education and training should be given the top priority and implemented prior to any other projects. It requires several years to prepare an education system, and the effects of education are realized slowly, therefore this project should be commenced as fast as possible. Cost for the project is small but its potential effect is large.</p> <p>Manpower needs to be trained for new management tasks, including the introduction of new technology. Furthermore, vocational training is required for redundant staff so as to prepare them for new employment. Current training facilities are not sufficient. The Vietnamese Government has approved the establishment of a new railway education and training center at Gia Lam. Education and Training programs are as follows:</p> <ul style="list-style-type: none"> - Management training (2,000 managers/year). - College education course (200 students). - Vocational training (200 engineers and technicians, 800 workers). 		<p>Major Development Components:</p> <ul style="list-style-type: none"> - Building construction - Overseas training - Equipment and machines for training <p>General training equipment; computer, word processor, printing machine, audio visual aids Language laboratory Management teaching tools Train operation simulator Rolling stock structure model Mechanical machine for training Track maintenance tools and equipment Inspection equipment for track structure Material examination machine Soil testing machine Electric practice model equipment Model of signaling and telecommunication</p>							
<p>Specific Issues Remaining:</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>									
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: RW - 2

Name of Project: Establishment of a New Railway Education and Training Center



(Add sheets as required)

Code No.: RW - 2

Name of Project: Establishment of a New Railway Education and Training Center

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Building	LS	1	1,200	1,200	0	1,200	0	100	
Educational facilities	LS	1	6,800	6,800	6,300	500	93	7	
Overseas training	LS	1	500	500	450	50	90	10	
Contingency			800	800	650	150	81	19	
A. Total of Direct Construction Cost				9,300	7,400	1,900			
B. Detailed Design & Supervision (C x 5.3 %)				500	350	150			
C. Land Acquisition Cost									
D. Total Project Cost				9,800	7,750	2,050			

Total Direct Cost (Price of 1993)

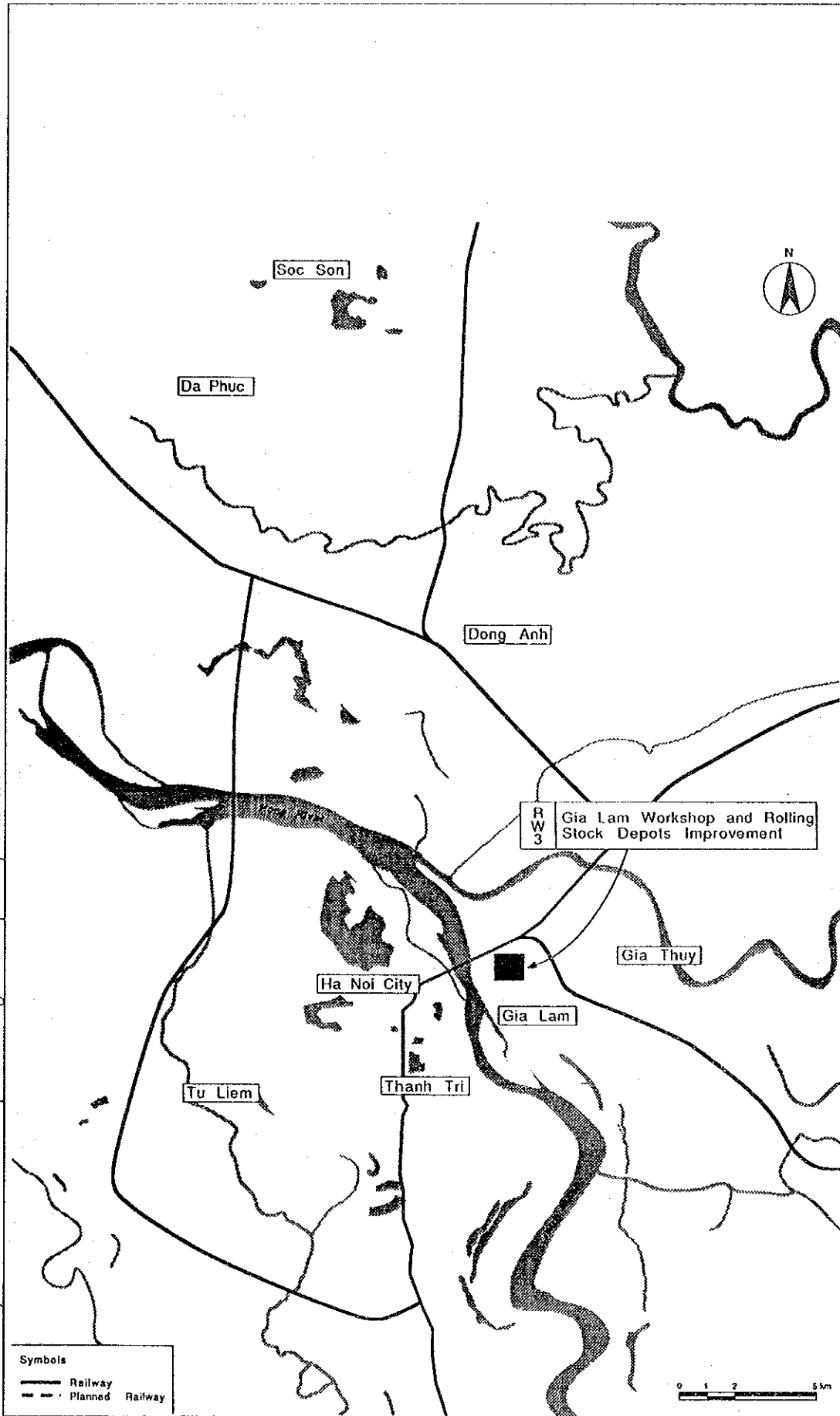
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 3	Name of Project Gia Lam Workshop and Rolling Stock Depots Improvement	Mode: Railway	Location: Ha Noi (Gia Lam)		
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: ('000\$) (1 US\$ = 10,800 Dong)	US\$ ('000\$) Total 35,900 Foreign 32,000 Vietnam 3,900		
Operation Body: VNR	Section:		Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd		
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:			
<p>VNR has a sufficient quantity of rolling stock, but the capacity of the rolling stock workshop and depots require urgent upgrading in order to service existing rolling stock efficiently. Upgrading of technology and installing the following capabilities are necessary:</p> <ul style="list-style-type: none"> - to overhaul diesel locomotives. - to manufacture spare parts for D4H locomotives. - to renovate deteriorated passenger cars. - to manufacture or renovate 140 (high grade) 400 to 560 passenger cars and freight cars of for international transport. - to assemble diesel locomotives in the future. - improvement of Ha Noi, Yen Bai and Hai Phong depots. <p>This project is an improvement in basic functions that are essential for railways. VNR lacks a basic capability for overhauling diesel locomotives, and in order technology for repair and overhauling of passenger and freight cars. Locomotives, passenger cars and freight cars are essential tools for marketing of railways. As VNR has sufficient number of locomotives for a while, it is necessary to use existing locomotives efficiently by maintenance. As a result, this project will reduce and postpone the need for an investment to procure new locomotives.</p>		<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>			
Major Development Components:		<p>- new construction and remodeling of buildings</p> <p>- track installation</p> <p>- Machinery for: car body repair, engine and transmission gear repair, engine auxiliary equipment repair, bogie repair, axle box and roller bearing repair, traction motor and generator repair, electric parts repair, air brake parts repair, measuring and testing shop and others.</p>			
Development Schedule	Serial Year	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)
Items	Calendar Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
	Serial Month				
1. Feasibility Study					
2. Detailed Design/Bid Documents					
3. Bidding/Negotiation					
4. Procurement & Implementation					

Code No.: RW - 3

Name of Project: Gia Lam Workshop and Rolling Stock Depots Improvement



(Add sheets as required)

Code No.: RW - 3

Name of Project: Gia Lam Workshop and Rolling Stock Depots Improvement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
<u>Gia Lam Workshop</u>									
Improvement of buildings and tracks	LS	1	1,700	1,700	500	1,200	30	70	
Machines and tools	LS	1	18,890	18,890	18,400	490	97	3	
Utility facilities	LS	1	240	240	0	240	0	100	
Others	LS	1	2,250	2,250	2,100	150	93	7	
<u>Depot</u>									
Improvement of buildings and tracks	LS	1	400	400	100	300	25	75	
Machines and tools	LS	1	4,960	4,960	4,800	160	97	3	
Utility facilities	LS	1	100	100	0	100	0	100	
Others	LS	1	550	550	500	50	91	9	
Contingency				3,260	3,000	260	92	8	
A. Total of Direct Construction Cost				32,350	29,400	2,950	91	9	
B. Detailed Design & Supervision (C x 9.0 %)				2,910	2,500	410	86	14	
C. Land Acquisition Cost									
D. Total Project Cost				35,260	31,900	3,360	90	10	

Total Direct Cost (Price of 1993)

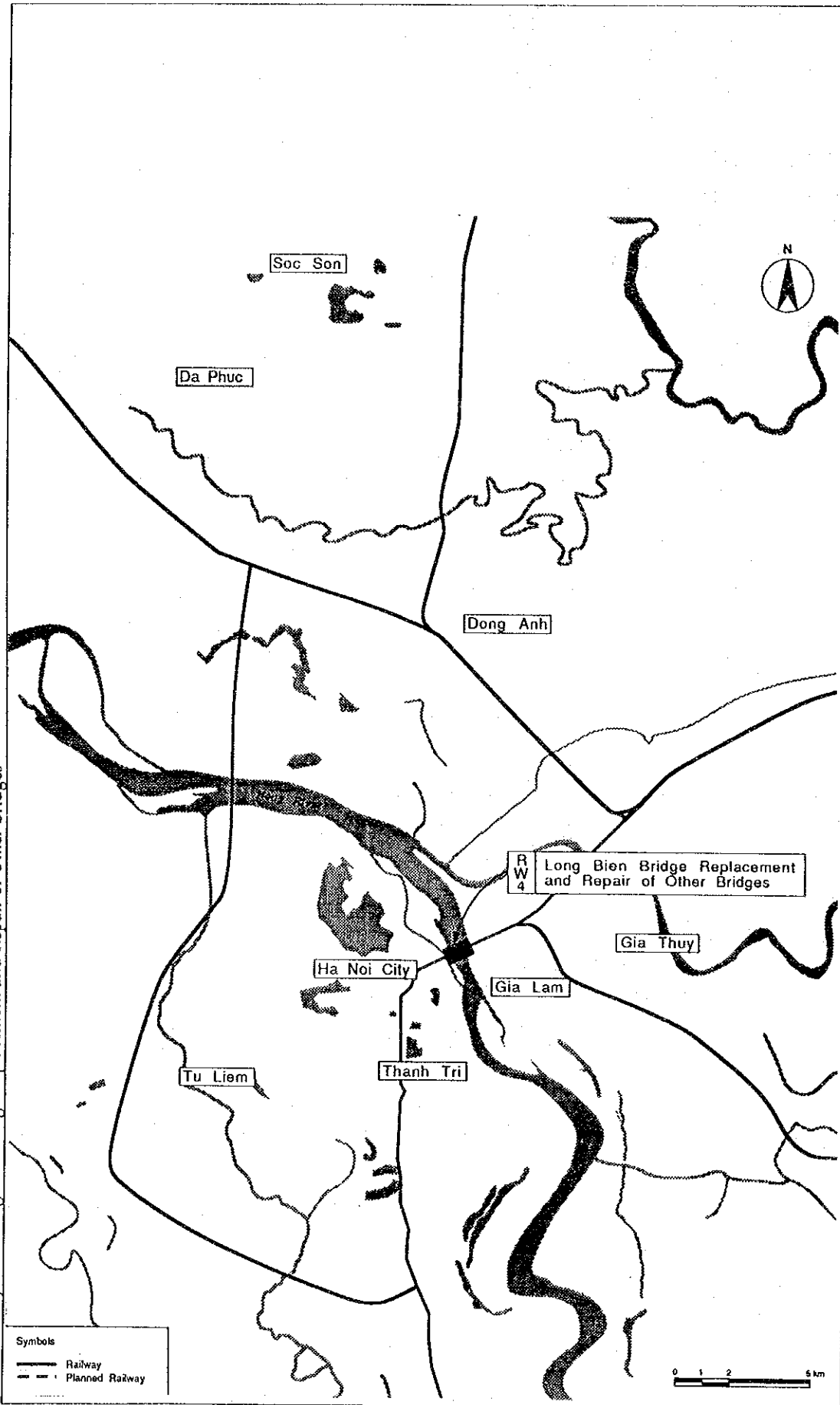
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 4	Name of Project: Long Bien Bridge Replacement and Repair of Other Bridges	Mode: Railway	Location: Ha Noi and other						
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: (1 US\$= 10,800 Dong)	US\$ ('000\$) Total 9,100 Foreign 8,500 Vietnam 1,800						
Operation Body: VNR	Section:		Technical Assistance <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:							
<p>The purpose of Stage 1 of this project is an introduction of modern technology concerned with bridges and soil. There are many issues which need to be studied by 2000. Technology, know-how and facilities for social and economical study, modern bridge and soil engineering will be transferred to Vietnam through this project. Cultivation of young engineers and technicians would be implemented by overseas training during the project. If execution of this project is carried on steadily until the year 2000, a new Long Bien bridge could be designed and constructed by Vietnamese themselves. Upgrading of basic knowledge on bridge and soil technology should be emphasized in order to reduce costs of bridge repair that will take a large budget share in the future. Cost for the project is small and the result of Stage 1 of the project would earn returns in terms of a reduction of cost for replacement of Long Bien bridge.</p> <p>The following issues need to be concluded by 2000:</p> <ul style="list-style-type: none"> - Whether existing caisson piers can still be used or not; - Loading scheme and construction standard of the bridge - Urgent repair plan for the present bridge - Necessity for double tracking - Replacement method for the upper structure - Whether raising height of the bridge is necessary or not - Establishment of a Bridge Design and Inspection Institute - Cultivation of young engineers and overseas training <p>Other bridges will be identified with a introduction of scientific equipment in the future.</p>		<p>Major Development Components:</p> <ul style="list-style-type: none"> - Study and inspection of Long Bien Bridge - Urgent repair of bridges - To establish a bridge design and inspection institute - Overseas training of engineers and technicians - A feasibility study on replacement of Long Bien Bridge <p>Because Long Bien Bridge is a historical inheritance, as for an environmental impact, the appearance of its eventual replacement must be considered in design.</p> <p>It may be better to construct several spans of the bridge with concrete beams and ballasted track in order to reduce noise.</p>							
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: RW - 4

Name of Project: Long Bien Bridge Replacement and Repair of Other Bridges



(Add sheets as required)

Code No.: RW - 4

Name of Project: Long Bien Bridge Replacement and Repair of Other Bridges

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Inspection of bridges	LS	1	2,500	2,500	2,300	200	92	8	
Study on the replacement of Long Bien Bridge	LS	1	3,300	3,000	2,750	250	92	8	
Urgent repair	LS	1	2,480	2,480	2,250	230	91	9	
Contingency				820	750	70	91	9	
A. Total of Direct Construction Cost				8,800	8,050	750	91	9	
B. Detailed Design & Supervision (C x 3.4 %)				300	250	50	83	17	
C. Land Acquisition Cost									
D. Total Project Cost				9,100	8,300	800	91	9	

Total Direct Cost (Price of 1993)

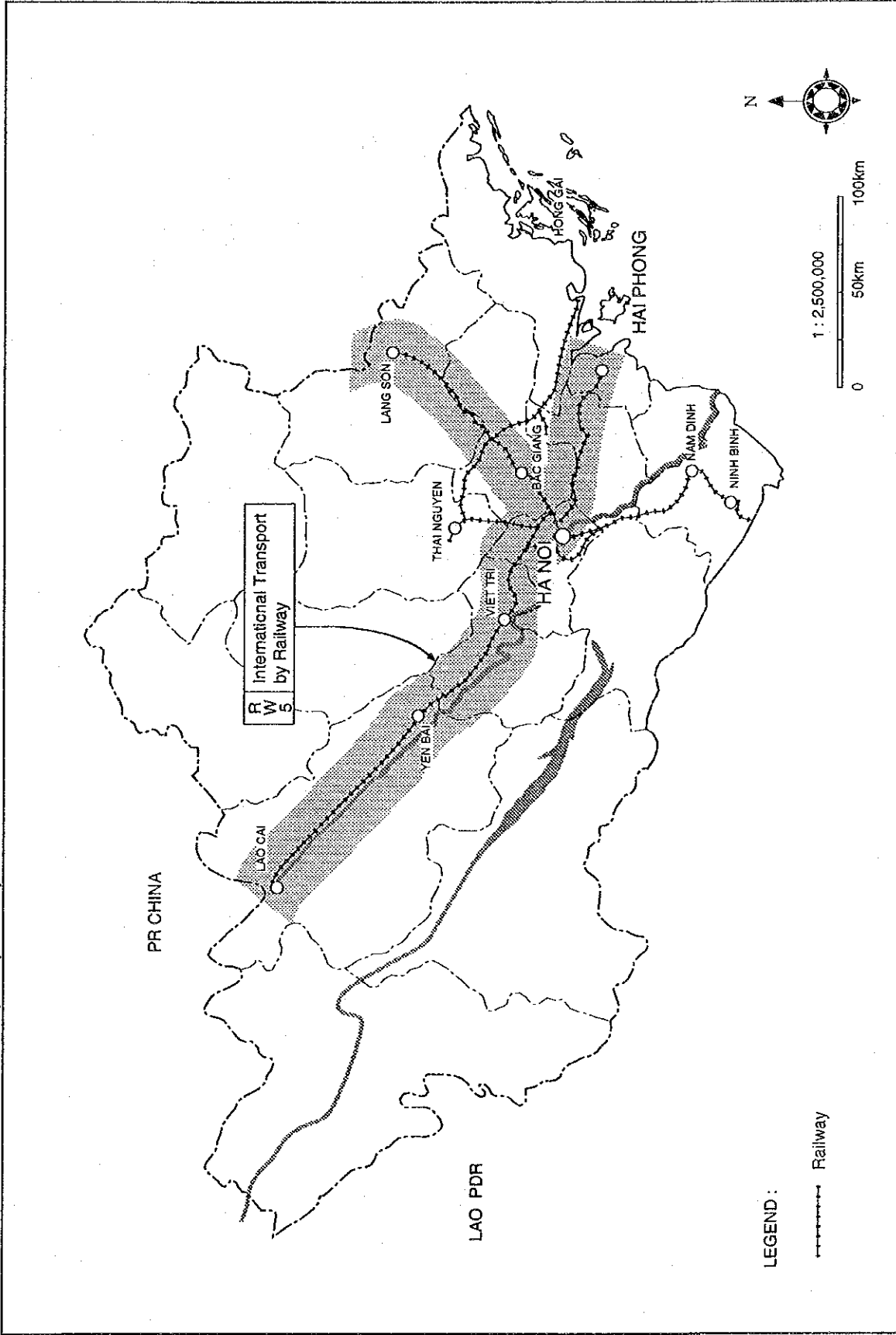
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 5	Name of Project: International Transport by Railways	Mode: Railway	Location: Dong Dang-Ha Noi, Hai Phong-Lao Cai										
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: (000\$) (1 US\$=	Technical Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/> Financial Assistance: req'd <input checked="" type="checkbox"/> not req'd <input type="checkbox"/>										
Operation Body: VNR	Section:	10,800 Dong)	US\$ (000\$) Total 64,200 Foreign 55,400 Vietnam 8,800										
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)													
<p>Diplomatic negotiations to reopen international transport between Vietnam and PR China are underway. Railway facilities for border connections have already been prepared. VNR currently expects an intergovernmental agreement which would have a favorable effect on railway transport demand and investment.</p> <p>International transport needs many agreements, contracts and manuals. Especially, tariffs, facilities and rolling stock to be used are very important negotiation items. VNR needs to have a reasonable plan and data for the project.</p> <p>Demand is not clear but it is assumed that this will include something less than 1 million tons from Kunming to Hai Phong, and several hundred thousand tons from Nanning to Ha Noi.</p> <p>One passenger train a day will be operated from Ha Noi to Kunming, and from Gia Lam to Nanning and Beijing respectively. One more train to Nanning will be added after 2000.</p> <p>Financial internal rate of return (FIRR) of the proposed project is assumed to be 5%. If new locomotives equivalent to D12E type are purchased, the deficit of VNR would be 28 million US\$ over 30 years. Therefore, existing idle locomotives are to be rehabilitated and used for the project.</p> <p>Dong Dang corridor will be opened as soon as possible.</p> <p>It is better to open Lao Cai corridor after 1997, because it is not clear how much demand will be added to the forecast by the inauguration of a new line between Kunming and Nanning.</p>		<p>Major Development Components:</p> <p>Hai Phong - Lao Cai: - Improvement of existing locomotives - Procurement of passenger cars - Manufacturing of freight cars - Improvement of signaling - Improvement of track and bridges</p> <p>Ha Noi - Dong Dang - Procurement of passenger cars - Loading facilities at Dong Dang and Yen Vien stations - Renovation of Gia Lam Station</p>											
Specific issues Remaining: One more passenger train through Dong Dang will be added after 2000. As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.													
Development Schedule	Serial Year	1st. Year (1995)	2nd. Year (1996)	3rd. Year (1997)	4th. Year (1998)	5th. Year (1999)	6th. Year ()	7th. Year ()					
Items	Calendar Month	3	6	9	12	3	6	9	12	3	6	9	12
	Serial Month												
1. Feasibility Study													
2. Detailed Design/Bid Documents													
3. Bidding/Negotiation													
4. Procurement & Implementation													

Code No.: RW - 5

Name of Project: International Transport by Railways



(Add Sheets as required)

Code No.: RW - 5

Name of Project: International Transport by Railways

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
<u>Lao Cai - Hai Phong</u>									
Improvement of D4H locomotives	loco.	48	60	2,880	2,400	480	83	17	
Procurement of passenger cars	car	10	502	5,020	4,920	100	98	2	
Manufacture of freight wagons	car	460	70	32,200	27,600	4,600	86	14	
Improvement of track	km	300	7	2,100	1,050	1,050	50	50	
Track construction and maintenance machines	LS	1		1,600	1,380	220	86	14	
Improvement of bridges	LS	1		600	500	100	83	17	
<u>Dong Dang - Ha Noi</u>									
Procurement of passenger cars	car	10	502	5,020	4,920	100	98	2	
Renovation of freight wagons	car	100	400	4,000	3,000	1,000	75	25	
Loading/unloading facilities (Dong Dan and Yen Vien)	unit	2	400	800	600	200	75	25	
Renovation of Gia Lam station	LS	1		80	0	80	0	100	
<u>Contingency</u>									
				5,480	5,000	480	91	9	
A. Total of Direct Construction Cost									
				59,780	51,370	8,410	86	14	
B. Detailed Design & Supervision (C x 7.3 %)									
				4,400	4,000	400	91	9	
C. Land Acquisition Cost									
				64,180	55,370	8,810	86	14	
D. Total Project Cost									

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

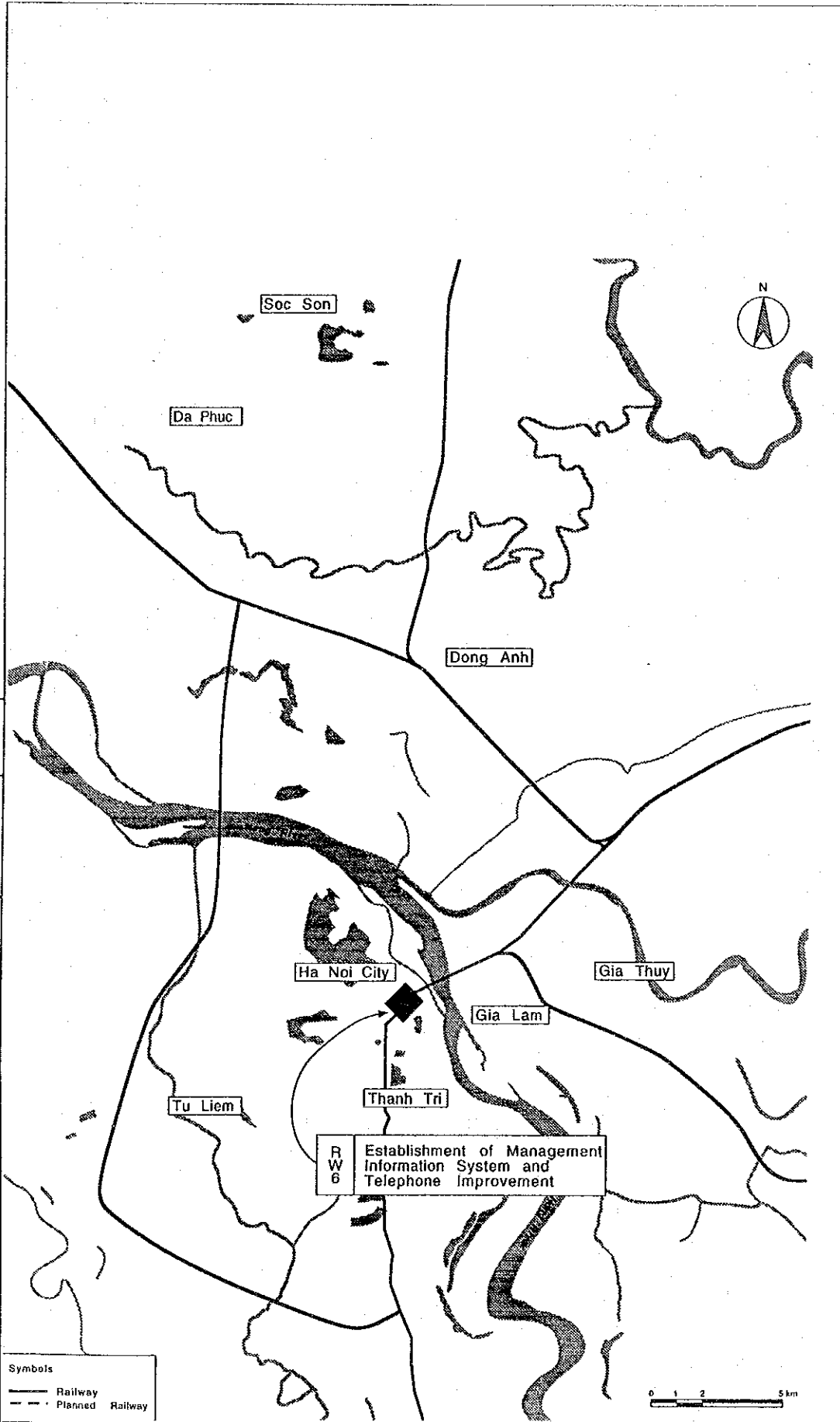
(Project Profile) Short-Term Development

Code No. RW - 6	Name of Project Establishment of Management Information System and Telephone Improvement	Mode: Railway	Location: Ha Noi		
Development Body: VNR	Ministry in-charge: MOIC	Project Cost: (000\$) (1 US\$=	US\$ (000\$)		
Operation Body: VNR	Section:	Total	9,600		
		Foreign	8,800		
		Vietnam	800		
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)		Specific Issues Remaining:			
<p>A computerized accounting system for profit/loss and cash flow accounts, as well as other business activity reports, needs to be developed as an on-site computer network. Computerization and telecommunication improvements are necessary in order to integrate all data into a Management Information System (MIS). The establishment of the MIS should be preceded by a review of current regulations and rules.</p> <p>Review and modernization of management system, rules, standards and manuals are essential in order to survive in a market economy and contribute to national development. This is an item for improvement of basic function. Cost for the project is small but its effect is large.</p> <p>Review and modernization of management will be implemented in this project first, before others proposed. Consequently, modern management systems and rules will be established by this project. The following management systems using computers are necessary for modernizing VNR's management:</p> <ul style="list-style-type: none"> - Management and administration data bank; - MIS on finance; - Passenger marketing and ticketing information system; - Cargo transport information system; - Train operation diagram by computer; - MIS on train operations; - MIS on rolling stock and workshops; - MIS on track maintenance; 		<p>Major Development Components:</p> <ul style="list-style-type: none"> - To establish a Management Information System - Review of current rules and systems. - To establish computer network for MIS <ul style="list-style-type: none"> • Management and administration data bank; • MIS on finance; • Passenger marketing and ticketing information system; • Cargo transport information system; • Train operation diagram by computer; • MIS on train operations; • MIS on rolling stock and workshops; • MIS on track maintenance; - Study on a master plan for telecommunication network - Replacement of telecommunication equipment 			
Development Schedule		4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)
Items	Calendar Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
	Serial Month				
1. Feasibility Study					
2. Detailed Design/Bid Documents					
3. Bidding/Negotiation					
4. Procurement & Implementation					

Code No.: RW - 6

Name of Project: Establishment of Management Information System and Telephone Improvement

Symbols
—— Railway
- - - Planned Railway



(Add sheets as required)

Code No.: RW - 6

Name of Project: Establishment of Management Information System and Telephone Improvement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Consulting service for MIS	LS	1	5,000	5,000	4,600	400	92	8	
Procurement of computer:									
Central devices	set	2	52	104	100	4	96	4	
Terminal devices	set	50	2.2	110	100	10	91	9	
Improvement of telephone system	LS	1	3,800	3,800	3,500	300	92	8	
Contingency				400	340	60	85	15	
A. Total of Direct Construction Cost				9,414	8,640	774	92	8	
B. Detailed Design & Supervision (C x 2.1 %)				200	150	50	75	25	
C. Land Acquisition Cost									
D. Total Project Cost				9,614	8,790	824	91	9	

Total Direct Cost (Price of 1993)

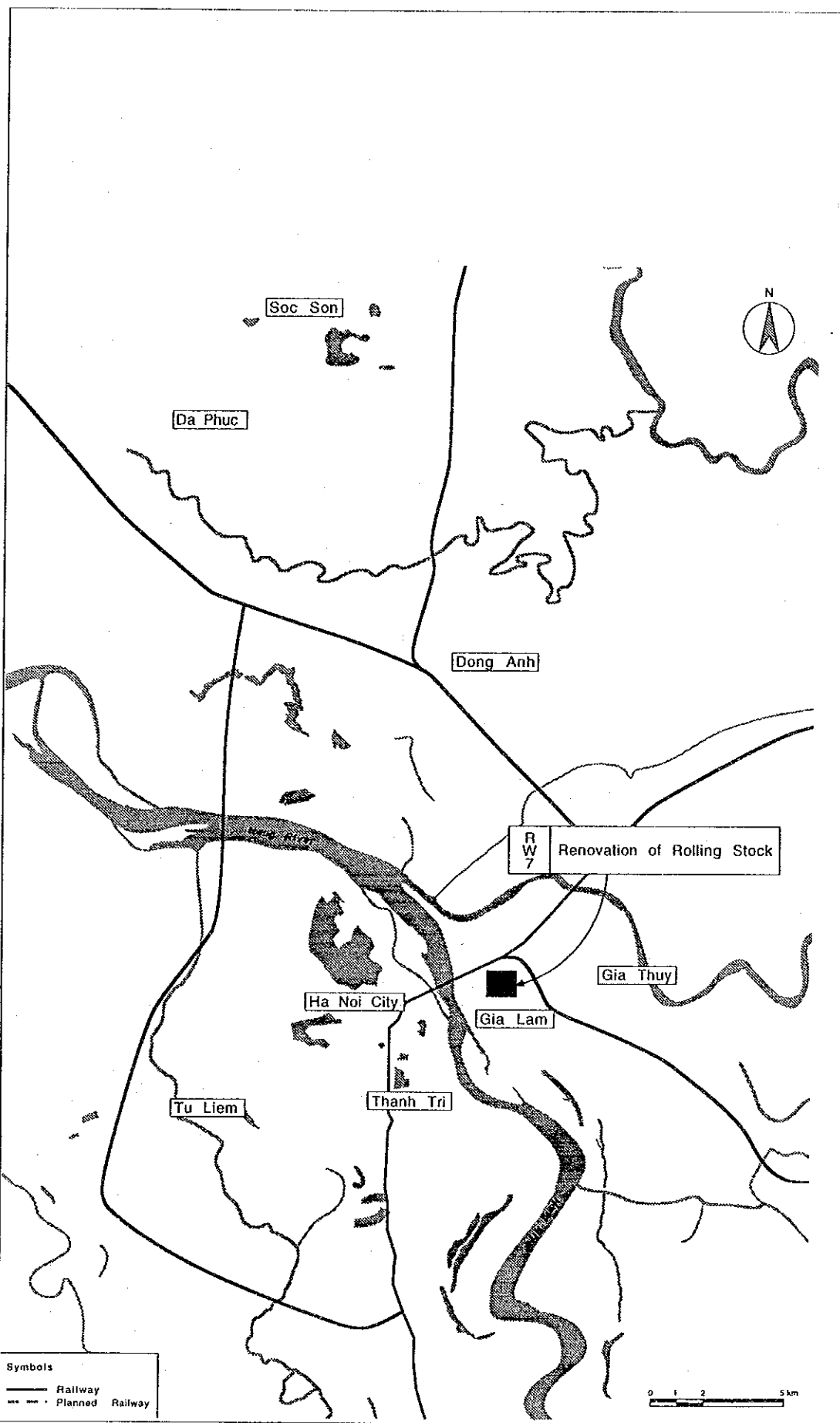
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 7	Name of Project: Renovation of Rolling Stock	Mode: Railway	Location: Ha Noi						
Development Body: VNR	Ministry in-charge: MOTC	Project Cost: (000\$) (1 US\$ = 10,800 Dong)	US\$ (000\$) 26,500 Foreign 22,500 Vietnam 4,000						
Operation Body: VNR	Section:		Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.) Locomotives, passenger cars and freight cars are essential marketing tools, and are necessary for basic function of railways. VNR has 247 D4H locomotives and they should be used for 15 more years with minor rehabilitation and improvement. Capacity of locomotives is low and passenger cars are so deteriorated that passengers hesitate to use railways. Funds for improving them are necessary, starting with the Gia Lam workshop improvement project. Coupling two D4H locomotives into a single locomotive with multiple-unit control equipment. Running parts of the D4H will be replaced in order to upgrade its maximum speed from the current 50 km/h to 70 km/h. Passenger cars need to be in reasonable condition in order to attract more passengers. Renovation of express passenger cars should be urgently implemented; current floor frames, bogies and couplers could be further used. The existing freight cars shall be modified to meet changing demand, since the type of transported commodities is likely to change.		Major Development Components: - Improvement of D4H locomotives - Renovation of passenger cars - Renovation of freight wagons - Design of renovation							
Specific Issues Remaining: This project should be combined with Gia Lam workshop improvement. As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.									
Development Schedule	Serial Year	1st. Year (1996)	2nd. Year (1997)	3rd. Year (1998)	4th. Year (1999)	5th. Year (2000)	6th. Year (2001)	7th. Year (2002)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: RW - 7

Name of Project: Renovation of Rolling Stock



(Add sheets as required)

Code No.: RW - 7

Name of Project: Renovation of Rolling Stock

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6)		(7) LCP	(8) %		Remarks
					FCP	Amount		FCP	LCP	
Improvement of D4H locomotives	loco	30	60	1,800	1,500	300	83	17		
Renovation of passenger cars	car	60	220	13,200	12,000	1,200	91	9		
Renovation of freight wagons	car	200	40	8,000	6,000	2,000	75	25		
Contingency				2,300	2,000	300	87	13		
A. Total of Direct Construction Cost				25,300	21,500	3,800	85	15		
B. Detailed Design & Supervision (C x 4.5 %)				1,150	1,000	150	87	13		
C. Land Acquisition Cost										
D. Total Project Cost				26,450	22,500	3,950	85	15		

Total Direct Cost (Price of 1993)

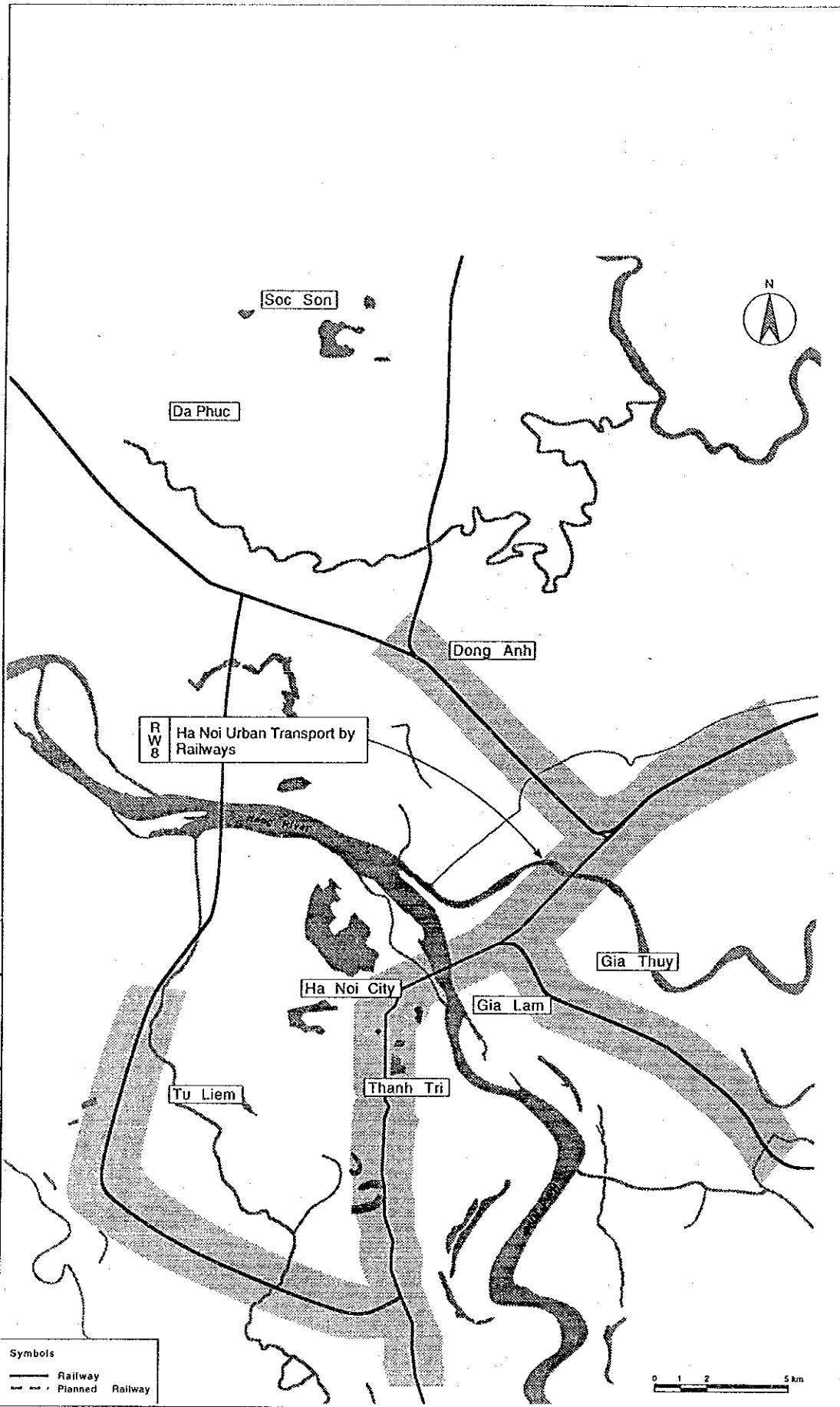
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 8	Name of Project: Ha Noi Urban Transport by Railways		Mode: Railway		Location: Ha Noi												
Development Body: VNR	Ministry in-charge: MOTC		Project Cost: ('000\$) (1 US\$=		US\$ ('000\$)												
Operation Body: VNR	Section:		10,800 Dong)		Total 13,000 Foreign 9,400 Vietnam 3,600												
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.)			Specific Issues Remaining:														
<p>Rapid urbanization and migration are forecast for Ha Noi. There is already a demand for public mass transport in the Ha Noi urban area. It is clear that VNR should play a role in commuter transport. Though some improvement costs must be incurred, it is possible at present to transport commuter using existing facilities, rolling stock and man power. This project should be implemented quickly in order to create new jobs for idled employees.</p> <p>As feeder services are not available now, railways instead ought to prepare passenger and freight cars to transport commuters with their bicycles and motorbikes. Raising the level of platforms to the height of the car's floor level is necessary in order to do this. Long distance trains should not arrive nor leave during peak hours. Since speed restriction on Long Bien bridge is a bottle neck for frequent commuter train operation, an urgent inspection and repair will be executed by experts from abroad.</p>			<p>Major Development Components:</p> <ul style="list-style-type: none"> - Improvement of D4H - Improvement of passenger cars - Improvement of stations: Ha Noi-Do Xa, Ha Noi-Bac Ninh, Ha Noi-Lac Dao, Ha Noi-Bac Hong (20 stations) - To equip level crossings alarms 														
<p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>																	
<p>Development Schedule</p>																	
Items	Serial Year	1st. Year (1994)		2nd. Year (1995)		3rd. Year (1996)		4th. Year (1997)		5th. Year (1998)		6th. Year (1999)		7th. Year (2000)			
	Calendar Month	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
1. Feasibility Study																	
2. Detailed Design/Bid Documents																	
3. Bidding/Negotiation																	
4. Procurement & Implementation																	

Code No.: RW - 8

Name of Project: Ha Noi Urban Transport Railways



(Add sheets as required)

Code No.: RW - 8

Name of Project: Ha Noi Urban Transport by Railways

Unit: US\$1,000

(2) Description	(3) Unit	(4) Qty	(5) Unit Cost	(6) Amount	(7) FCP	(8) LCP	(8) %		Remarks
							FCP	LCP	
Improvement of DMH locomotives	loco	8	55	440	400	40	91	9	
Improvement of passenger cars	car	32	110	3,520	3,200	320	91	9	
Improvement of wagons to transport bicycles	car	16	55	880	800	80	91	9	
Improvement of stations	sta.	20	200	4,000	2,000	2,000	50	50	
Improvement of automatic signal between Ha Noi and Gia Lam	unit	1	350	350	300	50	86	14	
Level crossing alarm equipment	set	20	75	1,500	900	600	60	40	
Contingency				1,100	800	300	73	27	
A. Total of Direct Construction Cost				11,790	8,400	3,390	71	29	
B. Detailed Design & Supervision (C x 10.2 %)				1,200	1,000	200	83	17	
C. Land Acquisition Cost									
D. Total Project Cost				12,990	9,400	3,590	72	28	

Total Direct Cost (Price of 1993)

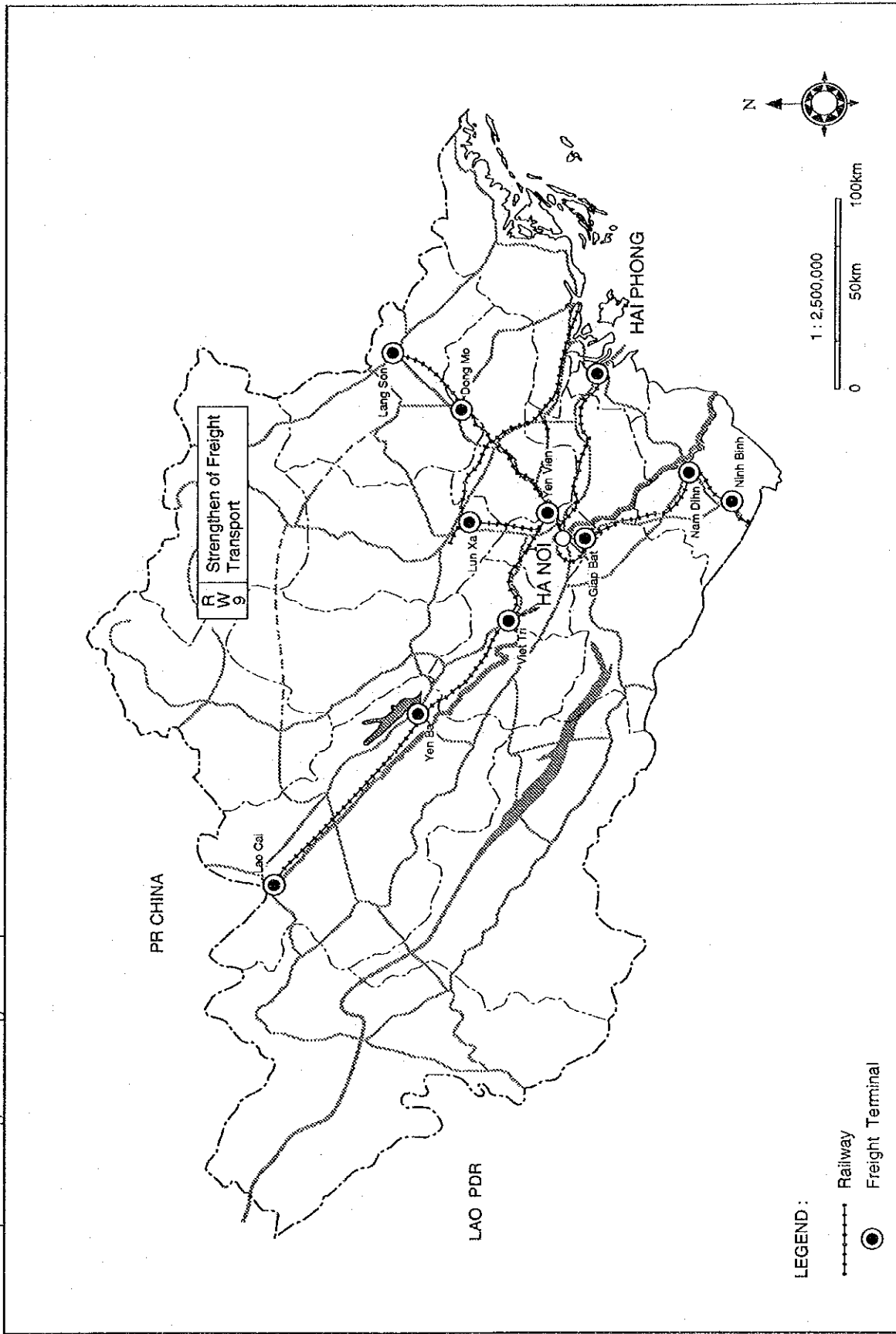
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. RW - 9	Name of Project Strengthen of Freight Transport	Mode: Railway	Location: Ha Noi
Development Body:	Ministry in-charge:	Project Cost: ('000\$)	Technical Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd
Operation Body:	Section:	10,800 Dong	Financial Assistance: <input checked="" type="checkbox"/> req'd <input type="checkbox"/> not req'd
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rationale etc.) Since bulk cargo is the main and most profitable business, improvement of railway services for customers is essential to secure bulk cargo for rail at present and in the future. These services include fixed and punctual freight train operation, cars fitted for bulk commodities, unloading facilities that reduce cost, and storehouses. VNR should assist cement, coal and oil companies to install unloading, stock and delivery facilities in station yards. Freight operation stations with small lots of cargo should be closed. On the other hand, the remaining stations should be equipped with loading and unloading facilities.		Major Development Components: - Loading/unloading facilities at main stations Giap Bat, Yen Vien, Dong Mo, Hai Phong, Viet Tri, Yen Bai, Lao Cai, Nam Dinh, Nin Binh, Luu Xa; (10 stations) - Cement terminals Giap Bat, Yen Vien, Lang Son, Viet Tri, Yen Bai, Nam Dinh, Luu Xa; (7 stations) - Coal Terminals Yen Vien, Yen Bai; (2 stations) - Oil terminals Yen Vien, Yen Bai, Lang Son, Lao Cai, Luu Xa; (5 stations)	
Specific Issues Remaining: As for an environmental impact, bulk cargo stock yards are separated from residential area.			
Development Schedule Items 1. Feasibility Study 2. Detailed Design/Bid Documents 3. Bidding/Negotiation 4. Procurement & Implementation		1st. Year (1996) 2nd. Year (1997) 3rd. Year (1998) 4th. Year (1999) 5th. Year (2000) 6th. Year () 7th. Year ()	
Serial Year Calendar Month Serial Month		3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12 3 6 9 12	

Code No.: RW - 9

Name of Project: Strengthen of Freight Transport



(Add Sheets as required)

Code No.: RW - 9

Name of Project: Strengthening of Freight Transport

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Loading/unloading facilities	set	10	900	9,000	6,000	3,000	67	33	
Cement terminal	place	7	900	6,300	3,500	2,800	56	44	
Coal terminal	place	2	650	1,300	700	600	54	46	
Oil terminal	place	5	800	4,000	2,500	1,500	63	37	
Contingency				2,100	1,300	800	62	38	
A. Total of Direct Construction Cost				22,700	14,000	8,700	62	38	
B. Detailed Design & Supervision (C x 9.7 %)				2,200	2,000	200	91	9	
C. Land Acquisition Cost									
D. Total Project Cost				24,900	16,000	8,900	64	36	

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

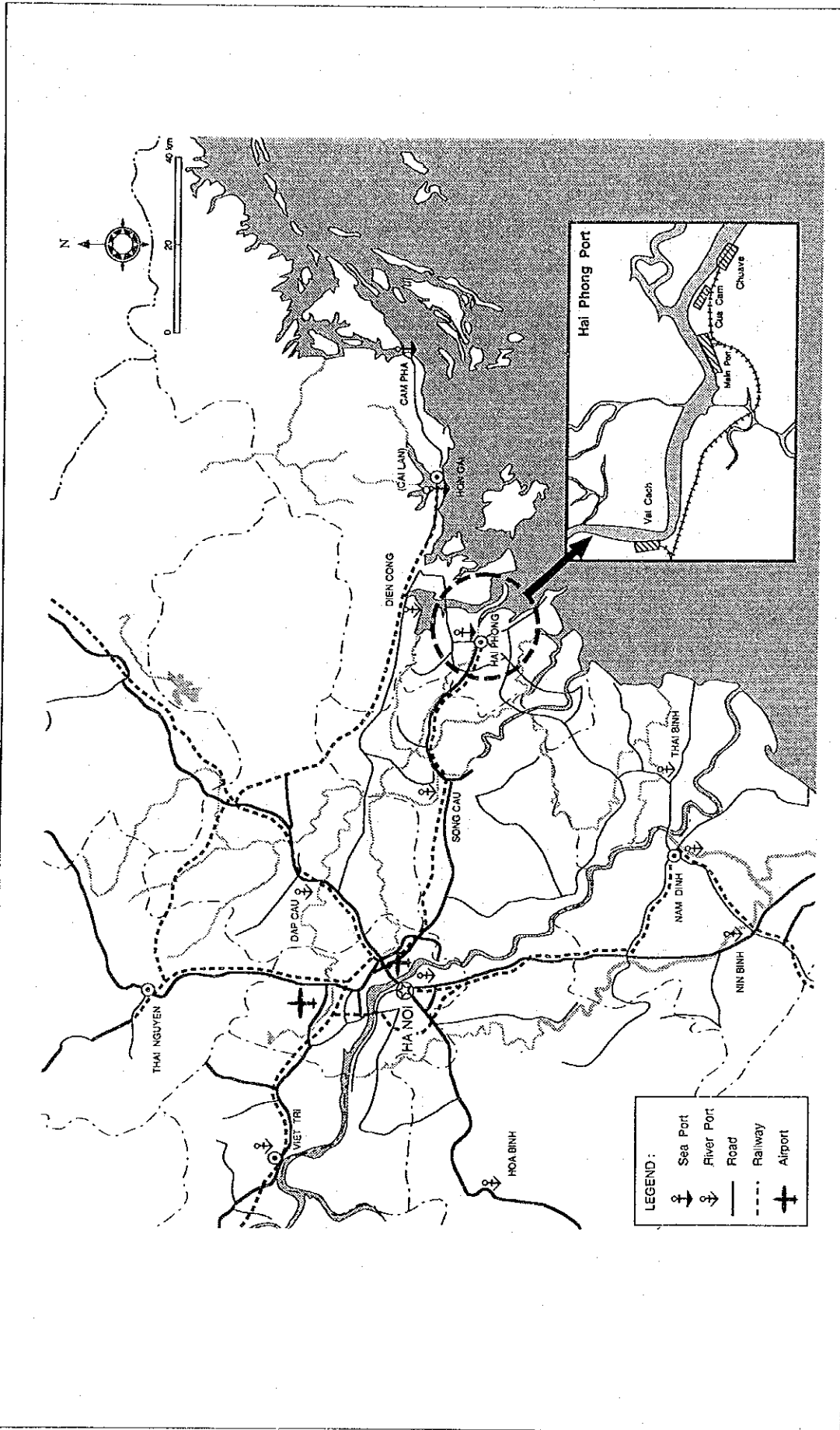
PORT PROJECTS

(Project Profile) Short-Term Development

Code No. PS - 1	Name of Project Hai Phong Port Urgent Rehabilitation	Mode: Port and Sea Transport	Location: Hai Phong						
Development Body: VINAMARINE, MOTC	Ministry in-charge: Ministry of Transport and Communications	Project Cost: ('000\$) (1 US\$=	Technical Assistance <input type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Operation Body:	Section: 10,800 Dong)	Total 145,200 Foreign 108,551 Vietnam 36,649							
Brief of Project: (Ext. condition, Dev. Framework, Beneficiaries, Rational etc.)		Specific Issues Remaining:							
<p>Hai Phong Port plays an important role as the only international sea-transportation base in the northern part of Vietnam. In spite of the importance of Hai Phong Port, the cargo throughput has been decreasing constantly (2.4 million ton in 1992), and large-size vessels more than 6 ~ 7 thousand D/W can't enter the Port in a fully loaded condition.</p> <p>The reasons for this situation of a low level of port activities are;</p> <ul style="list-style-type: none"> - the limited previous development of the economic and industrial activities of Vietnam - the shallowness of the entrance channel of the Port <p>In accordance with the current take-off of economic and industrial development, the international cargo transportation is expected to sharply increase. It is estimated that the cargo throughput of Hai Phong Port should be 5 million tons (including 1.5 million tons of containers) in the year 2000.</p> <p>In order to cope with this situation it is urgently required for Hai Phong Port to improve its capacity and its efficiency of cargo handling, especially dredging of the entrance channel and improvement of the container handling facilities.</p> <p>The feasibility study was completed and the loan agreement has been made with OECF.</p>		<p>Major Development Components:</p> <ul style="list-style-type: none"> - dredging of the entrance channel - yard expansion, yard improvement - berth improvement - building construction - equipment - boats (dredger, etc.) <p>Survey (study) for opening a new entrance channel with deeper water depth is required.</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>							
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: PS - 1

Name of Project: Hai Phong Port Urgent Rehabilitation .



(Add sheets as required)

Code No.: PS-1

Name of Project: Hai Phong Port Urgent Rehabilitation

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Initial Dredging for channel -6.0 m									
- Basin area	m ²	1,110,000	0.007	7,770	5,439	2,331	70	30	
- Cua cam area	m ²	900,000	0.044	3,600	2,520	1,080	70	30	
- Back dang area	m ²	2,490,000	0.0058	14,442	10,109	4,333	70	30	
- Nam trier area	m ²	6,440,000	0.004	25,760	18,032	7,728	70	30	
- Dikes 6 nos.	ls	1		3,300	1,980	1,320	60	40	
Hopper suction dredger (capacity 3,000)	Nos	1		15,000	15,000	0	100	0	
(Cuave)									
Construction									
- Yard expansion	m ²	52,000	0.04	2,080	0	0			
- Yard improvement	m ²	25,000	0.02	500	1,248	832	60	40	
- Reinforcement of berth	m	66	50	3,300	300	200	60	40	
- Construction of 2 CFS building	m ²	2,000	0.4	800	1,980	1,320	60	40	
Procurement of equipment									
- Container handling equipment	ls			15,050	12,040	3,010	80	20	
(Main Port)									
Construction									
- Warehouse demolish	ls	1		400	0	0			
- Office construction	m ²	800	0.75	600	240	160	60	40	
- Yard pavement	m ²	76,000	0.02	1,520	420	180	70	30	
- Electric power supply	is	1	1,700	1,700	912	608	60	40	
- Light	Nos	4	313	1,252	1,002	250	80	20	
- Reefer	Nos	20	4	80	64	16	80	20	
Procurement of equipment									
- Container handling equipment	ls			11,050	8,840	2,210	80	20	
- Conventional cargo handling equipment	ls			7,477	5,982	1,495	80	20	

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

Code No.: PS-1

Name of Project: Hai Phong Port Urgent Rehabilitation

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Others									
- Computer network, technical training, survey system, etc.				4,319	3,455	864	80	20	
Sub-total				120,000	91,483	28,517			
Contingency	%	10		12,000	9,148	2,852			
Procurement of equipment									
(Cuave)									
Container handling equipment									
- Transfer crane 35 - 40 t	Nos	5	1,700	8,500					
- Chassis	Nos	10	30	300					
- Tractor	Nos	10	90	900					
- Toplifter 25 - 35 t	Nos	2	300	600					
- CFS chassis	Nos	6	30	180					
- Forklift 2 - 3 t	Nos	5	34	170					
- Reach stacker	Nos	1	400	400					
- Tugboat	Nos	2	2,000	4,000					
Sub-total				15,050					
(Main Port)									
Container handling equipment									
- Transfer crane 35 - 40 t	Nos	5	1,700	5,800					
- Chassis	Nos	10	30	300					
- Tractor	Nos	10	90	900					
- Toplifter 25 - 35 t	Nos	2	300	600					
- CFS Chassis	Nos	6	30	180					
- Forklift 2 - 3 t	Nos	5	34	170					
- Reach Stackers	Nos	1	400	400					
Sub-total				11,050					

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

Code No.: PS-1

Name of Project: Hai Phong Port Urgent Rehabilitation

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Conventional cargo handling equipment									
- Truck	Nos	35	93	3,255					
- Tractor head	Nos	10	110	1,100					
- Chassis	Nos	20	70	1,400					
- Forklift 2 - 10 t	Nos	26	42	1,092					
- Bulldozer	Nos	8	60	480					
- Pallets	Nos	1	150	150					
Sub-total				7,477					
A. Total of Direct Construction Cost	%	10		132,000	100,631	31,369			
B. Detailed Design & Supervision (C x %)	%	10		13,200	7,920	5,280	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				145,200	108,551	36,649			

Total Direct Cost (Price of 1993)

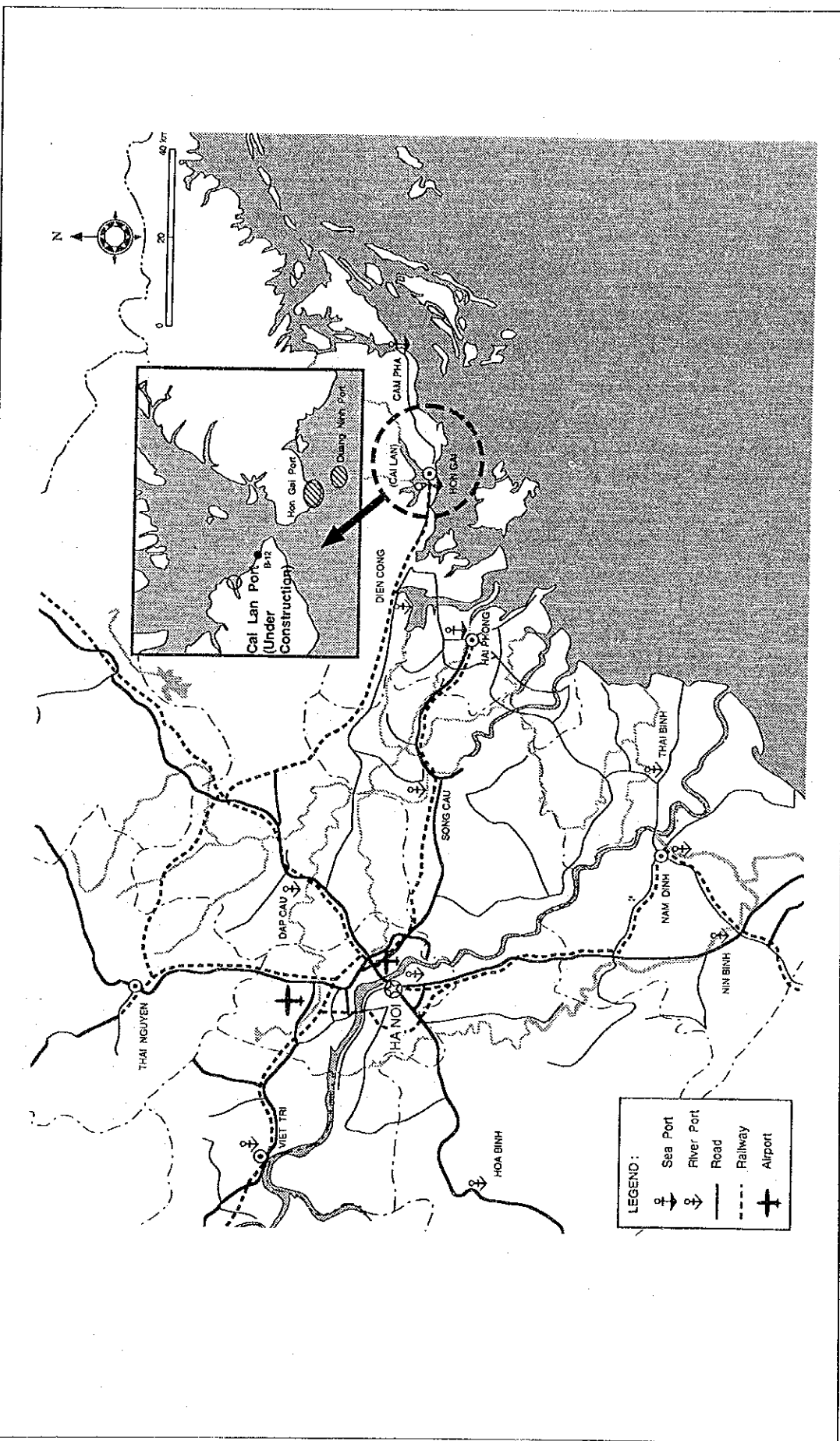
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. PS-3	Name of Project Cai Lan Port Development	Mode: Port and Sea Transport	Location: Cai Lan						
Development Body: VINAMARINE	Ministry in-charge: Ministry of Transport and Communications	Project Cost: (000\$) (1 US\$=)	US\$ (000\$)						
Operation Body: VINAMARINE	Section:	Total	165,194						
		Foreign	113,996						
		Vietnam	52,198						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.)	<p>Major Development Components:</p> <ul style="list-style-type: none"> - berth construction (berths of -9m) - yard construction - building construction - equipment - dredging (entrance channel, anchorage, turning basin, etc.) - road and railway connection 								
<p>In accordance with the economic and industrial development of Vietnam, international cargo transportation is expected to be sharply increased. It is estimated that total cargo throughput (general cargo) should be 5.9 million tons in 2000 and 15.2 million tons in 2010.</p> <p>It is impossible to accept this total volume of cargo throughput only via Hai Phong Port, even after its proposed improvement. Especially the larger sized ships can't enter Hai Phong Port.</p> <p>In order to cope with this situation, especially to accept the larger-sized ships now used in international transportation, a new port would be developed. The cargo throughput of the Port is estimates as 1 million ton in the year 2000 and 6.3 million ton (including 0.6 million ton of container) in the year 2010. Note: Cai Lan is named in the project title because that is one possible site, but there are potentially substantial environmental problems and loss of tourist incomes which may indicate another choice.</p> <p>Cai Lan or whatever other port site may be chosen, should be developed step by step while checking carefully the influence on the natural environment and the dredging condition of the sea bottom.</p> <p>The feasibility study is being undertaken by JICA.</p>	<p>Specific Issues Remaining:</p> <p>An in-depth study on environmental influence of the port development should be carried out before any decision is taken on constructing it have.</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>								
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: PS - 3

Name of Project: Cai Lan Port Development



(Add sheets as required)

Code No.: PS-3

Name of Project: Cai Lan Port Development

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Construction of berth (-9.0 m)	m	495	40	19,800	11,880	7,920	60	40	
Construction of Yard (825 x 200 = 165,000 m ²)	m ²	525,000	0.005	2,625	1,838	787	70	30	
- Reclamation (165,000 - 60,000) x 5 = 525,000 m ²)	m ²	165,000	0.04	6,600	3,960	2,640	60	40	
Construction of building									
- Port office	m ²	800	0.75	600	420	180	70	30	
- Shed (12,600 m ²)	m ²	12,600	0.4	5,040	3,528	1,512	70	30	
Procurement of conventional handling equipment									
- Truck	Nos	18	93	1,674	1,339	335	80	20	
- Tractor head	Nos	5	110	550	440	110	80	20	
- Chassis	Nos	10	70	700	560	140	80	20	
- Forklift 2 - 10 t	Nos	13	42	546	437	109	80	20	
- Bulldozer	Nos	4	60	240	192	48	80	20	
- Pallets	Nos	1	150	150	120	30	80	20	
Dredging									
- Navigation channel (-7 m, breadth 150 m)	m ²	5,625,000	0.004	22,500	15,750	6,750	70	30	
- Anchorage and turning basin (-7 m)	m ²	10,265,000	0.005	51,325	35,928	15,397	70	30	
Navigation aid									
- Buoy in channel	Nos	16	1,000	16,000	12,800	3,200	80	20	
- Light house	Nos	1		4,000	3,200	800	80	20	
Removing and reconstruction of B-12 oil terminal	ls	1		5,000	3,000	2,000	60	40	
Sub-total				137,350	95,392	41,958			
Contingency	%	10		13,735	9,539	4,196			
A. Total of Direct Construction Cost				151,085	104,931	46,154			
B. Detailed Design & Supervision (C x %)	%	10		15,109	9,065	6,044	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				166,194	113,996	52,198			

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong

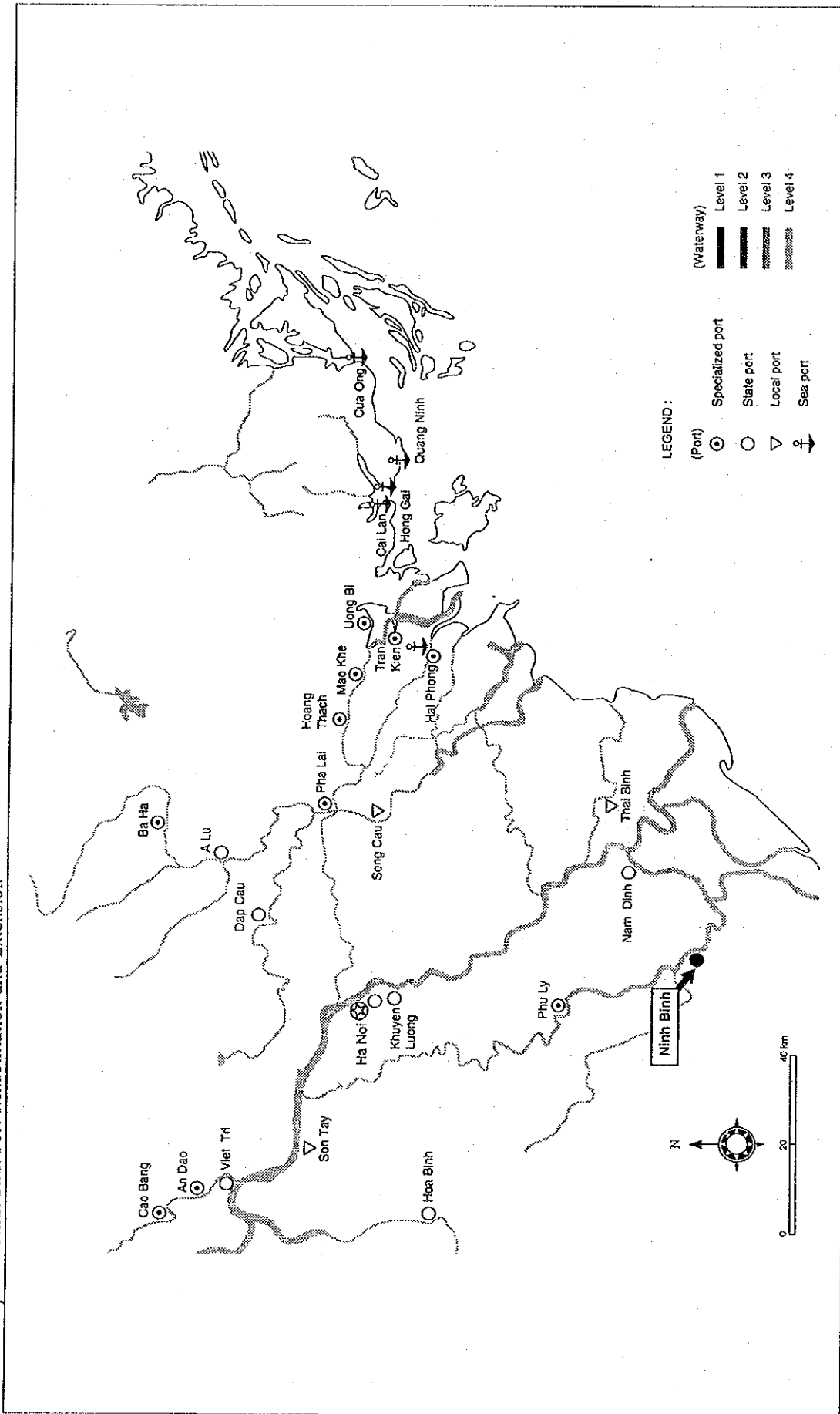
INLAND WATERWAY PROJECTS

(Project Profile) Short-Term Development

Code No. IW - 1	Name of Project: Ninh Binh Port Rehabilitation and Extension	Mode: Inland Waterway	Location: Ninh Binh (Ninh Binh Province)						
Development Body: Inland Waterway Bureau (IWB)	Ministry in-charge: Ministry of Transport and Communications	Project Cost: (000\$) (1 US\$= 10,800 Dong)	US\$ (000\$) 17,625 11,327 6,298						
Operation Body: IWB	Section: IWB	Total	Technical Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd						
		Foreign	Financial Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd						
		Vietnam							
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.)									
<p>Ninh Binh and its neighboring zone is one of the more important industrial areas in northern Vietnam. Ninh Binh port is the biggest of the river ports, located at the center of this zone, and has a major role in transportation. However the cargo handling volume in the year 1992 was reduced to only two thirds of the cargo volume in the year 1988. (1988 - about 500 thousand tons, 1992 - about 300 thousand tons).</p> <p>One of the main reasons is that the port facilities and equipment are outdated. In the near future, Ninh Binh thermal power plant will be expanded, and the two big new cement plants (But Son and Tan Diep) will be constructed. The cargo handling volume of this port, (mainly coal, construction materials and cement) is forecasted at 2 million tons in the year 2000, and 3 million tons in 2010.</p> <p>Therefore the rehabilitation and improvement of this port will be required in three steps. At first it will be necessary to rehabilitate urgently the existing facilities and equipment. In the second and third steps the new port at Ninh Phu, which is located at 4 km distance downstream from the existing port on the Day River, will have to be built, having 0.4 million tons capacity until the year 2000, and 1.4 million tons capacity until the year 2010.</p>		<p>Major Development Components:</p> <p>(the existing port)</p> <ul style="list-style-type: none"> - Rehabilitation of port facilities: 3 berths, 5 ha stockyard - Repair of port equipment (7 cranes, 40 materials-handling machines) <p>(the new port)</p> <ul style="list-style-type: none"> - Construction of port facilities: 6 berths (length 400 m, width 12 m, for 1,000 DWT and 400 - 800 ton barges.), 3 ha stockyard - Acquisition of port equipment: 6 cranes, some materials-handling machines <p>Specific Issues Remaining:</p> <ul style="list-style-type: none"> - to identify useful applications for the surplus space made available by redevelopment. <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>							
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: IW - 1

Name of Project: Ninh Binh Port Rehabilitation and Extension



(Add sheets as required)

Code No.: IW-1

Name of Project: Ninh Binh Port Rehabilitation and Extension

Unit: US\$1,000

Description	(2) Unit	(3) Qty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
The Existing Port (-2000)									
- Rehabilitation of 3 existing jetties l = 13.5 m, w = 10 m, h = 8 m	m ²	405	0.5	202	101	101	50	50	
- Procurement of equipment									
shovel	Nos	5	70	350	280	70	80	20	
bulldozer	Nos	7	60	420	336	84	80	20	
truck	Nos	25	93	2,325	1,860	465	80	20	
The New Port (-2000)									
- Construction of 6 berths of 12 m x 400	m	4,800	1.5	7,200	3,600	3,600	50	50	
- Grading of yard	m ²	30,000	0.0005	15	3	12	20	80	
- Procurement of equipment									
fixed type unloading crane 200 t/h movable crane	Nos	1	400	400	320	80	80	20	
shovel	Nos	5	350	1,750	1,400	350	80	20	
bulldozer	Nos	3	70	210	168	42	80	20	
truck	Nos	5	60	300	240	60	80	20	
	Nos	15	93	1,395	1,116	279	80	20	
Subtotal				14,567	9,424	5,143			
Contingency	%	10		1,456	942	514			
A. Total of Direct Construction Cost				16,023	10,366	5,657			
B. Detailed Design & Supervision (C x %)	%	10		1,602	961	641	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				17,625	11,327	6,298			

Total Direct Cost (Price of 1993)

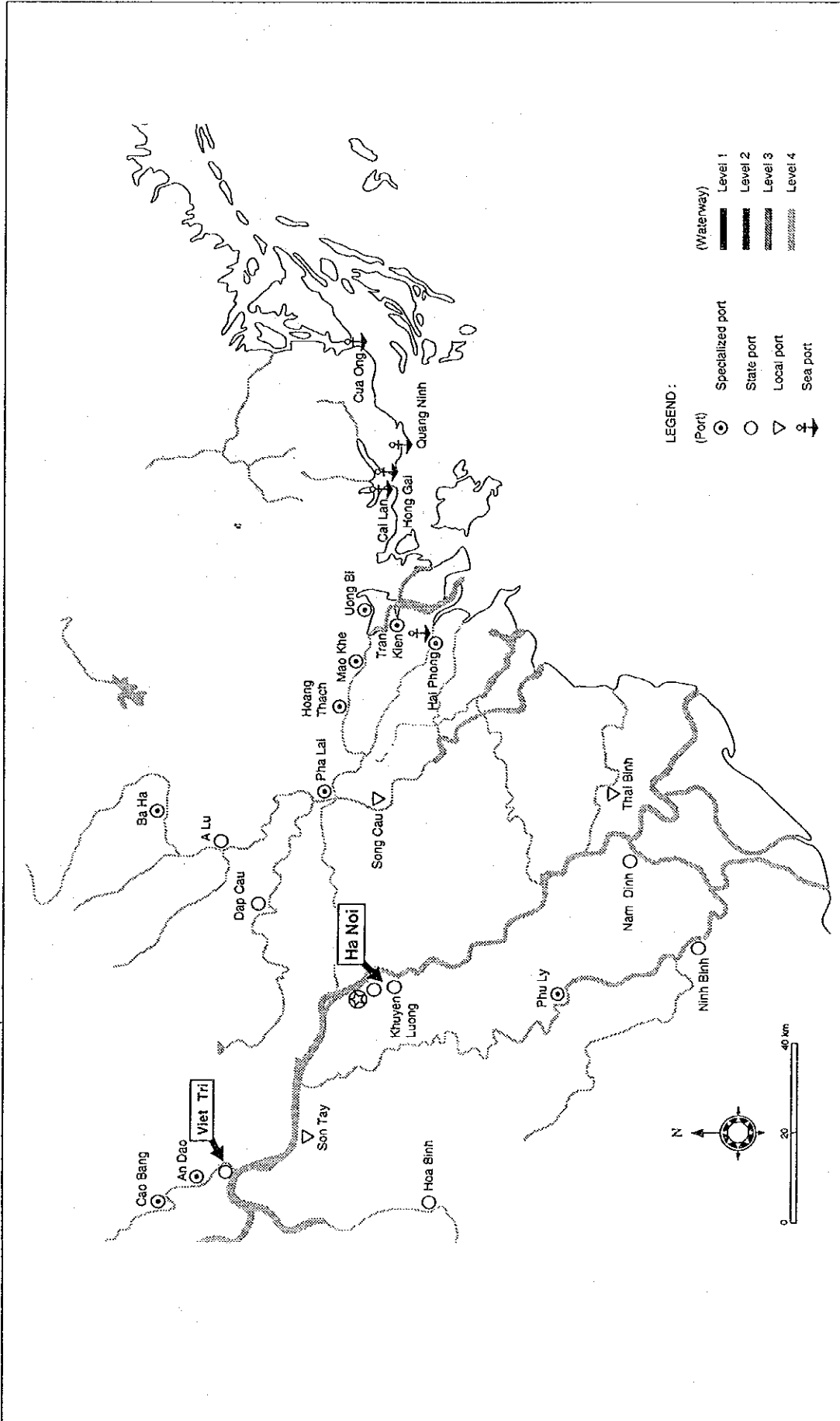
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. IW - 2	Name of Project: Ha Noi and Viet Tri Port Improvement	Mode: Inland Waterway	Location: Ha Noi (Ha Noi City) and Viet Tri (Vinh Phu Province)						
Development Body: Inland Waterway Bureau (IWB)	Ministry in-charge: Ministry of Transport and Communications	Project Cost: (000\$) (1 US\$=	Technical Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Operation Body: IWB	Section: Section:	10,800 Dong)	Financial Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.)		Specific Issues Remaining:							
<p>Ha Noi port is located in the Ha Noi Capital zone, and Viet Tri port is at the center of the northern industrial area in the study region. Both of these ports are important components in their respective zones of inland waterway transportation, although their port facilities and equipment are outdated. Therefore the cargo handling volume of these ports is reduced. But the demand forecast to the year 2000 for cargo handling at these ports calls for moving about two to three times the present volume. Ha Noi port cargo volume may be about 1.5 million tons, and Viet Tri port cargo volume approximately 1 million tons. Therefore the port facilities and equipment of the both ports will be improved and rearranged to more efficiently keep pace with the forecasted cargo volume.</p>		<p>Major Development Components:</p> <ul style="list-style-type: none"> - Improvement and Rehabilitation of port facilities - Viet Tri port: 3 berths for flood season, 2.6 ha stockyard - Ha Noi port: 2 berths for flood season, 3 berths for dry season, 2.9 ha stockyard - Renewal and Repair of port equipment (cranes, materials handling machines) - Viet Tri port: 11 cranes, some materials handling machines - Ha Noi port: 11 cranes, some materials handling machines 							
<p>to identify useful applications for the surplus space made available by redevelopment.</p> <p>As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>									
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)	
Items	Calendar Month	3	6	9	12	3	6	9	12
	Serial Month								
1. Feasibility Study									
2. Detailed Design/Bid Documents									
3. Bidding/Negotiation									
4. Procurement & Implementation									

Code No.: IW - 2

Name of Project: Ha Noi and Viet Tri Port Improvement



(Add sheets as required)

Code No.: IW-2

Name of Project: Ha Noi and Viet Tri Port Improvement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Ha Noi (-2000)									
- Rehabilitation of 2 existing jetties for rainy season, l = 140 m, w = 13m, h = 9 m	m	1,820	0.5	910	455	455	50	50	
- Rehabilitation of 3 existing jetties for dry season, l = 35 m, w = 13m, h = 7 m	m ²	455	0.5	227	113	114	50	50	
- Procurement of equipment									
fixed type of unloading crane 200 t/h	Nos	4	2,000	8,000	6,400	1,600	80	20	
movable crane 35-40 t	Nos	5	1,700	8,500	6,800	1,700	80	20	
bulldozer 3- 6 t	Nos	2	60	120	96	24	80	20	
truck 11t	Nos	10	93	930	744	186	80	20	
Subtotal				18,687	14,608	4,079			
Contingency	%	10		1,868	1,460	408			

Code No.: IW-2

Name of Project: Ha Noi and Viet Tri Port Improvement

Unit: US\$,1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
Viet Tri (-2000)									
- Rehabilitation of 3 existing jetties for rainy season, l = 10 m, w = 10m, h = 8 m	m	100	0.5	50	25	25	50	50	
- Rehabilitation of 3 existing jetties for dry season, l = 20 m, w = 30m, h = 7 m	m ²	600	0.5	300	150	150	50	50	
- Grading of yard		26000	0.0005	13	3	10	20	80	
- Procurement of equipment									
fixed type of unloading crane 200 t/h	Nos	2	400	800	640	160	80	20	
movable crane	Nos	9	350	3,150	2,520	630	80	20	
bulldozer	Nos	3	60	180	144	36	80	20	
truck	Nos	14	93	1,302	1,042	260	80	20	
Subtotal				5,795	4,524	1,271			
Contingency		10		579	452	127			
A. Total of Direct Construction Cost				26,929	21,044	5,885			
B. Detailed Design & Supervision (C x %)				2,693	1,616	1,077			
C. Land Acquisition Cost									
D. Total Project Cost				29,622	22,660	6,962			

Total Direct Cost (Price of 1993)

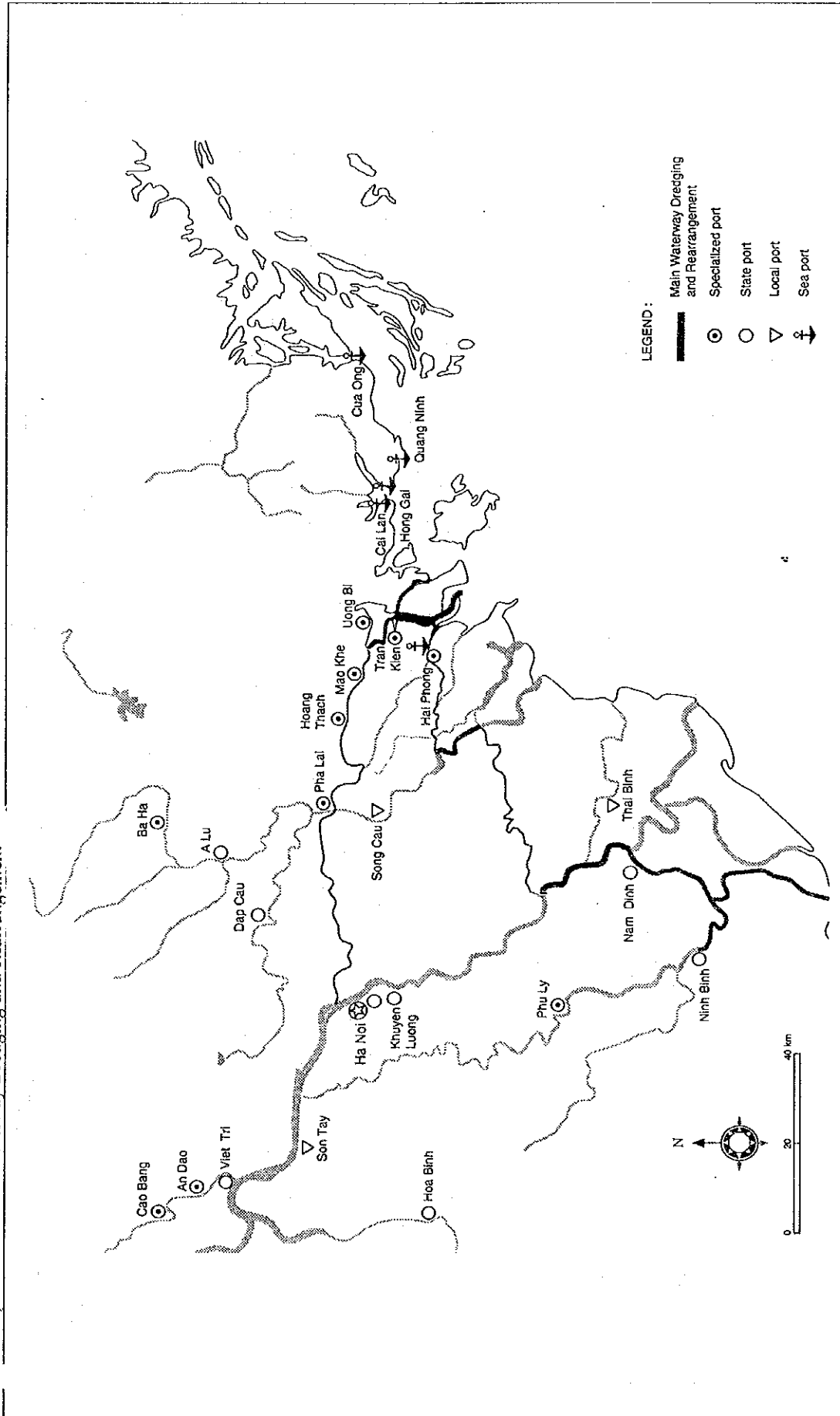
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. IW - 3	Name of Project: The Main Waterway Dredging and Rearrangement	Mode: Inland Waterway	Location: Quang Ninh-Hai Phong-Pha Lai (on Da Bach, Mac Khe river) Hai Phong-Nam Dinh-Ninh Binh (Day river) Pha Lai-Hai Noi-Viet Tri (on Duong Hong, Lo river)					
Development Body: Inland Waterway Bureau (IWB)	Ministry in-charge: Ministry of Transport and Communications	Project Cost: ('000\$) Total 7,599 Foreign 3,869 Vietnam 3,730	Technical Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd					
Operation Body: IWB	Section: Inland Waterway Bureau (IWB)	Project Cost: (10,000 Dong) 10,800 Dong						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.)		Specific Issues Remaining:						
<p>In northern Vietnam, the water level of the rivers fluctuates heavily throughout the year. There are many shallows and steep curvatures in the inland waterways because of heavy siltation and erosion along the river banks. Therefore the navigation of the transport fleet is frequently difficult. Dredging and re-alignment of the rivers are required to maintain the proper water depth for navigation. In future the inland waterway transport will be specialized in coal and construction materials, and a high priority must be attached to ensuring maintenance of adequate water levels. Following are the highest-priority routes: 1. Quang Ninh-Hai Phong-Pha Lai (140 km), 2. Hai Phong-Nam Dinh-Ninh Binh (220 km), 3. Ninh Binh-mouth of Day river (60 km), 4. Pha Lai-Hai Noi-Viet Tri (160 km). It is recommended to further upgrade these waterways after 2010, to accommodate larger vessels. The shifted coastal route from Quang Ninh to Ninh Binh will be a better route for larger-sized vessels. In this case, the access from the coast to this route will be via the Ninh Co river estuary, because it will be better than the Day river estuary that has problems of river-mouth closure, but it will necessary to cut a new canal connecting the Nin Co and Day rivers in the vicinity of Quan Lieu.</p>		<p>Major Development Components: (dredging) - Quang Ninh-Hai Phong-Pha Lai route 1.0 million m³ (included 1,000 m³ of cutting off of the river beds) - Hai Phong-Nam Dinh-Ninh Binh route 0.3 million m³ - Ninh Binh-mouth of Day river route 0.8 million m³ - Pha Lai-Hai Noi-Viet Tri route 0.3 million m³</p>						
		<p>- to prepare the precise schedule and to carry out effective execution. As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.</p>						
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)
Items	Calendar Month	3	6	9	12	3	6	9
	Serial Month							
1. Feasibility Study								
2. Detailed Design/Bid Documents								
3. Bidding/Negotiation								
4. Procurement & Implementation								

Code No.: JW - 3

Name of Project: The Main Waterway Dredging and Rearrangement



(Add sheets as required)

Code No.: IW-3

Name of Project: The Main Waterway Dredging and Rearrangement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(-2000)									
Water way dredging in the river between									
- Quang Ninh and Hoang Tach (-1996)	m ³	650,000	0.002	1,300	650	650	50	50	
- ditto - (Rock)	m ³	100,000	0.02	2,000	1,000	1,000	50	50	
- Hoang Thach and Pha Lai	m ³	300,000	0.002	600	300	300	50	50	
- Pha Rai and Ha Noi	m ³	100,000	0.002	200	100	100	50	50	
- Hai Phong and Nam Dinh	m ³	300,000	0.002	600	300	300	50	50	
- the mouth of Day rever and Ninh Binh	m ³	790,000	0.002	1,580	790	790	50	50	
Subtotal				6,280	3,140	3,140			
Contingency	%	10		628	314	314			
A. Total of Direct Construction Cost				6,908	3,454	3,454			
B. Detailed Design & Supervision (C x %)	%	10		691	415	276	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				7,599	3,869	3,730			

Total Direct Cost (Price of 1993)

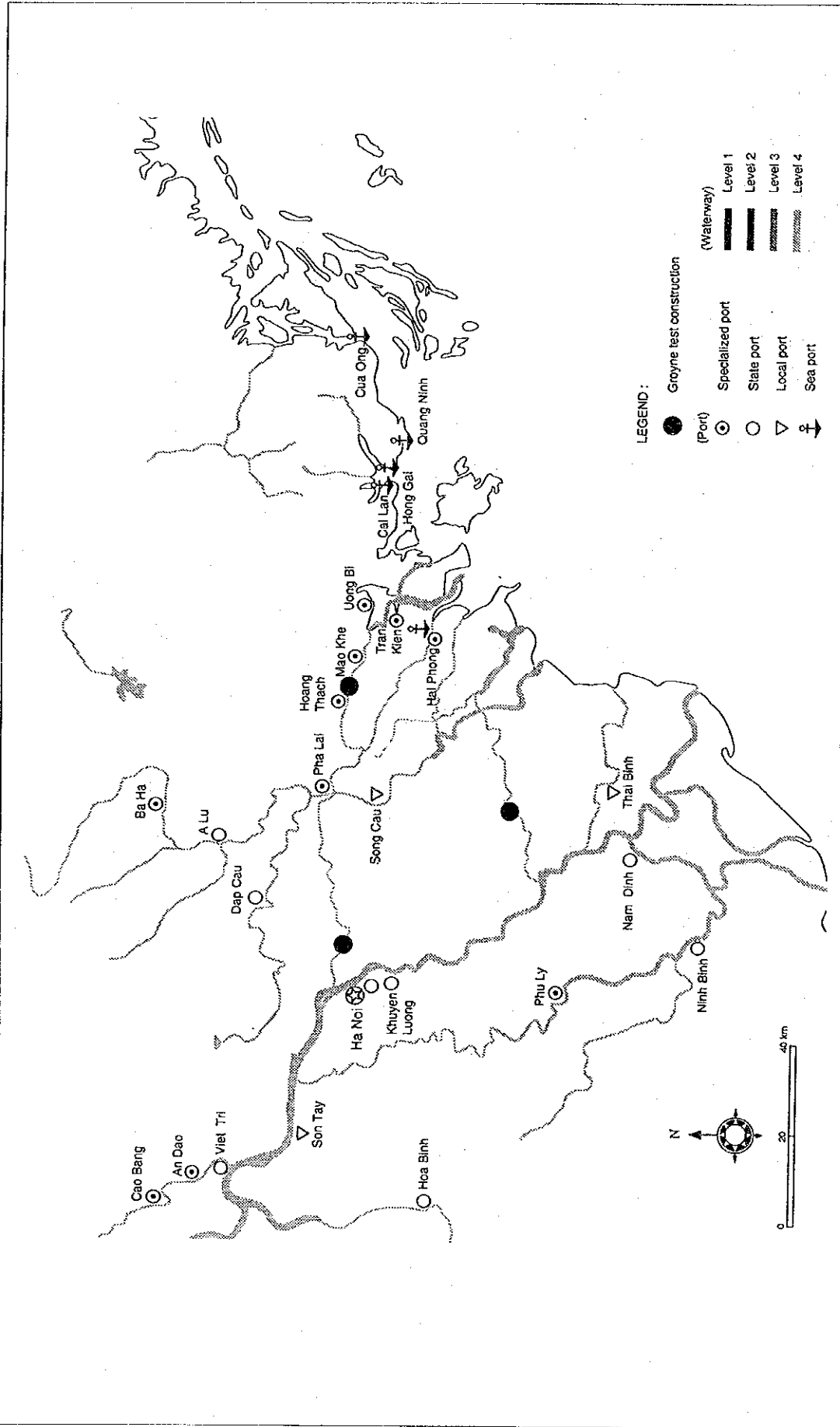
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. IW - 4	Name of Project: Groyne Test Construction and Hydrologic Survey	Mode: Inland Waterway	Location: Quang Ninh-Hai Phong-Pha Lai Hai Phong-Nam Dinh-Ninh Binh														
Development Body: Inland Waterway Bureau (IWB)	Ministry in-charge: Ministry of Transport and Communications	Project Cost: (000\$) (1 US\$=	US\$ (000\$)														
Operation Body: IWB	Section:	10,800 Dong)	Total	182													
			Foreign	43													
			Vietnam	139													
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.)				Specific Issues Remaining:													
<p>Groyne is an effective construction for protection of river banks and stabilization of river current, so it is helpful in maintaining the water depth of a river. After the year 2010, the inland waterway transportation will be operated by larger-sized vessels to correspond with the increased cargo demand. It is recommended to construct groyne at any suitable positions in the main waterway routes, especially the Quang Ninh-Hai Phong-Pha Lai route and the Hai Phong-Ninh Binh route, as well as dredging and deepening the river bed. At the first stage, until the year 2000, the groyne will be constructed experimentally. Then the hydrological effects of those first groyne installations will be monitored and analyzed for a period of two to three years, in order to determine the most suitable methods of construction. In the next stage, from the year 2001 to 2010, groyne will be constructed regularly to correspond with navigation of larger-sized vessels.</p>				<p>Major Development Components:</p> <ul style="list-style-type: none"> (experimental construction) - Mao Khe river 1 point (length 500 m along both banks) - Duong river 1 point (length 300 m along both banks) - Luoc river 1 point (length 300 m along both banks) 													
				<ul style="list-style-type: none"> - to study carefully the result of test construction As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3. 													
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)									
Items	Calendar Month	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
	Serial Month																
1. Feasibility Study																	
2. Detailed Design/Bid Documents																	
3. Bidding/Negotiation																	
4. Procurement & Implementation																	

Code No.: IW - 4

Name of Project: Groyne Test Construction and Hydrologic Survey



(Add sheets as required)

Code No.: IW-4

Name of Project: Groyne Test Construction and Hydrologic Survey

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(-2000) Installation of Groins for test and analyze 1 = 100 m/each, 10 groins, total 1,000 m	m	1,000	0.15	150	30	12	20	80	
Subtotal				150	30	120			
Contingency	%	10		15	3	12			
A. Total of Direct Construction Cost				165	33	132			
B. Detailed Design & Supervision (C x %)	%	10		17	10	7	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				182	43	139			

Total Direct Cost (Price of 1993)

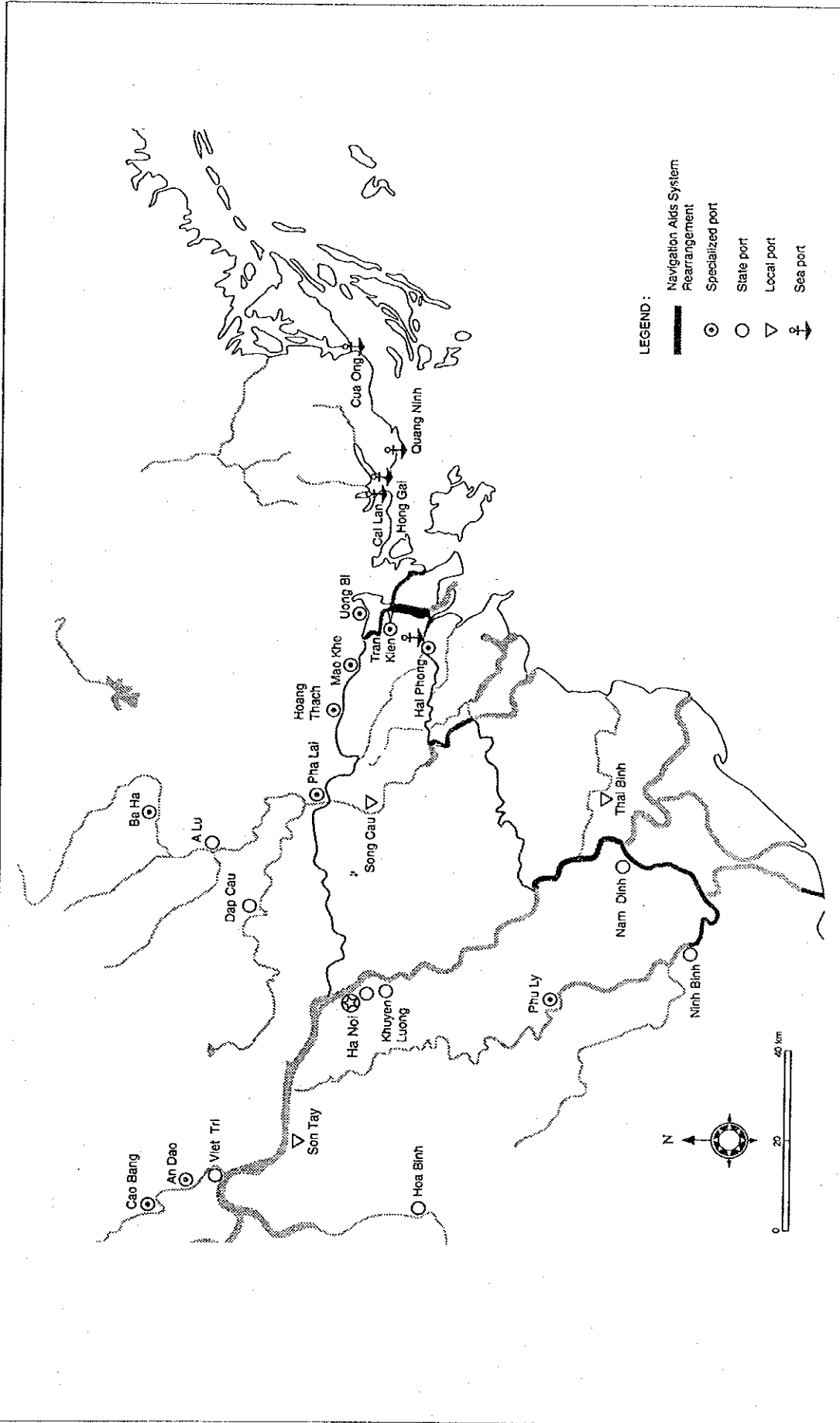
Exchange rate: 1US\$ = 10,800 Dong

(Project Profile) Short-Term Development

Code No. IW - 5	Name of Project: Navigation Aids System Rearrangement	Mode: Inland Waterway	Location: Quang Ninh-Hai Phong-Pha Lai-Ha Noi Hai Phong-Nam Dinh-Ninh Binh The mouth of Day river-Ninh Binh					
Development Body: Inland Waterway Bureau (IWB)	Ministry in-charge: Ministry of Transport and Communications	Project Cost: (000\$) 10,800 Dong	Technical Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd Financial Assistance: <input type="checkbox"/> req'd <input type="checkbox"/> not req'd					
Operation Body: IWB	Section:	Total 773 Foreign 183 Vietnam 590						
Brief of Project: (Exst. condition, Dev. Framework, Beneficiaries, Rational etc.) The approximately 1,400 markers making up the existing navigation aids system are not enough and they are outdated. In addition, the transport fleet can navigate only during the daytime, because the light signals are offer mis-functioning. On the main waterway routes, a program of renovating the navigation aids system to bring it no to current standards should be carried out during the period until the year 2000, along with dredging and improvement of the river bed. The priority waterway routes for renovating the navigation system are: 1.-Quang Ninh-Hai Phong-Pha Lai-Ha Noi, 2. -Hai Phong-Nam Dinh-Ninh Binh, 3. -mouth of Day river-Ninh Binh. One new type of signal is operated by electricity and powered by solar batteries. After the year 2010, a night navigation system suitable for larger vessels should be set up on the two main routes, Quang Ninh-Hai Phong-Pha Lai and Quang Ninh-Hai Phong-Ninh Binh (via the coastal route).		Major Development Components: - to re-install markers (buoys, beacons, land markers, etc.) - Quang Ninh-Hai Phong-Pha Lai-Ha Noi route: about 700 markers, - Hai Phong-Nam Dinh-Ninh Binh route: about 380 markers, - Quang Ninh-Ninh Binh coastal route: about 60 markers.						
		Specific Issues Remaining: - to study to make up the system of center-control by communication network after the year 2010. - a feasibility study for a central control system for waterways signals, via the telecommunications networks. As for an environmental impact, please refer to chapter 2, Initial Environmental Examination, Volume 3.						
Development Schedule	Serial Year	1st. Year (1994)	2nd. Year (1995)	3rd. Year (1996)	4th. Year (1997)	5th. Year (1998)	6th. Year (1999)	7th. Year (2000)
	Calendar Month Serial Month	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12	3 6 9 12
Items								
1. Feasibility Study								
2. Detailed Design/Bid Documents								
3. Bidding/Negotiation								
4. Procurement & Implementation								

Code No.: IW - 5

Name of Project: Navigation Aids System Rearrangement



(Add sheets as required)

Code No.: IW-5

Name of Project: Navigation Aids System Rearrangement

Unit: US\$1,000

Description	(2) Unit	(3) Q'ty	(4) Unit Cost	(5) Amount	(6) FCP	(7) LCP	(8) %		Remarks
							FCP	LCP	
(-2000)									
Rehabilitation of Navigation Aid Quang Ninh - Pha Lai, 140 km									
- buoy	Nos	53	1	53	11	42	20	80	
- signal board	Nos	244	0.5	122	24	98	20	80	
Pha Lai - Ha Noi - Viet Tri									
- buoy	Nos	35	1	35	7	28	20	80	
- signal board	Nos	348	0.5	174	35	139	20	80	
Hai Phong - Nam Dinh - Ninh Binh									
- buoy	Nos	60	1	60	12	48	20	80	
- signal board	Nos	320	0.5	160	32	128	20	80	
Estuary of Day river - Ninh Binh									
- buoy	Nos	10	1	10	2	8	20	80	
- signal board	Nos	50	0.5	25	5	20	20	80	
Subtotal				639	128	511			
Contingency	%	10		64	13	51			
A. Total of Direct Construction Cost				703	141	562			
B. Detailed Design & Supervision (C x %)	%	10		70	42	28	60	40	
C. Land Acquisition Cost									
D. Total Project Cost				773	183	590			

Total Direct Cost (Price of 1993)

Exchange rate: 1US\$ = 10,800 Dong