

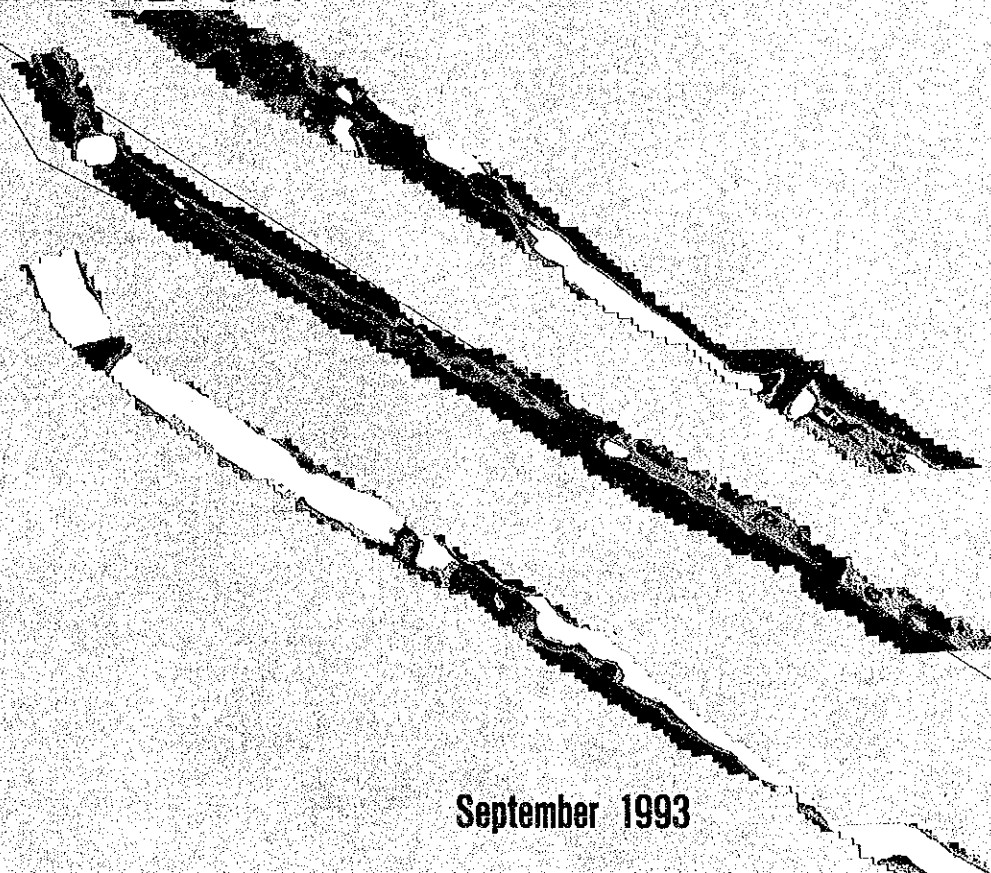
社会開発調査部報告書

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF TRANSPORT AND COMMUNICATION
THE SOCIALIST REPUBLIC OF VIET NAM

THE URGENT REHABILITATION PLAN OF HAI PHONG PORT THE MASTER PLAN STUDY ON THE TRANSPORT DEVELOPMENT IN THE NORTHERN PART OF THE SOCIALIST REPUBLIC OF VIET NAM FINAL REPORT



THE URGENT REHABILITATION PLAN OF HAI PHONG PORT AND THE MASTER PLAN STUDY ON THE TRANSPORT DEVELOPMENT IN THE NORTHERN PART OF THE SOCIALIST REPUBLIC OF VIET NAM

September 1993

THE OVERSEAS COASTAL AREA DEVELOPMENT INSTITUTE OF JAPAN (OCDI)
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**THE URGENT REHABILITATION PLAN OF HAI PHONG PORT
THE MASTER PLAN STUDY ON THE TRANSPORT DEVELOPMENT
IN THE NORTHERN PART OF THE SOCIALIST REPUBLIC
OF VIET NAM
FINAL REPORT**

September 1993

PREFACE

In response to a request from the Government of the Socialist Republic of Viet Nam, the Government of Japan decided to conduct a feasibility study on the Urgent Rehabilitation Plan of Hai Phong Port and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Viet Nam a study team headed by Mr. Takahisa Sogabe, Senior Adviser of the Overseas Coastal Area Development Institute of Japan, from June 23 to August 21 in 1993.

The team conducted field survey at the study area and held discussions with officials concerned of the Government of Viet Nam. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Viet Nam for their close cooperation extended to the team.

September 1993



Kensuke Yanagiya
President
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

September, 1993

Mr. Kensuke Yanagiya
President
Japan International Cooperation Agency
Tokyo, Japan

Dear Mr. Yanagiya,

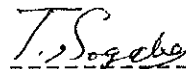
We are very pleased to submit herewith the Report on the Transport Development in the Northern Part (the urgent Rehabilitation Plan of Hai Phong Port) in the Socialist Republic of Viet Nam.

The Study Team, which consists of the Overseas Coastal Area Development Institute of Japan and Nippon Koei Co., Ltd conducted a survey in Viet Nam from June to August 1993 at the contract of the Japan International Cooperation Agency. The findings of this survey were fully discussed with Vietnamese counterparts to formulate and examine the feasibility of the Urgent Rehabilitation Plan on Navigation Channel, Main Port and Chua Ve Container Terminal for the period up to 1998.

In view of the urgency of rehabilitation of Hai Phong Port and of the need for transport development in northern part in Viet Nam, we earnestly wish that the Plan herein proposed will be implemented at the earliest possible time by the Government of Viet Nam.

We, the Study Team members, would like to express our deep appreciation to the central Government of Viet Nam, Viet Nam National maritime Bureau, Hai Phong Port Authority and other organizations concerned for their kind cooperation and assistance and heartfelt hospitality which they extended to the Team during our stay in Viet Nam. We are also much obliged to the Japan International Cooperation Agency, the Ministry of Transport and the Japanese Embassy in Viet Nam, for giving us valuable suggestions and assistance during the study period.

Respectfully,



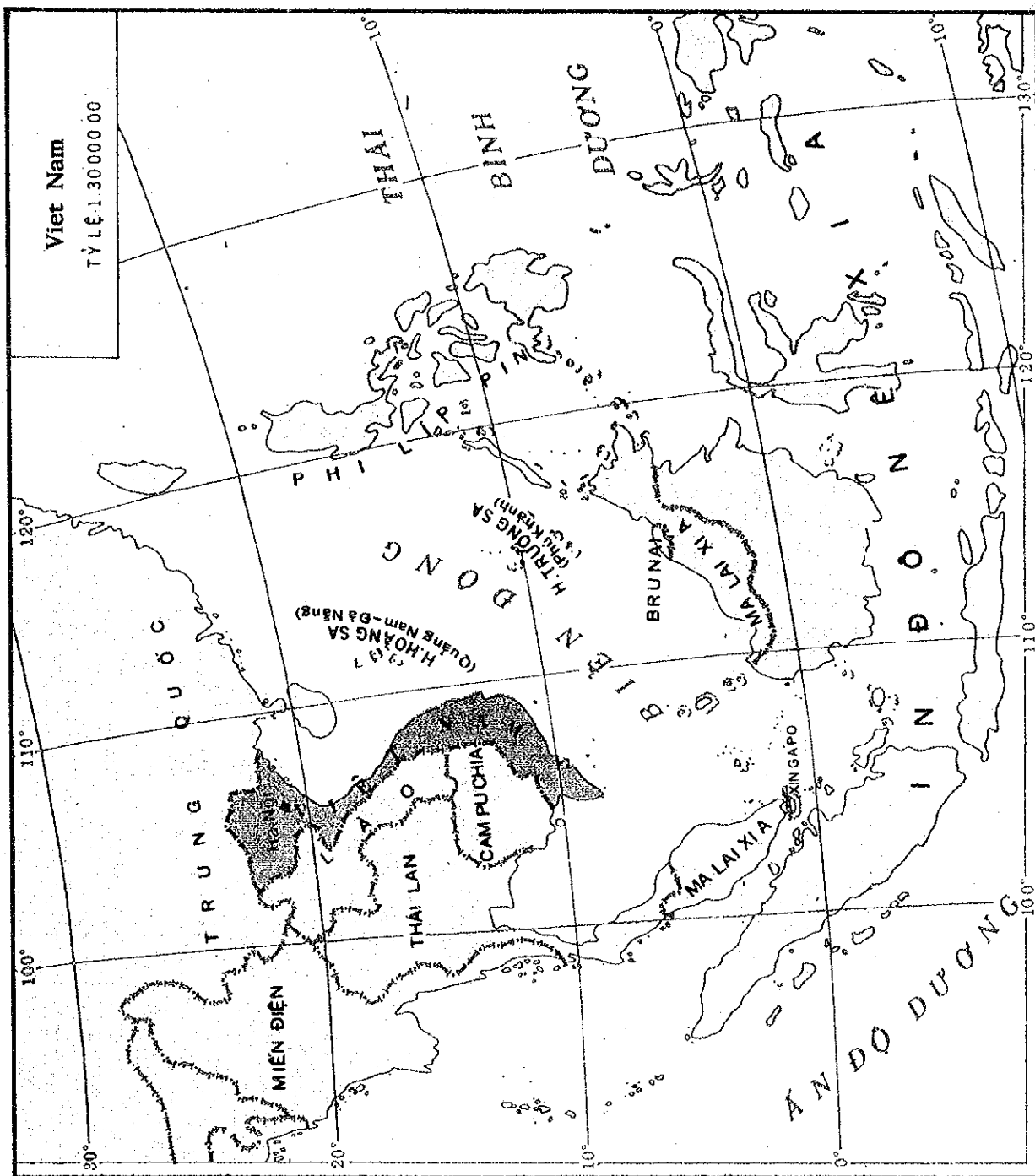
Takahisa Sogabe
Team Leader
Study on the Urgent
Rehabilitation Plan
of Hai Phong Port
(Senior Adviser, the
Overseas Coastal Area
Development Institute
of Japan)

ABBREVIATIONS

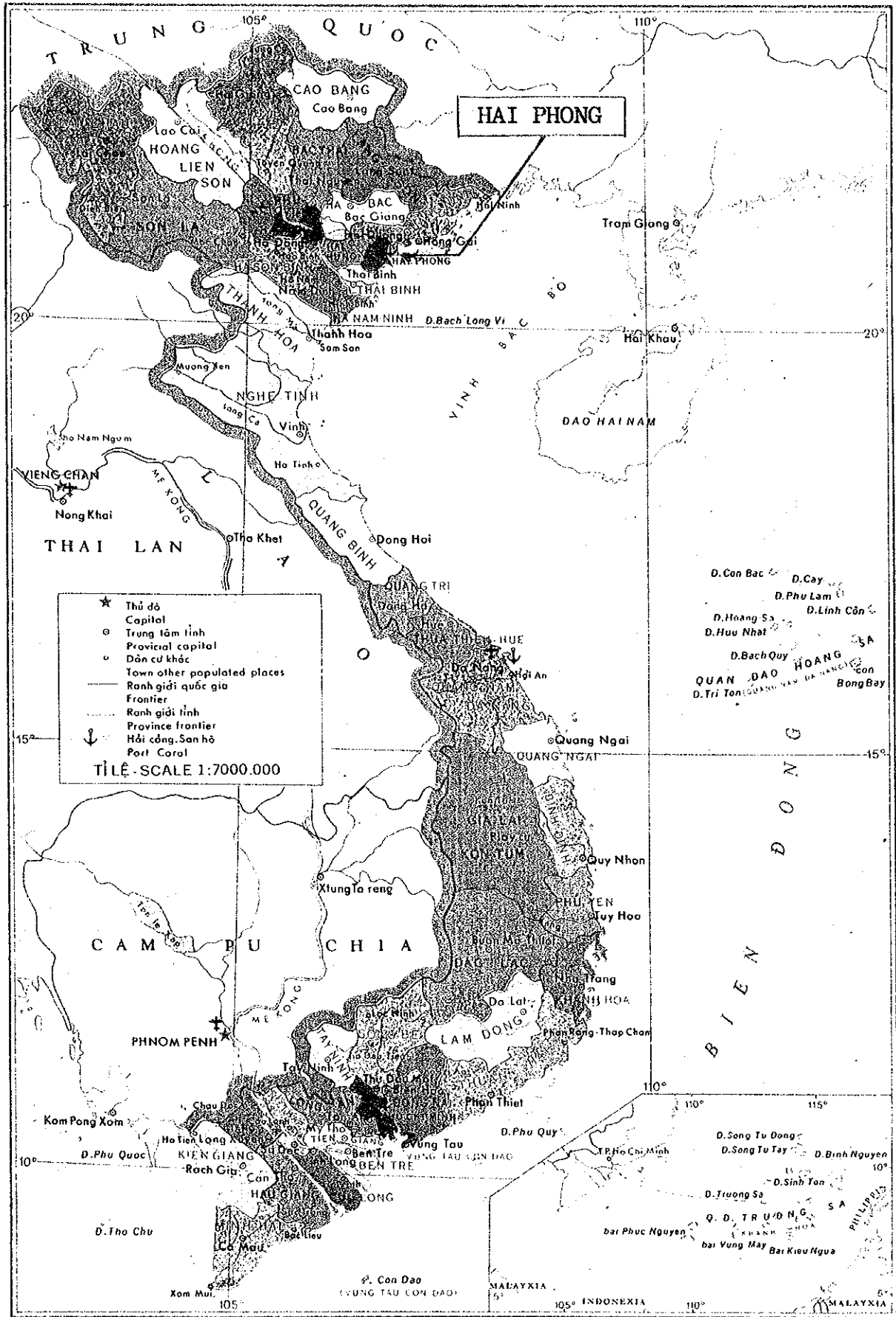
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|------------|---|
| ADB | Asia Development Bank |
| AV. | Average |
| BT | Berth Section |
| CFC | Conversion Factor for Consumption Goods |
| CFS | Container Freight Station |
| CIF | Cost Insurance and Freight |
| DWT | Dead Weight Tonnage |
| EPZ | Export Processing Zone |
| EIRR | Economic Internal Rate of Return |
| F/L | Fork-lift-truck |
| FIRR | Financial Internal Rate of Return |
| FOB | Freight on board |
| GDP | Gross Domestic Product |
| GRT | Gross Registered Tonnage |
| HP | Horse Power |
| LOA | Length of Over All |
| HWL | High Water Level |
| MOTAC | Ministry of Transport and Communication |
| OCC | Opportunity Cost of Capital |
| S/C | Straddle Carrier |
| S DIST. | Section Distance |
| SFC | Standard Conversion Factor |
| SPC | State Planning Committee |
| ST | Section |
| T/C | Transfer Crane |
| TEDI | Transport Engineering Design Institute |
| TESI | Transport Economic Science Institute |
| TEU | Twenty Equivalent Unit |
| UNDP | United Nation Development Program |
| VINAMARINE | Viet Nam National Maritime Bureau |
| VND | Viet Nam Don |
| VOSA | Viet Nam Ocean Shipping Agency |
| VOSCO | Viet Nam Ocean Shipping Company |

CURRENCY EXCHANGE RATE

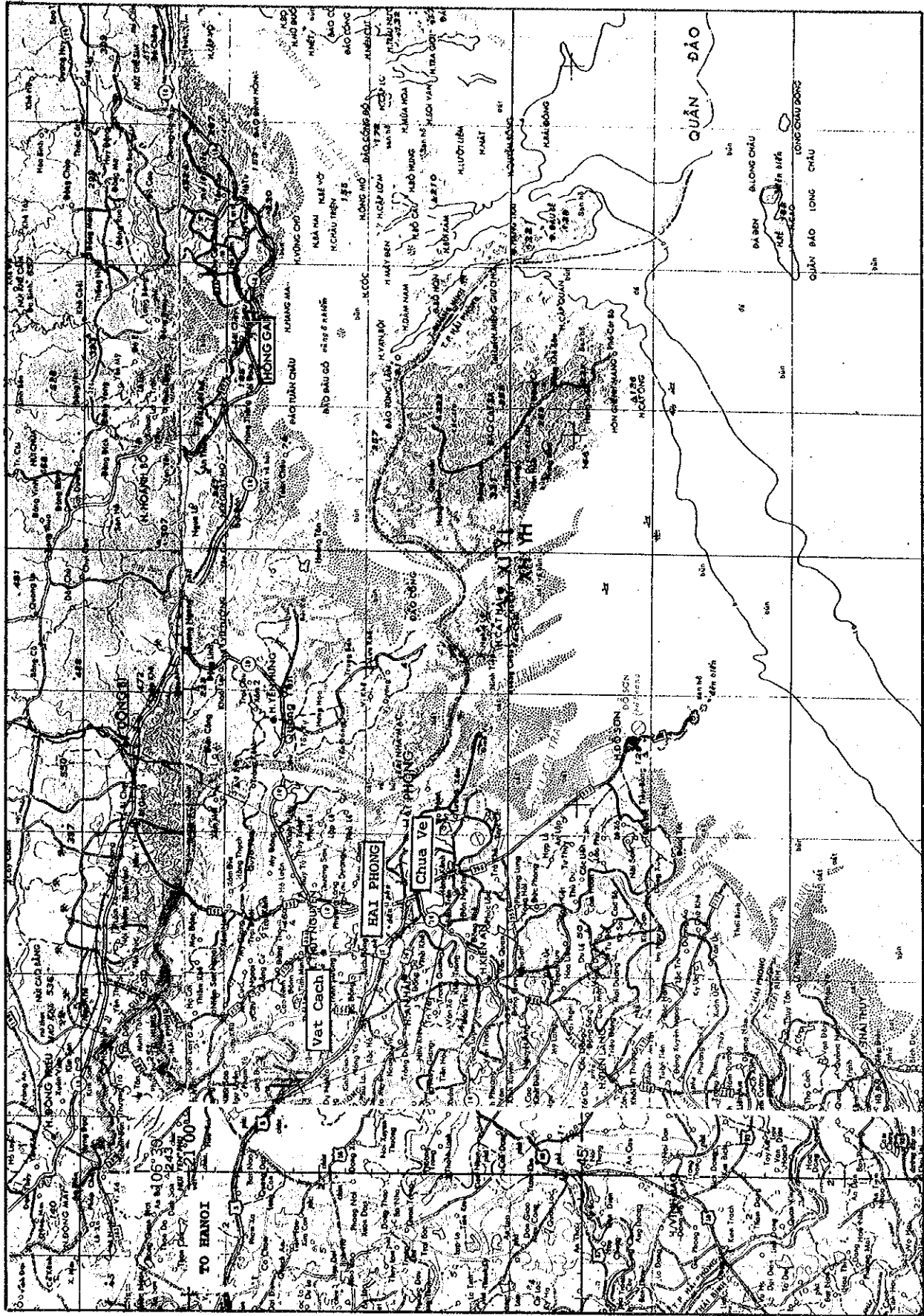
**1 US Doller = 10,680 Viet Nam Don = 108 Japanese Yen
(July, 1993)**



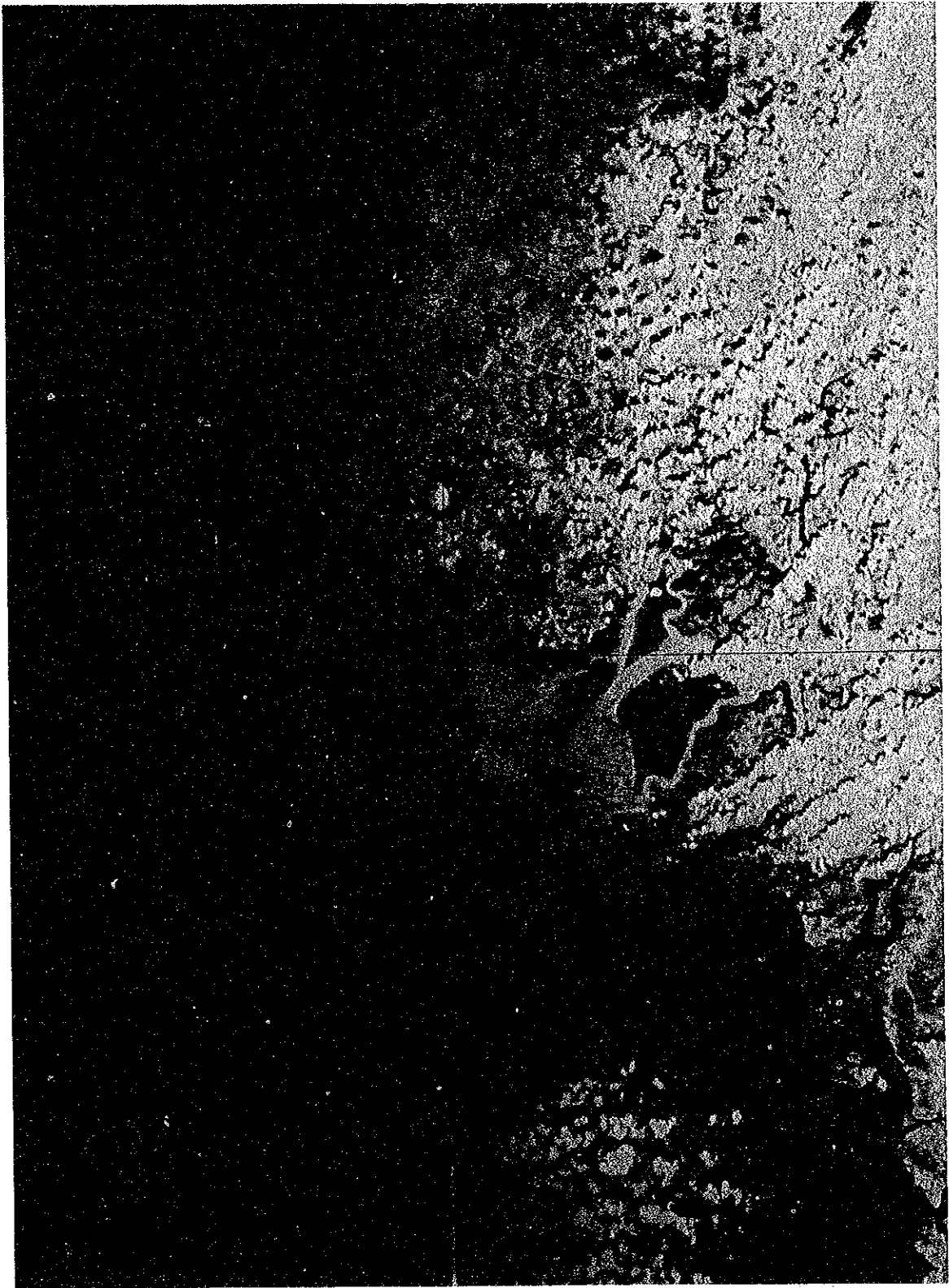
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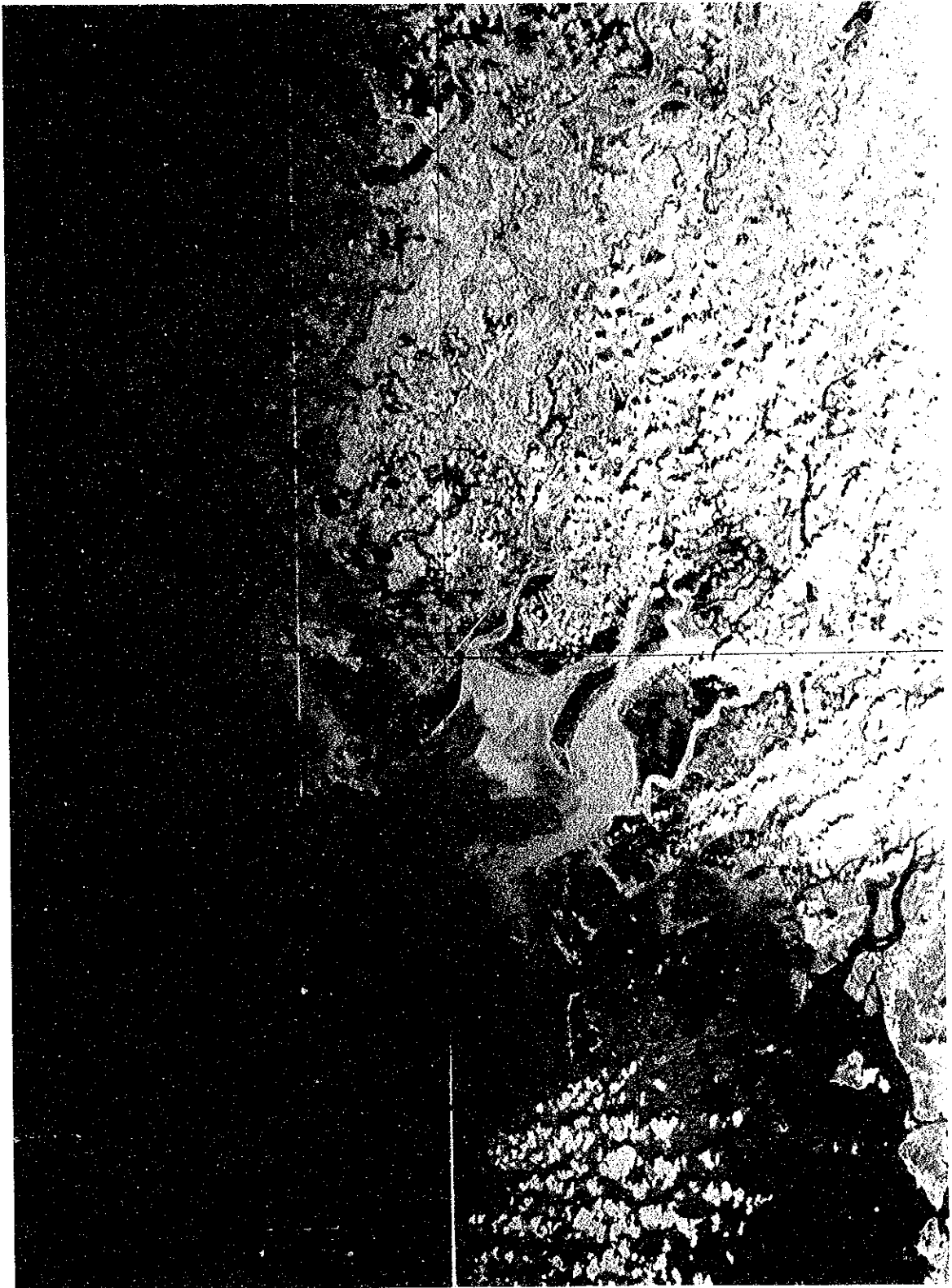
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HAI PHONG AREA



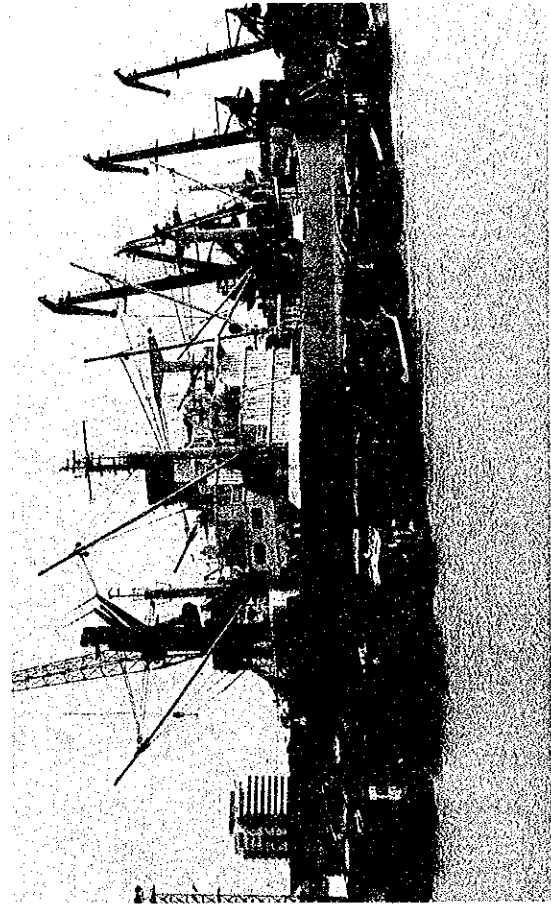
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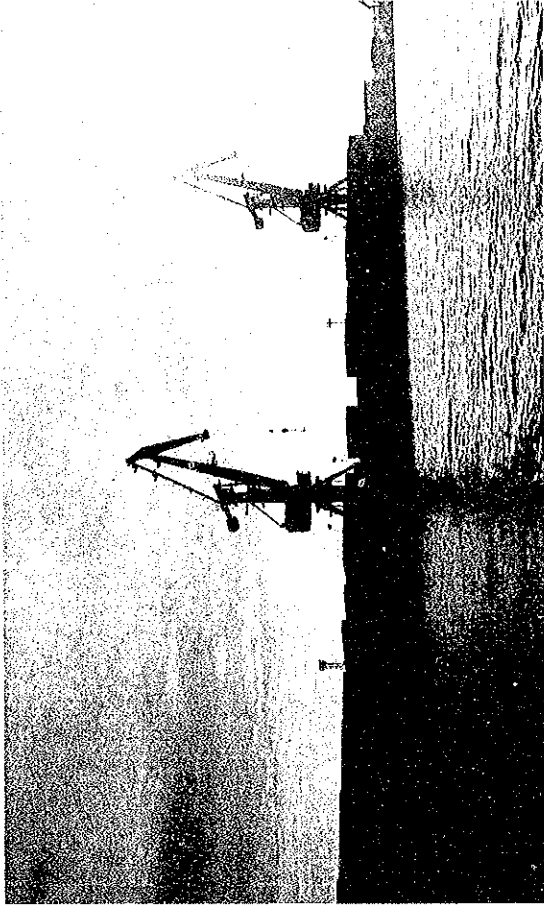
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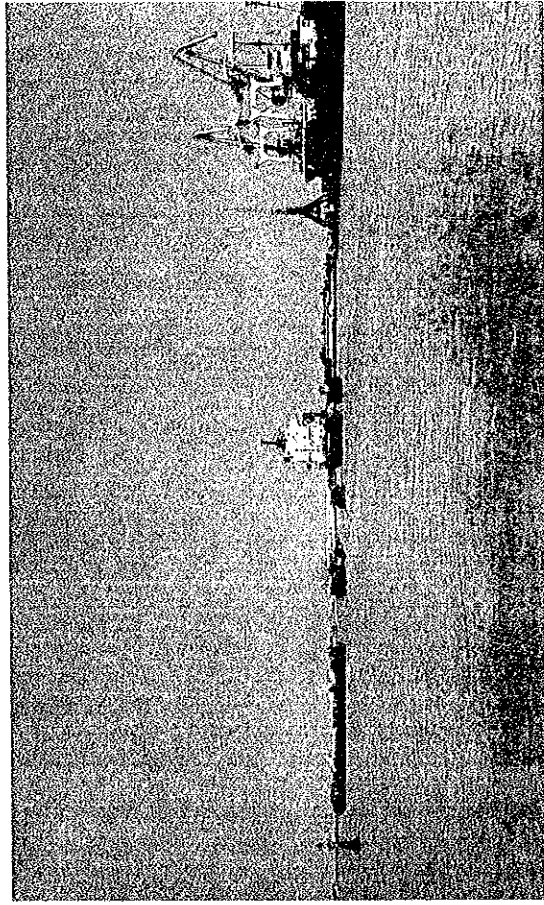
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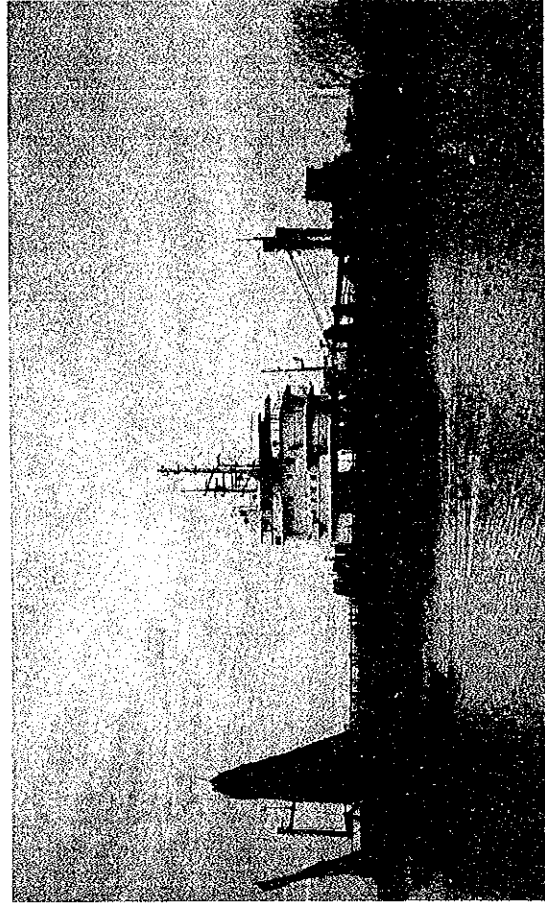
Hai phong Port



Chua Ve Port



Access Channel



Dredger

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SUMMARY

Background and Objective

The port of Hai Phong, for which urgent rehabilitation is required, is located at the mouth of the Red River in the northern region bordering China. It has been the most important port and a gate for international exchange in the northern part of Viet Nam for more than 200 years.

Hai Phong port is located on the right bank of the city of Hai Phong, about 36km upstream of an affluent of the Red River. The port faces a serious problem in its maintenance and management: channel sedimentation.

Particularly because the present channel is maintained at a water depth of -4m, the

port capacity has fallen sharply. The amount of cargo handling volume there is also decreasing. Nevertheless, Hai Phong port's importance in Viet Nam remains unchanged due to its locational advantage, large background zone and significant role in economic development. The primary object of the study is to make a plan for the prompt and valid execution of a project covering improvement works to the channel and the basin, renovation of the container terminal and conservation of the main port area, so as to start work as soon as possible on the rehabilitation of Hai Phong port.

The Urgent Rehabilitation Plan

Project Term; 1994 to 1998

Traffic Demand Forecast

Target Year 1998
Cargo throughput 4.7 mil. tons, Containers 1.2 mil. tons, 150,000TEU, Additional Chinese Cargo 1.0 mil. tons

Year 2000
Cargo throughput 5.7 mil. tons, Additional Chinese Cargo 1.0 mil. tons

Target of Channel Planning

Water depth; -6m
Bottom width; 80-100m
Overall length; 38km
Ship size;
10,000DWT class vessels under tidal operation.

The access channel depth was decided -6.0m in consideration with the existing

tidal operation, sedimentation volume and construction cost. This depth allows full-loaded 7,000 DWT vessels at +2.0m sea water level (MWL) with 93% frequency and 10,000 DWT at +3.0m 32% frequency. Implementation plan shall be met to accommodate above vessel types.

Implementation Plan

Channel dredging

Dredging volume;
10.94 Mil. m³

Dredger; Hopper type
(3000m³) 1 No.

Chua Ve area

Expansion of yard. Installation of well mechanized

yard equipment.

Main port area

Renovation of container berth.

Reinforcement of cargo handling equipment

The total cost estimated

for the whole Rehabilitation Plan is 170,432 thousand USD. After carefully prioritizing to each item, the Urgent Implementation Plan has been formulated at a cost of 138,960 thousand USD.

Economic Analysis

The internal rate of return, using a calculation period (project life) of 34 years, is 13.3 %. This shows

that the Rehabilitation Plan is feasible from the viewpoint of the national economy.

Financial Analysis

The analysis shows that, throughout the entire period of the project life, the Hai Phong port Authority will show a good financial performance by the appropriate sub-

sidies and the tariff.

The project can be regarded as feasible since FIRR(2.6%) is above the interest rate of the required funds.

Recommendations

Although the rehabilitation of the Hai Phong Port is judged very significant, it is not an easy project from economic and financial points of view. Through preparation and consideration of the following matters are necessary for implementation of the project.

(1) The urgent Rehabilitation Project of Hai Phong Port consists of many kinds of works and quick decisions for implementation are required. The executive agency should have strong function for carrying out the project smoothly.

(2) Cargo handling equipment should be replaced quite urgently.

(3) Considering ship size trend, it can be said that,

in the case of cargo transportation, 10,000DWT class vessels convey a large amount of cargo, and that therefore it is imperative to provide sufficient facilities for accommodating that type of vessels.

(4) The cost of initial and maintenance dredging of channel and basin is tremendous, the amount of the dredging cost paid by the Hai Phong Port Authority might debilitate the port management.

As the access channel are used by many vessels for each purpose, the major portion of the cost above should be paid by Government.

(5) It is imperative to make various efforts to collect a large volume of cargo.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

This report is a result of investigations carried out to make an urgent rehabilitation/improvement plan for dealing with the problem of channel sedimentation in Hai Phong Port , Viet Nam, and superannuated port facilities.

1. Period of The Urgent Rehabilitation Plan

Project Term; 1994 to 1998

The Hai Phong Port Rehabilitation Project will be implemented from 1994 to 1998.

This project term may rather long for a urgent improvement plan, but there is an interim period until the commencement of operation including the introduction of funds and a training period for future managers as well as equipment operators and maintenance workers.

2. Traffic Demand Forecast

In 1998; cargo throughput 4.7 million tons
containers 1.2 million tons, 150,000TEU

In 2000; Cargo from/to China; 1.0 million tons

Cai Lan port; sharing be considered

It is estimated that containers will amount to 1.2 million tons and 150,000 TEU. Cargo demand of China (1 million tons) has also been taken into account.

In 2000, cargo will be shared with the Cai Lan port.

3. Target of Channel Planning

water depth; -6m, bottom width 80-100m
overall length; 38km
ship size; 10,000DWT class vessels under tidal operation

On the basis of knowledge of the present state of the channel, knowledge of the sedimentation mechanism, and estimates of sedimentation and maintenance dredging volume, the goals were set for urgent improvement; namely, to restore.

To a state which allows 10,000 DWT class ships to enter the port using tidal operations.

4. Rehabilitation of Container Terminal in Chua Ve area

expansion of yard
installation of well mechanized yard equipment

After grasping the present condition and forecasting future freight demand, the yard will be expanded and paved, and yard equipment will be procured to restore the original function.

5. Rehabilitation of Main Port Area

renovation of container berths
reinforcement of cargo handling equipment

To restore the original function, presently scattered container berths will be combined into one, the yard will be put into better order, and new cargo handling equipment will be introduced.

The capacity of handling general cargoes should be raised and the efficiency of stevedoring work will be enhanced.

6. Budget

whole plan; US\$170,432 thousand
urgent plan; US\$138,960 thousand

The total cost estimated for the whole Rehabilitation Plan is US \$170,432 thousand. After carefully prioritizing to each item, the Urgent Implementation Plan has been formulated at a cost of US \$138,960 thousand.

7. Economic Analysis

EIRR; 13.3 %

The internal rate of return, using a calculation period of 34 years, is 13.3 %. It is generally considered that an EIRR of more than 10% is economically feasible for infrastructure or social service project.

8. Financial Analysis

FIRR; 2.6 %

The analysis shows that, throughout the entire period of the project life, the Hai Phong port Authority will show a good financial performance by the appropriate subsidies and the tariff.

The project can be regarded as feasible since FIRR is above the interest rate of the required funds.

9. Others

It is vital that the urgent improvement project be accomplished promptly and smoothly. For this purpose, the following measures are proposed:

Supervising, establishing organization to take care of the practical side of the project, and forming administrative and operating schemes to step up the efficiency of channel maintenance and stevedoring.

Recommendation

Although the rehabilitation of Hai Phong Port is judged a very significant project, it is not easy to implement from economic and financial points of views. Thoroughly considering and preparing the following matters are necessary for implementation of the project.

(1) The Urgent Rehabilitation Project of Hai Phong Port consists of many kinds of works and quick decisions for implementation are required. The executive agency should have strong function for carrying out the project smoothly.

(2) Existing old cargo handling equipment should be quite urgently replaced by necessity.

(3) Considering past trend of ship size entering Hai Phong Port, it is necessary accommodating 10,000 DWT class vessel as many as possible in point view of mass transportation. Therefore it is imperative to provide sufficient facilities for easily accommodating and quick despatching these vessels.

(4) This study was conducted on the existing channel alignment, however, further study such as observation of natural condition and estimation of sedimentation volume using mathematic model is going on and according to the results of these studies, it might be adopted new channel alignment for implementation phase. Generally speaking sedimentation problem is very difficult to get true solution, therefore the effectiveness of new channel alignment whether decreasing sedimentation or not should be carefully examined.

(5) The cost of initial and maintenance dredging of channel and basin is too high for Hai Phong Port Authority to promote port development and management, If total dredging cost would be paid by only Hai Phong Port Authority. Considering the fact that the channel is being used by many vessels entering the berths besides Hai Pong Port Authority, the major potion of the dredging cost should be paid by the Government.

(6) It is imperative to make various efforts to collect a large volume of cargo handled in order to increase the income of Hai Phong Port Authority.

Chapter 1 Preface

Chapter 1 Preface

1-1 Background and Objective of The Study

At the 7th Assembly of the Vietnamese Communist Party held in June 1991, the 'Strategy for Economic and Social development up to 2000' which confirmed an adherence to the Doi Moi (reform) policy and established the economic and social goals for the next 10 years was adopted. The goals included a two-fold increase in GNP, and the raising of average annual growth rates of agriculture and industry to 4-5% and 10-12% respectively.

However, the improvement of various infrastructures as well as the bases of economic development has not progressed after the war, or during the wars against France and the U.S.

It is imperative to upgrade the infrastructures for social and economic development.

Under such circumstances, in December 1992 The Socialist Republic of Viet Nam requested the Japanese government to make a master plan for the improvement of transport systems in the northern part including Hanoi, Haiphong and Cai Lan, where future development is expected.

In response to the request, the Japanese government sent a mission in January of this year to form a project and the preliminary study team decided to conduct a master plan study. After discussing of the Scope of Work for "The master plan study on the transport development in the northern part", the preparatory study team signed the S/W.

On 17th, June 1993, the study on transport development in the northern part of the Socialist Republic of Viet Nam commenced.

As part of this study, the importance of an urgent rehabilitation plan of Hai Phong port, about 100km away from the capital Hanoi, was recognized by both governments.

A study was thus carried out from June 23 to August 22 to work out an urgent rehabilitation plan.

Also, this June, another preparatory study team conducted a investigation survey of Cai Lan port in the northern part.

1-1-1 Present State of The Socialist Republic of Viet Nam

Viet Nam is situated on the eastern end of the Indo-China Peninsula. It has an elongated S-shape, 3,316,000 km² in area, with a population of 68.9 million (source: World Countries' Economic Information File, 1993, JETRO). The country has two fertile deltas along the Red River and the Mekong River. Its coastline extends over 3,260 km, and the country has rich natural

and human resources.

The port of Hai Phong, for which urgent rehabilitation is required, is located at the mouth of the Red River in the northern region bordering China. It has been the most important port and a gate for international transport in the northern part of Vietnam for more than 200 years.

1-1-2 Present State of Major Ports in Viet Nam

The port administration in Viet Nam was shifted from the hands of the Ministry of Transport and Communication (MOTAC) to the Vietnam National Maritime Bureau (VINAMARINE) on the basis of Regulation "239" on September 30, 1992 of the State Planning Committee (SPC).

A control system is taking shape in compliance with Administrative Regulation "31" of February 2, 1993.

There are about 70 ports in Viet Nam, of which 24, including seven major ones, function as international ports. The northern region has the following three major ports, out of the seven mentioned about, including one presently under construction, i.e., Cai Lan, which will be a large depth port in the future:

- Hai Phong port
- Quan Nin port (Hon Gay port)
- Cai Lan port

1-1-3 Objective of The Study

Hai Phong port is located on the right bank of the city of Hai Phong, about 36km upstream of an affluent of the Songkoi River. The port faces a serious problem in its maintenance and management: channel sedimentation, which is an almost fatal problem for all river side ports. Particularly because the present channel is maintained at a water depth of -4m, the port capacity has fallen sharply. The amount of cargo handling volume there is also decreasing, partly due to a steep fall in trade with the former Soviet Union.

Originally, the port had a depth of -8.4m and accommodated large ships exceeding 10,000 DWT making use of tidal operations.

In the past, France and the former U.S.S.R., as well as the Vietnamese government, searched for effective ways to prevent sedimentation and took countermeasures, but to little avail.

Nevertheless, Hai Phong port's importance in Viet Nam remains unchanged due to its locational advantage, large background zone and significant role in economic development.

Such circumstances prompted the Vietnamese government to

start building Cai Lang in 1987 as a port with sufficient space and depth. It will be a long time, however before its facilities can be made full use of, and thus it has become urgent to improve Hai Phong port.

The aspects that should be improved are:

- Maintenance of the navigation channel
- Rehabilitation of the main port area which is particularly superannuated
- Renovation of the container terminal in the Chua Ve area

Thus, early restoration of the port function is intended.

1-2 Timetable of The Study

The study began in Japan with the collection of materials last June. The study team arrived in Hai Phong city on June 24 and conducted field work until August 20, and later the data was compiled into a report.

The primary object of the study is to make a plan for the prompt and valid execution of a project covering improvement works to the channel and the basin, renovation of the container terminal and conservation of the main port area, so as to start work as soon as possible on the rehabilitation of Hai Phong port.

To achieve this object, emphasis was laid on the analysis of available survey materials as well as malfunction factors including on-the-spot investigations in a short period of time.

Clarification of the causes of channel sedimentation and estimation of future sedimentation in particular, is a highly technical problem requiring a full-scale approach rather than a survey on a short-term basis. Nevertheless, channel sedimentation was given priority in the survey in view of its urgency, and an attempt was made to roughly estimate the sedimentation through analysis of existing data and to recommend an appropriate water depth of the channel, keeping the limited time factor in mind.

In the plan of improving the cargo-handling section, which is also an urgent problem, attention was paid to enabling the port to display its original capacity by coping with the trend of containerization.

Hai Phong is a city that has grown together with the port. Holding a number of major offices of enterprises in port-related business, the port is in a key position for the nation's economic development. In this sense, the recovery of port function is extremely important for the nation .

1-3 Organization of The Study Team

The Japanese study team was composed of seven specialists from The Overseas Coastal Area Development Institute, Nippon Koei Co.Ltd., and some representative both from JICA and OECF as follows:

| Title | Name | Responsibility |
|-------------|------------------|---|
| Leader | Takahisa SOGABE | Overall Management, Port(OCDI) Planning |
| Specialist | Satoshi KAWAMURA | Demand Forecast (OCDI) |
| Specialist | Isamu HIRAYAMA | Cargo Handling System (OCDI) |
| Specialist | Kunio FUKUMOTO | Channel Planning (OCDI) |
| Specialist | Naokazu ITO | Port Management and Operation, Financial and Economic Analysis (OCDI) |
| Coordinator | Tetsurou ICHISE | Coordination (OCDI) |
| Specialist | Kiyokuni OHKUBO | Structural Design (NK) |
| Specialist | Katsumi NAITOH | Cost Estimation (NK) |
| | Hiroshi TSUJINO | Coordinator (JICA) |
| | Osamu MURATA | Coordinator (OECF) |

The official counterparts are VINAMARINE, The Hai Phong Port Authority and the Coordination Board of VINAMARINE.

1-4 Schedule of The Study

(1) Inception Report

Jun.28 Discussion of Inception Report.
July.1 Signing

(2) Sampling of the channel mud and grain classification test

Jun.30 Field sampling

(3) Field Survey of Channel

July.5 Observation of the channel on the sea

(4) Meeting

July.12 Discussion on Principle of Rehabilitation Plan with Hai Phong port authority

(5) Field Survey of Structure

2

July.21 Survey of Degraded Structure in Chua Ve port area

(6) Meeting

July.22 Review and Discussion with the Vice Chairman of
VINAMARINE

(7) Meeting

August.3 Discussion with the Coordination Board about
demand forecast and channel planning

August.6 Discussion on Rehabilitation Plan and Budget

August.10 Discussion on Implementation Plan, Cost
Estimation and Management of Operation System

(8) Field Survey of Damping Area

August.14 Observation on site

(9) Arrangement

August.16 Discussion on Minutes

August.19 Signing

1-5 Others

List of the counterparts and others are as follows.

Government

| | | |
|---------------------|---------------|--|
| Mr.LE NGOC HOAN | VICE MINISTER | MOTAC -SR VIETNAM |
| Mr.NGUYEN NGOC NHAT | DIRECTER | DEPTMENT OF TRANSPORT AND COMMUNICATION |
| Mr.NGUYEN TOAI | MANAGER | INTERNATIONAL RELATION OF TRANSPORT AND COMMUNICATION DEPT |

Vietnam National Maritime Bureau

| | | |
|----------------------|---------------|------------------------------------|
| CAPT. TRAN XUAN NHON | CHAIRMAN | |
| Dr.DINH NGOC VIEN | CHAIRMAN | |
| Mr.VUONG DINH LAM | DIRECTOR | INTERNATIONAL COOPERATIONDEPT. |
| Mr.BUI VAN TRUNG | VICE DIRECTOR | INTERNATIONAL COOPERATION DEPT. |
| Mr.NGUYEN HUU TRI | SPECIALIST | INVESTMENT AND PLANNING DEPT. |
| Mr.DAO TRONG LONG | DIRECTOR | CONSTRUCTION AND ENGINEERING |
| Ms.LE BICH NGA | ASST.DIRECTOR | INTERNATIONAL COOPERATION DEPT. |

| | | |
|---------------------|-------------------------|------------------------|
| Mr. NGUYEN KIM LONG | ASST. CHAIRMAN | |
| Mr. TRAN DUC HUNG | VICE REGIONAL PRESIDENT | |
| Mr. HO BA LE | | INTERNATIONAL RELATION |

The Coordination Board for The Rehabilitation Project

| | | |
|----------------------|-----------------------|--------------------------------|
| MR. VUONG DINH LAM | HEAD OF THE BOARD | VINAMARINE |
| MR. LE DUC KINH | ASSISTANT TO THE HEAD | HAIPHONG PORT |
| MR. DAO TRONG LONG | ASSISTANT TO THE HEAD | VINAMARINE |
| MR. BUI VAN TRUNG | | VINAMARINE |
| MR. BUI DUC NHUAN | | MARITIME SAFETY |
| MR. VU HUY CUONG | | VINAMARINE |
| MR. NGUYEN DUC CHUOM | | HAIPHONG CONSTRUCTION BOARD |
| MR. NGUYEN HUU TRI | | VINAMARINE |
| MR. NGO TIEN TIEP | | VINAMARINE |
| MR. TRUONG VAN THAI | | HAIPHONG PORT |
| MR. NGUYEN VAN MANH | | VINAMARINE |

HAIPHONG PORT AUTHORITY

(1) BOARD OF DIRECTORS

| | |
|--------------------|----------------------------------|
| Mr. CAO TIEN THU | DIRECTOR |
| Mr. LE DUC KINH | VICEDIRECTOR (OPERATION) |
| Mr. NGUYEN VAN NHA | VICEDIRECTOR (ADMINISTRATION) |
| Mr. NGUYEN VAN BA | VICEDIRECTOR (BUSINESS MATTERS) |
| Mr. DAM VAN LY | VICEDIRECTOR (TECHNICAL MATTERS) |

(2) PROJECT TEAM

| | | |
|----------------------|---------------|--|
| Mr. CAO TIEN THU | (TEAM LEADER) | DIRECTOR |
| Mr. LE DUC KINH | (MEMBER) | VICE DIRECTOR |
| Mr. TRUONG VAN THAI | (MEMBER) | SECRETARY |
| Mr. PHAM VAN NHAN | (MEMBER) | HEAD OF THE TECHNICAL DEPT. |
| Mr. TIET HONG NGUYEN | (MEMBER) | HEAD OF THE SCIENCE, TECHNOLOGY DEPT |
| Mr. DO VAN TU | (MEMBER) | VICE MANAGER OF THE CIVIL ENGINEERING DEPT. |
| Mr. HOANG DINH QUI | (MEMBER) | VICE MANAGER OF THE ACCOUNTING DEPT |
| Mr. DAO VAN DAI | (MEMBER) | VICE MANAGER OF THE PLANNING DEPT. |

(3) OTHER PORT OFFICIALS

| | | |
|------------------|---------|---------------------------|
| Mr. DOAN VAN THE | MANAGER | CIVIL ENGINEERING DEPT. |
| Mr. VU NGOC UOC | MANAGER | PORT POWER SUPPLY STATION |

| | | |
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| Mr.DINH VAN HA | DIRECTOR | VATCACH CARGO HANDLING ENTERPRISE |
| Mr.TRAN DINH NHAC | DIRECTOR | CARGO HANDLING ENTERPRISE No.2 |
| Mr.NGUYEN BA DI | MANAGER | OPERATION DEPT. |
| Mr.DINH VAN TU | DIRECTOR | CHUAVE CARGO HANDLING ENTERPRISE |
| Mr.DONG XUAN VINH | MANAGER | DOANXA CONTAINER TERMINAL |
| Mr.TRAN QUANG THINH | VICEMANAGER | BERTH No.1 CONTAINER TERMINAL |
| Mr.DOAN DUC DUYEN | MANAGER | BERTH No.7 CONTAINER TERMINAL |
| Mr.DAO VAN VUONG | VICEDIRECTOR | CARGO HANDLING ENTERPRISE No.1 |
| Mr.BUI MINH TUAN | MANAGER | SALARY AND LABOUR DEPT. |

OTHER OFFICERS

| | | |
|----------------------|--------------------|--|
| Mr.PHUNG VAN QUANG | DIRECTOR | HAIPHONG BRANCH OFFICE OF GEMARTRANS |
| Mr.DO HUU CAU | DIRECTOR | PILOT COMPANY No.2 |
| Mr.NGUYEN CONG DUC | DIRECTOR | HAIPHONG HARBOUR MASTER |
| Mr.VU VAN MAU | DIRECTOR | QUANG NINH PORT |
| Mr.VU TRI VIEN | DIRECTOR | SAIGON NEWPORT |
| Mr.MAI HUU NHAN | MANAGER | CONSTRUCTION DEPT. SAIGON PORT |
| Mr.HO KIM LAN | MANAGER | INTERNATIONAL RELATION DEPT. SAIGON PORT |
| Mr.NGUYEN XUAN HOANG | DIRECTOR | ENGINEERING DEPT. SAIGON PORT |
| Mr.TRAN VAN ON | DIRECTOR | SAIGON PORT |
| Mr.VU NGOC SON | DIRECTOR GENERAL | VIETNAM MARITIME DEVELOPMENT PERATION |
| Mr.BUI DUC NHUAN | DIRECTOR | OFFICE OF MARITIME SAFETY |
| Mr.PHAM CONG DOAN | DEPUTY DIRECTOR | MARITIME DREDGING Co.No.1 |
| Mr.TRAN QUANG BAI | HEAD OF PLANNING | DEPT. - MARITIME DREDGING COMPANY No.1 |
| Mr. NGUYEN CHU HOI | DIRECTOR | HAIPHONG INSTITUTE OF OCEANOLOGY |
| Mr.TRAN DUC THANH | HEAD OF LABORATORY | OF MARITIME GEOLOGY AND GEOGRAPHY (HIO) |
| Mr.DAO NGUYEN KIM | DIRECTOR | ENTERPRISE FOR PORT WATER WAY SURVEY DESIGN & CONSTRUCTION (TEDI) |
| Mr.LA NOI | VICE DIRECTOR | TRANSPORT ENGINEERING AND DESIGN INSTITUTE |

OTHERS

| | |
|----------------------|---|
| Mr. YVES ORVEILLON | DEPUTY OWNERS REPRESENTATIVE COMPAGNIE GENERALE MARI TIME |
| Mr. JESPER HENRIKSEN | OWNERS REPRESENTATIVE EAC SAIGON SHIPPING CO. LTD |
| Mr. JIMMY OLESEN | OWNERS REPRESENTATIVE EAC SAIGON SHIPPING CO. LTD |
| Mr. NGUYEN VIET HOA | DIRECTOR VIETNAM CONTAINER SHIPPING COMPANY |

Work Schedule

| Year | | 1993 | | | | | | | | | | | | | | | |
|--|------|------|----|---|------|---|---|--------|---|----|-----------|----|----|----|----|----|----|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | | | | | | |
| Month | week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Stage of the Study | | | | | | | | | | | | | | | | | |
| Preparation of the Inception Report | | 22 | | | | | | | | | | | | | | | |
| Presentation and discussion on the Inception Report and signing minutes of meeting on the Report | | 28 | 29 | | | | | | | | | | | | | | |
| Collection of existing data and information and corresponding review and analysis | | | 30 | 5 | | | | | | | | | | | | | |
| Field surveys for present conditions of the Hai Phong Port and hinterland | | | 30 | 5 | | | | | | | | | | | | | |
| Field surveys for present conditions of the Saigon Port | | | | 8 | 10 | | | | | | | | | | | | |
| Study of the principal of the urgent rehabilitation plan | | | | 6 | | | | 1 | | | | | | | | | |
| Presentation and discussion on the urgent rehabilitation plan | | | | | | | | 2 | 6 | | | | | | | | |
| Study for the implementation plan | | | | | | | | 7 | | 15 | | | | | | | |
| Presentation of the implementation plan and Signing minutes of the meeting on the report | | | | | | | | | | 16 | 18 | | | | | | |
| Preparation of the Final Report and Submission of the Final Report | | | | | | | | | | | | | | | | 22 | |
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Study work in Vietnam
 Study work in Japan

Chapter 2 Present Status of Hai Phong Port

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2-1 General

Hai Phong Port, before the civil war, was the largest international port of Vietnam and handled in 1988 about 3.0 million tons of seaborne cargo, which accounts for 40% of the country's total. Foreign trade has recently been stagnant and the annual cargo throughput in 1992 shrank to 2.4 million tons, thereby relinquishing its standing as the main gateway port to Saigon in terms of cargo shipment. This downward trend of shipment is attributed to both economic and physical constraints such as heavy siltation in the navigation channel.

The North Vietnam's major trade partners, CIS and other eastern European countries, have suffered a drastic change in economic structure, which triggered a recession in the eastern block, and severely aggravated the international trade of Hai Phong Port. Under these circumstances, Vietnam is striving to emerge from full dependence on the eastern block, building up trade relations with the now steadily growing South-Asian countries.

Another major concern that curbs the growth of foreign and domestic trade is the siltation problems. In maintaining the 20 mile long navigation channel, the magnitude of the siltation rate exceeds the dredging capacity of existing fleet. The maintenance dredging has been frequently suspended due to funding problems. The channel depth, therefore, has been shallowing year by year, downsizing the ships that call Hai Phong Port, leading to the decrease in shipment at Hai Phong Port and eventually eroding the economy of seaborne trade. Hai Phong Port, from its opening back in 1876 with a 60m long quaywall, flourished with the development of Hai Phong city and Hanoi city, the capital of the country, but during the period of the French War (1945 to 1954), Hai Phong Port remained undeveloped. In 1954, the French War ended and the rehabilitation of Hai Phong port began, though again, another new war of resistance against the American broke out. The American War of Escalation lasted 20 years, causing heavy losses to the country. The American War ended in 1975. During the war, the port facilities of Hai Phong Port was being renovated and in 1963 the quay was extended to 1,042m and provided with eight(8) transit sheds. Between 1963 and 1986 the berth was further upgraded with aid from the U.S.S.R. enables to the 10,000 DWT class vessels to be accommodated. The total berth length in 1981 was enlarged to 1,800m transit sheds to 67,730m² and warehouses to 39,000m².

Hai Phong Port, presently, consists of four port zones - Main Port, Chua Ve Container Port and Vat Cach Port and old Chua Ve Port. Main Port serves the shipment of both conventional and containerized cargo, while Chua Ve Container Port handles only container cargo. Vat Cach Port caters for coastal seaborne cargo transported chiefly by barges and coastal vessels. The old Chua Ve Port, though blessed with a huge back-up area, has been suffering from siltation in berth front, only handling a small amount of liquid cargo and requiring some rehabilitation works in future. In addition to the above ports, there are two

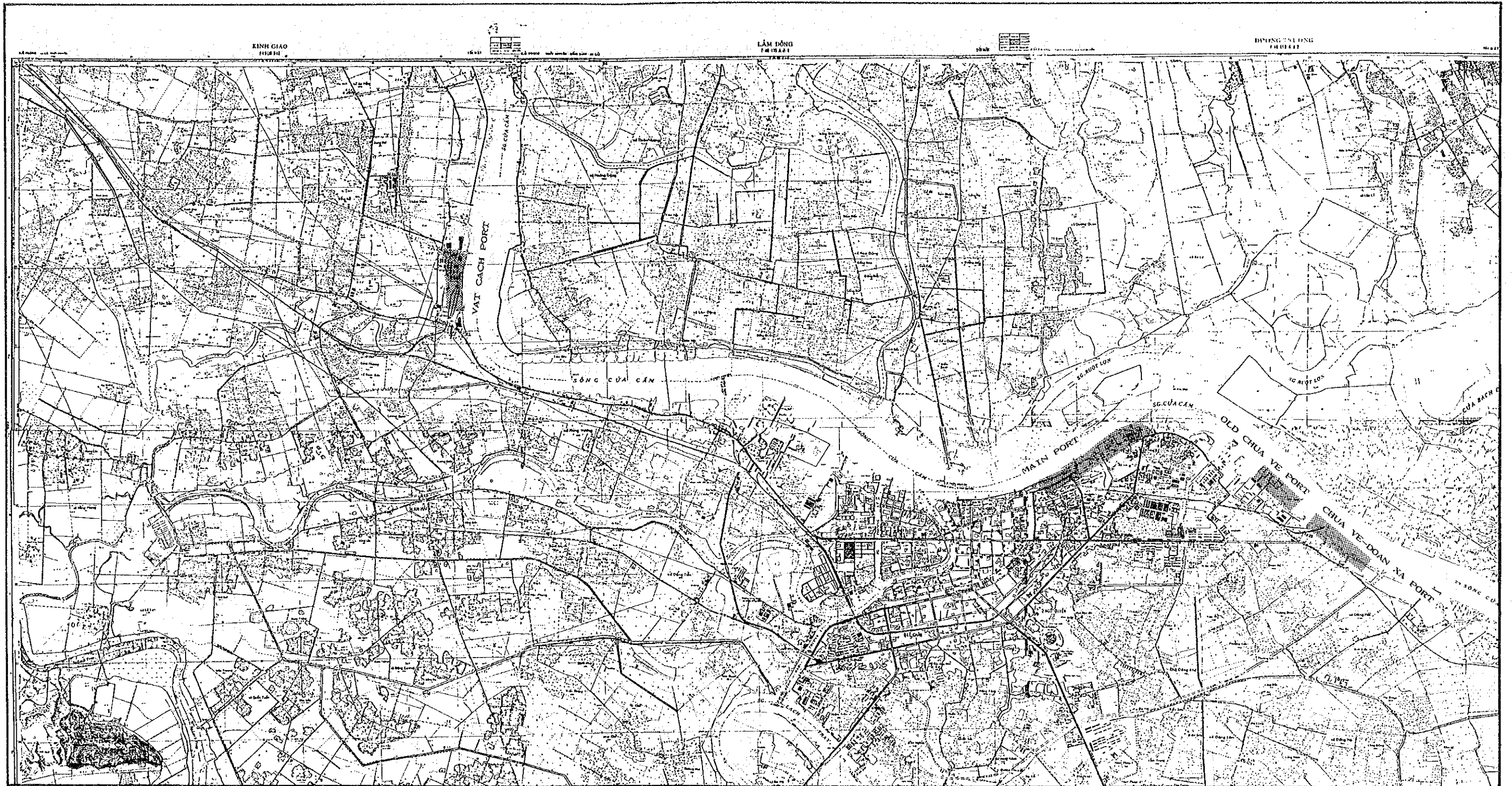


Figure 2-1-1 Hai Phong Port Map

anchorage in Ha Long Bay, where transshipment from oceangoing vessels to barges takes place, enabling barge transportation deep into the inland area through a number of inland waterways.

2-2 Port Hinterlands

2-2-1 Location of Hai Phong Port

In terms of inland traffic linkage, Hai Phong Port is situated in a very strategic place. Hanoi city, the capital of Vietnam, is located about 100km east of Hai Phong. The two cities are linked by national road "Route No.5" and time distance in between is about 2.5 hours by car. To the east of Hai Phong, the national road extends up to the new port (Cai Lan) through the Route No.10 and No.18, which further stretches eastward, passing through the Hon Gai ferry link, up to Cam Pha Coal Port. It is about a 3 hour drive from Hai Phong to Cai Lan and to Cam Pha another 1.5 hours.

Most of the road and railway networks in north Vietnam converge on Hanoi City. As to railway, trunk lines travel from Hanoi City up to Lao Cai to the north-west, Long Son to the north-east, Hai Phong, Hong Gai and Cam Pha to the east, and Vinh to the south. The major axle roadway from north to south through Hanoi is the national road "Route No.1". The main westward line from Hanoi is Route No.13 and the eastward line is Route No.5 and No.18. The other secondary national roads connect with most cities in major provinces of the north Vietnam. So, through Hanoi City, Hai Phong Port is closely connected to most of the provinces of northern Vietnam.

In addition to the above inland road/railway linkage, a number of inland waterway networks expand over the Red River Delta. This river transportation is efficiently and economically utilized in Vietnam. Supplemented by these inland transportation networks, most of the northern provinces of Vietnam link to Hai Phong Port. So, in terms of inland waterway traffic, it can be said that Hai Phong Port plays a pivotal role.

In sea traffic, Hai Phong Port serves as a main gateway to north Vietnam. Major ports now in operation in north Vietnam are Hai Phong, Quang Ninh, Hon Gai, Cam Pha and B12.

The former two ports are public ports operated under the management of VINAMARINE and handle various kinds of cargoes: break-bulk, pelletized and containerized. Of the above five(5) ports, Hai Phong is the leading commercial port, located 35km from the estuary of the river (in the Red River Delta).

New deep sea port called Cai Lan is now under construction and one 160m berth (No.2) has been almost completed in the pier portion.

Cai Lan Port is located about 100km further east of Hai Phong Port, so that when Cai Lan starts operation in future, Hai Phong Port will share the shipment with Cai Lan Port, but will still have a geographical advantage in terms of closeness to the

capital city "Hanoi".

2-2-2 Hinterland of Hai Phong Port

Hai Phong Port, as mentioned in the foreign section, is situated in a very geographically advantageous point. Inland connection, both roads and railways, is comparatively good, penetration into most of the provinces lying in the Red River Delta. The commercial port, Quang Ninh Port has no berth facilities, handling cargo shipment through lighterage. Another VINAMARINE controlled commercial port nearby is Nghe Tinh (Cua Lo), which is located about 250km south of Hai Phong and hardly functions as an alternative port in the north Vietnam. It means that at least 21 provinces located in north Vietnam comprise the major hinterland of Hai Phong Port. (cf. Fig.2-2-1 & Chap.4-1-4)

Hai Phong Port is located close to the Chinese border. Making full use of its geographical closeness to China, trade between Vietnam and China has existed for a long time. A considerable amount of seaborne cargo, unloaded at Hai Phong Port, is trucked to China and vice versa. Once diplomatic relations between the two countries became more normalized, this cross-border trade is likely to expand much more, so that the hinterland of Hai Phong should include not only the North Vietnam regions in the Red River Delta, but also part of China, in particular, the Unnang province.

Aside from the port hinterland categorized in broad terms as mentioned above, the hinterland of Hai Phong Port can be more narrowly defined, taking into account the volumes of shipment cargo. The core of seaborne cargo in Hai Phong Port including container cargo originates from or is destined to the regional industrial corridor extending from Hanoi through Hai Duong to Hai Phong. It can be said that the primary hinterland of Hai Phong Port, especially industrial products, is Hanoi - Hai Duong area.

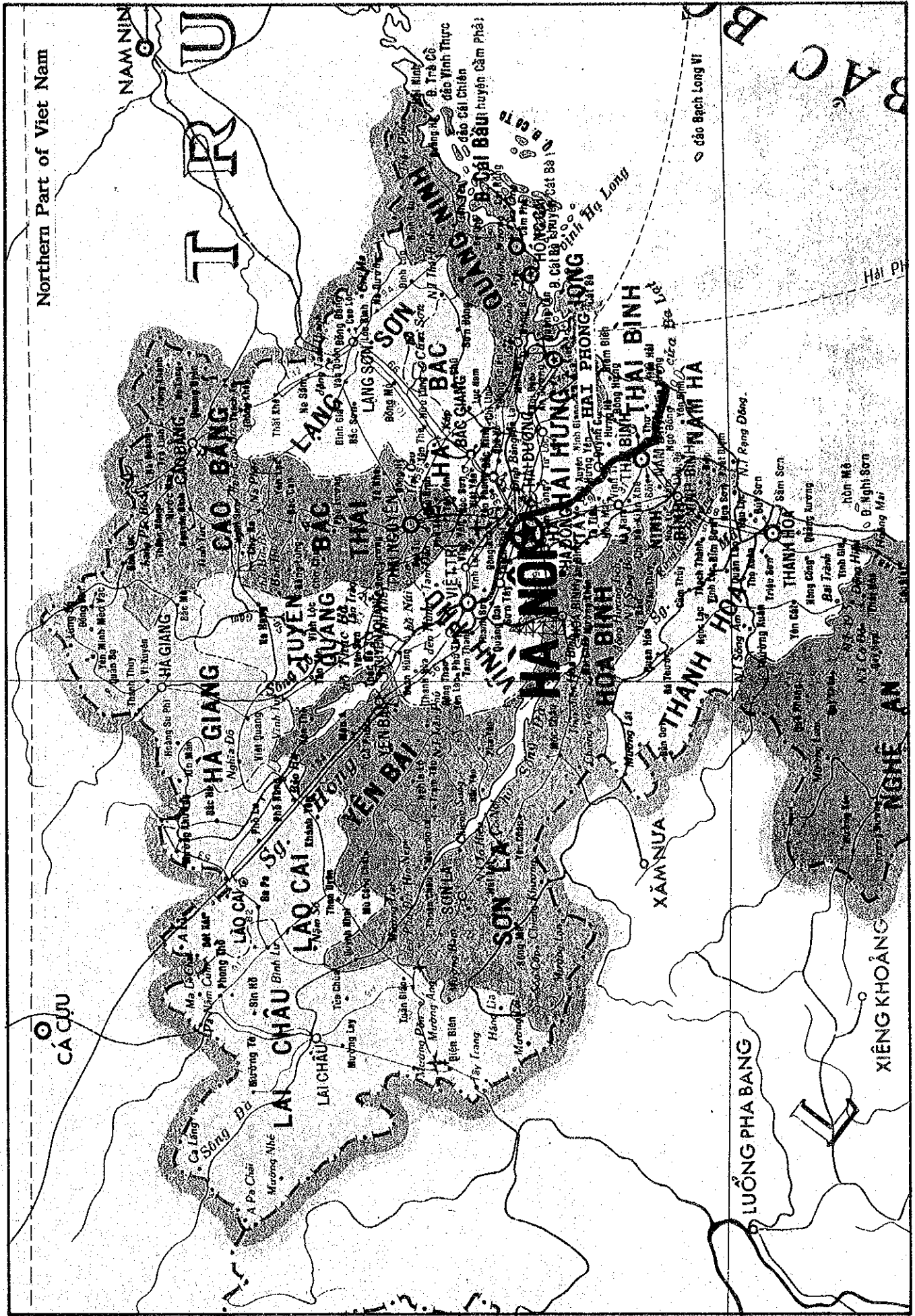


Fig. 2-2-1 Hinterland of Hai Phong Port