

## 第 8 章 本格調査への提言

### (1) 既存の計画調査との関連

マニラ港はフィリピンの最も重要な港であり、これまでもいくつか計画調査報告書が出されている。本件調査では、主として1978年に出された「マニラ港基本計画」をレビューすることが要請されているが、この基本計画以外に、「National Transportation Planning Project」の港湾編、「マニラ内貿コンテナ埠頭計画」、1986年に完成予定の「国鉄コンテナ輸送計画」等を十分参考の上、マニラ南港の改修計画案を提示する必要がある。

また、同港の取扱い貨物の動向、さらに全国の経済活動の動向に関する統計資料はかなり整っているので、将来の貨物量推定においては、これらの資料を活用することができる。

なお、本件調査の対象は、南港の現在の港湾区域内及び北港の一部区域と明確に限定されており、背後圏の土地利用計画との調整等の作業は不要と思われる。

### (2) 現況把握の重要性

本件F/Sは、港湾施設の改修を対象としているので、既存の港湾施設が構造物としてどこまで改修することを必要としているか、また機能面から見て、どのような改修が望ましいか、の2点につき調査検討の上最適案を提示することを目的としている。したがって、現地調査の一環として、構造物の工学的診断及び現在の施設の利用状況の把握、評価にも重点を置かねばならない。

### (3) 将来貨物量予測

外貿コンテナの大半（85%程度）がここ1～2年のうちにM I C Tに移ること、また1985年にセブ、イロイロ、カガヤン・デ・オロ、サンボアング等の拠点港湾において新しい施設が完成したこと等、マニラ港の中及び国全体の外貿貨物の流れに変化を与える要因もいくつか考えられ、マニラ南港の取扱い貨物量の推定にあたっては、これらの要因を十分考慮する必要がある。

事前調査団としては、上記のような他港の整備状況及び、この国の現在の経済活動の状況に鑑みれば、F/Sの目標年次である1995年時点では、必ずしも現有バース全部を必要としないと思われる。一方、野積場等港湾用地が不十分と考えられることから、水際線延長が短くなっても埠頭面積を広げるよう、現在のくし型棧橋のうちいくつかを囲むような埠頭配置計画も一案かと思われる。なお、埠頭配置計画についてはPPAより制限条件は与えられておらず、本格調査団の判断に委ねられている。ただし、既存施設を可能な限り利用することを念頭に置き、経済性を十分考慮した計画規模とする必要がある。

### (4) 関係政府機関との調整

マニラ南港改修計画はマニラ港開発計画の一環であり、すでに実施中の国家プロジェクトとして位置づけられている。従って本F/Sが完了すれば、早い機会に着工される可能性が

高い。

こうした状況から、円滑なプロジェクトの実施を図るため、F/Sの途中段階においてもPPAを通じてMOTC（港務担当のExecutive Assistant）、NEDA（Infrastructure Staff 及び External Assistance）及びMPWH等にも調査経過を報告し、調整を行なっておく必要がある。さらに、PPAでは将来も投錨地で荷役を続ける方針である穀物の輸送形態や輸入計画等については、食糧庁（National Food Authority）との協議も必要とも思われる。

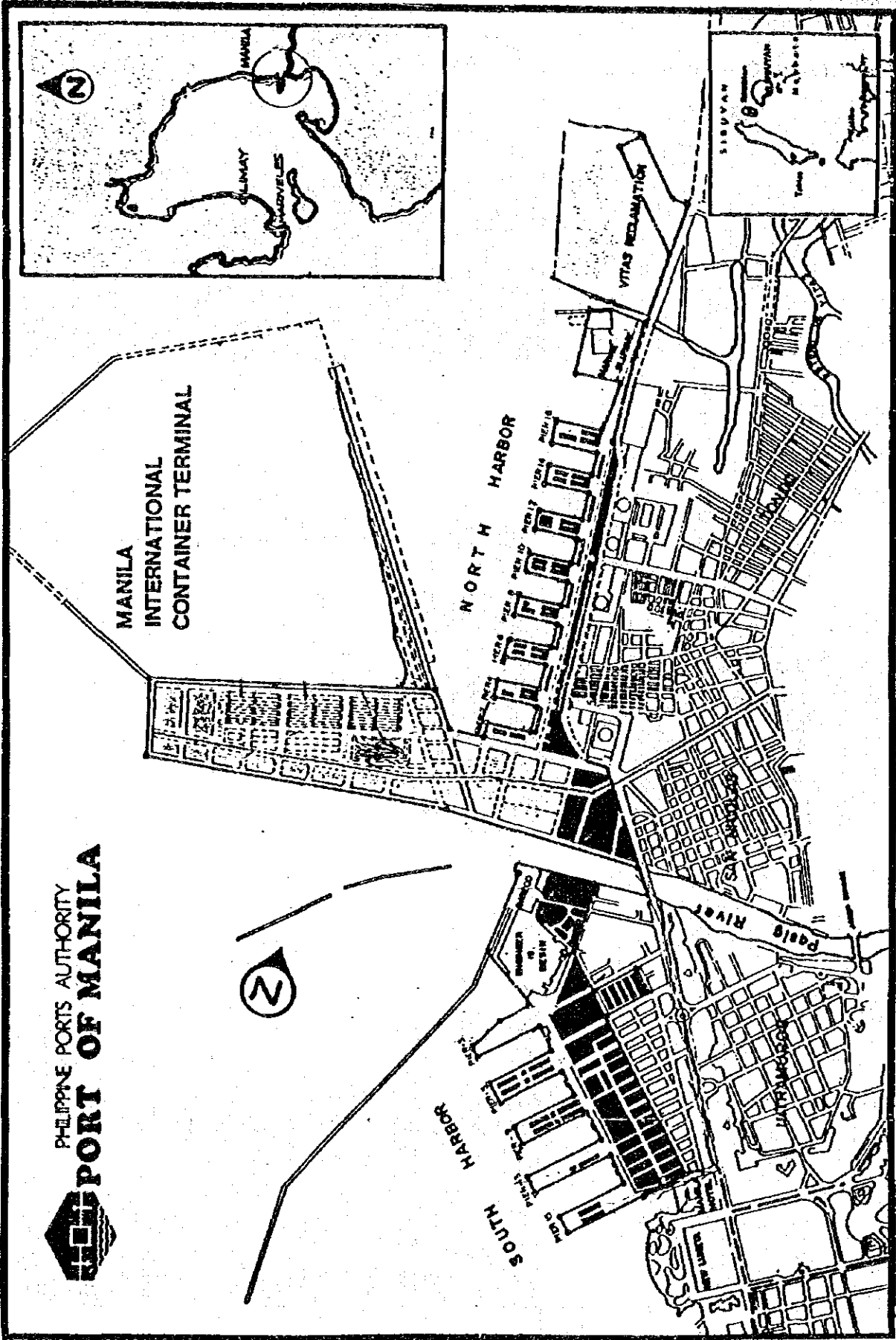
# 付 録



## 1. 調査関連図及び写真

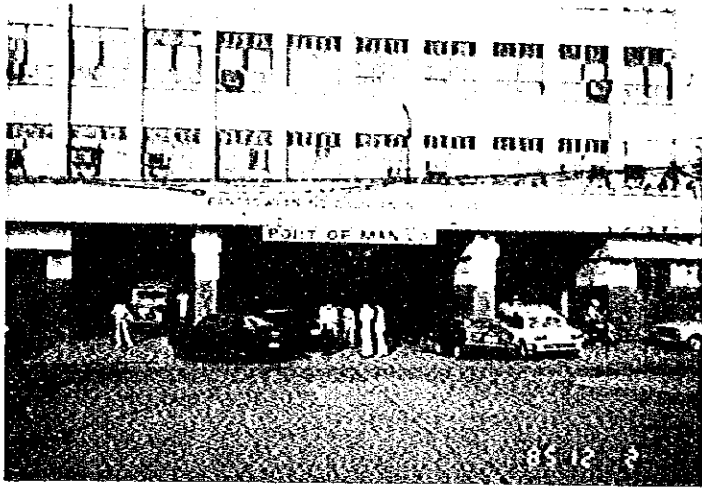


PHILIPPINE PORTS AUTHORITY  
**PORT OF MANILA**



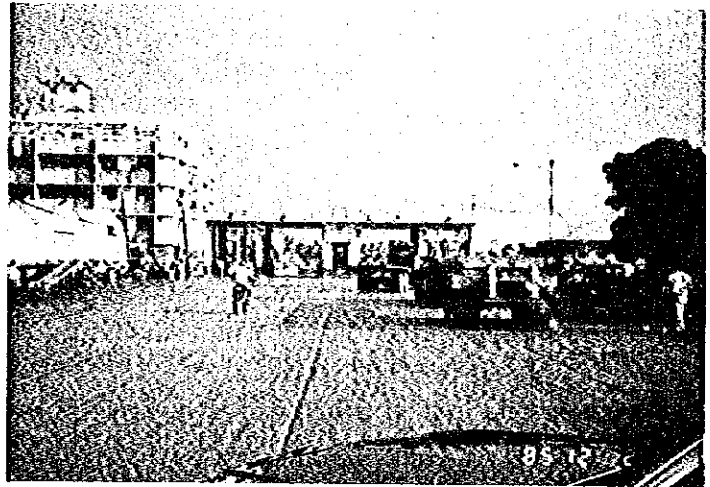






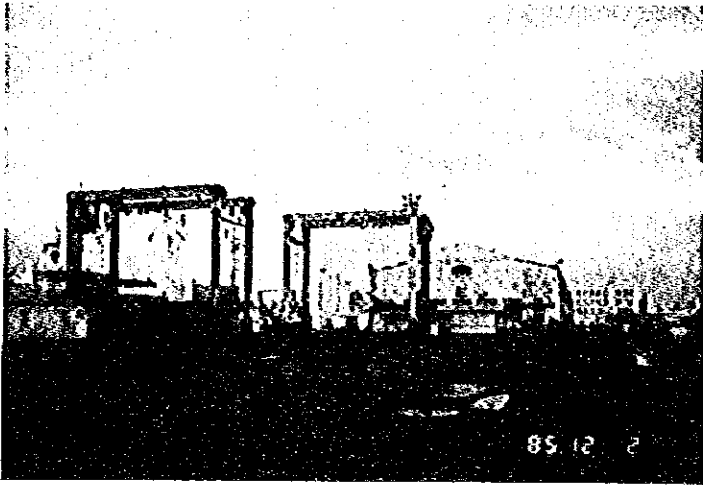
写真① PORT OF MANILA (PMU)  
のオフィス

写真② MANILA SOUTH HARBOUR  
の入口ゲート



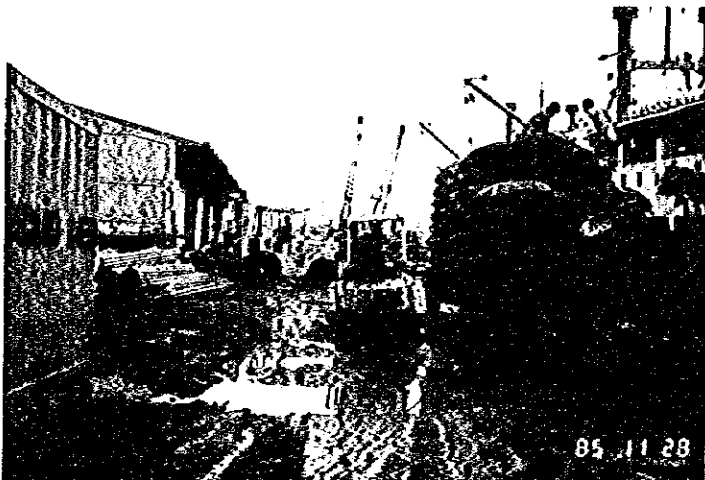
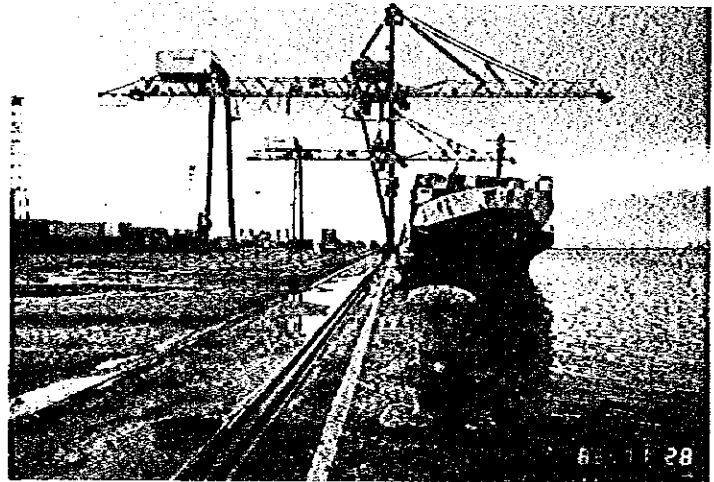
写真③ SOUTH HARBOUR Pier 9





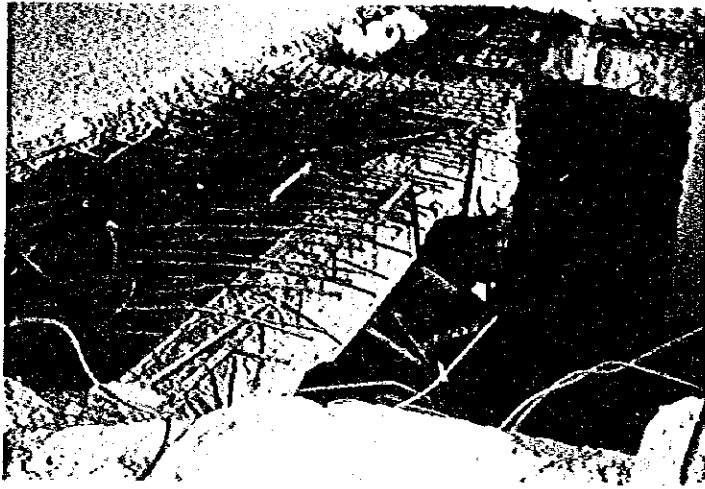
写真④ SOUTH HARBOUR Pier 13

写真⑤ MICTのコンテナ・パース

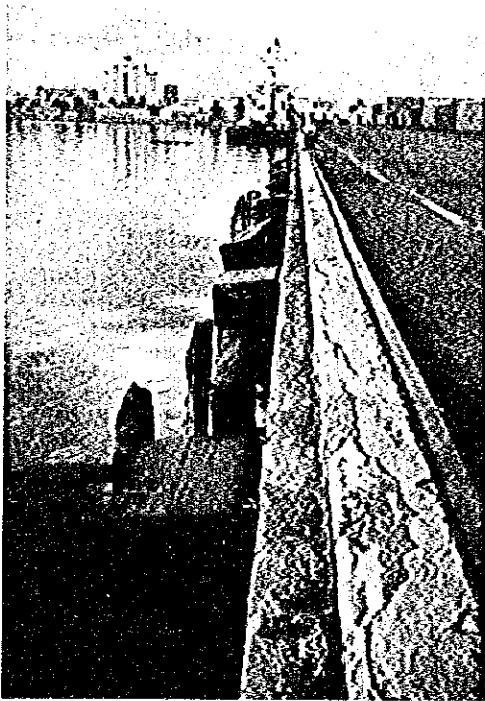


写真⑥ NORTH HARBOUR Pier 16

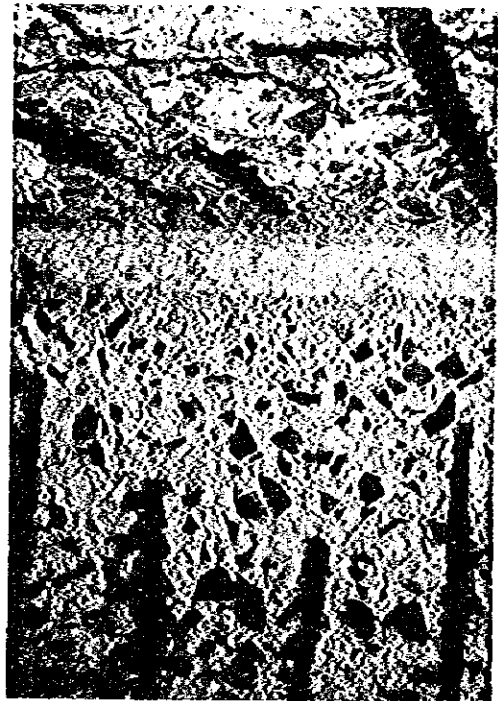




写真⑦ SOUTH HARBOUR Pier 15 の先端中央部



写真⑧ SOUTH HARBOUR Pier 13 の北側



写真⑨ SOUTH HARBOUR Pier 13  
の床版裏面



## 2. 事前調査団の構成及び日程





## A. 調査団の構成

総括	小舟 浩 治 港湾技術研究所 水工部 海象観測研究室長
自然条件	上  菡  晃 第二港湾建設局 横浜調査設計事務所 次長
港湾計画	加 藤 英 夫 第四港湾建設局 下関機械整備事務所 調査課長
経済・財務分析	大 脇  崇 港湾局建設課 国際協力室
業務調整	河 合  篤 JICA 社会開発協力部 開発調査一課

## B. 日 程

11月27日(水)	東京 → マニラ 大使館, JICAと打合, ADBヒアリング
28日(木)	PMU (マニラ) 要請背景ヒアリング マニラ港視察, 団内打合
29日(金)	PPA・I/A協議 資料収集 (PPA)
30日(土)	マニラ港視察
12月 1日(日)	団内打合
2日(月)	NEDA表敬, MOTC表敬 MPWH表敬及び資料確認 PMU (マニラ) マニラ港視察
3日(火)	I/A, M/M協議 昼食会 (対PPA) I/A, M/M署名
4日(水)	団内打合 資料収集・確認 (PPA)
5日(木)	資料収集・確認 (PPA)
6日(金)	JICA事務所, 大使館へ報告
7日(土)	マニラ → 東京



### 3. 面会者リスト



面会者リスト

① 日本側

在フィリピン日本大使館	肥塚 タカシ	一等書記官
	新行内 博行	"
JICA事務所	御手洗	所長
	岡崎 有二	

② フィリピン政府側

PPA	MAXIMO S. DURLAO, SR.	Officer - in - Charge
	NESTOR M. CASTILLO	Manager, Port Planning Dept.
	TOMAS C. QUINTOS, JR.	Deputy Manager, Management Information & Services Dept. Div. Manager, Technical Planning Div.
	PRUDENCIO MERCADO, JR.	Manager, Economic Div., Port Planning Dept.
	Roberto AQUINO	
	Mr. CATALAN	
	ORLANDO B. ANCHETA	OIC, Port Statistics Div., Port Planning Dept.
PMU	EDUARDO MA R SANTON PN	Manager, Port of Manila
(Port of Manila)		
	NESTOR M. TATAMEN	Terminal Operations Officer
	DOUY AMADO QUIAQIT	Chief, Public Affairs Staff,
NEDA	JESUS M. SUNGA	Director, Infrastructure Staff
	VICENTE D. SALAZAR, JR.	Director, External Assistance Staff
	CESAR T. VALBUENA	Chief, Transport Div.,
	RESURRECCION R. SUAREZ (Ms.)	Div. Head, Asian & Pacific Div., EAS
MPWH	ROSALIO A. MALLONGA	Director, Bureau of Design
	EDMUNDO G. ATANACIO	Head, Civil Engineer, Structural

	GREGORIO O. CARRILLO	Div., Bureau of Design Chief, Civil Engineer, Structural Div., Bureau of Design
	早 田 修 一	Japanese Expert
MOTC	Santa Ana	Deputy Minister
LTC	Camiro Guarin	Director, Planning Div.,
	Minelia Casida Mortol.	Planning Div.,
	Kiyoshi SHIMIZU	Japanese Expert
MARINA	Capt. Victorino Basco	Administrator
	Procopio V. De Dios	Director of legal Div.

③ 国際機関

ADB	赤 塚 雄 三	Manager, Ports, Railways and Telecommunications Div.
	柳 生 忠 彦	Project Engineer, "
	近 藤 理	Project Engineer, "

#### 4. I / A 及び M / M

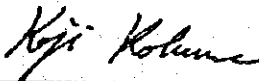




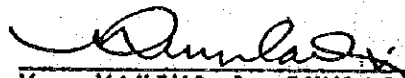
IMPLEMENTING ARRANGEMENT  
ON THE TECHNICAL COOPERATION  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND THE  
PHILIPPINE PORTS AUTHORITY  
FOR THE FEASIBILITY STUDY ON THE  
MANILA SOUTH PORT REHABILITATION PROJECT  
IN THE REPUBLIC OF THE PHILIPPINES

AGREED  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
THE PHILIPPINE PORTS AUTHORITY

DATED: DECEMBER 3, 1985



Mr. KOJI KOBUNE  
Leader  
Japanese Preliminary Study  
Team  
Japan International  
Cooperation Agency



Mr. MAXIMO S. DUMLAOG JR.  
Officer-In-Charge  
The Philippine Ports  
Authority

## I. INTRODUCTION

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the feasibility study for the MANILA SOUTH PORT REHABILITATION PROJECT (hereinafter referred to as "the Study") and exchanged the Notes Verbales with GOP concerning the implementation of the Study.

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of GOJ, will undertake the Study, in accordance with the relevant laws and regulations in force in Japan.

The Philippine Ports Authority of GOP (hereinafter referred to as "PPA") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangement between JICA and PPA under the above-mentioned Notes Verbales exchanged between the two governments.

## II. OBJECTIVES OF THE STUDY

The Study aims at determining the optimum operational use and the development of the existing piers and facilities of the South Harbour of the Manila Port and defining the extent of rehabilitation/demolition required considering the present condition of the pier structures and the proposed development plan.

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### III. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following enumeration.

#### 1. Field Survey

##### a. Natural Condition

- to review existing data on the following natural conditions
  - o soil condition
  - o climatological condition
  - o topographic condition
  - o hydrographic condition
  - o hydrological condition
  - o siltation
- to carry out additional investigations as follows:
  - o soil investigation
  - o topographic survey
  - o wave hindcasting (if necessary)

b. Present situation of cargo flow within the area of Manila Port

c. Inspection of existing pier structures, and the engineering and the functional evaluation of them

#### 2. Review of Master Plan

- a. to review completed and on-going studies and plans, in particular, the Master Plan for the Port of Manila carried out in 1977-1978, in view of the followings:
- hinterland of the port
  - volume of traffic
  - functions of each section of the port
  - land-use nearby the port
  - alignment of access roads

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- b. to prepare alternative operational layouts in the South Harbour

3. Feasibility Study on the Rehabilitation Plan in the South Harbour:

- a. to determine the structures which require rehabilitation or demolition;
- b. to project the traffic volume for the South Harbour;
- c. to define the detailed scope of the plan including construction schedule;
- d. to carry out preliminary designs and cost estimation;
- e. to recommend management and operational systems;
- f. to carry out economic analysis;
- g. to carry out financial analysis.

IV. STUDY SCHEDULE

The study, in principle, will be carried out in accordance with the tentative schedule attached:

V. REPORTS

JICA shall prepare and submit to GOP the following reports in English and the metric system.

1. Inception Report (30 copies)

This report is to contain the program of the Study with its schedule and shall be submitted at the outset of the Study.

2. Interim Report (30 copies)

This report is to contain the outcomes regarding traffic projection, the reviewed Master Plan, alternative operational layouts at the South Harbour, results of the field investigations, findings concerning the engineering

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soundness of existing pier structures and recommendations for rehabilitation and demolition works. It shall be submitted within 8 months after the submission of Inception Report.

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3. Draft Final Report (30 copies)

This report is to contain all outcomes regarding the reviewed Master Plan and the rehabilitation plan. It shall be submitted within 3 months after the submission of Interim Report. Upon the receipt of the Report, GOP shall provide with its comments on the Draft Final Report within 1 month.

4. Final Report (30 copies)

The final report shall be submitted within 2 months after the receipt of the comments on the Draft Final Report by GOP.

VI. UNDERTAKING OF GOP

In accordance with the Notes Verbales exchanged between GOJ and GOP, GOP shall accord privilege, immunities and other benefits to the Japanese study team and through the authorities concerned, take necessary measures to facilitate smooth conduct of the Study.

1. GOP shall be responsible for dealing with claims which may be brought by the third parties against the members of the Japanese study team and shall hold them harmless in respect of claims or liabilities arising in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims or liabilities arise from the gross negligence or willful misconduct of the above-mentioned members.

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2. PPA shall, at its own expense, provide the Japanese study team with the followings, if necessary, in cooperation with other agencies concerned:
  - a. Available data and information related to the Study;
  - b. Counterpart personnel;
  - c. Suitable office space with necessary office equipment in Manila;
  - d. Credentials or identification cards to the members of the Study team;
  - e. Appropriate number of vehicles with drivers.
  
3. PPA shall make necessary arrangements with other governmental and non-governmental organizations concerned for the followings:
  - a. To secure the safety of the Japanese study team
  - b. To permit the members of the Japanese study team to enter, leave and sojourn in the Philippines for the duration of their assignment therein.
  - c. To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other material brought into the Philippines for the conduct of the Study.
  - d. To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with the implementation of the Study.
  - e. To provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into the Philippines from Japan in connection with the implementation of the Study.
  - f. To secure permission for entry into private properties or restricted areas for the conduct of the Study

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- g. To secure permission to take all data and documents (including photographs) related to the Study out of the Philippines to Japan by the study team.
- i. To provide medical services as needed and its expenses will be chargeable on members of the Japanese study team.

VII. UNDERTAKING OF GOJ

In accordance with the Notes Verbales exchanged between GOJ and GOP, GOJ, through JICA, will take necessary measures for the implementation of the Study:

1. To dispatch, at its own expense, study teams to the Philippines;
2. To pursue technology transfer to the Philippine counterpart personnel in the course of the Study;

VIII. CONSULTATION

JICA and PPA shall consult with each other in respect of any matter that may arise from or in connection with the Study.

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*[Handwritten signature]*

TENTATIVE STUDY SCHEDULE

	1st	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Field Survey															
Review of Master Plan															
Feasibility Study															
Inception Report															
Interim Report															
Draft Final Report															
Final Report															

REMARKS:  WORK IN THE PHILIPPINES  WORK IN JAPAN

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MINUTES OF MEETING

The Japanese Preliminary Study Team for the Manila South Harbor Rehabilitation Project (hereinafter referred to as "the Study Team"), headed by Mr. KOJI KOBUNE, Japan International Cooperation Agency, visited the Philippines from November 27 to December 7, 1985. The Study Team had a series of discussions with the Philippine Ports Authority hereinafter referred to as "PPA").

This document sets forth the main issues discussed during the stay of the Study Team in the Republic of the Philippines.

Manila, December 3, 1985



Mr. KOJI KOBUNE  
Leader  
Japanese Preliminary  
Study Team  
Japan International  
Cooperation Agency



Mr. MAXIMO S. DUMLAOG, JR.  
Officer-in-Charge  
Philippine Ports Authority

1. PPA strongly requested that the Draft Final Report be submitted by the end of March, 1987, and the Japanese Study Team promised to convey the request to the Japanese Government.
2. The Japanese Study Team and PPA agreed that the engineering inspection of existing structures should cover all the piers in the South Harbor and the pier No. 8 through No. 16 in the North Harbor, in order to give the fundamental information for the review of the Master Plan.

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5. フィリピン政府要請書及び  
Terms of Reference



## PROJECT PROFILE

PROJECT TITLE : MANILA SOUTH HARBOR REHABILITATION PROJECT (MSHRP)

### PROJECT OBJECTIVE

1. To determine the extent of the damages of the piles and deck and provide solutions to restore their structural capabilities.
2. To determine the operational set-up of the South Harbor in relation to the ultimate transfer of container traffic to the ICT and the transfer of handling of cargoes at the anchorage to the dockside.

### PROJECT BACKGROUND

The Port of Manila is comprised of three distinct parts: SOUTH HARBOR (south of the Pasig River) catering to international trade, NORTH HARBOR (north of the Pasig River) for domestic trade, and the international Port (west of North Harbor) handling containerized international trade.

Well aware of the operational problems due to the existing port facilities, the Government decided to have a Master Plan to establish the optimum development of the facilities in the three distinct parts over a period of fifteen (15) years, beginning 1977. Consequently in 1977-79, a Master Plan Study was undertaken which was partially financed by the Government of the Federal Republic of Germany through the Kreditanstalt fuer Wiederaufbau (KfW).

The Study has shown, among others, that the throughput of the South Harbor was hampered by inadequate storage area and that land access had already reached a high degree of congestion. However, considering the time that has elapsed since the completion of the study, it is deemed imperative to review the previous findings, particularly for South Harbor.

### PROJECT DESCRIPTION

The subject project is the South Harbor which is considered the most important government port of the Philippines. There are

five (5) finger piers on piles, each having an average width of 100 m. and a length of at least 250 m. Two rail-mounted quay cranes are installed in one of the pier used for handling containers. At the other piers, cargo is handled solely by ship's gear or mobile cranes. South Harbor is protected by a shore-connected breakwater (west breakwater) and an offshore breakwater (south breakwater) and inside the sheltered zone are fifteen (15) anchorages.

Loading/unloading of some cargoes are at present being done at the anchorage in view of the inadequacy of facilities to handle these cargoes on the dockside. On the other hand, the International Container Terminal (ICT) is being developed to handle purely foreign container traffic. Upon the full operation of the ICT, it is expected that about 85% of the total container traffic will be diverted to the ICT. Since containerized cargo accounts to about 50% of the South Harbor traffic, the existing facilities at this port will soon be under-utilized. There is a need then to look into the transfer of anchorage activities to the dock side.

The project would then involve the rehabilitation and/or re-orientation of the over-all layout of South Harbor to achieve better access to and from the port to avoid traffic congestion and reorientation of the various existing physical facilities.

#### PROJECT JUSTIFICATION

The transfer of anchorage activities to the dock side would eliminate the double handling of cargoes. Presently, some of these cargoes are loaded on trucks and then transferred to barges along Pasig River where it will ultimately be loaded to vessels at the anchorage. Such practice of loading/unloading render port productivity very low apart from making operations more expensive.

It has also resulted into losses or damages of cargo. The elimination or the minimization of such double handling costs and ship-in-port costs brought about by the low productivity would be the benefits to be derived in the transfer of operation from the anchorage to the dock side.

Likewise, since the international general cargo trade would remain in the South Harbor after transferring the container

trade to the International Port, this would also necessitate the determination of an operational set-up wherein some piers may have to be designated as special piers to handle specific products. It would further involve the possibility of converting the existing container shore crane to be able to handle heavy lifts like steel bars and rolling stock.

With the envisioned changes, there is a need for a thorough review of the Manila Master Plan in the light of its present conditions, the matter of handling present traffic, and the further development of the International Port.

<u>SCHEDULE OF IMPLEMENTATION</u>	-----	1985-1986
<u>PROJECT COST</u>	-----	\$1.5M
<u>SOURCES OF FUND</u>	-----	Grant/Aid

TERMS OF REFERENCE  
FOR  
FEASIBILITY STUDY  
MANILA SOUTH HARBOR  
REHABILITATION PROJECT

I. INTRODUCTION

- 1.01 South Harbor handles the foreign cargo traffic for the Port of Manila. To date, the berths handle general cargo, some steel products and containerized traffic. On the other hand, the anchorage handles lumber, steel products, some bagged cargoes and bulk.
- 1.02 A recent study on the Master Plan for the Port of Manila shows that the condition of the existing pier structures have been damaged at varying degrees that require either rehabilitation and/or demolition.
- 1.03 There is at present an on-going construction of the International Container Terminal (ICT) Project which is expected to be fully operational by 1988. This terminal will handle by that time around 85% of the foreign container traffic being handled now at South Harbor.
- 1.04 The Philippine Ports Authority (PPA) envisions the improvement of the existing piers and facilities of South Harbor in the light of its present conditions, the manner of handling present traffic and the on-going ICT Project.
- 1.05 For the proposed improvement of South Harbor, consultancy services will be needed to undertake a feasibility study. In this connection, the Philippine Ports Authority has requested the Japanese Government for technical assistance.



## II. PROJECT OBJECTIVES

2.01 The envisioned improvement for South Harbor has the following objectives.

- i. The possible operational use and development of the existing piers and facilities taking into consideration the possibility of transferring some handling of cargoes from anchorage to the dockside, the eventual transfer of container traffic to ICT and the possibility of designating some piers for special operational purposes, and
- ii. To define the extent of rehabilitation/demolition required in view of the present conditions of the pier structures vis-a-vis with whatever be the proposed development.

## III. OBJECTIVES OF THE STUDY/GENERAL SCOPE OF SERVICES

3.01 In consonance with the objectives of the proposed Project, the objectives of the Study in which Consultants are required is to determine the technical, financial, operational and economic feasibility of the improvement project. With this in view, the Consultants shall determine the need, scope, operational use, rehabilitation of existing structures and the timing of investment in the improvement of South Harbor. In recommending any

development especially in its operational use due account shall be taken of adapting existing facilities and equipment presently in use.

#### IV. DETAIL SCOPE OF SERVICES

- 4.01 The consultants shall perform all economic, financial and technical studies and analyses necessary to attain satisfactorily the objectives of the Study. It shall include organizing and supervising the execution of field and material investigations, traffic surveys, as well as the verification of the extent of the damages of the pier structures,
- 4.02 The consultants shall review and take into consideration the results of various studies which have been completed or are in progress that affects the development of South Harbor. The studies shall be carried out in consultation and cooperation with the Philippine Ports Authority as the Executing Agency for the Project and concerned government and private agencies.
- 4.03 The Study is envisioned to be carried out in about 10 months and in two stages, excluding the submission of the final feasibility report.
- Stage I
- 4.04 This stage covers a period of five months. The consultants are expected to carry out in this stage the investigation of the conditions of the

existing pier structures and traffic projections;

In detail, the consultant shall inter-alia<sup>v. h. j.</sup>

1. investigate thoroughly the engineering soundness of the existing pier structures, in particular, the extent of damages of fendering system, piles and the pier decks among others.
2. review available soil, climatological, topographic, hydrographic, hydrological, siltation and dredging data and carry out additional investigations if necessary for feasibility study level.
3. based on the investigations and analyses made on the existing pier structures engineering conditions, recommend which structures require rehabilitation or demolition.
4. review completed/on-going studies or plans, in particular, the Master Plan for the Port of Manila carried out in 1977-78, that will affect the volume of traffic to be passing through South Harbor in the future.
5. ~~define the hinterland of the Port and estimate the economic potential of the hinterland in terms of population, production and consumption.~~
6. determine the volume of traffic expected to pass at South Harbor categorized into import and export traffic, type of major commodities, mode of handling, and where being and to be handled (e.g., at dockside or anchorage).
7. projection of traffic for South Harbor shall

be done on a yearly basis for a period of 10 years and every five years thereafter starting at 1995 to 2000 taking into consideration plans like the International Container Terminal (ICT) to handle foreign container traffic and plans of National Food Authority to handle grain traffic.

8. prepare alternative operational layout that could handle the expected traffic taking into consideration the existing facilities at South Harbor.
9. prepare Interim Reports relating to the findings of Stage I as follows:
  - a. Traffic projections and alternative operational layout to include the above required details and recommend the layout to be adapted to be submitted to PPA for review one month before the end of Stage I.
  - b. Results of the field investigations and findings as to the engineering soundness of existing pier structures and recommendations for rehabilitation and demolition works, if required, to be submitted at the end of this stage.

#### Stage II

4. p5 | This stage relates to the preparation of the feasibility study proper for a period of 5 months. In this stage, the consultants shall take into account

the comments of PPA and the Bank on the results of Stage I. Accordingly, the consultants shall, inter alia,

1. refine traffic projections based on comments of PPA and Bank.
2. based on the traffic projection and especially on the traffic that could possibly be diverted from anchorage to dockside handling and the adopted layout, define the detailed scope of the project including additional container cargo handling equipment as necessary.
3. determine the design volume of cargo (Phase I) taking into account study and construction period, rate of growth of traffic and the capacity of existing facilities.
4. prepare preliminary engineering designs and plans, giving adequate information on alternative designs considered and the basis of recommending the proposed design.
5. prepare cost estimates based on current prices for the proposed development, giving estimated quantities of work including adequate details regarding the basis of such quantities and rates.
6. cost estimates shall be broken down into foreign and local cost components indicating separately where relevant contingency allowances for physical and price escalations considered necessary by the consultants. Foreign posts shall further be broken into direct and indirect costs.

7. estimates shall be prepared to a degree of accuracy of about  $\pm 15\%$  and the determined timing of investment.
8. recommend management and operational aspects to ensure effective utilization of the proposed development taking into consideration the present system at South Harbor.
9. in order to determine whether the recommended project is economically viable, the consultant shall carry out a detailed cost-benefit analyses and calculate economic returns for the project using worldwide accepted criterion/criteria like Net Present Value (NPV) and Internal Rate of Return (IRR) including appropriate sensitivity analysis.
10. a qualitative analysis of economic benefits expected to arise from the proposed project but which cannot be quantified will also be required.
11. the consultant shall also determine the viability of the project from the viewpoint of PPA taking into account present PPA port charges and recommend proposed changes in the port charges if the project is found not financially feasible.
12. analysis to determine the feasibility of the project shall be carried out for not less than 20 years.
13. in addition to the above, the consultants are expected to come out with a recommendation in

broad, outline the direction of development if still to be required to meet the traffic after Phase I up to year 2000.

V. SUBMISSION OF REPORTS/DOCUMENTS

5.01 The consultants are required to submit reports/documents to PPA and the Bank, and as follows, among others <sup>ADD</sup>

1. Monthly Progress Reports - within the 10th day of the following month.
2. Interim Reports
  - a. Traffic Projection
  - b. Investigation of Existing Pier Structures
3. Draft Final Feasibility Study Report - at the end of Stage II.
4. Final Feasibility Report - within two months after submission of Draft Final Report.

VI. EXPERTS TO BE PROVIDED

6.01 The following minimum experts are to be provided

- Project Manager
- Port Engineer
- Structural Engineer
- Economist
- Soils Engineer
- Port Operations Specialist
- Financial Analyst
- Estimator
- Electrical/Mechanical Engineer
- Architect

## VII RESPONSIBILITIES OF THE CLIENT FOR THE STUDY

7.01 | PPA is to provide the following facilities during the conduct of consultancy services in the Philippines, namely,

1. Necessary Drafting Equipment
2. Office space required for the Study including office furnitures.

7.02 | The government shall shoulder the local currency requirement of the project to be administered by PPA in accordance with the agreed project budget.

7.03 | Experienced personnel from PPA and from other government agencies if necessary shall be assigned to the Project.



(参 考)

要 請 書 要 旨

- I. 1) マニラ南港は外貨貨物を扱っている。岸壁では、雑貨、鋼材(一部)、コンテナ、沖取りで木材、鋼材、バルク
- 2) マスタープランにおいて、ピア-が老朽化し修復が必要と指摘
- 3) ICTの建設は1988年を目途に実施中、南港で扱っている85%のコンテナを扱う予定
- 4) PPAは現行施設、交通の扱い方法、進行中のICTプロジェクトの改良を着行
- 5) 南港の改修に関しF/Sを日本に要望

II. プロジェクトの目的

- 1) i) 既存施設の改良と運用方法の改善  
取扱貨物の再配置  
沖取り → バース  
コンテナ → ICT  
専用バース化 ← 特殊貨物
- ii) 改修、廃棄の度合を決定

III. 調査の目的

- 1) 改良計画の技術的、財務的、経済的、運営面のフィージビリティを検討する。  
コンサルタントは必要性、範囲、運営方法、施設の改善、投資のタイミングについて調べる。  
運営計画の検討に関しては、現存する施設の使用料収入も考慮のこと。

IV. 詳細内容

- 1) 調査の中には、以下の調査の手配と監督を含むこと。  
bid 調査, material 調査  
交通調査, ピアの損傷調査
- 2) 既存調を使うこと  
PPA, 関係機関, 民間機関とも調整のこと
- 3) 調査は2段階, 10カ月でF/R提出は除く。  
Stage I 5ヶ月  
施設の現状と交通予測
1. 施設現況の現状調査  
2. 必要な自然条件調査

土質、気象、地形、漂砂、浚渫データ

3. 改修、廃棄する施設の選定
4. 既存調査のレビュー、特にマスタープラン
5. 背後圏の設定と経済ポテンシャルの検討（人口・生産・消費）
6. 貨物量予測……輸出入別、タイプ別
7. 貨物量予測は10年間各年毎に、1995～2000年は5年毎に。ICT及びNFA等の計画も考慮のこと。
8. 荷役施設の配置の代替案…南港既存施設を考慮して
9. インテリムレポート作成
  - a. 貨物量予測と施設配置  
stage I終了1ヶ月前に提出
  - b. 現地調査結果、施設現況をふまえて改修、廃棄の提言。

Stage II 5ヶ月

I/Sの用意。stage Iに対するコメントを受けて

1. 貨物量予測の retire
2. 貨物量（沖取り→岸壁により増大する量も含めて）プロジェクトの範囲を決める（コンテナ荷役システムの拡張も含めて）
3. Phase Iの貨物量を決定する以下を考慮  
（建設期間、交通量増大、現在施設の容量）
4. 基本設計
5. コスト積算
6. 内外貨分け、予備費を含んで  
外貨は直接費と間接費に分けて
7. コストは±15%で、投資のタイミングも、
8. 管理運営計画
9. 費用効果分析と economic return  
世界に認められた指標を使う  
NPUとIRR
10. 定量化されない定性的経済効果についての解析
11. PPAの港湾使用料を考慮してプロジェクトの健全性を検討。財務的に無理であれば使用料の変更も考える。
12. 20年間の当プロジェクトのフィージビリティの検討。
13. Phase Iで2000年の貨物量が達成できない場合には、その後の実施に向けて広範なリコメンデーションを行う。

## V. レポート

1. 月間レポート 10日以内
2. インテリムレポート
  - a. 交通予測
  - b. 既存施設の現況
3. D/F…… stage IIの終わり
4. F/R…… D/F後2ヶ月

## VI. 専門家

1. 総括
2. 港湾技師
3. 構造技師
4. エコノミスト
5. 土質
6. 管理・運営
7. 財務
8. 積算
9. 機械・電気
10. 建築

## VII. PPAの責任

- 1.1) 製図機械
- 2) 事務室
  
2. ローカルコスト分の負担
3. カウンターパート (PPA及び関係機関)



## 6. 収集資料リスト



収集資料リスト

1. マニラ港港務統計作成のための原票例コピー (内貨及び外貨)
2. Annual Report 1984 ( P P A )
3. PMU - MANILA 財務三表, ( 1983 年, 1984 年)
4. Port Tariff Rates ( 1983 年, 1984 年)
5. Port of Manila , 港務取扱量の推移表 ( 1977 年 ~ 1984 年)
6. マニラ港平面図 1 : 10,000 (全体)  
" 南港平面図 1 : 2,000  
" 北港 " 1 : 4,000
7. Economic Feasibility Study for Domestic Container Terminal at Metro Manila North Harbor ( 1980 - 1981 ) by Lyon Associates , Inc. 他の Summary 部分のコピー。
8. Bureau of Land Transportation , Annual Accomplishment Report , 1984 年 1 月 ~ 12 月。
9. 同 上 , Statistics 1984





## 7. 質 問 表



**QUESTIONNAIRE**

**Nov. 1985**

**Japanese Preliminary Survey Team**

**on**

**The Manila South Harbour Rehabilitation Project**

**Japan International Cooperation Agency**

I. GENERAL

1. The preliminary study team would like to obtain general informations on the followings;
  - (1) The relation between this rehabilitation study of South Harbour and the Master Plan (1977-1978)
  - (2) Construction schedule of ICT (International Container Terminal)
  - (3) Area of plan
    - 1) Master Plan (1977-1978)
    - 2) Rehabilitation Plan Of South Harbour
  - (4) Target year
    - 1) Master Plan (1977-1978)
    - 2) Rehabilitation Plan of South Harbour
  - (5) Priority of urgent problems in Manila Port
    - container trade
    - general cargo trade
    - bulk trade
    - handling at anchorage
    - shortage of back up area
    - access road
  - (6) Road Plan including Route-10
2. We would like to have your ideas on the development policy of Manila Port.

## II. INFORMATION AND DATA ON MANILA PORT

1. The data and the information of the items listed on separate sheets of paper will be necessary for the study on the Manila South Port Rehabilitation Project. It is, thus, one of the tasks for the preliminary survey team to get outlines of the main items and know the availability of these data during our stay in the Philippines.
2. The team would like to inquire your opinion on a demand for a field survey on a cargo flow in the light of present situation of Manila Port.

## III. OTHERS

1. Please indicate, if possible at this time, who will be the counterparts of the Philippines side for the Japanese full scale study team.
2. Please show us, if available, the reports concerning Manila Port.

I. Social/Economic Data

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE OR NOT	PLACE OF AVAILABLE DATA				
	<p>Latest five year annual report/year book/statistics on national and regional economy and economic indicators:</p> <p>(a) GNP</p> <p>(b) Consumption</p> <p>(c) Population</p> <p>(d) Outputs of agriculture <sup>1/</sup></p> <p>(e) Mining products <sup>2/</sup></p> <p>(f) Manufacturing products</p> <p>(g) Transportation activities:</p> <ul style="list-style-type: none"> <li>+ Commodity flow</li> <li>+ Modal split of passengers and cargo traffic</li> <li>+ Traffic volumes and number of vehicles and rolling stocks</li> </ul> <p>(h) Others</p> <p>Materials of latest national/regional economic development plans/programs:</p> <p>(a) Development programs of transportation facilities:</p> <ul style="list-style-type: none"> <li>+ Road</li> <li>+ Railway</li> <li>+ Port</li> <li>+ Others</li> </ul>	<p>Yes NEDA</p> <p>Yes MOA</p> <p>Yes PPA</p> <p>Yes NEDA, NCSO</p> <p>Yes - do -</p> <p>Yes - do -</p> <p>Yes</p> <p>Yes</p>	<p>PHILIPPINE STATISTICAL YEAR BOOK (1984)</p> <p>Regional Consumption Factors for Major Foods ('77-'80)</p> <p>PHILIPPINE POPULATION PROJECTIONS</p> <p>Philippine Yearbook (NCSO)</p> <p>Philippine Statistical Yearbook (NEDA)</p> <p>- do -</p> <p>- do -</p> <p>1. NIPP Final Report</p> <p>2. Philippine Yearbook (NCSO)</p> <p>Major On-going Infrastructure Projects (NEDA)</p> <p>Port Infrastructure Program (PPA)</p> <p>Selected Major Development Projects (NEDA, Dec. 1984)</p>	<p>NEDA</p> <p>MOA</p> <p>NEDA</p> <p>NEDA, NCSO</p> <p>- do -</p> <p>- do -</p> <p>MOTC</p> <p>NCSO</p> <p>NEDA</p> <p>PPA</p> <p>NEDA</p>			

1 For Agriculture, also contact BAECON, AR (Consult 1982 Fisheries Statistics of to Philippines)

2 For Mining, also contact EMGS (Mineral News Service)

I. Social/Economic Data

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	(b) Food plan	?	MOA, NFA	Ministry of Agriculture, National Food Authorityで確認の要あり NEDA に対して最近の long-term development plans をチェックの要あり			
	(c) Long term forecast of economic indicators	?	NEDA				

ii. Data of Manila Port

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	<p><b>Maps:</b></p> <p>Layout of existing port facilities</p> <p>Port plan (past, present, future)</p> <p>+ the scale of 1:10000</p> <p>+ the scale of 1: 2500</p> <p>Maps of developing area</p> <p><b>Natural conditions</b></p> <p>(a) Soil condition</p> <p>1) Geological map</p> <p>2) Boring Log</p> <p>3) Soil characteristics including N-value</p> <p>(b) Climatological condition</p> <p>1) Climate (general)</p>	Yes	PPA/MPWH	入手済み 入手済み (南港…… 1 : 2,000, 北港…… 1 : 4,000)			
		Yes	PPA				
		Yes	do -				
		No					
		Yes	MPWH/BCGS				
		Yes	MPWH				
		Yes	MPWH/BCGS/ Bureau of Soils				
		Yes	PPA				
		Yes	PAG-ASA	Master Plan of Manila Port のレポート 及びDOTレポートがある。			

II. Data of Manila Port

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	7) Records of large tsunami	No					
	8) River flood (Pasig River)	Yes	MPWH				
	(f) Siltation (including dredging data)	Yes	PPA-MED				
	Latest data of port facilities :						
	(a) Depth, width and length of channels and basins	?	MPWH	Manila Port Situation Study (for ICT) (ただし、南港部分はない)			
	(b) Depth, length and construction year of each berth	?	MPWH	ただし、Frame viewのみ			
	(c) Plane figures of breakwater	Yes	MPWH				
	(d) Area and structures of transit sheds, ware-houses and open storage areas	Yes	PPA				
	(e) Type, capacity and manufacturing year of cargo handling equipments	No	Private Contractor				
	(f) Type, capacity and some other informations of port facilities not mentioned above	Yes		Ro-Ro Facility について Australian National Line が所有			
	Detail data on existing pier structures in South Harbour to have a possibility to be rehabilitated		including Pier 8V16	一般的に AASHO, H-20 Loading を使用			
	(a) Specifications	?	MPWH				
	(b) Statements of design calculation	?	- do -				
	(c) Bar arrangement drawing	?	- do -				



II. Data of Manila Port

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE OF NOT	PLACE OF AVAILABLE DATA				
	2) Wind statistics	Yes	PAG-ASA		Local Weather Bureau		
	3) Records of strong winds	Yes	PAG-ASA				
	4) Statistics of meteorological conditions such as rain fall, fog, and atmospheric temperature	Yes	- do -				
	5) Weather maps of anomalous weather condition	Yes	- do -				
	6) Earthquake	Yes	- do -				
	(c) Topographic condition						
	1) Topographical map	?	MWH/Bureau of Lanes				
	2) Aerial photograph	?	- do -				
	(d) Hydrographic condition						
	1) Marine chart	Yes	PPA				
	2) Bench mark						
	3) Sounding data						
	(e) Hydrological condition						
	1) Wave statistics						
	2) Record of high waves	Yes	PAG-ASA/BCCS				
	3) Tidal level						
	4) Records of anomalous tidal level such as storm tide						
	5) Tidal current						
	6) Littoral drift						

III. Data of Manila Port - Port Activities

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE	
		AVAILABLE OR NOT	PLACE OF AVAILABLE DATA					
	<p>Activities in the hinterland:</p> <p>(a) Area (present and future)</p> <p>(b) Economic indicators concerned with above area</p> <p>Cargo traffic (annual data for recent five years)</p> <p>(a) Cargo traffic by export/import, by main routes and by commodity</p> <p>(b) Cargo traffic by inward/outward (domestic) and by commodity</p> <p>(c) Cargo traffic by commodity and by berth and anchorage</p> <p>(d) Cargo traffic between the port and its hinterland by mode (including by river) and by commodity</p> <p>(e) Containerized cargo traffic by export/import (domestic) and by commodity</p> <p>(f) Containerized cargo traffic by inward/outward (domestic) and by commodity</p> <p>(g) Flow of cargo handled by barges</p> <p>Number of ship arrivals (for recent five years) by ship tonnage, by ship type and by berth and anchorage</p> <p>Number of barges</p> <p>Land proprietary style in Manila Port</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>?</p> <p>-</p>	<p>PPA</p> <p>PPA</p> <p>- do -</p> <p>- do -</p> <p>- do -</p> <p>PPA</p> <p>- do -</p> <p>- do -</p> <p>PPA</p> <p>PPA</p> <p>PPA</p>	<p>DCI Study 参照</p> <p>貨物量の統計については、各船舶毎の work sheet をもとに集計を行っている。この work sheet はコピーを入手。貨物の種類ごとのデータはコンテナナについてのみあり、その他については全くなかった。また、ship-consignee のデータはなかった。</p> <p>ヒアリングによれば</p>				

III. Data of Manila Port - Port Activities

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	Use of transit sheds, ware-houses and open storage area	Yes	PPA (PMU-Manila)				
	(a) Present situation						
	1) Commodity						
	2) Volume of cargo						
	Port charge in Manila Port	Yes	PPA	1983. 84年について入手済み			

IV. Data of Manila Port - Surrounding Conditions

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	Surrounding conditions :						
	(a) Present situation of land use in the vicinity of Manila Port	Yes	Human Settlements/MMG				
	(b) City plan or land use plan in the vicinity of Manila Port	-do-	- do -				
	(c) Fishery activities and fishery right at Manila Port and its vicinity	Yes	BFAR				
	(d) Coastal leisure facilities and number of tourist in the vicinity of Manila Port	Yes	Philippine Tourism Authority				
	(e) Environmental factors to be considered						
	(f) Data on port administration and port operation :	Yes	PPA (PMU-Manila)				
	1) Organization, function and number of personnel in each section of PMU	-do-	- do -				

IV. Data of Manila Port - Surrounding Conditions

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	2) Annual budget (income and expenditure) for recent five years	Yes	PPA - Finance PMU-Manila	1983, 84年については財務三表を入手済み			
	3) Government offices and relevant enterprises	?					
	4) Procedure for port usage	?					
	5) Map of port-district, port boundary and port area	Yes	PPA-Head Office PMU-Manila				

V. Data of Manila Port - Roads connected with Manila Port

No.	ITEM OF NECESSARY DATA	AVAILABILITY		TITLE OF DOCUMENTS OR MAPS	AUTHORS OR SOURCE	PAPER PAGE	LANGUAGE
		AVAILABLE or NOT	PLACE OF AVAILABLE DATA				
	<p>Road</p> <p>(a) Map of existing road connected with and around Manila Port</p> <p>(b) Latest data of road facilities</p> <p>1) Width, length, permissible weight, rate of pavement and construction year of each route</p> <p>2) Required time for carrying freight by each route</p> <p>3) Volume of traffic in each route</p> <p>4) Traffic congestion in each route</p>		(Yes) MPWH/MOTC	<p>・1978年のMaster Plan Studyの際に調査                      ・MPWHも調査を行った。                      ・MOTCの行ったLRIT (Light Railway Transportation) に関する調査も参考になるだろう。                      また、メトロ・マニラ交通調査も行われる。</p>			

8 PPA関係諸統計表

(出典：PPA Annual Report 1984)

## Statistical Tables

TABLE NO. 1 CARGO TONNAGE BY PORT MANAGEMENT UNITS

PORT MANAGEMENT UNIT	1984 CARGO TONNAGE			1983 CARGO TONNAGE		
	TOTAL	DOMESTIC	FOREIGN	TOTAL	DOMESTIC	FOREIGN
Manila	20587886	10854873	9733013	23459012	11630405	11828607
Cagayan de Oro	10485558	1854977	8630581	8790940	1909612	6881328
Batangas	8822168	3138720	5683448	8735995	3328939	5407056
Cebu	6477889	5700165	777724	6134256	5075254	1059002
Iloilo	4297941	3351575	946366	4545206	3391925	1163281
Davao	3150962	1989397	1161565	3325193	1807403	1517790
Iligan	1978452	1327855	650597	2447290	1538844	908446
Zamboanga	1279887	1235214	44673	1963915	1473852	490063
Surigao	984188	789984	194204	1661109	929373	731736
San Fernando	961400	539585	421815	1322149	543338	778811
Tacloban	1188149	1164201	23948	1250160	987198	262962
General Santos	1032774	771771	261003	1132360	818114	314254
Dumaguete	783000	564244	218756	963676	665658	298018
Legaspi	624952	565193	59759	768320	664347	103973
Masao	740002	516215	223787	797385	582240	215145
Puerto Princesa	453828	153761	300067	733271	249187	484084
Polloc	495841	432659	63182	542691	498812	43879
Irene	318254	216453	101801	387438	238276	149162
Jolo	180892	180892	0	226481	226481	0
<b>TOTAL</b>	<b>64844023</b>	<b>35347734</b>	<b>29496289</b>	<b>69186855</b>	<b>36559258</b>	<b>32627597</b>

**TABLE NO. 2 PASSENGER STATISTICS BY PORT MANAGEMENT UNITS**

PORT MANAGEMENT UNIT	1984 PASSENGER TRAFFIC			1983 PASSENGER TRAFFIC		
	TOTAL	DISEMBARKED	EMBARKED	TOTAL	DISEMBARKED	EMBARKED
Manila	3493485	1758401	1735084	2881477	1460988	1420489
Cagayan de Oro	701341	352323	349018	778643	356425	422218
Batangas	1539263	839458	699805	954556	539491	415065
Cebu	4225826	2110512	2115314	5259861	2532070	2727791
Iloilo	1526649	790258	736391	1822115	940269	881856
Davao	155038	79779	75259	200164	91444	108720
Iligan	468229	221800	246429	476813	221504	255309
Zamboanga	1603376	842563	760813	1810424	988366	822058
Surigao	362012	181532	180480	425820	211895	213925
San Fernando	0	0	0	0	0	0
Tacloban	1090613	558526	532087	1230380	630818	599564
General Santos	103310	47300	56010	136003	62884	73119
Dumaguete	941865	518917	422948	1134031	597474	536557
Legaspi	320386	168528	151858	339198	172912	166286
Masao	366149	176553	189596	473054	203812	269242
Puerto Princesa	59837	29155	30682	70254	29974	40280
Polloc	213629	123196	90433	240339	133596	106743
Irene	0	0	0	0	0	0
Jolo	696426	348966	347460	654356	350245	304111
<b>TOTAL</b>	<b>17867434</b>	<b>9147767</b>	<b>8719667</b>	<b>18887488</b>	<b>9524155</b>	<b>9363333</b>

TABLE NO. 3 SHIPPING DATA BY PORT MANAGEMENT UNITS

PORT MANAGEMENT UNIT	NUMBER OF VESSELS		AVERAGE G. R. T.	
	1984	1983	1984	1983
MANILA	13992	15410	2381	2607
CAGAYAN DE ORO	4890	3815	1903	2301
BATANGAS	10884	10343	985	994
CEBU	23141	26517	624	649
ILOILO	16821	18353	501	487
DAVAO	2286	2420	3300	3235
ILIGAN	3510	3660	1236	1395
ZAMBOANGA	11007	12245	391	546
SURIGAO	5392	7141	391	404
SAN FERNANDO	454	413	2209	3373
TACLOBAN	5420	5632	716	693
GENERAL SANTOS	1077	1164	2161	2029
DUMAGUETE	9791	11141	221	241
LEGASPI	4949	5991	239	295
MASAO	1925	2069	1158	1132
PUERTO PRINCESA	1145	1711	432	430
POLLOC	3365	4514	349	302
IRENE	370	448	1879	2056
JOLO	5509	6275	190	153
TOTAL	125728	139261	877	907

TABLE NO. 4. CONTAINER TRAFFIC, PORT OF MANILA

PARTICULARS	SOUTH HARBOR (Foreign)		M.A. INTL. CONTAINER TERMINAL (Foreign)		NORTH HARBOR (Domestic)	
	1984	1983	1984	1983	1984	1983
I. Cargo Throughout (m.t.)	4934787	5056219	912415	995867	6731000	7200720
Containerized Cargo	971062	1311127	903682	970795	3384113	3421188
Inward	625857	953687	602508	752670	1682604	1557360
Outward	345205	357440	301174	218125	1701509	1863828
Non-Containerized Cargo	3983725	3745092	8733	25072	3346887	3779532
Inward	2126170	3174474	8733	24262	2215473	2357165
Outward	1837555	570618	0	810	1131414	1422367
II. No. of Containers (TEU)	125240	159992	111085	133309	234558	262260
Inward	69723	86514	57160	66117	113557	127890
Empty	12707	4198	9177	4120	5782	16877
Loaded	58016	82316	47983	61997	107775	111203
Outward	56517	73478	53925	67192	121001	134380
Empty	9034	26383	10511	23787	20599	11511
Loaded	47483	47095	43414	43405	100402	122869

**TABLE NO. 5 CONTAINERIZED CARGO**  
1984

NAME OF PORT	GRAND TOTAL	D O M E S T I C			F O R E I G N		
		TOTAL	INWARD	OUTWARD	TOTAL	IMPORT	EXPORT
PORT OF MANILA	5269276						
South Harbor	971062				971062	625857	345205
Mla. Intl. Cont. Terminal	903682				903682	602508	301174
North Harbor	3384113	3384113	1682604	1701509			
Private Port	5413				5413	3579	1834
CEBU	567701	498758	320928	177830	68943	41900	27043
ILOILO	170345	170345	98993	71352			
CAGAYAN DE ORO							
Base Port	278467	278467	142107	136360			
Private Port	66921				66921	8464	58457
DAVAO	672489	665760	315696	350064	6729	3825	2904
ILIGAN							
Base Port	60629	60096	21877	38219	533	174	359
Ozamis	113246	113246	55849	57397			
SURIGAO	17084	17084	11164	5920			
GENERAL SANTOS	258580	258580	77430	181150			
DUMAGUETE	24438	24438	15735	8703			
LEGASPI							
Tabaco	30035	30035	19785	10250			
MASAO							
Nasipit	19845	19845	14246	5599			
PUERTO PRINCESA	32444	32444	17644	14800			
POLLOC	119247	119247	52692	66555			
<b>TOTAL</b>	<b>7695741</b>	<b>5672458</b>	<b>2846750</b>	<b>2825708</b>	<b>2023283</b>	<b>1286307</b>	<b>736976</b>



表 — 損益計算書

**PHILIPPINE PORTS AUTHORITY**  
**COMPARATIVE CONSOLIDATED STATEMENT OF REVENUE AND EXPENSES**  
 For the Years Ended December 31, 1984 and 1983

Revenue from Operations	1984	1983	Increase (Decrease)
Berthing Charges	P 45,920,434.73	P 27,252,095.37	P 18,668,339.36
Anchorage Fees	10,199,915.93	2,601,602.82	7,598,313.11
Wharfage Dues	181,536,637.81	175,094,652.20	6,441,985.61
Storage Charges	26,719,361.52	34,117,884.71	( 7,398,523.19)
Arrastre Income	85,920,063.52	64,444,204.36	1,475,859.16
Port Usage Fee	27,645,287.07	21,805,982.64	5,839,304.43
Lay-up Fee	1,559,053.62	1,279,442.62	279,611.00
Harbor Fee	33,250,937.13	18,952,522.90	14,298,464.23
Other Income	31,771,463.69	25,688,502.15	6,082,961.54
Fund Management Income	58,809,409.98	36,690,080.76	21,919,349.22
<b>Total Revenue</b>	<b>P503,332,615.00</b>	<b>P428,126,950.53</b>	<b>P 75,205,664.47</b>
<b>Less: Operating Expenses (Note d)</b>			
<b>Personal Services:</b>			
Salaries & Wages	P 34,291,824.78	P 31,543,667.32	P 2,748,157.46
Social Security Premium	4,158,355.27	4,196,513.52	( 38,158.25)
Manpower Development	42,098.39	602,331.56	( 560,233.17)
Professional Fees	156,753.00	157,483.40	( 720.40)
Other Staff Benefits	24,222,159.77	22,206,345.27	2,015,814.50
<b>Maintenance &amp; Operating Expenses:</b>			
Repairs & Maintenance (Note 9)	41,837,915.33	19,740,844.41	22,097,070.92
Supplies & Materials	1,916,148.44	1,879,770.93	36,377.51
Fuel, Oil & Lubricant	1,743,246.49	589,210.11	1,154,036.38
Light, Power & Water	4,625,824.87	3,747,645.77	878,179.10
Rent	3,736,318.88	3,339,321.26	396,997.62
Travelling	1,050,188.87	1,663,458.97	( 613,270.10)
Security Services	3,963,772.11	4,430,564.95	( 466,792.84)
Representation	483,557.90	492,740.21	( 9,182.31)
Communication Services	932,368.85	757,319.89	175,048.96
Athletics	51,400.00	180,063.34	( 128,663.34)
Taxes, Licenses & Fees	15,517,695.32	12,841,616.57	2,676,078.75
Insurance	8,265,385.66	1,982,841.66	6,282,544.00
Advertising & Promotion	7,606.00	180,162.75	( 172,556.75)
Donation & Contribution	5,000.00	-	5,000.00
Bank Charges	8,761.34	5,619.06	3,142.28
Miscellaneous	1,372,689.57	1,599,611.19	( 226,921.62)
Auditing Services	3,481,044.02	3,223,477.44	257,566.58
Meeting & Conferences	278,148.05	399,955.40	( 121,807.35)
Medical Expenses	705,048.65	752,071.34	( 47,022.69)
Interest on Loans	-	80,420,525.36	( 80,420,525.36)
Depreciation Expenses	88,947,969.51	78,534,227.93	10,413,741.58
Dredging Expense	50,829,720.00	32,970,709.55	17,859,010.45
Amortization of Vitas Project	13,705,503.29	10,861,838.29	2,843,665.00
<b>Total Operating Expenses</b>	<b>P306,336,514.36</b>	<b>P319,299,937.45</b>	<b>(P 12,963,423.09)</b>
<b>Add: Other Expenses in excess of Appropriation:</b>			
Interest on Loans	P 93,021,565.44	-	P 93,021,565.44
Currency Exchange Adjustments	35,187,935.42	-	35,187,935.42
<b>Total</b>	<b>P128,209,500.86</b>	<b>-</b>	<b>P128,209,500.86</b>
<b>Total Operating Expenses &amp; Other Expenses in excess of Appropriation</b>	<b>P434,546,015.22</b>	<b>P319,299,937.45</b>	<b>P115,246,077.77</b>
<b>Net Income (Loss) from Operations</b>	<b>P 68,786,599.78</b>	<b>P108,827,013.08</b>	<b>(P 40,040,413.30)</b>

表 一 貸借对照表(資産勘定)

PHILIPPINE PORTS AUTHORITY  
COMPARATIVE CONSOLIDATED BALANCE SHEET  
As of December 31, 1984 and 1983

ASSETS			
Current Assets	1984	1983	Increase (Decrease)
Cash on hand and in banks (Note 1) P	183,348,402	P 227,985,754	(P 44,637,352)
Temporary Investments (Note 2)	418,356,862	291,757,679	126,599,183
Accounts Receivable	49,340,162	44,854,572	4,485,590
Other Current Assets (Note 3)	123,521,770	125,693,418	( 2,171,648)
<b>Total Current Assets</b>	<b>774,567,196</b>	<b>690,291,423</b>	<b>84,275,773</b>
<b>Permanent Investment</b>			
Bond Sinking Fund (Note 4)	10,646,276	10,286,258	360,018
<b>Fixed Assets</b>			
<b>Non-Depreciable Assets</b>			
Land	604,732,197	604,732,197	—
Construction in progress	948,055,517	716,649,204	231,406,313
<b>Total Non-Depreciable Assets</b>	<b>1,552,787,714</b>	<b>1,321,381,401</b>	<b>231,406,313</b>
<b>Depreciable Assets</b>			
Land Improvement	2,253,165,639	2,253,792,941	( 627,302)
Furniture, Fixtures & Equipment	578,201,085	555,487,068	22,714,017
<b>Total Depreciable Assets</b>	<b>2,831,366,724</b>	<b>2,809,280,009</b>	<b>22,086,715</b>
Less: Accumulated Depreciation	1,050,374,772	963,086,699	87,288,073
<b>Total Net of Depreciation</b>	<b>1,780,991,952</b>	<b>1,846,193,310</b>	<b>( 65,201,358)</b>
<b>Total Fixed Assets</b>	<b>3,333,779,666</b>	<b>3,167,574,711</b>	<b>166,204,955</b>
<b>Deferred Charges</b>			
Deferred Dredging	—	127,393,704	( 127,393,704)
<b>Total Deferred Charges</b>	<b>—</b>	<b>127,393,704</b>	<b>( 127,393,704)</b>
<b>Other Assets</b>			
Contingent Assets	3,750,622	4,134,989	( 384,367)
<b>Total Other Assets</b>	<b>3,750,622</b>	<b>4,134,989</b>	<b>( 384,367)</b>
<b>TOTAL ASSETS</b>	<b>P4,122,743,760</b>	<b>P3,999,681,085</b>	<b>P123,062,675</b>

表 — 貸借対照表(負債勘定)

**LIABILITIES AND NET WORTH**

	1984	1983	Increase (Decrease)
<b>Current Liabilities (Note 5)</b>			
Accounts Payable	P 199,876,574	P 240,553,818	(P 40,678,244)
Other Current Liabilities	15,149,949	13,157,092	1,992,857
<b>Total Current Liabilities</b>	<b>215,025,523</b>	<b>253,710,910</b>	<b>( 38,685,387)</b>
<b>Long Term Liabilities (Note 6)</b>	<b>1,066,046,304</b>	<b>854,909,668</b>	<b>211,136,636</b>
<b>Other Liabilities</b>			
Contingent Liabilities	300,901	232,039	68,862
<b>TOTAL LIABILITIES</b>	<b>1,281,372,728</b>	<b>1,108,852,617</b>	<b>172,520,111</b>
<b>NETWORTH</b>			
Capital Contribution	P2,390,761,703	P2,390,768,139	(P 6,436)
Surplus Reserve	4,164,635	3,804,427	360,208
Retained Earnings 1983/1982 (Note 7)	496,255,902	400,446,762	95,809,140
Less: Correction on Prior Year's Earning Balance	118,597,808	13,017,873	105,579,935
(Add: Net Income from Operations)	68,786,600	108,827,013	( 40,040,413)
Retained Earnings — 1984/1983	446,444,694	496,255,902	( 49,811,208)
<b>TOTAL NETWORTH</b>	<b>2,841,371,032</b>	<b>2,890,828,468</b>	<b>( 49,457,436)</b>
<b>TOTAL LIABILITIES AND NETWORTH</b>	<b>P4,122,743,760</b>	<b>P3,999,681,085</b>	<b>(P123,062,675)</b>

表 - 資金運用表

**PHILIPPINE PORTS AUTHORITY**  
**CASH FLOW STATEMENT**  
 For the Year Ended December 31, 1984

Cash Balance, January 1, 1984		P 227,985,764
Add: Cash Inflow:		
Port Operating Revenue	P440,037,615	
Interest Income	52,463,496	
Foreign Loan Availments	202,920,875	
Proceeds from Sale of		
Investments	651,848,644	
Others	1,936,251	
Total Cash Inflow		<u>1,349,206,881</u>
Cash Available		<del>P</del> 577,192,635
Less: Cash Outflow:		
Operating Expenses	P145,818,591	
Debt Service:		
Interest	47,577,706	
Principal	66,975,196	
Infrastructure Project	191,845,011	
Dredging Project	50,829,720	
Purchase of Investments	779,809,903	
Others	110,988,106	
Total Cash Outflow		<u>1,393,844,233</u>
Cash Balance, December 31, 1984		<u><u>P 183,348,402</u></u>







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