

Final Report

**The Study on the Master Plan
for the Strategic Development of The National Port
System in the Republic of the Philippines**

Main Report



January 2004

The Overseas Coastal Area Development Institute of Japan (OCDI)

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Japan International Cooperation Agency (JICA)
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PREFACE

In response to a request from the Government of the Republic of the Philippines (hereinafter referred to as “GOP”), the Government of Japan decided to conduct a Study on the Master Plan for the Strategic Development of the National Port System in the Republic of the Philippines and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team to the Philippines three times between October 2002 and January 2004, which was headed by Mr. Hisao Ouchi of the Oversea Coastal Area Development Institute of Japan (OCDI) and was comprised of OCDI.

The team held discussions with the officials concerned of the GOP and conducted the field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the strategic development of ports in the Philippines and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of GOP for their close cooperation extended to the team.

January 2004

Kazuhisa Matsuoka

Vice President

Japan International Cooperation Agency

LETTER OF TRANSMITTAL

January 2004

Mr. Kazuhisa Matsuoka
Vice President
Japan International Cooperation Agency

Dear Mr. Matsuoka:

It is my great pleasure to submit herewith the Final Report of “Study on the Master Plan for the Strategic Development of the National Port System in the Republic of the Philippines”.

The study team composed of the Overseas Coastal Area Development Institute of Japan (OCDI) conducted surveys in the Republic of Philippines over the period between October 2002 and January 2004 according to the contract with the Japan International Cooperation Agency (JICA).

The Study Team compiled this report, which proposes PPOSS (Philippine Port System Strategy) including the master plan for the strategic development of the national port system with the target year 2024 and the initial five-year port development strategy for the identified priority ports with the target year of 2009, through close consultation with officials of the Department of Transportation and Communications of the Philippine Government and other authorities concerned.

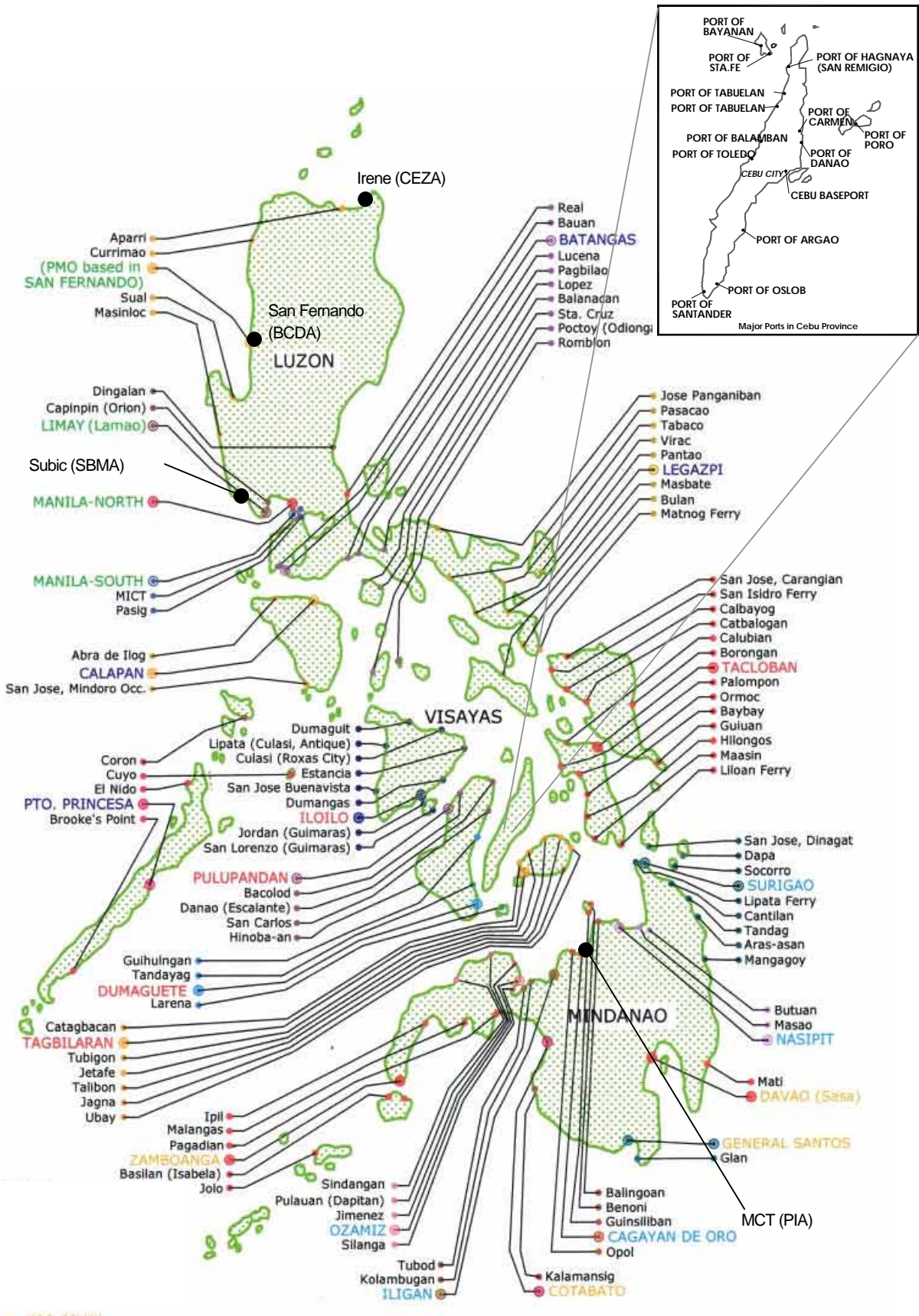
On behalf of the Study Team, I would like to express our sincere appreciation to the Department of Transportation and Communications and other authorities concerned for their cooperation, assistance and heartfelt hospitality extended to the Study Team.

I am also very grateful to the Japan International Cooperation Agency, the Ministry of Foreign Affairs, the Ministry of Land, Infrastructure and Transport, and the Embassy of Japan in the Republic of the Philippines for giving us valuable suggestions and assistance during the course of the Study.

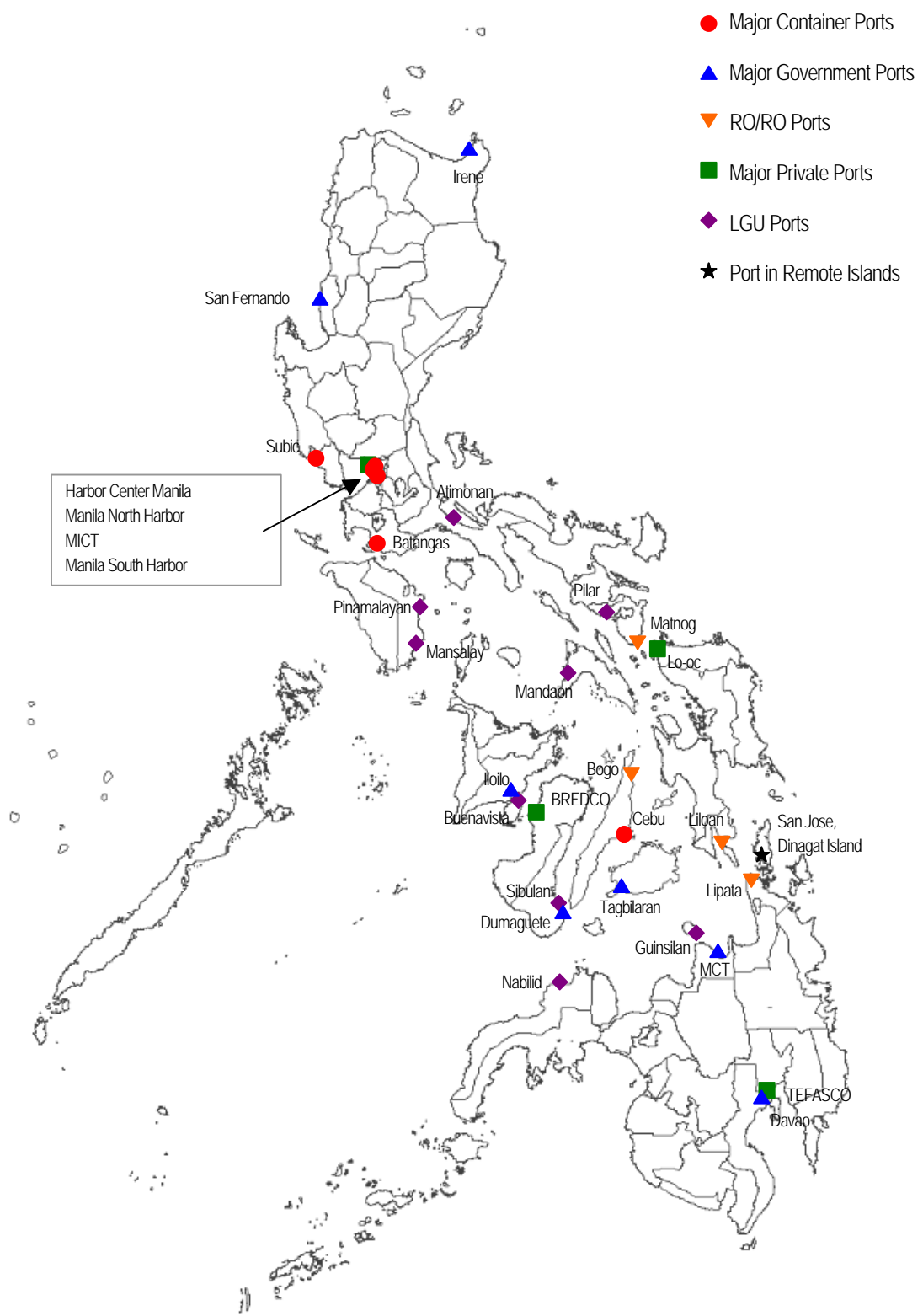
Yours faithfully,



Team Leader
The Study on the Master Plan for the
Strategic Development of the National Port
System in the Republic of the Philippines



Location of Major Ports in the Philippines



Location of Ports which are indicated with photos

Photos of Philippine Ports

1. Major Container Ports



Manila International Container Terminal (MICT, PPA)



Manila South Harbor (Pier 5, PPA)



Manila North Harbor (Pier 4, PPA)



Batangas (PPA)



Cebu (CPA)



Subic (SBMA)

2. Major Government Ports



Irene (CEZA)



San Fernando (BCDA)



Iloilo (PPA)



Dumaguete (PPA)



Davao (PPA)



Mindanao Container Terminal (MCT, PIA) * under construction

3. RO/RO Ports



Matnog (Southern Luzon, PPA)



Bogo (Cebu, LGU)



Liloan (Southern Leyte, PPA)



Lipata (Caraga, PPA)

4. Major Private Ports (Private-Commercial)



Harbor Center Manila (Manila)



Lo-oc (Allen (Northern Samar), BALWHATECO(Private))



BREDCO (Bacolod)



TEFASCO (Davao)

5. LGU ports



Atimonan (Southern Tagalog, Municipality)



Pinamalayan (Mindoro Island, Municipality)



Mansalay (Mindoro Island, Municipality)



Pilar (Bicol, Municipality)



Mandaon (Masbate Island, Municipality)



Buenavista (Gimaras Island, Municipality)



Sibulan (Negros Oriental, Municipality)



Guinsiliban (Camiguin Island, Municipality)



Nabilid (Northern Mindanao, Municipality)



San Jose (Dinagat Island, Caraga, City) *Remote Island

CONTENTS

Location of Major Ports in the Philippines	1
Location of Ports which are indicated with Photos	2
Photos of Philippine Ports	3
Outline of the Study	O-1
PPOSS (Executive Summary of the Study)	P-1

Chapter 1 Introduction

1.1 Background of the Study	1-1
1.2 Objectives of the Study and Study Area	1-2
1.2.1 Objective of the Study	1-2
1.2.2 Study Area	1-2
1.3 Implementation of the Study	1-2
1.3.1 Scope of the Study	1-2
1.3.2 Schedule and Flowchart of the Study	1-3
1.3.3 Implementing organization of the Study	1-5
1.4 Premise and Direction of the Study	1-7
1.4.1 Premise of the Study	1-7
1.4.2 Direction of the Study	1-8

Chapter 2 Social Economic Conditions

2.1 Population	2-1
2.1.1 National Population	2-1
2.1.2 Regional Population	2-10
2.2 Economic Activities	2-13
2.2.1 GDP	2-13
2.2.2 Industry	2-18
2.2.3 Trade	2-32
2.3 National Development Plans	2-35
2.3.1 Planning Scheme	2-35
2.3.2 The Philippine National Development Plan (PNDP)	2-35
2.3.3 The Medium-Term Philippine Development Plan (MTPDP)	2-38
2.3.4 National Physical Framework Plan 1993-2022 (NPFP currently NFPP)	2-39
2.3.5 The Regional Development Plan (RDP)	2-40

Chapter 3 Natural conditions

- 3.1 Physical Conditions 3-1
 - 3.1.1 Geographic Location 3-1
 - 3.1.2 Land Area 3-3
 - 3.1.3 Topography 3-3
 - 3.1.4 Water Resources 3-4
- 3.2 Climatic 3-4
 - 3.2.1 Temperature 3-4
 - 3.2.2 Humidity 3-5
 - 3.2.3 Rainfall 3-5
 - 3.2.4 Seasons 3-5
 - 3.2.5 Climate Type 3-5
- 3.3 Hydrographic Conditions 3-6
- 3.4 Natural Disasters 3-12
 - 3.4.1 Tropical Cyclone 3-12
 - 3.4.2 Volcanic Eruption and Earthquake 3-12

Chapter 4 Development of Infrastructures other than Ports

- 4.1 Road Network 4-1
 - 4.1.1 Outline 4-1
 - 4.1.2 Master Plan on Strategic Road Network Development Project 4-1
 - 4.1.3 Road network development in Metro Manila and its surrounding area 4-5
- 4.2 Rail Transportation 4-7
 - 4.2.1 Outline 4-7
 - 4.2.2 Major Development Plan 4-8
- 4.3 Air Transportation 4-12
 - 4.3.1 Outline 4-12
 - 4.3.2 Major Development Plan 4-12
- 4.4 Traffic by Transportation Modes 4-16
 - 4.4.1 Passenger Traffic 4-16
 - 4.4.2 Cargo Traffic 4-17

Chapter 5 Present and Future Traffic of Cargo and Passenger

- 5.1 Cargo Volume by Regions and Port Management Body 5-1
- 5.2 Present Cargo Traffic 5-2
 - 5.2.1 Total Cargo Volume 5-2
 - 5.2.2 Cargo Volume by Cargo Type and by Regions 5-6
- 5.3 Present Sea Passenger Traffic by Regions 5-22

5.3.1	Present Sea Passenger Traffic by Regions	5-22
5.3.2	Present Long Distance Passenger and Short Distance Passenger by Traffic Modes	5-24
5.4	Procedure for Estimation of Cargo and Passenger	5-25
5.4.1	Flow of Estimations	5-25
5.4.2	Conditions for Estimations	5-26
5.5	Future Cargo Volume	5-27
5.5.1	Projected Total Cargo Volume	5-27
5.5.2	Projected Cargo Volume by Cargo Type and by Region	5-32
5.5.3	Summary of Estimations	5-50
5.6	Projected Sea Passenger Traffic	5-52
5.6.1	Projected Long Distance Sea Passenger by Regions	5-52
5.6.2	Projected Short Distance Sea Passenger by Region	5-53
5.7	Domestic Containerized Cargo Volume at Major Ports	5-54
5.8	Total Cargo Volume for Major Ports	5-55

Chapter 6 Maritime Transport

6.1	Maritime Transport in the World	6-1
6.1.1	Container Transport	6-1
6.1.2	Dry Bulk Cargo Transport	6-6
6.1.3	Liquid Bulk Cargo Transport (Crude oil and Products)	6-7
6.2	Maritime Transport in the Philippines	6-9
6.2.1	Intra Asia Container Transport	6-9
6.2.2	Container Transport from / to Philippines	6-12
6.2.3	International Major Container Terminal in the South East Asia Region	6-15
6.2.4	Port-related Costs in the Intra Asia	6-20
6.2.5	Domestic Container Transport by Vessel Type	6-23
6.2.6	Domestic Freight and Passenger Rate	6-27
6.3	Transport Fleet	6-32
6.3.1	World Fleet	6-32
6.3.2	Domestic Fleet in the Philippines	6-36

Chapter 7 Navigation Safety

7.1	General	7-1
7.2	Present Situation	7-1
7.2.1	Marine Accidents and Rescue Activities	7-1
7.2.2	Aids to Navigation	7-7
7.2.3	Organization	7-11
7.3	Navigation Safety Measures	7-17

7.3.1	Present Condition	7-17
7.3.2	Analysis of Causes of Maritime Transport Accidents	7-17
7.3.3	Navigation Safety Measures	7-19

Chapter 8 Technical Standards for Port Planning

8.1	Present Situation	8-1
8.2	Japanese Technical Standards for Port Planning	8-2
8.3	Main Items of the Technical Standards for Planning in the Philippines	8-4
8.3.1	General Items	8-4
8.3.2	Planning Conditions	8-5
8.3.3	Port and Harbor Facilities	8-6
8.3.4	Facilities for Small Ships	8-18

Chapter 9 Current Port Facilities and Existing Development Studies / Plans

9.1	Current situation of port facilities and their usage	9-1
9.1.1	Berths	9-1
9.1.2	RO/RO facilities	9-2
9.1.3	Fairways	9-3
9.1.4	Land accessibility to major ports	9-3
9.1.5	Present ship calls	9-3
9.2	Studies and projects on port developments	9-4
9.2.1	Overview	9-4
9.2.2	Policies on ports in nationwide transport development plans/studies	9-6
9.2.3	Existing studies on port development	9-8
9.2.4	Existing projects / schemes on port development and maritime sector	9-15

Chapter 10 Master Plan with the target year of 2024

10.1	Types of Ports to be Considered in the Master Plan	10-1
10.2	Proposed Nationwide Trunk Maritime Routes	10-3
10.3	Port Classification	10-7
10.4	Long-Term Strategic Port Development Plan	10-9
10.4.1	The Planning Principles	10-9
10.4.2	Planning Options	10-14
10.4.3	Required Port Facilities in 2024 and Strategic Development Port	10-14
10.4.4	Estimated Cost for the Development	10-40
10.4.5	Possibility of Other Proposed Port Development Projects	10-40
10.4.6	Establishment of Individual Port Master Plan	10-42

Chapter 11 Initial 5-Year Development Plan with the Target Year of 2009

(Short-Term Development Plan)

- 11.1 Selection of Priority Projects 11-1
- 11.2 Required Port Facilities in 2009 and Strategic Development Port 11-1
- 11.3 Estimated Cost for the Development and Development Schedule 11-20

Chapter 12 Environmental Consideration

- 12.1 General 12-1
- 12.2 Institutional Framework for Environmental Consideration 12-2
 - 12.2.1 Basic Framework 12-2
 - 12.2.2 Framework for EIS System 12-2
 - 12.2.3 Framework for Pollution Control and Waste Management 12-8
 - 12.2.4 Framework for Resettlement of Inhabitants 12-10
- 12.3 Environmental Consideration in Port Development and Use 12-16
 - 12.3.1 Environmental Impact Factors 12-16
 - 12.3.2 Countermeasures for Environmental Conservation 12-30
 - 12.3.3 Promoting Sea Transportation from the View Point 12-35
 - of Environmental Conservation
- 12.4 Environmental Condition Survey 12-36
- 12.5 Environmental Partnership Program 12-40
 - 12.5.1 Governance and Compliance 12-40
 - 12.5.2 Sustainable Development 12-43
- 12.6 Recommendation 12-44

Chapter 13 Economic Analysis

- 13.1 Objective and Methodology of Economic Analysis 13-1
 - 13.1.1 Objective 13-1
 - 13.1.2 Methodology 13-2
- 13.2 Economic Analysis 13-3
 - 13.2.1 “With” and “Without” Case 13-3
 - 13.2.2 Prerequisite of Economic Analysis 13-5
 - 13.2.3 Economic Prices 13-5
 - 13.2.4 Costs of Projects 13-7
 - 13.2.5 Benefits of Projects 13-9
 - 13.2.6 Economic Internal Rate of Return (EIRR) 13-11
- 13.3 Economic Analysis for Port Development Project in the Philippines 13-11
 - 13.3.1 Cost and Benefit 13-11
 - 13.3.2 Economic Evaluation of Representative Port Development Projects 13-12

Chapter 14 Port Management and Operation

14.1	General	14-1
14.2	Cargo Handling Efficiency	14-2
14.2.1	Cargo Handling Efficiency in Major Ports	14-2
14.2.2	Cargo Handling Contract in Major Ports	14-6
14.2.3	Problems on Existing Cargo Handling	14-8
14.2.4	Proposal on Cargo Handling Efficiency	14-10
14.3	Port Tariff	14-12
14.3.1	Present Situation	14-12
14.3.2	Comparison of Port Tariff with Other Factors	14-13
14.3.3	Proposal on Port Tariff	14-22
14.4	Port Procedures	14-24
14.4.1	Present Situation	14-24
14.4.2	Proposal on Port Procedure	14-24
14.5	Port EDI System	14-26
14.5.1	Present Situation	14-26
14.5.2	PPA MIS Project (PROMPT)	14-28
14.5.3	Proposal on Port EDI System (for Major Ports)	14-31
14.6	Security Measures for Port Facilities	14-32
14.6.1	Port facility security under International Maritime Organization (IMO) scheme	14-32
14.6.2	Other port facility security scheme	14-33
14.6.3	Present Situation on Security Measures in the Philippines	14-35
14.6.4	Proposal on Security Measures for Port Facilities	14-35
14.7	Port Statistics	14-36
14.7.1	Present Situation	14-36
14.7.2	Task Force of Ports Inventory Statistics	14-37
14.7.3	Proposal on Port Statistics	14-38
14.8	Port Promotion	14-38
14.8.1	Present Situation	14-38
14.8.2	Proposal on Major Ports' Port Promotion	14-39
14.8.3	Proposal on Minor Ports' Port Promotion	14-40

Chapter 15 Private Sector Participation

15.1	General Philosophy for Promoting Private Sector Participation (PSP)	15-1
15.2	Present Condition of Public Partnership/Private sector Participation	15-3
15.3	General Principles and Basic Requirements for PSP	15-4
15.4	Examples of Port Privatization in Other Countries	15-8
15.5	Risks involved with private sector participation for Port Development and Operation	15-9

15.6	Establishment of Transparent Procedure for PSP	15-11
15.7	Recommendation	15-12

Chapter 16 Port Administration

16.1	General	16-1
16.1.1	Present Situation	16-1
16.1.2	History	16-4
16.2	Port-Related Organizations	16-5
16.2.1	Department of Transportation and Communications(DOTC)	16-6
16.2.2	Philippine Ports Authority (PPA)	16-10
16.2.3	Cebu Port Authority (CPA)	16-14
16.2.4	Bases Conversion and Development Authority (BCDA) and Poro Point Management Corporation (PPMC)	16-15
16.2.5	Subic Bay Metropolitan Authority (SBMA)	16-17
16.2.6	Phividec Industrial Authority (PIA)	16-18
16.2.7	Cagayan Economic Zone Authority(CEZA)	16-19
16.2.8	Regional Ports Management Authority(RPMA)	16-19
16.2.9	Philippine Fisheries Development Authority (PFDA)	16-20
16.2.10	Private Company	16-21
16.2.11	Relationship between PPDB and PPA	16-21
16.3	Current Problems on Port Administration	16-24
16.3.1	Port Development by Many Organizations	16-24
16.3.2	Inadequate Port Facilities	16-24
16.3.3	Insufficient Budget for Port Development and Maintenance	16-25
16.3.4	Lack of Integrated Port Development Plan	16-26
16.3.5	DOTC's Participation in Port Development	16-26
16.4	Proposals on National Port Plan	16-27
16.4.1	National Plan for Port Development	16-27
16.4.2	Establishment of NPPD Council	16-28
16.4.3	Members and Business of the Council	16-30
16.4.4	Establishment of Secretariat of NPPD Council	16-31
16.4.5	Procedure to Set up NPPD Council and its Secretariat	16-34
16.4.6	Actual Process to Review/Revise of NPPD	16-35
16.5	Reform on Port Administration System	16-36
16.5.1	Inadequate Port Service in the Philippines	16-36
16.5.2	Contract System between Terminal Operator and Port Authority/PPDB	16-38
16.5.3	Regional Port Authorities (RPA)	16-38
16.5.4	Philippine Ports Administration Agency (PPAA)	16-40
16.5.5	DOTC	16-42

16.6	Progressive Reorganization of the Philippines Port Administration System	16-42
------	--	-------

Chapter 17 Implementation of the Plan

17.1	General	17-1
17.2	Measures to attract Private Sector Participation	17-2
17.2.1	Tax Incentives	17-2
17.2.2	Lowering of Port Tariff	17-4
17.2.3	Joint-Ventures	17-4
17.2.4	New Fund for Port Development	17-5
17.2.5	Appropriate Port Tariff Structure	17-6
17.2.6	Other Systems	17-6
17.3	Cooperation with Other Industries	17-7
17.4	Measures to Promote Development of Regional Ports	17-7
17.4.1	Items Related to Cost	17-8
17.4.2	Items Related to Income	17-10
17.4.3	Project Viability	17-11
17.5	Return of Profit gained from LGU Port	17-12

Chapter 18 Financial Analysis, Policy and Strategy for National Port Development

18.1	Present Financial Situation	18-1
18.1.1	Present Financial Situation of National Government	18-1
18.1.2	Present Financial Situation of Local Government Units	18-2
18.1.3	Present Financial Situation of Philippine Ports Authority	18-3
18.1.4	Port Investment Plans Prepared by Relevant Public Organizations	18-7
18.2	Port Cargo Throughput	18-12
18.2.1	General	18-12
18.2.2	Public Port Cargo Throughput	18-13
18.2.3	Private Port Cargo Throughput	18-13
18.3	International Container Terminal Development Plans	18-13
18.4	Public Port Investment	18-15
18.5	Public Port Revenues	18-17
18.5.1	Cargo Type-wise Port Revenues	18-17
18.5.2	International Container Revenues	18-18
18.5.3	Revenue from Private Port	18-19
18.6	Comparison of Port Revenues and Investment Cost	18-20
18.6.1	Comparison of Long-term (2004 - 2024) Port Revenues and Investment Cost	18-20
18.6.2	Comparison of Short-term (2004 - 2009) Port Revenues and Investment Cost	18-21
18.7	Cash Flow Analysis of Port Authorities	18-23

18.7.1	PPA	18-23
18.7.2	CPA	18-24
18.8	Financial Feasibility of Representative Projects	18-26
18.9	Development of International Gateway Port	18-27
18.10	RO/RO Port Development	18-30
18.10.1	RO/RO Ports Development Master Plan	18-30
18.10.2	Financial Scheme of RO/RO Ports Development	18-32
18.10.3	Profitability of RO/RO Ports Development Project	18-33
18.10.4	Case Study for 4 Round Service per Day using of 2 RO/RO Vessels	18-33
18.10.5	Case Study for 2 Round Service per Day by means of 1 RO/RO Vessel	18-36
18.10.6	Cash Flow Analysis of RO/RO Port Development Project	18-38
18.10.7	Reduction of RO/RO Port Construction Cost	18-39
18.11	Private Sector Participation	18-40
18.12	Proposed Financial Policies for Public Port Development	18-43
18.13	Proposed Financial Strategies for Public Port Development	18-44
18.14	Foreign Loan Appropriation	18-46

LIST OF ABBREVIATIONS

A	ADB	Asian Development Bank
	AFMA	Agriculture and Fisheries Modernization Act
	AFRA	Average Freight Rate Agreement
	AIP	Air-mans Information Publication
	APEC	Asia-Pacific Economic Corporation Conference
	APL	American President Lines
	APM	A.P. MOLLOR (Maersk Sealand)
	ARG	Autonomous Region Government
	ARMM	Autonomous Region in Muslim Mindanao
	ASEAN	Association of South East Asian Nations
	ATI	Asian Terminal Incorporated
	ATO	Air Transportation Office (DOTC)
B	B	Bulk Cargo
	B/B	Break Bulk Cargo
	B/C	Cost Benefit Ratio
	BCDA	Bases Conversion and Development Authority
	BFAR	Bureau of Fisheries and Aquatic Resources
	BIMP-EAGA	Brunei Darussalam - Indonesia - Malaysia - Philippines - East Asian Growth Area
	BLT	Build, Lease and Transfer
	BOD	Biochemical Oxygen Demand
	BOI	Board of Investments
	BOO	Build, Operate and Own
	BOT	Build, Operate and Transfer
	BT	Build and Transfer
	BTO	Build, Transfer and Operate
	BOC	Bureau of Customs
	BUCUS	Bureau of Customs
C	CAB	Civil Aeronautics Board
	CAO	Contract, Add and Operate
	CAR	Cordillera Administrative Region
	CALABARZON	Cavite - Laguna - Batangas - Rizal - Quezon
	CARP	Comprehensive Agrarian Reform Program
	CBD	Commercial Business District
	CCTV	Closed Circuit Television
	CCWP	Cebu City Waterfront Development Project
	CDC	Construction Development Corporation of the Philippines

	CDC	Clark Development Authority (BCDA)
	CDO	Cagayan De Oro
	CDS	City Development Strategy
	CENRO	Community Environmental and Natural Resources Office
	CEZA	Cagayan Economic Zone Authority
	CF	Cost and Freight
	CFS	Container Freight Station
	CHC	Container Handling Charge
	CIADMPS	Cebu Integrated Area Development Master Plan
	CIAC	Clark International Airport Corporation
	CIF	Cost, Insurance and Freight
	CIP	Cebu International Port
	CIS	Commonwealth of Independent State
	CLUP	Comprehensive Land Use Plan
	COD	Chemical Oxygen Demand
	CPA	Cebu Port Authority
	CSEZ	Clark Special Economic Zone
	CVMTPD	Cebu Visayas Medium-Term Development
D	D	Depth
	DA	Department of Agriculture
	DAO	DENR Administrative Order
	DAR	Department of Agrarian Reform
	DBM	Department of Budget and Management
	DBP	Development Bank of Philippines
	DENR	Department of Environment and National Resources
	DILG	Department of Interior and Local Government
	D/O	Delivery Order
	DO	Dissolved Oxygen
	DOE	Department of Energy
	DOLE	Department of Labor and Employment
	DOT	Department of Tourism
	DOT	Develop, Operate and Transfer
	DOTC	Department of Transportation and Communication
	D/R	Dock Receipt
	DTI	Department of Trade and Industry
	DPWH	Department of Public Works and Highways
	DR	Delivery Record
	DW	Department Weight
	DW	Dead Weight (Tonnage)
	DWT	Deadweight Tonnage

E	EDI	Electrical Data Interchange
	ECA	Environmental Critical Area
	ECC	Environmental Compliance Certificate
	ECP	Environmental Critical Projects
	EGR	Employment Annual Growth Rate
	EIA	Environmental Impact Assessment
	EIP	Environmental Impact Statement System
	EIRR	Economic Internal Rate of Return
	EIS	Environmental Impact Statement
	EMaP	Environmental Management Plan
	EMoP	Environmental Monitoring Plan
	EMB	Environmental Management Bureau
	EMPAS	Environmental Management and Protected Areas Sector
	EMS	Environmental Management System
	EO	Executive Order
	EPZ	Export Processing Zone
	E/S	Engineering Service
	ETA	Estimated Time of Arrival
	ETD	Estimated Time of Departure
	EXCOM	Executive Committee
F	FEFC	Far East Frigate Conference
	FCL	Full Container Load
	IRR	Financial Internal Rate of Return
	FEU	Forty-foot Equivalent Unit
	FOB	Free On Board
	FSC	Free Service Corporation
	FSDC	Farm System Development Corporation
G	GCR	Greater Capital Region
	GDP	Gross Domestic Product
	GLC	Ground Level Concentration
	GNP	Gross National Product
	GOP	Government of the Philippines
	GPS	Global Positioning System
	GRDP	Gross Regional Domestic Product
	GRT	Gross Tonnage
	GVA	gross value added
H	HDI	Human Development Index

	hpa	hectopascal
I	I/A	Implementing Arrangement
	IALA	International Association Lighthouse Authority
	IBRD	International Bank for Reconstruction and Development
	ICAO	International Civil Aviation Organization
	ICC	Investment Coordination Committee
	ICD	Inland Container Depot
	ICT	Information and Communications Technology
	ICT	International Container Terminal
	ICTSI	International Container Terminal Services, Inc.
	IEE	Initial Environmental Examination
	IFM	Inward Foreign Manifest
	IMF	International Monetary Fund
	IMO	International Maritime Organization
	IPP	independent power producer
	IPP	Investment Priorities Plan
	IT	Information Technology
J	JBIC	Japan Bank for International Cooperation
	JICA	Japan International Cooperation Agency
	JPDC	John Hay Poro Point Development Authority
	JV	Joint Venture
K	KCT	Kelang Container Terminal
	KfW	Kreditanstalt fuer Wiederaufbau (Germany)
L	LCL	Less Than Container Load
	LDC	Local Development Council
	LDP	Local Development Plan
	LGU	Local Government Unit
	LINDGC	Legaspi - Iriga - Naga - Daet Growth Corridor
	LOA	Length of Overall
	LO/LO	Lift On / Lift Off
	LRTA	Light Railway Transit Authority
	LTO	Land Transportation Office
	LTFRB	Land Transportation Franchising and Regulatory Board
	LUWA	Local Unit Water Authority
M	MC	Mobile Crane
	M/M	Minutes of Meeting

	MARINA	Maritime Industry Authority
	MCCU	Monitoring Cargo Control Unit
	MCDP	Mactan Cebu Development Project
	MCDPO	Mactan Cebu Development Project Office
	MCIA	Mactan Cebu International Airport
	MCIAA	Mactan Cebu International Airport Authority
	MCT	Mindanao International Container Terminal
	MEZ	Mactan Economic Zone
	MHCPT	Manila Harbor Center Port Terminal
	MIAA	Manila International Airport Authority
	MICT	Manila International Container Terminal
	MIMAROPA	Mindoro - Maritnduque - Romblon - Palawan
	MMDA	Metropolitan Manila Development Authority
	MM	Metro Manila
	MOA	Memorandum of Agreement
	MRT	Metro Rail Transit
	MT	Metric Ton
	MTPDP	Medium-Term Philippine Development Plan
N	NAMRIA	National Mapping Resource Information Authority
	NAPOCOR	National Power Corporation
	NCR	National Capital Region
	NDCC	National Disaster Coordinating Council
	NEDA	National Economic and Development Authority
	NEPC	National Environmental Protection Council
	NFPP	National Framework for Physical Planning
	NHA	National Housing Authority
	NIA	National Irrigation Administration
	NIES	Newly Industrializing Economies
	NGO	Non-Governmental Organization
	NOPEMCO	The Negros Oriental Provincial Employees Multi-Purpose Cooperative
	Nox	Nitrogen Oxides
	NPC	National Power Corporation
	NPFP	National Physical Framework Plan
	NPPD	National Plan for Port Development
	NOL	Neptune Orient Lines LTD
	NSCB	National Statistical Coordination Board
	NSO	National Statistics Office
	NVOCC	Non Vessel Operate Common Carrier
	NWPC	National Wages and Productivity Commission
	NYK	Nippon Yusen Kaisha LTD.

O	ODA	Official Development Assistance
	OCDI	Overseas Coastal Area Development Institute of Japan
	OECD	Organization for Economic Cooperation and Development
	OECF	Overseas Economic Cooperation Fund (Currently JBIC)
	O-D	Origin and Destination
	OFM	Outward Foreign Manifest
	OOCL	Orient Overseas Container Lines
	OTC	Office of Transportation Cooperative (DOTC)
P	P/C	Passenger Cargo
	PACD	Presidential Arm on Community Development
	PADC	Philippine Aerospace Development Corporation
	PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
	PAIC	Provincial Agro-industrial Center
	PCG	Philippine Coast Guard
	PCO	Pollution Control Officer
	PCU	Passenger Car Unit
	PD	Presidential Decrees
	PDO	Port District Office
	PENRO	Provincial Environment and Natural Resources Offices
	PEPP	Philippine Environmental Partnership Program
	PEZA	Philippine Economic Zone Authority
	PFI	Private Finance Initiative
	PHILPHOS	Philippine Phosphate Fertilizer Corporation
	PHILVOLCS	Philippine Institute of Volcanology and Seismology
	PHIVIDEC	Philippine Veterans Development Corporation
	Php	Philippine pesos
	PIA	PHIVIDEC Industrial Authority
	PIC	Provincial urban/Industrial Center
	PIE	People's Industrial Estate
	PIE-MO	PHIVIDEC Industrial Estate-Misamis Oriental
	PMMM	Philippine Merchant Marine Academy
	PMO	Port Management Office (PPA)
	PMO-Ports Office	Project Management Office (DOTC)
	PNDP	Philippine National Development Plan: Directions for the 21st Century (Plan 21)
	POLCOM	Policy Committee
	POPCEN	Population Census
	PPA	Philippine Ports Authority

	PPAA	Philippine Port Administration Agency
	PPDBs	Public Port Development Bodies
	PPFP	Provincial Physical Framework Plan
	PPMC	Poros Point Management Corporation
	PPOSS	Philippine Port System Strategy
	PPP	Private Public Partnership
	PSA	Port of Singapore Authority
	PPSEFZ	Poros Point Special Economic and Freeport Zone
	PSP	Private Sector Participation
	PSY	Philippine Statistical Yearbook
	PZD	Port Zone Delineation
Q	QC	Quay Crane
	QGC	Quay Gantry Crane
	QMS	Quality Management System
R	RA	Republic Act
	RAIC	Regional Agro-industrial Centers
	R.C.	Reinforced Concrete
	RCL	Regional Container Lines (PTE) LTD
	RDC	Regional Development Council
	RDP	Regional Development Plan
	RIC	Regional Industrial Center
	RIZLAQUE	Rizal - Laguna - Quezon
	ROO	Rehabilitate, Operate and Own
	RO/RO	Roll On / Roll Off
	ROT	Rehabilitate, Operate and Transfer
	RPA	Regional Port Authority
	RPFP	Regional Physical Framework Plan
	RPMA	Regional Port Management Authority
	RRTS	Road Ro-Ro Terminal System
	RTG	Rubber Tier Mounted Gantry Crane
	RTWPBs	Regional Tripartite Wages and Productivity Boards
S	SAFDZ	Strategic Agricultural and Fisheries Development Zone
	SBF	Subic Bay Freeport
	SBMA	Subic Bay Metropolitan Authority
	SBSEZ	Subic Bay Special Economic Zone
	SCAD	Subic-Clark Alliance for Development
	SCDZ	South Cotabato - Davao - Zamboanga
	SEI(s)	Significant Environmental Impact(s)

	SEZ	Special Economic Zone
	SLDP	Sustainable Logistic Development Project
	SOKSARGEN	South Cotabato - Sultan Kudarat - Sarangani - General Santos
	SOLAS	International Conventions for the Safety Life at Sea
	SPM	Suspended Particulate Matter
	SRNH	Strongly Republic Nautical Highway
	SPSP	Steel Pipe Sheet Pile
	SPT	Standard Penetration Test
	SRRFPDP	Social Reform Related Feeder Ports Development Project
	SS	Suspended Solid
	STU	Special Takeover Unit
	SWIP	Small Water Impounding Project
	SZOPAD	Special Zone of Peace and Development
T	TCT	Transfer Certificate of Title
	TEU	Twenty-foot Equipment Unit
	THC	Terminal Handling Charge
	TMO	Terminal Management Office
	TMP	Tourism Master Plan
	TPC	Toledo Power Company
	TSMC	Tolong Sugar Mill Company
	TOR	Terms of Reference
U	UDHA	Urban Development and Housing Act
	URSUMCO	Universal Robina Sugar Milling Corporation
	USTDA	United States Trade and Development Agency
V	VAT	Value Added Tax
	VECO	Visayas Electric Cooperation
	VTMS	Vessel Traffic Management System
W	WCC	Water Cluster Committee
	WCIP	West Cebu Industrial Park
	WCM	Water Cluster Meeting
	WEFA	West Europe Freight Conference
	WTPD	Water Transport Planning Division (of DOTC)

Definition of Terms

Term	Definition
Alternative international airport	Airport which compliments the function of international airport as well as forms the domestic air trunk lines
Anchorage fee	Dockage at Anchorage
Arrastre:	Port activities shown as follows; 1) Receive and load cargoes from/to ship's tackle with the use of dock (arrastre) gang and cargo handling equipment; 2) Check cargo by marks and quantity, acknowledge and sign tally sheet; 3) Sort and pile cargo in shed / open storage, if not taken on directly to truck; 4) Deliver / transfer cargo to, and received from tail-end of consignee's transportation or ship's tackle; 5) Secure cargo from pilferage or losses while under its custody; 6) Provide mechanical equipment for receiving / stowing / delivery / transfer / shifting of cargo; 7) Provide checking services only when cargo is unloaded or loaded to/from shipside, and to/from barge alongside vessels.
Base Port (CPA)	Port facilities located in Cebu City which include the four (4) management offices
Base Port (PPA)	Ports under PPA Port System in which Port Management Offices are located
Base Port (RPMA)	Ports under RPMA (ARMM) in which port management offices are located
Break bulk cargo	Cargo which is packed in bag or unitized into lots (e.g. iron & steel, cement, fruit & vegetable, transport equipment etc.)
Bulk cargo	Cargo which is not unitized nor packed and handled often by dedicated cargo handling equipment (e.g. crude petroleum, mineral fuel, metalliferous, coconut oil etc.)
Cargo handling efficiency	Cargo handling volume per unit of time (e.g. the number of boxes per unit of time, cargo weight (metric ton) per unit of time)
Cargo Handling Tariff	Tariff against cargo handling services such as arrastre and stevedoring at ports
Dedicated quay side cranes	Quay side cranes which are exclusively utilized for one purpose such as container handling
Dockage at berth / anchorage	The amount assessed against a vessel engaged in international or foreign trade for mooring or berthing at pier / drop anchor at a port
Feeder airport	Airport which is mainly devoted to regional air transport
Geared vessels	Vessels on which cranes are installed
Government port:	Government-owned or controlled corporation tasked by its charter to implement a program for the economic development of specific territory and its operation of a port facility is directly or indirectly necessary, incidental or conducive to the attainment of its corporate goals and objectives.
Intermodal corridors	Major trunk routes which consist of land and maritime transportation modes
Intermodal network	Transportation network which consists of land and maritime transportation modes
International airport	Airport which is mainly devoted to international air transport
International gateway port	Ports which function as windows to international trade
International hub ports	Ports which have a role to collect/distribute container cargo from/to the neighboring countries/areas and to transport the consolidated cargo to/from North America and/or Europe using Panamax or Over-Panamax vessels
Isolated areas	Areas in main islands in which there is no land access or land access condition is poor
Isolated islands	Islands which have no linkage to main islands by bridge/tunnel and no existing port/airport facility (Excluding main islands)
Labor-oriented cargo handling system	Cargo handling system which requires a lot of labor
Land corridors	Major trunk routes which consist of land transportation modes
LGU	Local Government Unit as defined in the Local Government Code of the Philippines
Long distance bus	Bus which transports passengers among islands through Pan-Philippine Highway
Long distance passenger	Passenger who stays on board more than twelve hours
Long distance RO/RO ferry vessels	Roll-on/Roll-off ferry vessels which have a voyage time exceeding 12 hours
Main islands	21 islands (Luzon, Mindoro, Marinduque, Romblon, Palawan, Catanduanes, Masbate, Panay, Guimaras, Negros, Cebu, Siquijor, Bohol, Samar, Leyte, Biliran, Mindanao, Camiguin, Basilan, Jolo, Tawi-Tawi)
Major domestic container port	Ports which are important for domestic container transport (Among the Major ports, ports which have container handling dedicated quay side cranes and/or have at least one dedicated berth for long distance RO/RO ferry vessels)

Term	Definition
Major port	Important ports for domestic and/or international maritime transport (including RO/RO ports for major corridors)
Maritime corridors	Major trunk routes which consist of maritime transportation modes
Multi purpose berths	Berths which are utilized for two or more purposes (i.e. break bulk and bulk cargo are handled at the same berth)
Municipal Port	Public port constructed, owned and maintained by the municipal government.
Nationwide RO/RO ports development plan	Generic designation for the development plans of "RO/RO ports for major corridors", "RO/RO ports for mobility enhancement", "RO/RO ports for remote islands development" and "RO/RO ports connecting remote islands"
Out Port (CPA)	Ports or port facilities located within a Sub port in Cebu province
Port charge	Cost for utilizing port facilities which includes port tariff and cargo handling tariff
Port due	The amount assessed against a vessel engaged in foreign trade for entrance into / departure from a port of entry in the Philippines
Port Tariff	Port dues, dockage, usage, wharfage and storage fee levied on vessels and cargo engaged in domestic and foreign trade
Ports for short and middle distance vessels	Ports which can receive vessels that have a voyage time of 12 hours or less
PPA Port System	A list of ports over which the Philippine Ports Authority exercises jurisdiction and authority and accepts responsibility for all functional areas of development to include planning and design, financing/loan servicing, rehabilitation / new construction / repair / maintenance, dredging, port administration / management / operations, regulation, revenue collection and all other for cause in order to protect and promote public interest
Principal international trade port	Highly important ports for both international and domestic maritime transport (The ports have at least one dedicated berth for international cargo)
Private Commercial Port	A port facility constructed and owned by a private person or entity which offers, as its principal business activity, port services to general port users. The operation of the port facility is not a mere component of the main business or activity of the owner or operator, but is the main business activity itself. Private commercial port shall have minimum facilities of at least one (1) concrete berth with a minimum length of 65 meters and a draft of at least 5 meters
Private Non-Commercial Port	A port facility constructed and owned by a private person or entity as a component of or accessory to its own business or principal economic activity and which does not offer port services to the general public but exists generally for its own particular use and need
Private Port	A port duly registered with the PPA or other port authorities, and a port facility constructed and owned by a private person or entity as authorized by the government. These ports are regulated by PPA Administrative Order No.06-95 or other related regulations under each port authority.
Public ports	Ports which are managed by public entities
Public Port Development Bodies	Public bodies which control the ports under their jurisdiction (i.e. PIA, BCDA, SBMA, CEZA, RPMA)
Quay side crane	Crane which is installed on the quay (e.g. gantry crane, mobile crane)
Regional port	All ports not included in above types. Regional ports, which mainly support regional society as maritime transport bases, consist of RO/RO ports for short and middle distance transport (RO/RO ports for mobility enhancement, RO/RO ports for remote islands development), Social reform support ports, etc.
Remote islands	Islands which have no linkage to main islands by bridge/tunnel but have port facilities (Excluding main islands)
RO/RO facilities	Port facilities which consist of RO/RO ramps with RC pier, causeway, passenger terminal building and parking area
RO/RO ports	Ports which have RO/RO facilities for receiving RO/RO ferry vessels
RO/RO ports connecting remote islands	RO/RO ports which link remote islands with population centers of the main islands and other islands
RO/RO ports for major corridors	RO/RO ports which form the two north-south intermodal corridors, i.e. Pan-Philippine Highway and Strong Republic Nautical Highway
RO/RO ports for mobility enhancement	RO/RO ports which form the intermodal trunk routes and enhance the inter-regional and intra-regional mobility of people and goods (Excluding RO/RO ports for major corridors)
RO/RO ports for remote islands development	RO/RO ports which form a safe and improved transportation system not only to secure a more stable daily life in remote islands (that have a population of more than 5,000 in 2024 and existing port facilities) but also to contribute to economic development

Term	Definition
RRTS	Road Ro-Ro Terminal System (RRTS) refers to the network of terminals all over the Philippines, regardless of the distance covered and linked by Ro-Ro vessels
Secondary airport	Airport which mainly forms the domestic air transport network
Short and middle distance passenger	Passenger who stays on board twelve hours or less
Short and middle distance RO/RO ferry vessels	Roll-on/Roll-off ferry which has a voyage time of 12 hours or less
Small and medium scale ports	Regional ports
Small and medium scale vessels	Vessels of which ship size is 2,000 GRT or less
Social reform support ports	Ports which form maritime routes linking the isolated area/island and population center, support the establishment of population centers within isolated areas as well as upgrade existing shipping services
Stevedoring:	All work performed on board vessel that is the process or act of loading and unloading cargo, stowing inside hatches, compartments and on dock or open cargo spaces on board vessels. And related services such as rigging ship's gear, opening and closing hatches, securing cargo stored on board vessel by lashing, shoring and trimming, are also considered as stevedoring
Strategic Development Port	Port which will be developed from 2004 to 2024 in the scheme of PPOSS
Sub Port (CPA)	Refers to management offices in Cebu province which are located outside of the baseport Cebu
Sub Port (RPMA)	All government ports under RPMA (ARMM)
Terminal Port (PPA)	All ports under PPA Port System
Trunk-link airport	Airport which mainly forms the domestic air trunk lines
Usage	port
Wharfage	A charge on all cargoes whether containerized or not coming in / going out or transshipped through a port

LIST OF FIGURE

Figure 1.3.1	Schedule and Flowchart of the Study	1-4
Figure 2.1.1	Population Projection	2-2
Figure 2.1.2	Population Projection by Province	2-4
Figure 2.1.3	Population Density Projection by Province	2-5
Figure 2.1.4	Population Density of Asian Countries	2-6
Figure 2.1.5	Network of Cities (2000)	2-7
Figure 2.1.6	Network of Cities (2009)	2-8
Figure 2.1.7	Network of Cities (2020)	2-9
Figure 2.1.8	Population Projection by Regional Group	2-11
Figure 2.1.9	CRNI and Migration Rate (2015-2020)	2-12
Figure 2.1.10	CRNI and Migration Rate (1995-2000)	2-12
Figure 2.2.1	GDP by Industrial Sector	2-13
Figure 2.2.2	GDP Annual Growth Rate in the Past 30 years	2-14
Figure 2.2.3	GDP per Capita vs. GDP Growth Rate in Asian Countries	2-14
Figure 2.2.4	GRDP 2001/2024 by Regions and Industrial Sectors (Medium Case)	2-17
Figure 2.2.5	GDP Projection by Industrial Sector (Medium Case)	2-18
Figure 2.2.6	GDP and Productivity by Industrial Sector	2-20
Figure 2.2.7	Labor Share by Industrial Group	2-21
Figure 2.2.8	Major area of Agricultural Crop Production	2-23
Figure 2.2.9	Ecozone Investments	2-26
Figure 2.2.10	Industrial Areas	2-29
Figure 2.2.11	Location of Special Economic Zones	2-30
Figure 2.2.12	Potential Growth Areas	2-31
Figure 2.2.13	Trade partner in 1991 and 2001	2-32
Figure 2.2.14	Foreign Trade	2-32
Figure 2.2.15	GDP Export / Import Ratio	2-33
Figure 2.3.1	National and Regional Development Planning Scheme	2-35
Figure 2.3.2	Regional Grouping	2-36
Figure 2.3.3	Proposed Port Development in Regional Development Plans	2-40
Figure 3.1.1	Geographic Location of Philippines	3-1
Figure 3.1.2	Major North South Linkage in the Philippines	3-2
Figure 3.2.1	Climate Types	3-7
Figure 3.3.1	Direction of Main Flood Stream in the Philippines	3-8
Figure 3.3.2	Wave Climate Diagram	3-9,10
Figure 3.3.3	Tidal Levels at Major Ports	3-11
Figure 3.4.1	Frequency of Tropical Cyclone Passage	3-13
Figure 3.4.2	Active and Inactive Volcano	3-14

Figure 3.4.3	Earthquake Risk Map Acceleration on Ground Surface (gal) ······	3-15
	Tr = 100 years	
Figure 4.1.1	Road Network Development Plans ······	4-2
Figure 4.1.2	Road network development in Metro Manila and ······	4-6
	its surrounding area	
Figure 4.2.1	Philippine National Railway Existing Situations ······	4-9
Figure 4.2.2	Passenger by Railway ······	4-11
Figure 4.2.3	Cargo Traffic by Railway ······	4-11
Figure 4.3.1	Major Airports and Routes ······	4-14
Figure 4.3.2	Domestic Air Passenger ······	4-15
Figure 4.3.3	Domestic Air Cargo Traffic ······	4-15
Figure 4.4.1	Share of Passenger Traffic in 1991 ······	4-17
Figure 4.4.2	Share of Passenger Traffic in 2001 ······	4-17
Figure 4.4.3	Share of Cargo Traffic in 1991 ······	4-18
Figure 4.4.4	Share of Cargo Traffic in 2001 ······	4-18
Figure 5.2.1	Total Cargo Volume ······	5-2
Figure 5.2.2	Cargo Volume by Regions ······	5-3
Figure 5.2.3	Cargo Volume by Cargo Types ······	5-4
Figure 5.2.4	Foreign Containerized Cargo by Regions ······	5-6
Figure 5.2.5	Foreign Break Bulk Cargo by Regions ······	5-8
Figure 5.2.6	Foreign Bulk Cargo by Regions ······	5-10
Figure 5.2.7	Domestic Containerized Cargo by Regions ······	5-12
Figure 5.2.8	Domestic Break Bulk Cargo by Regions ······	5-14
Figure 5.2.9	Domestic Ro/Ro cargo by Regions ······	5-16
Figure 5.2.10	Actual Break Bulk Cargo by Regions ······	5-18
Figure 5.2.11	Domestic Bulk Cargo by Regions ······	5-20
Figure 5.3.1	Present Sea Passenger Traffic by Regions ······	5-22
Figure 5.3.2	Long Distance Passenger by Transport Mode ······	5-24
Figure 5.4.1	Flow of Estimations ······	5-25
Figure 5.5.1	Macro estimation for Total Cargo volume ······	5-27
	by economic growth scenario	
Figure 5.5.2	Macro Estimation for Cargo Volume by Cargo Types ······	5-28
Figure 5.5.3	Macro Estimation for Cargo Volume by Cargo Types ······	5-29
Figure 5.5.4	Total Cargo Volume by Regions ······	5-30
Figure 5.5.5	Projected Foreign Containerized Cargo by Regions ······	5-32
Figure 5.5.6	Projected Foreign Containerized Cargo for each Area ······	5-32
Figure 5.5.7	Projected Foreign Break Bulk Cargo by Regions ······	5-34
Figure 5.5.8	Projected Foreign Bulk Cargo by Regions ······	5-36
Figure 5.5.9	Projected Domestic Containerized Cargo ······	5-38
Figure 5.5.10	Domestic Containerized Cargo by Regions ······	5-39

Figure 5.5.11	Projected Domestic Break Bulk Cargo	5-41
Figure 5.5.12	Projected Domestic Break Bulk Cargo by Region	5-42
Figure 5.5.13	Projected Domestic Ro/Ro Cargo by Regions	5-44
Figure 5.5.14	Projected Domestic Ro/Ro Cargo by Region	5-45
Figure 5.5.15	Projected Domestic Bulk Cargo by Regions	5-47
Figure 5.5.16	Projected Domestic Bulk Cargo by Region	5-48
Figure 5.5.17	Typical Domestic Transportation Modes from/to NCR	5-51
Figure 5.6.1	Projected Long Distance Sea Passenger by Regions	5-52
Figure 5.6.2	Projected Short Distance Sea Passenger by Region	5-53
Figure 6.1.1	Outline of Container Trade Movement 2002	6-5
Figure 6.2.1	South East and North East Asia Container Movement	6-17
Figure 6.2.2	Asian Container Transport Network	6-18
Figure 6.2.3	Major Domestic Long Distance Ferry Route	6-28
Figure 6.2.4	Major Domestic Container Port and Route	6-29
Figure 7.2.1	Location Map of Maritime Accidents Occurring in the Past 33 years	7-5
Figure 7.2.2	Incidents of Marine Accidents in Manila Bay(1970 ~ 2003)	7-6
Figure 7.2.3	Incidents of Marine Accidents in Pasig River(1970 ~ 2003)	7-6
Figure 7.2.4	Location of Lighthouses Constructed/Rehabilitated by JBIC Loan (Maritime Safety Improvement Project-A)	7-9
Figure 7.2.5	Location of Aids to Navigation Planned and Constructed/Rehabilitate under JBIC Loan (Maritime Safety Improvement Project-B)	7-10
Figure 7.2.6	Organization Chart of PCG	7-13
Figure 7.2.7	Precinct of the Philippine Coast Guard	7-14
Figure 7.2.8	Organization Chart of MARINA	7-16
Figure 8.3.1	Ship Clearance for Mooring Facilities	8-13
Figure 8.3.2	Width of Navigation Channel	8-19
Figure 8.3.3	Outer harbor and Inner harbor	8-19
Figure 8.3.4	Lateral mooring	8-20
Figure 8.3.5	Longitudinal mooring	8-20
Figure 8.3.6	Water basin for ship turning	8-21
Figure 8.3.7	Mooring Facility incorporated with Breakwater	8-22
Figure 8.3.8	Floating Pier (Pontoon)	8-24
Figure 8.3.8	Slipway	8-25
Figure 9.1.1	Nationwide share of berth length by depth	9-1
Figure 9.1.2	Berth length of public ports by region and depth	9-2
Figure 9.1.3	Berth length of public ports by region and classified depth	9-2
Figure 9.1.4	Regional distribution of ports with RO/RO ramps	9-3
Figure 9.2.1	Existing studies and projects related to port development	9-6
Figure 9.2.2	Location of Special Economic Zone and Economic Processing	9-10

Zones around Subic Bay port

Figure 9.2.3	Proposed RO/RO Links (JICA, 1992)	9-12
Figure 9.2.4	Long term plan on the trans Visayas intermodal transport network	9-13
Figure 9.2.5	Selected ferry links for Bohol	9-14
Figure 9.2.6	Proposed route of Agri-tourism highway	9-17
Figure 9.2.7	Trans-Visayas intermodal transport projects	9-18
Figure 9.2.8	Proposed RO/RO route by DBP	9-19
Figure 10.1.1	Share of the Cargo Volume Handled at Private Ports by Commodities	10-1
	(2001)	
Figure 10.1.2	Volume by Cargo Type of Each Commodity (2001)	10-2
Figure 10.2.1	Proposed Land/Intermodal Trunk Routes	10-4
Figure 10.2.2	Proposed Domestic Maritime Trunk Routes	10-5
Figure 10.2.3	Proposed Areas for International Maritime Linkage	10-6
Figure 10.4.1	Share of International Container Cargo Volume	10-11
Figure 10.4.2	International Gateway Ports and Principal International Trade Ports (2024) ..	10-16
Figure 10.4.3	Major Domestic Container Ports and Major Ports(2024)	10-16
Figure 10.4.4	RO/RO Port Network for Major Corridors (2024)	10-23
Figure 10.4.5	Special Zone of Peace and Development (SZOPAD)	10-25
Figure 10.4.6	Tourism Development Areas	10-26
Figure 10.4.7	RO/RO Port Network for Mobility Enhancement (2024)	10-30
Figure 10.4.8	RO/RO Port Network for Remote Islands Development (2024)	10-34
Figure 10.4.9	Location of Social Reform Support Ports (2024)	10-37
Figure 10.4.10	Situation of Remote Islands and Certain Areas/Islands without	10-38
	Sufficient Port Facilities (2024)	
Figure 11.2.1	International Gateway Port and Principal International Trade Port (2009) ...	11-2
Figure 11.2.2	Major Domestic Container Port and Major Port (2009)	11-2
Figure 11.2.3	RO/RO Port Network for Major Corridors (2009)	11-9
Figure 11.2.4	RO/RO Port Network for Mobility Enhancement (2009)	11-12
Figure 11.2.5	RO/RO Port Network for Remote Islands Development (2009)	11-16
Figure 11.2.6	Location of Social Reform Support Ports (2009)	11-18
Figure 11.2.7	Situation of Remote Islands and Certain Areas/Islands without	11-19
	Sufficient Port Facilities (2009)	
Figure 13.2.1	Procedure of Economic Analysis	13-4
Figure 14.3.1	Share of domestic shipping companies' operating expenses 2000	14-20
Figure 14.3.2	Real value of usage, wharfage in US dollars	14-21
	and PHP-USD exchange rate	
Figure 14.3.3	Relationship between Usage, Consumer Price Index	14-22
	and Minimum Wage	
Figure 14.4.1	Flow of Port Procedure on Foreign Trade Vessels in PPA Ports	14-25

Figure 14.5.1	Image of Port EDI System (Electric Application Subsystem).....	14-27
Figure 14.5.2	Image of Single Window System.....	14-27
Figure 14.5.3	Image of e-Port Community.....	14-30
Figure 15.1	Infrastructure and Financial Source.....	15-2
Figure 15.2	Erroneous Demarcation of Infrastructure and Financial Source.....	15-2
Figure 15.3	Effects of port size.....	15-2
Figure 16.2.1	Location of Major Ports in the Philippines.....	16-6
Figure 16.4.1	Organization Chart of Secretariat of NPPD Council.....	16-34
Figure 16.5.1	Relationship between RPAs, DOTC, Council Secretariat..... and PPAA	16-41

LIST OF TABLES

Table 1.3.1	Steering Committee Members	1-5
Table 1.3.2	Technical Working Committee	1-6
Table 1.3.3	Counterparts (Technical/Administrative/Financial Support Staff)	1-6
Table 2.1.1	Population Census and Projection	2-1
Table 2.1.2	Major cities (300 thousand population and over in 2000)	2-3
Table 2.1.2	Population Projection by Region (Medium Case)	2-10
Table 2.2.2	Comparison of Annual GDP Growth Rate in Asian Countries	2-15
Table 2.2.3	GRDP Projection (Medium Case)	2-16
Table 2.2.4	GDP Projection by Industrial Sector (Medium Case)	2-19
Table 2.2.5	SAFDZ convergence areas cum investment programs by region, as of April 2000	2-24
Table 2.2.6	Potential Growth Areas and Major Link Ports	2-28
Table 2.2.7	Top Ten Principal Commodities in Foreign Trade (2001)	2-34
Table 2.3.1	Medium Term Growth Projection (MTPDP)	2-39
Table 4.2.1	Passenger and Cargo Traffic by Railway	4-11
Table 4.3.1	Domestic Air Passenger & Cargo Traffic	4-12
Table 4.4.1	Passenger Traffic by Mode	4-16
Table 4.4.2	Share of Passenger Traffic by Mode	4-17
Table 4.4.3	Cargo Traffic by Mode	4-17
Table 4.4.4	Share of Cargo Traffic by Mode	4-18
Table 5.1.1	Sea Borne Cargo Volume in 2001	5-1
Table 5.2.1	Cargo Volume by Regions	5-3
Table 5.2.2	Total Cargo Volume by Cargo Type	5-5
Table 5.2.3	Foreign Containerized Cargo by Regions	5-7
Table 5.2.4	Foreign Break Bulk Cargo by Regions	5-9
Table 5.2.5	Foreign Bulk Cargo by Regions	5-11
Table 5.2.6	Domestic Containerized Cargo	5-13
Table 5.2.7	Domestic Break Bulk Cargo	5-15
Table 5.2.8	Domestic Ro/Ro Cargo	5-17
Table 5.2.9	Actual Domestic Break Bulk Cargo	5-19
Table 5.2.10	Domestic Bulk Cargo	5-21
Table 5.3.1	Sea Passenger Traffic	5-23
Table 5.3.2	Long Distance Passengers	5-24
Table 5.5.1	Macro Estimations for Total Cargo Volume by Economic Growth Scenario	5-28
Table 5.5.2	Macro Estimations for Cargo Volume by Cargo Types	5-28
Table 5.5.3	Share of Each Cargo Type	5-29

Table 5.5.4	Growth Rate for Each Cargo type	5-29
Table 5.5.5	Total Cargo Estimation by Regions	5-31
Table 5.5.6	Estimations for Foreign Containerized Cargo by Regions	5-33
Table 5.5.7	Estimations for Foreign Break Bulk Cargo by Regions	5-35
Table 5.5.8	Estimations for Foreign Bulk Cargo by Regions	5-37
Table 5.5.9	Estimations for Domestic Containerized Cargo by Regions	5-40
Table 5.5.10	Estimations for Domestic Break Bulk cargo by Regions	5-43
Table 5.5.11	Estimations for Domestic Ro/Ro Cargo by Regions	5-46
Table 5.5.12	Projected Domestic Bulk Cargo by Region	5-49
Table 5.5.13	Projected Typical Domestic Transportation Modes	5-50
Table 5.6.1	Projected Long Distance Sea Passenger Traffic	5-52
Table 5.6.2	Projected Short Distance Sea Passenger	5-53
Table 5.7.1	Forecast of Domestic Container Volume at Major Ports	5-54
Table 5.8.1	Summary of Total Cargo Volume at Major Ports	5-55
Table 6.1.1	Future Average Vessel Size and Loading Ratio (DWT)	6-1
Table 6.1.2	World Container Movement	6-2
Table 6.1.3	Estimated Transpacific Container Throughput Flow by TEU	6-2
Table 6.1.4	Far East to Europe Continental Container Throughput by TEU	6-3
Table 6.1.5	World Major Transshipment Container Handling by Port	6-4
Table 6.1.6	Transport Dry Bulk Cargo Trade	6-7
Table 6.1.7	Liquid Bulk Carrier	6-8
Table 6.1.8	South & East Asia Crude Oil & Products Trade to 2024	6-8
Table 6.1.9	South East Asia Demand of Crude Oil	6-9
Table 6.2.1	Intra Asia Trades Forecast Container Shipping Supply and Demand to 2004	6-11
Table 6.2.2	Forecast South Asia Region Container Throughput	6-12
Table 6.2.3	North America and South East Asia Trade in TEUs	6-13
Table 6.2.4	Future Demand Container in the Intra Asia Region from / to Philippines	6-13
Table 6.2.5	East and West Main Container Trade Route Standard Ocean Freight Rate by TEU	6-14
Table 6.2.6	General Container Freight Rate per Container from / to Philippines	6-15
Table 6.2.7	Comparison Distance with South East Asia Main Container Ports	6-19
Table 6.2.8	Logistic Cost for Export	6-21
Table 6.2.9	Logistic Cost for Import	6-22
Table 6.2.10	Forecast of Long Distance Ferry Servicing Passenger and Container	6-24
Table 6.2.11	Future Large RORO Ferry Vessel	6-25
Table 6.2.12	Condition of Conventional (LO/LO) Container Vessels	6-25
Table 6.2.13	Required LOLO Type Container Vessel in Short Term and Long Term Plan	6-26

Table 6.2.14	Required Conventional Cargo Vessel in Short Term and Long Term Plan	6-26
Table 6.2.15	Domestic Container Freight Rate on 2003 June	6-30
Table 6.2.16	All Water and Sea / Land Combined Transport Rate	6-31
Table 6.2.17	Standard Transit Time of Main Container Handling Port	6-31
Table 6.3.1	Change of Container Fleet Capacity by TEU	6-33
Table 6.3.2	Summary of World Container Fleet in Service and Order by Vessel Type and size	6-34
Table 6.3.3	Standard Size of Vessel Capacity on Each Service Route	6-35
Table 6.3.4	Cruising Area in the World	6-36
Table 6.3.5	Domestic Operating Fleet by Type of Service and by Age Group	6-37
Table 6.3.6	Domestic Container Vessel / Cargo Vessel by Tonnage Group	6-38
Table 6.3.7	Standard RORO Vessels	6-39
Table 6.3.8	Domestic Container Liner Service (TEU Capacity)	6-40
Table 6.3.9	Domestic Conventional Liner Service (GRT)	6-40
Table 7.2.1	Occurrence of Maritime Accident near the Coast of the Philippines	7-4
Table 7.2.2	Operation Rate of Aide to Navigation	7-8
Table 7.3.1	Maritime Accident in Japan	7-18
Table 8.1.1	Manual, codes and standards used in the Philippines	8-1
Table 8.3.1	Anchorage Area	8-9
Table 8.3.2	Area of Basin used for buoy mooring	8-9
Table 8.3.3	Threshold wave height for cargo handling	8-10
Table 8.3.4	Typical crown heights of mooring facilities above the high water level	8-12
Table 8.3.5	Standard Apron Width	8-14
Table 8.3.6	Standard berth length and depth of container wharf	8-16
Table 8.3.7	Standard length and water depth of short- and medium-distance ferry terminal berths	8-17
Table 8.3.8	Standard length and water depth of long-distance ferry terminal berths (sailing distance 300km or more)	8-17
Table 8.3.9	Width and Inclination of Vehicle Ramp	8-18
Table 8.3.10	Channel width for small ships	8-19
Table 9.1.1	Current Condition of Access Roads at Major Ports	9-4
Table 9.1.2	Present situation of ship call (2002)	9-4
Table 9.2.1	Proposed infrastructure projects for physical integration	9-8
Table 9.2.2	Proposed RO/RO Links (JICA Nationwide Roll-on / Roll-off Study, 1992)	9-11
Table 9.2.3	Selected ferry links for Bohol	9-14
Table 9.2.4	Existing Port Development Projects	9-20-22

Table 9.2.5	Major port development plan in PPA Port Modernization Program	9-16
Table 9.2.6	Proposed ports for Trans-Visayas Intermodal Transport Network	9-17
Table 10.1.1	Government Intervention in Public and Private Ports	10-3
Table 10.3.1	Port Classification	10-7
Table 10.3.2	Criteria on Port Classification in 2001, 2009 and 2024 (Gateway Port, Principal Port and Major Port)	10-8
Table 10.3.3	Gateway Ports, Principal Ports and Major Ports in 2001, 2009 and 2024	10-8
Table 10.4.1	Share of International Container Cargo Volume	10-11
Table 10.4.2	Plans for International Container, Bulk and Break Bulk in 2024	10-15
Table 10.4.3	Plans for Domestic Container, Bulk and Break Bulk in 2024	10-20
Table 10.4.4	List of RO/RO Ports for Major Corridors (2001)	10-22
Table 10.4.5	List of RO/RO Ports for Major Corridors (2024)	10-22
Table 10.4.6	List of RO/RO Ports for Mobility Enhancement (2024)	10-28
Table 10.4.7	List of RO/RO Ports for Remote Islands Development (2024)	10-31
Table 10.4.8	List of RO/RO Ports Connecting Remote Islands (2024)	10-33
Table 10.4.9	List of Social Reform Support Ports (2024)	10-36
Table 10.4.10	Comparison of Generated Land Traffic between Batangas and Manila	10-39
Table 10.4.11	Investment for New Construction	10-40
Table 10.4.12	Export Cargo Handling Volumes from January to April in 2003	10-41
Table 11.2.1	Plans for International Container, Bulk and Break Bulk in 2009	11-2
Table 11.2.2	Plans for Domestic Container, Bulk and Break Bulk in 2009	11-6
Table 11.2.3	List of RO/RO Ports for Major Corridors (2009)	11-8
Table 11.2.4	List of RO/RO Ports for Mobility Enhancement (2009)	11-11
Table 11.2.5	List of RO/RO Ports for Remote Islands Development (2009)	11-14
Table 11.2.6	List of RO/RO Ports Connecting Remote Islands (2009)	11-15
Table 11.2.7	List of Social Reform Support Ports (2009)	11-17
Table 11.3.1	Cost for New Development Projects by 2009 and the Development Schedule	11-21
Table 12.2.1	Reviewing and approving agencies for EIS and IEE	12-4
Table 12.3.1	Relationship between Environmental Impact Factors and Components on the Port	12-18
Table 12.3.2	Co-relation between Construction Works and Pollutants	12-19
Table 12.3.3	Co-relation between Construction Works and Environmental Components	12-20
Table 12.3.4	Co-relation between Construction Works and Noise/Vibration	12-20
Table 12.3.5	Environmental Characteristics by Transport Means	12-35
Table 12.4.1	Summary of Environmental Condition Survey	12-38
Table 13.2.1	Basic Data for Estimation of SCF from 1995 to 1999	13-6

Table 13.2.2	Components of Project Costs	13-8
Table 13.2.3	Sub-classified Cost of Project	13-8
Table 13.2.4	Reason of Sub-classification	13-9
Table 13.3.1	Result of Economic Analysis	13-13
Table 14.2.1	Cargo Handling Efficiency at Philippine Ports	14-3
Table 14.2.2	Average cargo handling productivity in major foreign container ports	14-4
Table 14.2.3	Cargo handling efficiency targeted by commodity	14-5
Table 14.3.1	World container port traffic league	14-14
Table 14.3.2	Comparison of port charges with other major foreign ports	14-17~20
Table 14.3.3	Comparison of port charges with major foreign ports	14-15
Table 14.3.4	Port charges and domestic vessel operation expense for a 499 GRT vessel	14-16
Table 14.5.1	Computer-based Application Systems installed by PPA PROMPT	14-29
Table 14.5.2	Implementation Schedule of PPA MIS project	14-31
Table 15.1	Classification of PSP Types	15-5
Table 15.2	Merits and Demerits of each Pattern of Port Management and Operation	15-7
Table 15.3	Examples of Port PSP Projects in Neighboring Asian Ports	15-8
Table 15.4	Risks of PSP Projects	15-10
Table 16.1.1	Number of Ports in the Philippine	16-2
Table 16.1.2	Classification of Port Management Body and Number of Ports	16-3
Table 16.1.3	Port Development in the Philippines	16-4,5
Table 16.3.1	Outline of Port Development Organizations	16-24
Table 18.1.1	National Finance at Present	18-1
Table 18.1.2	National Government Revenues 2000-2002	18-2
Table 18.1.3	Transportation Infrastructure Outlays within Capital Outlays of National Expenditure Program	18-2
Table 18.1.4	Cash Flow of LGUs 2000 –2002	18-3
Table 18.1.5	PPA’s Financial Performance	18-4
Table 18.1.6	PPA Statement of Operation 1999 – 2001	18-4
Table 18.1.7	PPA Revenue by Tariff Item	18-5
Table 18.1.8	Port Revenue Comparison of Government Port and Private Port in 2001	18-6
Table 18.1.9	Cash Flow Statement of PPA 1993-2007	18-7
Table 18.1.10	Long-term Public Port Investment Plan Up to 2024	18-8
Table 18.1.11	PPA’s 25 Year Development Plan	18-9
Table 18.1.12	Master Plan of Feeder Port Development	18-9

Table 18.1.13	Short-term Public Investment Plan	18-10
Table 18.1.14	PPA's 5 Year Development Program	18-11
Table 18.1.15	Feeder Port Development Plan 2006-2010	18-11
Table 18.1.16	3 Year DBP Strategy	18-12
Table 18.2.1	Result of Cargo Demand Forecast	18-12
Table 18.2.2	Public Cargo Demand Forecast	18-13
Table 18.3.1	Planned Number of Berths for International Container Terminal	18-14
Table 18.4.1	International Container Terminal Investment Cost	18-16
Table 18.4.2	Port Function-wise Investment Cost	18-16
Table 18.5.1	Cargo Type-wise Accumulated Port Revenues	18-17
Table 18.5.2	Predicted International Container Handling Revenues	18-18
Table 18.5.3	Revenue Allocation between Public and Private (ICTSI and ATI)	18-19
Table 18.5.4	Accumulated Public Port Revenues Derived From Private Ports Up To 2024	18-19
Table 18.6.1	Cargo Type-wise Comparison of Long-term Port Revenues and Investment Cost	18-21
Table 18.6.2	Comparison of Long-term Port Revenues and Investment Cost	18-21
Table 18.6.3	Cargo Type-wise Comparison of Short-term Port Revenues and Investment Cost	18-22
Table 18.6.4	Comparison of Short-term (2004-2009) Port Revenues and Investment Cost	18-23
Table 18.7.1	PPA's Cash Flow in Case of Short-term Project Implementation	18-25
Table 18.7.2	CPA's Cash Flow in Case of Short-term Project Implementation	18-26
Table 18.8.1	FIRR of Representative Short-term Port Development Projects	18-27
Table 18.9.1	Revenue Prospect of Phase-3 Project of Batangas	18-28
Table 18.9.2	Cash Flow of Batangas Port Phase-3 Project (1)	18-28
Table 18.9.3	Cash Flow of Batangas Port Phase-3 Project (2)	18-29
Table 18.9.4	Cash Flow of Batangas Port Phase-3 Project (3)	18-29
Table 18.10.1	RO/RO Ferry Ports Development Scheme	18-30
Table 18.10.2	RO/RO Ports Development Master Plan	18-31
Table 18.10.3	Project Implementation Bodies for RO/RO Ports Development	18-32
Table 18.10.4	FIRR of Typical RO/RO Port Development Project	18-33
Table 18.10.5	RO/RO Port Charge Issued by PPA in 2003	18-34
Table 18.10.6	List of RO/RO Vessel Size, Dimension, Capacity and FOB Price	18-35
Table 18.10.7	Revenues from 4 Round -Trip Shipping Service per Day	18-35
Table 18.10.8	Cost and Revenue Comparison of RO/RO Port Construction and Shipping Service (4 Round-Trip Shipping Service in a Day)	18-36
Table 18.10.9	Revenues from 2 Round -Trip Shipping Service per Day	18-37
Table 18.10.10	Cost and Revenue Comparison of RO/RO Port Construction and Shipping Service (2 Round-Trip Shipping Service in a Day)	18-38

Table 18.10.11	Cash Flow of RO/RO Sea-link Service for 4 Round-Trip Shipping* * * Services per Day (1)	18-39
Table 18.10.12	Cash Flow of RO/RO Sea-link Service for 4 Round-Trip Shipping* * * Services per Day (2)	18-39
Table 18.11.1	Relation of FIRR and Port Financial Revenue	18-40
Table 18.11.2	Various Types of Private Sector Participation	18-41
Table 18.11.3	Port Management Pattern of Major Countries Regarding Private Sector Participation	18-41
Table 18.11.4	List of Port Privatization Projects in Philippines	18-42
Table 18.11.5	Investment Incentives to Accelerate Privatization for Public Port development	18-42
Table 18.12.1	Financial Policies to be Taken	18-44
Table 18.13.1	Financial Strategies to be Taken (1)	18-45
Table 18.13.2	Financial Strategies to be Taken (2)	18-46

Outline of the Study

Outline of the Study

1. Background and Objectives of this Study

The Philippines is made up more than 7,100 large and small islands. Maritime transportation, thus, plays a very important role in transporting cargo and passengers from place to place within the country. However, port development in the Philippines has not dealt with the growing seaborne cargo and passenger demand properly.

In order to improve the port development system in the Philippines, DOTC, as the entity responsible for formulating national port policy, must formulate a national port development plan, priority port development projects and an effective port investment plan of all relevant ports in the country. In fact, the Government of the Philippines is also preparing the Medium-Term National Development and Investment Plan for the period from 2004 to 2009. Accordingly, the port sector must formulate a National Port Development Plan that will harmonize with other transport modes.

In view of the foregoing, the Government of the Philippines (GOP) has officially requested the Government of Japan (GOJ) to implement "The Study on the Master Plan for the Strategic Development of the National Port System in the Republic of the Philippines".

The objectives of the study are:

- (1) To formulate the master plan for the strategic development of the national port system in the Philippines with the target year of 2024;
- (2) To formulate the initial five-year port development strategy for the identified priority ports with the target year of 2009; and
- (3) To pursue technology transfer to the DOTC counterpart personnel in the course of the Study

2. Premise of the Study

The long-term strategy for port development is usually formulated based on the national economic plan and the national development plan. The target year of the Study is 2024. Although the Medium-Term Philippine Development Plan (MTPDP) has been prepared with the target year 2004, there is no long-term development plan for the next 20 years, indicating the national development framework (i.e., development of heavy chemical industries in some specific areas).

Therefore, the JICA Study Team has to set up its own framework on the assumption that present trends will continue in the coming 20 years. This framework does not assume any drastic changes in socio-economic development.

PPOSS

(Philippine Port System Strategy)

[Executive Summary of the Study]

Philippine Port System Strategy "PPOSS"

1. Principles for PPOSS

1.1 Goals of the PPOSS

The Philippines is an archipelagic country composed of more than 7,100 islands with 17,500 kilometers of coastline and vast aquatic resources. Maritime transportation is, therefore, playing a very important role in transporting cargo and passengers from place to place within the country. However, port development in the Philippines has been lagging behind the growing seaborne cargo and passenger demand. Ports are now becoming a bottleneck of economic development in the Philippines as a whole while also being in part responsible for the socio-economic disparity between urban and rural areas.

At present one of the most crucial challenges in the Philippines is poverty alleviation. The Medium-Term Philippine Development Plan 2001-2004 (MTPDP), which formulates future plan of this country, has proposed various “tools” such as competitiveness enhancement of industry and services, acceleration of infrastructure development, and so on, to overcome this problem.

A port is a node connecting land and maritime transportation. An efficient transport network cannot be achieved without the development of ports, especially in an archipelagic country. An efficient transport network can provide various business opportunities which boost the national economy.

On the other hand, a port also supports the daily life in regions, and enhances the exchange of people and goods within a region as well as among regions. That is to say, it can support regional socio-economies.

Thus, the goals of the PPOSS are as follows.

- (1) Establishment of fast, economical, reliable and safe maritime transport network accelerating the development of national economy
- (2) Formation of maritime transport bases to support regional society

1.2 Challenges for the Port Sector

The port sector must face many challenges in order to achieve the above-mentioned goals. The major issues are listed from three points of view, i.e. planning, management and operation, and investment and financing.

(1) Planning

1) Insufficient Nationwide Coordination on Port Planning

While several public port development bodies have been organized to manage a port(s) individually, there is a lack of coordination among the port development plans of these organizations. Moreover, the planning lacks a national focus. This might result in an inefficient national port network and / or redundant investment.

2) Lack of Development Strategies for Small-scale Ports

Generally speaking, the revenue generated by the operation of a small-scale port is small. Thus, port authorities / public port development bodies, which are required to be financially autonomous, have little incentive to develop such ports. The government also cannot develop small-scale ports due to budget constraints. As a result, the strategic development of small-scale ports has not been carried out.

3) Insufficient RO/RO Route Development

RO/RO routes, which can enhance the intermodal transport network, are not fully developed. Small vessels such as motorized bancas / boats are unable to carry vehicles safely and are not a viable alternative to RO/RO routes.

(2) Management and Operation

1) Lack of Institution for Coordination at Planning Stage

One of the causes of insufficient nationwide coordination in port planning is the lack of institution to coordinate port development plans in terms of the establishment of an efficient nationwide maritime transport network at planning stage. Such kind of institution is required to be established.

2) Inefficient Port Operation

Inefficient port operation can be seen in some ports partly due to the lack of proper equipment as well as unsuitable use of port facilities.

3) Improper Setting of Port Charge

Domestic port charges are set at a low level. This fetters not only sound finance of port authorities / public port development bodies but also the mechanization of cargo handling which can improve the cargo handling efficiency.

(3) Investment and Financing

1) Lack of Investment Strategy for Future Nationwide Port Development

Under the budget constraints of the national and local governments, investment strategy, which takes into account possible source of funds including private funds, for future nationwide development has not been established yet.

2) Disparity of Investment Capacity among Public Port Development Bodies

Some public port development bodies find it difficult to finance future development projects due to insufficient revenues.

3) Insufficient Incentives to Attract Private Investment

Although the private investment in port development is greatly desired, the private sector is reluctant to invest because insufficient incentives have not been offered.

1.3 Strategies to be Adopted

Responding to the above challenging properly, the following strategies shall be adopted.

- | | |
|-------------------------------|---|
| (1) Planning: | Establishment of comprehensive nationwide port development plan coordinated with the plans of various port development bodies |
| (2) Management and Operation: | Modification of port administration as well as improvement of port management / operation |
| (3) Investment and Financing: | Establishment of investment strategies for various kinds of port development projects |

2. Target Year of the Plans and Types of Ports to be Considered in the Plans

The target year of the long-term plan is 2024 while that of the short-term plan is 2009.

The government establishes plans for the public ports, and at the same time the government will monitor, coordinate and, if necessary, regulate the private ports to grasp the total demands of maritime transportation.

3. Strategies for Planning

3.1 Planning Premises

Globalization of the economy has led to a deeper interrelation of the economic and social activities of individual countries, and the Philippine economy has already been built into the horizontal division of labor. Thus, the manufacturing industries, which require comparatively higher quality but lower wage labor forces, are expected to grow in the future, in particular, at economic zones. On the other hand, heavy chemical industries have not developed very well, and there is no long-term regional and / or industrial development plan to promote this kind of industry.

It is assumed, therefore, that manufacturing industries at economic zones and / or service industries in densely populated areas will lead the Philippine economy in the next 20 years. In other words, the JICA Study Team has set up its own framework on the assumption that present trends will continue in the coming 20 years. This framework can be called moderate in that it does not assume any drastic changes in socio-economic development.

One of the most important factors in framing the future society of the Philippines is GDP. For the base case, 4.5% annual growth rate is adopted taking into account the past 30 years historical data with 20 years moving averages. With regard to population, 1.5% annual growth is adopted from 2000 to 2024. Under these circumstances nationwide port cargo will increase 5.04% annually from 2001 to 2024.

3.2 Port Classification

The overall evaluation on the importance of an individual port (although a port usually has various functions with varying degrees of importance) is indispensable when coordinating with future plans of other sectors, in particular the road sector. According to the extent to which the port contributes to international / domestic maritime transportation, the idea of port classification is introduced here. In the classification, ports are classified into four types (see Table P3.2.1).

Table P3.2.1 Port Classification

Type of port	Functions of ports (The extent to which the port contributes to international / domestic maritime transport)
International gateway port (Gateway port)	Ports as major "windows" of the country to the world
Principal international trade port (Principal port)	Highly important ports for both international and domestic maritime transport (The ports have at least one dedicated berth for international cargo)
Major port (including RO/RO ports for major corridors)	Important ports for domestic and / or international maritime transport
Major domestic container port	Ports which are important for domestic container transport (Among the Major ports, ports which have container handling dedicated quay side cranes and / or have at least one dedicated berth for long distance RO/RO ferry vessels)
Regional port	All ports not included in above types. Regional ports, which mainly support regional society as maritime transport bases, consist of RO/RO port for short and middle distance transport (RO/RO port for mobility enhancement, RO/RO port for remote islands development), Social reform support port, etc.

3.3 Planning Principles

The objective of the long-term strategic port development plan is to simultaneously realize the following goals.

- Establishment of fast, economical, reliable and safe maritime transport network accelerating the development of national economy, and
- Formation of maritime transport bases to support regional society.

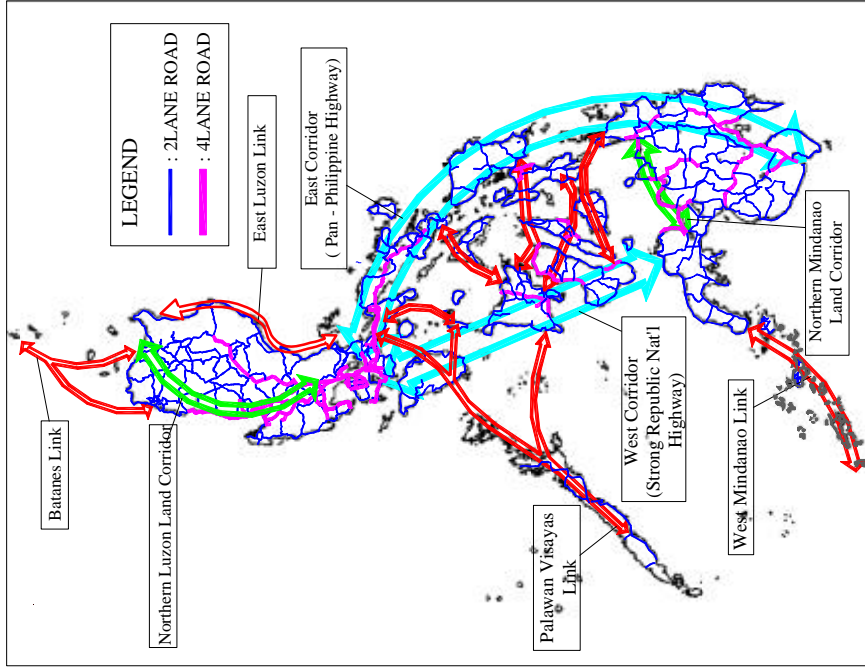
The planning principles for each objective are proposed as follows.

(1) Establishment of Nationwide Maritime Transport Network

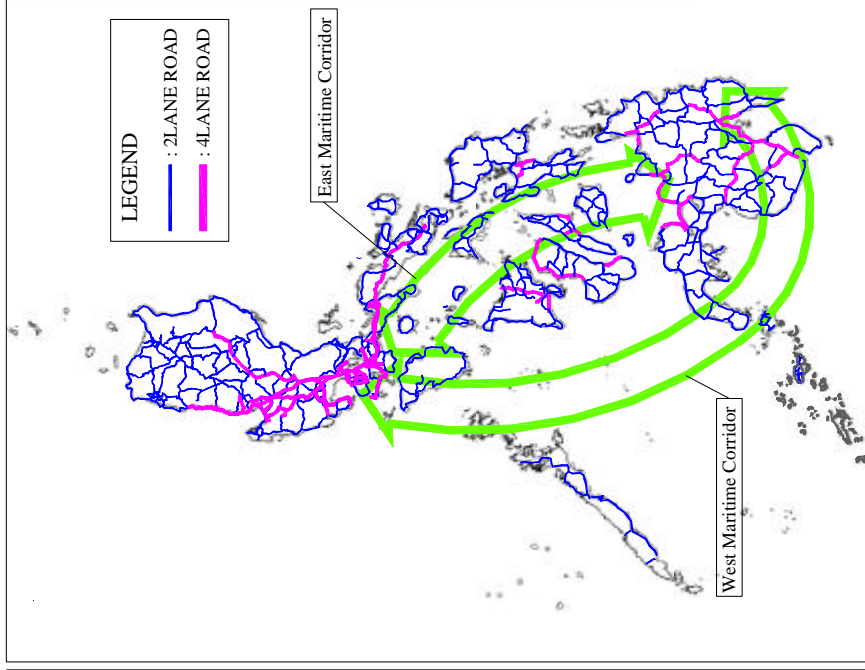
In order to formulate nationwide efficient maritime trunk routes (see Figure P3.3.1), the rationale / importance of individual port development should be examined in terms of the following principles. The ports developed as International gateway port, Principal international trade port, Major domestic container port, and Major port until 2024 are shown in Figure P3.3.2 (1) and (2).

1) Concentrated Development of Specific International Container Gateway Bases

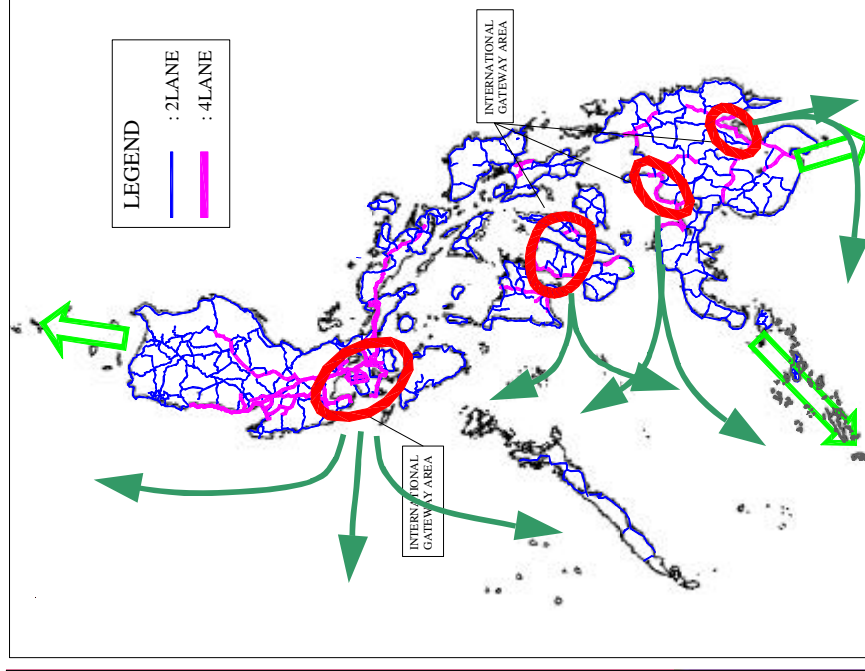
Major ports for international container trade can be classified into international hub ports and international gateway ports. To focus exclusively on international hub function might be difficult since the major market for international container cargo in Asia is not located near the Philippines. Instead, it is necessary to intensively develop the international maritime gateway functions at container ports, which both accept foreign cargo and export products. This will promote the economic development of the Philippines under the international lateral division of labor in the economy.



(1) Land / Intermodal Trunk Route



(2) Domestic Maritime Trunk Route



(3) Areas for International Maritime Linkage

Figure P3.3.1 Maritime Trunk Routes

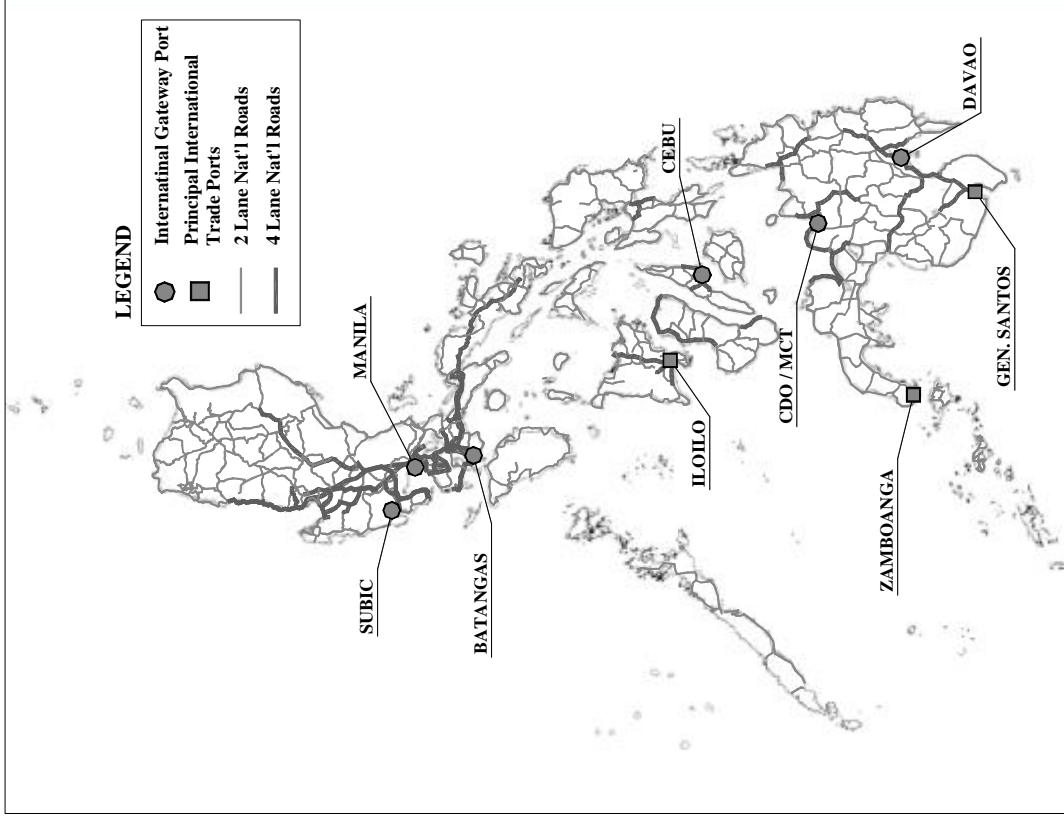


Figure P3.3.2 (1) International Gateway Port and Principal International Trade Port (2024)

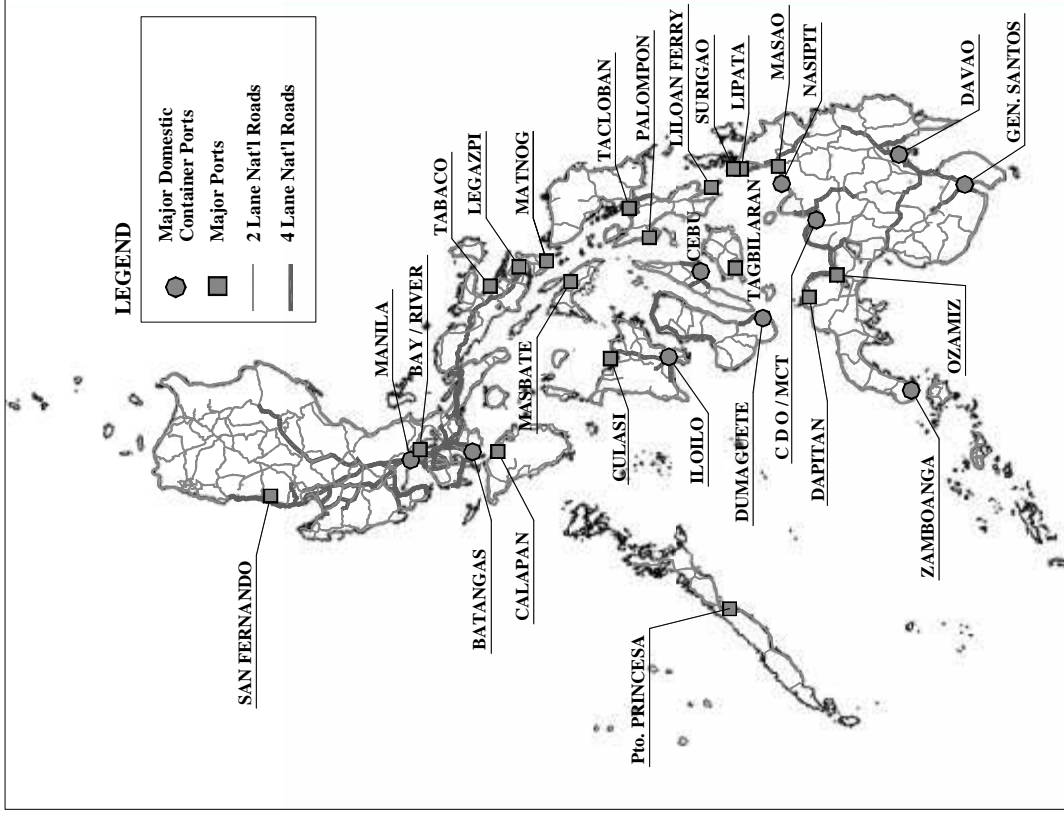


Figure P3.3.2 (2) Major Domestic Container Port and Major Port (2024)

One of the urgent tasks in this country is the development of international container gateway ports at Greater Capital Region (GCR) in order to handle the container cargo currently concentrated in Manila across a wider area. Consequently, Manila (MICT, South Harbor), Subic Bay, and Batangas are expected to share the load.

Moreover, in order to promote regional development at the middle and south part of the Philippines, the strategic development of international gateways at Visayas area, North Mindanao area and South Mindanao area is required.

2) Improvement of Domestic Container Transport Efficiency

It is estimated that about 60% of domestic container cargo are carried by long distance RO/RO ferry vessels with passengers, while other container cargo is carried by geared vessels. The transportation cost of the latter is cheaper than that of the former. The vessel speed of the latter, however, is slower than that of the former, and extra time is required for cargo handling. Thus, it is necessary to introduce high speed container vessels and install quayside cranes to enable more efficient container handling at berths. Healthy competition between these two transport modes is expected in future.

3) Development of Facilities for Break Bulk and Bulk Cargo

While the volume of break bulk cargo will increase steadily in the coming 20 years, bulk cargo will increase rapidly. However, the majority of bulk cargo has been handled at private terminals. On the other hand, almost all break bulk cargo and some bulk cargo has been handled at the same berth in public ports due to limited port facilities. It is expected that this mixed cargo-handling system will continue in many public ports, since these cargo volumes are not expected to greatly increase in future.

Thus, it is proposed that the public sector develop "multi-purpose berths" to handle these kinds of cargo in accordance with the demand for ports. Since the great contribution of the private sector is expected, in particular in the field of the improvement of bulk cargo handling operation, public and private partnerships which coordinate / enhance private investment in cargo handling equipments / warehouses should be pursued.

4) Port Planning at the Greater Capital Region

In order to meet the cargo demand with minimum negative economic externalities related to land traffic congestion, it is proposed that the expansion of existing ports in Manila be avoided as much as possible for the moment. Thus, the non-consumer goods such as industrial materials might be handled outside NCR. It is proposed that Subic Bay port and Batangas port be developed intensively for this purpose.

5) Formation of Major Corridors

There are two major north-south intermodal corridors in the Philippines, i.e. Pan-Philippine Highway and Strong Republic Nautical Highway at present. It is proposed that the RO/RO ports along the major corridors be strategically developed.

(2) Formation of Maritime Transport Bases to Support Regional Society

Small and medium scale port development to formulate maritime transport bases to support regional society is another goal of the planning. Major principles for these ports are described as follows. Ports which are not applicable to the principles should also be developed steadily in accordance with their demand.

1) Enhancing the Mobility of People and Goods in the Region

While socio-economic development often requires the concentration of resources in a specific area, it is desirable to pursue the development of the nation as a whole. In order to resolve these two contradictory issues, it is necessary to promote "National Dispersion through Regional Concentration" through the formation of an effective intermodal network and elicitation of regional growth potential. Thus, it is proposed that RO/RO ports which enhance the inter-regional and intra-regional mobility of people and goods should be strategically selected and developed (see Figure P3.3.3 (1)).

2) Securing Transportation Bases to Support Daily Life in Remote Islands

An improved transportation system can not only secure a more stable daily life in remote islands but also contribute to economic development. Thus, for remote islands that have a population of more than 5,000 in 2024 and existing port facilities, RO/RO ports should be strategically selected and developed considering the growth potential of remote islands as well as the accessibility to population centers in the main islands and other islands (see Figure P3.3.3 (2)).

3) Supporting Social Reforms

Improving accessibility and supporting the production activities such as fishery in remote islands without port facilities and other isolated areas can reduce regional gaps and contribute to poverty alleviation. Thus, it is proposed that social reform support ports should be strategically developed to form maritime routes linking the isolated area / island and population center, to support the establishment of population centers within isolated area as well as to upgrade existing shipping services.

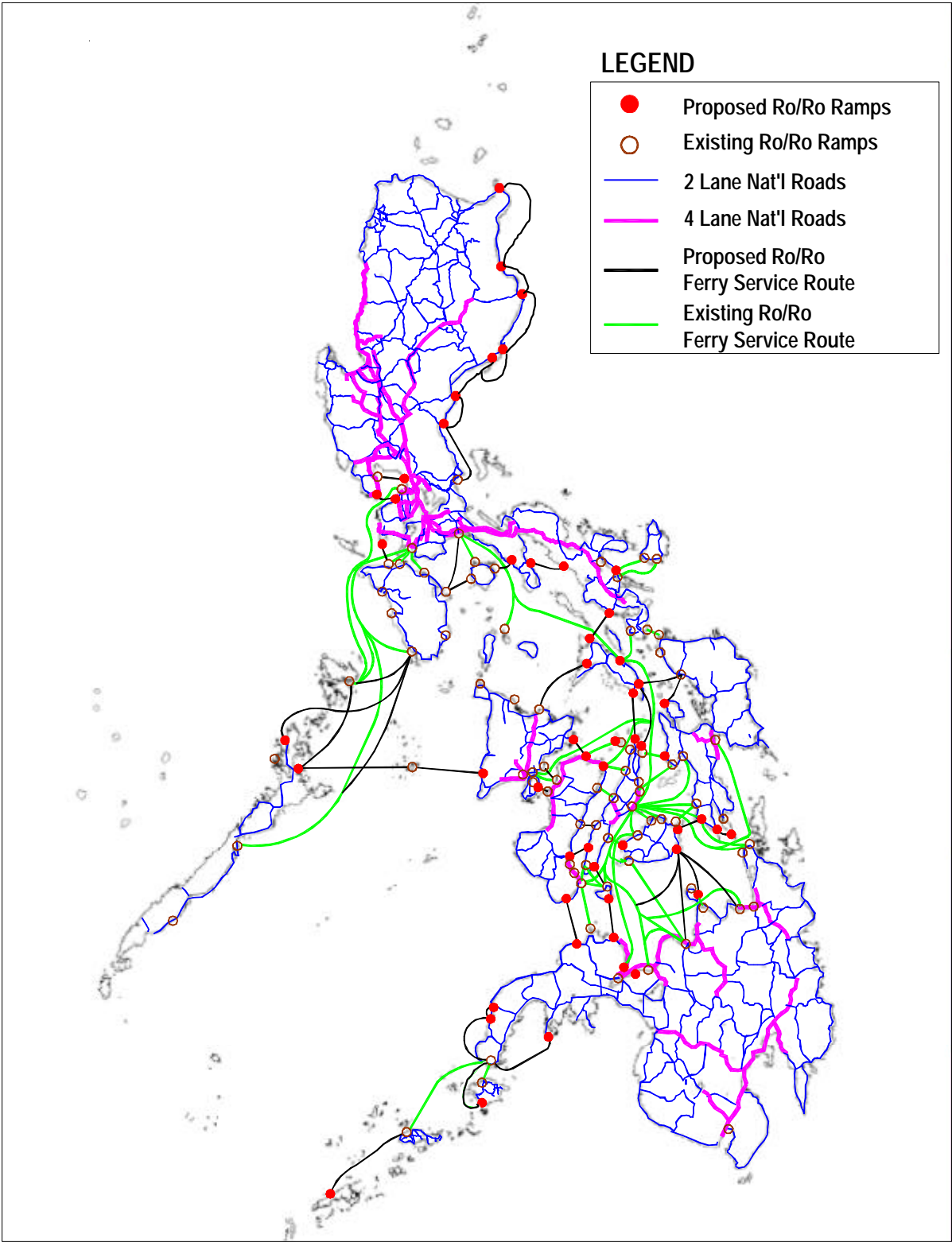


Figure P3.3.3 (1) RO/RO Port for Mobility Enhancement (2024)

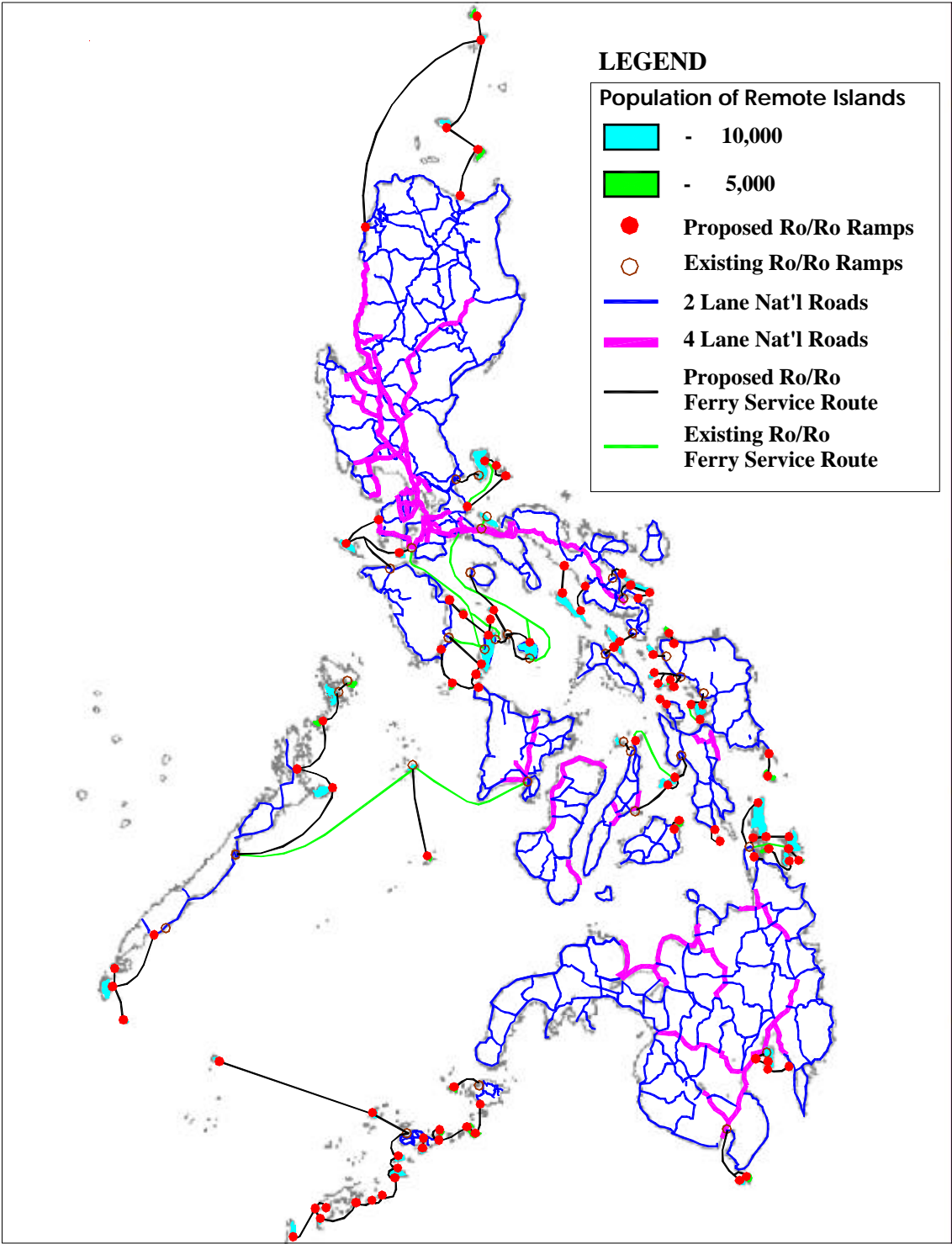


Figure P3.3.3 (2) RO/RO Port for Remote Islands Development (2024)

3.4 Strategic Development Port

Ports to be developed strategically during the long-term as well as the short-term are shown in Table P3.4.1.

Table P3.4.1 Required Facilities to be developed in the Short and Long-Terms

(Unit: million pesos)

Planning options	Long term (until 2024)		Short term (until 2009)	
	Facilities	Cost	Facilities	Cost
Int'l container	23berths	68,650	8berths	14,120
Int'l bulk, break bulk	10berths	13,800	3berths	3,300
Domestic container	21berths	23,200	9berths	11,905
Domestic bulk, break bulk	50berths	25,370	9berths	4,600
RO/RO port for majro corridors	8ports	3,400	5ports	850
RO/RO port for mobility enhancement	54ports	9,620	28ports	4,520
RO/RO port for remote island dev't, Social reform port	114ports	5,681	38ports	1,866
Total		149,721		41,161

The economic analyses were conducted on representative projects of the short-term plan. The EIRR of each planning option is more than 15%. This means that the projects are viable from the national economic point of view.

Moreover, the environmental condition survey was conducted at the ports to be strategically developed for short-term. According to the survey, some ports were found to be required further examinations on the impacts by earthquakes, respecting the protection of the aquatic resources, such as mangrove, the affects of siltation, contaminating the seabed soil by heavy metals, etc. It is necessary to implement the detailed examinations for those ports identified probable environmental impacts at the more concrete planning stage or implementing stage. Illegal occupants exist in and around areas located in major and medium urban ports. It is important to facilitate smooth implementation on the resettlement of the affected residents at the ports where illegal occupants are found in the course of the port development.

4. Strategies for Management and Operation

4.1 Institutional Reform on Port Administration

(1) Establishment of National Plan for Port Development Council (NPPD Council)

In order to avoid inefficient development of the port network and / or duplication of investment, it is necessary to prepare the National Plan for Port Development (NPPD), which is coordinated with the plans of various port authorities / public port development bodies. This PPOSS is the prototype of this plan.

NPPD council will be set up as soon as possible as a permanent advisory organization to DOTC for the purpose of the revision of NPPD, the examination on the major policies of port development, etc. The members of the NPPD Council, headed by Secretary / Undersecretary of DOTC, are the government officials of relevant organizations including NEDA and DPWH, the representatives from port authorities / public port development bodies, the representative from the private sector including shipping companies, academe, and so on. The permanent Secretariat of the Council will be established within DOTC for supporting the NPPD Council.

(2) The Role of PPA

According to the Medium-Term Philippine Development Plan 2001-2004 (MTPDP), PPA has a dual role as regulator and operator^(*). The Plan recommends that the regulatory function be transferred to an independent regulator.

On the one hand, it can be said that only PPA has sufficient knowledge and experience in regulating various kinds of ports currently. Therefore, it is impossible to separate regulatory functions from PPA and transfer them to other independent organizations. On the other hand, as to the operation function, PPA does not operate ports directly; operations are contracted out to private terminal operators under a fixed term contract. Under this contract, PPA collects 10% of all revenues of the terminal operator (also called "Arrastre"), while the cargo handling tariff is also set by PPA. Because of this relationship between PPA and terminal operators, it is said that PPA has an operational role.

It is proposed, therefore, that PPA should stop collecting 10% of the cargo handling tariff from the terminal operator and instead lease the port facilities to the terminal operator. In other words PPA should retain its regulatory function and divest itself of the operational function. This would generate competition among terminal operators and lead to the improvement of port service. In addition, not only PPA but also other port authorities / public port development bodies should take these actions.

^(*) Generally speaking, a port authority has roles as a planner, a landowner and a regulator but not an operator.

(3) Establishment of Regional Port Authority and Philippine Port Administration Agency

According to MTPDP, commercial decision-making, planning, and management of port operations shall be progressively decentralized. This direction should be pursued.

For the improvement of efficiency, the introduction of competition among ports is needed. Currently some independent port authorities / public port development bodies have been established in line with the trend of de-centralization. As each organization will pursue their own development, healthy competition can be expected. In the future, therefore, when financial independence of each public port development body can be achieved, the establishment of independent Regional Port Authorities (RPAs) is expected not only for the promotion of the de-centralization but also for the introduction of competition among the authorities. The existing public port development bodies are expected to change their status in a similar fashion.

When all RPAs are established and begin to develop their own ports in view of both the growth of their own ports and the development of the hinterlands related to their ports, it is indispensable to establish an organization to coordinate / regulate nationwide issues such as formulation of basic policies for port development, coordination of main projects of all RPAs, regulation of port security problems, etc. Thus, it is necessary that Philippine Ports Administration Agency (PPAA) as an attached agency to DOTC be established concurrently with the establishment of RPAs.

4.2 Strategies for the Improvement of Port Management and Operation

In order to improve the efficiency of sea transportation in the Philippines and to support regional socio-economic development, it is important not only to develop adequate port facilities but also to utilize port facilities efficiently. Effective port utilization can be achieved through improvement of the cargo handling efficiency; therefore, it is necessary to solve various problems confronting cargo handling brought not only by port users but also by terminal operators and port authorities / public port development bodies. Other issues that need to be urgently addressed are; waning competitive power among ports, insufficient understanding of each port's condition, port security and insufficient port promotion of activities. Thus, the following port operational or managerial matters will be addressed.

(1) Strategies for Improvement of Cargo Handling

Except for major ports with large volumes of cargo, cargo handling efficiency is not satisfactory. Poor cargo handling efficiency is mainly related to the cargo handling contract system, which does not give enough incentive to increase productivity. Terminal operators at domestic trade ports do not

have sufficient financial capability to invest in equipment due to limited revenue. Thus, following policies should be implemented.

1) Longer Cargo Handling Contract Period for Operator

In order to assure sufficient time to recover investment in cargo handling equipment, the contract period should be extended to at least more than 15 years taking into account the life period of facilities. The port authorities / public port development bodies should make it compulsory for terminal operators to obtain license / certificate. The scope of the contract should be opened to new entries to promote competition between the operators when the long-term contract is expired.

2) Assistance in Procuring Cargo Handling Equipment (Fund, Lease, etc)

Generally speaking, terminal operators in the Philippines do not have adequate financial sources to procure new / extra large-scale equipment. To expedite mechanization, establishment of fund for cargo handling equipment by slightly raising the cargo handling charge need to be examined. And for operators, some form of financial assistance for purchasing equipment or provision of equipment by the port authorities / public port development bodies should be examined.

3) Strict Monitoring of Terminal Operator's Productivity

At present, terminal operators report their efficiency to port authorities / public port development bodies, however, the contents of the reports are sometimes inadequate. Stricter monitoring of terminal operators is proposed. Concretely, the criteria of evaluation should be actually achievable and satisfactory. The monitoring should be done twice a year. The port authorities / public port development bodies should suspend, cancel or terminate the contract of a terminal operator who is unable to meet the required level of efficiency.

(2) Strategies for Setting the Port Charge

To improve berth utilization and cargo handling efficiency, and promote ports and economic activities in the hinterland, following tariff settings should be introduced.

1) Shortening Unit of the Port Tariff (from Daily Basis to Hourly Basis)

Unit of port tariffs, especially dockage at berth / anchorage and usage fee, should be changed from a daily basis to hourly basis, and escalation fee for longer berthing vessels should be introduced as well. Ships will leave the berth as soon as possible, and berth utilization rate will be increased, thus costly berth extension may be postponed.

2) Introducing Lease Contract with Terminal Operator

If a port has plural facilities and sufficient cargo volume, "lease agreement" for specific berth should be introduced. The agreement includes the setting of "fixed fee" against the existing cargo handling volume for leasing facilities, and "variable fee" against the incremental cargo handling volume. The increment of variable fee might decrease with an increase in the total cargo handling volume. This kind of scheme will give the cargo operator an incentive to increase the efficiency by arranging new equipment, hiring skilled workers and so on. Even if a port has only one multi-purpose berth, lease agreement which prohibits operators to handle only one specific type of cargo or to work for specific users should be also introduced.

3) Necessity of Appropriate Port Charges

Present tariff levels for both domestic ships berthing and domestic cargo handling are set extremely lower than that required for financially viable operation. A port which handles only domestic cargo will find it difficult to maintain port facilities using only its own port revenue. Therefore, most ports operated by local government units are not financially independent, and cannot attract any private investors.

Appropriate port tariff setting (increasing domestic port tariffs) and liberalization of cargo handling tariff should be implemented so that those ports can be financially independent, at least to the extent that they could maintain their facilities and possibly attract private operators. It is better to increase the port tariffs gradually in order to avoid impacts of the drastic change.

(3) Other Relevant Policies

1) Simplification of Port Procedures

Simplification of port procedures is not only an essential element of efficiency improvement but also one of the most important factors for raising competitiveness as an international container hub port or gateway port. Documents related to port procedures are not integrated. A system to integrate documents on port procedures needs to be introduced and DOTC should take the initiative in establishing this system.

2) Promotion of Security Measures for Port Facilities

The following issues shall be tackled.

- a) Securing the port security standard based on the provisions of the SOLAS convention
- b) Coping with the United States' CSI and 24-Hour Rule
- c) Introducing risk management system in port security

3) Port Statistics

Port inventory is produced by the government taskforce composed of DOTC, DPWH and other relevant government organizations. DOTC, which is the responsible authority for port administration, should make contribution in making detailed guidelines / check lists for the direct site surveys conducted by DPWH, and should enhance cooperation with DPWH personnel. For effective national port system planning, cargo volumes from all ports (including port authorities / public port development bodies) need to be compiled and properly classified.

4) Implementing Navigation Safety Measures

There were 1,300 maritime accidents during the eight years from 1995 to 2002. About 1,700 people died or went missing. Twenty-five (25) percent of the accidents were caused by the lack of vessel traffic management and aids to navigation such as sea lanes, lighthouses and beacons, while the high rate of traffic-related accidents were; collision (11.3%), ramming (10%), and allision (6.2%). Implementation of navigation safety measures including development of navigation aids, enforcement of rules and regulations should be strengthened.

5. Strategies for Investment and Financing

5.1 Financial Policies for Public Port Development

Under the very tight financial situation of the national and local governments in the Philippines, financial strategies for public port development should be urgently taken to accelerate necessary port investment as effectively as possible. Port investment must be appropriately shared between the public and private sector, and all available financial resources ranging from foreign loan to private own funds, should be consolidated to the most prioritized projects in the Philippines. The following financial strategies should be taken in order to make the maximum utilization of funds for ports.

(1) Efficient Utilization of Existing Facilities

First of all, it should be stressed that it is essential to use the existing port facilities and equipment as efficiently as possible.

(2) Appropriation of Internal Funds or Cross Subsidy

In order to cope with the financial disparity within one port authority (or one public port development body), it will be necessary to continue the practice of transferring internal funds from

profitable ports to financially non-viable ports for the moment.

(3) Port Charge Normalization

Port revenues are insufficient to cover investment needs. Port charge, in particular domestic port charge, should be normalized to enable port authorities / public port development bodies to carry out necessary investment.

(4) Appropriation of Low Interest Domestic Loan

Loan appropriation is an effective way to achieve required port development properly. Public port development projects should take more advantage of available domestic loans since such loans are free of foreign exchange fluctuations.

(5) Further Acceleration of Private Sector Participation

In order to accelerate private sector participation, together with concession / BOT scheme, the national and local government should introduce further deregulation and investment incentives to private investors such as local tax exemption, tariff lowering, and financial assistance for public / private joint-venture projects.

(6) Bond Issuing for Port Investment in the Long Run (Long-Term Policy)

Financially viable port development projects should make the best use of foreign / domestic financial resources by issuing bonds.

(7) Appropriation of Low Interest Foreign Loan

Foreign loan is one of the typical options to finance port development. When considering foreign loans, it is necessary to carefully analyze the own borrowing capacity, loan terms and stability of foreign exchange rates.

(8) Expansion of the National Government's Infrastructure Investment (Long-Term Policy)

For the development of financially non-viable small scale ports in rural areas, the financial assistance of the national government is required. In order to accelerate socially required but financially non-viable port development, the expansion of the national government's investment should be taken in accordance with the government's financial recovery.

5.2 Strategies for the Promotion of the Private Sector Participation in Port Development

As for international container ports, private sector participation including concession has been actively utilized because container operation is highly profitable and attractive for private companies. International break bulk (B/B) ports, domestic container ports, domestic B/B ports etc. have been developed using the surplus gained from the operation of international container ports. This situation should be improved by changing the port charge structure. In addition, some of the B/B cargo handled at public ports should be converted to bulk cargo and handled at private ports. This would lighten the burden of public ports.

On the other hand, small regional ports should be basically developed using government tax revenue. However, all government organizations have been requested to reduce expenditures due to the shortage of revenue. Therefore, not only the reduction of port construction cost but also the following innovative ideas to attract greater private sector participation in port development shall be examined.

- Tax Incentives,
- Lowering of port fee paid by a terminal operator to a port authority / public port development body,
- New Fund for Port Development,
- Appropriate Port Tariff Structure,
- Joint-ventures

In this case, both the national government (and / or the local government and / or the port authority / public port development body) and the private company bear fixed portions of the cost of developing port facilities. After completion of port facilities and start of operation, the private company pays the corresponding depreciation cost, interest of the national government portion, and the service charge to the national government.

Current national challenges: Poverty alleviation

- Tools:**
- Enhancing competitiveness of industry and services
 - Accelerating infrastructure development etc.

PPOSS: Philippine Port System Strategy

Mission

1. Establishment of fast, economical, reliable and safe maritime transport network accelerating the development of national economy
2. Formation of maritime transport bases to support regional society

Strategies

- 1) Planning:** Establishment of nationwide port development plan coordinated with the plans of various port management public corporations
- Port classification and planning principles:
 - Port classification : International gateway port (Gateway port), Principal international trade port (Principal port) Major port (including RO/RO port for major corridors), Regional port
 - Principles for the planning : Establishment of nationwide maritime transport (Concentrated development of specific international gateway bases, Improvement of domestic container transport efficiency, Port Planning at the Greater Capital Region etc.)
 - Formation of maritime transport bases to support regional society (Enhancing the mobility, Supporting the remote islands development, Supporting the social reform)
 - Strategic development port : Investment in long term development plan (2004-2024); About 150 billion pesos
Investment in short term development plan (2004-2009); About 41 billion pesos
- 2) Management and operation:** Modification of port administration as well as improvement of port management/operation
- Establishment of National Plan for Port Development (NPPD) Council:
Objectives of Council : To formulate , to revise NPPD and important/fundamental policies on port development
 - Increasing cargo handling efficiency:
Longer cargo handling contract period for operator (more than 15 years), Assistance in procuring cargo handling equipment (Establishment of corporate fund), Strict monitoring of cargo handling operator's productivity
 - Appropriate port tariff setting:
From daily basis to hourly basis, Introducing lease contract with cargo handling operator, Reexamining port charge
- 3) Investment and financing:** Investment scheme and proper financial resource allocation for feasible port development
- Proposed financial policies for public port development:
Effective utilization of existing port facilities, Acceleration of private sector participation, Deregulation and financial assistance to private sector, Cross subsidy within port authorities, Utilization of foreign loan, Introduction of port tariff based on clear-cut beneficiary-payment principle, Utilization of national fund/foreign fund procured by national government for lower profitable projects
 - Acceleration of private sector participation to port projects:
Promoting the development of international container terminal based on concession agreement etc., Acceleration of private sector participation to cargo handling business through converting B/B cargo handled at public ports to bulk cargo, Tax incentives, Lowering of port tariff, Joint-ventures (Public sector and private sector) for port development, New fund for port development, Appropriate port tariff structure

Expected outcome: An efficient port system will facilitate the movement of people, goods and services and contribute to nationwide development.

The Outline of the PPOSS

Main Report

Chapter 1 Introduction

1.1 Background of the Study

The Philippines is made up of more than 7,100 large and small islands. Maritime transportation, thus, plays a very important role in transporting cargo and passengers from place to place within the country. However, port development in the Philippines has been lagging behind the growing seaborne cargo and passenger demand. Ports are now becoming a bottleneck of economic development in the Philippines as a whole while also being in part responsible for the socio-economic disparity between urban and rural areas.

The Philippine Ports Authority (PPA) had been playing a fundamental role in developing, managing and administering all Philippine ports in a uniform manner since 1974, but this port management system underwent drastic changes in 1990. Since 1990, the Cebu Ports Authority (CPA), the Subic Bay Metropolitan Authority (SBMA), the PHIVIDEC Industrial Authority (PIA), the Cagayan Economic Zone Authority (CEZA), the Bases Conversion and Development Authority (BCDA), the Regional Port Management Authority (RPMA)-ARMM and local governments have been taking charge of port development and management in their own regions. PPA and CPA are under the umbrella of DOTC, but other relevant organizations are not. This kind of port administration system often leads to imbalanced and inefficient port development and management as a whole.

In addition, the network of large ferry vessel service has improved and was reinforced, based on the “Nationwide Roll-on/Roll-off Transport System Development Study”, finalized by JICA in 1992. However, further improvements are still necessary to provide better transport service for the growing inter-island passenger and vehicle demand in the Philippines.

In order to improve the port development system in the Philippines, DOTC, as the entity responsible for formulating national port policy, must formulate a national port development plan, priority port development projects and an effective port investment plan of all relevant ports in the country. In fact, the Government of the Philippines (GOP) is also preparing the Medium-term National Development and Investment Plan for the period from 2004 to 2009. Accordingly, the port sector must formulate a National Port Development Plan in harmony with other transport modes.

In view of the above reasons, GOP has officially requested the Government of Japan (GOJ) to implement the national port development strategy study in the Philippines with the target year 2024.

1.2 Objectives of the Study and Study Area

1.2.1 Objective of the Study

The objectives of the study are:

- (1) To formulate the master plan for the strategic development of the national port system in the Philippines with the target year of 2024;
- (2) To formulate the initial five-year port development strategy for the identified priority ports with the target year of 2009; and
- (3) To pursue technology transfer to the DOTC counterpart personnel in the course of the Study.

1.2.2 Study Area

The Study area covers the whole area of the Philippines.

1.3 Implementation of the Study

1.3.1 Scope of the Study

In order to achieve the objectives mentioned above, the Study shall encompass the following aspects.

- (1) Analysis of the Present Situation of Sea-borne International and Domestic Trade and Ports of the Philippines
 - 1) Collection and analysis of existing data and information
 - 2) Analysis of socio-economic activities including regional development
 - 3) Analysis of maritime cargo and passenger traffic
 - 4) Review of related studies and development plans
 - 5) Review of the relevant laws and regulations
 - 6) Identification of present problems and issues
- (2) Formation of the Port Development Strategy up to the Target Year 2024
 - 1) Formation of the basic framework
 - a) Formation of the socio-economic framework up to the target year
 - b) Demand forecast of maritime cargo and passenger traffic
 - 2) Formation of the strategy for port infrastructure development

- a) Allocation of functions and traffic among ports
 - b) Identification of the strategic options and selection of strategic ports
 - c) Formation of the appropriate hierarchy system for ports and shipping routes
 - d) Preliminary estimate of development scales and required investment
 - e) Preparation of the technical guideline for facility planning of small-scale ports
- 3) Formation of the strategy for port management and operation
 - a) Allocation of the roles among the national government, local governments, public enterprises and the private sector
 - b) Identification of the possible areas for private sector participation
 - c) Recommendation on increasing the efficiency of port services
 - d) Recommendation on legislative and institutional reforms
 - 4) Formation of the strategy for the initial five-year development up to the target year 2009
 - a) Identification of the priority projects
 - b) Preparation of implementation schedule of construction works
 - c) Preliminary estimate of required investment
 - d) Preliminary economic analysis
 - e) Identification of environmental factors and possible preventive measures
 - f) Recommendation on port management and operation
 - 5) Overall conclusion and recommendations

1.3.2 Schedule and Flowchart of the Study

The schedule and flowchart of the Study are shown in Figure 1.3.1.

Two seminars and three workshops were conducted to transfer technology and exchange opinions, as follows;

1st Seminar	February 20 2003	Manila
2nd Seminar	September 02 2003	Cebu
3rd Seminar	December 11 2003	Manila
1st Workshop	June 04 2003	Manila
2nd Workshop	July 18 2003	Manila
3rd Workshop	September 15 2003	Manila

Appendix 1.1 shows major points of discussion during the seminars and workshops.

In addition, a series of meetings and discussions with some technical committee members and counterparts were held for technology transfer.

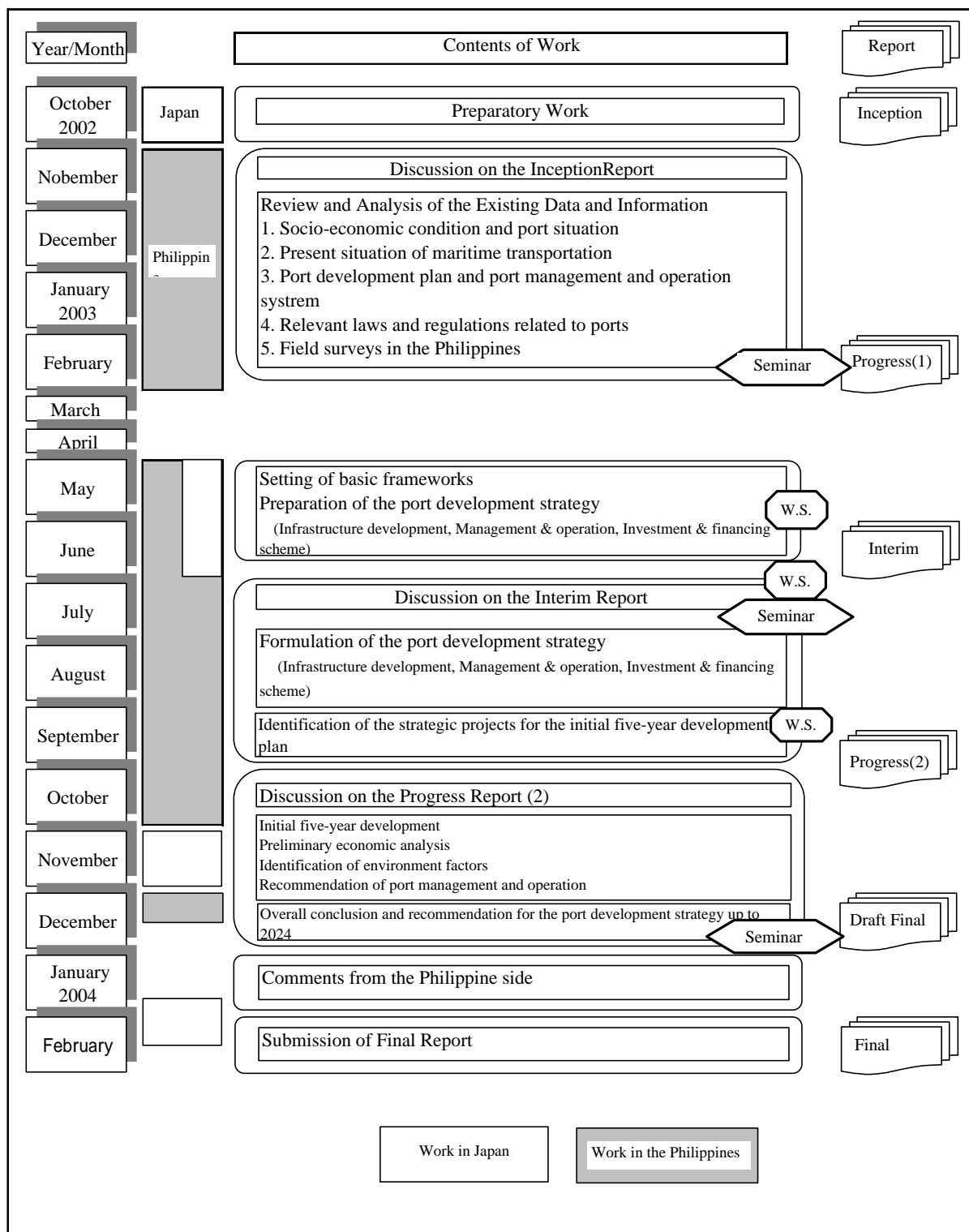


Figure 1.3.1 Schedule and Flowchart of the Study

1.3.3 Implementing Organization of the Study

(1) Steering Committee and Technical Working Committee

The Steering Committee and the Technical Working Committee have been set up for the duration of the Study. The members of both committees are shown in Table 1.3.1 and Table 1.3.2.

Table 1.3.1 Steering Committee Members

Chairman	
AGUSTIN R. BENZON <i>(JOSE L. CORTES. JR)*</i>	Undersecretary for Maritime/Water Transport & Special Concerns, DOTC <i>Undersecretary for Maritime/Water Transport, DOTC</i>
Vice Chairman	
MARGARITA R. SONGCO <i>(GILBERTO M. LLANTO)</i>	Assistant Director General, NEDA <i>Deputy Director General, NEDA</i>
Members	
MANUEL T. BONOAN	Undersecretary, DPWH
ALFONSO G. CUSI	General Manager, PPA
MARIANO C. J. MARTINEZ	General Manager, CPA
OSCAR M. SEVILLA	Administrator, Maritime Industry Authority (MARINA)
ARTHUR GOSINGAN <i>(REUBEN S. LISTA)</i>	Commandant, Philippine Coast Guard (PCG) <i>Commandant, Philippine Coast Guard (PCG)</i>
MURSHID B. TUTTUH	General Manager, Regional Port Authority (RPA)-ARMM
JOSE V. HIPOLITO	Administrator, CEZA
FORTUNATO U. ABAT	President, Poro Point Management Corp. (PPMC)
BENJAMIN B. CECILIO	Assistant GM for Operation, PPA
GABRIEL B. EVANGELISTA	Administrator, PHIVIDEDEC Industrial Authority (PIA)
VICTOR L. MAMON	Sr. Deputy Administrator for Operations, SBMA
ROBERT R. CASTANARES <i>(GEORGE D. ESGUERRA)</i>	Assistant Secretary for Planning, DOTC <i>Assistant Secretary for Planning, DOTC</i>
ROGER MERCADO <i>(ALAN ADENA TAN)</i>	Assistant Secretary for Legal and Administrative Affairs, DOTC <i>Assistant Secretary for Legal and Administrative Affairs, DOTC</i>
RENE L. MAGLANQUE	Assistant Secretary for Finance and Comptrollership, DOTC

* Formerly included in the Study

Table 1.3.2 Technical Working Committee

Chairman	
ILDEFONSO T. PATDU (SAMUEL C. CUSTODIO)*	Director, Transport Planning Service, DOTC <i>Officer-in-charge, Transport Planning Service, DOTC</i>
Members	
REUBEN B. REINOSO	Assistant Director General, Infrastructure Staff, NEDA
ELMER E. SONEJA	Director, Project Management Service, DOTC
LINDA M. TEMPLO	Director, Planning Service, DPWH
ROMELO T. MASCARINA	Manager, Project Development Department, PPA
DOMINGO BASSIG	Manager, Port Operations and Services Department, PPA
DENNIS R. VILLAMOR	Deputy General Manager, CPA
MYRNA E. CALAG	Chief, Planning Office, MARINA
OIC DIR. LILIAN T. JAVIER	Chief, Domestic Shipping Office, MARINA
CAPT. NOEL O. MONTE	Director, PCG-PMO
CELEDONIA B. ACLAO	Project Director, PMO Ports
JOSEPHINE R. BONDOC	Chief, Water Transport Planning Division, DOTC

* Formerly included in the Study

In addition, counterparts have been nominated as technical/administrative/financial support staff for the Study (see Table 1.3.3).

Table 1.3.3 Counterparts (Technical/Administrative/Financial Support Staff)

MA. LOURDES M. MANATAD	Port Engineer/Team Leader, PMO-Ports
ARSENIO F. LINGAD II	Shipping Specialist, MARINA
REBECCA T. GARSUTA	Transport Planner, DPWH
CARLITO M. CASTILLO	Port Planner, PPA-PDD
MARIE Y. CLEMENTE	Port Management Specialist, PPA
LORNA T. JORDAN	Port Management Specialist, CPA
PABLITO M. ABELLERA	Sr. Transport Planner, NEDA-Infra
RAUL NARVAEZ	Navigational Safety Specialist, PCG
ELENITA D. ASUNCION	Shipping Trend Analyst, DOTC
ENRICO C. FERRE	Port Engineer, DOTC
BELINDA C. SALVOSA	Economist, DOTC
MANUEL O. LARDIZABAL	Transport Planner, DOTC
MA. LOURDES T. PAGTALUNAN	Port Planner, DOTC
ALICIA A. LASTA	Engineer IV, PMO-Ports
GLENDA F. DAVID	Transport Economist, PMO-Ports
HECTOR E. SANCHEZ	Engineering Assistant, PMO-Ports
ERIC ENCARNACION	Economist, PMO-Ports
ELIZABETH V. ESPINA	Administrative Officer, PMO-Ports
ELVIN B. TINSAY	Budget Officer, PMO-Ports

(2) JICA Study Team

The JICA Study Team is composed of the following specialists with the corresponding responsibilities, as listed below;

Name	Responsibility
Mr. Hisao OUCHI	Team Leader / Port Policy
Mr. Hiromi KADO	Port Planning (1) / Navigation Safety
<i>(Mr. Kohei TAJIMA)*</i>	<i>Port Planning (1) / Navigation Safety</i>
Mr. Takeshi MURAOKA	Port Planning (2) / Technical Standards
Mr. Satoshi KAWAMURA	Regional Development
Mr. Hiromichi NAGANO	Demand Forecast
Mr. Hiroyuki SHINGYOCHI	National Port Administration
Mr. Takao HIROTA	Management & Operation (System)
<i>(Mr. Hiroshi MAEDA)</i>	<i>Management & Operation (System)</i>
Mr. Kei KUROSE	Management & Operation (Management)
Mr. Shinichi TEZUKA	Shipping Trend Analysis
Mr. Koichiro HAYASHI	National Port Finance & Policy/Economic Analysis
Mr. Tadao YAMADA	Environmental Consideration
Mr. Shane REID	Coordination

* Formerly included in the Study

1.4 Premise and Direction of the Study

1.4.1 Premise of the Study

The long-term strategy for port development is usually formulated based on the national economic plan and the national development plan. The target year of the Study is about next twenty years, i.e. 2024. Although the Medium-Term Philippine Development Plan (MTPDP) has prepared with the target year 2004, there is no long term development plan for next 20 years formulating national development framework such as intense development of heavy chemical industries in some specific areas.

Therefore, the JICA Study Team has to set up its own framework on the assumption that present trends will continue in the coming 20 years. This framework can be called moderate since it does not assume any drastic changes in socio-economic development.

As to the Gross Domestic Product (GDP), which is one of the most important factors in setting up the framework of the Study, three values have been adopted, namely; the base case, low case and high case. For the base case (the medium case), 4.5% is adopted considering the 20 year moving average of the annual GDP growth rate for the past 30 years. The low case with a value of 3.5% is obtained by substituting 1% from the base case. For the high case, the tentative value 5.73%

calculated by NEDA is adopted.

The Study area covers the whole country of the Philippines. However, conduct of actual site inspections in Mindanao was limited due to safety concerns. The JICA Study Team made short visits to only limited areas in Mindanao. Therefore, formulation of plans for most ports in Mindanao were based on interviews and documents which are available to obtain in Manila.

1.4.2 Direction of the Study

At present one of the most crucial challenges in the Philippines is poverty alleviation. MTPDP has proposed various “tools” such as competitiveness enhancement of industry and services, acceleration of infrastructure development, and so on, to overcome this problem.

A port is a node connecting land and maritime transportation and can be achieved by development of ports for an efficient transport network, especially in an archipelagic country. An efficient transport network can provide various business opportunities that boost the national economy. It can also support the daily life in the regions, which enhances the exchange of people and goods within a region as well as among regions, or it improves the socio-economic activities in the regions.

Thus, the objectives of the Study are as follows;

- (1) Establishment of fast, economical, reliable and safe maritime transport network accelerating the development of national economy
- (2) Formation of maritime transport bases to support regional society

However, the port sector has many problems, many of which were identified by the JICA Study Team. These problems are listed from three points of view; (1) planning, (2) management and operation, and (3) investment and financing.

With regard to the planning aspect, the most crucial issues are, first, is an insufficient nationwide evaluation system on port planning. While several independent public corporations have been organized to manage a port/ports individually, there is lack of coordination among the port organizations on port development plans. This might lead inefficient port network nation-widely and/or redundant investment. Secondly, RO/RO routes that can enhance the intermodal transport network, are not fully developed. Small vessels such as motorized bancas/boats are unable to carry vehicles safely and are not a viable alternative to RO/RO routes.

As for the management and operation aspect, the major issues are, firstly, inefficient port operation (i.e. cargo handling). This might be partly due to the lack of proper equipment as well as unsuitable

use of port facilities. Secondly, problems related to the low level of the port charges were identified. Thirdly, there are the unsuitable institutional settings of the various port organizations. The previously mentioned insufficient coordination among various public corporations is mainly due to the unsuitable institutional settings. Institutional reforms will be necessary.

With respect to investment and financing, the issues are, firstly, the delay and non-concentration of investment. This is the reason for the large number of old-fashioned port facilities and the deteriorated state of many facilities. Secondly, public private partnerships seem not to be fully utilized in port development and management.

The above-mentioned identified problems will be examined in the Study. The concrete strategies to be adopted are as follows,

- (1) Planning: Establishment of comprehensive nationwide port development plan coordinated with the plans of various port development bodies
- (2) Management and operation: Modification of port administration as well as improvement of port management/operation
- (3) Investment and financing: Establishment of investment strategies for various kinds of port development projects

It is stressed here that the master plan is not merely a list of specific projects. Identifying problems, establishing objectives and offering policy options are all integrated in the master plan. This package is summarized in the form of "Philippine Port System Strategy (PPOSS)" (see Executive Summary). Through the implementation of PPOSS, an efficient port system which will facilitate the movement of people, goods and services and contribute to nationwide development is expected to be realized.