

**The Republic of Indonesia
Directorate General of Sea Transportation
Ministry of Transportation**

**Final Report on Project for Master Plan Study on
Port Development and Logistics in
Greater Jakarta Metropolitan Area in
The Republic of Indonesia**

Main Report

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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ABBREVIATIONS

ADPEL	Administrator Pelabuhan (Port Administrator)
AFTA	ASEAN Free Trade Area
ALOS	Advanced Land Observation Satellite; an observation satellite launched by JAXA (Japan Aerospace Exploration Agency) on 24 January 2006.
AMDAL	Analisis Mengenai Dampak Lingkungan (Environmental Impact Assessment)
ANDAL	Analisis Dampak Lingkungan (Environmental Impact Analysis)
APEC	Asia-Pacific Economic Cooperation
ASEAN	The Association of Southeast Asian Nations
ASTM	American Society for Testing and Materials
Aus-AID	Australian Agency for International Development
BAKOSURTANAL	Badan Koordinasi Survei dan Pemetaan Nasional; a governmental agency of Indonesia for land survey and mapping
BAPEDAL	Badan Pengendalian Dampak Lingkungan (Environmental Control Agency)
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
BMKG	Badan Meteorologi Klimatologi dan Geofisika (Meteorological, Climatological and Geophysical Agency)
BPJT	Badan Pengatur Jalan Tol (Indonesian Toll Road Authority)
BPS	Badan Pusat Statistik (Indonesian Statistic Agency)
CCTV	Closed Circuit Television
CDL	Chart Datum Level
CEPT	Common Effective Preferential Tariffs
CFC	Conversion Factor for Consumption
CFS	Container Freight Station
CFSL	Conversion Factor for Skilled Labor
CFUL	Conversion Factor for Unskilled Labor
CGI	Consultative Group on Indonesia
CIF	Cost, Insurance and Freight
CKR	Cikarang
CLM	Cilamaya
CMEA	Coordinating Ministry of Economic Affairs
CPO	Crude Palm Oil
CPU	Complete-Built-Unit
DAOP	Daerah Operasi (Operational Area)
DEL	Diesel Electric Locomotives
DENR	Department of Environment and Natural Resources
DGLC	Directorate General of Land Communications
DGPS	Differential Global Positioning System
DGR	Directorate General of Railways
DGR	Directorate General of Railways
DGST	Directorate General of Sea Transportation
DKI	Special Capital City District
DKP	Departemen Kelautan dan Perikanan (Ministry of Marine Affairs and Fisheries)
DL	Datum Level
DLT	Design Low Tide Level
DNIT	National Department of Transport Infrastructures
DTV	Daily Traffic Volume

DWT	Dead Weight Tons
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
FAO	Food and Agriculture Organization
FIRR	Financial Internal Rate of Return
FOB	Free On Board
GAIKINDO	Gabungan Industri Kendaraan Bermotor Indonesia (Association of Indonesian Automotive Industries)
GDB	Gedebage
GDP	Gross Domestic Product
GEIP	GHG (Greenhouse Gas)
GOI	Government of Indonesia
GOJ	Government of Japan
GPS	Global Positioning System
GRDP	Gross Regional Domestic Product
HWL	High Water Level
IBA	Important Bird Areas
ICB	Interlocking Concrete Block
ICD	Inland Container Depot
IPC II	Indonesia Port Corporation II
IEE	Initial Environmental Examination
IMF	International Monetary Fund
IMO	Infrastructure Maintenance and Operation
IRR	Internal Rate of Return
ISPS	International Ship and Port Facility Security
ITB	Institut Teknologi Bandung (Bandung Institute of Technology)
JBIC	Japan Bank for International Cooperation
JCT	Jakarta Container Terminal
JICA	Japan International Cooperation Agency
JICT	Jakarta International Container Terminal
JIS	Japan Industrial Standard
JIT	Jakarta Container Terminal
JIUT	Jakarta InterUrban Toll Road
JKABODETABEK	Greater Jakarta covering Jakarta, Bogor, Depok, Tangerang and Bekasi
JKABODETABEKPUNJUR	Greater Jakarta covering Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak and Cianjur
JORR	Jakarta Outer Ring Road
JORR2	second Jakarta Outer Ring Road
KA-ANDAL	Kerangka Acuan Analisis Dampak Lingkungan (Term of Reference for Environmental Impact Analysis)
KfW	Kreditanstalt fur Wiederaufbau
KKPPI	Komite Kebijakan Percepatan Penyediaan Infrastruktur (National Committee on Acceleration of Infrastructure Provision)
KN	Kilo Newton
KOJA	one of Container Terminal Companies in Jakarta
LA	Loan Agreement
LCP	Laem Chabang Port
LL	Liquid Limit
LLWL	Lowest Low Water Level
LOA	Length Overall

MAL	Mustica Alam Lestari
MSL	Mean Sea Level
MT	Metric Ton
MTI	Multi Terminal Indonesia
MW	Megawatt
NKB	North Kalibaru area
NSW	National Single Window
O&M	Operation and Maintenance
O&M	Operation and Maintenance
OCR	Over Consolidated Ratio
OD	Origin and Destination
ODA	Official Development Assistance
ONWJ	Off Shore North West Jawa
PABX	Private Automatic Branch Exchange
PBI	Indonesian Standard
Pc	Pre-consolidation stress
PC	Prestressed Concrete
PCU	Passenger Car Unit
Pelindo	Effective Pressure
Pelindo	Indonesian Port Corporation
PIANC	Permanent International Association of Navigation Congress
PL	Plastic Limit
PLN	National Electric Corporation
PLTGU	Pembangkit Listrik Tenaga Gas Uap (Indonesian: Integrated Gasification Combined Cycle Plants)
POO	Pasoso
PPP	Public Private Partnership
RPJMN	Rencana Pembangunan Jangka Menengah Nasional (National Medium-term Development Plan)
RPJPN	Rencana Pembangunan Jangka Panjang Nasional (National Long-term Development Plan)
PRT	Port Related Traffic Volume
PSO	Public Service Obligation
PSO	Public Service Obligations
PT. KAI	PT. Kereta Api Indonesia (Persero), Indonesian Railways Corporation
PVD	Plastic Vertical Drain
QGC	Quay Gantry Crane
R.p	Rupiah
RBD	Refined, Bleached and Deodorized
RBDPO	Refined, Bleached and Deodorized Palm Oil
RC	Reinforced Concrete
RKL	Rencana Pengelolaan Lingkungan (Environmental Management Plan)
RMCIP	Risk Management Committee on Infrastructure Provision
RMU	Risk Management Unit
ROE	Return on Equity
ROE	Return On Equity
ROI	Return on Investment
ROW	Right of Way
RPL	Rencana Pemantauan Lingkungan (Environmental Monitoring Plan)
RTG	Rubber Tired Gantry crane

RTRW	National, Provincial and Regional/Municipal Spatial Plan
SCF	Standard Conversion Factor
SE	South-East
SEA	Strategic Environmental Assessment
SEZ	Special Economic Zone
SOE	State Owned Enterprises
SPM	Suspended Particulate Matter
SPP	Steel Pipe Pile
SPT	Standard Penetration Test
SRT	State Railway of Thailand
SSP	Steel Sheet Pile
STEP	Special Terms for Economic Partnership
SUPAS	Intercensal Population Survey
TAC	Track Access Charge
TEU	Twenty-foot Equivalent Unit
TgPA	Tanjung Priok Access Road
TIC	Tangerang International City
TJTR	Trans Java Toll Road
TPK	Terminal Petikemas (Container Terminal)
TSHD	Trailing Suction Hopper Dredger
TSP	Total Suspended Solids
TSS	Traffic Surveillance System
TTV	Through Traffic Volume
UKL-UPL	Upaya Pengelolaan Lingkungan - Upaya Pemantauan Lingkungan (Environmental Management Efforts - Environmental Monitoring Efforts)
ULCS	Ultra-Large Container Ships
UNDP	United Nations Development Program
UNPF	United Nations Population Fund
URTP	Urgent Rehabilitation Project of Tanjung Priok Port
VAT	Value Added Tax
VCR	Vehicle Capacity Ratio
VLCC	Very Large Crude Carrier

CONTENTS

CHAPTER 1	INTRODUCTION.....	1-1
1.1	Introduction	1-1
1.2	Background of the Study	1-1
1.3	Study Area.....	1-2
1.4	Objectives of the Study	1-3
CHAPTER 2	ANALYSES OF CURRENT SITUATION OF PORT LOGISTICS IN THE STUDY AREA.....	2-1
2.1	Review of Port Development Strategies/Policies in Port Sector.....	2-1
2.2	Review of Port Development Plans Proposed by Relevant Organizations	2-2
2.3	Review of Spatial Plans and Related Regulations Established by Local Governments	2-10
2.3.1	General	2-10
2.3.2	National Development Plan.....	2-10
2.3.3	National Spatial Plan.....	2-13
2.3.4	Regional Spatial Plans in the Greater Jakarta Metropolitan Area.....	2-13
2.4	Analysis of Socio-economic Situation	2-20
2.4.1	Socio-economic Framework.....	2-20
2.4.2	Administration System and Financial Condition	2-27
2.5	Analysis of Cargo Trends of the Existing Ports	2-34
2.5.1	Container Cargo	2-34
2.5.2	Non-Container Cargo	2-37
2.6	Analysis of Operational Situation of Tanjung Priok Port	2-41
2.6.1	Allocation of the Existing Port Facilities	2-41
2.6.2	Cargo-Handling Activities	2-45
2.7	Analysis of Trends of International Maritime Transport including Container Transshipment Centering on Indonesia.....	2-51
2.7.1	Overview of Indonesian Maritime Transport Scene	2-51
2.7.2	Overview of Indonesian Ports	2-56
2.7.3	Shipping Lines Serving Indonesia.....	2-60
2.7.4	Existing Transshipment Service Network.....	2-69
2.7.5	Cost analysis of Direct Calling Service/Transshipment Service.....	2-72
2.7.6	Shipping Lines' Requests for Jakarta (Tanjung Priok) Port	2-73
2.7.7	Interface with ASEAN COMMUNITY (Intra-ASEAN Shipping).....	2-74
2.8	Review of the Situation and Development Plans of Toll Road Network.....	2-77
2.8.1	Current Situation of Toll Road Network.....	2-77
2.8.2	Development Plan	2-80
2.9	Review of the Situation and Development Plans of Railway Network.....	2-84
2.9.1	Overview of regional railway network.....	2-84
2.9.2	The existing railway transportation network between Tanjung Priok Port (Pasoso station) and Gedebage ICD	2-89
2.9.3	Development plan of railway network	2-92
2.10	Results of Traffic Survey including OD (Origin-Destination) Survey.....	2-93
2.10.1	Vehicle Counting Survey	2-94
2.10.2	Daily Traffic Volume of Trailer Truck by O/D survey	2-98
2.11	Results of Interview Survey with Major Consignees/Consignors.....	2-99
2.11.1	Methodology of Interview Survey	2-99
2.11.2	List of Interviewees	2-100

2.11.3	Selected Opinions and Comments.....	2-100
2.12	Review of Laws and Regulations for Environmental and Social Considerations.....	2-102
2.13	Identification of Critical Issues in Port Logistics.....	2-108
2.13.1	General.....	2-108
2.13.2	Critical Issues facing Ports.....	2-109
2.13.3	Critical Issues around Port.....	2-110
CHAPTER 3	NATURAL CONDITIONS IN AND AROUND POTENTIAL SITES FOR A NEW CONTAINER TERMINAL.....	3-1
3.1	Meteorological Conditions.....	3-1
3.1.1	Air Temperature and Humidity.....	3-1
3.1.2	Precipitation.....	3-2
3.1.3	Wind.....	3-2
3.2	Oceanographic Conditions.....	3-3
3.2.1	Tide.....	3-3
3.2.2	Surface Current.....	3-3
3.2.3	Wave Climate.....	3-5
3.3	Wave Conditions at Candidate Terminal Sites.....	3-7
3.3.1	Wave Height Ratio.....	3-8
3.3.2	Wave Conditions at Each Candidate Site.....	3-8
3.3.3	Probability of wave occurrence and non-exceeding wave height.....	3-14
3.3.4	Discussions on Threshold Wave Height for Cargo Handling.....	3-14
3.4	Topographical Conditions.....	3-16
3.4.1	Geomorphology of the Study Area.....	3-16
3.4.2	Topography.....	3-18
3.4.3	Bathymetry.....	3-19
3.4.4	Shoreline Changes in the Study Area.....	3-20
3.4.5	Littoral Sediment Transport.....	3-29
3.5	Subsoil Conditions.....	3-33
3.5.1	Subsoil Conditions Survey.....	3-33
3.5.2	Subsoil Conditions at Candidate Terminal Sites.....	3-36
3.5.3	North Kalibaru.....	3-59
3.5.4	Summary of Subsoil Condition.....	3-64
CHAPTER 4	MASTER PLAN FOR PORT DEVELOPMENT AND LOGISTICS IN AND AROUND GREATER JAKARTA METROPOLITAN AREA.....	4-1
4.1	Socio-economic Framework.....	4-1
4.1.1	Population.....	4-1
4.1.2	GDP (Gross Domestic Product).....	4-1
4.1.3	Regional Socio-economic framework.....	4-5
4.2	Cargo Demand Forecast.....	4-8
4.2.1	Container Cargoes.....	4-8
4.2.2	Non-Container Cargoes.....	4-19
4.3	Estimate of Cargo-Handling Capacity of Tanjung Priok Port.....	4-36
4.3.1	General.....	4-36
4.3.2	International Containers.....	4-36
4.3.3	Domestic Containers.....	4-38
4.4	Estimate of Traffic Capacities of the Existing Roads and Railway.....	4-41

4.4.1	Traffic condition on toll road	4-41
4.4.2	Daily Traffic Volume Related to Port Cargoes	4-48
4.4.3	Railway transportation line capacity between Tanjung Priok – Jatinegara – Bekasi – Cikarang – Cikampek	4-50
4.4.4	Railway transportation line capacity between Cikampek – Purwakarta – Padalaran – Bandung – Gedebage	4-52
4.4.5	All factors of railway transportation capability between Tanjung Priok and Gedebage	4-52
4.5	Basic Concept of Port Development Plan in Greater Jakarta Metropolitan Area .	4-52
4.6	Screening of Potential Candidate Sites for a New International Container Terminal	4-55
4.6.1	Listing of Potential Candidate Sites	4-55
4.6.2	Criteria for Screening Potential Candidate Sites	4-55
4.6.3	Individual Evaluations for International Container Terminal	4-56
4.6.4	Result of the Screening	4-57
4.7	Three Options for a New International Container Terminal	4-60
4.7.1	Development Fully Concentrated at off North Kalibaru (Option-1).....	4-60
4.7.2	Development Split to off North Kalibaru and Cilamaya (Option-2).....	4-73
4.7.3	Development Split to off North Kalibaru and Tangerang (Option-3).....	4-83
4.7.4	Comparison of the three Options and Selection of the Optimum Option	4-91
4.7.5	Comparison of the three Alternatives of Option-2 Selected as the Optimum Option and the Selection of the Optimum Alternative	4-96
4.8	Development of Terminals for Domestic Containers and Conventional cargoes	4-99
4.8.1	Summary of the volumes of cargoes to be handled in the stage of the Master Plan in 2030	4-99
4.8.2	Required Access Channel Dimensions.....	4-102
4.8.3	Require Dimensions of New off-shore Berths within Tanjung Priok Terminal	4-106
4.8.4	Berth Allocation Plan for Domestic Containers and Conventional Cargoes at Tanjung Priok Terminal	4-107
4.8.5	Comprehensive Movements of Cargoes and Ships within Tanjung Priok Terminal in 2030	4-110
4.8.6	Anchorage Layout Plan off Tanjung Priok Terminal.....	4-111
4.9	Master Plan of Tanjung Priok Port.....	4-112
4.9.1	Requirements for the Master Plan by Law No. 17	4-112
4.9.2	Principal Port Development Plans.....	4-112
4.9.3	Development Directions of Marine Terminals under Tanjung Priok Port other than Tanjung Priok Terminal and Cilamaya Terminal.....	4-115
4.9.4	Port-Related Waters Area Use Plan of Tanjung Priok Port	4-117
4.9.5	Compliance with the Requirements Stipulated in Law No. 17	4-122

**CHAPTER 5 PRELIMINARY DESIGN, COST ESTIMATE AND DEVELOPMENT
SCHEDULE** 5-1

5.1	NEW CONTAINER TERMINAL DEVELOPMENT.....	5-1
5.1.1	Breakwater Construction for Candidate Terminal Sites.....	5-1
5.1.2	New Container Terminal Development at North Kalibaru	5-21
5.1.3	New Container Terminal Development at Cilamaya Site	5-54
5.1.4	New Container Terminal Development at Tangerang Site	5-68
5.1.5	Implementation Schedule of Master Plan	5-81
5.1.6	Construction Methods and Schedule	5-91

5.1.7	Maintenance Dredging at Tanjung Priok Port.....	5-102
5.1.8	Preliminary Cost Estimate.....	5-108
5.2	New Bulk Terminal Development	5-119
5.2.1	New Bulk Terminal Development at North Kalibaru	5-119
5.2.2	Implementation Schedule of Master Plan	5-119
5.2.3	Preliminary Design and Cost Estimate.....	5-119
5.3	Access Road Development.....	5-128
5.3.1	Introduction	5-128
5.3.2	Access Road Development for the Master Plan at North Kalibaru.....	5-129
5.3.3	Access Road Development for the Master Plan at Cilamaya.....	5-143
5.3.4	Access Road Development for the Master Plan at Tangerang	5-148
5.3.5	Access Road Development for Urgently Required Terminal at North Kalibaru.....	5-154
5.3.6	Drawings for Access Road Development	5-165
5.4	Summary of Total Project Cost of Master Plan of Three Sites	5-190
5.4.1	North Kalibaru.....	5-190
5.4.2	North Kalibaru and Cilamaya.....	5-190
5.4.3	North Kalibaru and Tangerang.....	5-191

**CHAPTER 6 EVALUATION ROAD MAP TOWARD INTERNATIONAL CONTAINER
TERMINAL DEVELOPMENT IN GREATER JAKARTA METROPOLITAN
AREA..... 6-1**

6.1	Economic Feasibility.....	6-1
6.1.1	Purpose and Methodology of Project Evaluation.....	6-1
6.1.2	Throughput of Each Development Option	6-2
6.1.3	Economic Prices	6-3
6.1.4	Prerequisites for Calculating the Present Value	6-6
6.1.5	Cost Components	6-7
6.1.6	Best Option Selected By Cost Minimization Analysis.....	6-9
6.1.7	Economic Internal Rate of Return (EIRR) Analysis	6-12
6.2	PPP Scheme for Port Development and Management System including Finance Resources	6-16
6.2.1	PPP (Public and Private Partnership) Alternatives.....	6-16
6.2.2	Review of Policies and Regulatory Framework of PPP.....	6-17
6.2.3	Projects to Be Examined	6-21
6.2.4	Preliminary Financial Analysis for Evaluation of PPP Scheme.....	6-22
6.2.5	PPP Scheme from the Viewpoint of FIRR.....	6-27
6.3	Road Map toward International Container Terminal Development.....	6-27
6.3.1	Master Plans and Individual Projects included in the Master Plan	6-27
6.3.2	Approval and Notification of Master Plan	6-28
6.3.3	Implementation of Individual Project included in the Master Plan.....	6-31
6.3.4	Roadmap toward International Container Terminal Development	6-41
6.3.5	Issues to be considered.....	6-47

CHAPTER 7 STRATEGIC ENVIRONMENTAL ASSESSMENT..... 7-1

7.1	Objectives.....	7-1
7.2	Methodology of SEA	7-1
7.2.1	Basic Approach	7-1
7.2.2	Policy for Public Consultation	7-2

7.3	Results of Reviewing	7-3
7.3.1	Review of the Existing Upper Level Plans	7-3
7.3.2	Review of the Environmental Conditions	7-5
7.4	Selecting Several Alternatives.....	7-11
7.5	Results of Public Consultation (Focus Group Discussion)	7-14
7.5.1	Outline.....	7-14
7.5.2	Results of Discussion	7-14
7.6	Scoping.....	7-15
7.7	Evaluation.....	7-16
7.8	Mitigation Measures for Selected Plans	7-32
7.8.1	North Kalibaru Phase I.....	7-32
7.8.2	New Terminal in Chilamaya	7-32
7.9	Impact Matrix and Mitigation Measures for Selected Plans	7-35
7.9.1	Phase I at North Kalibaru	7-35
7.9.2	Phase II & III at Chilamaya.....	7-43
7.10	Recommendation.....	7-50

**CHAPTER 8 FORMULATION OF IMPROVEMENT PLAN FOR RAIL ACCESS
TRANSPORT CONNECTING TG. PRIOK PORT WITH ITS HINTERLAND**
..... 8-1

8.1	Preliminary Railway Access Plans Corresponding the Respective Port Plans	8-1
8.1.1	Preliminary Rail Access Plans	8-1
8.1.2	Operational Route Plans.....	8-1
8.1.3	Freight Terminal Facility Plan	8-3
8.1.4	Dry Port Facility Plan.....	8-3
8.1.5	Railway Access to Cilamaya.....	8-4
8.1.6	Railway Access to Tangerang.....	8-7
8.2	FREIGHT TRANSPORTATION DEVELOPMENT SCENARIO	8-10
8.2.1	Existing Railway Freight Capacity for Port Cargo.....	8-10
8.2.2	Current and Future Operational Bottlenecks	8-11
8.2.3	Container Transportation Demand Forecast.....	8-12
8.2.4	Current Construction and Planning Efforts	8-13
8.2.5	Future Railway Freight Capacity for Port Cargo	8-13
8.2.6	Future Potential of Railway Freight	8-15
8.3	Railway Freight Facilities Improvement Plan.....	8-18
8.3.1	General	8-18
8.3.2	Formulation of Improvement Plan of Railway Freight from/to Tanjung Priok Terminal (Case I).....	8-19
8.3.3	Formation of Access Railway Plan to Cilamaya Site (Case II).....	8-25
8.4	BASIC STAKEHOLDER ANALYSIS OF RAILWAY FREIGHT BUSINESS.	8-37
8.4.1	Stakeholders and their Roles	8-37
8.4.2	Revenue Model	8-37
8.5	FEASIBILITY ANALYSIS RAILWAY FREIGHT BUSINESS	8-40
8.5.1	Introduction	8-40
8.5.2	Project Cost Estimate	8-40
8.5.3	Project Revenue Estimate.....	8-43
8.5.4	Financial Analysis	8-44
8.6	RECOMMENDATION	8-49

CHAPTER 9	PRE-FEASIBILITY STUDY.....	9-1
9.1	Extraction of the Urgent Development Project	9-1
9.2	Construction of a Container Terminal.....	9-1
9.2.1	Project Site	9-1
9.2.2	Project Components	9-1
9.2.3	Design of Project Facilities	9-4
9.2.4	Cost Estimates	9-5
9.2.5	Implementation Schedule Urgent Development Project of New Container Terminal	9-12
9.3	Economic Analysis.....	9-15
9.3.1	Purpose and Methodology of Economic Analysis	9-15
9.3.2	Prerequisites for Economic Feasibility.....	9-16
9.3.3	“Without” Case	9-16
9.3.4	Economic Prices	9-18
9.3.5	Benefits of the Projects	9-21
9.3.6	Costs of the Projects.....	9-26
9.3.7	Evaluation of the Project	9-27
9.4	PPP Scheme and Financial Analysis.....	9-30
9.4.1	Regulatory Framework of PPP for Port Development	9-30
9.4.2	Type of PPP for the Development of North Kalibaru Phase I	9-36
9.4.3	Financial Analysis on Proposed PPP Scheme	9-41

CHAPTER 1 INTRODUCTION

1.1 Introduction

In response to the official request of the government of the Republic of Indonesia (hereinafter referred to as “GOI), the Government of Japan (hereinafter referred to as “GOJ) decided to conduct “the Project for Master Plan Study on Port development and Logistics in Greater Jakarta Metropolitan Area” (hereinafter referred to as “the Study”)

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as “JICA”) the official agency responsible for the implementation of the technical cooperation programs of GOJ, will undertake the Study in close cooperation with the authorities concerned of GOI.

This Draft Final Report has been prepared to show the results of the Third Field Survey conducted from the beginning of January to the middle of this March following the previous report, Progress Report, which was submitted in November of last year.

This Draft Final Report is composed of the nine chapters as indicated in the “Contents” of this report. Chapter 2 and Chapter 3 show the analyses of present conditions and natural conditions relating to this study.

Chapter 4 is the key chapter describing” the Master Plan for Port Development in the Greater Jakarta Metropolitan Area” as so shown in its title including port facility layout plans covering both containers and conventional cargoes and waters area use plan in the jurisdictional area of Tanjung Priok Port stipulated the New Shipping Law No.17.

Chapter 5 shows the result of structural design and cost estimates, and Chapter 6 shows evaluation and road map toward the international container terminals proposed by this study.

Chapter 7 shows the results of SEA (Strategic Environmental Assessment). Chapter 8 shows the proposal of railway transport concerning this study. The results of the study from Chapters 5 ~8 have been incorporated in the key chapter, Chapter 4. Chapter 9 shows the result of a pre-feasibility study on the North Kalibaru Container Terminal project proposed by this study.

In addition to the contents of those nine chapters, conclusions and recommendations have been added.

The official comments on the Draft Final Report will be given from the Indonesian side after this. In the meantime, a supplementary study on SEA (Strategic Environmental Assessment) including the holding of an additional stakeholder meeting will be conducted in Indonesia. Subsequently the results of the supplementary study on SEA will be incorporated in the Final Report.

1.2 Background of the Study

Tanjung Priok Terminal is the sole principal terminal which can provide transport services for international containers in the western Java Area as well as for domestic containers, and has been playing an important role in supporting the national economy, particularly in the Jakarta Greater Metropolitan Area. The volume of container cargo of the port has been ever increasing since the introduction of container transport and physical container handling capacity is expected to be reached within several years. Hence, a new container terminal needs to be developed as soon as possible through taking account of the following issues.

- There is no space for the new container terminal in the existing port area of Tanjung Priok Port.
- Although several alternatives for the new container terminal have been proposed already by various organizations, precise evaluation to prioritize these alternatives

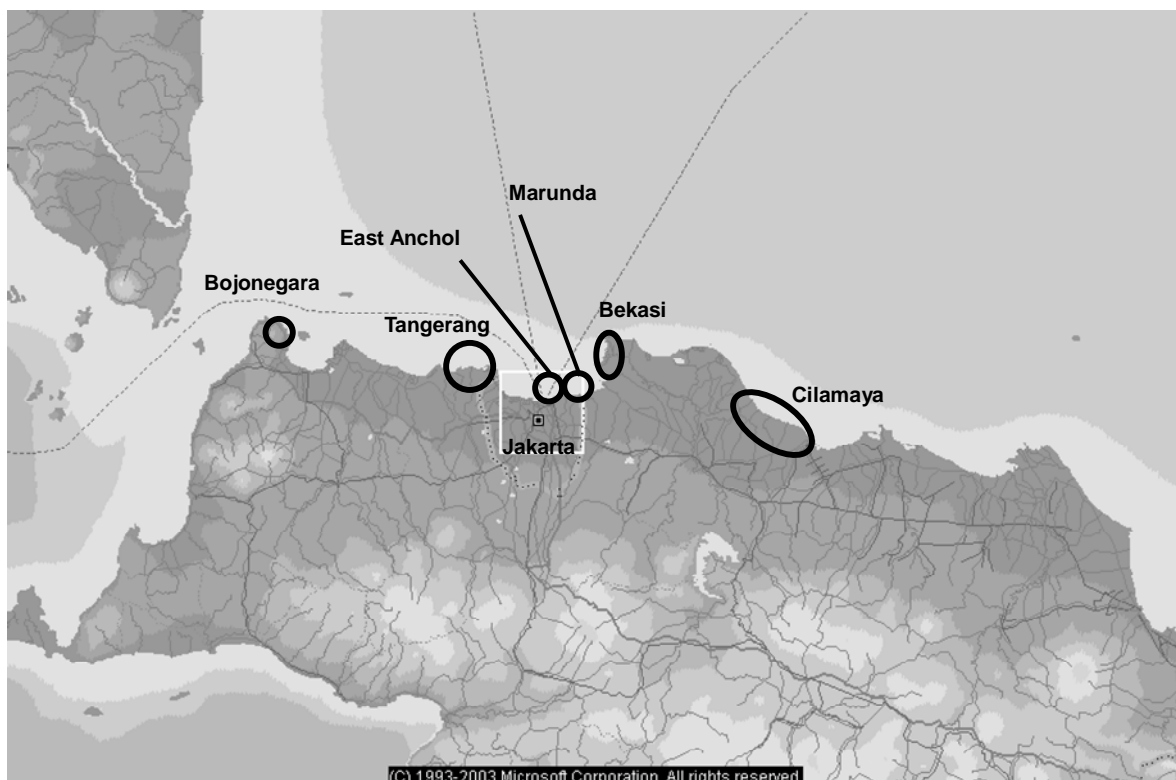
- has not been conducted yet.
- Available data/information on project sites including topographic, geologic and environmental data of these development alternatives is limited
- Accessibility, road/railway to/from the new container terminal has to be taken into consideration.
- Public Private Partnership (PPP) scheme based on the new Shipping Law (No.17, 2008) and Government Regulation (No.61, 2009) has to be taken into consideration.

Besides the issue of container-handling capacity, Tanjung Priok Terminal has another problem concerning port logistics, namely, traffic congestion in the Greater Jakarta Metropolitan Area. This traffic congestion has adversely affected not only port logistics but also total economic activities in the region. Since improvement of rail accessibility to the port could be one of the solutions to ease the traffic situation, the improvement plan of railway access connecting Tanjung Priok Port should be examined.

Under such a situation, in response to the official request of the government of the Republic of Indonesia (hereinafter referred to as “GOI), the Government of Japan (hereinafter referred to as “GOJ) decided to conduct “the Project for Master Plan Study on Port development and Logistics in Greater Jakarta Metropolitan Area” (hereinafter referred to as “the Study”)

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as “JICA”) the official agency responsible for the implementation of the technical cooperation programs of GOJ, has undertaken the Study in close cooperation with the authorities concerned of GOI.

1.3 Study Area



Source: JICA Study Team

Figure 1.3-1 Study Area

1.4 Objectives of the Study

The objectives of the Study are:

- To evaluate and prioritize development alternatives for a new container terminal
- To formulate the master plan for port development together with access infrastructure development/improvement in/around the Greater Jakarta Metropolitan Area
- To transfer technology to Indonesian counterparts

CHAPTER 2 ANALYSES OF CURRENT SITUATION OF PORT LOGISTICS IN THE STUDY AREA

2.1 Review of Port Development Strategies/Policies in Port Sector

(1) National Logistics Blueprint

Indonesia has around 17,000 islands and a large population of around 240 million and thus requires linkage with widely distributed international and domestic markets. Thus it is essential to establish effective, efficient and economical cargo distribution services supported by logistics infrastructures.

However, Indonesia's current logistics system does not provide satisfactory services and one of the main reasons is a shortage of infrastructures. To survive in the fiercely competitive world market as well as comply with the various agreements within ASEAN and APEC in the field of logistics that have recently come into effect, Indonesia is required to urgently improve its logistics system.

The Greater Metropolitan Area extending from West Java Province to Banten Province has a population of around 70 million accounting for approximately 30% of the total of the country and is centre of the manufacturing industry as well as the largest consumption area in Indonesia. Consequently, a massive volume of container moves through Tanjung Priok Port, which is the largest container port in Indonesia.

The shortage of port facilities of Tanjung Priok Port, especially in container yards and container handling equipment, and extraordinarily congested access roads to the port within Jabodetabek (Jakarta, Bogor, Depok, Tangerang and Bekasi) are driving up container transport costs to consignors/consignees.

To resolve the current problems including those related to port cargo transport and to meet ever increasing demand for the future in logistics, the Government intends to develop a "National Logistics Blueprint" based on "Presidential Directive Number 5 Year 2008" which will cover the vision, mission, goals, strategies, directions, policies, implementation phases and action plans through coordinating with the Ministry of Economy and involving the ministries concerned. The blue print is expected to serve as a reference and guideline for relevant sectors to establish their policies and to promote national competitiveness and social welfare.

(2) New Maritime Law (Law Number 17 Year 2008)

In 2008, The Government of Indonesia enacted the so-called New Maritime Law (Law Number 17 Year 2008) which stipulated the Port Regulation (Government Regulation of the Republic of Indonesia Number 61 Year 2009). The main clauses provided by the port regulation are listed as follows:

1) No. 3 Clause (National Port System)

Ports in Indonesia are divided into two categories: sea port and river/lake port. Sea port is further classified into three categories: Main Port, Gatherer Port and Feeder Port.

A National Port Master Plan as a guideline for individual port master plans is formulated by the Minister of Transport. For that purpose, Directorate General of Sea Transportation (DGST) of the Ministry of Transport drafts the master plan with the assistance of a Singaporean Consultant sponsored by Aus-AID (Austrian Agency for International Development).

2) Nos. 72~77 Clauses (Port Principal Plan)

There is a legal obligation to formulate a Port Principal Plan including Land and Waters Allocation Plans, a Port Area and an Area adjacent to the port area in each port. The Port Principal Plans are formulated by the Minister of Transport through hearing in case of Main, Gatherer and Feeder Ports from the related Governor and Regent/Mayor and in case of Feeder Ports, from the related Governor or Regent/Mayor.

3) Nos. 79~88 Clauses (Port management Body)

There is a legal obligation to establish a port management body in each port. A port authority in a commercial port and a port management unit in a non-commercial port are port management bodies, respectively. A port management body has the authority to give licences of various operations such as stevedoring, warehousing and forwarding and to grant concessions for terminal management to concessionaires within a port area. The authority of the port management body is entrusted by the Central Government. Concession fees are transferred to revenues of provincial governments.

4) Nos. 96~99 Clauses (Port Development and Management)

Port development needs to be sustainable, which maintains acceptable levels of environmental impact throughout periods from construction to operations together with satisfying technical standards.

2.2 Review of Port Development Plans Proposed by Relevant Organizations

The study area extends from West Java Province through DKI (Daerah Khusus Ibukota: Special Capital Territory) Jakarta to Banten. The existing port development plans in the area are introduced below.

DKI Jakarta

1) North Kalibaru off Tanjung Priok Port

Pelindo II (Indonesian Port Corporation II) has a port expansion plan towards off Kalibaru (see Figure 2.2-1). As shown in the figure, the new terminal is composed of two terminals: a container terminal and oil & gas terminal. The development of the container terminal is divided into three phases: the first phase, the second phase and third phase. The project components of the first phase plan are as follows:

- Berth length: 1,000 m,
- Water depth: -18m,
- Area: 96 ha (1600 m x 600 m),
- Access road: connection with E2 toll road.

Further extension of a 2,500 m-long berth in Phases 2 and 3 is said to be another optional plan of Cilamaya Terminal (see Clause (2) 1) of this Section).

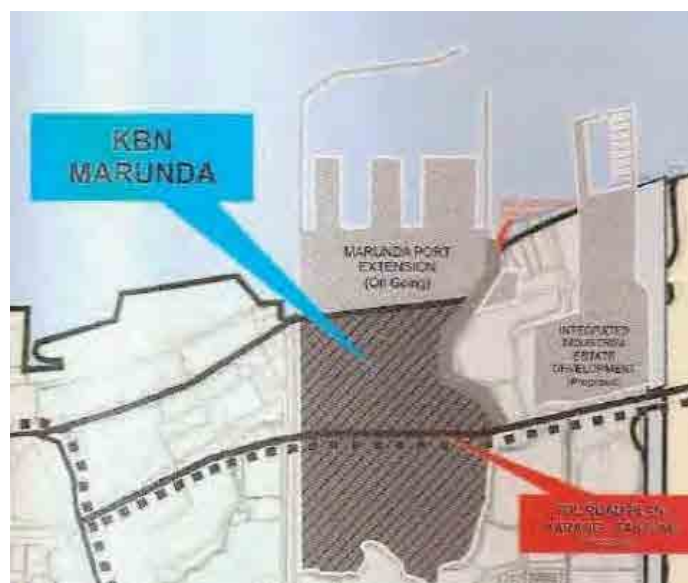


Source: Pelindo II

Figure 2.2-1 Development of Container Terminal in North Kalibaru Tanjung Priok

2) Off Marunda Area between the existing Kalibaru Port and the border to Regent Bekasi

KBN Company was founded by DKI Jakarta Municipality and the Central Government for the purpose of developing SEZ (Special Economic Zone). It is said that along with the development of SEZ, KBN intends to establish a new container port adjacent to SEZ with a water depth of 14 m (see Figure 2.2-2).



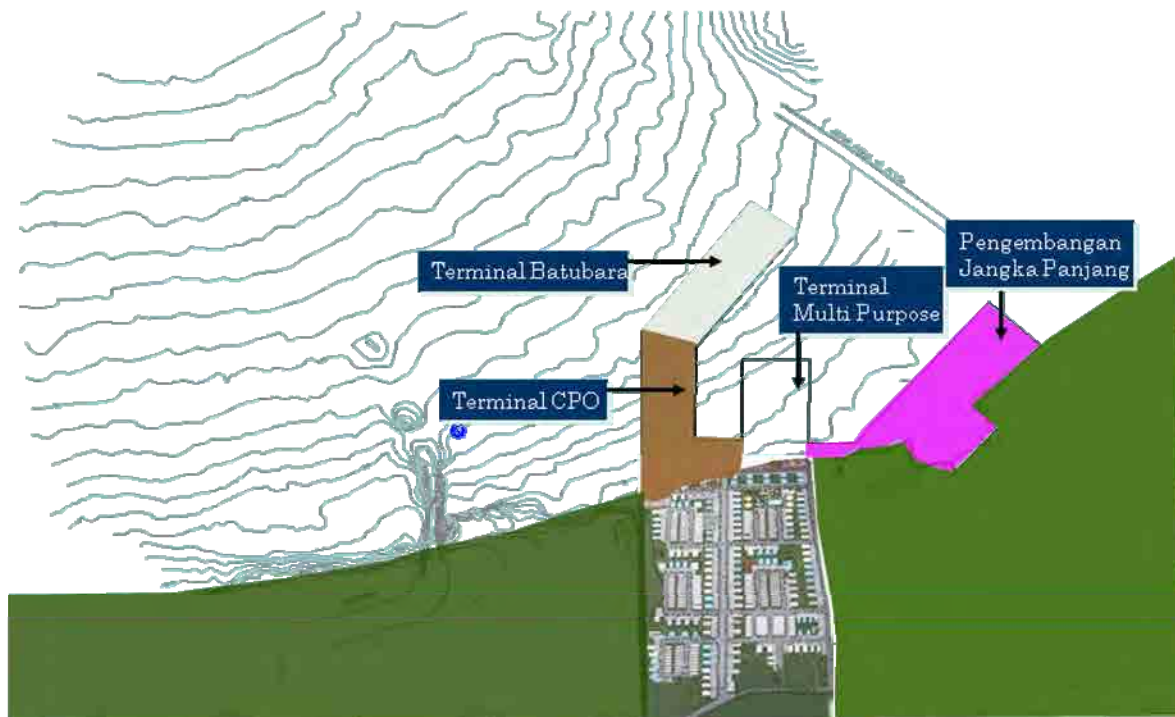
Source: KBN

Figure 2.2-2 Marunda Port Development Plan (KBN)

(2) West Java Province

1) Off Marunda Center in Regent Bekasi (Kabupaten Bekasi)

Pelindo II has a plan to develop the so-called Marunda Center Port off the Marunda Center Industrial Estate (see Figure 2.2-3). It is a shallow port, with the water depth of the access channel at the entrance of the port seeming to be less than 5 meters. The port is planned for handling mainly coal, CPO (crude palm oil) together with presumably general cargoes and domestic containers in a similar way as at the present Sunda Kelapa Port. A full-scale container terminal for international containers is not planned.



Source: Pelindo II

Figure 2.2-3 Marunda Centre Port

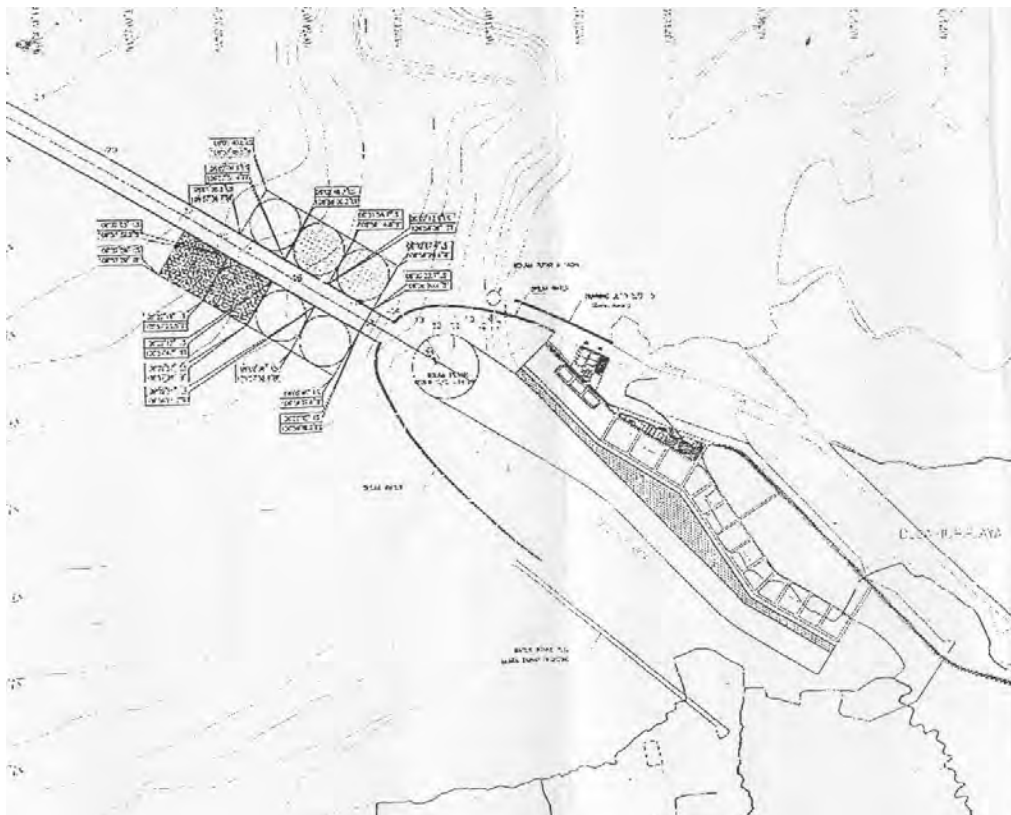
2) Left Bank of Karang River (Ci Karang) in Regent Bekasi (Kabupaten Bekasi)

Regent Bekasi (Kabupaten Bekasi) has a plan to develop a Feeder Port at the left bank of the Karang River. There are two types of port facility configurations: jetty type without breakwaters and marginal type enclosed by two breakwaters (see Figure 2.2-4 and Figure 2.2-5). The latter one is planned to receive international containers though its port status in the New Maritime Law is “Feeder Port”.



Source: Kabupaten Bekasi

Figure 2.2-4 Tarmajaya Port in Regent Bekasi Development Plan (Jetty Type)



Source: Kabupaten Bekasi

Figure 2.2-5 Tarmajaya Port in Regent Bekasi Development Plan (Marginal Type)

3) Muara Gembong Coast in Regent Bekasi (Kabupaten Bekasi)

Some private developer has a plan to develop a new container terminal in the northernmost bay in Regent Bekasi with a further distance of over 10 km from the river mouth of Karang River mentioned in the above clause 2). It is said that its scale is much smaller than the full-scale international container terminal to be required to receive excess containers from the existing Tanjung Priok in the long-term basis (see Figure 2.2-6).



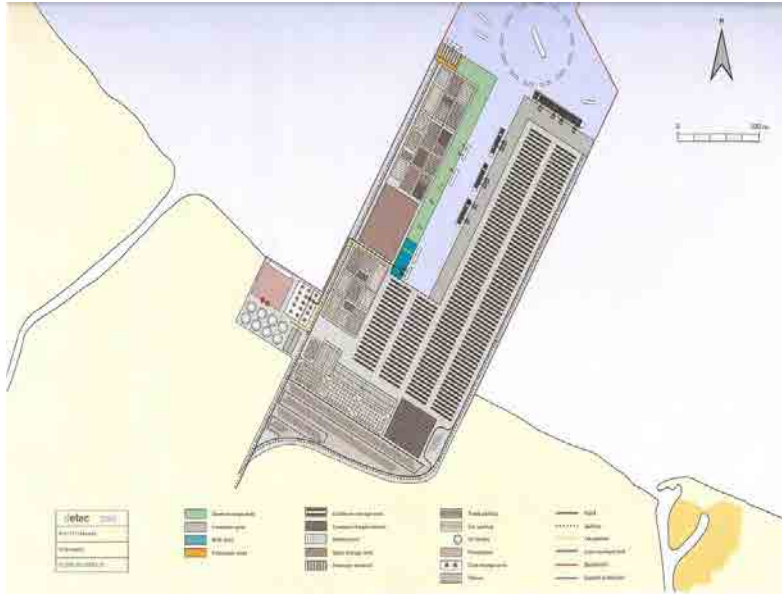
Source: Private Developer

Figure 2.2-6 Terminal Site Plan on Muara Gembong Coast in Regent Bekasi

4) Cilamaya Coast (1) in Regent Karawan (Kabupaten Karawan)

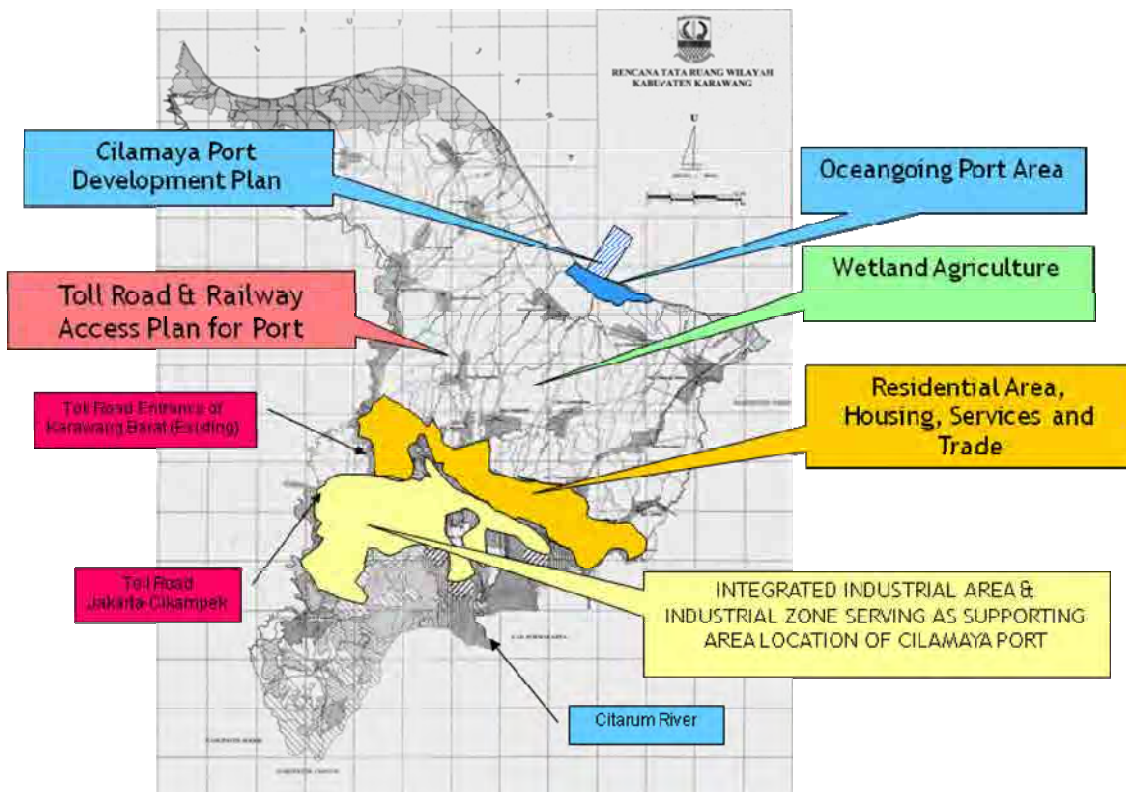
West Java Province has a plan to develop a Container Terminal at the left bank of the Ciparage River. Type of port facility configuration is partly reclamation type with breakwaters (see Figure 2.2-7 and Figure 2.2-8). Scale of the terminal is as follows:

- Total land area:	250 ha
- Reclaimed land:	140 ha
- Existing land:	110 ha
- Total Quay length:	3,500 m
- Container:	1,750 m
- General cargo:	1,200 m
- Bulk (Coal and oil):	300 m
- Passenger:	150 m
- Water depth along berths:	-13 m
- Container:	1,750 m



Source: West Java Province

Figure 2.2-7 Facility Layout of Cilamaya Port

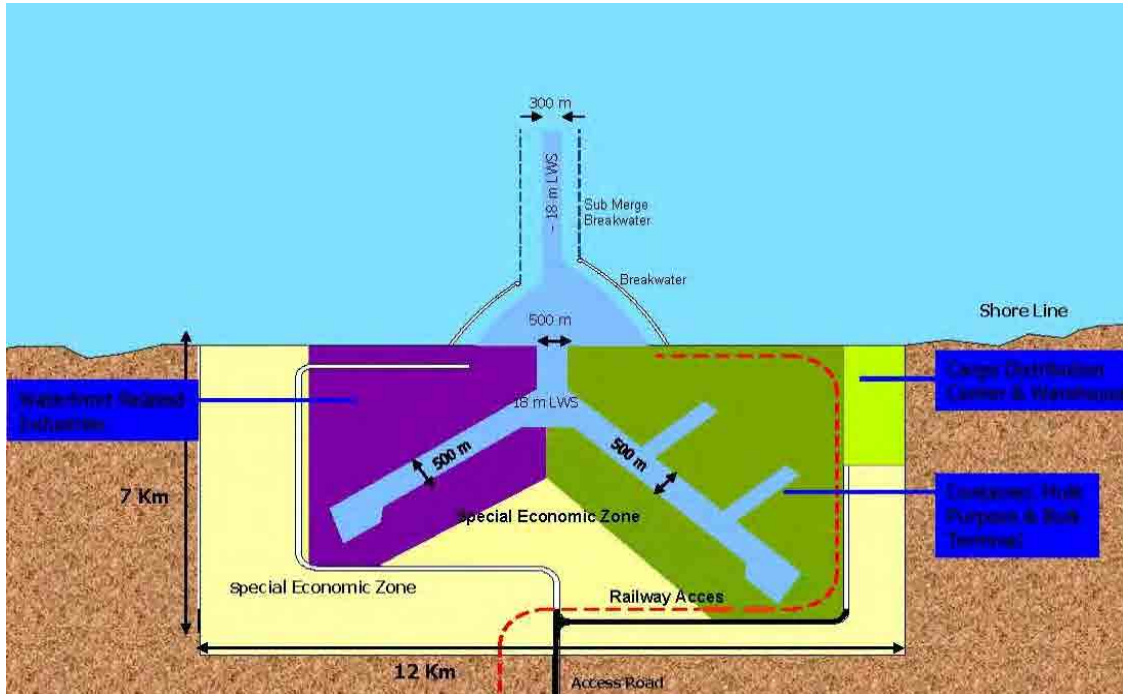


Source: West Java Province

Figure 2.2-8 Supporting Area for Cilamaya Port

5) Cilamaya Coast (2) in Regent Karawan (Kabupaten Karawan)

Pelindo II has a plan to develop a Container Terminal at the left bank of the Ciparage River. Type of port facility configuration is excavated type with breakwaters (see Figure 2.2-9). The site is considered to be almost the same as that planned by West Java Province.

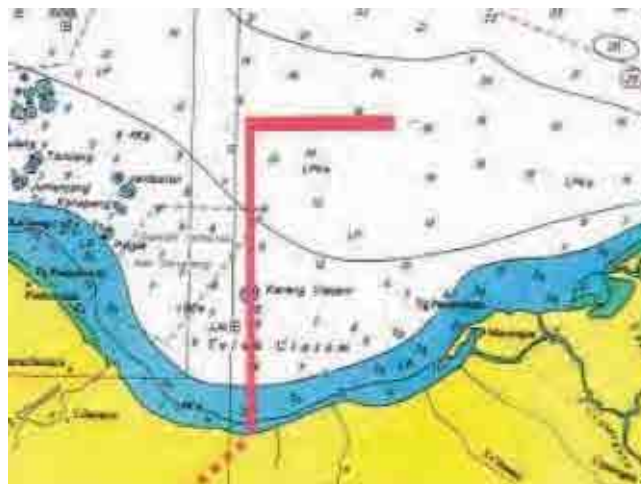


Source: Pelindo II

Figure 2.2-9 Conceptual Future Plan of Indonesian Port in West Java (Karawan Area)

6) Ciasem Coast in Regent Subongn (Kabupaten Subong)

Some private developer has a plan to develop a new terminal with one container berth and one car berth on Ciazem Coast in Regent Subong (see Figure 2.2-10).

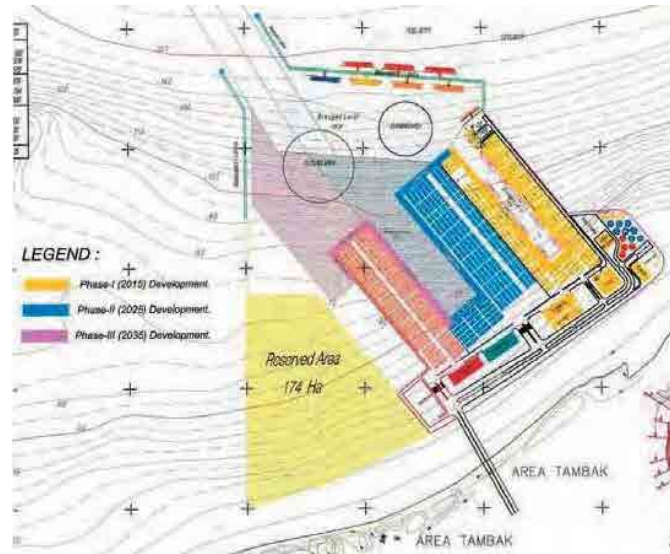


Source: Private Developer

Figure 2.2-10 Terminal Plan on Ciasem Coast

Banten Province

7) Tangerang Coast in Regent Tangerang (Kabupaten Tangerang)



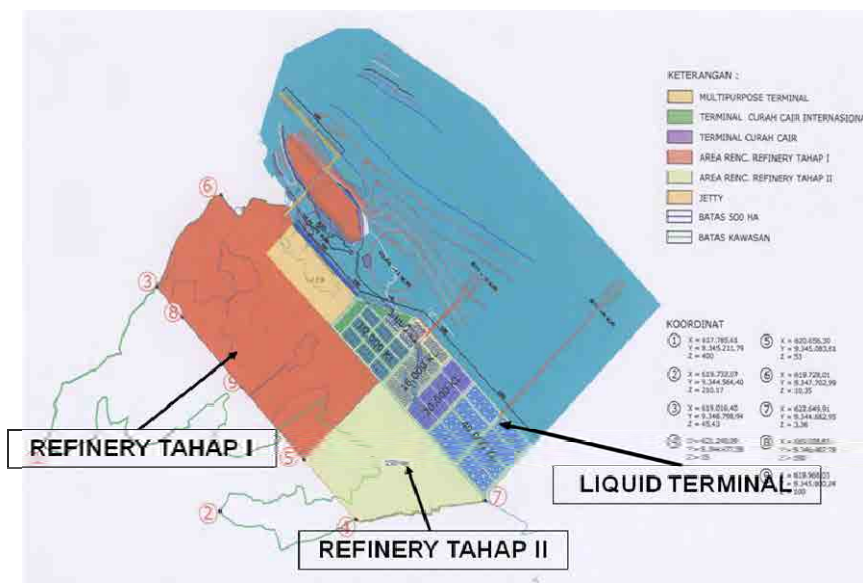
Source: Private Developer

Figure 2.2-11 TIC Port Plan on Tangerang Coast

A Private Developer has a plan to develop a TIC (Tangeran International City) Port off Tangerang Coast. Type of port facility configuration is reclamation type with breakwaters (see Figure 2.2-11).

8) Bojonegara Port (Kabupaten Tangerang)

Pelindo II which owns and operates Bojonegara Port intends to convert the port originally designed as a container port into a petroleum port. A petroleum refinery is planned to be set up behind the port (see Figure 2.2-12)



Source : Pelindo II

Figure 2.2-12 Bojonegara Port Facility Layout Plan for Petroleum Terminal

2.3 Review of Spatial Plans and Related Regulations Established by Local Governments

2.3.1 General

Indonesia established the first Spatial Planning Law (No.24/1992) in 1992 to regulate structures and land uses in its territory. Spatial planning was defined in this law as the plan-making process, plan implementation and development control. This law provides the guidelines on the plan-making process, implementation and development control for national and local levels. Central government was responsible for spatial plans which cover two or more provincial areas in this law. The organization responsible for drafting the plan has been the National Spatial Planning Coordination Board, which has been chaired by the Coordinating Minister for the Economy. The board's office was set up in the National Development Planning Agency (BAPPENAS). The Directorate General of Spatial Planning of the Ministry of Public Works has been charged with handling the practical implementation of the board's plan.

Indonesia established a new Spatial Planning Law (Law No.26/2007) to replace the previous law in 2007. This new law contains some provisions which are not included in the previous law and stipulates explicitly the authority of local governments in spatial planning. Central government is no longer authorized to coordinate spatial plans which cover two or more provincial areas. The plan includes guidelines for effective and efficient planning processes to achieve the stated objectives of the plan.

A major national planning system related to the spatial plan is the socio-economic development planning system, which consists of a 20-year long-term national development plan and a five-year development plan. The latter comprises a national medium-term development plan and yearly implementation plan. The development plans fall under the authority of the National Development Planning Agency (BAPPENAS). Duration of the current national long-term development plan (Law No.17/2007) is from 2005 to 2025 and that of the medium-term development plan (Presidential Regulation No.5/2010) is from 2010 to 2014.

Local governments have the authority to draft socio-economic development plans and spatial plans based on the National Development Planning System (Law No.25/2004) and Spatial Planning Law (No.26/2007). Development in Indonesia centers on these plans.

2.3.2 National Development Plan

(1) National Long-term Development Plan

Current National Development Plan is National RPJP or National Long-term Development Plan which covers a 20-year period from 2005 to 2025. BAPPENAS is responsible for formulation of the plan within the central government. The objectives and strategies of the plan are summarized as follows:

- Actualize the country's competitiveness
- Establish democratic society based on law
- Actualize a safe, peaceful and united Indonesia
- Reduce economic disparity throughout the country
- Improve and maintain Indonesia's environmental quality and realize sustainable development
- Develop decent, ethical and civilized human resources
- Establish good and active international relationships in order to signify Indonesia's international role

The key features of the plan and indicators of the development performance to be achieved by year 2025 are as follows:

- Higher income per capita
- Welfare disparity is reduced
- The role of manufacturing industry is increased in terms of income contribution and employment rate
- The linkage among sectors in production process is developed
- Natural resources are utilized in a sustainable manner
- The quality of human resources is increased reflecting through to the lowest level of educational background, the educational participation rate and the number of experts to be produced
- The prosperity should also be reflected through higher health rate, lower population growth rate, higher life expectancy rate, improved social service quality and higher productivity
- Well-established law and politics institution and system
- Significant role in international affairs

(2) National Medium-term Development Plan

The Long-term Development Plan was driven by a series of Medium-term Development Plans starting in 1969. The main features of each medium-term plan are as follows:

Table 2.3-1 Medium-term Development Plans

Medium-term Plan	Period	Main feature
Repelita I	1969-1973	Stressed increased production of staple foods and infrastructure development
Repelita II	1974-1978	Focused on agriculture, employment and regionally equitable development
Repelita III	1979-1983	Emphasized development of agriculture-related and other industries
Repelita IV	1984-1988	Concentrated on basic industries
Repelita V	1989-1993	Targeted transport and communications
Repelita VI	1994-1998	Targeted the development of human resources and establishment of a solid foundation for subsequent steps of development
Proprnas	2000-2004	* Recover from crisis by reforming democracy, law enforcement and establishment of good governance * Accelerate the economic recovery through community empowerment * Develop local regions by implementing local autonomy and local development
RPJM	2005-2009	* Improve the judicial system * Create a safe and peaceful society * Build a economically and socially prosperous country

Based on the long-term plan, National PRJMN or National Medium-term Development Plan is set out for the period of 2010-2014. Main characteristics of the current medium-term plan are as follows:

Table 2.3-2 Current Medium-term Development Plan (2010-2014)

Medium-term Plan	Period	Main feature
RPJMN	2010-2014	<p>MISSION</p> <ul style="list-style-type: none"> * Continuing Development towards a Prosperous Indonesia * Strengthening the Pillars of Democracy * Strengthening the Dimension of Justice in All Fields <p>AGENDA</p> <ul style="list-style-type: none"> * Economic Development and Enhancing the People's Welfare * Enhancing Good Governance * Upholding the Pillars of Democracy * Law Enforcement * Development that is Inclusive and Just <hr/> <p>DEVELOPMENT TARGETS up to/in 2014</p> <ul style="list-style-type: none"> * Economy <ul style="list-style-type: none"> Growth Rate: Average of 6.3-6.8 % per year 7% before 2014 Inflation rate: Average of 4-6 % per year Unemployment Rate: 5-6 % at end of 2014 Poverty Rate: 8-10 % at end of 2014 * Education <ul style="list-style-type: none"> Average School Stay of 15 years and older: 8.25 years Illiteracy rate: 4.18% Net enrolment rate of elementary schools: 96.0 % Net enrolment rate of junior high schools: 76.0 % Net enrolment rate of senior high schools: 85.0 % Net enrolment rate of universities: 30.0 % * Health <ul style="list-style-type: none"> Life expectancy: 72.0 years Maternal mortality rate : 118 per 100,000 births Infant mortality rate: 24 per 1,000 births Nutrition deficiency by infants: Less than 15.0 % * Food <ul style="list-style-type: none"> Annual growth rate of paddy production: 3.22 % Annual growth rate of maize production: 10.02 % Annual growth rate of soybean production: 20.05 % Annual growth rate of sugar production: 12.55 % Annual growth rate of cow meat production: 7.3 % * Energy <ul style="list-style-type: none"> Capacity of electricity generating stations: 3,000 MW per year Electrification Ratio: 80 % Crude oil production: 1.01 million barrels per day Utilization of geothermal power: 5,000 MW * Infrastructure <ul style="list-style-type: none"> Trans islands infrastructure: 19,370 km Integrated inter-mode and inter-island transportation network : Completed in 2014 Optic fiber network: Completed before 2013 Repairing the transportation system and network in 4 big cities : Completed in 2014

The current medium-term plan also describes the directions and strategies of regional development which include i) Regional Development of Large Islands and ii) Sea Region Development Strategies.

2.3.3 National Spatial Plan

The current national spatial plan, which was enacted with Government Regulation No. 26/2008, based on the Law No.26/2007 on Spatial Planning, covers a 20-year period, but is to be reviewed every five years.












The current national spatial plan, published by the National Coordination Agency for Survey and Mapping (BAKOSURTANAL) regulates land and maritime uses in the territory including Protected Forest, Conservation Forest (Natural Reserve, Natural Conservation), Cultivation Area, still possible to be protected area in more detailed plan, Marine National Park, Important Area and Important Marine Area.

Green colour:	Protected Forest
Purple colour:	Conservation Forest (Natural Reserve, Natural Conservation)
White colour:	Cultivation Area, still possible to be protected area in more detailed plan
Shaded portion:	Marine National Park
Dashed line (red colour):	Important Area
Dashed line (purple colour):	Important Marine Area

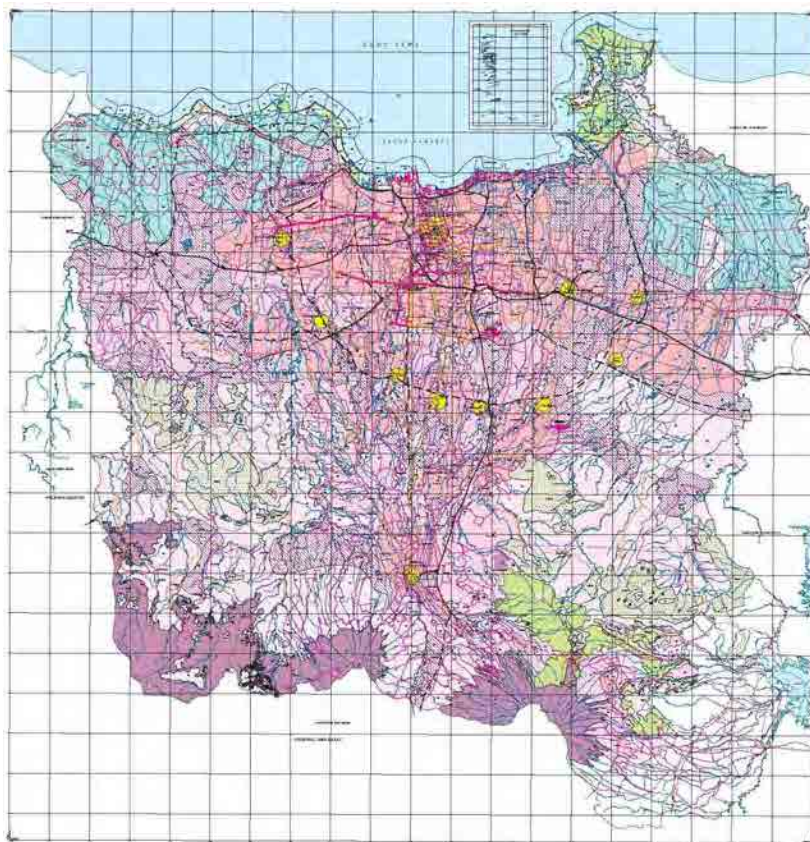
2.3.4 Regional Spatial Plans in the Greater Jakarta Metropolitan Area

(1) DKI (Special Capital City District)

Figure 2.3-1 shows the current regional spatial plan of JABODETABEK area including DKI, published by BAKOSURTANAL. This plan regulates land and maritime uses in the region including the following area:

	(N1):	Protected Zone
	(N2):	Conservation Forest/ Nature reserve/ National Park/ Wildlife reserve/ Cultural reserve/ Historical Heritage
	(B1):	High Occupancy Housing (Urban Area)/ Trade and Service/ Non-pollutant and Market-oriented Light Industry
	(B2):	Medium Occupancy Housing (Rural Area)/ Agriculture/ Field/ Man-power Oriented Industry
	(B3):	low Occupancy Housing/ Agriculture/ Field
	(B4):	Low Occupancy Housing/ Wet/Dry-Land Agriculture/ Plantation/ Fishery/ Agro-industrial Husbandry/ Production Forest
	(B4/HP):	Zone B4 which has been designated as a Permanent Production Forest or Limited Production Forest in accordance with laws and regulations.
	(B5):	Wet-land Agriculture
	(B6):	Low Occupancy Housing with a maximum KBZ of 50 %/ Low Capacity of Environmental Support/ Spatial use should be approved by the National Spatial Coordination Board.
	(B7):	Low Occupancy Housing with a maximum KBZ of 40 %/ Low Capacity of Environmental Support/ Production Forest/ Spatial use should be approved by the National Spatial Coordination Board.
	(B7/HP):	Zone B7 which has been designated as a Permanent Production Forest or Limited Production Forest in accordance with laws and regulations.
Zone P1:		Zone having functional characteristics to prevent abrasion, seawater intrusion, pollution and deterioration caused by sea. Utilization shall be aimed to

- Zone P2: maintain the function of Zone N1. Zone having functional characteristics to prevent flood, abrasion, seawater intrusion, pollution and deterioration caused by sea. Utilization shall be aimed to maintain the function of Zone N1 and Zone P5.
- Zone P3: Zone having functional characteristics to support any zones with high intensity of use and high level of accessibility. Utilization shall be aimed to maintain the function of Zone B1.
- Zone P4: Zone having functional characteristics with low capacity of environmental support. Utilization shall be aimed to maintain the function of Zone B2 and B4.
- Zone P5: Zone having functional characteristics to prevent abrasion, seawater intrusion by water retention, and mangrove forest conservation with low capacity of environmental support. Utilization shall be aimed to serve as the buffer of Zone N1 and B1.



Source: Ministry of Public Works Web-site

Figure 2.3-1 Current Regional Spatial Plan (JABODETAEK)

1) Tg. Priok Area

Figure 2.3-2 shows the spatial plan of Tg. Priok Area. Whole land area is designated as B1 and marine area is designated as P3.

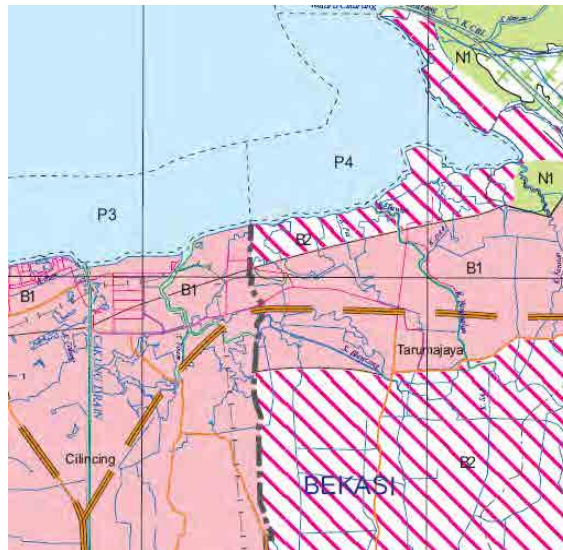


Source: Ministry of Public Works

Figure 2.3-2 Spatial Plan (Tg. Priok Area)

2) Marunda Area

Figure 2.3-3 shows the spatial plan of Marunda Area. Land area is designated as B1 or B2 and marine area is designated as P3 or P4.



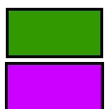
Source: Ministry of Public Works

Figure 2.3-3 Spatial Plan (Marunda Area)

(2) West Java

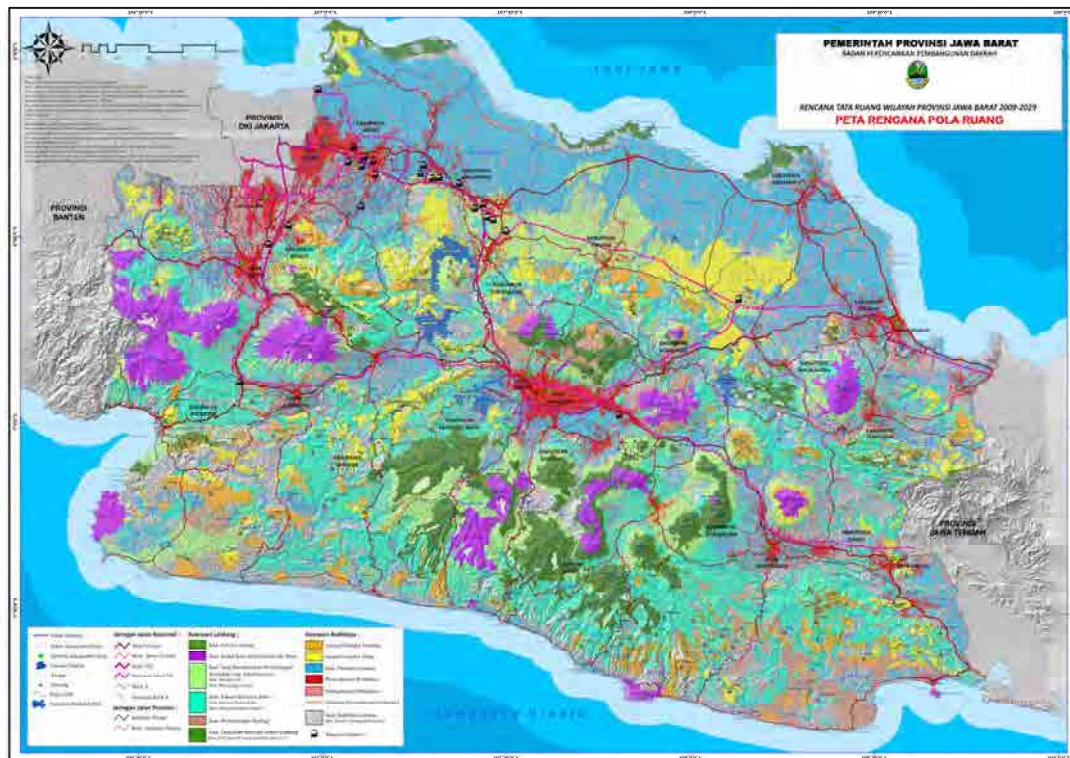
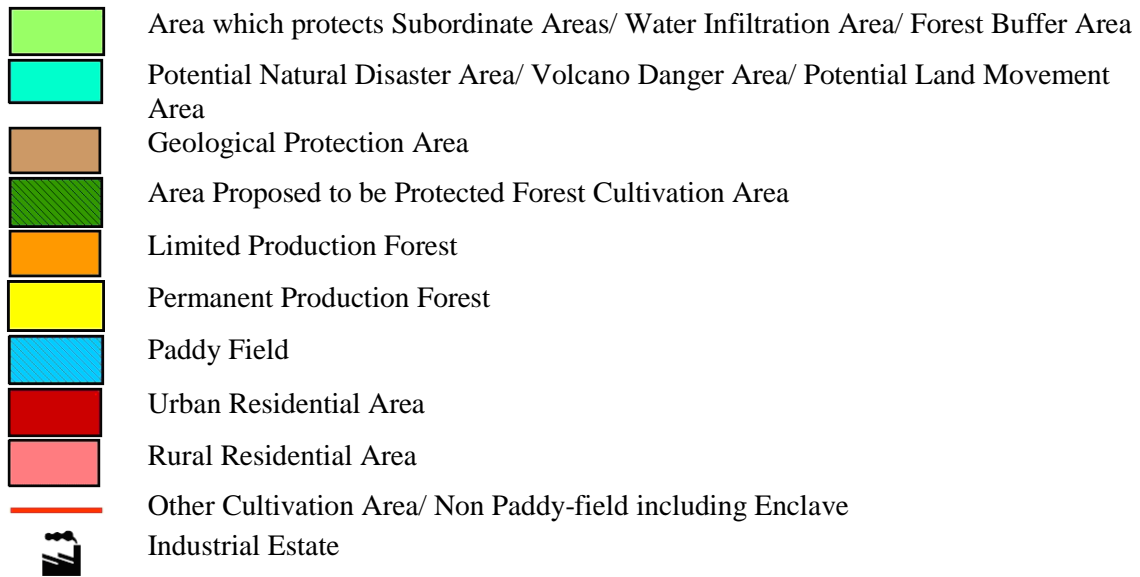
Figure 2.3-4 shows the current regional spatial plan of West Java area, published by West Java local government. This plan regulates land uses in the region including the following area:

Protected Area



Protected Area

Natural Reserve and Natural Conservation Area



Source: West Java Government

Figure 2.3-4 Regional Spatial Plan (West Java Area)

1) Bekasi (Tarumajaya) Area



Source: Ministry of Public Works

Figure 2.3-5 Spatial Plan (Bekasi (Tarumajaya) Area)

Figure 2.3-5 shows the spatial plan of Bekasi (Tarumajaya) Area. Land area is designated as N1, B1, B4, or B7/HP and marine area is designated as P1 or P4.

2) Bekasi (Muara Gembong) Area

Figure 2.3-6 shows the spatial plan of Bekasi (Muara Gembong) Area. Land area is designated as N1, B4, or B7/HP and marine area is designated as P1.

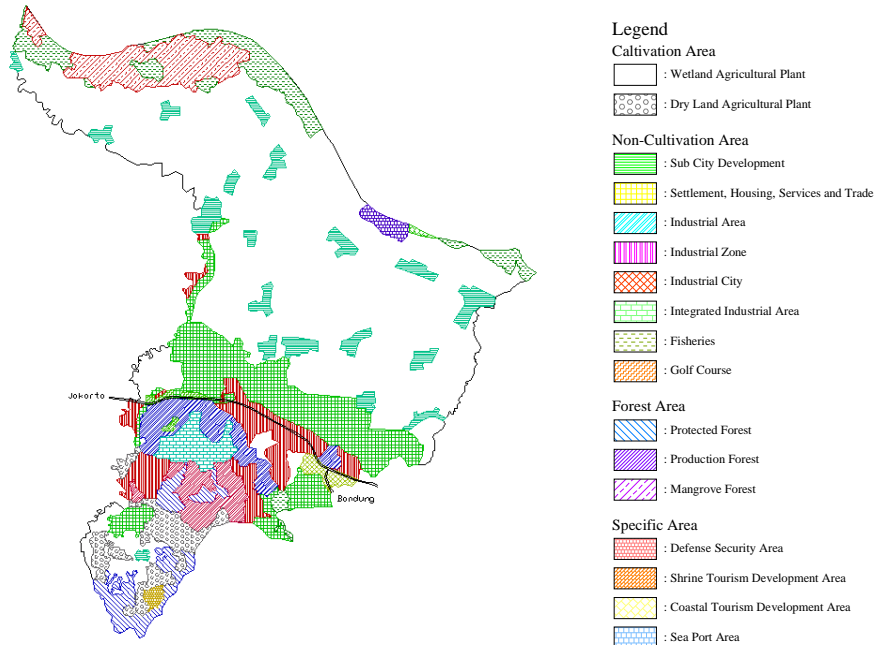


Source: Ministry of Public Works

Figure 2.3-6 Spatial Plan (Bekasi (Muara Gembong) Area)

3) Karawan Area

Figure 2.3-7 shows the spatial plan of Bekasi (Muara Gembong) Area, published by Karawan local government. Coastal area is designated as Mangrove Forest, Fishery Area, Wetland Agricultural Area, Port Area or Coastal Tourism Development Area.

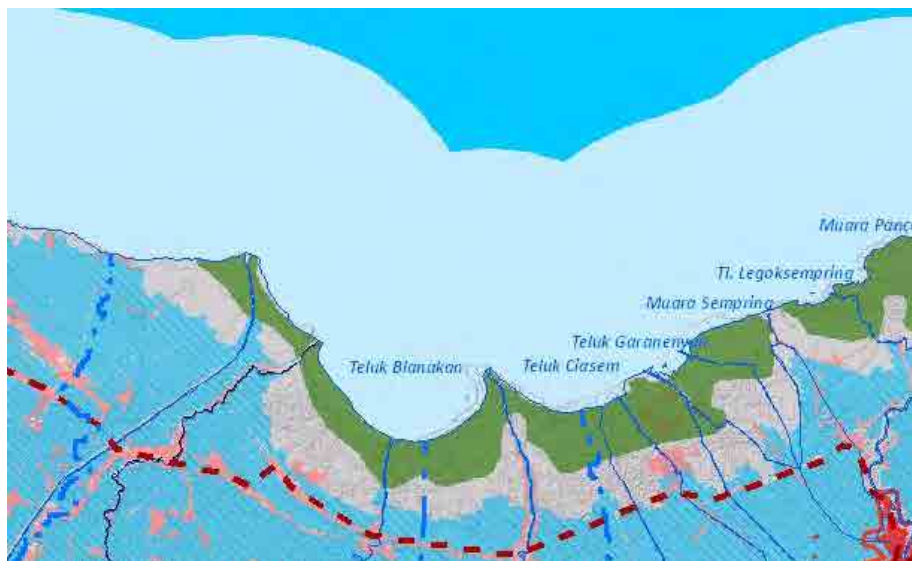


Source: Karawan Local Government

Figure 2.3-7 Spatial Plan (Karawan Area)

4) Subong Area

Figure 2.3-8 shows the spatial plan of Subong Area. Coastal area is designated as Protected Area.



Source: Karawan Local Government

Figure 2.3-8 Spatial Plan (Subong Area)

(3) Banten

The figure shows the current regional spatial plan of Banten area, published by Banten local government regulates land uses in the region including Nature Tourism Park, Nature Reserve, National Park, Protected Forest, Industrial Area, Agriculture Area, Residential Area, Production Forest and Plantation Area.

1) Tangerang Area

Figure 2.3-9 shows the spatial plan of Tangerang Area. Land area is designated as N1, B2, B5 or B6 and marine area is designated as P1, P2, P4 or P5.

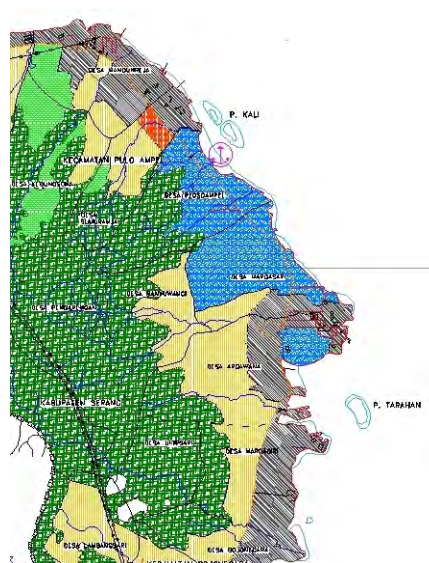


Source: Ministry of Public Works

Figure 2.3-9 Spatial Plan (Tangeran)

2) Bojonegara Area

Figure 2.3-10 shows the spatial plan of Bojonegara Area. Coastal area is designated as Industrial Area, Port Area or Urban Zone and a part of inland area is designated as Protected Area.



Source: Banten Local Government

Figure 2.3-10 Spatial Plan (Bojonegara)

2.4 Analysis of Socio-economic Situation

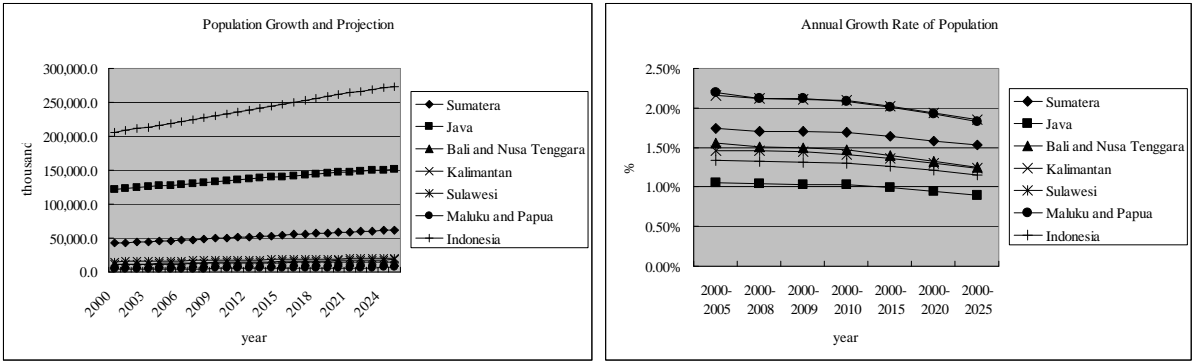
2.4.1 Socio-economic Framework

(1) Population

Referring to the Statistical Yearbook of Indonesia 2009, Population census has been conducted five times since Indonesia’s independence: 1961, 1971, 1980, 1990 and 2000. In addition to the Census, BPS also conducted Intercensal Population Survey, called SUPAS which is designed to predict demographic data between two censuses. SUPAS has been conducted four times: 1976, 1985, 1995 and 2005. The 2000 Population census was simultaneously conducted from 1st to 30th June 2000 and the latest census has been conducted from 1st to 31st May 2010 therefore, those which were collected in 2000 is the latest available population data.

According to the 2000 Population Census, total population of Indonesia is 203.5 million, which is the third largest in Asia after China and India. Population growth rate nationwide is 1.35 % during 1990s, which was 1.98 % during the previous decade. The decline in the population growth is the fruit of family planning encouraged by the government.

Population and annual growth rate of population are shown in Figure 2.4-1.



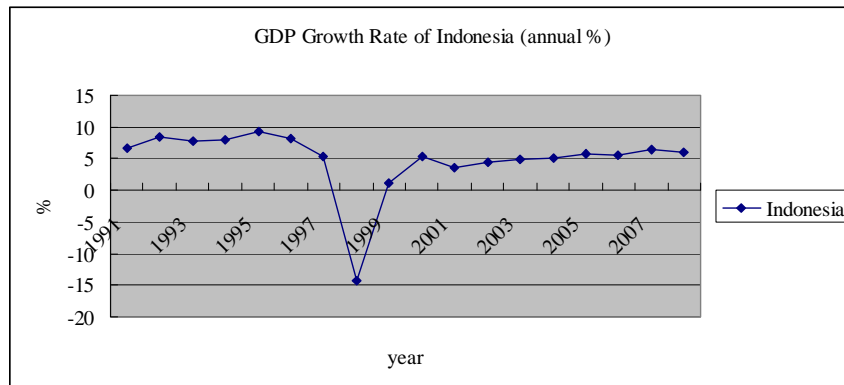
Source: Statistical Year Book of Indonesia 2009

Figure 2.4-1 Population and Annual Growth Rate of population

(2) GDP (Gross Domestic Product)

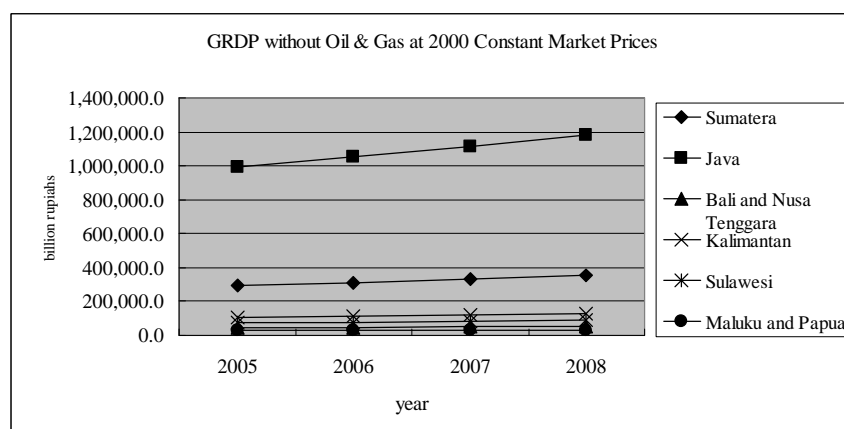
The Indonesian economy suffered from the Asian economic crisis, and its GDP growth rate sharply dropped to -13.1 % in 1998 and only 0.79 % in 1999. The Indonesian economy, however, got back on track in 2000 with a healthy growth rate of 4.9 %. Since then, the national economy has showed steady growth with annual growth rates of about 5 %; in 2007 it registered 6.32 % as shown in the Figure 2.4-2.

GRDP without Oil and Gas of the provinces is shown in Figure 2.4-3. Annual growth rate of GRDP without Oil and Gas of DKI Jakarta, West Java and Baten province are shown in Figure 2.4-4. It varies from approximately 5.5% to 6.9% however, those trends are indicating steady growth.



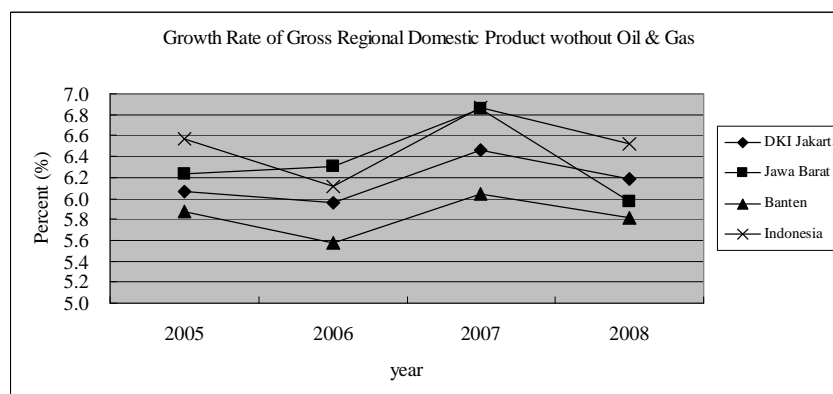
Source: International Monetary Fund, World Economic Outlook Database, April 2010, JICA Study 2009

Figure 2.4-2 Historical Trend of GDP Growth Rate of Indonesia



Source: Statistical Year Book of Indonesia 2009

Figure 2.4-3 GRDP without Oil & Gas by Provinces



Source: Statistical Year Book of Indonesia 2009

Figure 2.4-4 Growth rate of GRDP without Oil & Gas by provinces

Among the 33 provinces in Indonesia, DKI Jakarta has the highest GRDP value in terms of GRDP without oil & gas at constant 2000 market price. DKI Jakarta accounts for 18.23% of the national total GDP, followed by West Java Province, producing 14.59% of the national total. Combined share of the two provinces accounts for one third of Indonesian total GDP. GRDP by province is shown in Table 2.4-1.

Table 2.4-1 GRDP by province

**Gross Regional Domestic Product Without Oil and Gas at 2000 Constant Market
Prices by Province (billion rupiahs)**

Province	2005	2006	2007	2008
Sumatera	291,847.4	311,679.8	333,758.5	354,381.6
	10.5%	9.3%	8.5%	7.2%
Nanggroe Aceh Darussalam	22,531.8	24,267.8	26,022.2	26,510.6
Sumatera Utara	87,240.3	92,699.0	99,085.7	105,431.9
Sumatera Barat	29,159.5	30,949.9	32,913.0	35,007.0
Riau	33,516.5	36,417.6	39,420.8	42,596.9
Kepulauan Riau	28,559.8	30,625.3	32,937.7	35,314.3
Jambi	11,062.3	11,985.8	12,775.1	13,715.4
Sumatera Selatan	36,317.7	38,971.0	42,106.1	44,777.7
Kepulauan Bangka Belitung	8,383.0	8,785.6	9,257.0	9,722.3
Bengkulu	6,239.4	6,610.6	7,009.0	7,354.5
Lampung	28,837.1	30,367.2	32,231.9	33,951.0
Java	992,706.3	1,050,791.8	1,117,201.4	1,183,086.9
	35.8%	31.5%	28.3%	23.9%
DKI Jakarta	294,354.6	311,893.7	332,033.9	352,598.7
Jawa Barat	234,010.9	248,774.4	265,834.0	281,710.6
Banten	58,106.9	61,341.7	65,046.8	68,830.6
Jawa Tengah	133,578.0	140,681.4	149,083.1	157,023.6
DI Yogyakarta	16,910.9	17,535.7	18,291.5	19,208.9
Jawa Timur	255,745.0	270,564.9	286,912.1	303,714.5
Bali and Nusa Tenggara	46,123.5	48,157.0	50,768.6	53,126.8
	1.7%	1.4%	1.3%	1.1%
Bali	21,072.4	22,184.7	23,497.0	24,900.6
Nusa Tenggara Barat	15,183.8	15,603.8	16,369.2	16,799.8
Nusa Tenggara Timur	9,867.3	10,368.5	10,902.4	11,426.4
Kalimantan	102,892.0	111,458.1	119,882.0	127,499.9
	3.7%	3.3%	3.0%	2.6%
Kalimantan Barat	23,538.4	24,768.4	26,260.6	27,683.6
Kalimantan Tengah	14,034.6	14,853.7	15,754.5	16,725.5
Kalimantan Selatan	22,841.0	23,995.3	25,454.0	27,074.5
Kalimantan Timur	42,478.0	47,840.7	52,412.9	56,016.3
Sulawesi	73,935.0	78,927.7	84,267.8	90,752.1
	2.7%	2.4%	2.1%	1.8%
Sulawesi Utara	12,725.6	13,449.5	14,319.2	15,401.4
Gorontalo	2,027.7	2,175.8	2,339.2	2,520.7
Sulawesi Tengah	11,710.9	12,556.5	13,467.2	14,490.1
Sulawesi Selatan	36,337.2	38,781.5	41,242.7	44,456.8
Sulawesi Barat	3,106.7	3,321.1	3,567.8	3,872.5
Sulawesi Tenggara	8,026.9	8,643.3	9,331.7	10,010.6
Maluku and Papua	31,606.3	28,390.7	29,889.3	30,302.8
	1.1%	0.9%	0.8%	0.6%
Maluku	3,244.4	3,425.0	3,621.7	3,774.8
Maluku Utara	2,236.8	2,359.5	2,501.2	2,650.8
Papua	22,209.2	18,402.2	19,200.3	18,914.9
Papua Barat	3,915.9	4,204.0	4,566.1	4,962.3
Total of 33 Provinces	1,539,110.5	1,629,405.1	1,735,767.6	1,839,150.1
Indonesia	2,774,281.1	3,339,216.8	3,949,321.4	4,954,028.9

Source: Statistical Year Book of Indonesia 2009

(3) Employment

About 40% of the labor force has been working in the Agriculture, Forestry, Hunting and Fisheries sector. The second largest sector is Wholesale, Retail Trade, Hotel and Restaurant with around 20.7% of the total work force, and the third is Public Services at 12.8% in 2008 as shown in Table 2.4-2.

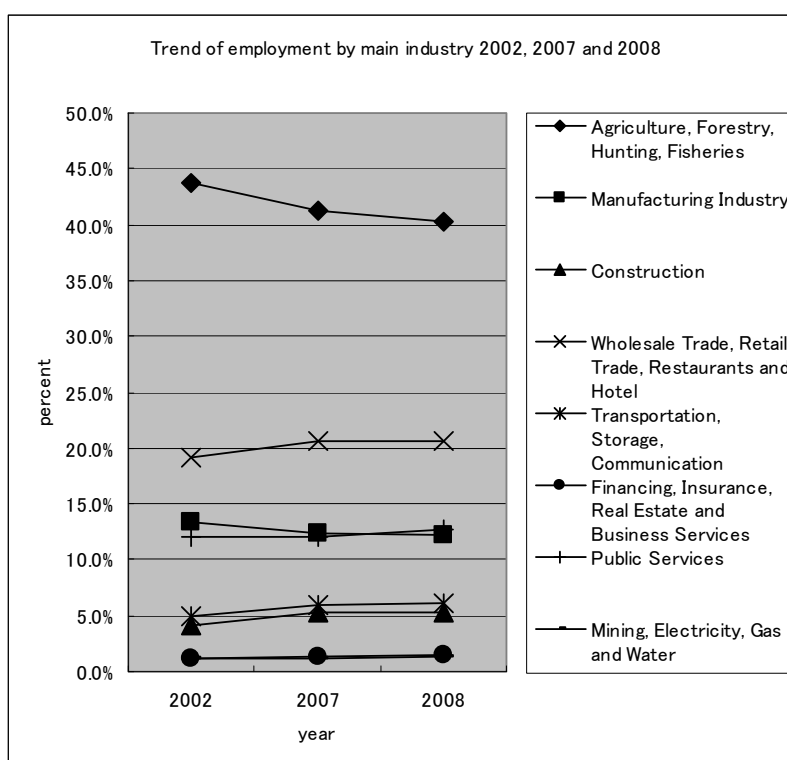
Trend of employment by industry is shown in Figure 2.4-5 and Figure 2.4-4. The sector of wholesale trade has been increasing while the industrial group of agriculture, forestry, hunting and fisheries have been decreasing. Other remarkable trends are increasing of construction and transportation sector while manufacturing industry has been decreasing.

According to the employment statistics, Manufacturing Industry sector is heavily concentrated in Java Island.

Table 2.4-2 Percentage of Population 15 Years of Age and Over Who Work by Main Industry

Industry	2002	2007	2008
Agriculture, Forestry, Hunting, Fisheries	43.8%	41.2%	40.3%
Manufacturing Industry	13.3%	12.4%	12.2%
Construction	4.2%	5.3%	5.3%
Wholesale Trade, Retail Trade, Restaurants and Hotel	19.2%	20.6%	20.7%
Transportation, Storage, Communication	4.9%	6.0%	6.0%
Financing, Insurance, Real Estate and Business	1.2%	1.4%	1.4%
Public Services	12.1%	12.0%	12.8%
Mining, Electricity, Gas and Water	1.2%	1.2%	1.2%

Source: Statistical Year Book of Indonesia 2009, JICA Study 2009



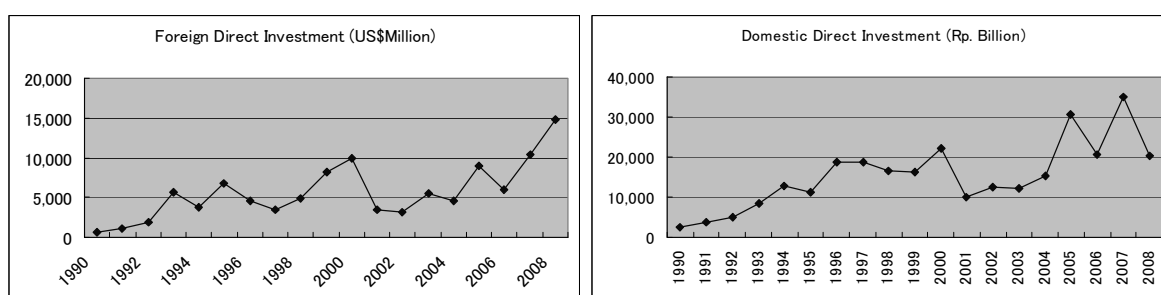
Source: Statistical Year Book of Indonesia 2009, JICA Study 2009

Figure 2.4-5 Trend of Employment by main Industry

(4) Investment

Figure 2.4-6 shows new domestic and foreign direct investments which have been realized since 1990. Value of realized projects was Rp. 2,399 Billion for domestic and US\$ 706 Million for foreign investment in 1990, and since then it has continued to increase, reaching Rp. 22,038 Billion for domestic and US\$ 9,877 Million for foreign projects in 2008.

A remarkable difference exists between the domestic direct investment and foreign direct investment. For the former, secondary sector has been the dominant sector. In 2008, value of direct investment in the secondary sector registered Rp.15, 815 Billion, which accounts for 78 % of the total direct domestic investment. On the other hand, for the foreign direct investment, US\$4,515Million was invested into new projects in the secondary sector, which accounts for 30 % of the total foreign direct investment projects. Tertiary sector, especially Transport, Storage & Communication sub-sector, was the dominant sector for foreign investment in 2008, accounting for 59% of the total.



Source: Statistics of Direct Investment, BKPL, December 2008 (JICA Study 2009), Realized Domestic and Foreign Direct Investment

Figure 2.4-6 Foreign and Domestic Investment

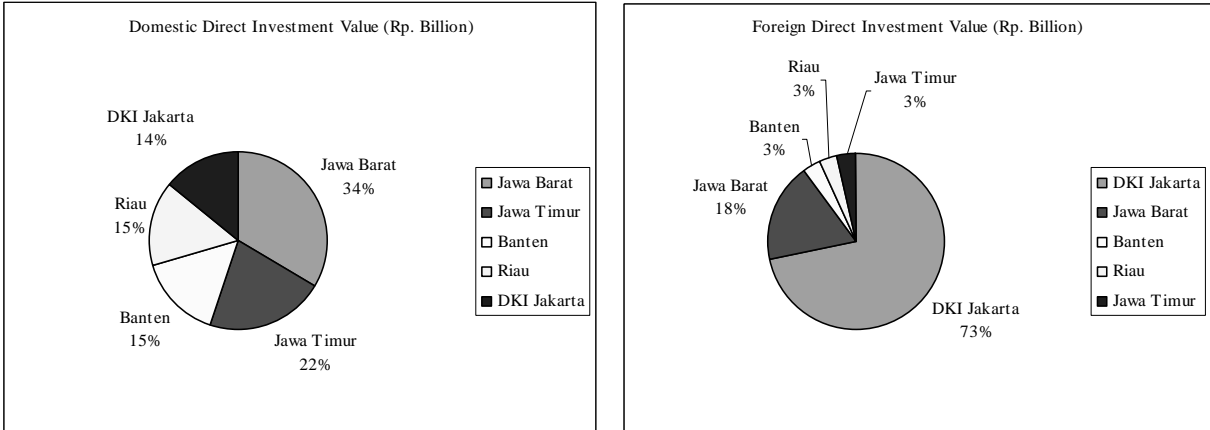
Ranking of realized direct investment by location 2008 is show in Table 2.4-3. In terms of domestic investment, West Java takes first place followed by East Timur, Banten, Riau and DKI Jakarta. West Java is definitely the core investment area with a share is 21.1% of the total while East Timur follows with 13.6%.

Regarding the realized foreign direct investment, DKI Jakarta accounts for more than two thirds of the total. Foreign investors have a tendency to invest in projects in Transport, Storage & Communication sub-sector in the Indonesian national capital.

Table 2.4-3 Ranking of Realized Direct Investment by Location, 2008

Domestic Direct Investment					Foreign Direct Investment			
	Location	Project	Value (Rp. Billion)	%	Location	Project	Value (Rp. Billion)	%
1	Jawa Barat	64	4,289.5	21.1%	DKI Jakarta	434	9,927.8	66.8%
2	Jawa Timur	40	2,778.3	13.6%	Jawa Barat	293	2,552.1	17.2%
3	Banten	31	1,989.1	9.8%	Banten	99	477.8	3.2%
4	Riau	8	1,966.8	9.7%	Riau	8	460.9	3.1%
5	DKI Jakarta	34	1,837.3	9.0%	Jawa Timur	73	457.3	3.1%
	National Total	239	20,363.2	100.0%		1,138	14,871.5	100.0%

Source: Statistical Year Book of Indonesia 2009

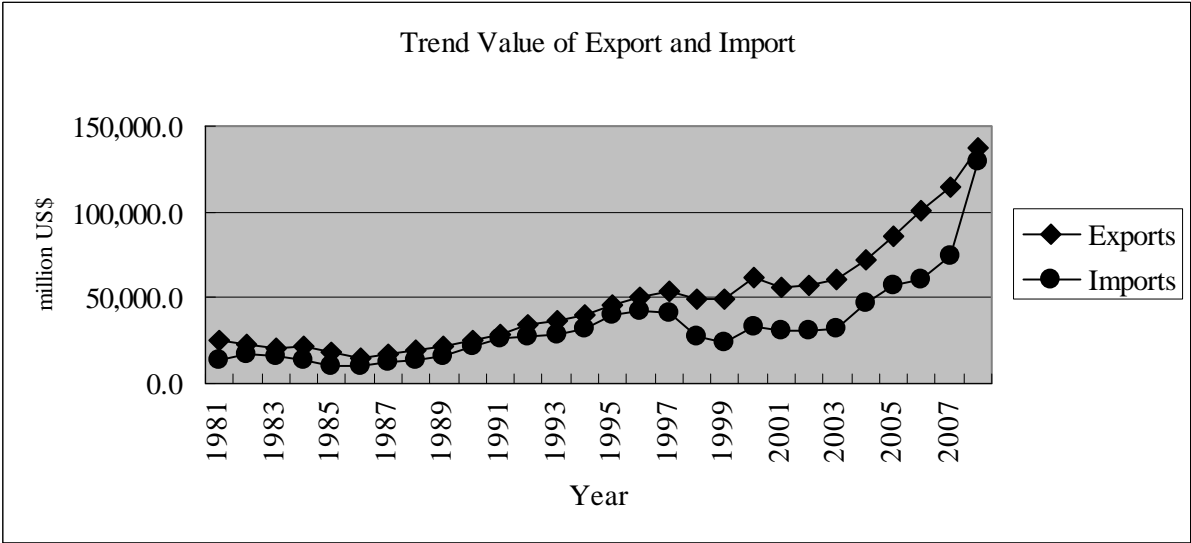


Source: Statistical Year Book of Indonesia 2009

Figure 2.4-7 Foreign and Domestic Direct Investment

(5) Trade

Figure 2.4-8 shows historical development of Indonesian Foreign Trade without oil and gas trade, both export and import, in monetary terms. Remarkable feature worth mentioning is the fact that the export value has been exceeding the import value, and the difference has been widening since the economic crisis. However, it has been drastically reduced in 2008 to less than US\$ 8 billion while it was US\$ 40 billion in the previous year.

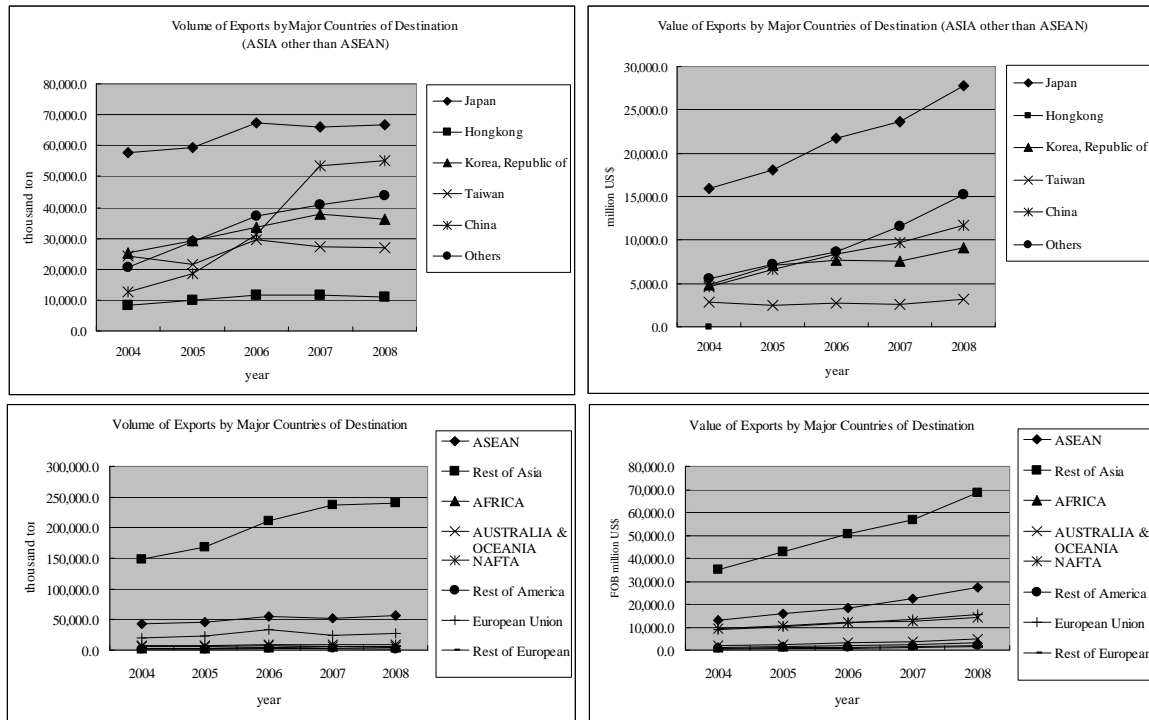


Source: Statistical Year Book of Indonesia 2009

Figure 2.4-8 Trend Value of Export and Import

(6) Main Trading Partners

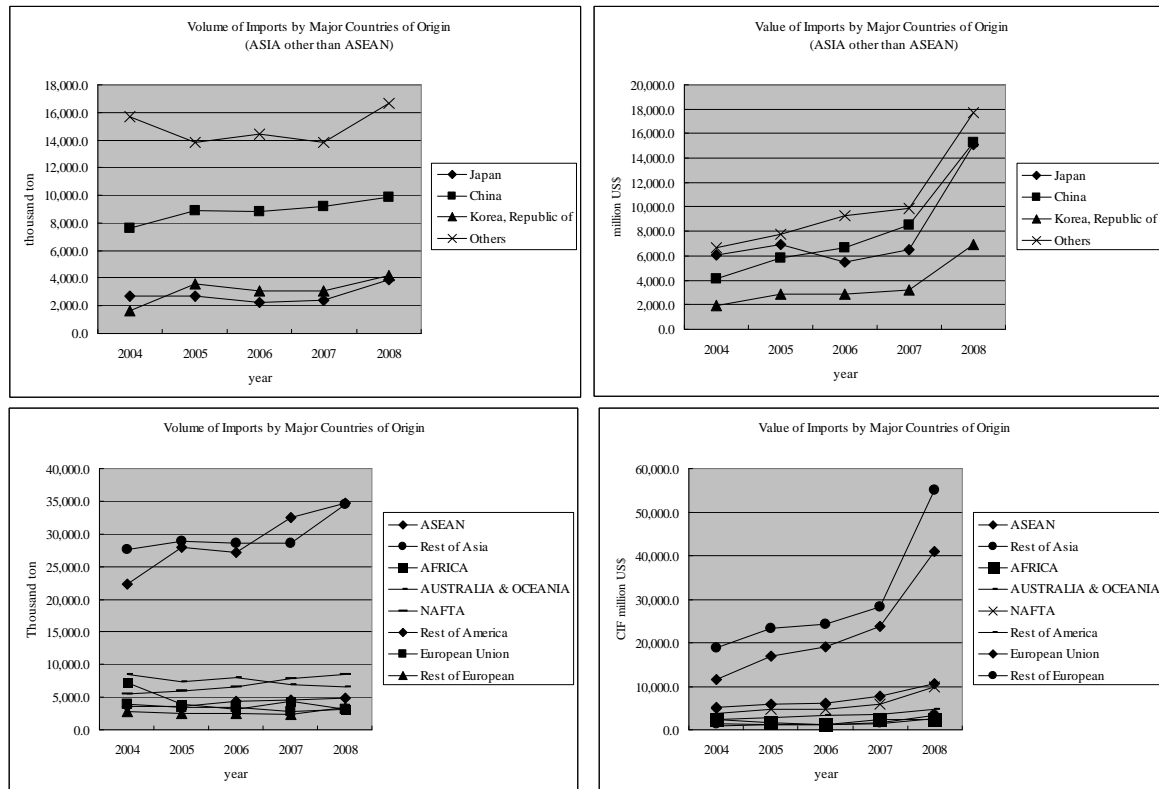
Main trading partners of Indonesia are shown in Figure 2.4-9 and Figure 2.4-10 for exports and imports respectively. As for exports, Japan is the most significant partner in terms of both volume and value from 2004 - 2008. While the volume of Japan remains almost at the same level, China's volume has increased more than 4 times since 2004. The difference between the two in 2008 is only 11.7 million tons while it was 45 million tons in 2004.



Source: Statistical Year Book of Indonesia 2009, JICA Study 2009

Figure 2.4-9 Volume and Value of Exports

As for imports, China has been the leading partner in terms of volume and Japan is a co-leading partner in terms of value.



Source: Statistical Year Book of Indonesia 2009, JICA Study 2009

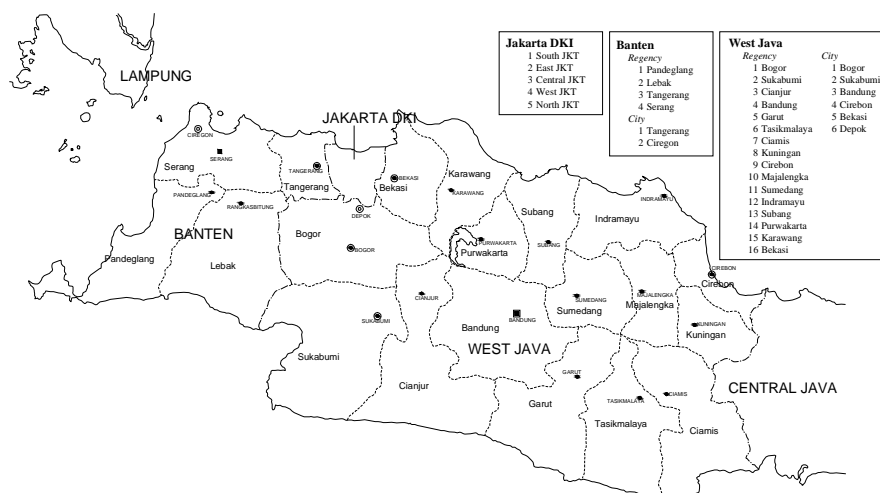
Figure 2.4-10 Volume and Value of Imports

2.4.2 Administration System and Financial Condition

(1) Administration System

As of April 2010, there are 33 provinces (Propinsi), 2 special regions (Aceh and Yogyakarta) and 1 special capital city district i.e. Jakarta (Daerah Khusus Ibukota). It is noted that the province of West Java and Irian Jaya have been divided into two new provinces, i.e. Papua and West Papua, Banten and West Java respectively, under the recent decentralization movement. Each province has its own capital city and there are regencies/cities (Kabupaten/Kota) under the province, which are thought to become the key administrative units in the decentralization.

Administration of the Case Study area is as follows: DKI Jakarta consists of 5 districts. The capital of Banten province is Serang city and consists of 4 regencies and 2 municipalities including the capital city. West Java province consists of 16 regencies and 9 municipalities including Bundong, the capital city.



Source: JICA Study Team

Figure 2.4-11 Province, Regency and City (DKI, Banten and West Java)

The head of the Government is the President, who is responsible for appointing cabinet members. There are three (3) coordinating ministers, nine (9) state ministers and seventeen (17) ministers. As for the transport sector, Minister for Transportation takes charge of the Department of Transport (Perhubungan), while State-Owned Enterprises (SOEs) such as PT. Pelindo, PT. Pelni are partly under the control of State Minister for State-Owned Enterprises.

In addition to various policy implementations regarding decentralization of the administrative system, the Indonesian Government tackled another national strategy on Public Private Partnership. Presidential Regulation No.67/2005 was put in force to set out the platform for the national PPP scheme. The Presidential Regulation, coupled with the Ministry of Finance Regulation No.38/2006, provide government support for the undertakings of infrastructure development by the private sector.

Three government organizations were newly established to promote the national PPP scheme. These are the “National Committee on Acceleration of Infrastructure Provision” (KKPPI), “Risk Management Committee on Infrastructure Provision” (RMCIP) and “Risk Management Unit” (RMU).

KKPPI was established by the Presidential Regulation No.42/2005 and possesses the core function for the promotion of infrastructure development under the PPP scheme. Coordinating Ministry of Economic Affairs (CMEA) acts as a Chairman of the committee and the Director General of the National Development Planning Agency (BAPPENAS) sits as an Executive Chairman. The members of the committee are the Minister of Finance, Minister of Internal Affairs, Minister of Public

Works, Minister of Energy and Mining, Minister of Transportation, Minister of Communication, Minister of State Own Companies and Minister of Cabinet.

Three main tasks of the KKPPPI are 1) To set up the framework of Public Service Obligation (PSO), 2) To act as liaison between PSO and PPP and 3) To establish compliance with PSO and PPP. Supreme priority is given to fairness and transparency when setting up the rules of compliance for procurement of public service. KKPPPI is also preparing PPP Operational Guideline Manual in association with the World Bank and in coordination with the Asian Development Bank.

RMCIP and RMU are the organizations established in the Ministry of Finance to deal with the risk management of PPP projects. Main task of the RMCIP is feasibility evaluation of proposed PPP projects and overseeing the execution of approved PPP projects. Actual assessment of financial risk of proposed PPP projects is undertaken by the RMU. Every PPP project that seeks government support and assistance should be examined by the RMU prior to application to the government.

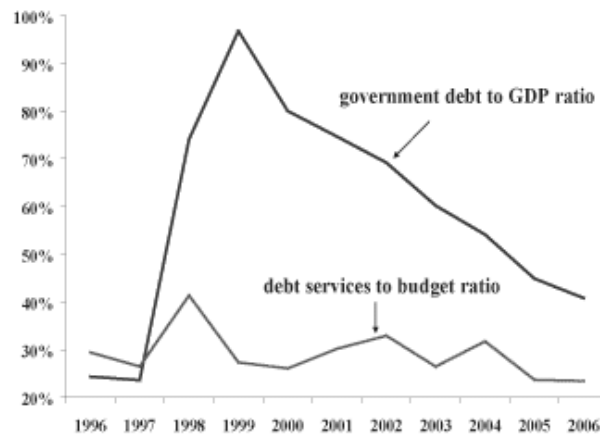
(2) Financial Performance of the Government & Case Study Provinces

1) Financial Situation of Central Government

Prior to the economic crisis, Indonesia had a relatively comfortable debt situation. The GOI borrowed abroad each year, primarily from the World Bank, Asian Development Bank, and a group of bilateral donors grouped in the Consultative Group on Indonesia (CGI). The proceeds were used to fund the development budget. By long-established convention, the GOI avoided domestic borrowing, and Indonesia's debt/GDP was sustainable. Indonesia's debt management policies were an important part of what was widely viewed as a prudent macroeconomic management strategy.

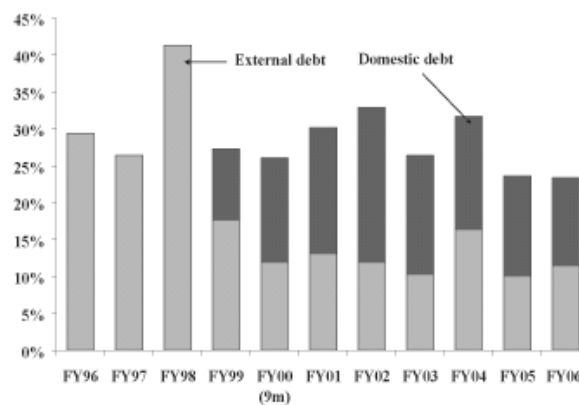
This situation changed in 1998-99, when Indonesia for the first time developed a large domestic debt stemming from the costs of the country's banking sector bailout. As Figure 2.4-12 and Figure 2.4-13 indicate, the broadest measure of the impact of debt is the ratio of total government debt to total economic output or GDP. The ratio of public debt to GDP has fallen from 100 percent (1999) to 40.8 percent in 2006 and is expected to decline to 30-35 percent by 2009 (Figure 2.4-12). This is comparable with neighbouring countries.

The burden of Indonesia's debt on its budget is back to pre-crisis levels. Another measure of the impact of debt is the share of government resources that have to be paid to service debt, including principle and interest. Debt service as a share of total expenditures improved from as high as 38 percent in the pre-crisis level (1994-96) to 26 percent in recent years (2004-06). Debt service to expenditures is projected to be around 23 percent.



Source: Indonesia's Debt and World Bank Assistance, World Bank HP

Figure 2.4-12 Easing Debt Burden (Gov't debt to GDP ratio, Percent)



Source: Indonesia's Debt and World Bank Assistance, World Bank HP

Figure 2.4-13 Government Debt Services share to Total Expenditure (in percent)

2) Financial Situation of Local Government

Financial situations of local governments in the Study area, DKI Jakarta, Banten and West Java provinces, are shown in Table 2.4-4.

Table 2.4-4 Financial Situation of Local Governments (1/2)

No.	Expenditure Items	INDONESIA					DKI JAKARTA				
		2005	2006	2007	2008	2005	2006	2007	2008		
A.	LOCAL GOVERNMENT REVENUE	56,907,842,181	69,376,713,186	77,935,427,880	84,976,554,297	13,476,933,941	14,337,530,976	16,668,046,974	18,791,528,570		
1.	Original Local Government Revenue	27,885,722,629	30,556,135,053	35,107,948,811	37,276,793,806	7,597,867,917	7,817,457,600	8,731,096,245	10,381,542,820		
1.1	Local Taxes	24,208,786,980	25,719,347,146	29,464,063,064	31,448,302,171	6,513,811,209	6,482,649,163	7,202,527,438	8,424,270,000		
1.2	Rebutions	1,344,475,078	1,601,546,853	1,852,446,348	1,788,698,238	419,674,270	449,340,321	676,461,757	423,568,237		
1.3	Income of Regional Government Corporate and Management of Separated Reg. Government Wealth	775,550,046	852,500,283	1,101,338,485	1,125,066,285	103,219,808	131,903,430	144,175,716	170,976,913		
1.4	Other Original Local Government Revenue	1,556,910,525	2,382,740,771	2,690,100,914	2,914,727,112	561,162,630	753,564,686	707,931,334	1,362,727,670		
2.	Balanced Budget	24,777,712,234	33,654,398,517	36,513,742,961	40,383,465,220	5,770,008,024	6,520,073,376	7,253,024,683	8,380,000,000		
2.1	Tax Share	8,869,816,934	10,280,860,925	12,613,150,334	13,567,043,820	4,858,538,161	5,535,851,713	7,004,187,865	8,150,000,000		
2.2	Non Tax Share/Natural Resources	6,658,425,251	8,782,163,818	6,646,795,103	7,500,259,794	138,445,963	213,197,563	128,893,818	230,000,000		
2.3	General Allocation Funds	9,223,416,989	14,571,373,774	16,478,797,524	17,825,022,606	773,023,900	773,024,100	119,943,000	0		
2.4	Special Allocation Funds	26,053,060	20,000,000	775,000,000	1,491,139,000	0	0	0	0		
3.	Other Legal Revenue	4,244,407,318	5,166,179,616	6,313,736,108	7,316,295,271	109,058,000	683,926,046	29,985,750	29,985,750		
B.	LOCAL GOVERNMENT FINANCING	9,302,607,771	14,680,277,690	15,455,840,843	13,917,415,016	1,930,251,607	3,107,087,921	2,020,596,204	1,800,413,261		
	TOTAL RECEIPT (A+B)	66,210,449,952	84,056,990,876	93,391,268,723	98,893,969,313	15,407,185,548	17,444,618,897	18,688,643,178	20,591,941,831		
A.	INDIRECT EXPENDITURE	24,218,934,530	30,302,209,927	36,214,961,163	45,031,987,227	4,190,358,092	5,161,132,609	6,174,903,183	6,392,138,493		
1.	Personnel Expenditure	10,039,255,785	13,518,565,980	14,223,019,494	17,441,049,386	3,746,903,513	4,852,091,962	5,500,795,828	5,694,987,706		
2.	Interest Expenditure	35,345,376	40,752,470	19,527,104	33,531,345	26,550,217	30,333,767	18,825,036	15,331,020		
3.	Subsidies Expenditure	0	4,086,810	91,223,065	195,664,681	0	0	0	0		
4.	Grand Expenditure	939,920,402	1,193,527,142	639,577,595	5,834,950,072	133,608,370	51,434,854	0	200,000,000		
5.	Social Aids Expenditure	2,216,145,602	2,623,849,064	4,459,757,107	4,141,261,320	19,081,750	58,426,032	95,372,565	433,019,767		
6.	Sharing Fund Expenditure	7,974,073,441	9,456,509,218	9,948,389,701	10,086,617,003	253,313,792	126,304,443	421,053,789	0		
7.	Financial Aids Expenditure	2,666,550,835	2,985,534,108	6,587,767,357	6,741,526,970	1,800,000	41,547,082	137,722,280	0		
8.	Unpredicted Expenditure	347,643,089	479,385,135	245,699,740	557,386,450	9,100,450	994,469	1,133,685	48,800,000		
B.	DIRECT EXPENDITURE	24,980,872,207	34,483,611,934	39,726,141,320	51,901,032,890	8,257,206,441	10,000,445,187	10,674,967,490	14,131,183,338		
1.	Personnel Expenditure	2,955,930,554	3,267,634,010	5,427,444,661	6,499,380,369	1,119,075,388	1,262,784,199	1,460,880,627	2,339,797,441		
2.	Goods and Service Expenditure	9,821,518,567	13,052,752,803	14,732,776,642	21,452,969,291	2,827,539,066	3,305,610,261	4,023,191,536	6,683,964,555		
3.	Capital Expenditure	12,203,423,086	18,163,225,121	19,565,920,017	23,948,683,230	4,310,591,987	5,432,050,727	5,190,895,327	5,107,421,342		
C.	LOCAL GOVERNMENT FINANCING	17,010,643,215	19,271,169,015	17,450,166,240	1,960,949,196	2,959,621,015	2,283,041,101	1,838,772,505	68,620,000		
	TOTAL EXPENDITURE (A+B+C)	66,210,449,952	84,056,990,876	93,391,268,723	98,893,969,313	15,407,185,548	17,444,618,897	18,688,643,178	20,591,941,831		

Source: Statistical Year Book of Indonesia 2009, JICA Study 2009

Table 2.4-4 Financial Situation of Local Governments (2/2)

No.	Expenditure Items	BANTEN					JAWA BARAT						
		2005	2006	2007	2008	2008	2005	2006	2007	2008			
A.	LOCAL GOVERNMENT REVENUE												
1.	Original Local Government Revenue	1,598,106,614	1,587,901,993	1,908,840,531	2,028,870,810	2,028,870,810	4,825,338,266	5,047,199,211	6,008,240,717	5,696,288,000			
1.1	Local Taxes	1,070,237,769	1,118,023,281	1,298,456,276	1,367,391,000	1,367,391,000	3,605,217,566	3,748,404,051	4,221,668,696	4,055,119,000			
1.2	Rebutions	1,037,938,696	1,071,092,401	1,246,280,795	1,321,716,000	1,321,716,000	3,385,936,560	3,449,101,477	3,889,839,395	3,796,638,000			
	Income of Regional Government	2,498,721	2,709,167	3,052,565	3,068,000	3,068,000	26,835,982	31,369,856	30,807,391	29,484,000			
1.3	Corporate and Management of Separated Reg. Government Wealth	9,355,693	13,201,473	17,834,634	18,107,000	18,107,000	88,205,800	111,998,489	122,316,435	125,325,000			
1.4	Other Original Local Government Revenue	20,444,659	31,020,240	31,288,282	24,500,000	24,500,000	104,239,224	155,934,229	178,705,475	103,672,000			
2.	Balanced Budget	522,487,103	465,377,434	607,804,085	658,479,810	658,479,810	1,220,120,700	1,298,795,160	1,756,094,285	1,630,811,000			
2.1	Tax Share	324,296,992	219,851,656	277,001,483	297,377,169	297,377,169	542,261,596	601,796,182	680,771,546	599,014,277			
2.2	Non Tax Share/Natural Resources	172,111	231,778	205,602	261,781	261,781	107,199,104	131,245,978	141,886,739	127,564,723			
2.3	General Allocation Funds	198,018,000	245,294,000	330,597,000	342,743,860	342,743,860	570,660,000	565,753,000	933,436,000	904,232,000			
2.4	Special Allocation Funds	0	0	0	18,097,000	18,097,000	0	0	0	0			
3.	Other Legal Revenue	5,381,742	4,501,278	2,580,170	3,000,000	3,000,000	0	0	30,477,736	10,358,000			
B.	LOCAL GOVERNMENT FINANCING												
	TOTAL RECEIPT (A+B)	1,904,013,213	1,940,819,841	2,065,997,712	2,158,281,002	2,158,281,002	5,700,476,832	6,048,094,310	6,964,665,374	6,185,132,000			
A.	INDIRECT EXPENDITURE												
1.	Personnel Expenditure	829,365,250	889,439,452	953,339,079	1,062,050,473	1,062,050,473	2,706,538,392	3,238,140,943	3,898,928,424	4,313,026,000			
2.	Interest Expenditure	110,359,022	118,888,320	197,194,644	225,115,380	225,115,380	656,234,515	760,462,303	714,125,564	892,348,000			
3.	Subsides Expenditure	0	0	0	0	0	176,516	208,505	0	0			
4.	Grand Expenditure	3,013,755	15,062,779	16,000,000	48,077,998	48,077,998	45,945,784	76,661,980	343,638,896	16,450,000			
5.	Social Aids Expenditure	51,821,379	54,600,219	53,635,137	57,000,000	57,000,000	145,422,735	122,724,240	239,227,482	165,071,000			
6.	Sharing Fund Expenditure	450,447,553	541,262,248	501,959,298	576,607,095	576,607,095	1,138,599,367	1,258,573,471	1,347,805,025	1,620,114,000			
7.	Financial Aids Expenditure	213,518,871	158,022,280	184,550,000	147,250,000	147,250,000	651,146,471	958,184,733	1,172,469,823	1,157,645,000			
8.	Unpredicted Expenditure	204,670	1,603,606	0	8,000,000	8,000,000	69,013,004	61,325,711	16,917,690	50,000,000			
B.	DIRECT EXPENDITURE												
1.	Personnel Expenditure	658,978,848	922,684,427	913,888,984	1,092,304,572	1,092,304,572	1,602,743,876	1,669,597,306	1,442,848,042	1,736,991,000			
2.	Goods and Service Expenditure	357,859,123	445,114,854	323,137,863	375,876,192	375,876,192	661,827,363	698,599,050	820,793,985	1,030,521,000			
3.	Capital Expenditure	282,064,385	463,048,365	444,887,565	566,683,509	566,683,509	545,743,929	630,632,185	360,690,912	416,135,000			
C.	LOCAL GOVERNMENT FINANCING												
	TOTAL EXPENDITURE (A+B+C)	1,904,013,213	1,940,819,841	2,065,997,712	2,158,281,002	2,158,281,002	5,700,026,832	6,048,094,310	6,964,665,374	6,185,132,000			

Source: Statistical Year Book of Indonesia 2009, JICA Study 2009

(3) Current situation of Industrial Estates

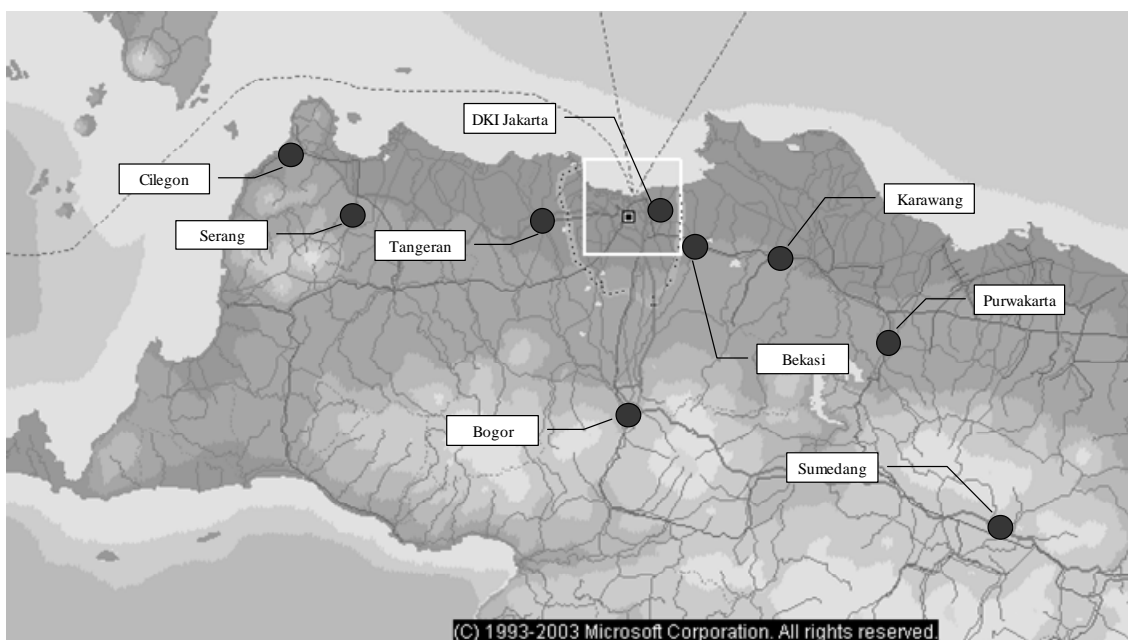
1) General

Information on industrial estates in Indonesia is summarized in “Indonesia Industrial Estate Directory 2006, a guide for Investors, published by Indonesian Industrial Estate Association”.

Basic data i.e. name of industrial estate, company name, location, size, tenants are available in the directory.

2) Map of Industrial Estates

Location of industrial estates in DKI Jakarta, Banten and West Java listed in the directory are shown in Figure 2.4-14. According to the directory, there are 9 estates in Banten, 3 in DKI Jakarta and 22 in West Java.



Source: JICA Study Team

Figure 2.4-14 Location of typical industrial estate

3) Size and Tenants of Industrial Estate

Area (ha) and number of tenants of each industrial estate are shown in Table 2.4-5.

Table 2.4-5 Industrial estate in DKI, Banten and West Java (2006)

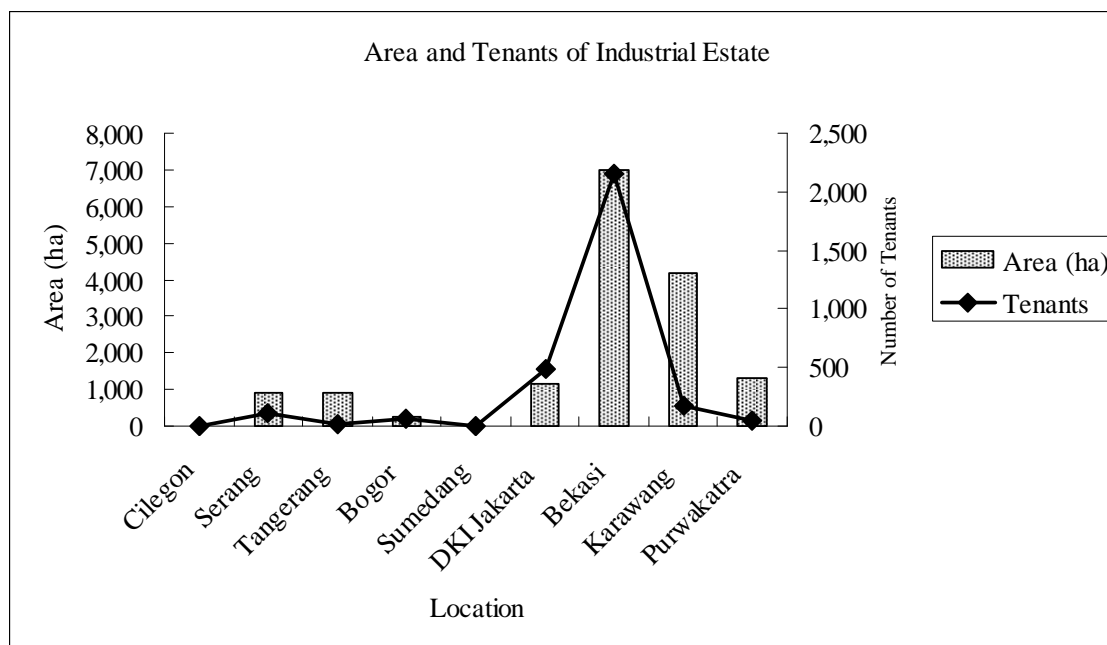
Location		Abb.	Area (ha)	Tenants
Cilegon			2,505	57
Jababeka Industrial Estate - Cilegon	Cilegon	JIE-CLG	1,800	na
Krakatau Industrial Estate Cilegon	Cilegon	KIEC	705	57
Serang			1,727	115
Kawasan Industri Terpadu MGM	Serang	KITMMGM	662	na
Modern Cikande Industrial Estate	Serang	MCIE	900	115
Nikomas Gemilang Industrial Estate	Serang	NGIE	165	na
Tangerang			1,150	21
CCM Balaraja Industrial Estate	Tangerang	CCMIE	300	3
Kawasan Industri & Pergudangan Cikupamas	Tangerang	KIPC	250	na
Millenium Industrial Estate	Tangerang	MIE	400	4
Taman Tekno Serpong Damai	Tangerang	TTBSD	200	14
Bogor			240	60
Cibinong Centre Industrial Estate	Bogor	CCIE	140	17
Kawasan Industri Sentul	Bogor	KIS	100	43
Sumedang			200	0
Kawsan Industri Rancaedek	Sumedang	KIR	200	na
DKI Jakarta			1,176	491
Cilandak Commercial Estate	DKI Jakarta	CCE	11	74
Jakarta Industrial Estate Pulogadung	DKI Jakarta	JIEP	570	302
Kawasan Bonded Zone (Cakung)	DKI Jakarta	KBN	595	115
Bekasi			7,083	2,149
Bekasi International Industrial Estate(BIIE)	Bekasi	BIIE	200	105
East Jakarta Industrial Park(EJIP)	Bekasi	EJIP	320	87
Jababeka Industrial Park	Bekasi	JIEC	1,570	1,235
Kawsan Industri Gobel	Bekasi	KIG	54	na
Lippo Cikarang Industrial Park	Bekasi	LC	3,500	500
Marunda Center	Bekasi	MC	150	20
MM2100 Industrial Town - BFIE	Bekasi	MM2100/BFIE	250	44
MM2100 Industrial Town - MMID	Bekasi	MM2100/MMID	1,000	158
Patria Manunggal Java Industrial Estate	Bekasi	PMIE	39	na
Karawang			4,873	172
Bukit Indah Industrial Park	Karawang	BIIP	700	23
Daya Kencanasia Industrial Park	Karawang	DKIP	200	na
Golden Industrial Park	Karawang	GIP	500	na
Kujang Industrial Estate	Karawang	KIE	140	15
Karawang International Industrial City	Karawang	KIIC	1,200	81
Kawasan Industri Mitrakarawang	Karawang	KIM	430	11
Mandalapratama Permai Industrial Estate	Karawang	KPIE	303	2
Suryacipta City of Industry	Karawang	SCI	1,400	40
Purwakatra			1,350	44
Kawsan Industri Lion	Purwakatra	KIL	50	na
Kota Bukit Indah Industrial City	Purwakatra	KBIC	1,300	44

Source Indonesia Industrial Estate Directory 2006, HKI

Note: 'na' means industrial estate was under construction as of 2006.

The directory says Krakatau Industrial Estate Cilegon is located inside Krakatau Steel complex and targeting heavy manufacturing, ranging from steel to chemical related, petrochemical industries, services industries tool and machinery, fabrications and other supporting industries.

Area and number of tenants of industrial estate excluding those under construction and Krakatau steel complex which basically has no container cargoes is shown in Figure 2.4-15. It is clearly shown that potential industrial estates for container traffic are gathered in West Java province.



Source Indonesia Industrial Estate Directory 2006, HKI

Figure 2.4-15 Area and Tenants of Industrial Estate in DKI, Banten and West Java

At industrial estates in Karawang, number of tenants is smaller than the area because of characteristics of their industry type and expandable lot. Representative examples of tenant are vehicle (2 & 4 wheel), rubber products, electronic products, textile, glass products and non-ferrous metal which need comparatively wide lot as one company.

2.5 Analysis of Cargo Trends of the Existing Ports

Four public ports are situated in the greater Jakarta metropolitan area; they are Tanjung Priok port, Banten port, Sunda Kelapa port, and Cirebon port.

2.5.1 Container Cargo

(1) Container Throughput (TEU) by Port

A total of 3.8 million TEU of containers are handled at the public ports in the Study area in 2009, which was a 4.4% decrease from 2008 (see Table 2.5-1). Among the four ports, the Cirebon port has practically handled no containers for the last two decades. At Sunda Kelapa port about ten thousand TEUs containers are loaded/unloaded, and all of them are interisland traffic.

Banten port is composed of two port districts: Ciwandan port district and Merakmas port district; the former is a public port and the latter is a special port. Banten port handled a total of 14,072 TEUs in 2009, and almost all of the containers handled at the Banten port were throughput of Merakmas port district, which is managed by a paper company. Container throughput at Banten port reached more than 50,000 TEUs in 2002 and 2003, however it has been gradually decreasing since then.

Table 2.5-1 Container Throughput by Port

(Unit: '000 TEU)

Year	Tg. Priok	Banten	Sunda Kelapa	Cirebon	Total	Share of Tg. Priok
1991	736	0	0	0	736	99.9%
1992	866	0	0	0	866	100.0%
1993	1,078	0	0	0	1,078	100.0%
1994	1,270	0	0	0	1,270	100.0%
1995	1,501	0	0	0	1,501	100.0%
1996	1,604	0	0	0	1,604	100.0%
1997	1,869	0	0	0	1,869	100.0%
1998	1,900	1	0	0	1,901	99.9%
1999	2,112	10	0	0	2,122	99.5%
2000	2,431	16	0	0	2,447	99.3%
2001	2,192	25	0	0	2,217	98.9%
2002	2,624	54	0	0	2,678	98.0%
2003	2,758	53	0	0	2,811	98.1%
2004	3,179	47	1	0	3,226	98.5%
2005	3,330	25	2	0	3,357	99.2%
2006	3,424	30	5	0	3,459	99.0%
2007	3,692	19	11	0	3,722	99.2%
2008	3,984	16	5	0	4,005	99.5%
2009	3,804	14	9	0	3,827	99.4%

Source: Indonesia Port Corporation II

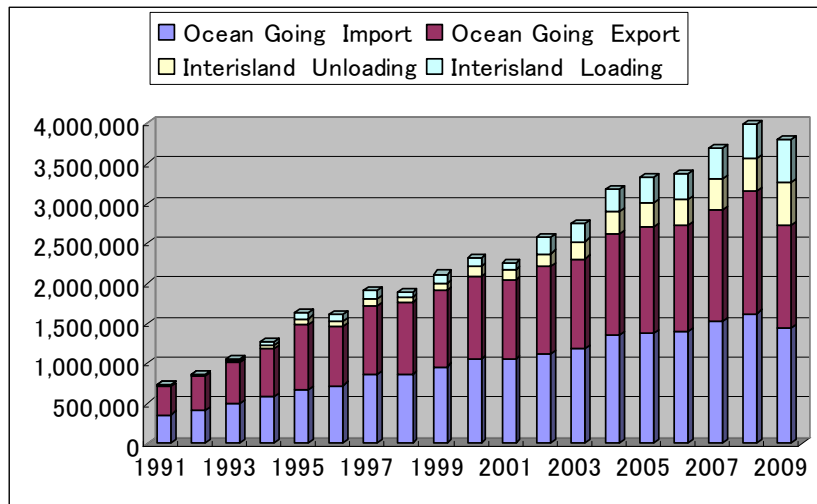
The Tanjung Priok port is the gateway to all of Indonesia, and it can be said that in effect all of the containers handled in the greater Jakarta metropolitan area have been handled at the Tanjung Priok port as its handling share exceeds more than 99% of the total (see Table 2.5-1).

(2) Details of Tanjung Priok Port

1) Total throughput by trade type

Container throughputs by trade type at Tanjung Priok port are shown in Figure 2.5-1. In 2009 among about 3.8 million TEU of total container throughput, 2.7 million TEUs were for ocean going and 1.1 million were for interisland. Percentage of interisland traffic has been increasing remarkably: interisland containers accounted for 28 percent in 2009, which marked only 9.8% in 2000 and 18.7% in 2005.

Compound annual growth rate of the interisland container throughput at the Tanjung Priok port during 1991-2009 was 25.2% while that of the ocean going was 7.7 % during the same period.



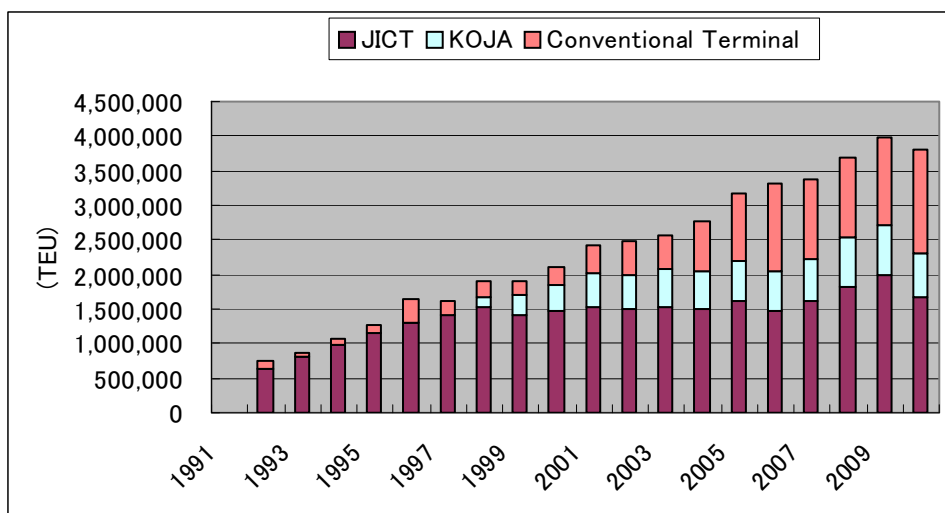
Source: IPC II, JICT and KOJA Terminal

Figure 2.5-1 Container Throughput by Trade Type at Tg. Priok Port

2) Container Cargo Movement by Terminal

A total of 3.8 million TEUs containers passed through Tanjung Priok port in 2009. There are two dedicated container terminals: JICT and KOJA terminal. These dedicated container terminals handled international containers. Conventional berths are also used for handling containers, which accommodate both international and inter-island container traffic as well as conventional type cargoes.

Market shares among the terminals are shown in Figure 2.5-2 and Table 2.5-2. JICT takes 44% of the total market in 2009 while it took nearly two thirds of the total throughput at Tanjung Priok port at the turn of the century. KOJA terminal has a 16% share in 2009, but its share has been decreasing since 2000. Throughput at conventional berths has been expanding for the past decade, and reached 40% of the total throughput in 2009.



Source: IPC II, JICT and KOJA Terminal

Figure 2.5-2 Container Throughput by Terminal at Tg. Priok Port

Table 2.5-2 Container Throughput by Terminal at Tg. Priok Port

(Unit: TEU)

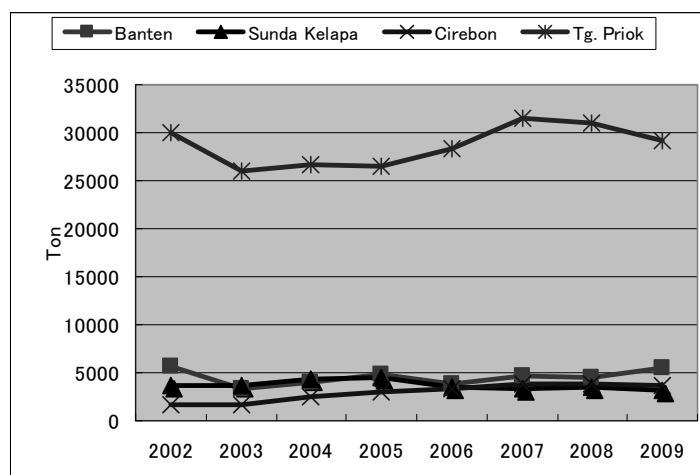
Year	JICT		KOJA		Conventional Terminal		Total
	TEU	%	TEU	%	TEU	%	
1991	621,568	84%	0	0%	114,802	16%	736,370
1992	815,859	94%	0	0%	50,858	6%	866,717
1993	978,305	93%	0	0%	75,847	7%	1,054,152
1994	1,164,132	92%	0	0%	105,962	8%	1,270,094
1995	1,300,126	80%	0	0%	330,194	20%	1,630,320
1996	1,424,083	89%	0	0%	182,719	11%	1,606,797
1997	1,533,077	80%	137,822	7%	237,817	12%	1,908,711
1998	1,424,947	75%	287,681	15%	185,065	10%	1,898,069
1999	1,466,037	69%	393,872	19%	257,170	12%	2,118,547
2000	1,527,713	63%	499,579	21%	403,445	17%	2,430,737
2001	1,497,576	60%	490,102	20%	488,807	20%	2,476,485
2002	1,532,436	60%	551,180	21%	485,310	19%	2,568,926
2003	1,502,883	54%	547,280	20%	708,646	26%	2,758,809
2004	1,623,735	51%	558,260	18%	1,005,060	32%	3,187,055
2005	1,470,467	44%	573,827	17%	1,286,101	39%	3,330,395
2006	1,623,916	48%	583,065	17%	1,163,748	35%	3,370,729
2007	1,821,326	49%	704,962	19%	1,165,630	32%	3,691,918
2008	1,995,782	50%	704,618	18%	1,283,890	32%	3,984,290
2009	1,675,395	44%	619,192	16%	1,509,335	40%	3,803,922

Source: IPC II, JICT and KOJA Terminal

2.5.2 Non-Container Cargo

(1) Throughput by Port

A total of 41.3 million tons of non-container cargoes were loaded or unloaded at the four public ports in the greater metropolitan area. Tanjung Priok port handled a total of 29 million tons of non-container cargoes in 2009, which was 71 percent of the total. Banten port followed Tanjung Priok port, handling 5.4 million tons of non-container cargo. Coal is the principal commodity handled at this port. Ciirebon port and Sunda Kelapa port each handled about three million tons of non-container cargo in 2009. Total non-container cargo tonnage at the four ports have shown an increasing tendency from around 35 million tons in 2003 to around 43 million tons in 2008 (see Figure 2.5-3 and Table 2.5-3)



Source: Indonesia Port Corporation II

Figure 2.5-3 Non-Container Cargo Throughput by Ports in the Study Area

Table 2.5-3 Non-Container Cargo Throughput by Package Type at Study Ports (1991-2009)

(Unit: '000 ton)

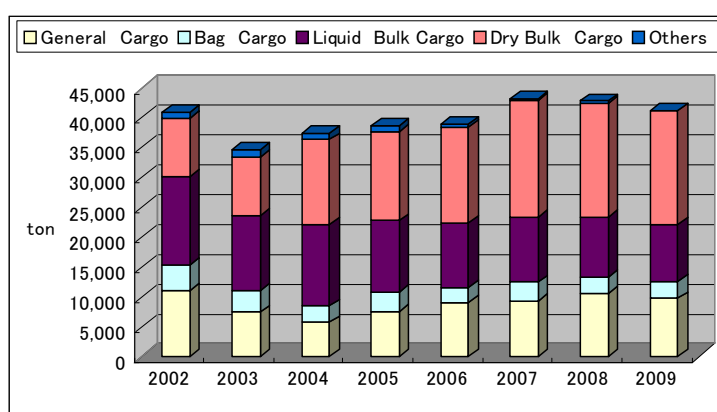
Year	2002	2003	2004	2005	2006	2007	2008	2009
Banten	5,667	3,278	4,083	4,756	3,825	4,651	4,571	5,426
Sunda Kelapa	3,667	3,712	4,325	4,500	3,532	3,321	3,532	3,155
Cirebon	1,730	1,730	2,459	2,982	3,270	3,819	3,827	3,584
Tg. Priok	29,982	25,920	26,682	26,469	28,381	31,489	30,940	29,097
Total Metropolitan Ports	41,046	34,640	37,548	38,707	39,008	43,280	42,871	41,263

Source: Indonesia Port Corporation II

(2) Non-container Cargo Throughput by Package Type

Throughput by package type is shown in the following Figure 2.5-4 and Table 2.5-4. Total non-container cargo throughput has shown stable or rather increasing tendency since 2003, but throughput levels of bag cargo and liquid bulk cargo have shown decreasing tendencies.

Meanwhile, throughput of dry bulk cargo has been expanding remarkably since 2003, and compound annual growth rate of this cargo type has registered at 11.9%. A considerable portion of this throughput expansion has been attributed to coal, clinker and sand.



Source: Indonesia Port Corporation II

Figure 2.5-4 Non-Container Cargo Throughput by Package Type at Study Ports

Table 2.5-4 Non-Container Cargo Throughput by Package Type at Study Ports

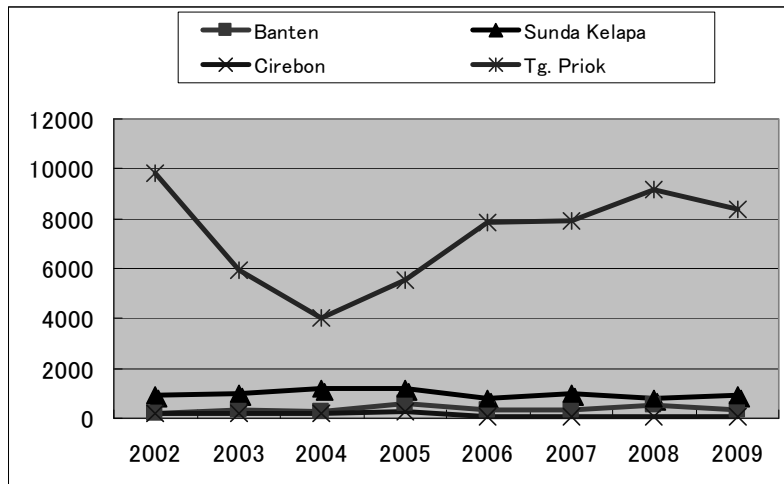
(Unit: '000 ton)

Year	2002	2003	2004	2005	2006	2007	2008	2009
Total Non-Container	41,046	34,640	37,548	38,707	39,008	43,280	42,871	41,263
General Cargo	11,131	7,430	5,653	7,535	9,102	9,271	10,537	9,665
Bag Cargo	4,151	3,642	2,771	3,294	2,531	3,158	2,856	2,981
Liquid Bulk Cargo	14,836	12,615	13,720	11,912	10,812	10,892	10,056	9,494
Dry Bulk Cargo	9,850	9,717	14,183	14,899	16,116	19,703	18,975	19,066
Others	1,079	1,236	1,222	1,067	447	256	447	56

Source: Indonesia Port Corporation II

(3) By Package Type By Port

About ten million tons of “General Cargo” were handled at the four Study ports, and the Tanjung Priok port handled over eight million tons in 2009. Cargo tonnage of this category dropped to four million tons in 2004, however it has been increasing since then (see Figure 2.5-5).

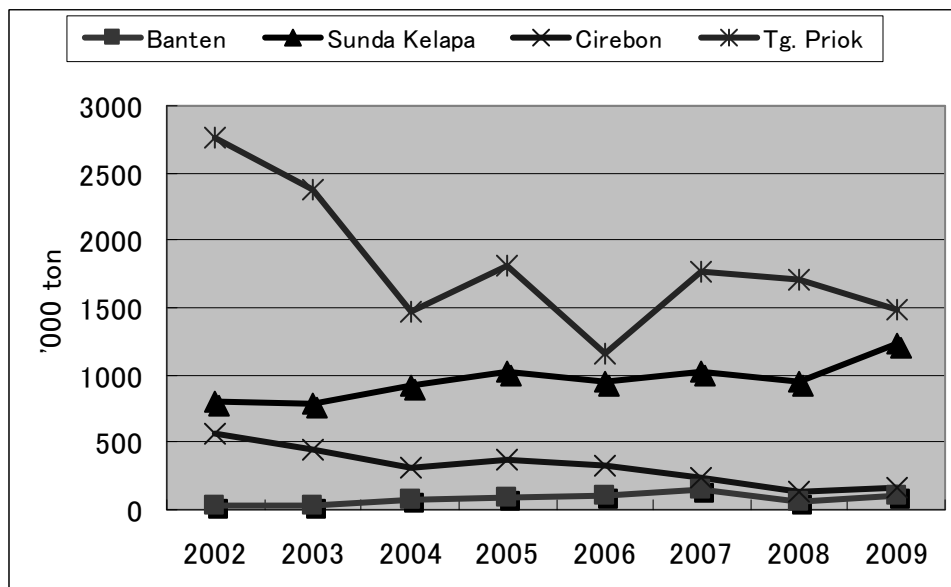


Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

Figure 2.5-5 General Cargo Throughput at the Study Ports

“Bag Cargo” has been handled at Sunda Kelapa port as well as Tanjung Priok port. “Bag Cargo” tonnage at Sunda Kelapa port has been gradually increasing and registered 1.2 million tons in 2009 while that at Tanjung Priok port has shown a decreasing tendency since 2002 as shown in Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

Figure 2.5-6. Cement is the principal commodity of this class of cargo. Throughputs of this class of cargo at both Cirebon and Banten ports are minimal.

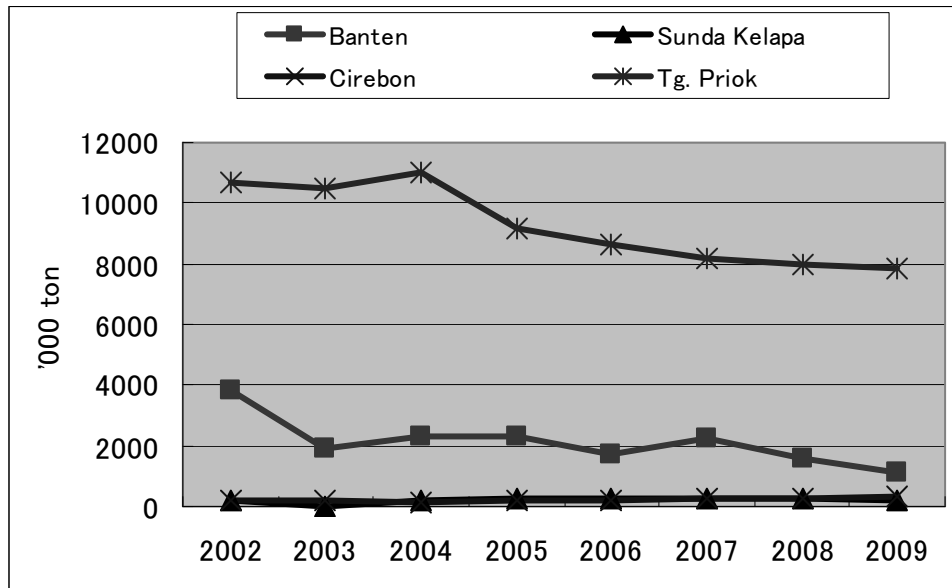


Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

Figure 2.5-6 Bag Cargo Throughput at the Study Ports

“Liquid Bulk” cargo has been handled at Tanjung Priok port and Banten port where many special ports and dedicated wharves exist. “Liquid Bulk” throughputs at both ports have been decreasing since 2002, as shown in Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

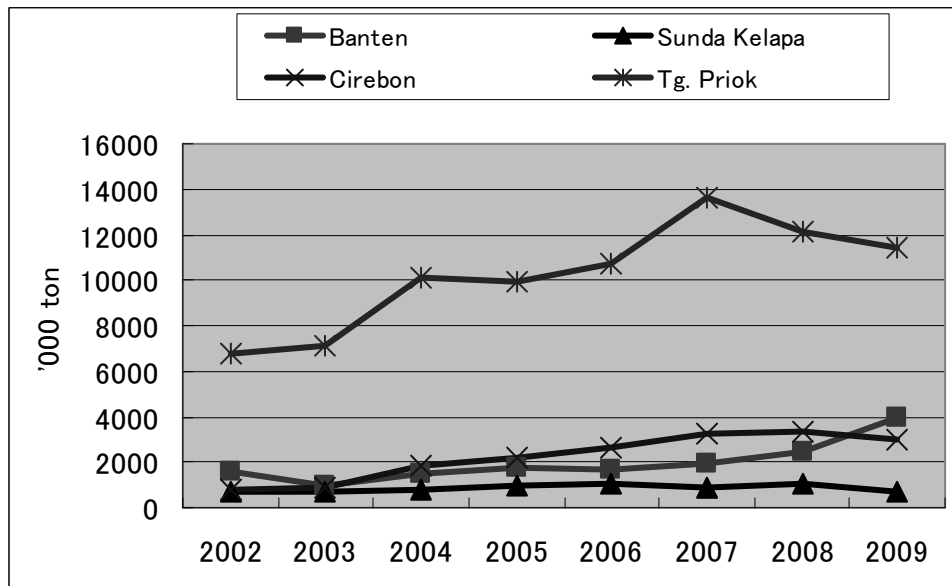
Figure 2.5-7, most likely due to the decrease of unloaded volume of the petroleum products.



Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

Figure 2.5-7 Liquid Bulk Cargo Throughput at the Study Ports

“Dry Bulk” cargoes have been handled at all the Study Ports and cargo tonnages of this package type have shown a steady increase over the past years except at Sunda Kelapa port where cargo tonnage has been rather stable. The Indonesian government made it clear that energy source in Indonesia shall shift from petroleum to coal. Therefore, cargo tonnage of “Dry Bulk” will continue to increase until the national energy policy changes.



Source: Indonesia Port Corporation II, diagrammed by JICA Study Team

Figure 2.5-8 Dry Bulk Cargo Throughput at the Study Ports

2.6 Analysis of Operational Situation of Tanjung Priok Port

2.6.1 Allocation of the Existing Port Facilities

The Wharf Area of Tanjung Priok Port to handle commercial goods is divided into seven areas as follows (see Figure 2.6-1):

- Japat River Wharf
- Island Wharf
- First Wharf
- Second Wharf
- Third Wharf
- International Container Terminal Area (JICT and KOJA)
- Bulk Cargo Area (Petroleum, Grains)

Berth names, their dimensions and port cargoes handled there are listed in Table 2.6-1.

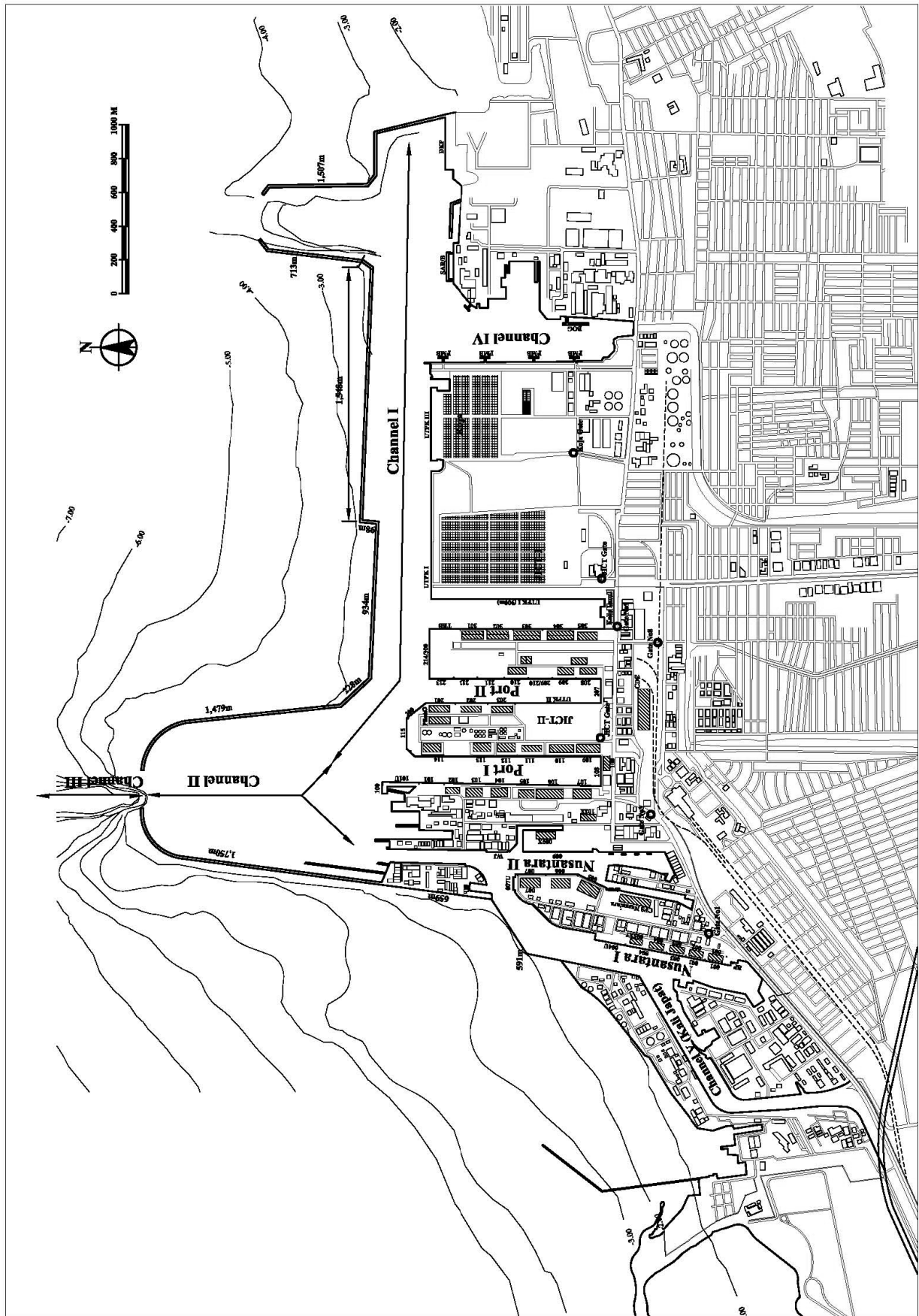


Figure 2.6-1 The Existing Port Facility Layout of Tanjung Priok Port

Table 2.6-1 Berths Allocation and Handled Cargoes at Tanjung Priok Port (1/2)

Wharf		Berth Dimension	Handled Cargoes	
Jabat River Wharf (8B)		CURAH KERING KALI JAPAT(2B)	Sand	
		SINDULANG HONDOT P (2B)	Sand, Coal	
		EKANURI KJ4 (4B)	Sand	
Island Wharf	West (8B)	KADE 001	Coal, General Cargo, Bagged Cement	
		KADE 001/002		
		KADE 002		
		KADE 002/003		
		KADE 003		
		KADE 004 (2B)		
	KADE 004U			
	Tip (2B)	DERMAGA 004.PNP	225m(-7m)	Container, Pulp, Cement
		KADE 007 UTARA	70m(-7m)	Coal, Sand, Quartz, Pulp
	East (4B)	KADE 005	180m(-7m)	Pulp, Plywood, General Cargo, Container
KADE 006 (2B)		360m(-7m)		
KADE 007				
The First Wharf	West(6B)	KADE 009 (MTI) (2B)	Container	
		KADE WALIJAYA (3B)	Coal, Sand, CPO	
		KADE 100	CPO	
	East(9B)	KADE 101	900m(-7m)	Container, General Cargo
		KADE 101 UTARA		
		KADE 102		
		KADE 103		
		KADE 104		
		KADE 104/105		
		KADE 105		
KADE 106		Passenger		
KADE 107	200m(-7m)	Vehicles (Ro-Ro)		
Bottom		KADE 108 (2B)	180m(-4m)	General Cargo
The Second Wharf	West(7B)	KADE 109	1150m(-7m)	Container, General Cargo
		KADE 110		
		KADE 111		
		KADE 112		

Source: Pelindo II

Table 2.6-1 Berths and Handled Cargoes at Tanjung Priok Port (2/2)

Wharf		Berth Dimension	Handled Cargoes	
The Second Wharf	West (7B)	KADE 113	Container, General Cargo	
		KADE 114 (2B)		
	Tip(2B)	KADE 115 (DSB) (2B)	250m(-8m)	General Cargo
	East (5B)	KADE 201	500m(-9.5m)	Container, General Cargo
		KADE 202		
		KADE 203		
	KADE UTPK II (JICT) (2B)	500m(-9.5m)	Containers	
Bottom		KADE 207	General Cargo	
The Third Wharf	West (5B)	KADE 208	1000m(-9m)	Container, General Cargo
		KADE 209		
		KADE 210		
		KADE 211		
		KADE 212 (PI) - 213 (GA)		
	MAL (1B)	KADE 214 (GAU) (MAL)	258m(-12m)	Containers
	Pelindo II	TBB		Steel Product, Scrap
	OJA (3B)	KADE 301	490m(-10m)	Domestic Containers
		KADE 302		
		KADE 303		
TSJ (2B)	KADE 304	330m(-10m)	Domestic Containers	
	KADE 305			
JICT I (7B)	UTPK.I.UTARA (JICT) (3B)		International Containers	
	UTPK I BARAT (JICT) (4B)			
KOJA (2B)	KADE UTPK III (KOJA) (2B)		International Containers	
PERTAMINA (4B)	KADE PMB II		Petroleum, Lubricant Oil, Chemical Product	
	KADE PMB III			
	KADE PMB IV			
	Ancol		LPG	
BOGASARI (2B)	SARPINDO		200m(- 14m)	Wheat
	KADE BOGASARI		160m(- 6m)	Wheat Bran
TPC	Car Terminal 2			Car
DHARMA KARYA PERDANA	KADE DKP			Chemical Product (Sulfur)
MEDCO SARANA KALIBARU	MEDCO SARANA KALIBARU			High Speed Diesel

Source: Pelindo II

2.6.2 Cargo-Handling Activities

(1) Containers

In 2009, around 3 million boxes of containers were handled at Tanjung Priok Port. Out of that amount, around 1.9 million boxes were international containers. The remaining 1.1 million boxes were domestic containers (see Table 2.6-2).

Almost all international containers were handled at Jakarta Container Terminal (JCT) containing Jakarta International Container Terminal (JICT), KOJA Terminal, MTI (Multi-Terminal Indonesia), and Mustica Alam Lestari (MAL). International containers were transhipped at JCT in the same year, though the amount was small (1.8 % of the total at JCT).

On the other hand, domestic containers were handled at conventional berths. Those domestic containers are supposed to be pure domestic containers judging from the results of interviews to Intra-Indonesia shipping lines and site observations. At those berths, conventional cargoes were also handled.

Percentages of containers transported on intra-Indonesia routes in 2009 by origin/destination port are shown in Table 2.6-3.

Table 2.6-2 Containers Handled at Tanjung Priok Port in 2009

Terminal	International										Intra-Indonesia					Total			Unit Boxes %
	Import	Export	Total	CHC	BOR	Unloading	Loading	Total	CHC	BOR	Inbound	Outbound	Total	%					
JCT	575,937	538,696	1,114,633			28,352	2,250	30,602			604,289	540,946	1,145,235	38.7%					
JICT I	573,398	536,380	1,109,778			28,352	2,250	30,602			601,750	538,630	1,140,380						
West (3 berths)	163,087	153,293	316,380	42	0.29	15,041	1,377	16,418	12	0.05	178,128	154,670	332,798						
North (3 berths)	410,311	383,087	793,398	52	0.58	13,311	873	14,184	13	0.04	423,622	383,960	807,582						
JICT II	2,539	2,316	4,855	33	0.02						2,539	2,316	4,855						
Koja (2berths)	221,125	208,067	429,192	42	0.59	932	7	939	8	0.01	222,057	208,074	430,131		14.5%				
MAL (1B)	85,552	105,489	191,041	45	0.49	94	10	104			85,646	105,499	191,145		6.5%				
MTI (1B)	54,345	67,656	122,001	31	0.04	1,857	727	2,584	9	0.03	56,202	68,383	124,585		4.2%				
Total	936,959	919,908	1,856,867			31,235	2,994	34,229			968,194	922,902	1,891,096		63.8%				
			98.2%				1.8%					100%							
DERMAGA 004.PNP						36,284	37,461	73,745			36,284	37,461	73,745						
EKA NURI						1,025	905	1,930			1,025	905	1,930						
EKANURI KJ4						988	132	1,120			988	132	1,120						
KADE 001						121	158	279			121	158	279						
KADE 003						338	22	360			338	22	360						
KADE 004						4,680	6,540	11,220			4,680	6,540	11,220						
KADE 005						1,334	100	1,434			1,334	100	1,434						
KADE 006						9,419	7,474	16,893			9,419	7,474	16,893						
KADE 007						5,190	2,436	7,626			5,190	2,436	7,626						
KADE 009 (MTI)						510	1,857	2,367			510	1,857	2,367						
KADE 100						782	580	1,362			782	580	1,362						
KADE 101						8,143	6,901	15,044			8,143	6,901	15,044						
KADE 101 UTARA						6,489	7,163	13,652			6,489	7,163	13,652						
KADE 101/102						585	585	585	9	0.29	585	-	585	36.2%					
KADE 102						13,654	11,666	25,320			13,654	11,666	25,320						
KADE 102/103						458	340	798			458	340	798						
KADE 103						26,768	27,162	53,930			26,768	27,162	53,930						
KADE 103/104						19,084	21,050	40,134			19,084	21,050	40,134						
KADE 104						18,510	21,530	40,040			18,510	21,530	40,040						
KADE 104/105						3,092	3,081	6,173			3,092	3,081	6,173						
KADE 105						18,970	21,760	40,730			18,970	21,760	40,730						
KADE 107						75	75	150			75	75	150						
KADE 108						7,087	7,055	14,142			7,087	7,055	14,142						
KADE 109						4,894	4,814	9,708			4,894	4,814	9,708						
KADE 109/110						612	695	1,307			612	695	1,307						
KADE 110						8,927	5,019	13,946			8,927	5,019	13,946						
KADE 110/111						1,298	220	1,518			1,298	220	1,518						

Source: Vessel Berthing Records provided by Pelindo 2

Terminal	International				CHC	BOR	Unloading	Loading	Total	9	0.29	Unit Boxes		
	Import	Export	Total	Inbound								Outbound	Total	
KADE 111				27,179	16,938	44,117	27,179	16,938	44,117			27,179	16,938	44,117
KADE 111/112				4,434	3,427	7,861	4,434	3,427	7,861			4,434	3,427	7,861
KADE 112				22,151	16,217	38,368	22,151	16,217	38,368			22,151	16,217	38,368
KADE 112/113				826	719	1,545	826	719	1,545			826	719	1,545
KADE 113				23,674	18,357	42,031	23,674	18,357	42,031			23,674	18,357	42,031
KADE 114				3,902	5,713	9,615	3,902	5,713	9,615			3,902	5,713	9,615
KADE 115 (DSB)				12,270	5,753	18,023	12,270	5,753	18,023			12,270	5,753	18,023
KADE 201				1,832	2,258	4,090	1,832	2,258	4,090			1,832	2,258	4,090
KADE 201/202				100	80	180	100	80	180			100	80	180
KADE 202				2,004	2,114	4,118	2,004	2,114	4,118			2,004	2,114	4,118
KADE 202/203				111	80	191	111	80	191			111	80	191
KADE 203				7,031	9,848	16,879	7,031	9,848	16,879			7,031	9,848	16,879
KADE 207				70	760	830	70	760	830			70	760	830
KADE 208				15,685	25,722	41,407	15,685	25,722	41,407			15,685	25,722	41,407
KADE 208/209				225	374	599	225	374	599			225	374	599
KADE 209				30,258	46,715	76,973	30,258	46,715	76,973			30,258	46,715	76,973
KADE 209/210				4,432	9,069	13,501	4,432	9,069	13,501			4,432	9,069	13,501
KADE 210				2,204	1,653	3,857	2,204	1,653	3,857			2,204	1,653	3,857
KADE 211				3,024	4,220	7,244	3,024	4,220	7,244			3,024	4,220	7,244
KADE 212 (PT)				6,782	18,325	25,107	6,782	18,325	25,107			6,782	18,325	25,107
KADE 212/213				61	1,745	1,806	61	1,745	1,806			61	1,745	1,806
KADE 213 (GA)				3,227	7,939	11,166	3,227	7,939	11,166			3,227	7,939	11,166
KADE 301				51,554	60,024	111,578	51,554	60,024	111,578			51,554	60,024	111,578
KADE 301/302				1,276	546	1,822	1,276	546	1,822			1,276	546	1,822
KADE 302				34,955	33,473	68,428	34,955	33,473	68,428			34,955	33,473	68,428
KADE 302/303				1,135	1,940	3,075	1,135	1,940	3,075			1,135	1,940	3,075
KADE 303	127		127	5,363	5,795	11,158	5,363	5,795	11,158			5,490	5,795	11,285
KADE 303/304	1,163	5,141	6,304	2,519	6,435	8,954	2,519	6,435	8,954			3,682	11,576	15,258
KADE 304				4,123	6,544	10,667	4,123	6,544	10,667			4,123	6,544	10,667
KADE 304/305	238	4,859	5,097	5,135	14,618	19,753	5,135	14,618	19,753			5,373	19,477	24,850
KADE 305	643	450	1,093	18,171	38,426	56,597	18,171	38,426	56,597			18,814	38,876	57,690
TBB		173	173	602	751	1,353	602	751	1,353			602	924	1,526
Total	2,171	10,623	12,794	495,632	562,774	1,058,406	495,632	562,774	1,058,406			497,803	573,397	1,071,200
		1.2%			98.8%								100%	
Grand Total	939,130	930,531	1,869,661	526,867	565,768	1,092,635	526,867	565,768	1,092,635			1,465,997	1,496,299	2,962,296
		63.1%			36.9%								100.0%	

Source: Vessel Berthing Records provided by Pelindo 2

Table 2.6-3 Percentage of Containers Transported in Intra-Indonesia Routes in 2009

Area	Port	%
Sumatra	BELAWAN/MES	22.7%
	JAMBI	1.2%
	PADANG	1.0%
	PAKAN BARU	6.1%
	PANJANG	0.9%
	TELUK LINAU	3.6%
	Sub-total	35.5%
Batam Island	BATAM	4.1%
Plaubangka Island	PANGKAL BALAM	2.6%
Kalimantan	BANJARMASIN/KALSEL	13.0%
	PONTIANAK	9.4%
	SAMARINDA	4.2%
	Sub-total	51.1%
Sulawesi	BITUNG	7.1%
	MAKASSAR/U.PANDANG	12.4%
	Sub-total	19.5%
Papua	AMAPARE/INA	1.4%
	JAYAPURA/PAPUA	1.2%
	SORONG/PAPUA	0.9%
	Sub-total	3.5%
Jawa	SURABAYA	4.9%
Others		3.2%
Total		100.0%

Note: Sorted by the names of last ports.

Source: Sorted by the Study Team using data provided by Pelindo 2

(2) Conventional (Non-container) Cargoes

Conventional cargoes handled at Tanjung Priok Port are shown in Table 2.6-4. Petroleum products, coal, iron & steel products, cement, wheat, sand, vegetable oil (CPO) and clinker were the major commodities.

Table 2.6-4 Conventional Cargoes Handled at Tanjung Priok Port in 2009

Cargo Item	Units	Import and Domestic Unloading			Export and Domestic Loading			Total	
		International	Domestic	Sub-total	International	Intra-Indonesia	Sub-total		
Vehicle	units	90,348	14,553	104,901	62,632	102,881	165,513	270,414	
Cattle	Heads	370,847		370,847				370,847	
Wheat	MT	1,941,612	395	1,942,007		12,796	12,796	1,954,803	7.3%
flour	MT			-	61,242		61,242	61,242	
rice	MT	74,758	3,300	78,058				78,058	
rice bran	MT			-	226,300	9,000	235,300	235,300	
Sand	MT	80,961	1,774,600	1,855,561				1,855,561	7.0%
Construction material	MT			-	4,552		4,552	4,552	
Lumber	MT	4,017		4,017				4,017	
Cement	MT	2,044	823,316	825,360	541,572	1,440,538	1,982,110	2,807,470	10.5%
Clinker	MT			-	1,357,900	1,950	1,359,850	1,359,850	5.1%
Gypsum	MT	549,586	62,541	612,127				612,127	2.3%
Sulfur	MT	185,115		185,115				185,115	
Coal	MT		3,219,781	3,219,781				3,219,781	12.1%
Mineral	MT	16,822	112,552	129,374				129,374	
Quartz sand	MT	119,500		119,500				119,500	
Slag	MT	47,686		47,686				47,686	
Salt	MT	44,100		44,100				44,100	
Fertilizer	MT	23,955	1,000	24,955	6,900	32,952	39,852	64,807	
Maize	MT	16,500		16,500				16,500	
Petroleum products	MT	2,293,437	1,959,439	4,252,876	57,130	73,329	130,459	4,383,335	16.5%
LPG	MT	786,677		786,677				786,677	3.0%
Lubricant oil	MT	183,262		183,262				183,262	
Chemical product	MT	611,418	199,999	811,417				811,417	3.0%
Vegetable oil	MT	5,010	1,584,302	1,589,312	35,760		35,760	1,625,072	6.1%
Vegetable fats	MT	10,402		10,402	18,251	29,950	48,201	58,603	
Bo-diesel	MT	41,097		41,097				41,097	
Iron and steel product	MT	2,441,264	5,759	2,447,023	225,555	143,838	369,393	2,816,416	10.6%
Aluminium	MT	42,738	65,626	108,364				108,364	
Scrap	MT	255,795	6,725	262,520				262,520	
Pulp	MT	202,410	667,560	869,970				869,970	3.3%
GC	MT	114,161	66,404	180,565	83,774	416,637	500,411	680,976	2.6%
GC + CNT	MT	176,468	72,610	249,078	85,692	228,318	314,010	563,088	2.1%
GC + cement	MT			-	84,126		84,126	84,126	
Project material	MT			-	2,638	12,397	15,035	15,035	
Machinery and equipment	MT	51,653	34,403	86,056	8,124	90,375	98,499	184,555	
Parts and components	MT			-	2,887	5,586	8,473	8,473	
Plywood and particleboard	MT	11,076	122,569	133,645				133,645	
Textile	MT			-	62,200		62,200	62,200	
miscellaneous	MT	24,082	107,347	131,429	2,200	8,861	11,061	142,490	
Frozen fish	MT	941		941				941	
Total excluding non-MT units	MT	10,358,547	10,890,228	21,248,775	2,866,803	2,506,527	5,373,330	26,622,104	91.5%

Note: Containers: Intra-Indonesian Islands
Source: Vessel Berthing Records provided by Pelindo 2

(3) Records of Container Vessels Calling at Tanjung Priok Port

Records of container vessels calling at Tanjung Priok Port are shown in Table 2.6-5. The largest ship size was Post-Panamax type called at KOJA Terminal. The principal dimensions are as follows:

DWT: 61,428 DWT,
TEU Capacity: 4,469 TEUs,
LOA: 276 m
Beam: 37m
Summer Draft: 13.6 m

Average container number at JCT: around 1,000 boxes

Table 2.6-5 Samples of Container Ships Calling at Tanjung Priok Port and Average Container Numbers per Ship in 2009

Terminal			Intra-Indonesia/ International	Average Number (Boxes /vessel)	Sizes of the Sample Large Vessels							
					DWT	TEUs	LOA (m)	Beam (m)	Summer Draft (m)	Entering Draft (m)		
JCT	West	Intra-Indonesia	66	15,428	818	145.7	25.0	8.8	7.5			
				12,568	1,012	149.6	22.6	8.3	8.1			
		International	783	34,194	2,266	218.0	32.2	11.5	10.5			
				33,917	2,452	199.9	29.8	11.6	10.1			
				33,838	2,468	208.0	29.8	11.4	10.0			
				44,239	3,398	222.5	32.2	12.0	11.1			
	JICT I	North	International	971	44,234	3,388	222.5	32.2	12.0	11.5		
					44,006	2,986	241.5	32.2	11.7	9.0		
					43,401	2,728	230.8	32.3	11.6	9.8		
					43,198	2,728	230.8	32.2	11.6	9.8		
					42,141	3,534	231.0	32.2	12.0	11.5		
					42,019	3,554	231.0	32.2	12.0	10.2		
					39,426	2,824	222.2	30.0	12.0	9.7		
					39,382	2,824	222.2	30.0	12.0	8.8		
					38,882	2,742	221.6	29.8	11.4	11.2		
					34,439	2,554	208.9	29.8	11.6	9.1		
					34,194	2,266	218.0	32.2	11.5	9.5		
					32,953	1,944	211.0	32.2	11.6	11.0		
					Koja	International	917	61,428	4,469	276.0	37.2	13.6
	59,283	4,230	292.2	32.2				13.0	11.2			
	54,327	4,380	260.3	32.2				12.6	10.3			
	53,765	3,876	269.8	32.3				13.0	12.0			
	49,217	2,976	258.5	32.3				13.2	12.0			
	47,120	3,007	237.0	32.2				12.0	12.0			
	45,696	2,680	216.2	32.2				12.5	12.0			
	38,492	2,314	234.0	33.3				13.5	12.0			
	38,485	2,314	234.0	32.3				12.5	10.5			
	37,852	2,328	237.9	30.6				12.3	11.0			
	30,714	2,450	222.0	32.2				11.5	11.8			
	17,732	1,177	164.0	26.0				8.9	7.2			
	Mustica Alam Lestari (MAL)	International	1,011	23,247				1,740	175.5	27.4	10.9	9.9
				23,500				1,740	175.5	27.4	10.9	7.7
				18,480	1,284	166.2	25.0	9.5	8.2			
19,309				1,618	181.8	28.0	9.0	9.2				
Multi-Terminal Indonesia	International	615	22,340	1,600	168.4	27.0	10.8	8.4				
			17,852	1,032	162.0	25.6	9.5	6.7				
Conventional Berths (42berths)	Intra-Indonesia	298	22,210	1,380	186.1	27.6	9.5	3.5				
			19,710	1,164	172.4	25.4	10.4	3.5				
			14,495	812	148.4	22.8	8.3	6.8				

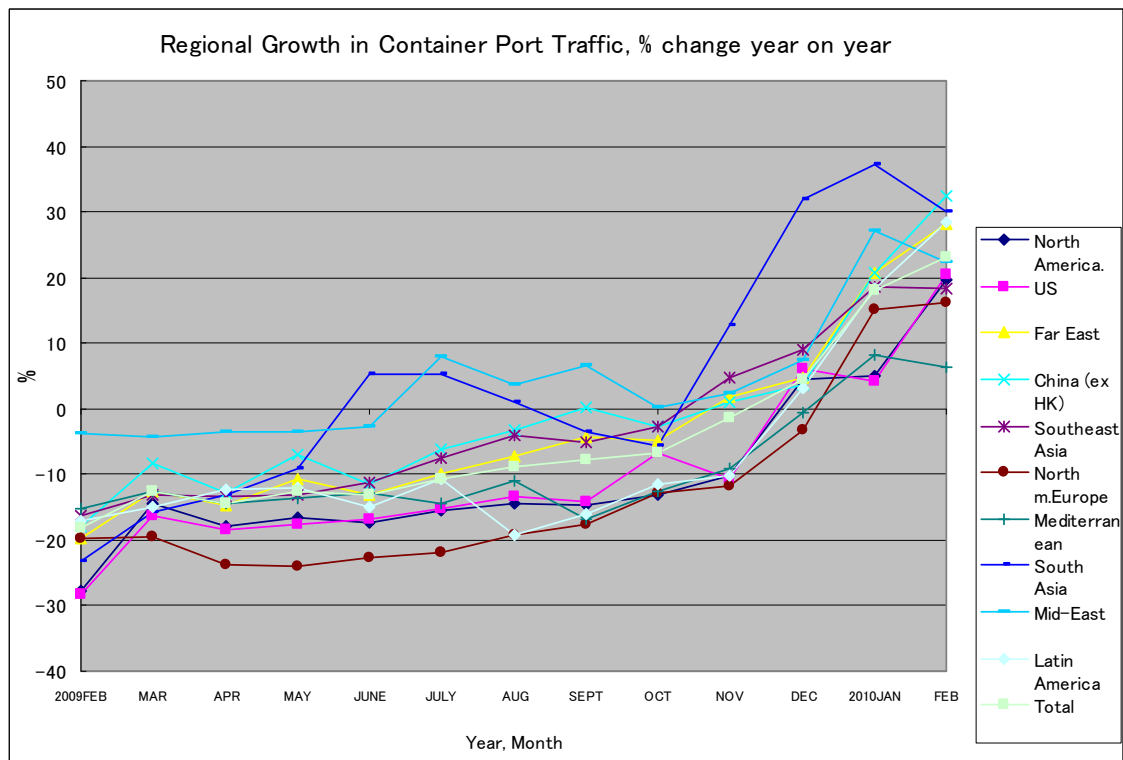
Source: Vessel Berthing Records provided by Pelindo 2 and Fairplay as to Ship Dimensions

2.7 Analysis of Trends of International Maritime Transport including Container Transshipment Centering on Indonesia

2.7.1 Overview of Indonesian Maritime Transport Scene

(1) Aftermath of Worldwide Financial Crisis

The World-wide financial crisis began with the bankruptcy of Lehman Brothers in September 2008 and is still ongoing. Further, a new financial crisis caused by the uncertain financial situation in Greece is becoming another heavy threat to EU countries as well as the rest of the world. Under these circumstances, although it is still too early to predict the future of the world economy and world traffic in the short term, a slightly encouraging tendency is observed in the field of ocean going containers throughput. A recovery of container throughput in major regions can be seen in Figure 2.7.1-1.



Source Drewry, JICA Study Team

Figure 2.7.1-1 Recovery of Container Throughput from Lehman Brothers' Shock

This figure shows 'year on year percentage change' of world port traffic in major regions. Around September 2009, approximately one year after the Shock, throughput in the main regions had turned into plus figure from minus. The throughput of Southeast Asia (x line in brown) turned into plus in July 2009, along with China and South Asia. They were the first group to recover.

All regions suffered a heavy blow as a result of the crisis until last June/July without any exceptions. During the bottom period of the crisis, the throughput in all regions decreased heavily, around 10 to 20 % of the previous year, 2008.

(2) Relation between Container Throughput and GDP

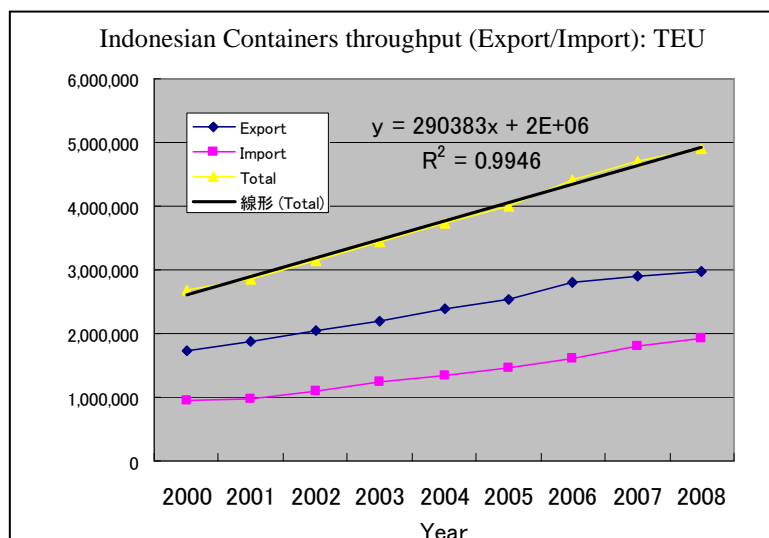
Prior to the crisis, the Indonesian Economy was on a good growth path as is shown in Figure 2.7.1-2. The correlation between GDP and container numbers is very strong. GDP fell sharply in the year 2000 from 5% to 4% due to the financial confusion in Asia. Import was restricted in 2001, but export continued to increase.



Source: Table 2.7.1-1. and 2.

Figure 2.7.1-2 Container Number/GDP

The official statistics of 2009 for container (either throughput or actual numbers) are not available yet, but it is safely forecasted that the figure will decrease about 10 to 15% compared to the previous year. The same can be said with Figure 2.7.1-3 which shows the total throughput number in yellow. The linear formula shows: $y = 290383x + 2E+06$ and $R^2 = 0.9946$. The total number was in line with the same tendency of Import and Export containers. If this trend were to continue for the coming years, it would be easier to forecast container in the future but the numbers are skewed because of the financial crisis.



Source: Table 2.7.1-1

Figure 2.7.1-3 Indonesian Container Numbers (2000/2008)

However, it is clearly shown in the above Table that the containers (Export, Import and Total) of Indonesia will continue to increase after the economic recovery in 2009/2010. The above outlook is based on the constant growth of the Indonesian economy in the last nine years and the perpetual population increase. The basic data for the foregoing figures except Figure 2.7.1-1 are shown in the Table 2.7.1-1 and Table 2.7.1-2.

Table 2.7.1-1 Container Change by Origin/Destination (Actual Container Basis)

Origin-Indonesia	Unit: TEU						
	Africa	Asia Pacific	Europe	Latin America	M. East & South Asia	North America	Destination
2000	44,969	989,417	300,402	32,513	149,950	217,673	1,734,924
2001	47,413	1,099,440	328,914	34,016	160,871	216,580	1,887,235
2002	49,071	1,211,652	339,912	35,883	175,363	236,547	2,048,428
2003	62,433	1,318,365	358,535	37,568	201,542	227,614	2,206,056
2004	65,091	1,427,883	373,605	42,578	220,825	249,028	2,379,010
2005	72,333	1,505,033	394,222	45,851	248,658	269,391	2,535,489
2006	81,876	1,679,889	419,705	54,060	281,300	281,839	2,798,668
2007	85,927	1,743,159	431,749	55,815	307,338	279,691	2,903,678
2008	92,196	1,795,891	439,016	56,296	321,830	269,134	2,974,363
Dest.-Indonesia	TEU						
	Africa	Asia Pacific	Europe	Latin America	M. East & South Asia	North America	Origin
2000	8,565	602,193	180,196	21,690	24,628	118,367	955,638
2001	9,029	642,187	176,850	21,988	27,310	98,598	975,962
2002	9,045	722,456	195,527	28,616	30,750	111,711	1,098,104
2003	10,841	829,282	203,124	36,458	40,110	112,698	1,232,514
2004	12,854	902,594	212,132	38,112	42,553	132,833	1,341,079
2005	11,943	988,160	223,086	40,604	42,584	149,142	1,455,519
2006	15,720	1,107,497	234,531	49,281	54,925	141,565	1,603,520
2007	16,321	1,276,044	225,427	51,529	62,944	175,412	1,807,677
2008	17,353	1,346,121	230,076	52,469	70,862	201,996	1,918,877

Source: Seabury, OCIDI

The total number of the actual container number in Table 2.7.1-1 is 4,893,240 TEU in the year of 2008:

- Export Containers 2,974,363 TEU
- Import Containers 1,918,877 TEU
- Total Containers in 2008 4,893,240 TEU

There is a difference between “Actual Container Figure” and “Container Throughput Figure.” The concept of “Throughput” is widely used at container terminals site and most of the container statistics are on a “throughput basis”, while “Actual Container” is used mostly in official statistics based on customs documents.

Table 2.7.1-2 Container Change % by Origin/Destination (Actual Number Basis)

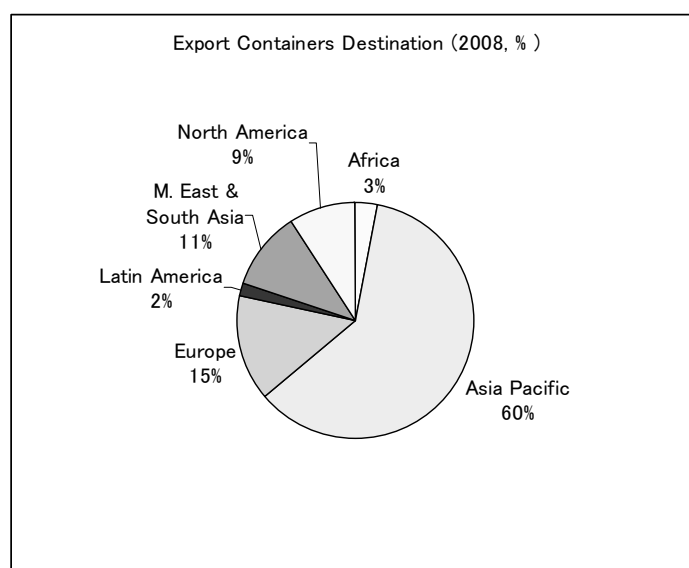
Origin-Indonesia		y.o.y.growth %						Destination
Year	Africa	Asia Pacific	Europe	Latin America	M. East & South Asia	North America		
2000								
2001								
2002		5.4%	11.1%	9.5%	4.6%	7.3%	-0.5%	8.8%
2003		3.5%	10.2%	3.3%	5.5%	9.0%	9.2%	8.5%
2004		27.2%	8.8%	5.5%	4.7%	14.9%	-3.8%	7.7%
2005		4.3%	8.3%	4.2%	13.3%	9.6%	9.4%	7.8%
2006		11.1%	5.4%	5.5%	7.7%	12.6%	8.2%	6.6%
2007		13.2%	11.6%	6.5%	17.9%	13.1%	4.6%	10.4%
2008		4.9%	3.8%	2.9%	3.2%	9.3%	-0.8%	3.8%
		7.3%	3.0%	1.7%	0.9%	4.7%	-3.8%	2.4%
Dest.-Indonesia		y.o.y.growth %						Origin
Year	Africa	Asia Pacific	Europe	Latin America	M. East & South Asia	North America		
2000								
2001								
2002		5.4%	6.6%	-1.9%	1.4%	10.9%	-16.7%	2.1%
2003		0.2%	12.5%	10.6%	30.1%	12.6%	13.3%	12.5%
2004		19.9%	14.8%	3.9%	27.4%	30.4%	0.9%	12.2%
2005		18.6%	8.8%	4.4%	4.5%	6.1%	17.9%	8.8%
2006		-7.1%	9.5%	5.2%	6.5%	0.1%	12.3%	8.5%
2007		31.6%	12.1%	5.1%	21.4%	29.0%	-5.1%	10.2%
2008		3.8%	15.2%	-3.9%	4.6%	14.6%	23.9%	12.7%
		6.3%	5.5%	2.1%	1.8%	12.6%	15.2%	6.2%

Source:Seabury, OCDI

(3) Cargo Origin Countries/Cargo Destination Countries

We have seen the recent total container numbers of Indonesia concentrating on the change caused by the world financial crisis. Now, let's proceed to analyze the origin and destination of containers. The basic data is shown in Table 2.7.1-1. .

Figure 2.7.1-4 is a breakdown of cargo destination of export containers from Indonesia. The largest portion of the export containers is destined to Asian Pacific Countries. Full 60% of Export containers from Indonesia are for those countries.



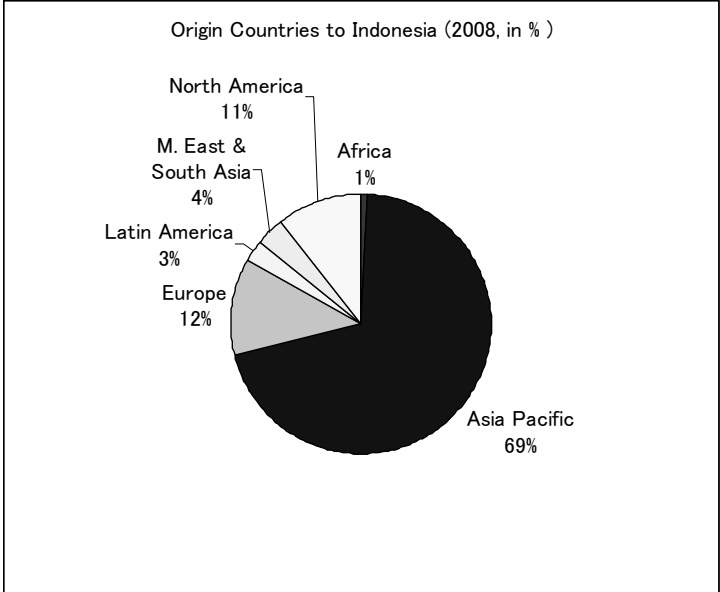
Source: Table 2.7.1-1., JICA Study Team

Figure 2.7.1-4 Share of Cargo Destination Countries from Indonesia

When containers exported to the Middle East and South Asian countries are added, the total number of the export containers to those area exceeds 70 % of the total export containers from Indonesia. It is worth noting that less than 10% of the total containers are exported to North America.

The same tendency is observed in import (see Figure 2.7.1-5 which shows a breakdown by Origin Countries of Import containers to Indonesia). Almost 70% of the total containers are from the Asian Pacific Region. The large share of both export and import shows that Indonesia is part of the Asian Pacific Region and very closely connected with ASEAN Countries.

It is worth remembering when an analysis of port function is carried out that emphasis should be placed on Intra-ASEAN Trade. In other words, a major responsibility of Indonesian ports is to load and unload cargo to/from nearby countries smoothly. Containers to/from far-away countries like North America or Latin America account for only a minor percentage.



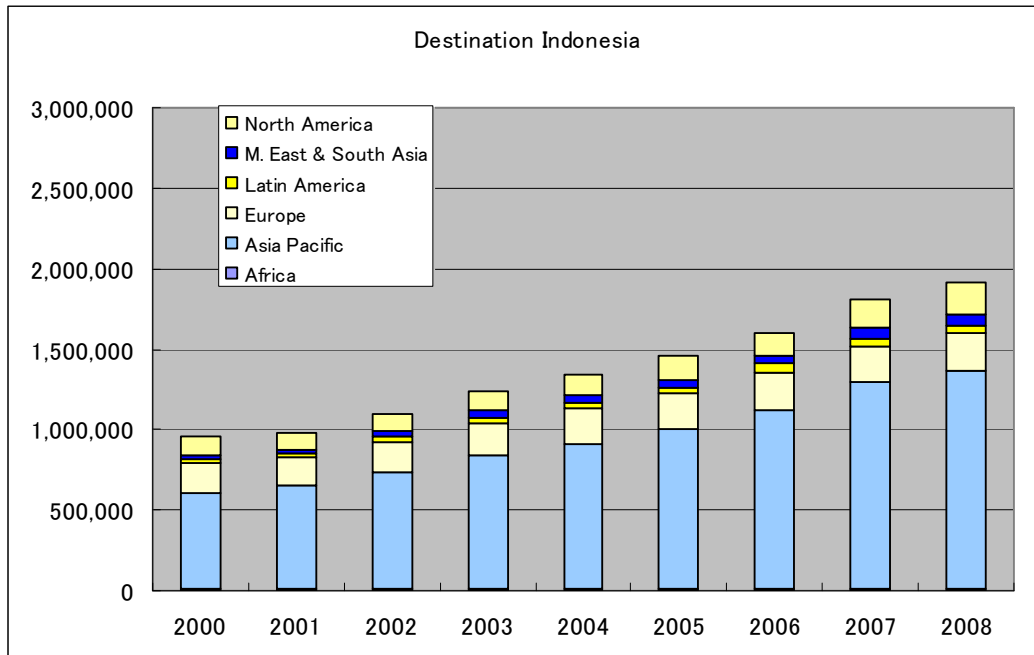
Source : Table 2.7.1-1., JICA Study Team

Figure 2.7.1-5 Share of Cargo Origin Countries to Indonesia

Intra-ASEAN trade is dominant and this trend has remained steady since 2000.

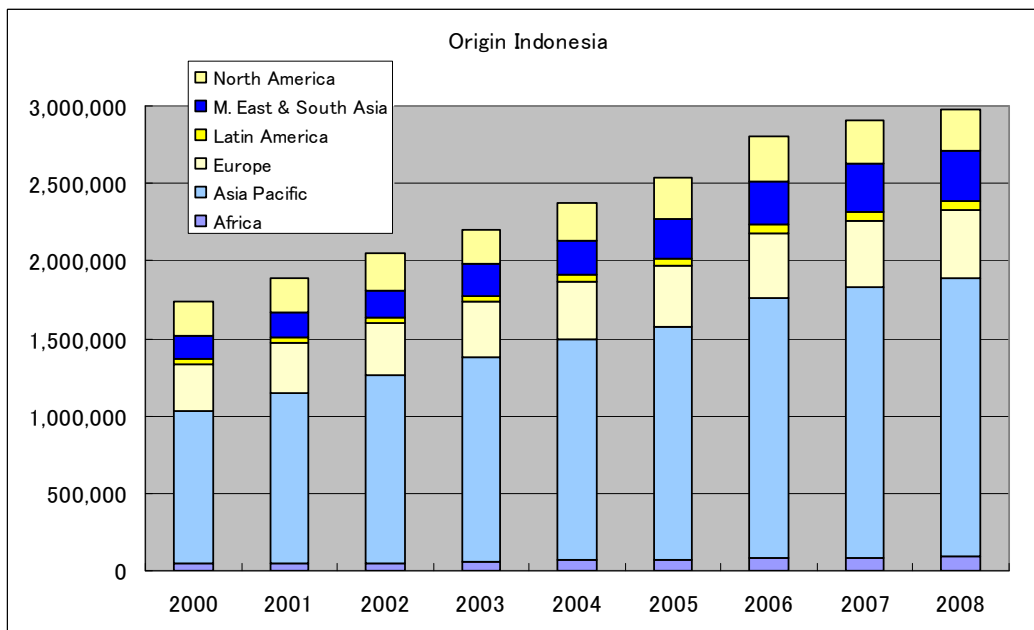
Figure 2.7.1-6 and Figure 2.7.1-7 clearly show the predominance of Intra-ASEAN Trade in Indonesia’s economy. In Figure 2.7.1-6 the share of the Intra-ASEAN Trade is constantly increasing since 2000, while the other origin region such as North America, Europe, and Latin America remain at more or less the same level. The share of the Middle East and South Asia is increasing substantially.

In a container system, export and import are prone to have similar trend. Figure 2.7.1-7 shows the Export trend is similar to the share of the Import.



Source : Seabury, OCIDI

Figure 2.7.1-6 Annual Change in Destination Countries from Indonesia (2000/2008,TEU)



Source: Seabury, OCIDI

Figure 2.7.1-7 Annual Change in Origin Countries from Indonesia (2000/2008,TEU)

2.7.2 Overview of Indonesian Ports

As previously mentioned, Indonesia is quite closely connected with ASEAN countries.

The fundamental ASEAN network ports of Indonesia are Belawan, Dumai, Tanjung Priok, Palembang, Pontianak, Tanjung Perak, Tanjung Emas, Makassar, Balikpapan, Bitung, Jayapura, Sorong, and Banjarmasin (OCDI Report 2002).

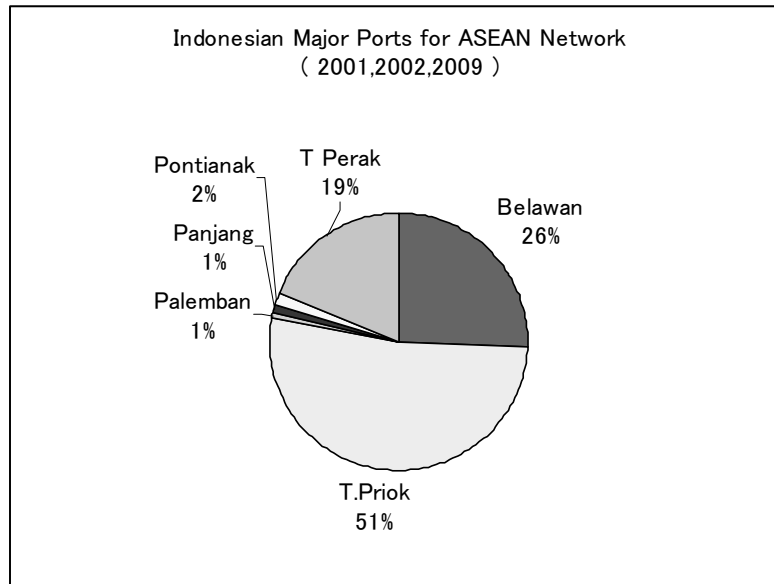
Table 2.7.2-1 Indonesian ASEAN Network Ports – Cargo Capacity

Port	Owner	Cargo Function (1)					Trade		Main Cargo
		C	DB	LB	GC	P	Totalvol ton (year)	Total TEU (yr)	
Belawan	Pelindo I	*	*	*	*	*		1.9m (2001)	Fertilizer, garlic, iron, Palm oil, pulp, rubber, Soya bean meal, vegetable
Dumai	Perindo I				*	*	4m t, 5750 calls(2000)		Liquid bulk, palm oil,
T.Priok	Perindo II	*	*	*	*	*		3.9m (2009)	Wide range of commodities. Two terminals (JICT/Koja)
Palemban	Perindo II	*	*	*	*			46,000 (2009)	Ammonia, coal, coffee, Construction mats, rubber, Timber, fertilizer,
Panjang	Perindo II	*			*			76,000 (2002)	
Pontianak	Perindo II	*			*	*		112,200 (2002)	Frozen seafoods, plywood, sawn timber,pepper,
T Perak	Perindo III	*	*	*	*	*		1.4m (2002)	Wide range commodities, Terminal operator (DWorld)
T Emas	Perindo III	*			*	*			Furniture, garment, molasses Particle board, plywood, Cotton, seafood, steel scrap, Textile,
Makassar	Perindo IV	*			*	*			Cocoa, heavy industrial equip. Molasses, plywood, rice, wheat
Balikpapan	Perindo IV	*		*	*	*	2.9m t (2003)		Wide range of commodities
Bitung	Perindo IV	*			*	*	1.3m t (1999)		
Jayapura	Perindo IV			*	*	*	295,443 t (1999)		
Sorong	Perindo IV				*	*	240,482 t (1999)		Crude oil, plywood, rubber, sugar
Banjarmarsin	Perindo III	*			*	*			
Container Total								7.424	

(1) Cargo Function: C=Container, DB=Dry Bulk, LB=Liquid Bulk, GC=General Cargo, P=Passenger

Source: PDP Australia/Meyrick and Associates, ASEAN Indonesia Country Report

In the above Table, six major container ports are shadowed in light blue. Containers handled at each port are recorded on a throughput basis and include categories such as export/import, domestic/international, direct or transshipment. Thus, the Table cannot be used to find out the exact number of containers of any particular category.



Source: Table 2.7.1-1

Figure 2.7.2-1 Indonesian Major Ports Share (%)

Under the current Shipping Law No. 21/1992, ports in Indonesia are categorized into two types: public ports and special ports. Public ports are developed to serve common users, while special ports are developed and used by specific industries such as manufacturing, forestry, fisheries, mining, tourism etc. In 2000, it was reported that Indonesia had 656 public ports and 1,233 special ports (Indonesia Government Statistics).

Among the six major container ports, Tanjung Priok port is by far the biggest sharing about half of the nation's total container throughput. Second largest port is Belawan, Medan's port. Medan is the capital of North Sumatra province on the Deli River. The port was initially built in 1890 and a major re-structuring in 1985 saw the construction of a container terminal. Port of Medan is now handling about one fifth of Indonesia's containerized export. (Note: Belawan is usually listed as the third port in terms of container throughput but this is due to inaccurate statistics.)

Tanjung Perak is the third. Generally, this port is considered as the second largest container port in Indonesia. However, due to incomplete statistics system, rankings varies by organization.

The port of Tanjung Perak is located in the city of Surabaya. The strategic location of this port makes it one of the important ports in eastern Indonesia. This port also has a liaison function with the city of Surabaya and other cities in Indonesia.

The container throughput of the six ports totals 7.424 TEU. The parity between "Container Throughput" and "Actual Number of Containers" is 1.517 (7.424 TEU/4.892TEU =1.517). Generally, the all round parity between these two figures is around 4.4 as shown in the Table below:

Table 2.7.2-2 World Parity between “Container Throughput” and “Actual Numbers”

Year	World Throughput (TEU)	Actual Container Numbers (TEU)	Parity
2000	231,689,448	52,786,000	4.389
2001	236,698,406	55,676,000	4.251
2002	266,337,242	60,854,000	4.377
2003	303,108,850	74,721,000	4.057
2004	351,059,774	82,689,000	4.246
2005	391,882,766	83,500,000	4.693
2006	429,802,292	92,687,250	4.637
7 years total	2,210,578,778	502,913,250	
7 year average	315,797,000	71,845,000	4.396

Source: Throughput → Containerization International Yearbook, Actual Number → Business Administration Department, Mitsui OSK Lines

The world wide round throughput is a both-way figure (loading at export port and unloading at destination port). The throughput figure also contains transshipment figures. Thus, it has been usually divided by 2 neglecting transshipment figures in the past. Recently, because of the increase in transshipment operation, the parity is considered more than two, depending on the transshipment peculiarity of each country.

$$4.892 \text{ TEU (actual container)} \times 2.0 = 9.784 \text{ TEU (container throughput basis figure)}$$

The world average of transshipment throughput parity is about 0.27 for the past 5 years (source: OCDI study). Assuming the transshipment parity for Indonesia as 0.10 taking the trend of transshipment both international and domestic being smaller into account, the average container throughput for the past few years can be calculated as below:

$$\begin{aligned} [9.784 \text{ m TEU} \times 0.9] - 7.424 \text{ m TEU (throughput of 6 ports)} \\ = 8.806 \text{ m TEU} - 7.424 \text{ m TEU} \\ = 1.382 \text{ m TEU} \end{aligned}$$

The balance of the throughput is 1.382 million TEU and is believed to be a ghost figure which does not appear in the official or unofficial statistics. In other words, because of the insufficient statistical system of Indonesia, container throughput of about 1.0 to 1.5 million TEU goes missing or unrecorded.

2.7.3 Shipping Lines Serving Indonesia

The three major container ports of Indonesia, namely Tanjung Priok, Belawan and Tanjung Perak are more or less independent because of the geographical location of each port. It is difficult for any shipping line to deploy only one vessel to cover all these three ports.

As a result, the way of routing of vessels is divided into two. One is direct calling at Tanjung Priok by comparatively larger ships and the other is direct calling at Belawan or Tanjung Perak by smaller size ships.

Sources of information gathering are:

- On-line Jakarta Shipping Gazette
- Interview (including telephone interview) with major shipping lines in Jakarta (or regional head quarter in Singapore or Hong Kong)
- Publications of international maritime consultants such as Drewry, Containerization International.

(1) International Service via Singapore

The following shipping lines are serving Jakarta (Container Terminals: JICT, KOJA, T100, T300, JICT & KOJA) basically with feeder vessels (ship size varies from 1,000 TEU to 1,500 TEU)

APL,

CMA-CGM

Evergreen-Uniglory

Maersk

MISK

MOL (Mitsui O. S K .Line)

NYK(TSK Line)

PIL (Pacific Inter-ocean Line)

RCL (Regional Container Line)

SAMUDERA Indonesia

Wan Hai Lines (WHL)

Yang Ming Line

To illustrate the vessel scheduling of the shipping lines serving Indonesia, one of the major lines is picked up for study.

(Sample Data of MOL Service from Indonesia , Japanese Line's Case)

Service Ports in Indonesia by MOL (Export and Import) are as follows:

Jakarta (Tanjung Priok)

Surabaya (Tanjung Perak)

Semarang

Medan (Belawan)

Pangjang

Palembang

i) New Vietnam Service (once in three days)

feeder	voy	berth	stacking	cut off	CY close	ETD JKT	ETA SPR	Mother vessel	ETD SPR	ETA Destination
A	080	JICT	5/12	5/14	5/15	5/16	5/18	VN 08N	5/20	HCMC 5/22
B	0011N	KOJA	16 Jun	18 Jun	19Jun	20 Jun	22 Jun	VM 12N	24 Jun	30 Jun

ii) North Europe Service (two times per week)

A	081	T 100	5/16	5/19	5/19	5/21	5/23	32W19	5/31	HBG 6/19 ANT 6/22
B	HTA 730	JICT	5/16	5/19	5/19	5/21	5/23			
C	007N	KOJA	5/19	5/21	5/22	5/23	5/25			

iii) Indonesia/Japan Service (three times per week)

A	HTA 730	JICT	5/16	5/19	5/19	5/21	5/23	19-117	5/30	TOKYO 6/7
B	0007H	KOJA	5/18	5/21	5/23	5/23	5/25	098N	5/30	OSAKA 6/07

iv) Indonesia/Kyushu Service (three times per week)

A	0007N	KOJA	5/18	5/21	5/22	5/23	5/25	007E	6/1	HAKATA 6/15
B	082	T 300	5/23	5/26	5/26	5/27	5/29			

v) West Coast US Service (weekly)

A	008N	KOJA	5/25	5/28	5/29	5/30	6/01	008E	6/1-3	LAX 6/22
B	009N	UTC3	6/01	6/04	6/05	6/06	6/08	187E	6-08-10	6/29

vi) West Coast Express via Singapore/Yentien Service (three times per week)

A	004N	UTC3	4/27	4/30	5/01	5/03	5/05	5/9-11 ETA 2 ND port 5/16	ETD Yentien 5-18	ETA LAX 6/04
B	034N	T300	4/29	5/01	5/02	5/03	5/05			
C	HTA 726	JICT	5/02	5/05	5/05	5/07	5/09			

vii) US East Coast via Suez Service (weekly)

A	008N	UTC3	5/25	5/28	5/29	5/30	6/01	123W	6/2-4	ETA NY 6/28
B	009N	UTC3	6/01	6/04	6/05	6/06	6/08	168W	6/9-11	7/05

viii) US East Coast Express via Panama Service (weekly)

A	004N	UTC3	2/24	2/26	2/27	2/28	3/05	005E	HKG 3/08	ETA NY 4/02
B	018N	UTC3	3/03	3/06	3/06	3/07	3/12			

ix) West Africa Service (weekly)

A	0007N	KOJA Or UTC3	5/18	5/21	5/22	5/23	5/25	0014A ETA 2 ND Port 6/16	ETD TNG 6/20	ETA DKR 6/23
B	0008N	KOJA or UTC3	5/23	5/28	5/29	5/30	6/01	051W	7/04	7/07

x) New Zealand Express Service (weekly)

A	0007H	JICT	5/18	5/21	5/22	5/23	5/25	019	6/01	AKL 6/13
B	0008N	JICT	5/25	5/28	5/29	5/30	6/01	253	6/08	6/20

xi) Caribbean Manaus via Panama Express Service (weekly)

A	0006N	KOJA	5/11	5/14	5/15	5/16	5/18	19176 ETA HK 5/27 2 ND ETD 5/29	ETA MIT* 6/21 3 RD ETD MIT 6/24	ETA MAO 7/05
B	0007N	KOJA	5/18	5/21	5/22	5/23	5/25	6/05	6/28	7/12

Remarks: MIT :Manzanillo, MAO :Manaus

xii) Singapore Madras Express Service (weekly)

A	0007N	KOJA or UTC3	5/18	5/21	5/22	5/23	5/25	807W	5/27	ETA SMX* 6/01
B	0008N	KOJA or UTC3	5/25	5/28	5/29	5/30	6/01	106809	6/03	6/08

Remarks : SMX :Chennai (Madras)

xiii) Nhavasheva /Karachi Service (weekly)

A	0007N	JICT	5/18	5/21	5/22	5/23	5/25	016W	5/29	ETA NSA 6/04
B	0008N	JICT	5/25	5/28	5/29	5/30	6/01	033W	6/05	6/11

Remarks: NSA Nhavasheva
* Mediterranean Service is omitted

The above detailed schedule has been summarized for easy reference:

Number of Service Lines	General Frequency	Type of Mother Ships	Via Port	Type of Feeder Ship
14	Weekly	3,000/6,000 TEU	Singapore	1,500/2,500

The yearly total of Calling Feeder Service Vessels to/from Jakarta of MOL is as follows.

The total calling number of one way (either export or import) per year is about 1,400 thus two way is 2,800 callings per Year.

The above is a typical service network of a major ocean going shipping line calling Jakarta at present. About 10 major shipping lines are serving to/from Jakarta, with roughly 28,000 container ships calling Jakarta port per year.

Other than Jakarta (Tanjung Priok), there are 5 popular service ports in Indonesia, namely Surabaya (anjung Perak), Semarang, Medan (Belawan), Panjang and Palembang.

The above 6 Indonesian ports are mutually independent and a service between any two ports is rare. The feeder service network is centering on Singapore.

The feeder service to/from Indonesia connecting trunk lines mainly depends on the international feeder to Singapore.

The direct calling service to Jakarta by major trunk line services (6,000TEU / 8,000 TEU) does not exist at present and smaller vessels across a limited region (Oceania, North and Southeast Asia) are continuing direct service to/from Indonesian ports. The details of the international direct calling services are enumerated in the next chapter.

(2) International Direct Calling Service

Limited number of shipping lines offers international direct calling services to and from Indonesian major ports such as Jakarta, Surabaya and some others ports.

1) OOCL

Japan Taiwan South China Service (one round rotation)

Osaka	Tokyo	Nagoya	Yokkaichi	Kobe	Keeling	HK	Sekou
Sun	Mon /Tue	Tue/Wed	Wed	Thir	Sat./Sun	Mon/Tue	Tue
Singapore	Jakarta	P. Klan	Singapore	Sekou	HK	Osaka	
Sat	Mon/Tue	Thir	Fri/Sat	Tue/Wed	Wed/Thir	Sun	

Remarks

Serving vessels : 2700~4578 T E U x 4

Serving Frequency : weekly

Cargo from Yokohama acceptable by Tokyo Transshipment

Cargo from Kyushu and Setouchi acceptable by Kobe Transshipment

Singapore /Indonesia Shuttle Service Transit Time (Days)

Loop 1

From /To	Singapore (Tue)	Surabaya (Sat)	Semarang (Sun)
Singapore (Wed)		3	4
Surabaya (Sat)	3		1
Semarang (Mon)	1		

Loop 2

From/To	Singapore (Sat)	Surabaya (Tue)	Semarang (Wed)
Singapore (Sat)		3	4
Surabaya (Tue)	4		3
Semarang (Thu)	2		

Loop 3

From/To	Singapore (Fri)	Surabaya (Tue)	Semarang (Tue)
Singapore (Sat)		3	3
Surabaya (Tue)	3		
Semarang (Wed)	2		

Indonesia/ Malaysia Service Transit Time (Days)

Westbound

From/To	Singapore (Sat)	Port Klang (Mon)	T. Pelepas (Wed)	Singapore (Thu)
Jakarta (Thu)	2	4	6	
Singapore (Sun)		1		
Port Klang (Tue)			1	2

Eastbound

From/To	Jakarta (Thu)
Singapore (Tue)	2

Northbound

From/To	Penang (Sat)
Singapore (Thu)	2

Southbound

From/To	Singapore (Mon)	Jakarta (Thu)
Penang (Sun)	1	4

Malaysia (Pasir Gudang) / Indonesia (Surabaya) Service

Feeder Vessel	Voyage No.	Pasir Gudang	2 nd Vessel	Voyage No.	Singapore	Surabaya
PAC BANGA	2603S	4/21-22	CAPE FLORES	45E	4/24	4/28
do	2606S	4/28-29	do	48E	5/01	5/05
do	2609S	5/05-06	do	47E	5/8	5/12

Malaysia (Pasir Gudang) / Indonesia (Jakarta) Service

Feeder Vessel	Voyage No.	Pasir Gudang	2 nd Vessel	Voyage No.	Singapore	Jakarta
Pancon Jade	1873S	5/13-14	WMS Vissingen	019E	6/28	7-1
do	1903S	5/20-21	RBD Esperanza	021E	7/05	7/08
do	1906S	5/27-28	WMS Vissingen	020E	7/12	7/15

2) TSK Line (Tokyo Sempaku Kaisha)

Japan / South East Asia Service (TWX)

Vessel type	TK	KW	YH	NG	YKK	KB	Cailan	HCM	SP	JKT	HCM	HK	TK
1,500 TEU	Wed /Thu	Thu /Thu	Thu /Thu	Fri /Fri	Fri /Sat	Sat /Sun	Thu /Fri	Sun /Sun	Tue /Tue	Thu /Thu	Man /Tue	Sat /Sat	Wed

Recently (from February 26, 2010), TSK Line has started to include the port of YOKKAICHI as a direct calling port in their TWX (Twinkle Express Service).

China One Service (China-Hong Kong-Manila-Indonesia Service

QINGDAO	SHANGHAI	HK	MANILA	JAKARTA	SURABAYA	MANILA	HK
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KIS Service (Korea/Indonesia Express Service)

HONG KONG	JAKARTA	SURABAY	HONGKONG
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3) YSC Line (Yanghai Shipping Line: Korean Flag)

Korea / Taiwan / South East Asia Service

Korea / Taiwan / South East Asia Service

Korea Indonesia Express (KIX)	Pusan	Mokpo	Keeling	Hong Kong	Singapore	Jakarta	Bintulu	Hong Kong	Keeling
Three Ships *	Sat	Sun	Tue	Wed/ Thur	Sun	Mon/ Tue	Fri	Tue	Wed/ Thur

Remarks: MV Forever Prosperity (1,504 TEU), MV Catena (1,704 TEU), MV Victoria Trader (1,300 TEU)

4) K-Line / TSK Joint Southeast Asia Service

Export from Southeast Asia to Japan

Vessel	Port Klang	Jakarta	Singapore	Manila	Keeling	Osaka	Tokyo	Other Japanese ports
Guayaquil Bridge	4/22	4/25	4/27	5/1		5/5	5/7	Yokohama 5/7 Shimizu 5/6 Yokkaichi Nagoya 5/8 Kobe 5/9 Moji Sendai
ACX PEARL	4/29	5/2	5/4	5/8		5/12	5/14	Yokohama 5/14 Shimizu 5/13 Nagoya 5/15 Kobe 5/16

Export from Japan to Southeast Asia

Vessel	Tokyo	Yokohama	Shimizu	Nagoya	Yokkaichi	Osaka	Kobe	Singapore	Jakarta
ACX CHERRY	5/19-20	5/20		5/21	5/21-22		5/22-23	6/1 T/S at SP Surabaya 6/6 Semarang 6/10 Belawan 6/7	6/3

5) K Line

Bangkok / Laem Chabang / Singapore /Jakarta

Vessel	Voyage No.	ETD BKK	ETD LCB	ETD SIN	ETA JKT
WAN HAI 171	038S	6/24	6/24	6/27	6/29
Penang Bridge	034S	7/01	7/01	7/04	7/06
WAN HAI 171	039S	7/08	7/08	7/11	7/13

Jakarta / East Australia Direct Container Service

Vessel	Voyage	Terminal	ETD JKT	ETA Brisbane	ETA Sydney	ETA Melbourne
Wana Bhum	718	JICT 1	5/05	5/17	5/19	5/29
Santa Felicita	719	JICT 1	5/12	5/24	5/26	5/29
Thana Bhum	720	JICT 1	5/19	5/31	6/02	6/05

6) KMTC

Korea Indonesia Express (KIS2)

Port of call / Rotation	Terminals	ETA	ETD	Transit Days
Ulsan	ULSAN NEW PORT CT	SAT	SUN	
Busan	HUTCHISON BUSAN CT	SUN	MON	1
Hong Kong	HONG KONG INT'NAL TMNL	WED	THU	3
Singapore	PSA	SUN	MON	4
Jakarta	KOJA	TUE	WED	2 (9 TH Day)
Surabaya	SURABAYA INT'NL CT	THU	FRI	2 (11 th Day)
Hong Kong	HONG KONG INT'NAL TMNL	WED	WED	6
Ulsan	ULSAN NEW PORT CT	SAT	SUN	3

Summery

Six lines (one is a joint venture) are maintaining international direct calling services as summarized in Table 2.7.3-1.

Table 2.7.3-1 Shipping Lines serving Indonesia by Direct Calling Services

Line	Route	Frequency	Deployed VSL type
OOCL	Japan Taiwan South China	Weekly	2,700 ~4,600TEU
	Newzealand/ Jakarta	Monthly	3,000 TEU
	Singapore/ Semarang, Surabaya	3 sailings/ week	1,000 TEU
	Malaysia /Jakarta /Merak/ Singapore	Weekly	1,500 TEU
	Malaysia (Pasir Gudang)/ Jakarta	Weekly	1,500 TEU
TSK	Japan / Southeast Asia Jakarta	Weekly	1,500 TEU
	Thailand/Malaysia/Indonesia	Weekly	2,500 TEU
YSC	Korea / Taiwan / SE Asia Jakarta, Bintulu	Weekly	1,500 TEU, 1,700 TEU 1,300 TEU
TSK/ KL	Japan / Southeast Asia Jakarta	Weekly	2,500 TEU

Source: Telephone Interviews to 6 shipping lines

(3) International Feeder Service between Singapore and the major Indonesian ports

Two middle sized shipping lines are operating the shuttle feeder carrier between Singapore and some major Indonesian ports. These two lines are dominant in the field of international/domestic feeder service centering on Singapore.

1) ACL (Advanced Container Lines)

Jakarta / Singapore Shuttle Service

Vessel	Vessel VOY	Singapore	Vessel VOY	Jakarta	Vessel VOY	Singapore
Kota Rancak	RCK417	5/18-19	RCK418	5/22-23	RCK418	5/25-26
do	RCK419	5/25-26	RCK420	5/29-30	RCK420	6/01-02
do	RCK421	6/01-02	RCK422	6/05-06	RCK422	6/08-09

Kota Harta	HTA731	4/22-23	HTA732	5/26-27	HTA732	5/29-30
do	HTA733	5/29-30	HTA734	6/02-03	HTA734	6/05-06
do	HTA735	6/05-06	HTA736	6/16-17	HTA736	6/12-13

Sanya	032E	6/9-11	032W	6/12-14	032W	6/16-18
do	033E	6/16-18	033W	6/19-21	033W	6/23-25
do	034E	6/23-25	034W	6/26-28	034W	6/30-7/02

Jakarta / Singapore Service by Space Chartering on Other Line

Vessel	Voyage Number	Jakarta (ETA/ETD)	Singapore (ETA)
APL Shenzen	069E	6/4-6	6/8
APL Amman	031E	6/11-13	6/15

Semarang/ Surabaya/ Singapore Service

Vessel	Voyage No.	Singapore	Voyage No.	Semarang	Surabaya	Singapore
Kota Rajin	RJN473	5/19-20	RJN474	5/22-23	5/23-24	5/26-27
do	RJN475	5/26-27	RJN476	5/29-30	5/30-31	6/02-03
do	RJN477	6/02-03	RJN478	6/09-06	6/06-07	6/09-10

Surabaya / Singapore Service by Space Chartering on Other Line

Vessel	Voyage Number	Surabaya (ETA/ETD)	Singapore (ETA)
Northern Harmony	202	5/12-14	5-16
do	203	5/19-21	5-23

Semarang / Singapore Service by Space Chartering on Other Line

Vessel	Voyage Number	Semarang	Voyage Number	Singapore (ETA)
Tiger River	704	5/19-20	705	5/22
do	705	5/26-27	706	5/29
do	706	6/02-03	707	6/05

Belawan / Singapore Service

Vessel	Voyage No.	Singapore	Voyage No.	Belawan	Singapore
Kota Tabah	TBH315	9/16-17	TBH316	9/19-20	9/22-23
do	TBH317	LAY UP	TBH318	LAY UP	LAY UP
do	TBH318	LAY UP	TBH320	LAY UP	LAY UP

Palembang / Singapore Service

Vessel	voy	Singapore	voy	PLM	voy	Singapore	voy	PLM	voy	Singapore
Kota Intan	ITN271	5/14-15	ITN272	5/16-17	ITN273	5/19-19	ITN274	5/21-22	ITN275	5/24-24
do	ITN275	5/24-24	ITN276	5/26-27	ITN277	5/29-29	ITN278	5-31/6-1	ITN279	6/03-03
do	ITN279	6/03-03	ITN280	6/05-06	ITN281	6/08-08	ITN282	6/10-11	ITN283	6/13-13

Panjang / Singapore Service

Vessel	Voyage No.	Singapore	Voyage No.	Panjang	Voyage No.	Singapore
APL Lilac	300	5/18-18	300	5/20-22	301	5/25-25
do	301	5/25-25	301	5/27-29	302	6/01-01
do	302	6/01-01	302	6/03-05	303	6/08-08

2) SAMUDERA Shipping Lines

Feeder Routes and Service Ports

Port of Call	Route	Frequency (ETA Singapore Base)	Year Total Sailings
Batam (BTM)	Singapore / BTM	3 sailings / week	156 one way x 2=312
Belawan (BLW)	Singapore / BLW	weekly	52 x 2 =104
Jakarta (JKT)	Singapore / JKT(UTC I)	8-9 sailings / week	468 x 2=936
	Singapore / JKT(UTC II)	weekly	52 x 2=104
	Singapore / JKT(UTC III)	ad-hoc	
	JKT-BTM-PGU-BTM	weekly	52 x 2=104
Jakarta (JKT-SEM)	Singapore /JKT/SEM	weekly	104
Palembang (PLM)	Singapore / PLM	Every 4 days	365/4=91
Panjang (PJN)	Singapore / PJN	2 sailings / week	52x2x2=208
Semarang (SEM)	Singapore / SEM	weekly	104
Surabaya (SUR)	Singapore / SUR	weekly	104
Surby-Semarang	Singapore / SUR/SEM	2 sailings / week	208
Total per year			2,379

Samudera Line Container Fleet

Name of Vessel	Container Capacity	Flag	Owned / Charter
Thomas Mann	2,586 TEU	Liberia	Chartered
Sinar Sbang	1,740 TEU	Singapore	Owned
Sinar Sumba	1,740 TEU	Singapore	Owned
Sinar Sunbang	1,708 TEU	Panama	Chartered
Sinar Sangir	1,700 TEU	Panama	Chartered
Sinar Biak	1,471 TEU	Panama	Chartered
Sinar Birma	1,118 TEU	Singapore	Owned
Frisia Lahan	1,114 TEU	Liberia	Chartered
Sinar Buton	1,060 TEU	Panama	Chartered
Sinar Buromo	1,000 TEU	Panama	Chartered
Sinar Bontang	1,054 TEU	Panama	Chartered
Sinar Solo	1,064 TEU	Panama	Chartered
Sinar Bandung	1,054 TEU	Panama	Chartered
13 others	1,054 ~115 TEU		

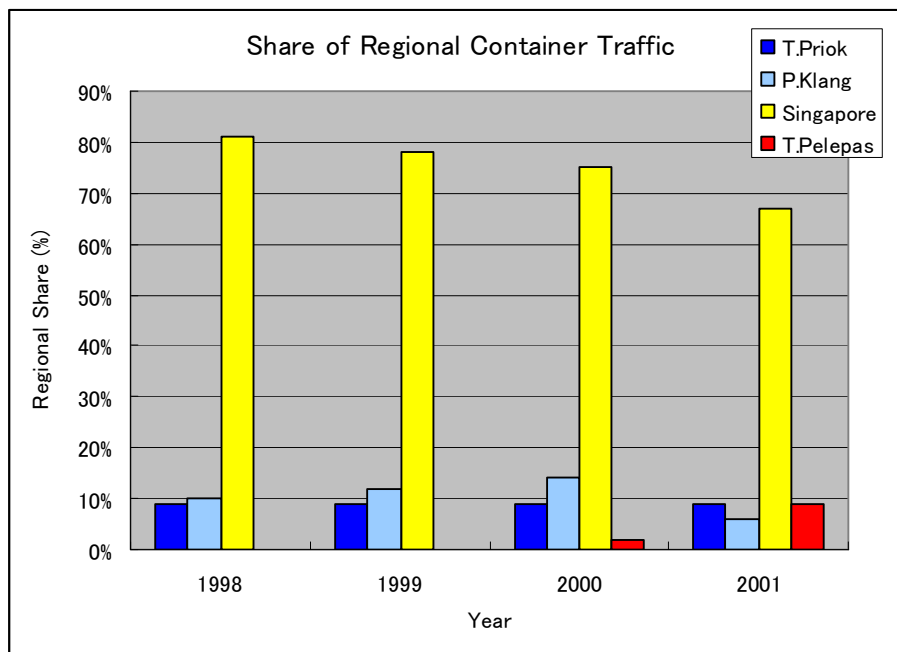
The two major feeder lines (ACT and Samudera) are deploying smaller container ships serving Jakarta and other major Indonesian ports. Details of some of Samudera container fleet are shown above.

As far as the big two lines' feeder vessels calling Jakarta port is concerned, about 3,000 calls is counted for one year for both export and import.

2.7.4 Existing Transshipment Service Network

(1) International Transshipment

Currently, most Indonesian exports and imports moving by sea are shipped via the port of Singapore. Large transoceanic ships do not make direct calls at Indonesian ports and most international shipping services from Indonesia are merely feeder services to Singapore. Even most of Indonesia's intra-Asia trade must be transshipped through Singapore. Development of an effective transshipment port understandably represents an important priority for the government's maritime policy. As shown in Figure 2.7.4-1, container flows in the region continue to be dominated by Singapore. However, Singapore's share has been dented by the emergence of Tanjung Pelepas in Malaysia



Source: Jakarta International Container Terminal

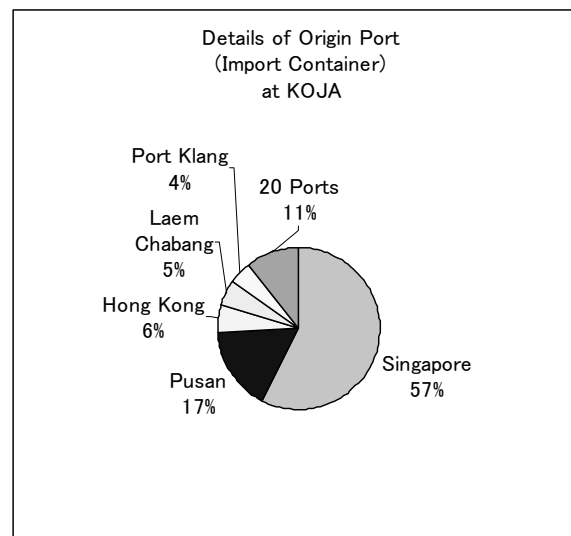
Figure 2.7.4-1 Singapore/T.Pelepas/P.Klang vs Tanjung Priok

The Table is rather old but the tendency remains unchanged. The reason why Tanjung Priok can not become an international hub in South East Asia is elaborated in 3)Galapagos Phenomena of Jakarta.

Table 2.7.4-1 Details of Port of Origin (Import Container at KOJA)

	Port of Loading	TEU	%
1	Singapore	11,360	57.6
2	Pusan	3,271	16.6
3	Hong Kong	1,094	5.5
4	Laem Chabang	1,068	5.4
5	Port Klang	837	4.2
		17,630	89.3
Others	20 Ports	2,107	10.7
Total		19,737	100.0

Source :KOJA Terminal, (January 2010)



Source :KOJA Terminal, (January 2010)

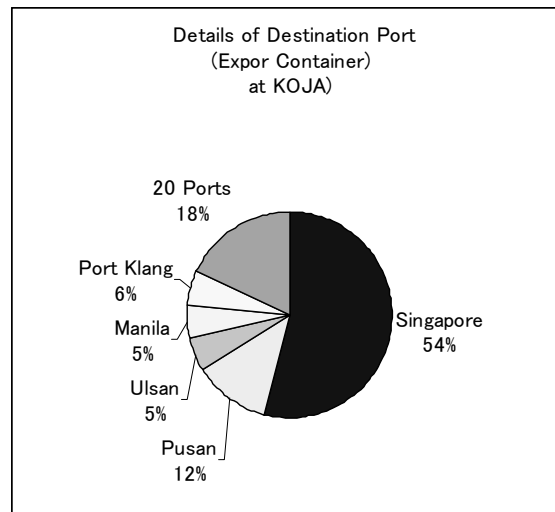
Figure 2.7.4-2 Details of Port of Loading (Import Container at KOJA)

Singapore's share of the import containers is 57.6%. The top five ports handle almost 90% of the total cargo. This percentage symbolizes the power of the 5 hub ports in the region.

Table 2.7.4-2 Details of Port of Discharge (Export Container at KOJA)

	Port of Loading	TEU	%
1	Singapore	9,511	50.0
2	Pusan	2,151	11.0
3	Ulsan	902	5.0
4	Manila	907	5.0
5	Port Klang	982	5.0
		14,453	76.0
Others	20 Ports	3,177	24.0
Total		17,630	100.0

Source :KOJA Terminal (January 2010)



Source: KOJA Terminal (January 2010)

Figure 2.7.4-3 Details of Destination Port (Export Containers at KOJA)

Exports show a somewhat different tendency. Singapore's share is 50% while the top 5 ports handle 76% of the total. It is worth noticing that export containers to South Korea (Pusan and Ulsan) from Indonesia represent about 16% of the total.

(2) Domestic Transshipment

Except in case of emergency, it is rare for a shipper or consignee to make a domestic transshipment from one port to another port, because a feeder network from any one major port to Singapore is available. Shippers and consignees can select any available service for main destinations of the world via Singapore. In rare cases, transshipment service via Shanghai or Hong Kong is used.

(3) Galapagos Phenomenon of Jakarta

Indonesian Government has been trying in vain to make the Port of Jakarta (Tanjung Priok) a transshipment hub center of export/import containers. As already mentioned, the number of direct calling ships deployed in major trade routes is substantial.

The main reason why Jakarta can not be a transshipment hub is that Jakarta has enough local container demand for both export and import. It is similar to the Galapagos Phenomena observed in Japan's cell phone industry. Japan has a population of about 13 million which is suffice to support the domestic Japanese mobile market. There is no need to compete with NOKIA throughout the world. On the other hand, Finland (mother country of NOKIA) has a population of only five million, which gave them a great incentive to enter the world market.

The Galapagos Island, 1,000 kilometers from the West Coast of Chile, is completely shut out from the outer world. All the animals (such as land/sea iguana, giant tortoise etc.) in the island developed themselves in a peculiar manner without influence from the outer world.

Java Island is by far the most populous island, with approximately 62% of the country's population, and is in fact the most populous island in the world. With 130 million inhabitants at 1,026 people per km², it is also one of the most densely-populated parts of the world.

Java is just like one country with a population of 1.30 million, almost the same size as Japan's population. Because of this big population the containers are constantly increasing, eliminating the need for transshipment containers.

Indonesia's GDP per capita is US\$ 3,500 in 2005 (PPP Method: World Bank) and the nationwide throughput was 5.5 million TEU (Containerization International Yearbook 2007). The correlation coefficient between the container throughput and the population is 0.023 in Indonesia. If the Indonesian economy continues to glow, the container throughput will increase in line with the economic development. The container throughput total of Japan in 2008 was about 13 million TEU (coefficient = 0.11), and when GDP per Capita of Indonesia reaches the half line of Japan, the correlation coefficient will be nearing 0.05. In such a case, the container throughput of Java island will be close to 6.5 million TEU. In the long term, the Java throughput could be close to the line of 13.0 million (when GDP per Capita of Indonesia become about US\$ 30,000)

For the case of Singapore, the population is only 4.6 million. For such a small country, the local container throughput is merely 0.5 million TEU and they definitely need the additional container throughput to support the container handling facilities. They desperately need transshipment container throughput.

Accordingly, the port promotion policy of Jakarta should be centered on a customer oriented service development for port users of local containers, not transshipment containers. Naturally, direct calling service of any line if realized, is most welcome and efforts should be focused on improving the port facilities at the West Java ports.

2.7.5 Cost analysis of Direct Calling Service/Transshipment Service

The main factor of transshipment operation is "cost". Shipping lines always strive to transport their customers' containers as safely, quickly and cheaply as possible. Safety of containers depends on container handling at terminals and onboard vessels (and trucks/train). Service speed is transit time while transportation cost concerns all the three elements.

Transshipment operation was a historically unwelcome operation for both shippers and shipping lines. In those days many banks issued letters of credit clearly stipulating "direct calling only", because accidents tended to occur during transshipment operation. Thus shippers requested direct calling and only unwillingly accepted a transshipment service if direct calling was not available. In such case the shipping lines used to ask for a "letter of guarantee" from shippers to indemnify shipping line from any claims caused by transshipment operation.

After 50 years of containerization, a new type of transshipment is being done as a matter of daily operation planned by shipping lines without referring to shippers. This new type of transshipment operation is named "relay transshipment" and is now the mainstream of transshipment operation.

The best example of new transshipment operation is through Singapore. Many containers are centering on the Port of Singapore because of short transit and safe operation.

The Table 2.7.5-1 demonstrates a breakdown of a model of Port Klang selected by a study group of Asian Institute of Technology, Thailand. The figures are not actual – they are derived from a mathematical model - but the results show a typical composition of cost items.

Table 2.7.5-1 Cost Breakdown of Port Klang

	Cost item	10 ⁶ US\$	Percentage %
Main line	Port cost	5581.97	43
	Shipping cost	3410.58	26
Hub port costs	Large vessel costs for main line	2215.14	17
	Small vessel costs for feeder line	710.07	5
Feeder line	Feeder port cost	905.58	7
	Shipping costs between feeder port and hub ports	238.98	2
	Total costs	13,062.32	100

Source: Analyzing the optional location of a hub port in Southeast Asia (*Int.J. Logistics Systems and Management, Vol. 6, No. 4, 2010*)

As is clear from the Table, the main-lines' cost share is about 70% of the total cost and a routing policy regarding port of call is most decisive. For the case of Jakarta, a deviation from the trunk line is about two days (from Singapore). The geographical location of Jakarta is not favorable for east and west trunk lines.

2.7.6 Shipping Lines' Requests for Jakarta (Tanjung Priok) Port

The following table presents an outline of the views and requests by major shipping lines serving Jakarta.

Business field	Shipping lines' view/demand
Service network	Trunk-line/feeder system to be sustained VLCS (Very Large Container Ship) will not be deployed for direct calling service to Indonesian ports Transshipment at Indonesian ports will not increase because of the location of ports.
Request for port	Although the depth of the wharf is adequate, the length and number is not sufficient for frequent callings by feeder container ships. There is a long queue line at the berth window every weekend.
Request to Terminal operator	Container handling charges and other terminal charges are higher than those of nearby terminals in the region.

THC (Terminal Handling Charge) in Indonesian Ports

THC is a very sensitive issue all over the world, and especially in Indonesia. Before 2005, the waterfront industry was not united on the subject. International shipping lines were adamant that it is the only way to account for additional, less formal costs associated with port inefficiencies, while port administration bodies kept claiming that they were being unjustly blamed when THC of US\$150 was charged against port charges of US\$93. The long argument reached an amicable settlement in 2008 and US\$150 was reduced to US\$95 by the strong will of the government to compete with Singapore. The existing THC in Indonesia is shown below:

Table 2.7.6-1 Extraction of the current THC (June 2010)

Country	Currency	Trans Pacific	Intra Asia	Europe	Middle East	South Asia
Indonesia	Currency Paid	US\$95/145	US\$95/145	US\$95/145	US\$95/145	US\$95/145
	US\$	US\$95/145	US\$95/145	US\$95/145	US\$95/145	US\$95/145
Singapore (for Comparison)	Currency Paid	S\$182/270	S\$182/270	S\$182/270	S\$182/270	S\$182/270
	US\$	US\$120/179	US\$120/179	US\$120/179	US\$120/170	US\$120/170

Source: Agreement between Government and Shipping Lines

2.7.7 Interface with ASEAN COMMUNITY (Intra-ASEAN Shipping)

(1) Container Cargo

i Size of vessels being used

As is shown in Table 2.7.3-1., (Shipping Lines serving Indonesia by Direct Calling Services), direct calling vessels can be as large as 4,600 TEU but most vessels are in the 500 to 1,500 TEU range. On domestic routes there are many smaller vessels below 500 TEU.

ii Shipping Control

As with most ASEAN countries shippers and consignees, the tendency is for Indonesian exporters (shippers) to sell FOB and importers (consignees) to buy CIF/C&F.

iii Prevailing Ocean freight Level

It is not easy to get a clear overview of prevailing ocean freight in the Intra-ASEAN market. After the world wide financial crisis, Intra-ASEAN market experienced several drops in the rates, but the damage was comparatively slight. Table 2.7.7-1 shows the recent Export Freight Rates from Jakarta

Table 2.7.7-1 Export Ocean Freight Rates from Jakarta

From Indonesia to Destination	Ocean Freight (US\$ per TEU)
ASEAN destination	
Jakarta-Singapore	190/200
Jakarta-Malaysia main ports	200/220
Jakarta-Bangkok	250/260
Jakarta-Vietnam/Philippines	300/350/360
Domestic	
Jakarta-Menado (North Sulawesi)	600
Jakarta-Irian	1,200/1,400

Source: Interview, telephone interview with major shipping lines, agents

As the latest addition to the above, Singapore-based MCC Transport, which is the Intra-Asian arm of the AP Moller Maersk Group, is to buy slots from TS Line's TS4 service - which is a weekly service run between Indonesia and north Asia - from the end of June 2010.

(2) Bulk Cargo

Bulk cargo movement is also in three categories, namely domestic, regional and international.

i. Size of vessels being used

Most vessels are locally owned and small – less than 1,000 DWT. They are also aged.

ii. Shipping Control

Major international and some regional cargoes are controlled by buyers.

iii. Prevailing Ocean freight Level

Before the crisis, charter rates of small vessels used to be very high (example: \$5,000 to \$10,000 per day). Rates dropped in 2009 drastically but they are climbing again.

(3) Non Containerized General Cargo

i. How non-containerized cargoes are handled now

The year 2010 is the 54th year of the container transportation revolution. The shift to container mode has been truly revolutionary. Many cargo commodities that were previously considered not containerizable are now moving in containers (even very unsuitable cargo such as steel scrap, ore, some kinds of sand etc). However, there is still an unqualified but significant volume movement in non-containerized (break-bulk) cargo. One of the reasons that such break-bulk cargo can still be found is the lack of container handling equipment in small local ports.

There are several shipping companies offering semi-liner operations to cater for this kind of cargo. The typical example of the non-containerized break bulk cargo is project cargo. Most of those cargoes are too large or too heavy for container. Typically those project cargoes require special treatment using heavy lift cranes.

The shipping lines which cater for those specialized project cargoes in ASEAN region are: Rickmers, Indotrans, Gear Bulk, PACC(a division of Pacific Carriers, Singapore), AAL(Austral Asia Line)/PAS(Project Asia Service)

In addition to the heavy and bulky un-containerizable cargo, there are other break-bulk services for particular commodities movements. The most important service of this kind is carrying rubber produced in ASEAN countries to world markets. Most rubber in Indonesia used to be shipped in break-bulk form, but nowadays a substantial portion is being shipped in multi-purpose vessels from Indonesia as well as from Thailand and Malaysia.

ii. Routes Structure for Major Intra-ASEAN Services

The main routes in terms of volumes are the feeder routes to Singapore. Other destinations served directly by smaller feeder lines include the Philippines (Manila), Malaysia (Peninsular-Port Klang, Penang and Pasi Gudang; East Malaysia-Kuching, Sibul), Vietnam (HCMC and Haiphong), Thailand (Bangkok, Laem Chabang, Matuphut). Occasional direct calls are made to Bintulu, Muara, Labuan, Kota Kinabulu, Sipitang, Sandakan and Tawau.

Indonesian ports covered by the above services are Tanjung Priok, Tanjung Perak, Palembang, Semarang, Panjang and Pelawan.

(4) How to handle Break-Bulk cargo requirement in ASEAN

Major break-bulk ship operators such as Indotrans, PACC, Wallenius Wilhelmsen, Wterman, Gear Bulk and AA/PAS complain that port administration bodies are earnest to develop container terminals but pay little attention to un-containerized general cargo and break-bulk cargo. The truth is

Indonesia needs the facilities to handle those un-containerized cargoes at this stage of economic development. Break-bulk trades will remain very important.

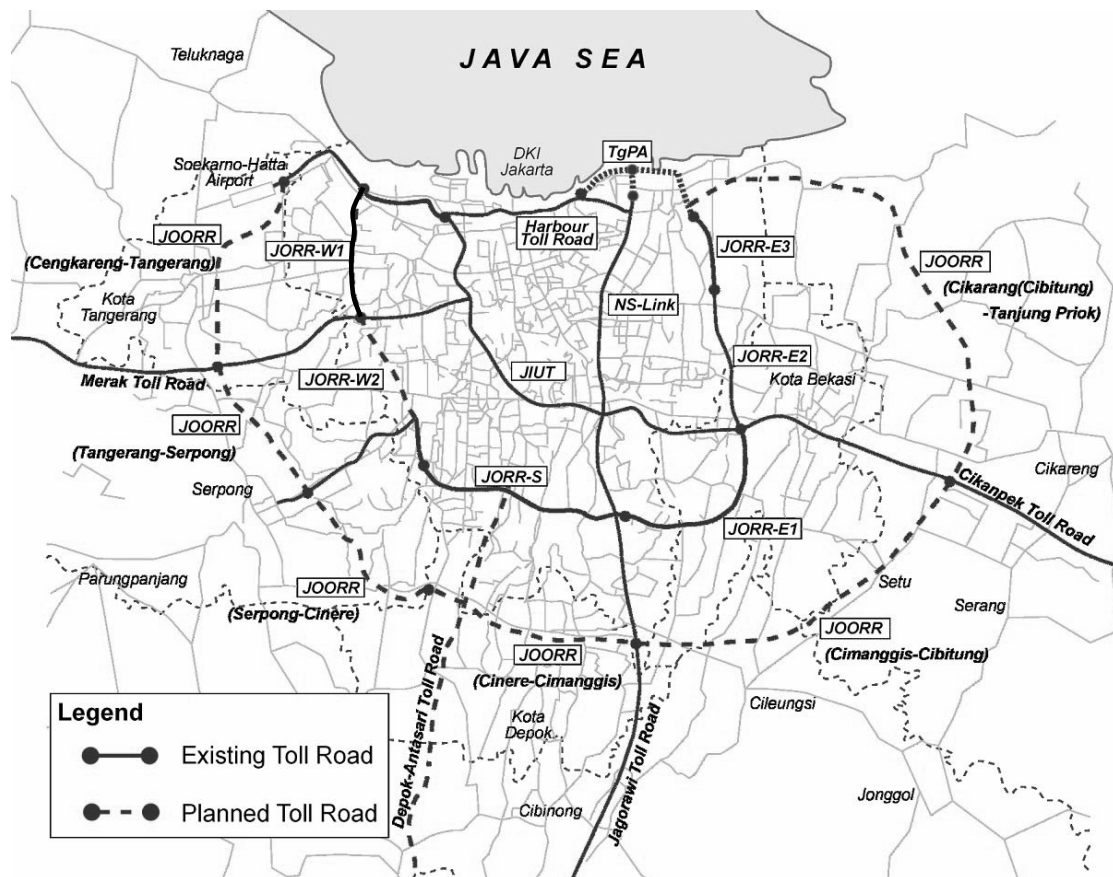
2.8 Review of the Situation and Development Plans of the Toll Road Network

2.8.1 Current Situation of Toll Road Network

(1) Jakarta Metropolitan Area

Indonesia opened the first toll road, Jagorawi toll road, in 1972 and to date, 28 developed toll roads, 741.92km in length have been operated. 2 ring roads, Jakarta inter urban toll road (JIUT) with the Jakarta Harbour Road and Jakarta outer ring road (JORR), are presently traversed around Jakarta Metropolitan Area. JIUT is fully in operation with about 50km, while the length of JORR will reach 58km after the completion of current missing link, W2 section, between Kebon Jeruk and Ulujami.

The toll road network in Jakarta Metropolitan Area and the details of JIUT and JORR are as follows.



Source: Design Report for Tanjung Priok Access Road Construction Project

Figure 2.8-1 Toll road network in Jakarta Metropolitan Area

Jakarta Inter-Urban Toll Road (JIUT)

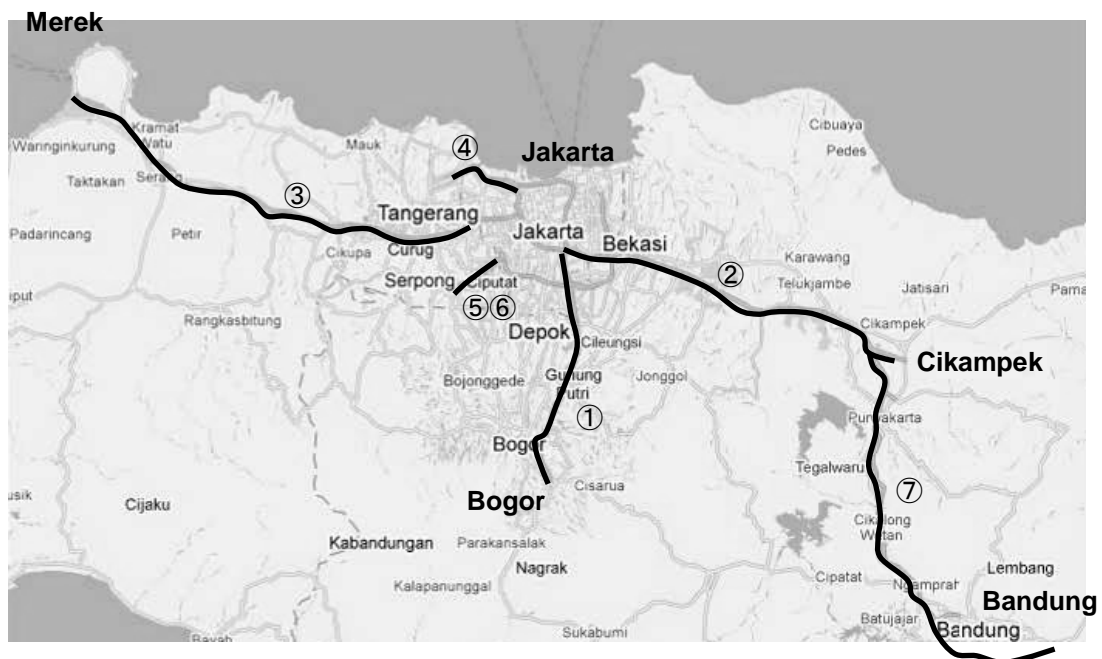
Becoming fully operationa in 1996, this toll road consists of a 23.5 km-long Cawang-Tomang-Pluit concession operated by Jasa Marga, and 11.5km of Harbour Road and 15.5km of Ir. Wiyoto Wiyono concession operated by Citra Marga Nusaphala Persada. The toll road with 6 lanes connecting Cawang-Pluit, has 3 interchanges, 8 flyovers, 10 pedestrian bridges and 19 toll gates operated with open transaction system.

Jakarta Outer Ring Road (JORR)

The sections of JORR which are now being operated are Ulujami-Cilincing toll road that spreads from the east, southeast and south of Jakarta covering a length of 45 km and W1 North (Kebon Jeruk-penjarangan) with a length of 9.7 km. The W2 (Ulujami-Kebon Jeruk) section that connects Ulujami with Prof. Dr. Ir. Sedyatmo Toll Road is under construction. When the toll road becomes fully operational, the toll road users will not have to traverse the center of Jakarta to go to the international airport. This JORR connects the radial toll roads which are now is being operated such as Jakarta-Cikampek, Jagorawi, Pondok Aren-Serpong and Jakarta-Merek toll road.

(2) West Java Area

In West Java Area, 5 radial toll roads spread from the center of Jakarta to the east, south and west and link to JORR. Jasa Marga has operated all roads except Tangerang-Merek and Serpong-Pondok Aren Toll Road. The Jakarta-Cikampek toll road was extended to Bandung in 2004, which shortened the travel time from Jakarta to Bandung to about 2 to 3 hours by vehicle. The existing toll road network in West Java Area is shown in Figure 2.8-2. The length and operator of each toll road are described in Table 2.8-1.



Source: JICA Study Team

Figure 2.8-2 Toll road network in West Java Area

Table 2.8-1 Length and operator of toll road

	Name of Toll Road	Length (km)	Name of Operator	Start Operation
1	Jagorawi Toll Road	59.0	PT. Jasa Marga	1978
2	Jakarta - Cikampek Toll Road	72.0	PT. Jasa Marga	1985
3	Jakarta - Merak Toll Road	106.0	PT. Jasa Marga PT. Marga Mandala Sakti	1998 1996
	- Jakarta - Tangerang	33.0		
	- Tangerang – Merak	73.0		
4	Prof. Dr. Ir. Sedyatmo Toll Road (Cengkareng Airport Access)	14.3	PT. Jasa Marga	1986
5	Ulujami-Pondok Aren Toll Road	5.5	PT. Jasa Marga	2001
6	Serpong-Pondok Aren Toll Road	7.3	PT. Bintaro Serpong Damai	1999
7	Cipularang Toll Road	58.5	PT. Jasa Marga	2004

Source: Badan Pengatur Jalan Tol (BPJT)

Details of radial roads operated by Jasa Marga are as follows.

Jagorawi Toll Road (West Java Province)

With a length of 59 km, the toll road that links Jakarta- Bogor-Ciawi was Indonesia's first toll road. Consisting of 8 interchanges, 7 flyovers, and 11 pedestrian bridges, the toll road is operated with closed transaction system in its 17 gates.

Jakarta-Cikampek Toll Road (West Java Province)

Jakarta-Cikampek Toll Road became fully operational in 1988. The toll road, 72 km in length, consists of 10 interchanges, 27 flyovers and 16 pedestrian bridges with most of its toll gates utilizing a closed transaction system. The toll road is connected with Cipularang Toll Road and Jakarta Outer Ring Road, and is a part of Trans Java Toll Road.

Jakarta-Tangerang Toll Road (Banten Province)

Fully operated in 1984, Jakarta-Tangerang Toll Road is 33.0 km long, with 6 lanes connecting Jakarta-Tangerang and has a closed transaction system. This toll road consists of 3 interchanges, 15 fly over, 7 pedestrian bridges, and 8 toll gates.

Prof. Dr. Ir. Sedyatmo Toll Road (Banten Province)

Fully operated in 1984, Prof. Dr. Ir. Sedyatmo Toll Road connecting Pluit-International Airport Soekarno Hatta, is 14.3 km in length and consists of 1 interchange, 2 flyovers, 4 pedestrian bridges, and has a closed transaction system in its 3 toll gates.

Ulujami-Pondok Aren Toll Road (Banten Province)

The toll road is a part of Serpong-Ulujami Toll Road that connects Jakarta and southern Tangerang via Bintaro and Pesanggrahan for 5.5km and consists of 1 interchange, 3 flyovers and 4 pedestrian bridges and 1 toll gate with an open transaction system.

Cipularang Toll Road (West Java Province)

Spreading 58.5 km from Cikampek-Purwakarta to Padalarang, this toll road is part of Purbaleunyi Toll Road. This toll road consists of 3 interchanges, 37 flyovers, 8 pedestrian bridges and 3 toll gates which are operated with a closed transaction system. Through this toll road, the time needed to go from Jakarta- Bandung is reduced to approximately 2 hours from previously 4 hours via Puncak or Purwakarta.

2.8.2 Development Plan

Although the Indonesian government’s budget and foreign loan were invested for the toll road construction when the toll road development started around 1980s, currently the construction and operation of toll road are mainly conducted by the private investors. Badan Pengatur Jalan Tol (BPJP) was established as the implementation body to manage the toll road under Ministry of Public Works, based on “Law No.38 of 2004 concerning Road”. Toll road development progress as of March 2010 released from BPJT is shown as Table 2.8-2.

Table 2.8-2 Toll road development progress in Indonesia

Setates	Number of Link	Length (km)	Estimate investment Cost (Billion Rp.)
In operation	28	741.92	-
Concession Agreement Signed	21	768.65	66,751.95
Concession Agreement Preparation	4	154.24	10,267.17
Built by Government	4	78.01	8,068.08
Tender Preparation	30	1,345.01	142,842.15

Source: Toll Road Investment Opportunities in Indonesia 2010 by BPJT

(1) Jakarta Metropolitan Area

In order to mitigate the traffic congestion around Jakarta Metropolitan area and strengthen the toll road network, Bina Marga, Directorate General of Highways, has plans to further develop the second Jakarta Outer Ring Road (JORR 2) which is located outside of JORR as shown in Figure 2.8-3.

JORR2 is to be constructed by private investors which were already contracted for each section with BPJP. The design work are progressed by the concessioner but the implementation schedule is depending on the land acquisition which often causes the delay in some projects

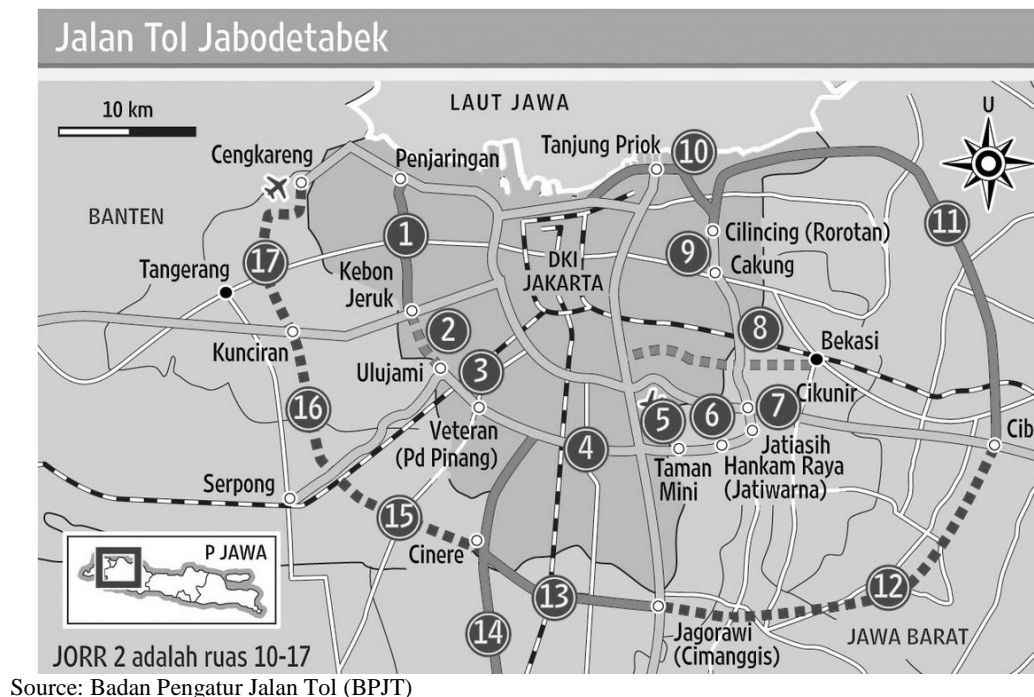


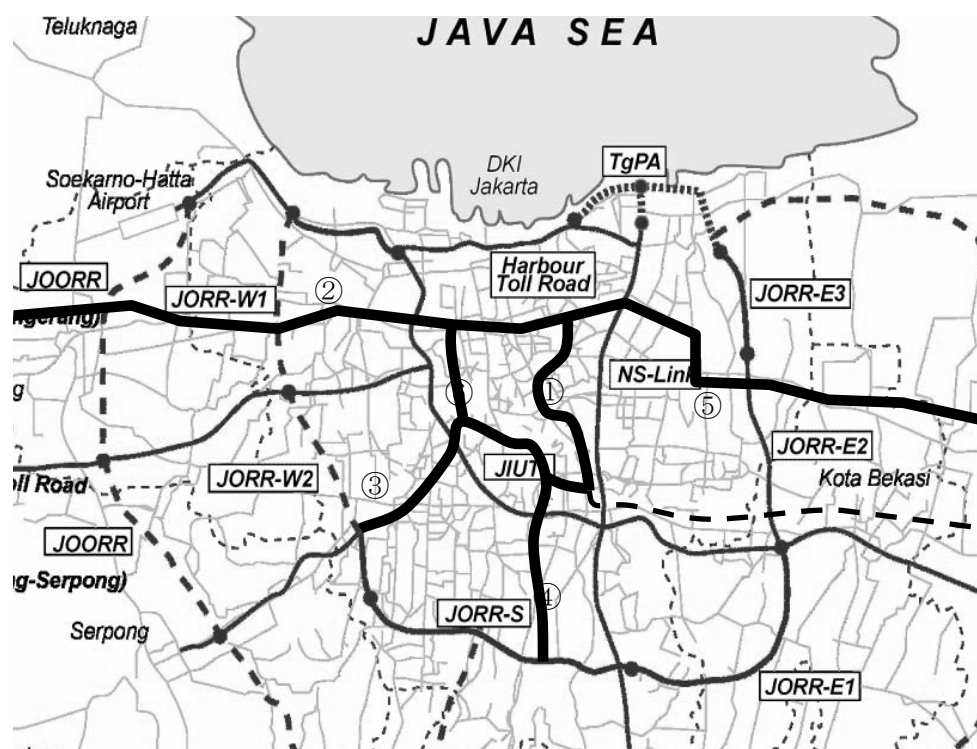
Figure 2.8-3 Road network plan around JABODETABEK

Table 2.8-3 Toll road of JORR and JORR2

	Name of Toll Road	Length (km)	Name of Operator	Condition
1	W1	9.7	PT. Jalan Tol Lingkar Barat 1	In operation
2	W2,U	7.0	PT. Jasa Marga	Land acquisition
3	W2,S	2.5	PT. Jasa Marga	In operation
4	S	13.2	PT Jalan Tol Lingkar Luar	In operation
5	E1 S.1+2	4.5	PT. Jasa Marga	In operation
6	E1 S.3	4.4	PT. Jasa Marga	In operation
7	E1 S.4	4.0	PT. Jasa Marga	In operation
8	E2	9.0	PT. Jasa Marga	In operation
9	E3	3.8	PT. Jasa Marga	In operation
10	Tanjung Priok Access	12.1		Land acquisition
11	Cibitung-Cilinging	33.9	MTD Capital (Malaysia)	Land acquisition
12	Cimanggis-Cibitung	25.4	Bakri Group + Plus	Land acquisition
13	Cinere-Jagorawi	14.6	PT. Trans Lingkar Kita Jaya	Land acquisition
14	Depok-Antasari	22.8	PT. Citra Waspphitowa	Land acquisition
15	Serpong-Cinene	10.1	Theiss	Negotiation
16	Kunciran-Serepong	11.2	PT. Marga Trans Nusantara	Land acquisition
17	Cengkareng-Kunciran	15.2	PT. Marga Kunciran Cengkareng	Land acquisition

Source: Badan Pengatur Jalan Tol (BPJT) and Jasa Marga

In addition to JORR2, the plan of the Inner Toll Road consisting of 6 routes in Jakarta city is proposed to solve the serious traffic congestion. Progress of this plan will depend on land acquisition. The alignment of the Inner Toll Road is shown in Figure 2.8-4.



Source: JICA Study Team

Figure 2.8-4 Location map of Inner Toll Road

Table 2.8-4 Length and estimated investment cost of Inner Toll Road

	Section	Length (km)	Estimate investment Cost *including Land Acquisition cost
1	Kemayoran – Kampung Melayu	9.65	6,953.56 Billion Rp.
2	Sunter - Rawa Buaya – Batu Ceper	22.92	9,760.67 Billion Rp.
3	Ulujami – Tanah Abang	8.27	4,255.27 Billion Rp.
4	Pasar Minggu – Casablanca	9.56	5,719.87 Billion Rp.
5	Suntar - Pur Genbag	25.73	7,377.98 Billion Rp.
6	Duri Puro – Tomang – Kp Melayu	11.38	5,960.05 Billion Rp.

Source: Toll Road Investment Opportunities in Indonesia 2010 by BPJT

(2) Tanjung Priok Access Road

Tanjung Priok Access Road (TgPA) was originally planned to connect the JORR to the Tanjung Priok International Port, however it is now planned to be part of the JORR to replace the N Section that has been set aside due to land acquisition and resettlement issues.

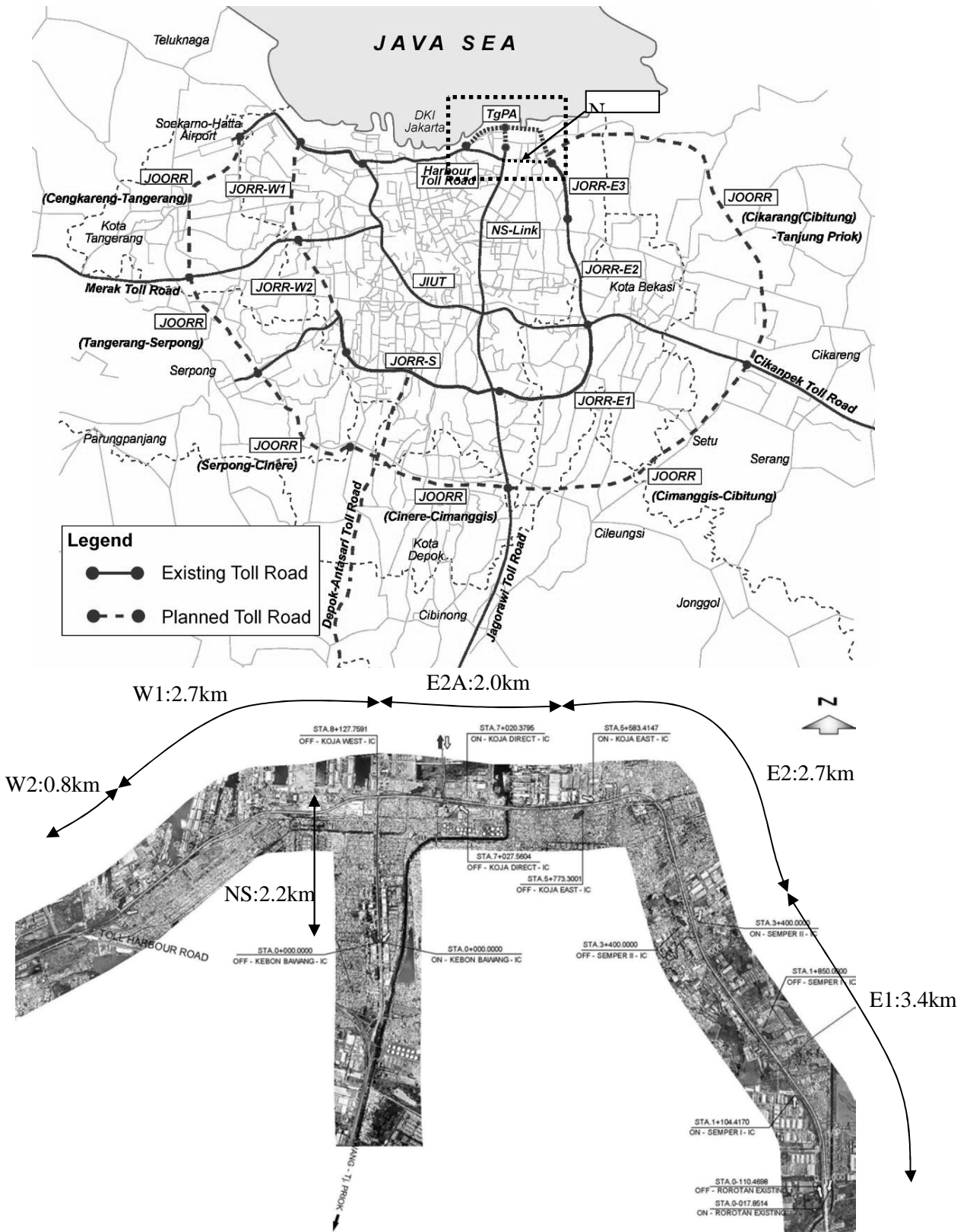
TgPA is a six-lane toll road stretching 10.3 km connecting the northeastern section of JORR and JIUT through in front of Tanjung Priok Port. In the design stage, TgPA consisted of 5 sections, E1, E2, W1, W2 and NS. However, W1 and W2 sections were once removed from the project scope due to budget constraints. As a result, the TgPA is re-divided into 4 sections; E1, E2, NS, and E2A. Special Terms for Economic Partnership (STEP) of JICA has been applied to this project including the construction and installation of a Traffic Surveillance System (TSS) on toll roads in the Jakarta metropolitan area. The review study for W1 and W2 will be conducted by JICA, aiming to find the most suitable plan and estimate the amount of additional loan.

The construction work of E1 section is almost completed with the operation expected to commence within this year. E2 and NS section is now under the stage of tender evaluation for contractor. The construction schedule of the TgPA is listed in Table 2.8-5 and the plan of the Tanjung Priok Access Road by JICA Loan is shown in Figure 2.8-5.

Table 2.8-5 Construction schedule of Tanjung Priok Access Road

Section	Length (km)	Construction Schedule	Construction Period
E1	3.4	Completion of construction at July, 2010	
E2	2.7	Commencement of construction Nov, 2010	28 months
NS	2.2	Commencement of construction Jan, 2011	18 months
E2A	2.0	Commencement of construction Mar, 2011	31 months

Source: Bina Marga



Source: Design Report for Tanjung Priok Access Road Construction Project

Figure 2.8-5 Plan of Tanjung Priok Access Road

(3) West Java Area

Jasa Marga has a plan to increase the number of lanes of the existing toll roads as listed in Table 2.8-6. The increased road capacity will contribute to alleviate the traffic condition especially on Jakarta-Cikampek toll road where serious traffic congestion occurs due to cargo traffic generated from the development of industrial areas in Cibitung, Cikarang and Karawang

Table 2.8-6 Widening plan on toll road

Road name	Location	length (km)	Number of lanes	Schedule
Jakarta - Cikampek	Cibitung – Cikarang Timur	13.7	6 to 8	Apr 2010 - Sep 2010
	IC Dawuan – Cikampek	6.5	4 to 6	Jun 2010 - Feb 2011
Jagorawi	TMII - Cibubur	9.1	6 to 8	Dec 2010 - Sep 2011
	Cibubur – Cibirong	13.7	6 to 8	Dec 2010 - Sep 2011
Jakarta - Tangerang	Tomang – Tangerang Barat	26.0	6 to 8	Sep 2010 - Aug 2011

Source: Jasa Marga s

In addition, Trans Java Toll Road (TJTR) is proposed to link most major manufacturing centers of Java by the Ministry of Public Works. As part of this network, 7 of 10 sections of the toll road from Cikampek to Surabaya already have concessionaires and some of them have begun construction.



Source: Trams Kava Toll Road PPP Project by Ministry of Public Works

Figure 2.8-6 Plan of Trans Java Toll Road

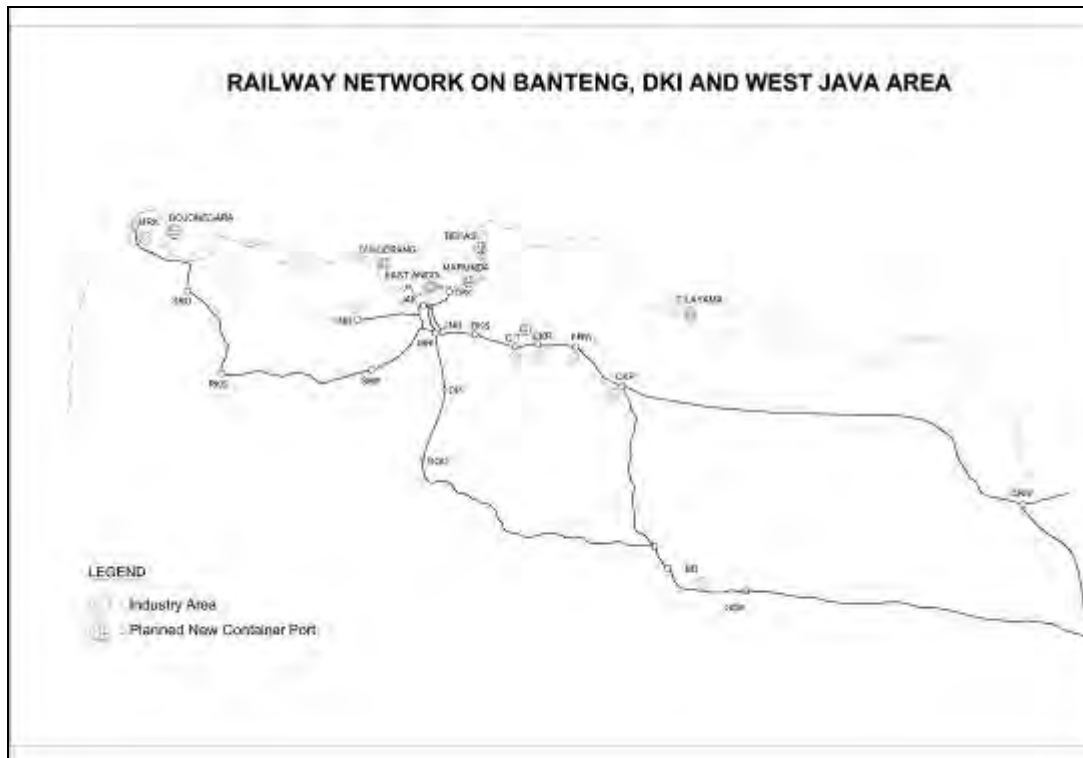
2.9 Review of the Situation and Development Plans of Railway Network

2.9.1 Overview of regional railway network

(1) Railway Network in Project Area

The existing freight transportation in Java island is composed of coal, bulk and container transport between Banteng, Jakarta DKI District areas and West Java area (See Figure 2.9-1 and Table 2.9-1). Among 9 operational regions (Daerah Operasi/DAOP)¹ in whole Java Island, DAOP I (Jakarta) and DAOP II (Bandung) are laid in the project area of this study.

¹ (Daop I) - Jakarta, (Daop II) - Bandung, (Daop III) - Cirebon, (Daop IV) - Semarang, (Daop V) - Purwokerto, (Daop VI) - Yogyakarta, (Daop VII) - Madiun, (Daop VIII) - Surabaya, (Daop IX) - Jember



Source: JICA Study Team

Figure 2.9-1 Railway Network on Banteng, DKI and West Java Area

(2) Freight Transportation in Java Island

The total freight traffic volume in Indonesia is approximately 17 million tons annually, and has maintained an almost constant level for the last couple of years. Although freight traffic is starting to attract interest from the coal production market in Sumatra and Kalimantan Islands, passenger trains play a much more important role than freight trains in Java Island at present.

However, consistent with the government policy of saving fuel consumption, freight railway transport is expected to play a significant role in the nation's logistic growth.

(3) Freight Transportation Routes and Volumes

Freight transportation routes and volumes from 2004 to 2009 are presented in the following tables. Some observations made from these data are drawn below:

- Freight traffic across the project area are generated mostly in Pasoso, Jakarta Gudun, Sungai, Cigading (DAOP I), Gedebage (DAOP II), and Central / East Java Provinces (Semarang, Surabaya).
- Freight traffic in DAOP I shows a 39% increase for the last 5 years, while the traffic in DAOP II shows a 27% decrease over the same period.
- Majority of the traffic in DAOP I is coal transport from Cigading to Bekasi, which reaches around 40% of all the freight transport handled in this region. Total container traffic handled between North Jakarta and Gedebage or between North Jakarta and East Java accounts for around 20% of the total.
- Freight traffic in DAOP II is less than 20% of that in DAOP I. More than half of all the traffic in this region is the containers from Gedebage to Tg. Priok.

Table 2.9-1 Annual Freight Transport Volume (2004 and 2005)

YEAR 2004				YEAR 2005			
COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)	COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)
DAOP-I				DAOP-I			
COAL (Cgd - Bks)	417,564	67,224	6,999,301	COAL (Cgd - Bks)	494,172	78,009	8,692,711
PK. DLN CNC (Sao - Smg)	-	-	-	PK. DLN CNC (Sao - Smg)	-	-	-
PK. ANTABOGA (Jakg - Sbi)	112,761	81,451	5,956,078	PK. ANTABOGA (Jakg - Sbi)	108,976	84,315	7,164,360
CONTAINER CENCON (Sao - Kim)	89,148	64,191	3,668,413	CONTAINER CENCON (Sao - Kim)	56,856	40,512	3,372,859
CONTAINER JPT (Poo - Klm)	-	-	-	CONTAINER JPT (Poo - Klm)	-	-	-
PARCEL (Jakg - Sbi)	22,580	16,505	5,645,000	PARCEL (Jakg - Sbi)	25,990	18,912	7,146,700
PARCEL II (Jakg - Sbi)	-	-	-	PARCEL II (Jakg - Sbi)	-	-	-
AQUA (Ceper - Jakg)	-	-	-	AQUA (Ceper - Jakg)	-	-	-
AQUA	-	-	-	AQUA	-	-	-
BANK (B.I)	1,600	1,092	1,866,432	BANK (B.I)	440	291	488,569
CONTAINER II (Poo - Klm)	-	-	-	CONTAINER II (Poo - Klm)	-	-	-
CONTAINER III	-	-	-	CONTAINER III	-	-	-
STEEL COIL	-	-	-	STEEL COIL	7,330	6,499	674,372
STEEL (Jakg - Sbi)	57,930	42,347	4,093,720	STEEL (Jakg - Sbi)	55,420	40,558	4,174,141
CONTAINER (Poo - Gdb)	42,252	8,726	1,146,432	CONTAINER (Poo - Gdb)	30,003	13,784	713,323
B.H.P.	885	495	2,022,839	B.H.P.	2,815	1,914	4,763,031
OTHERS	-	-	-	OTHERS	-	-	-
TOTAL DAOP-I	744,720	282,031	31,398,215	TOTAL DAOP-I	782,002	284,794	37,190,066
DAOP-II				DAOP-II			
CONTAINER (Gdb - Poo)	76,140	14,279	2,061,038	CONTAINER (Gdb - Poo)	80,290	15,014	1,937,934
B.H.P.	4,314	2,418	1,479,957	B.H.P.	3,597	1,989	1,269,308
OTHERS	113,192	6,326	1,261,543	OTHERS	70,275	2,950	1,558,184
TOTAL DAOP-II	193,646	23,023	4,802,538	TOTAL DAOP-II	154,162	19,953	4,765,426
DAOP-III				DAOP-III			
B.H.P.	-	-	-	B.H.P.	-	-	-
OTHERS	-	-	-	OTHERS	-	-	-
TOTAL DAOP-III	-	-	-	TOTAL DAOP-III	-	-	-
DAOP-IV				DAOP-IV			
PK DLN (Smg - Sao)	-	-	-	PK DLN (Smg - Sao)	-	-	-
CONTAINER (Smg - Sk)	943	370	97,122	CONTAINER (Smg - Sk)	1,885	744	119,516
CONTAINER (Smg - Klm)	87,636	7,903	1,042,111	CONTAINER (Smg - Klm)	82,620	7,385	982,144
COARSE SAND	83,561	28,441	3,401,893	COARSE SAND	79,519	25,686	3,233,139
B.H.P.	1,546	531	316,441	B.H.P.	1,237	440	248,691
OTHERS	152	68	7,463	OTHERS	14,316	2,053	405,281
TOTAL DAOP-IV	173,838	37,313	4,865,130	TOTAL DAOP-IV	179,577	36,308	4,988,771

Source: PT, KA

Table 2.9-2 Annual Freight Transport Volume (2006 and 2007)

YEAR 2006				YEAR 2007			
COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)	COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)
DAOP-I				DAOP-I			
COAL (Cgd - Bks)	458,579	80,409	9,630,321	COAL (Cgd - Bks)	387,716	70,598	8,142,036
PK. DLN CNC (Sao - Smg)	-	-	-	PK. DLN CNC (Sao - Smg)	-	-	-
PK. ANTABOGA (Jakg - Sbi)	132,660	88,663	9,195,076	PK. ANTABOGA (Jakg - Sbi)	140,025	99,910	10,342,512
CONTAINER CENCON (Sao - Kim)	74,465	54,173	5,511,158	CONTAINER CENCON (Sao - Kim)	72,990	52,063	5,361,756
CONTAINER JPT (Poo - Klm)	-	-	-	CONTAINER JPT (Poo - Klm)	-	-	-
PARCEL (Jakg - Sbi)	25,380	18,553	9,136,803	PARCEL (Jakg - Sbi)	37,137	27,148	12,075,675
PARCEL II (Jakg - Sbi)	-	-	-	PARCEL II (Jakg - Sbi)	-	-	-
AQUA (Ceper - Jakg)	-	-	-	AQUA (Ceper - Jakg)	-	-	-
AQUA	-	-	-	AQUA	-	-	-
BANK (B.I)	140	75	229,586	BANK (B.I)	290	160	573,838
CONTAINER II (Poo - Klm)	-	-	-	CONTAINER II (Poo - Klm)	-	-	-
CONTAINER III	-	-	-	CONTAINER III	-	-	-
STEEL COIL	992	878	91,264	STEEL COIL	-	-	-
STEEL (Jakg - Sbi)	57,810	42,259	5,314,276	STEEL (Jakg - Sbi)	59,890	43,707	5,494,104
CONTAINER (Poo - Gdb)	37,521	4,748	768,573	CONTAINER (Poo - Gdb)	53,849	8,401	1,568,345
B.H.P.	7,749	5,665	5,343,910	B.H.P.	6,308	4,633	6,005,654
OTHERS	13,890	347	76,395	OTHERS	22,794	2,301	125,375
TOTAL DAOP-I	809,186	295,770	45,297,362	TOTAL DAOP-I	780,999	308,921	49,689,295
DAOP-II				DAOP-II			
CONTAINER (Gdb - Poo)	70,862	13,890	2,059,439	CONTAINER (Gdb - Poo)	93,836	17,532	2,423,644
B.H.P.	3,666	2,117	1,881,869	B.H.P.	4,002	2,302	2,209,501
OTHERS	64,370	3,718	960,627	OTHERS	91,404	6,428	576,742
TOTAL DAOP-II	138,898	19,725	4,901,935	TOTAL DAOP-II	189,242	26,262	5,209,887
DAOP-III				DAOP-III			
B.H.P.	-	-	-	B.H.P.	-	-	-
OTHERS	-	-	-	OTHERS	-	-	-
TOTAL DAOP-III	-	-	-	TOTAL DAOP-III	-	-	-
DAOP-IV				DAOP-IV			
PK DLN (Smg - Sao)	-	-	-	PK DLN (Smg - Sao)	-	-	-
CONTAINER (Smg - Sk)	1,991	778	125,963	CONTAINER (Smg - Sk)	1,900	1,370	199,961
CONTAINER (Smg - Klm)	15,450	1,422	244,944	CONTAINER (Smg - Klm)	-	-	-
COARSE SAND	43,772	13,981	2,338,068	COARSE SAND	28,668	8,534	1,472,236
B.H.P.	1,582	880	507,307	B.H.P.	1,335	563	773,216
OTHERS	9,269	1,665	230,774	OTHERS	35,181	2,267	202,132
TOTAL DAOP-IV	72,064	18,726	3,447,056	TOTAL DAOP-IV	66,684	12,734	2,647,545

Source: PT, KA

Table 2.9-3 Annual Freight Transport Volume (2008 and 2009)

YEAR 2008				YEAR 2009			
COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)	COMMODITIES	VOLUME (TON)	TON-KM (10 ³)	INCOMM (RP x 10 ³)
DAOP-I				DAOP-I			
COAL (Cgd - Bks)	422,744	74,828	9,695,650	COAL (Cgd - Bks)	422,940	72,809	9,978,959
PK. DLN CNC (Sao - Smg)	4,590	2,088	282,917	PK. DLN CNC (Sao - Smg)	15,568	9,938	1,088,149
PK. ANTABOGA (Jakg - Sbi)	144,678	104,486	12,392,035	PK. ANTABOGA (Jakg - Sbi)	156,753	121,898	14,316,445
CONTAINER CENCON (Sao - Kim)	84,748	62,037	8,002,893	CONTAINER CENCON (Sao - Kim)	79,134	64,131	7,700,981
CONTAINER JPT (Poo - Klm)	-	-	-	CONTAINER JPT (Poo - Klm)	68,280	50,732	6,690,155
PARCEL (Jakg - Sbi)	49,682	36,316	17,907,402	PARCEL (Jakg - Sbi)	56,554	41,409	18,601,730
PARCEL II (Jakg - Sbi)	-	-	-	PARCEL II (Jakg - Sbi)	2,067	1,511	1,033,300
AQUA (Ceper - Jakg)	-	-	-	AQUA (Ceper - Jakg)	-	-	-
AQUA	-	-	-	AQUA	-	-	-
BANK (B.I)	310	203	679,960	BANK (B.I)	-	-	-
CONTAINER II (Poo - Klm)	-	-	-	CONTAINER II (Poo - Klm)	-	-	-
CONTAINER III	-	-	-	CONTAINER III	-	-	-
STEEL COIL	-	-	-	STEEL COIL	16,922	1,220	253,836
STEEL (Jakg - Sbi)	61,560	45,001	6,133,417	STEEL (Jakg - Sbi)	57,480	42,018	5,692,607
CONTAINER (Poo - Gdb)	45,422	8,089	1,365,141	CONTAINER (Poo - Gdb)	62,006	12,092	2,078,665
B.H.P	10,907	7,997	8,339,827	B.H.P	15,211	9,552	12,052,232
OTHERS	59,379	1,476	326,584	OTHERS	169,380	2,970	928,794
TOTAL DAOP-I	884,020	342,521	65,125,826	TOTAL DAOP-I	1,122,295	430,280	80,416,053
DAOP-II				DAOP-II			
CONTAINER (Gdb - Poo)	76,869	13,094	2,708,203	CONTAINER (Gdb - Poo)	49,520	9,470	1,668,092
B.H.P	5,020	2,648	2,694,991	B.H.P	12,091	4,062	3,832,336
OTHERS	58,745	3,288	573,567	OTHERS	-	-	-
TOTAL DAOP-II	140,634	19,030	5,976,761	TOTAL DAOP-II	61,611	13,532	5,500,428
DAOP-III				DAOP-III			
B.H.P	34	13	11,520	B.H.P	59	24	21,373
OTHERS	16,690	701	91,794	OTHERS	30,830	1,538	668,606
TOTAL DAOP-III	16,724	714	103,314	TOTAL DAOP-III	30,889	1,562	689,979
DAOP-IV				DAOP-IV			
PK DLN (Smg - Sao)	657	284	64,627	PK DLN (Smg - Sao)	787	355	73,998
CONTAINER (Smg - Sk)	1,472	629	147,685	CONTAINER (Smg - Sk)	222	205	7,966
CONTAINER (Smg - Klm)	-	-	-	CONTAINER (Smg - Klm)	56	19	4,669
COARSE SAND	26,654	7,444	1,273,537	COARSE SAND	19,338	4,830	988,954
B.H.P	872	513	529,720	B.H.P	994	398	570,981
OTHERS	192,504	6,077	883,448	OTHERS	118,969	5,019	702,575
TOTAL DAOP-IV	255,607	16,375	3,105,645	TOTAL DAOP-IV	140,366	10,826	2,349,143

Source: PT. KA

(4) Railway Facilities

Rail, sleeper, and number of tracks in the Project Area are summarized in Figure 2.9-2.

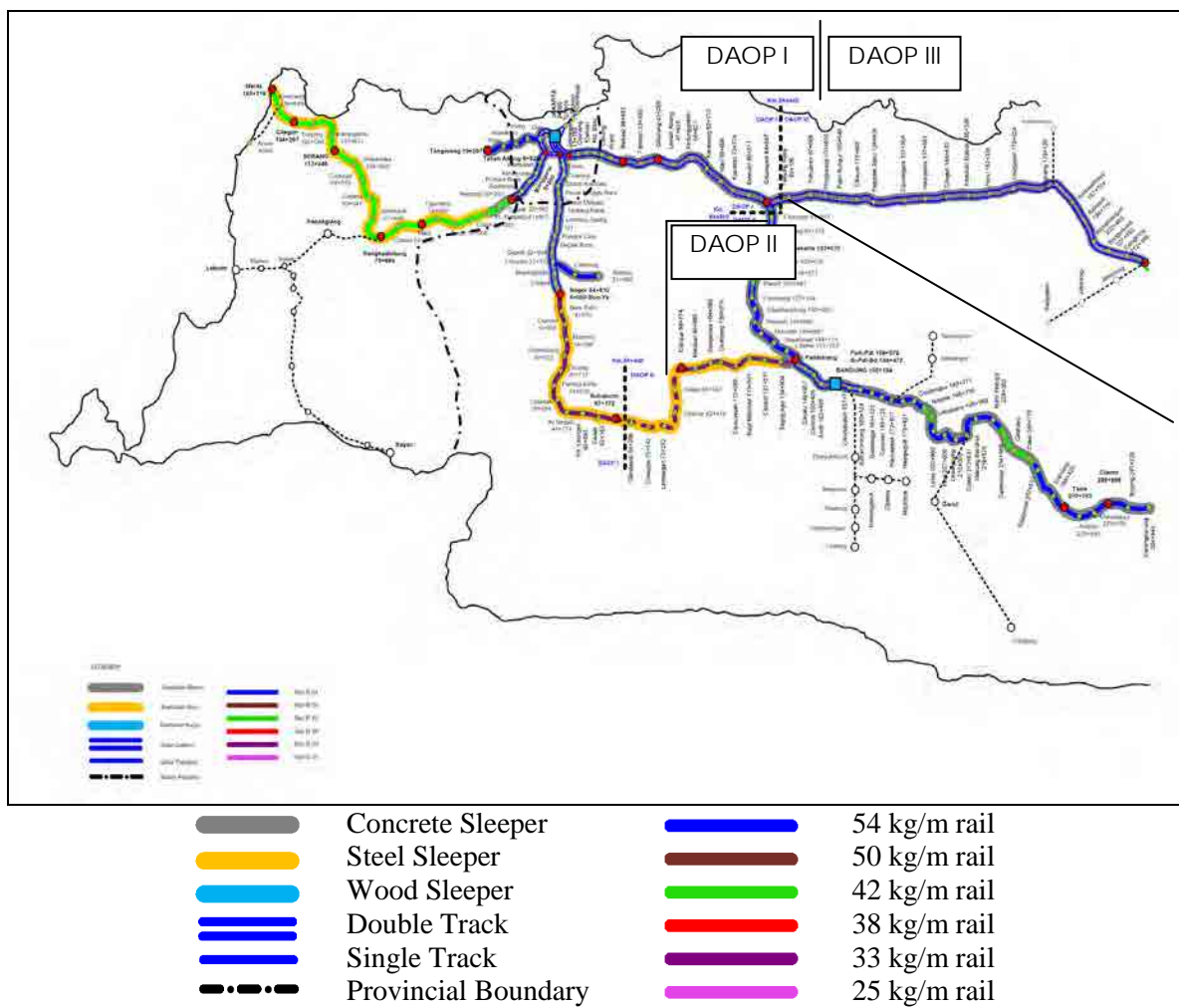


Figure 2.9-2 Types of Track Structures in Project Area

Railway facilities of Jabodetabek Railways and other provincial regions show significant differences. Most sections in Jabodetabek Railways are now double tracked and electrified to 1500V DC (except the Serpong and the Tangelang Line which applies 1,800V DC), while other regions are still operated under diesel technology. Automated electric block signaling is used on all lines except the Tg. Priok Line in Jabodetabek Railways and vicinities, whereas mechanical interlocking is still used in some provincial areas.

DAOP I of PT KA owns 51 locomotives, 1 diesel railcar, 195 electric railcars that are ready for operation as of 2007. All the freight trains are currently hauled by diesel locomotives. These diesel locomotives are maintained at Jatinegara in DAOP I and Bandung in DAOP II.

According to DAOP I, the performance of the existing locomotives is generally good. There are 3 types of existing locomotive owned by PT. KA, C201, C203 and C204. C201 is a type of locomotive dedicated for freight transport.