Japan International Cooperation Agency (JICA)

NO.

Final Report

The Study for Development of the Greater Jakarta Metropolitan Ports in the Republic of Indonesia

Summary

December 2003

The Overseas Coastal Area Development Institute of Japan (OCDI)
Pacific Consultants International (PCI)

Exchange Rate

1USDoller=8,500Rupiah=120Yen

(As June 2003)

Japan International Cooperation Agency (JICA)

Final Report

The Study for Development of the Greater Jakarta Metropolitan Ports in the Republic of Indonesia

Summary

December 2003

The Overseas Coastal Area Development Institute of Japan (OCDI)
Pacific Consultants International (PCI)

Tanjung Priok Port (2025)

Tanjung Priok Port (2012)

Bojonegara Port (2025)

Bojonegara Port (2012)

PREFACE

In response to a request from the Government of the Republic of Indonesia (hereinafter referred to as "GOI"), the Government of Japan decided to conduct a Study for the Greater Jakarta Metropolitan Ports in the Republic of Indonesia and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team to Indonesia four times between March 2002 and October 2003, which was headed by Mr. Hidehiko Kuroda of the Oversea Coastal Area Development Institute of Japan (OCDI) and was comprised of OCDI and Pacific Consultants International, Ltd (PCI).

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

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

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

November 2003

Kazuhisa Matsuoka

Vice President

Japan International Cooperation Agency

LETTER OF TRANSMITTAL

November 2003

Mr. Kazuhisa Matsuoka
Vice President
Japan International Cooperation Agency

Dear Mr. Matsuoka:

It is my great pleasure to submit herewith the Final Report of "The Study for Development of the Greater Jakarta Metropolitan Ports in the Republic of Indonesia".

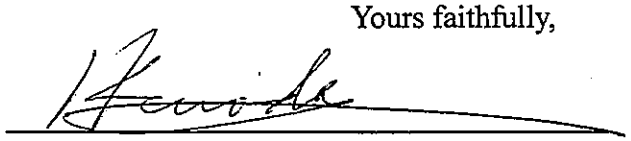
The study team comprised of the Overseas Coastal Area Development Institute of Japan (OCDI) and Pacific Consultants International (PCI) conducted surveys in the Republic of Indonesia over the period between March 2002 and October 2003 according to the contract with the Japan International Cooperation Agency (JICA).

The study team compiled this report, which proposes the future development scenario for the Greater Jakarta Metropolitan ports and Master Plans and Short-term Plan of Tanjung Priok Port and Bojonegara new port up to 2025 and 2012 respectively, together with the feasibility study on urgent project for both pots, through close consultations with officials of the Ministry of Communications of the Indonesian Government and other authorities concerned.

On behalf of the study team, I would like to express my heartfelt appreciation to the Ministry of Communications and other authorities concerned for their cooperation, assistance, and heartfelt hospitality extended to the study team.

I am also greatly grateful to the Japan International Cooperation Agency, the Ministry of Foreign Affairs, the Ministry of Land, Infrastructure, and Transport, and the Embassy of Japan in Indonesia for valuable suggestions and assistance during the course of the study.

Yours faithfully,



Hidehiko KURODA
Team Leader
The Study for Development of the Greater Jakarta Metropolitan Ports in the Republic of Indonesia

LIST OF ABBREVIATIONS

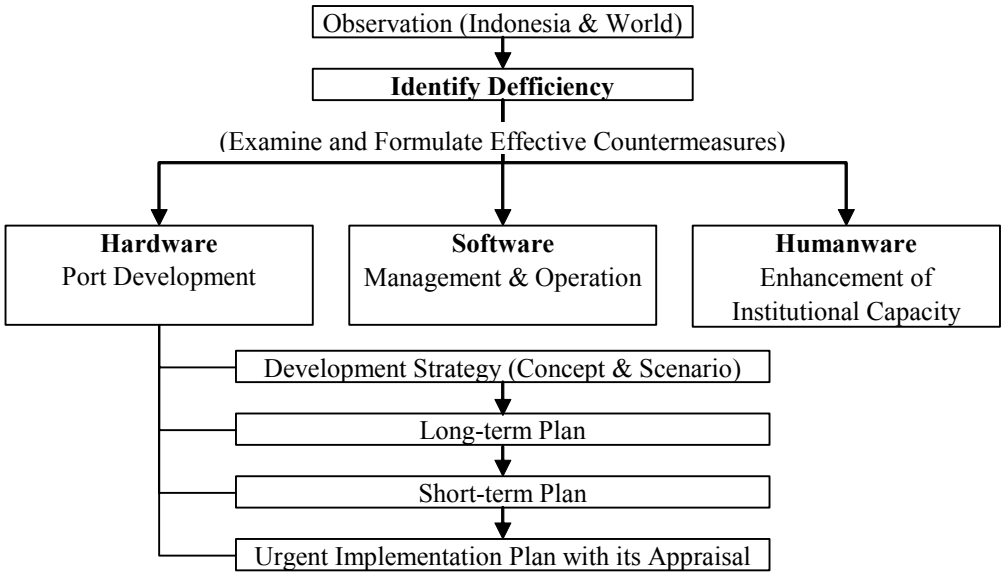
A	ADPEL	Port Administrator Office
	AFTA	ASEAN Free Trade Area
	AMDAL	Environmental Impact Assessment
	ADB	Asian Development Bank
	ASEAN	Association of South East Asian Nations
B	BAPEDAL	Environmental Impact Management Agency
	BAPEDALDA	Brunch Office of BAPEDAL
	BAPPEDA	Provincial Development and Planning Board
	BAPPENAS	National Development Planning Agency
	BCH	Box/Crane/Hour
	B/C	Benefit/Cost
	BKPM	Investment Coordination Board
	BOD	Biological Oxygen Demand
	BOR	Berth Occupancy Ratio
	BOT	Build-Operate-Transfer
	BPS	Central Bureau of Statistics
	BPPN	International Bank of Reconstruction and Development
	BT	Berthing Time
	BUMN	State Owned Company
C	CFS	Container Freight Station
	COD	Chemical Oxygen Demand
D	DGLC	Directorate General of Land Communication
	DGH	Directorate General of Highways
	DGSC	Directorate General of Sea Communication
	DO	Dissolved Oxygen
	DTV	Daily Traffic Volume
E	EDI	Electric Data Interchange
	EIA	Environmental Impact Assessment
	EIRR	Economic Internal Rate of Return
	ET	Effective Time (at Berth)
F	FCL	Full Container Load
	FTA	Free Trade Area
	FIRR	Financial Internal Rate of Return
	FDI	Foreign Direct Investment
G	GBHN	Broad Outlines of the Nation's Direction
	GDP	Gross Domestic Product
	GOI	Government of Indonesia
	GOJ	Government of Japan
	GRDP	Gross Regional Domestic Product
	GT	Gross Tonnage

H		
I	IAPH	International Association of Ports and Harbors
	IBRD	International Bank of Reconstruction and Development
	IDB	Islamic Development Bank
	IEE	Initial Environmental Examination
	IMF	International Monetary Fund
	IMTN	Indonesia Medium Term Notes
	INSA	Indonesian National Ship Owner Association
	IPC	Indonesia Port Corporation
J	Jabotabek	Jakarta, Bogor, Tangerang and Bekasi area
	JBIC	Japan Bank for International Cooperation
	JICA	Japanese International Cooperation Agency
	JICT	Jakarta International Container terminal
	JKT	Jakarta
	JO	Joint Operation
	JORR	Jakarta Outer Ring Road
	JV	Joint Venture
K	KANPEL	Port Administration Office (Non-commercial Port)
	KANWIL	Provincial Office of a Central Ministry
	Keppres	Presidential Decree
	Kimpraswil	Ministry of Settlements and Regional Development
	KM	Ministerial Decree
	KSO	Kerjasma Operasi (Joint Operation)
L	LCL	Less then Container Load
M	MENEG LH	State Ministry for Environment
	MOC	Ministry of Communication
	MOF	Ministry of Finance
	MOSOE (MOSOC)	Ministry of State-Owned Enterprises (Companies)
	M(O)SRD	Ministry of Settlements and Regional Development
N	NGOs	Non Government Organizations
	NPS	National Port System
	NPV	Net Present Value
O	OD	Origin and Destination
	ODA	Official Development Assistance
P	PCC	Pure Car Carrier
	PCU	Passenger Car Unit
	PELINDO	Indonesia Port Corporation
	PELNI	Indonesian National Shipping Company
	PERSERO	State-Owned Company

	PERUM ASDP	State-Owned Inland Waterways & Ferry Company
	pH	Hydrogen ion concentration
	PIANC	Permanent International Association of Navigation Congress
	PJP Ⅱ	The Second Long Term Development Plan
	PM10	Particular matter less than 10 μ m
	PP	Government Regulation
	PPKB	Permintaan Pelayanan Kapal dan Barang (The Demands of Ship and Good Services)
	PPSA	One Roof Port Service Center
	PROPENAS	National Development Policy
	PRT	Port Related Traffic
	PSA	PSA Company (changed from Port of Singapore Authority)
	PSP	Private Sector Participation
	PT.	Limited Company
	PT.RUKINDO	Indonesia Dredging State Limited Company
R	REPELITA	National Five-year Development Plan
	REPELITADA	Local Five-year Development Plan
	RKL	Environmental Management Plan
	Rp.	Rupiah
	RPL	Environmental Monitoring Plan
	RTRW	Spatial Use Plan
	RTG	Rubber Tire mounted Gantry
S	SIMOPPEL	Port Operation Management Information System
	SOLAS	International Convention on Safety of Life at Sea
	SOR	Shed Occupancy Ratio
	SPM	Suspended Particle Matter
	SS	Suspended Solid
T	TEU	Twenty Foot Equivalent Unit
	THC	Terminal Handling Charge
	TGH	Ton/Gang/Hour
	TOR	Term of Reference
	TTV	Through Traffic Volume
U	UNCTAD	United Nations Conference on Trade and Development
	UU	Law
W	WB	World Bank
Y	YDT	Yard Dwelling Time
	YOR	Yard Occupancy Ratio

Executive Summary -Conclusion and Recommendation-

1. The study for "Development of Greater Jakarta Metropolitan Ports", was implemented following the procedure hereunder:



2. Conclusions and recommendations of the study are given below.

A. Identified Deficiencies

3. Tanjung Priok port now functions as the largest trading port in the Western Java area. However, its physical figure is almost the same as it was in the Dutch colonial era and the port productivity has been gradually deteriorated compared to major ASEAN ports. This will let the port's function paralyzed in near future, and which will surely depress the investment climate especially for foreign investors. As a result, global companies will likely withdraw from this area and Indonesian products will lose competitiveness in the international market, especially in the ASEAN market.

4. The critical issue now facing the existing Tanjung Priok port are as follows, which are summarized in "being unable to meet the port users' needs":

- Lack of speedy and credible cargo transit through the port
- Lack of safe and secure cargo handling
- Lack of available port facilities and space to accommodate the cargo demand
- Lack of fair and transparent dues and charge

5. The study team identified the causes of this unfavorable situation as follows:

- Limited capacities on ship navigation, land space and inland transport
- Low efficiency/productivity of cargo handling due to capacity constraints and disorderly land use

- Institutional defectiveness in trade facilitation such as inefficient customs clearance, inefficient and inflexible terminal operating system, ineffective EDI system etc.

6. The study team strongly proposes DGSC and IPC-II to duly and continuously follow up and monitor these problems through the collection and observation of accurate data and information.

B. Hardware –Development of the Ports–

7. The study team examined cargo trends and the development potential of the ports, set the port development goal and strategy for ports in the Western Java area and formulated the master plan and the short-term development plan both for Tanjung Priok and Bojonegara. In addition, the study team selected the priority projects for urgent implementation and assessed the viability of the projects both for Tanjung Priok and Bojonegara.

B-1 Development Strategy

Development Targets of Jakarta Metropolitan Ports

- To make the Greater Jakarta Metropolitan port function as a **"Logistic Center" in ASEAN regions** in order to maintain and enhance the competitiveness of Indonesian industry in the region by providing an attractive business /investment environment.
- To make the Greater Jakarta Metropolitan port function as a **Regional Hub Port"** not only attracting international trunk lines but also linking them to domestic/inter-island lines

Development Focus

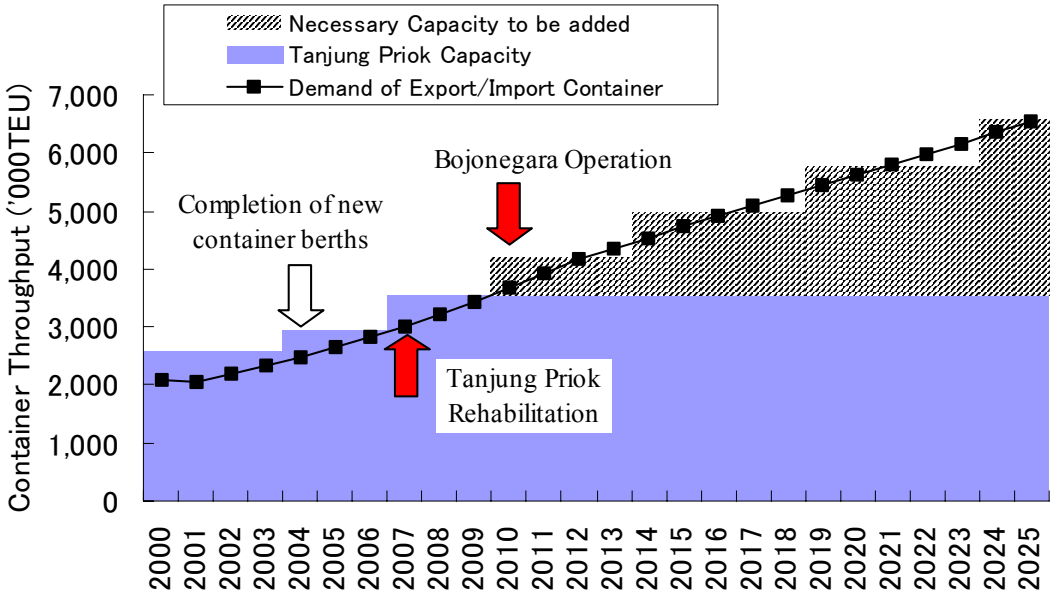
8. In order to achieve the above development targets, the following points should be focused on:

- Best use of the existing facilities
- User friendliness of port facilities
- Strategic port development and management
- Environmental friendliness

Development Scenario

9. The proposed development scenario is as follow:

- To increase the port capacity of Tanjung Priok by its urgent rehabilitation up to 2008 with maximum use of the existing port facilities, which will increase the international container handling capacity of the port up to 3.6~3.8 million TEUs against the current capacity of around 3 million TEUs
- To develop a new container handling port in Bojonegara by 2010 as a twin port of Tanjung Priok, considering the following points:
  - Spatial constraints for new development in the existing Tanjung Priok port and huge cost for new development outside Tanjung Priok port
  - Avoiding intensive concentration of cargo traffic especially large container trailers on the roads of the metropolitan area.



Demand and Capacity (International Container)

Functional Allotment

10. Basic functions of Tanjung Priok port and Bojonegara new port are set as follows, based on the development target and their potentials:

- Tanjung Priok
  - Principal international gate-way port supporting industrial development in Western Java area
- Bojonegara
  - Complementary gate-way port of Tanjung Priok
  - Basic and strategic logistic infrastructure for regional development of Banten

11. Functional allotment among the Ports in the Western Java Area is summarized as follows:

Summary of Functional Allotment among the Ports in the Western Java Area

	Tanjung Priok	Bojonegara	Ciwandan	Merakmas	Merak	Cirebon
Export/Import Container	+++	+++	+	+	-	+
Domestic Container	+++	+	-	-	-	-
Transshipment Container	++	++	-	-	-	-
Conventional Cargo	+++	+++	+++	+	-	+++
Passenger	+++	-	-	-	+++	-
Ro-Ro Cargo	++	++	-	-	+++	-
Car Cargo	+++	+	-	-	-	-

+++: indicates principal ports
++: indicates ports which may become principal ports in future
+: indicates ports which may handle a small portion of cargo in future
-: indicates that cargo will not be handled

B-2 Master Plan and Short Term Development Plan

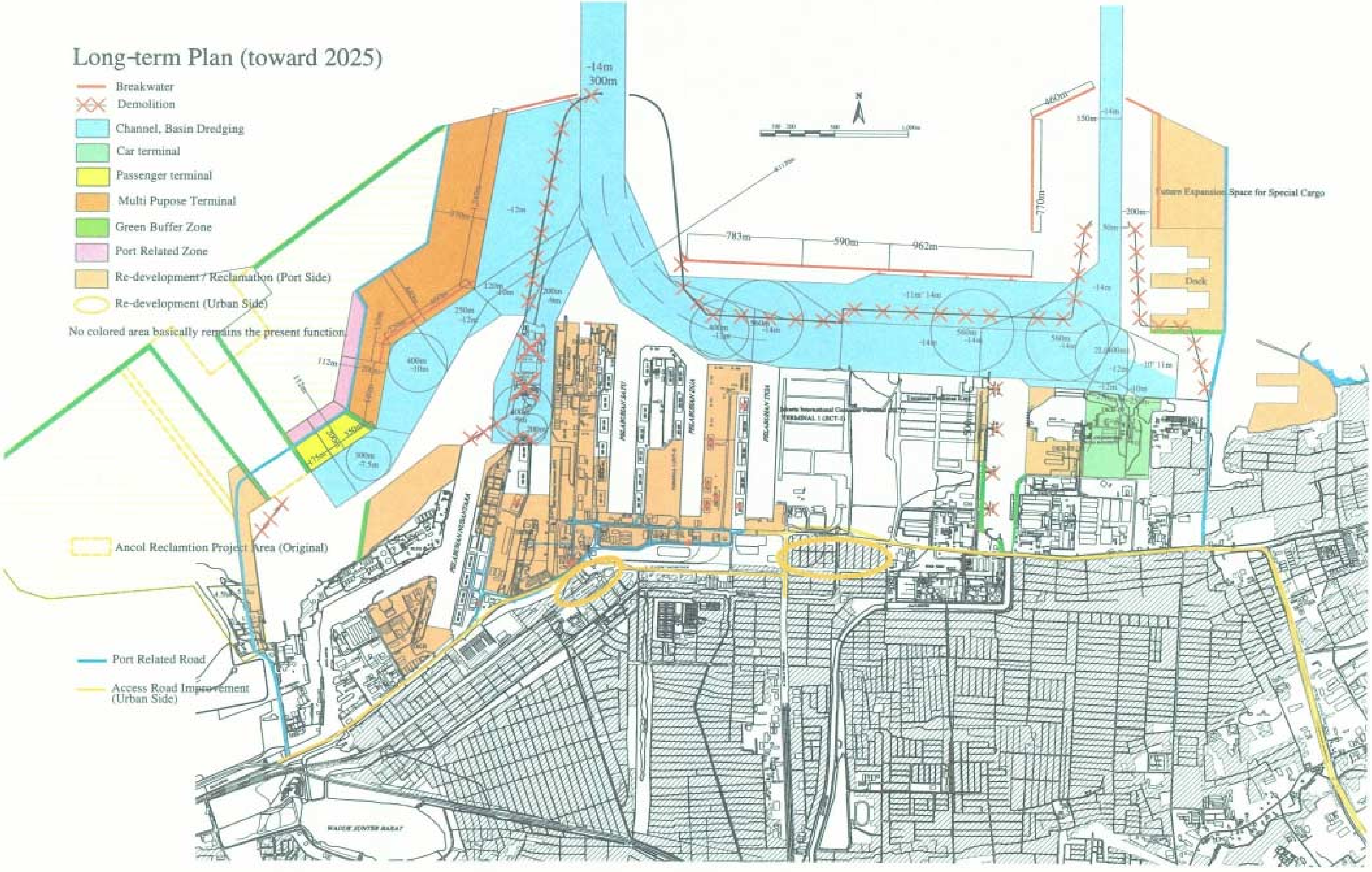
Development Concepts

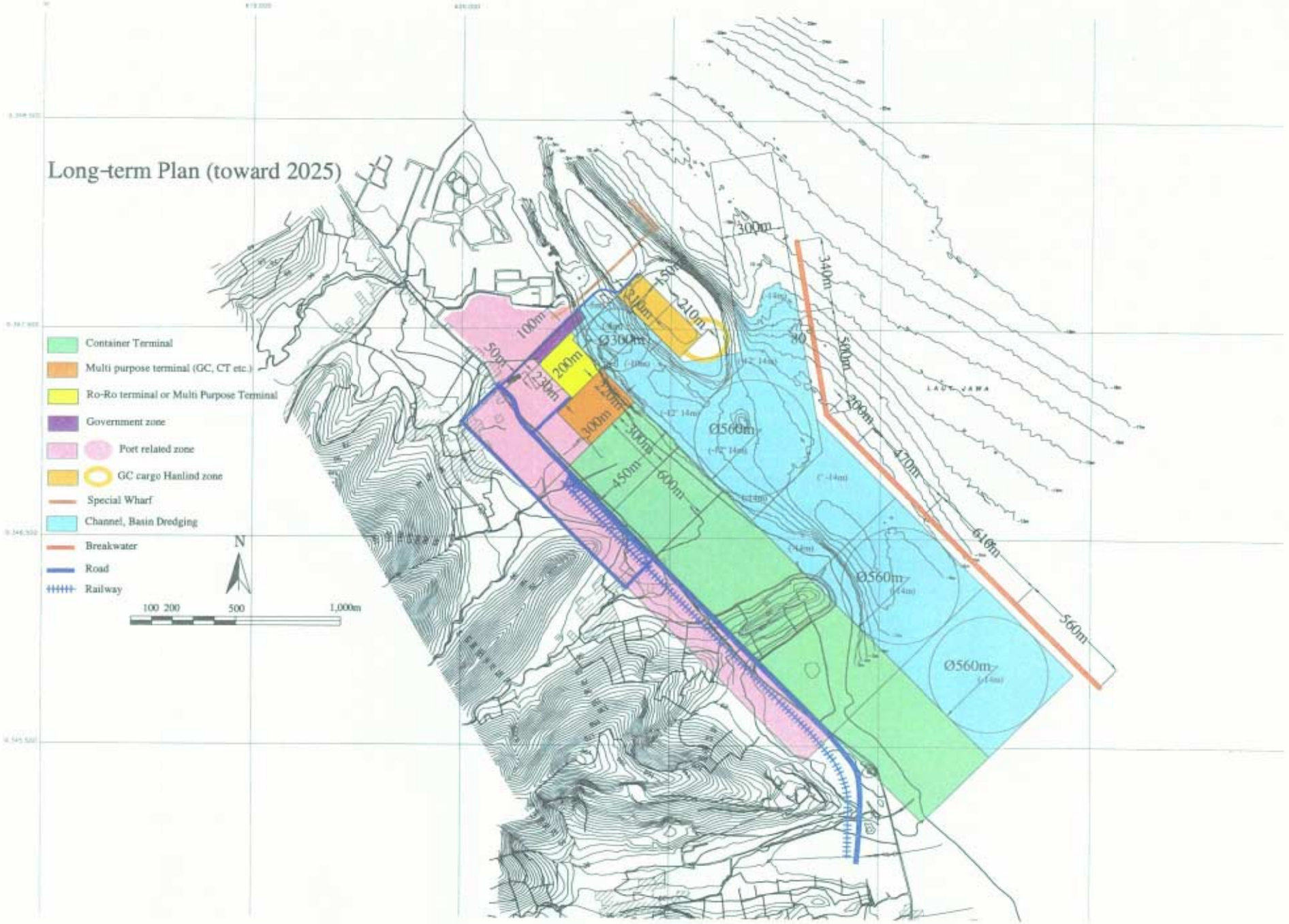
12. Recognizing the strength and the weakness of each port, the study team sets the following development targets and project concepts.

	Development Concepts	*Project Concepts*
Tanjung Priok	✓ To increase the port capacity/productivity ✓ To ensure safety and security of the port ✓ To meet the port users' needs and to provide appropriate services ✓ To consider environment-friendly development	✓ Navigational Condition Improvement (in terms of Capacity & Safety) ✓ Automobile Terminal Development ✓ Re-organizing Land-use of the Existing Port ✓ Development of new port area to accommodate functional relocation from the existing port as well as future demand ✓ Road Improvement/development in/around the port ✓ Ecological Area Development
Bojonegara	✓ To establish high grade, world standard international container terminal ✓ To attract cargo by providing competitive services ✓ To consider environment-friendly development	✓ Development of new Container Terminal with Related Port Facilities ✓ To provide good access to/from the port ✓ To enhance regional industrial development and ensure sufficient coordination with new port development ✓ To minimize the impact of port development on the surrounding environment

Project Components

13. The following project components are recommended to be implemented toward 2025, while projects indicated by bold type are proposed to be developed in the short-term toward 2012.


Long-term Plan (toward 2025)
Breakwater
Demolition
Channel, Basin Dredging
Car terminal
Passenger terminal
Multi Pupose Terminal
Green Buffer Zone
Port Related Zone
Re-development / Reclamation (Port Side)
Re-development (Urban Side)
No colored area basically remains the present function
Ancol Reclamtion Project Area (Original)
Port Related Road
Access Road Improvement
(Urban Side)
Future Expansion Space for Special Cargo
Dock
-14m
300m
783m
590m
962m
770m
460m
150m
-200m
712m
400m
-10m
300m
-7.5m
250m
-12m
-12m


Long-term Plan (toward 2025)
Container Terminal
Multi purpose terminal (GC, CT etc.)
Ro-Ro terminal or Multi Purpose Terminal
Government zone
Port related zone
GC cargo Hanlind zone
Special Wharf
Channel, Basin Dredging
Breakwater
Road
Railway
N
100 200 500 1,000m
300m
340m
500m
300m
470m
610m
560m
Ø560m
Ø560m
Ø500m
Ø300m
240m
210m
100m
50m
200m
230m
220m
300m
300m
450m
600m
LAUT JAWA

Tanjung Priok

Project Concepts		Contents	Remarks
Navigational condition improvement (to increase the capacity together with maintaining navigational safety)		- Widening main channel (300m) & turning basin	Short-term
		- Widening the channel & basin to the Nusantara area together with military relocation	Short-term
		- Opening the east channel to accommodate larger vessels	
Automobile terminal development (1 berth in the short term, 2 berth in the long term)			Short-term
Re-organizing land-use of the existing port			
	Streamlined cargo handling zone	- Inter-island container handling (Pier III reorganization and MTI expansion)	Short-term
		- Bulk cargo handling (CPO, sand, cement etc.)	Short-term
		- Passenger terminal relocation	Short-term
		- Pertamina berths relocation together with consolidation of international container terminal	
	Providing suitable and sufficient space for better port management	- Yard Development	Short-term
		- Reclamation of a part of Nusantara basin	Short-term
		- Consolidation of ship building yard	
		- Relocation of military base	Short-term
	Land-use re-development in the urban area adjacent to the port	- Re-development around the Tanjung Priok railway station	Short-term (Urban side)
		- Re-development of the residential area to the south of JICT container terminal	Short-term (Urban side)
Development of new port area			
	Ancol Development	- New Passenger Terminal	Short-term
		- Multi Purpose Terminal	Short-term
		- Access road	Short-term
	Kalibaru Off-shore Development	- Consolidation of ship building yard	
		- Development of special cargo handling zone	
		- Access road	
		- Development of Kalibaru new port	
Environmental Improvement		- Improvement of water change through the port entrance by re-alignment of breakwater	Short-term
		- Ecological waterfront development with mangrove planting	
		- Development of amenity facilities such as observation tower	
Road development /improvement in/around the existing port		- Port Inner Road Improvement	Short-term
		- Eastern Port Access Highway to link with JORR	Short-term (Road sector)
		- Improvement of the existing urban road including western port access road and access road to/from JIUT	Short-term (Road sector)

Bojonegara

Project Concepts	Contents	Remarks
Basic Infrastructure Development	- Breakwater, channel, basin and necessary port service facilities	Short-term
Development of new Container Terminal (2 berths (600m) in the short term, 8 berths (2,400m) in the long term)		Short-term
Unitized and other cargo handling facilities development	- Multi purpose terminal	Short-term
	- General cargo berth	
	- Ro-Ro terminal	Short-term
	- Special cargo handling	
To provide good access to/from the port	- High-standard access road connecting the existing Jakarta-Merak toll road	Short-term (Road sector)
	- Railway service connected with an inland container distribution center/terminal	
	(In addition to the above access road, JORR (Jakarta Outer Ring Road) is indispensable for the new port operation.)	

B-3 Urgent Plan

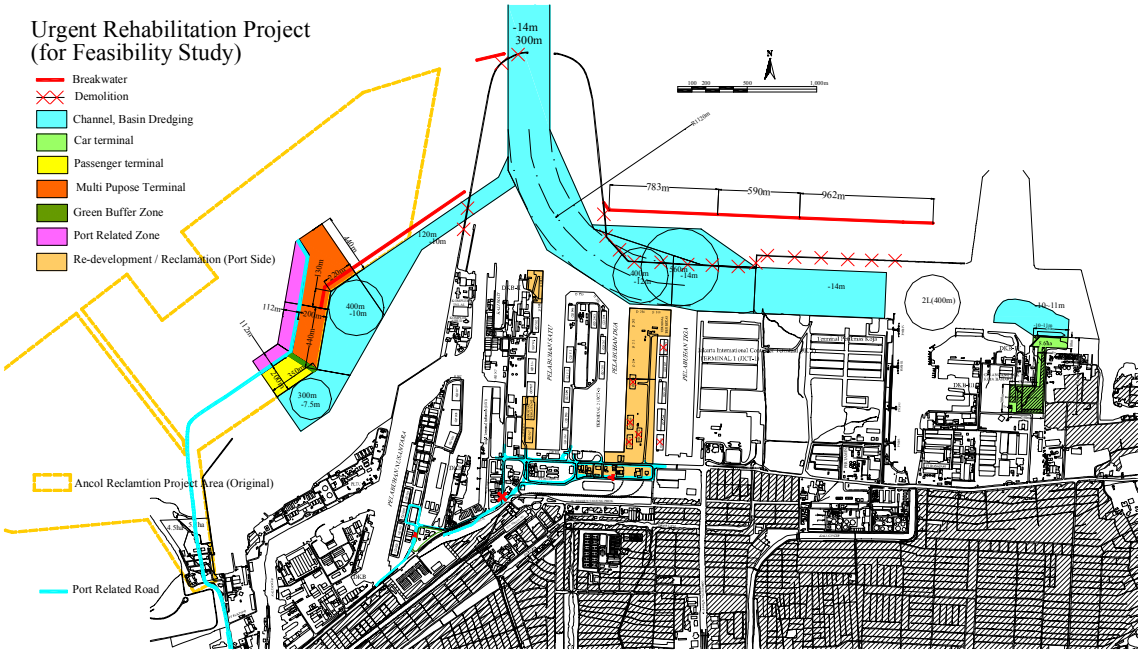
14. Among the projects in the master plan and the short-term development plan, the following projects are proposed to be implemented urgently. The study team assessed viability of the projects from economic, financial and environmental view points.

Urgent Rehabilitation Plan of Tanjung Priok

- Widening the Main Channel and expanding turning basin (should be partly realized by 2006)
- Automobile Terminal Development (should be realized by 2006)
- Inter-island Container Handling Improvement in Pier-III (Step by step redevelopment together with Ancol development; should be partly realized by 2008)
- Ancol Development including New Passenger Terminal, Multi Purpose Terminal and Access Road (Initial development should be realized by 2010)
- Port Inner Road Improvement (should be realized by 2006)
- Eastern Port Access Highway Development Linking with JORR - This project is urgent but should be implemented by Kimpraswil because road itself is outside of the port and will be a part of the urban road network.)

(Feasibility)

- Economic evaluation: EIRR (Port project, excluding Ancol) = 33.0%
  EIRR (Port project, including Ancol) = 18.2%
  EIRR (Access road project) = 25.1%
- Financial evaluation: FIRR (Public sector, excluding Ancol)= 10.7%
  FIRR (Public sector, including Ancol) = 4.3%
  FIRR (Automobile terminal operator) = 16.0%
- Not serious impacts on environment, however, it is desirable to be implemented in accordance with a proper environmental management plan and a monitoring plan.

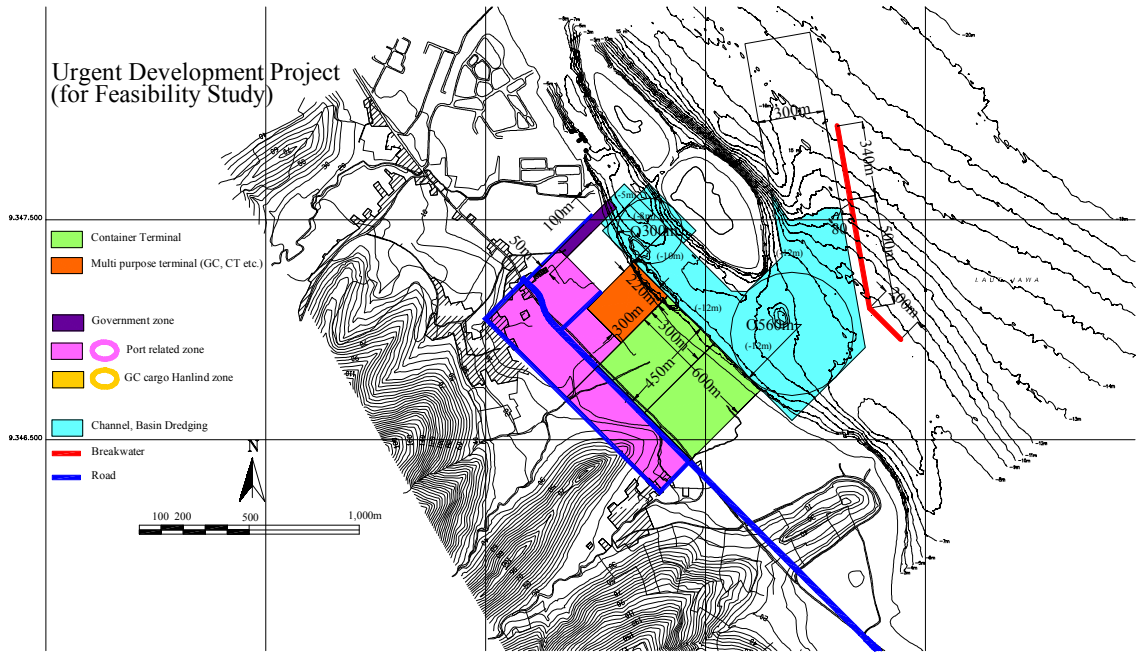


Bojonegara

- Container Terminal Development (should be completed by 2010)
- Multi Purpose Terminal Development (should be completed by 2008)
- Breakwater, Channel and Basin Development (should be developed together with terminal development; breakwater will be necessary for container terminal operation.)
- Port Access Road Development, implemented by Kimpraswil as a national road status (should be developed by 2008 when multi purpose terminal will be into operation.)

(Feasibility)

- Economic evaluation: EIRR=17.9%
- Financial evaluation: FIRR (Public sector)= 6.0%
  FIRR (Container terminal operator)= 18.7%
- Not serious impacts on environment, however, it is desirable to be implemented in accordance with a proper environmental management plan and a monitoring plan.



B-4 Recommendations

15. Based on the above results and conclusions, the study team recommends that the following matters be followed up by DGSC and IPC-II.

To implement the proposed urgent project at the earliest possible time

16. DGSC and IPC-II should make their best efforts to implement and realize the proposed urgent projects for Tanjung Priok rehabilitation as well as for Bojonegara new port development by the combination of soft loan and private fund.

To improve the port access road condition

17. Road sector, i.e. Kimpraswil and/or Jasa Marga should improve the condition of port access roads in good cooperation with port sector, i.e. DGSC and IPC-II. JORR completion is also indispensable for Bojonegara development because the port hinterland will be dependent on the toll road network including JORR.

To formalize master plans as well as land-use plans by government regulation

18. DGSC and IPC-II should follow up the study results and stipulate master plans as well as land-use plans of the Jakarta Metropolitan port by government regulation at the earliest possible time to avoid disorderly development of the port and hinterland.

To take prompt actions for re-organizing the existing port area

19. DGSC and IPC-II should take a prompt action for re-organizing the existing port area, especially on the following matters:

- Military relocation
- Keeping inactivated and/or unutilized land in the port area under the port administration control to prevent disorderly and unchecked development

To follow up environmental matters

20. DGSC and IPC-II should duly consider environmental affairs in carrying out port activities and/or new development. In particular, the following issues should be addressed:

- Countermeasures to deal with drainage and waste material from the city to the port
- Improvement of water quality in/around the port by relocation of breakwater making use of ecological waterfront such as mangrove plantation etc.

C. Software –Management and Operation of the Ports–

21. For better management and operation of the port, the following measures should be taken by DGSC in collaboration with IPC-II:

C-1 Status of Jakarta Metropolitan Port

22. Tanjung Priok and Bojonegara, important infrastructure supporting industrial activities in Western Java area, should be given the status of International Hub Port, and should be properly managed as twin ports of Jakarta Metropolitan port.

C-2 Terminal Operation

To establish an appropriate operation scheme for the automobile terminal

23. A full fledged loading/unloading operation of automobile products requires special skills. Therefore, IPC-II should establish an appropriate operation scheme for the automobile terminal immediately. The study team recommends the following:

- Terminal operation itself should be left to the expertise of automobile transport/handling companies
- Reasonable handling tariff should be set after examining the examples of other terminal as well as taking the port users' opinions into consideration (Based on the financial analysis, the study team proposes around US$13/unit.)
- The terminal should be operated under common use principle for various automotive manufacturing companies

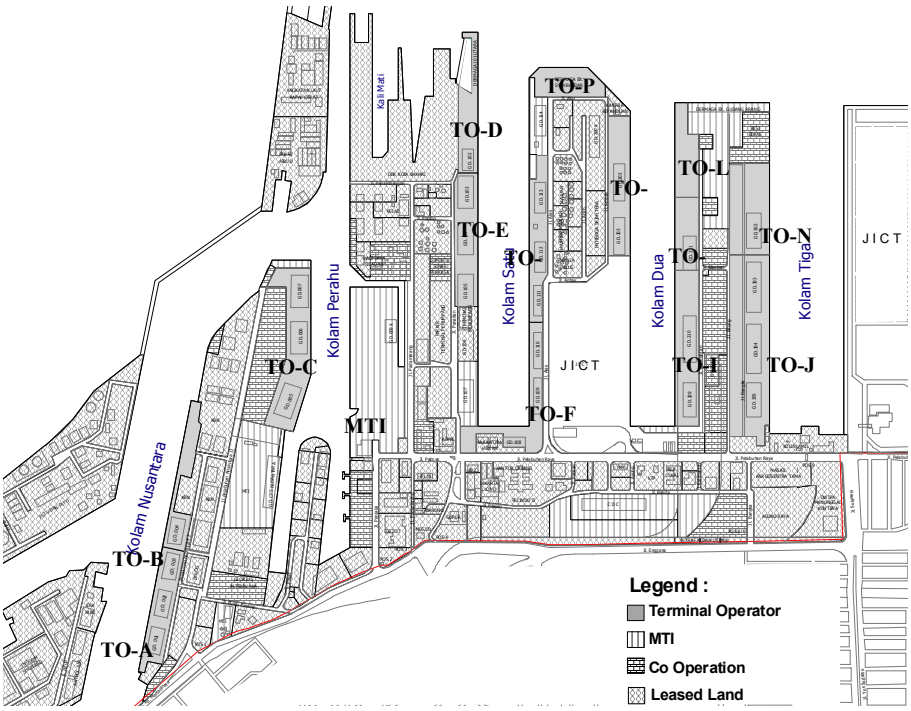
To improve operational performance of terminals

- To monitor operational performance of terminals properly through the following actions:
  - Clearer performance indicators should be introduced to supervise the performance of operators
  - Performance target should be incorporated in the concession agreement or management agreement
- Consolidation of the operators of conventional terminal considering the following points: (From the theoretical point of view, excessive numbers of operator decreases the scale merit in terms of number of available berths for common carriers and this situation causes unnecessary waiting for carriers.)
  - The existing operators of conventional terminal should be grouped into smaller numbers to operate reasonable number of berths jointly to pursue the scale merit.

It is suitable that 5 to 10 berths are available for each terminal operator centering on terminal operators and/or stevedoring with good performance.

- Selection of terminal operators should be carried out by open-tender.

- To reduce berthing time by changing berthing fee system from day charge to time charge
- To establish an effective land traffic management system in/around the port as well as improvement of roads in/around the port.
- To reduce direct delivery ratio to/from the ports with appropriate regulations. To promote the use of yard/transit shed with some incentive is also necessary.
- To properly maintain port facilities and equipment



Existing Operators of Conventional Terminal

To create appropriate concession scheme for Bojonegara container terminal development

24. In introducing the concession scheme to Bojonegara container terminal development, the following points should be taken into consideration:

- Open tender system to secure fairness and transparency should be adopted.
- Assessment of business viability from view points of both IPCII/Government and concessionaire through risk analysis and identifying proper risk sharing scheme between IPCII/Government and concessionaire should be conducted as early as possible after the feasibility study.
- Performance target should be incorporated in the concession agreement and management agreement. Corporate articles together with clear accounting system should be more clearly defined when a joint stock company is a concessionaire candidate. DGSC should play a role of regulator.

C-3 Port Management

To provide reasonable and competitive tariff/charge and maintain transparency of price setting

- Leadership of DGSC should re-examine the existing tariff/charge system comparing with other cases in neighboring ports.
- Based on the above examination, DGSC should formulate the revised concept/system of tariff and port charge and open it to the public.
- IPC-II should show the maximum level of tariff/charge and give terminal operators and/or stevedoring companies a free hand to set actual tariff/charge within the maximum.

  (Based on the financial analysis, handling charge at the container terminal in Bojonegara could be reduced to 60~70% of its current level. The team also proposes a rate of about US$13/unit for the automobile terminal in Tanjung Priok.)

To achieve efficient customs clearance

- Three customs offices in the port area should be integrated into one customs office together in order to achieve a single window procedure

To improve EDI system

25. EDI system expedites documentation procedures in ports including customs clearance. EDI system has already been established in Tanjung Priok, however, it is not fully utilized and optimized yet. The study team recommends the following actions:

- To integrate the existing EDI system with close coordination and cooperation of customs office
- IPC-II should utilize an EDI service provider as a means of getting information on port activities to analyze berth performance

To enhance port security

- To set up a security committee composed of related organizations in order to prevent such incident as pilferage in the port. The committee will meet regularly to discuss problems reported from related offices as well as port users, measures and recommendations to improve the situation.
- To introduce sufficient hardware for port security such as fence and ITV which can be monitored from a central office, together with a constant surveillance system in actual site.

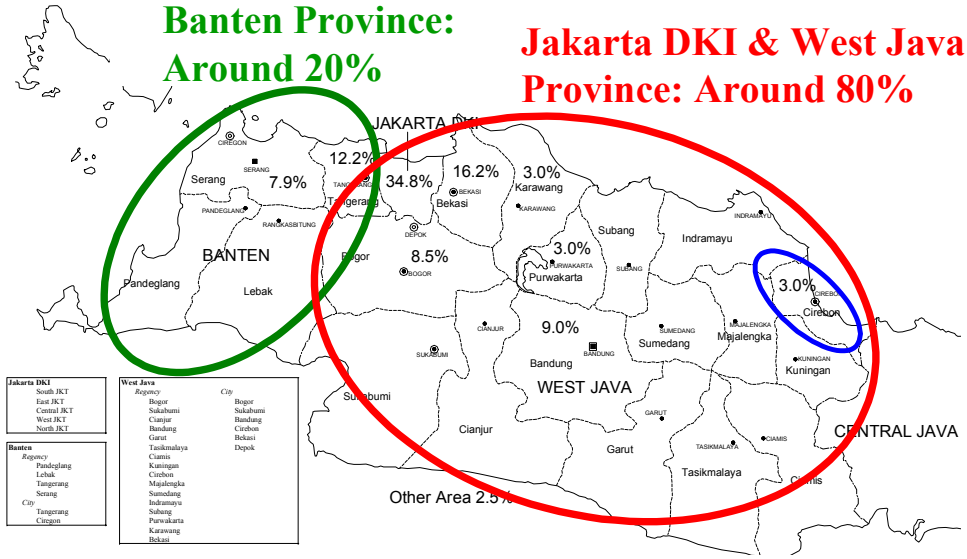
To control land-use of the port area

- Keeping inactivated and/or unutilized land in the port area under the port administration control to prevent disorderly and unchecked development

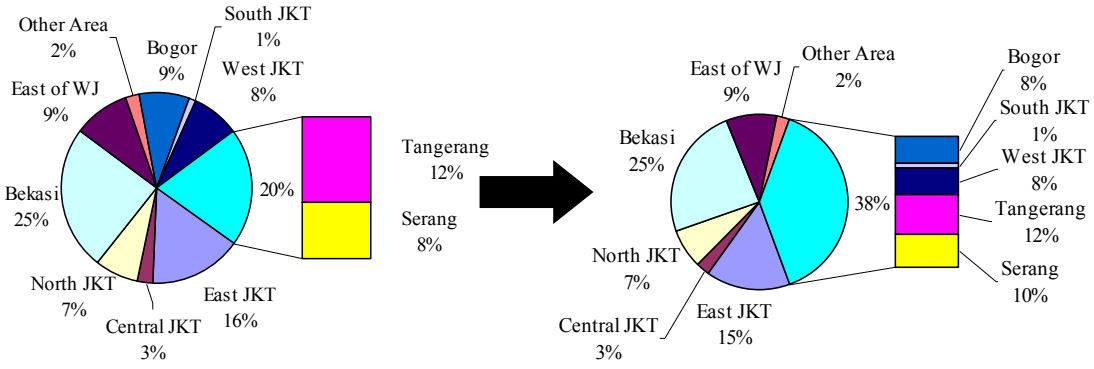
To activate promotion of the port

- IPC-II should hold meetings with related parties such as shipping companies, shippers and consignees to exchange necessary information and viewpoints, to obtain precise information on the shipping market, and to grasp the needs of users.
- To clarify the sales points of the port and to reinforce port sales promotion activity to potential users

- To develop the hinterland and attract more cargo, especially for Bojonegara new port
- It is important to coordinate port development with regional development, especially industrial location. Special economic zone should be developed adjacent to the ports, especially for Bojonegara new port



Current Container Cargo Distribution



Bojonegara Hinterland (Current Situation and Future)

C-4. Finance

To optimize soft loans to realize substantial port development of the Greater Jakarta Metropolitan ports

26. To realize the development plans of the Greater Jakarta Metropolitan ports, IPC2 will have to prepare sufficient funds. As the financial situation of IPC-2 will have been tough for the time being, the proposed urgent projects both for Tanjung Priok port and Bojonegera new port should be implemented optimizing soft loans which have advantages of low interest as well as long grace period.

To formulate proper financial scheme for development, operation and maintenance of the ports

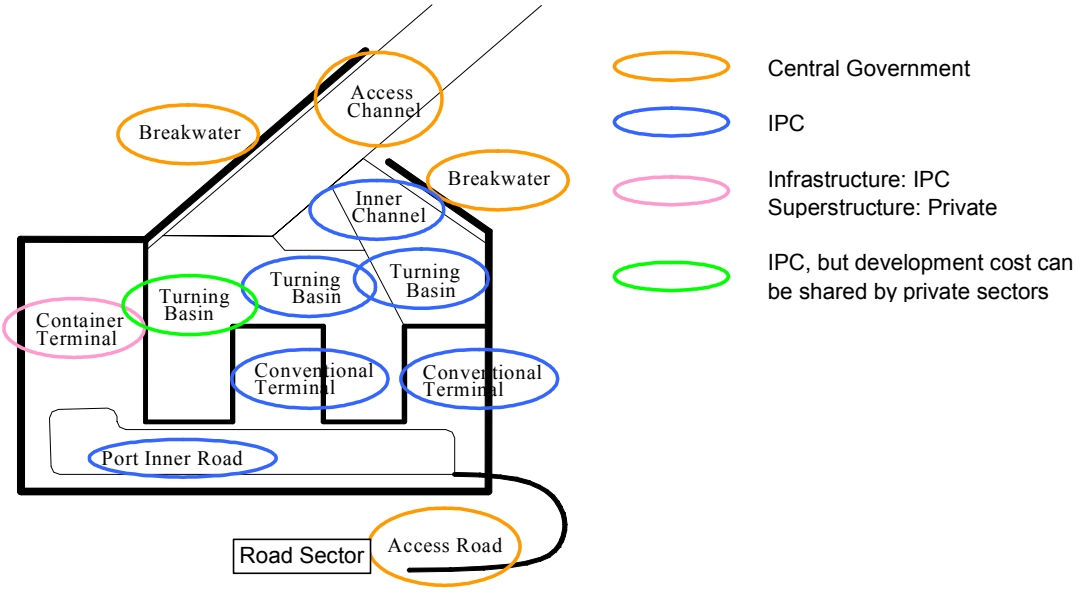
27. In order to implement port development projects smoothly, it is crucial to formulate proper financial scheme for development, operation and maintenance of the ports, and the Ministerial Decree on National Port System should be amended incorporating financial aspects of port investment and operation. The study team proposes the following framework for the proposed urgent projects of Tanjung Priok and Bojonegara:

	Development	Management/ Operation	Remarks
Breakwater, Access Channel	CG	CG／IPC-2*1	
Inner Channel and Basin	IPC-2	IPC-2	
Terminal (Profitable)			Container terminal etc.
Infrastructure	IPC-2／CG*2	Private	Quay wall, front basin etc.
Superstructure	Private		Handling equipment, pavement etc.
Terminal (Less profitable)	IPC-2／CG*2	Private／IPC-2	Conventional terminal etc.
Port Inner Road	IPC-2	IPC-2	
Access Road	Road Sector*3	Road Sector*3	

*1： When an integrated management by IPC-2 needed

*2： In case that project risk will be considered to be high, it should be examined whether the CG will bear the cost.

*3： CG or Local Government



28. It is also essential that the financial burden of IPC-2 should be lowered to keep good port management and operation, and in this connection, private funds should be utilized properly and effectively. In case that beneficiaries by the port development are able to be specified in such case as development of turning basin in front of specific terminal, they should pay for a part of the project cost in accordance with the extent of their benefit. And when the project risk is considered to be relatively low, e.g. in case of expanding container terminal, there will be a possibility to introduce complete BOT scheme for infrastructure development. For access road development, local government as well as related public sector should be involved.

D. Humanware –Enhancement of Institutional Capacity–

D-1 Establishment of effective training system

- To provide good training system for port workers/gangs
- To activate port related organization by introducing such system as Quality Control (QC) circle
- To enhance the function of the Port Training Center (PTC)

D-2 Setting up the information unit together with the development of effective database system

- To develop appropriate statistical system and to establish the integrated database system
- To enhance the capability of planning as well as port performance evaluation utilizing the above database system

29. To achieve afore-mentioned improvements of soft-ware issues, it is recommended that "Administrative & Management Skill Enhancement Program" should be implemented by DGSC and IPC2 with the support of external experts. The said program can provide various tools that are necessary to resolve the wide-ranging problems.

30. DGSC and IPCs should commence the following actions with the assistance of the proposed Administrative & Management (A & M) Skill Enhancement program.

- To modify port statistics system
- To conduct training for the enhancement of the capability of assessing/evaluating performance of the private sector
- To modify the institutional framework for responding "Decentralization" and "Privatization"

31. Major activities of the program are as follows:

- Establishment of "Port Affairs Information Unit (provisional name)"
- Recipient of external expert team for technology transfer
- Inspection/examination of detailed administrative system
- Training of staff of the Port Affairs Information Unit
- Establishment of the "Port Affairs Information System (provisional name)"
- Provision of guidelines regarding port administrative procedures
- Formulation of training program

32. Outcome of the program are as follows

- Establishment of a new organization that is able to control and analyze all port affairs information,
- Establishment of a new information system that enables comprehensive evaluation of port activities due to its standardized format and integrated contents
- Fostering of administrative officials who have the skill to evaluate/asses basic

data/information

- Establishment of a technology transfer scheme from the central government (a new unit) into IPCs, local governments, etc.

Summary Report

Contents

Table and Figure Contents

CHAPTER-1. OUTLINE OF THE STUDY

1. In response to a request from the Government of the Republic of Indonesia (hereinafter referred to as "GOE"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Study for Development of the Greater Jakarta Metropolitan Ports in the Republic of Indonesia (hereinafter referred to as "the Study").

2. 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, dispatched a preparatory study team to Indonesia in November 2001, and reached an agreement with GOE on the scope of the Study.

3. JICA dispatched a full-scale study team (hereinafter referred to as "the Study Team", in May 2002 to carry out the Study. The reports submitted to the Indonesian side through the Ministry of Communication by the Study Team are as follows:

- Inception Report — Submitted in May 2002
- Progress Report (I) — Submitted in September 2002
- Interim Report (I) — Submitted in November 2002
- Progress Report (II) — Submitted in February 2003
- Interim Report (II) — Submitted in May 2003
- Progress Report (III) — Submitted in July 2003
- Draft Final Report — Submitted in September 2003
- Final Report — Completed in November 2003

1-A. BACKGROUND OF THE STUDY

4. The Indonesian economy now appears to be in the process of recovery following the economic crisis of 1997. The Indonesian economy had enjoyed a high growth rate of not less than 6% in 1980s and the first half of 1990s. Nevertheless, annual income per capita in Indonesia has been low compared to other Asian countries partly due to its large population. Accordingly, it is essential for Indonesia to attain steady and sustainable economic growth.

5. Jakarta DKI, West Java province and Banten province (hereinafter referred to as "the West Java area") will continue to play an important role in Indonesia's socio-economic development. In fact, the West Java area, including the capital city Jakarta, has large shares of population and GDP for all Indonesia (around 30 % and 25% respectively). Huge investment has been made in this area and new industrial areas are now being developed. Investment in this area is vital to the overall recovery of the Indonesian economy.

6. It can be said that the recent increase in import and export cargo is largely a result of the economic recovery as well as the investment initiatives mentioned above. Particularly, the port of Tanjung Priok located in Jakarta city and being the most multifunctional primary port in Indonesia, handled over 2.3 million TEUs in 2001 in container throughput. It ranks 20th among world container ports, handling around half of the total container cargo in Indonesia.

7. In order to alleviate the severe economic situation and to achieve sustainable economic growth, the most important task is to establish an effective and efficient cargo distribution system which can serve the trading industry sector's needs for reliable transportation services. However, it is a fact that the capital port, namely the Port of Tanjung Priok, is facing some

difficulties stemming from its location in the center of the capital city. The Port area as well as the hinterland city area is heavily congested, and this results in inefficient cargo movement.

8. Under this situation, Indonesian Port Corporation 2 (IPC2), which is responsible for the development of main ports located in the West Java area, has been examining the feasibility of developing an alternative container port to Tanjung Priok Port in the Bojonegara area, since the demand volume of container cargo in West Java area will exceed the present cargo handling capacity of Tanjung Priok Port in a few years. The Bojonegara area would seem to have a number of advantages because of its location facing the international sea lane i.e. the Sunda strait and relative calmness of the bay behind small islands. With regard to the method of its development, IPC2 is considering private sector participation provided that the project is viable enough to attract the private investment.

9. On the other hand, in recent years, the global circumstances surrounding container cargo have been changing dramatically. Major trends and strategy of world container carriers are: alliances of shipping lines; selecting hub ports called by large-sized container fleets; intensive investment in strategic ports by container terminal operators. These trends make the criteria of selecting ports more severe, and thus, global competition among ports to attract as many cargoes as possible is heated. The emergence of a new container terminal can pose a real threat to existing neighboring terminals such as in the case in Tanjung Pelepas Port in Malaysia and the Port of Singapore.

10. Taking into consideration the above situation, the development of container ports in West Java area is extremely urgent. Thus, a comprehensive study to formulate a strategic plan for port development in West Java area was urgently needed considering the development projects in both Tanjung Priok Port and the Bojonegara Port.

1-B. PURPOSE OF THE STUDY

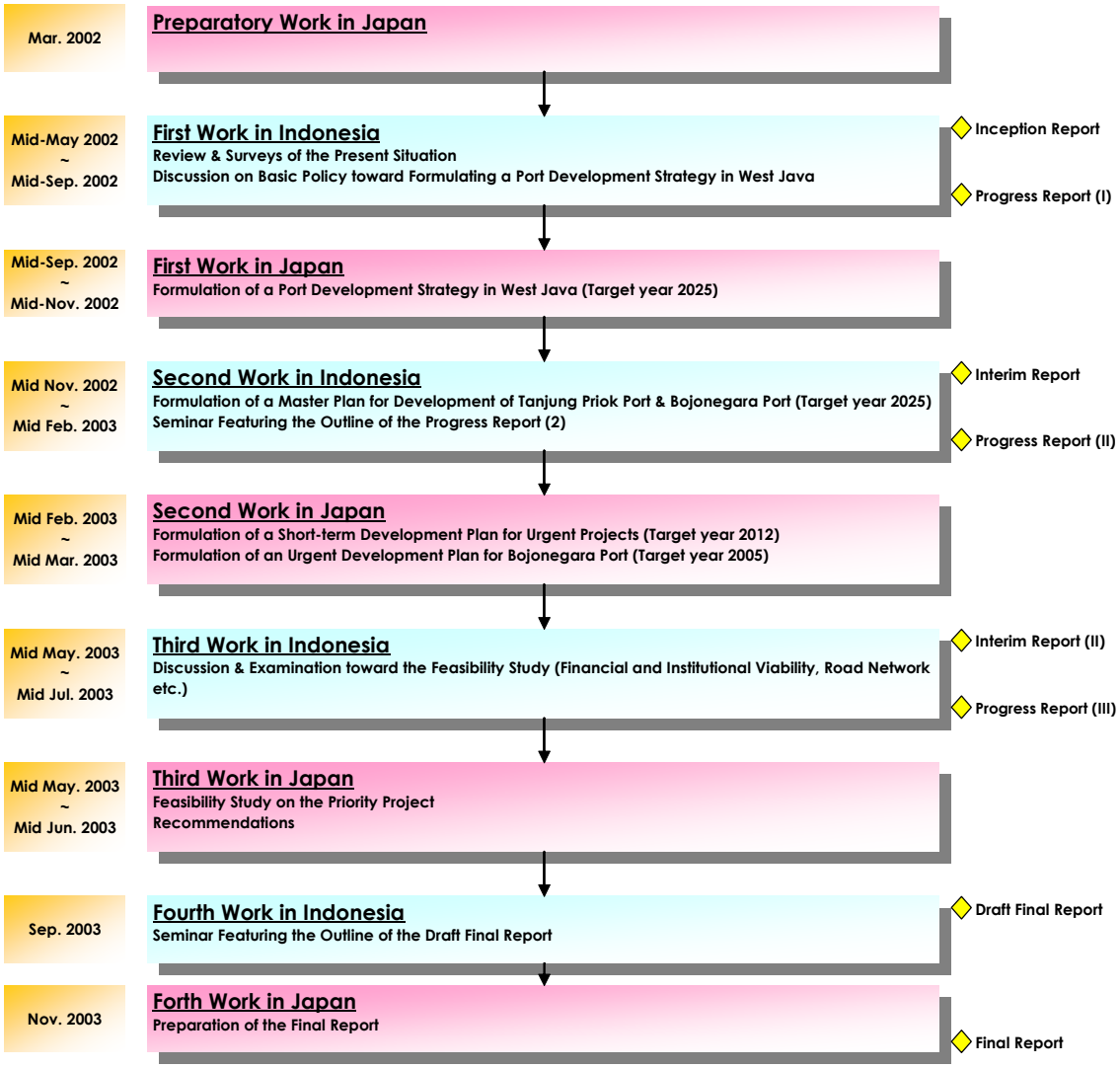
11. The purposes of the Study are:

- To identify the development potential of the ports in the Study Area and to define the future role of ports in the Study Area;
- To prepare a port development/administration strategy in the Study Area comprising demand forecast, a port development concept including a role as an international/ regional container hub port, a port administration / management system, introduction of privatization schemes, and so forth (target year 2025);
- To prepare a master plan for comprehensive development/administration of Tanjung Priok Port and Bojonegara Port, taking into account proper functional allotment between two ports (target year 2025);
- To prepare a short-term development/administration plan for Tanjung Priok Port and Bojonegara Port (target year 2012);
- To carry out a feasibility study for the priority project (target year 2012).

1-C. STUDY AREA

12. The Study covers such ports as Tanjung Priok Port, Bojonegara Port, and the other ports including special wharves in the northern part of the coastal area in the West Java area as well as hinterlands of these ports.

1-D. STUDY SCHEDULE



1-E. IMPLEMENTATION ORGANIZATION

JICA Study Team

13. The Study Team was made up of the experts listed below.

Expert	Assignment
Mr. Hidehiko KURODA	Team Leader / Port Policy
Mr. Koichi MIYAKE	Port Planning (1) / Port Facility Planning
Mr. Masahiro IWADE	Port Planning (2) / Port Functional Allotment Port Administration /Port Management Body System
Mr. Mitsugu KAWADA	Port Administration /Administration System /Capacity Building
Mr. Masayuki FUJIKI	Management & Operation(1) / Management & Operation Planning
Mr. Yoshihisa TATENO	Management & Operation(2) / Privatization
Mr. Atsushi SATO	Engineering Design
Mr. Hiroshi KATO	Demand Forecast
Mr. Toshihiko KAMEMURA	Economic Analysis / Financial Analysis
Mr. Taichiro KURAYAMA	Road Planning
Mr. Ken OMURA	Inter-model Terminal Area Re-development
Mr. Toru WATANABE	Natural Condition
Mr. Kazutoshi KASHIMA	Construction Program / Cost Estimation
Mr. Kennichi KURAMOTO	Environmental Consideration
Mr. Hiroshi MAEDA	Coordination
Mr. Kenji NAKANISHI	Coordination

Counterpart and Coordination Committee

14. Ministry of Communication (hereinafter referred to as "MOC"), served as a counterpart agency of the Study Team. MOC established a steering committee composed by officials of the following agencies.

- MOC
- BAPPENAS
- Indonesia Port Corporation 2 (hereinafter referred to as "IPC-2")
- Ministry of State-owned Enterprises
- Related provincial governments (Jakarta DKI and Banten)

15. The committee was chaired by Ir. Tjuk Sukardiman, Director General of Sea Communication, MOC (or represented by Ir. Djoko Pramono, Director of Ports and Dredging). MOC also established a working team to coordinate the day-to-day progress of the Study. Ir. Djoko Pramono, Director of Ports and Dredging (or represented by Ir. Suwandi Saputro, Head of Sub Directorate of Port Development).

1-F. COMPOSITION OF THE REPORTS

16. Final report of this Study consists of Summary Report, Main Report (Volume I to IV) and Supporting Report of Engineering Study.

- Summary Report
- Main Report (Vol.I) Socio-economic Conditions
- Main Report (Vol.II) Development Potential and Strategy
- Main Report (Vol.III) Master Plan
- Main Report (Vol.IV) Feasibility Study
- Supporting Report of Engineering Study

CHAPTER-2. OVERVIEW OF SOCIO-ECONOMY IN INDONESIA AND THE STUDY AREA

2-A. GEOGRAPHICAL FEATURE

17. The study area, defined as the northern part of the coastal area in western Java as well as hinterlands of these parts, comprises three provinces, DKI Jakarta, Banten and West Java, and its extension of the coastal line stretches about 400 km. The northern part of the coastal area of western Java is characterized by the following:

- The topography of the coastal area consists of a narrow band of low lying coastal flats constrained by the sea on the north and mountains on the south.
- The coastal areas adjacent to the west of Jakarta are swampy lowlands that are difficult to use and left undeveloped mainly due to environmental reasons.
- Much of its coastline exposed to the Java Sea is shallow with a tidal range of only about 1 meter. The coastal area suffers from siltation and it seems to be difficult to maintain a deep navigation channel.
- The only suitable sites for port development are on the coastline from the west of Banten Bay to Anyer. The sites in the coastal area are comprised of rocky beaches and coral reef in the shallow parts.

18. The Greater Jakarta area continues to sprawl out from the center, mainly south toward Bogor, but also west toward Tangerang and east toward Bekasi. Much new residential, commercial and light industrial development is taking place east of Bekasi and around Bandung.

19. With respect to Banten province, in which the proposed Bojonegara development site is located, economic development depends on light industry between Tangerang and Serang, and heavy industry in the Cilegon area and along the Banten peninsula.

Table 2-A-1 Area & Population

	Area		Population 2000		Population Density	GRDP 2000 at current prices	
(Unit)	(km^2)	(%)	(1,000)	(%)	(per $km^{2)}$	(Billion Rp.)	(%)
DKI Jakarta [1]	664	0.0%	8,385	4.1%	12,628	188,036	14.6%
Jawa Barat [2]	34,017	1.8%	35,455	17.4%	1,042	134,661	10.4%
Banten [3]	9,160	0.5%	8,098	4.0%	884	46,969	3.6%
Sub-toal	43,841	2.3%	51,938	25.5%	1,185	369,666	28.6%
Jawa [4]	127,499	6.6%	120,430	59.2%	945	585,192 *	45.3%
Sumatra [4]	482,393	25.1%	42,665	21.0%	88	224,456 *	17.4%
Bali, Nusa Tenggara [4]	73,135	3.8%	10,876	5.3%	149	28,361 *	2.2%
Kalimantan [4]	547,891	28.5%	10,947	5.4%	20	89,186 *	6.9%
Sulawesi [4]	191,800	10.0%	14,446	7.1%	75	47,146 *	3.7%
Maluku, Papua [4]	499,852	26.0%	4,091	2.0%	8	22,322 *	1.7%
Indonesia [4]	1,922,570	100.0%	203,456	100.0%	106	1,290,684	100.0%

Source 1) Jakarta Dalam Angka 2000, BPS - Statistics DKI Jakarta
2) Jawa Barat Dalam Angka 2000, BPS, Propinsi Jawa Barat
3) Banten Dalam Angka Tahun 2000, Bapeda Propinsi Banten dan BPS Kabupaten Serang
4) Statistik Indonesia 2000, Badan Pusat Statistik, Jakarta - Indonesia
* 1999 value

2-B. ADMINISTRATION SYSTEM

20. The Indonesian government has started a wide-ranging process of decentralization, transferring major administrative and fiscal responsibilities to local governments based on the Law No.22, 1999. Under these circumstances, administration system of Indonesia has been dramatically changing.

21. Administration of the 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 cities including capital city. The capital of West Java province is Bandung city and consists of 16 regencies and 6 cities including the capital.

2-C. ECONOMIC PERFORMANCE IN THE PAST

GDP & GRDP

22. Following robust economic growth that began in the early 1990's, the Indonesian economy suffered a steep 13.1% drop in 1998 during the Asian economic crisis. Economic growth recovered only in 2000 at a rate of 4.9%, after registering a marginal growth rate of 0.8% in 1999. It is reported that a 3.3% growth rate was also registered in 2001. Most economists agree that Indonesia needs a sustained period of strong economic growth and low inflation in order to consolidate its recovery from the 1997-98 financial crisis. Indonesia's present 4-percent GDP growth rate is only slightly more than half of the 7.2 percent average GDP growth the country experienced from 1990-96.

23. Regarding industrial origin, Manufacturing Industry sector has been playing the leading role for economic growth, and its contribution to GDP accounted for 26.0 % in 2000. The next significant industry is Agriculture sector with contribution to GDP of 16.9%, followed by Trade, hotel and restaurant sector with 12.9% contribution. On the other hand, Transportation and Communication sector registered the highest growth rate at 9.38% in 2000, followed by electricity-gas and water supply sector at 8.78 %.

24. Among the 26 provinces in Indonesia, West Java Province has the highest GRDP value in terms of GRDP without oil & gas at constant 1993 price. West Java Province accounts for 16.56% of the national total GDP, and DKI Jakarta is second, producing 16.33% of the national total. Combined share of the two provinces accounts for one third of Indonesian GDP.

Employment

25. Among 91 million labor force in whole Indonesia, 55 million workers reside in Java Island. As for manufacturing industry, 9.3 million workers reside in Java Island, which account for 17.0% of the total labor force in Java while account for 76.9% of total labor force of manufacturing industry in whole Indonesia.

Investment

26. After the crisis, foreign investment fell to about one third of the pre-crisis level. Two major sectors, Manufacturing sector and Wholesale and retail, restaurants and hotels sector, remain dominant in this field, collectively accounting for 70 to 80% of the total foreign investment.

Trade

27. The table below shows historical development of Indonesian without oil and gas trade, both export and import, in monetary terms. Due to the economic and financial crisis, export value

slightly decreased by 2 per cent in 1998, and again dropped by more than 5 per cent in 1999. After the two consecutive years' slump, Indonesian non-oil and gas export increased by 22.85 per cent, from US$38,873 Billion in 1999 to US$47,757 Million in 2000. Import activities were more severely influenced by the economic crisis than export activity judging by the statistics.

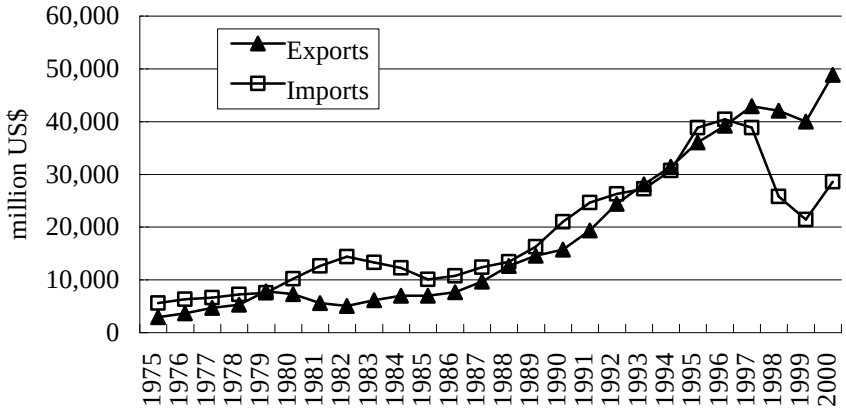


Figure 2-C-1 Value of Foreign Trade

28. As for main trading partners both for export and import, Japan is the most significant trade partner in terms of total trade value. Total trade volume between Indonesia and Japan reaches nearly 55 million tons and US$20 billion. The second is the United States of America, totaling about 11 million tons and US$12 billion. Singapore is also an important trade partner and the largest volume of export cargo goes to Singapore. Australia is a big neighboring country and one of the biggest trade partners.

29. Indonesia's main export commodities are rubber, tea, tobacco, shrimp, and coffee in the agriculture sector, and copper and tin in the mining sector. Garment, textile, and plywood also play a significant role. Electronic appliances export has been increasing recently.

Financial Performance of the Government

30. Indonesia's official debt burden increased from 27% of GDP prior to the financial crisis to approximately 100% of GDP at the end of 2000. Although Indonesia has shouldered high debt/GDP ratios in the past (most recently in the late 1980s), the costs of servicing the country's official debt has placed a heavy burden on the budget. In 2001, interest payments on Indonesia's domestic and foreign debt were forecast to reach almost 35 percent of central government expenditures.

2-D. SOCIO-ECONOMIC REFORMS OF THE GOVERNMENT

31. With regard to structural reforms for growth, the Indonesian government reached an agreement with the IMF on a three-year economic stabilization and recovery program. The agreement has been revised repeatedly in response to deteriorating macroeconomic conditions and political changes, however, the following are the key economic and structural reform challenges of the Indonesian Government.

- Restoring balance to Indonesia's economy by reducing inflation, controlling the

GOI's budget deficit, and spurring economic growth.

- Enhancing the environment for foreign investment by improving security, reducing political conflict, and improving the functioning of Indonesia's commercial courts.
- Increasing state budget revenues by expanding Indonesia's income tax base and privatizing state-owned enterprises (SOEs).
- Refining budget mechanisms under fiscal decentralization in order to improve administrative capacity at the district level, improve the equity of resource transfers among the regions, and reduce the overall fiscal burden of the program on the central government budget.
- Increasing transparency and accountability of government operations.

32. Those challenges are basically being coped with by moving in the following two directions: *Privatization and Decentralization*.

Privatization

33. In terms of privatizing SOEs, to enhance the efficiency of SOEs and as part of Indonesia's ongoing IMF-supported economic reform program, the GOI established an ambitious timetable to divest majority ownership in SOEs. For the 2001-2002 period, the Government plans to privatize at least 16 SOEs to generate funds for two purposes: to pay the interest of re-capitalization bonds, and to help reducing State Budget deficit. IPC-I~IV is not included in the above plan.

34. With regard to private sector participation, corresponding with the recent recovering economic condition in Indonesia, the Presidential Decree (Keppres No.15/2002) was issued pushing the related Ministers to expedite evaluating feasibility and resuming the projects which had been postponed and/or re-investigated in the previous decree (Keppres No.39/1997).

35. In the transport sector, Indonesia has been one of the main East Asian countries implementing private toll road BOTs. In developing a framework for private sector participation in roads, the Government has passed through the following stages:

- Toll roads financed, constructed and operated by a government body (1978-1983)
- Toll roads financed with foreign development loans (1983-1990)
- Non competitive engagement of the private sector in toll road construction and operation through BOT projects (1987-1993)
- Open competitive and tendering of BOT toll road projects (1994-present)

36. Railways are state-owned, however, Perum Kerata Api (SOE) started partial privatization by inviting private companies to form service joint ventures on a profit-sharing basis. In port development, Indonesia awarded a management contract to a private company for operating container terminal in Tanjung Priok, i.e., JICT and Koja terminal. With regard to airport investment, reforms introduced in 1994 enables a greater extent of private and foreign investment in airport primarily through the BOT scheme.

Decentralization

37. On January 1, 2001, two decentralization laws (Law 22&25/1999) devolving authority and funding to district governments entered into effect. Local governments were simultaneously given responsibility for public sector activities in health, education, and rural and urban

infrastructure, along with authority over more than 2.3 million former central government staff. The revenue sharing provisions of Law 25/1999 on fiscal decentralization also added a new structural burden to the central government budget. This requires the central government to transfer to the regions 25 percent of central government revenues. It also contains provisions requiring the central government to share natural resource revenues with the regions.

38. The process of decentralization generates local responsibility for local problems, and encourages participation and regional relevance of public sector services and initiatives. Set against a backdrop of several decades of increasing central government authority, decentralization is a radical move. Local governments have made considerable efforts to meet their new responsibilities, however, major deficiencies remain in operating guidelines for local service providers, particularly in introducing minimum service standards and ensuring compliance and consistency between local regulations and national policies. In addition, observers highlight uneven capacity at the regional level to administer the budgets, as well as wide disparities in revenues between resource-rich and poor regions

39. In addition, the newly amended law on local taxation gives local governments the freedom to impose new taxes and levies within certain limits. Many local governments enacted new taxes in the first half of 2001. Many of these measures threaten to discourage trade, transit, and business activities across regions. It is not clear whether the central government will act to rein in those taxes that are unnecessarily burdensome. Local governments now have the authority to approve investments in all areas except oil and gas, however, investment rules and procedures such as approval criteria for new investments, licensing arrangements remain unclear.

40. The situation is almost same in infrastructure development such as road and port. Local governments now strongly intend to have their own plan for infrastructure development viewing from the local interest, while the central government has plans from the national social-economic viewpoint. At present, we find a lot of inconsistency and controversy among the plans. Planning rules and procedures as well as financial scheme for infrastructure development still remain unclear.

2-E. NATIONAL/REGIONAL DEVELOPMENT PLAN

National Development Plan

41. In chronicle, there were five (5) REPELITAs which had been carried out under the PJP I (1969-1994) followed by REPELITA VI (1994/95-1998/99) under the PJP II (1994-2019). However, being influenced by the crisis, REPELITA VI was suspended and re-examined, and as a result, based on the latest GBHN (1999-2004), the current Five-Year Plan, PROPENAS (2000-2004), has been formulated by BAPPENAS, National Development Planning Agency which is responsible for preparing long, medium and short-term planning from the national view point.

42. PROPENAS (2000-2004) gives priority to accelerating economic recovery and strengthening the foundation of sustainable and fair development and raises the following programs:

- To create macro-economic stability that is conductive for increasing investment and exports
- To stimulate increases in competitiveness especially for increasing non-oil & gas exports
- To promote investment mainly equity rather than loan

- To provide economic development facilities and infrastructure restructuring.

Table 2-E-1 Macro-economic Framework

Indicator	1999	2000	2001	2002	2003	2004
Inflation rate, CPI (%)	2.0%	7-9%	6-8%	5-7%	4-6%	3-5%
Exchange rate (Rp/US$)	7,809	7,000	7,000	6,500	6,500	6,500
GDP growth (%)	0.3%	4-5%	4.5-5.5%	5-6%	6-7%	6-7%
Agriculture	2.1%	1.4%	2.5%	2.5%	2.7%	2.9%
Manufacturing Industry	2.6%	4.8%	6.4%	7.3%	8.4%	9.2%
Non-oil and gas	2.2%	5.5%	6.9%	7.9%	9.2%	10.0%
Others	▲ 1.2%	5.3%	5.5%	6.0%	6.2%	6.4%
Contribution to GDP growth						
Consumption	2.6%	0.9%	1.0%	2.6%	3.0%	3.8%
Private	2.5%	1.4%	1.8%	2.9%	3.0%	3.8%
Government	0.0%	▲ 0.5%	▲ 0.8%	0.0%	▲ 0.1%	0.0%
Investment	▲ 5.3%	0.4%	2.0%	2.6%	3.6%	3.1%
Private	▲ 5.6%	0.6%	1.7%	2.4%	3.1%	3.3%
Government	0.4%	▲ 0.2%	0.3%	0.2%	0.5%	▲ 0.2%
Export (net)	3.0%	3.2%	2.2%	0.5%	▲ 0.2%	▲ 0.2%
Private	▲ 11.3%	1.3%	2.3%	1.1%	0.8%	1.0%
Government	14.3%	1.9%	▲ 0.1%	▲ 0.6%	▲ 1.0%	▲ 1.3%
GDP per/c (at 1998 constant, Rp)	4,785.0	4,929.0	5,111.0	5,328.0	5,583.0	5,873.0
GDP per/c growth		3.0%	3.7%	4.2%	4.8%	5.2%
Current account deficit / GDP (%)	4.0%	4.8%	3.7%	1.8%	0.0%	-1.1%
Total investment (% in GNI)	12.5%	19.3%	20.5%	22.2%	24.7%	28.3%
Private	7.2%	14.6%	15.7%	17.4%	19.6%	23.8%
Government	5.3%	4.7%	4.9%	4.8%	5.1%	4.5%

Source: PROPENAS

Regional Development Plan

43. The framework of regional development planning was drastically changed in the stream of decentralization. The PROPENAS, national development plan, does not give any concrete activities for individual regional development except for a few special areas, while the former REPELITA had given the development guidelines for the Province. The authority to draw specific plans for regional development was given to the local government. Each province and/or regency/city *(Kabupaten/Kota)* should prepare a five-year program (PROPEDA) which contains a basic guideline for regional development, and a five-year strategic plan (RENSTRADA) which gives concrete targets, projects, evaluation scheme etc. BAPPEDA, Regional Planning Board under the jurisdiction of Department (Ministry) of Home Affairs, is playing a key role in formulating the program and/or plan and coordinating among sectoral units of province, regency/city and central government.

44. At this moment, the progress of PROPEDA/RENSTRADA is at a different level in each province, regency/city. While some have already finalized their plans, the lack of human resources at local governments due to decentralization and confusion over financial allocation between the central and local governments is making this a difficult task.

2-F. ENVIRONMENTAL CONSERVATION POLICY

45. Indonesia Government's policy on environmental conservation is stated in PROPENAS 2000-2004. Government aims at the "Sustainable Use of Natural Resources and Environmental Management", by carrying out the following activities:

- Applying environmentally-sound technology;

- Revising and enforcing related laws and regulations;
- Improving welfare of local community;
- Strengthening local community activity in environmental management; and
- Increasing public awareness and participation.

46. Indonesian Government established Environmental Impact Management Agency (*Badan Pengendalian Dampak Lingkungan*: *BAPEDAL*) in 1990, and restructured State Ministry for Environment (*Kantor Menteri Negara Lingkungan Hidup*: *MENEG LH*) in 1993 for environmental management. Environmental Impact Assessment in Indonesia, known as AMDAL ((*Analisis Mengenai Dampak Lingkungan*), was amended in 1999, and the new Procedure took effect in November 2000. Criteria used to determine whether AMDAL is required for development projects in the Port Sector and Road Sector are shown in Table 2-F-1 and Table 2-F-2. General procedure of AMDAL is shown in Figure 2-F-1.

Table 2-F-1 Criteria for *AMDAL* Requirement (Port Development Project)

Project Type	Project Description	Criteria of Development Project which Requires *AMDAL*
Port development project	Berthing facility	Facility with length exceeding 200 m or area exceeding 6,000 m^2
	Breakwater	Length of 200 m or more
	Port facility	5 ha or more
	Mooring buoy	10,000 DWT or more
Dredging	Initial dredging	Dredged soil volume more than 250,000 m^3
	Maintenance dredging	Dredged soil volume more than 500,000 m^3
Reclamation		More than area 25 ha or dredged soil volume 500,000 m^3
Soil dumping		Dumped soil volume more than 250,000 m^3

Source: Revised Environmental Impact Assessment Procedure in Indonesia

Table 2-F-2 Criteria for *AMDAL* Requirement (Road Construction Project)

Project Type	Project Description	Criteria of Development Project which Requires *AMDAL*
Construction	Toll Way Construction	All Size
	Construction of Fly Over and Subway	2 km
Construction and/or upgrading of Road with Widening in out of Right of Way	Big City/Metropolitan	= 10 Km Length or = 10 Ha Large
	Medium City	= 30 Km Length or = 15 Ha Large
	Rural Area	= 50 Km Length

Source: Revised Environmental Impact Assessment Procedure in Indonesia

47. The major differences in the new law from the former one are strength of public participation in the assessment procedure and simplification by omission of IEE (Initial Environmental Examination). In the EIA procedure, hearings with persons (parties) concerned with the project activities are required at certain steps.

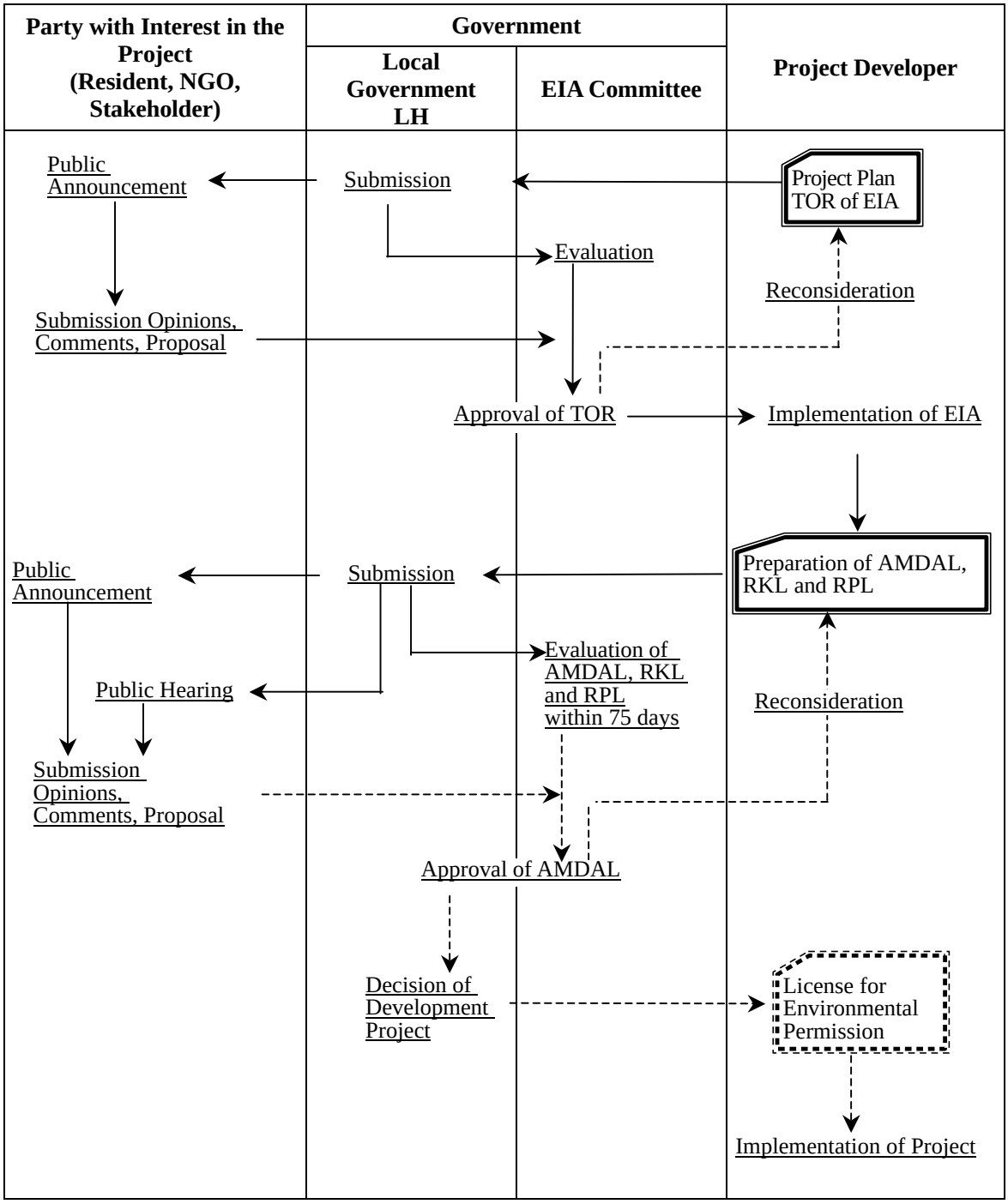


Figure 2-F-1 Procedure of EIA

CHAPTER-3. OVERVIEW OF TRANSPORT SECTORS IN INDONESIA AND THE STUDY AREA

48. Transport services are provided by a mix of private and state-owned enterprises (BUMNs). General outline of service provision is as follows:

Table 2-F-1 Outline of Transport Service

	Passenger	Freight	Infrastructure Dev.
Road Transport	Mainly private for bus services, with some BUMNs	Private	MoSRD, PT.Jasa Marga (for Toll road)
Railway Transport	PT.KAI (Kereta Api Indonesia)	PT.KAI (Kereta Api Indonesia)	PT.KAI (Kereta Api Indonesia)
Sea Transport	PT. PELNI (excluding ferry), PT.ASDP (for ferry), with some private	Mix of BUMN (PT.Jakarta Lloyd etc.) and private	PELINDO I, II, III & IV (for commercial ports), PT.ASDP (for ferry port), MoC (for non-commercial ports)
Air Transport	Garuda & Merpati (International & Domestic)	Garuda & Merpati (International & Domestic)	PT.AP-I & PT.AP-II (for main airport), MoC (for the remainder)

Compiled by JICA. PT.xxx means Stae-Owned Enterprise.

3-A. LAND TRANSPORT

Road

49. Roads are classified into two types: National road and Regional road. The responsibility for the construction of national road and regional road are Ministry of Settlement and Regional Development (MSRD: ex Ministry of Public Work) and regional government respectively.

50. Besides the above classification, Indonesia also has a toll road network. In 1978, the government set up PT. Jasa Marga as the state-owned highway corporation to concentrate on the construction, operation and maintenance of toll roads. Since 1986, the toll road has been listed by the Investment Coordinating Board (BKPM) as a priority sector for private participation. More than 400km of toll road is already in operation, around 70% of which was constructed by BOT.

Railway

51. The Directorate General of Land Communication within the Ministry of Communications is responsible for the day-to-day policy matters. The state-owned railway company which has changed its status to a limited liability company in June, 1999 and at the same time changed its name to PT. Kereta Api Indonesia (PT.KAI), is responsible for the operation and maintenance of the railway system.

52. In terms of cargo deposit area with the railway network, Kramatwatu deposit, Martadinata deposit, Pasoso deposit, Lemahiabang deposit, Purwakarta deposit, Gedebage deposit, and Cirebon deposit are set up in West Java. However, container volume carried by railway is small. Most containers are transported between Tanjung Priok (Pasoso terminal) and Gedebage deposit. Containers are transshipped by trucks between Pasoso terminal and JICT, Koja container terminal.

3-B. MARITIME TRANSPORT

53. Currently, Indonesia has 656 public ports and 1,233 special ports. In order to improve effectiveness and efficiency of public port management, the government decided that four Indonesian Port Corporation (IPC) should manage 112 public ports on a commercial basis. The remaining 544 public ports are managed non-commercially by the government. Shipping Law stipulates some ports are open to international trade, and thus, existing classification of the port is as follows:

Table 3-B-1 Classification of Ports

			International	Domestic	Total
Public Port	Commercial	IPC	72	40	112
	Non-commercial	MOC	8	536	544
Private Port			51	1,182	1,233
Total			131	1,758	1,899

54. In maritime shipping services, foreign flag ships are predominant for export/import trade, while Indonesian shipping companies are small and weak in competition due to the large number of companies (more than 1,300). Almost all major foreign shipping companies supply feeder services between Indonesia and Singapore. Ship size varies from 500 TEU to 1,000TEU. On the other hand, Indonesian flags deploy small and old ships, although some of them are now being changed to semi-container ships.

3-C. AIR TRANSPORT

55. Indonesia's geographical feature creates a greater dependence on air transport compared to other countries in the Southeast Asia region. In total, there are around 500 airports and/or air strips, among which around 150 are administrated by three official agencies, the rest being operated by missionary organizations, mining companies and other private groups. The three official agencies are two State-Owned enterprises known as PT. Angkasa Pura I and II, and the Directorate General of Air Communications.

3-D. INVESTMENT IN TRANSPORT SECTOR

56. The trend of domestic/foreign investment is shown in Table 3-D-1. Investment in transport sector has 3-5% share to the total investment. (BKPM reports are on approval project basis and should be used as no more than an indicator of possible trends.)

Table 3-D-1 Trend of Investment

Billion Rp.

	1998		1999		2000		2001	
	Inv.	No.	Inv.	No.	Inv.	No.	Inv.	No.
Domestic Investment	60,749	324	53,550	237	92,328	354	58,673	249
Manufacturing	44,908	147	46,746	126	83,060	199	43,966	133
Construction	1,992	9	395	6	843	7	2,007	7
Transport, Communication etc.	3,261	45	225	19	1,993	44	1,489	55
Others	10,589	123	6,184	86	6,432	104	11,211	54
Foreign Investment	13,563	1,035	10,897	1,164	15,413	1,508	9,028	1,317
Manufacturing	8,388	410	6,929	439	10,703	487	5,131	419
Construction	198	36	153	22	225	50	48	30
Transport, Communication etc.	79	23	103	61	1,219	61	378	86
Others	4,898	566	3,711	642	3,267	910	3,470	782
Total	74,312	1,359	64,447	1,401	107,741	1,862	67,700	1,566
Manufacturing	53,296	557	53,675	565	93,762	686	49,098	552
Construction	2,190	45	549	28	1,069	57	2,055	37
Transport, Communication etc.	3,340	68	328	80	3,212	105	1,867	141
Others	15,487	689	9,895	728	9,699	1,014	14,681	836

Source: Capital Investment Coordinating Board (BKPM)

57. During the economic crisis, the on-going and/or planned projects financed with foreign credit at that time were classified into “should be postponed”, “should be re-investigated” and “continued” by the Presidential Decree (Keppres No.39/1997).

58. Projects related to port development in the Study area can be picked up as follows:

- Postponed Projects

  Construction of toll road for Bojonegara-Cilegon-Labuan
  Reclamation of water area (375ha) in Sunda Kelapa port
  Development of port facilities in Cirebon port
  Reclamation of west water area in Tanjung Priok port

- Re-investigated Projects

  Development of freshwater network in Tanjung Priok port
  Construction of 3rd container terminal in Tanjung Priok port
  Reclamation of east Ancol area (500ha)
  Construction of Bojonegara port

59. Keppres No.15/2002 was issued on March 2002 corresponding with the recent recovering economic condition in Indonesia, pushing the related Ministers to expedite evaluating feasibility and resuming the projects which were postponed and/or re-investigated in Keppres No.39/1997. The Keppres also defined the following viewpoints for evaluation work:

- Level of needs
- Availability of fund
- Special criteria according to the characteristic of the projects

60. Some projects in paragraph 58 have been already resumed such as construction of Koja’s new container berth, however, most projects are considered to be still under suspension. Unfortunately, the Study team has not been able to get clear picture of decision-making procedure used to greenlight projects.

3-E. TRANSPORT POLICY AND PLANNING

61. Based on the PROPENAS, five-year strategic plan (RENSTRA) for transport sector was formulated and issued in May 2002. Key strategies are as follows:

- Giving priority to rehabilitation and maintenance activities of existing facilities, to maintain their capacity and quality, as well as increasing their performance.
- Developing private investment opportunity for transportation infrastructure and facility.
- Determining tariff system with cost recovery principle.
- Introducing multi-year subsidy system.
- Providing incentives for underdeveloped, isolated and border area.

CHAPTER-4. MARITIME TRANSPORT SITUATION IN INDONESIA

4-A. BASIC POLICY FOR MARITIME TRANSPORT IN INDONESIA

62. Maritime transport plays a vital role in an archipelago such as Indonesia; accordingly it should continue to be improved to support sustainable development of the Indonesian economy. In maritime transport, shipping and port are essential sectors and the policy framework for both of them is designated in Shipping Law (UU No.21/1992). Each policy for shipping and port is defined in Government Regulation (PP) and Ministerial Decree (KM) including such governmental documents as SISTRANAS, RENSTRA etc.

63. In fact, high priority is given to port development as well as to the development of national shipping in national policy, and which forms the basis of all kinds of regulations and plans/strategies.

64. The basic policy for port development is to expand port facilities and equipment to meet the future demand and hinterland potentials maintaining available capacity ahead of demand. To attain these targets, private sector participation is also introduced in the policy, with the objectives of increasing port capacity, relieving government from high investment burdens, introducing higher standards of efficiency through fair competition and expediting implementation.

65. The basic policies for shipping development are:

- To improve national shipping for both international and domestic transport services reducing the dependence on foreign shipping
- To secure the availability of proper inter-island transport services to all regions especially to eastern Indonesia

4-B. KEY LAWS AND REGULATION RELATED TO MARITIME TRANSPORT

66. Key laws/regulations regarding maritime transport are described in Main Report-I. The most important government regulation is PP No.82/1999 on Shipping Operations and PP No.69/2001 on Port Affairs.

67. In August 2002, Ministerial Decree (KM No.53/2002) on "National Port System" was issued according to the Regulation PP No.69/2001 on Port Affairs. The general concept of port classification is described as follows, though it remains unclear what effect or benefit will be brought through this classification:

Table 4-B-1 Concept of Port Classification

	Public Port	Special Port
Sea Port	• International Hub Port (Primary trunk port) • International Port (Secondary trunk port) • National Port (Tertiary trunk port) • Regional Port (Primary feeder port) • Local Port (Secondary feeder port)	• Nation/International Special Port • Regional Special Port • Local Special Port
Lake & River Port	(Non classification)	
Ferry Port	• Port for inter Province and Country • Port for inter Regency/City • Port for inside Regency/City	

68. National Port System also stipulated that all ports are divided into two groups, ports open for international trade and ports not open for international trade. However, it does not mention commercial ports and non-commercial ports, nor does it clearly state the responsibility of State-Owned Corporation (IPC) as a port management body. It merely stipulates that the implementation of port affairs can be transferred from the government to a State-Owned Corporation.

4-C. SITUATION OF MAJOR CONTAINER HANDLING PORTS IN INDONESIA

4-C-1 General Description

69. Table 4-C-1 shows major container handling ports in Indonesia. While some discrepancy between DGSC data and IPC branch office data is observed among the major ports, total container throughput of the five major ports reached approx. 4.6 million TEUs in 2001, accounting for more than 80% of the total Indonesian throughput.

Table 4-C-1 Major Container Handling Port in Indonesia

	Container Handling Ports		
	Name	**TEUs (2000)**	**TEUs (2001)**
IPC1	Belawan	311,100	358,800
	Total	311,100	358,800
IPC2	Tanjung Priok	2,310,000	2,556,400
	Panjang	75,900	76,100
	Palembang	45,900	48,200
	Pontianak	93,100	100,800
	Total	2,524,900	2,781,500
IPC3	Tanjung Perak	1,106,900	1,268,000
	Tanjung Emas	262,700	260,100
	Banjarmasin	131,600	138,800
	Total	1,501,200	1,666,900
IPC4	Makasar	164,700	177,500
	Balikpapan	22,400	34,200
	Samarinda	68,700	71,600
	Bitung	66,700	80,400
	Total	322,500	363,700
Batam		133,300	134,600
Others		297,900	196,800
Total		**5,090,900**	**5,502,300**
Five major Port		**4,155,400**	**4,620,800**
	Share	**81.6%**	**84.0%**

* Including Inter-island (Domestic) Container

** Five major ports are Tg. Priok, Tg. Perak, Tg. Emas, Belawan and Makasar.

Source: DGSC

cf. Pelindo Branch Office (2000)

Tanjung Priok	2,427,436
Tanjung Perak	1,246,399
Tanjung Emas	266,753
Belawan	297,546
Makasar	146,684
Total	**4,384,818**

4-C-2 Port Facilities

70. Details of port facilities are shown in Main Report I.

71. With regard to container terminals, it is noted that all of them are located close to the mouth of the port, unlike those of Tanjung Priok. This should make it easier for vessels to approach. It is also noted that they provide both international and inter-island berth together at the same wharf. This means it is easy to move containers from inter-island berth to international berth and vice versa.

4-C-3 Port Activity

72. Port activities of 5 major container handling ports in Indonesia are shown below.

Table 4-C-2 Calling Vessels at the Five Major Ports

	Tg. Priok	Tr.Perak	Tg. Emas	Belawan	Makasar
1988	10,578	10,127	3,328	4,005	
1989	10,482	10,964	3,968	4,383	
1990	11,130	11,997	4,951	4,133	
1991	12,106	12,826	4,323	3,873	
1992	12,359	14,922	4,913	4,640	
1993	12,688	14,201	5,403	4,474	
1994	12,756	14,628	4,142	4,398	
1995	13,094	13,453	4,629	4,231	
1996	14,285	13,530	4,413	4,521	
1997	15,141	13,975	4,248	4,524	
1998	14,818	12,520	3,967	4,487	4,654
1999	14,706	12,593	4,561	5,455	4,852
2000	16,380	13,721	4,663	5,964	5,138

Source: DGSC, IPC

Table 4-C-3 Total Cargo Throughput at the Five Major Ports in 2000

'000 ton

	Export	Import	Domestic
Tg. Priok	2,232	6,608	8,908
Tg. Perak	846	4,465	14,057
Tg. Emas	217	395	4,880
Belawan	2,785	1,522	6,124
Makassar	924	629	4,801

Table 4-C-4 General Cargo Throughputs at the Five Major Ports

	Tg. Priok	Tg. Perak	Tg. Emas	Belawan	Makassar
1991	19,095	14,919	3,529	9,593	3,737
1992	21,140	15,900	3,982	10,464	3,898
1993	23,754	18,415	5,389	9,544	4,079
1994	26,805	17,988	5,197	10,567	3,842
1995	30,937	19,484	5,551	11,717	2,420
1996	25,441	18,314	5,018	12,301	2,673
1997	28,030	23,475	6,794	11,221	2,461
1998	23,447	19,364	6,748	8,780	2,106
1999	25,223	20,079	5,954	9,397	3,925
2000	17,748	14,207	4,059	9,679	6,353

Source: DGSC, IPC

Table 4-C-5 Container Throughput at the Five Major Ports

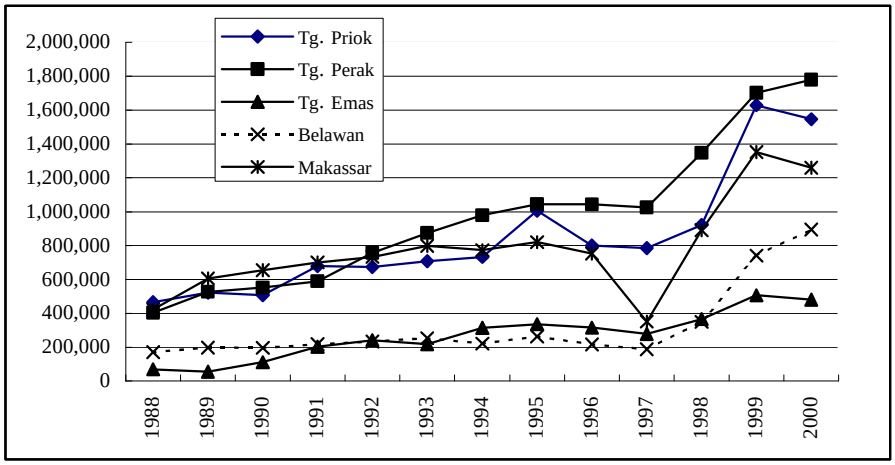
	Tg. Priok	Tg. Perak	Tg. Emas	Belawan	Makassar	Total
1991	736	256	57	110	16	1,175
1992	867	320	69	106	25	1,387
1993	1,054	417	72	162	48	1,752
1994	1,270	503	94	190	69	2,125
1995	1,630	580	104	191	112	2,617
1996	1,607	691	126	246	103	2,772
1997	1,909	866	158	256	137	3,326
1998	1,898	944	213	227	82	3,364
1999	2,119	1,107	231	267	126	3,848
2000	2,310	1,255	263	290	165	4,282
2001	2,251	1,268				

Source: DGSC, IPC

Table 4-C-6 Passenger Movement at the Five Major Ports

	Tg. Priok	Tg. Perak	Tg. Emas	Belawan	Makassar	Total
1988	466,272	403,095	68,703	170,506	422,641	1,531,217
1989	520,974	527,189	56,457	197,561	605,553	1,907,734
1990	506,734	551,524	111,841	195,207	654,183	2,019,489
1991	678,549	588,577	202,486	218,090	700,347	2,388,049
1992	673,998	756,461	241,158	232,804	732,552	2,636,973
1993	707,074	873,657	217,124	253,570	797,533	2,848,958
1994	731,669	979,393	313,546	221,533	773,715	3,019,856
1995	1,006,657	1,044,473	336,102	263,338	820,815	3,471,385
1996	799,681	1,043,560	315,814	215,268	752,870	3,127,193
1997	785,098	1,024,721	279,108	187,534	350,600	2,627,061
1998	921,800	1,347,392	365,499	349,847	891,712	3,876,250
1999	1,628,881	1,701,333	505,685	740,656	1,352,451	5,929,006
2000	1,545,528	1,779,298	481,327	894,757	1,258,293	5,959,203

Source: DGSC



4-C-4 Container Terminal Operation

Major Container Terminal in Indonesia

73. There are 6 major container terminals in Indonesia as shown in Table 4-C-7. The operators of these container terminal are classified into several categories according to their relation with IPC: *Joint-Venture* (PT. JICT and PT. TPS); *Joint operation* (TPK Koja); *Direct concerned operation (Subsidiary company of IPC and Branch office of IPC)*:

Table 4-C-7 Major Container Terminals in Indonesia

Port	Name of Container Terminal	Operating Body	Relation with IPC
Belawan	Belawan Container Terminal	Business Unit of Belawan Container Terminal	Subsidiary Company of IPC-I
Tg. Priok	Jakarta International Container Terminal (JICT)	PT. JICT	Joint venture of IPC-II & Hutchison Port Holding (HPH)
	Koja Container Terminal	TPK Koja	Joint operation between IPC-II and HPH
	Multi Purpose Terminal	PT. Multi Terminal Indonesia (MTI)	Subsidiary Company of IPC-II
Tg. Perak	TPS: Surabaya Container Terminal)	PT. TPS (Terminal Petikemas Surabaya)	Joint venture company of IPC-III & P&O
	Berlian Multi Purpose Terminal	PT. Berlian Jasa Terminal Indonesia (BJTI)	Subsidiary Company of IPC-III
Tg. Emas	Semarang Container Terminal	Business Unit of TPKS (Terminal Petikemas Semarang) 2001~	Subsidiary Company of IPC-III
Makassar	Makassar Container Terminal	Branch office of Makassar	Branch office of IPC-IV

Source: Annual Report "Year of 2000" of IPC-I ~IV, Pamphlets of each container terminal

Performance of Container Terminal

74. Facilities and equipment as well as the performance of each container terminal including Tanjung Priok are shown in Table 4-C-8. Although not all relevant data has been obtained yet, we can make the following observations:

- Berth Occupancy Ratio (BOR) is relatively low; there is still room to handle more containers.
- The box/crane/hr (BCH) of approx. 20 is low compared to the international standard. It is said that 1,000 boxes should be loaded/unloaded in around 10 hours, therefore 30 BCH should be achieved assuming 3 gantry cranes are used per ship.
- High Yard Occupancy Ratio (YOR) means that yard is utilized efficiently, however an extremely high figure means that it is too congested to respond to orders promptly. In addition, high YOR sometimes stems from long dwelling containers in yard, and this should be carefully investigated. Generally 70 ~ 80% is considered the maximum YOR on yard. On the other hand, low YOR means there is still enough room to handle more containers and yard can be utilized more efficiently. However, requests to move containers can be coped with more easily when the YOR is low:
- Yard Dwell Time (YDT) for import container is longer than for export because of customs clearance. YDT of more than one week should be improved in order to secure the efficiency of yard operation.

Table 4-C-8 Container Terminal Facilities and Productivity

Major Container Terminal Facilities and Productivity in Indonesia

As of end of 2002

	Belawan (Gabion)		Tanjung Perak			Tanjung Emas	Makasar (Hatta)		Tanjung Priok			
Management Body /Operator	Pelindo I (Belawan Container Terminal Unit)		PT. TPS		PT. BJTI (Berlian)	Pelindo III (TPKS Unit)	Pelindo IV (Branch of Port of Makasar)		JICT		Koja CT	PT. MTI
Type	International	Inter-island (multi purpose)	International	Inter-island	Inter-island (multi purpose)	International & Inter-island	International	Inter-island (multi purpose)	International (JICT I)	International (JICT II)	International	Inter-island
Facilities												
Berth												
Length (m)	500	350	1,000	450	420	345	500	350	900/225	510	450	400
Depth (m)	-11.0	-10.0	-12 & -10.5	-10.5	-9.0	-10.0	-12.0	-12.0	-11.0/-14.0	-9.0	-14.0	-8.0
Yard (m2)	94,600	30,670	290,000	90,000	2,000	77,000		114,416	369,000 (640,000)	92,400	207,000 (240,000)	40,631 (60,000)
Ground Slot									8,931	1,944		
Reefer plug (unit)	72	-	250	-	-	4		36	260	68	56	
CFS (m2)		11,000		10,000	4,400	9,600		4,000	-	-	-	
Handling Equipment												
Gantry Crane	3 (4)	-	9	2	-	4	2 (3)	-	10(18)	4	5(6)	2(3)
Mobile Crane	-	-	-	-	5	-	-	-	-	-	-	-
Transtainer		7		29	2	8		5	31	11	21	3
Reach Stacker		-		5	3	2		2				1
Spreader		9		-	-	-		-	-	-	-	-
Top Lifter		2		2	2	2		2	8	5		
Forklift		6		12	5	9		10				
Chasis		25		200	13	30		32	109	20	45	8
Head Truck		22		75	8	26		14	81	22	40	8
Productivity												
Throughput (TEU)												
2001	221,251	n.a.	753,109	115,392	395,606	272,611	<26,604>	<150,753>	1,264,231	233,345	494,121	89,315
				868,501				177,357		1,497,576		
2000	207,816	89,730		949,029	297,270	266,753		164,684	1,273,712	254,001	494,795	n.a.
2001/2000 (%)	6.5%	-		? 8.5%	33.1%	2.2%		7.7%	? 0.7%	? 8.1%	? 0.1%	-
Berth Occupancy Ratio	31.1%	n.a.	40.4%	37.4%	n.a.	51.3%		66.0%		38.6%	56.4%	n.a.
Avg. Waiting Time	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		n.a		1.2	1.5	n.a.
Avg. Berthing Time	17.6	n.a.	17.5	24.2	n.a.	12.5		n.a	n.a.	n.a.	18.0	n.a.
Avg. Effective Time	10.5	n.a.	13.2	14.5	n.a.	n.a.		n.a	n.a.	n.a.	15.6	n.a.
Avg. Box/Crane/hr	19.3	n.a.	20.5	14.6	8.0	27.0		24.0		20.6	25.7	n.a.
Avg. Box/Ship/hr	15.2	n.a.	26.0	12.6	n.a.	26.4		n.a		40.1	30.8	n.a.
Yard Occupancy Ratio	26.1%	-	52.8%	-	n.a.	77.2%		75.0%		46.6%	Ex: 28.1% Im: 60.4%	n.a.
Number of Tiers	2~3	-	3~4	-	3~4	3~4		2~3	3~4	3~4	2~3	n.a.
Yard Dwell Time (import) (days)	5~6	-	8~9	-	n.a.	3~5		n.a		10~12	4~5	n.a.
Yard Dwell Time (export) (days)	2~3	-	1~2	-	n.a.	1~2		n.a		4~5	4~5	n.a.
Shed Occupancy Ratio	10.6%	-	53.3%	-	n.a.	9.2%		n.a	-	-	-	n.a.
Remarks									Productivity data is for 2001.			

* ( ) is on a basis of a short-term plan. < > is a estimated figure.

CHAPTER-5. INTERNATIONAL CONTAINER MOVEMENT AROUND INDONESIA

5-A. INTERNATIONAL CONTAINER SHIPPING NETWORK AROUND INDONESIA

North American Trade

75. Table 5-A-1 shows the historical cargo movement between Indonesia and North America from 1994 through 2001. In 2000, the total volume of containers of both import and export of Indonesia/North America was 396,000 TEU which is about 3.5 % of the total Eastbound/Westbound (East Asia/North America) volume of 11,591,000 TEU.

Table 5-A-1 Container Movement between Indonesia/North America ('000 TEU)

	1994	1995	1996	1997	1998	1999	2000	2001
Outbound	130	145	165	192	240	250	261	264
Growth %	8.7	11.1	13.7	16.3	25.2	4.1	4.2	1.5
Inbound	111	124	126	145	94	102	135	113
Growth %	45.9	11.6	2,1	14.8	-35.1	8.5	32.0	-16.0

Source: Piers/JOC

76. North American Trade (Trans-Pacific Route) is one of the three major battle fields of the liner shipping industry. Many shipping lines are competing in this trade. Because of many changes in the rules and regulations of governments and conferences, it has become more and more difficult to grasp the trade share of each competing line. Table 5-A-2 has been produced through a series of interviews with major shipping lines as official publications are not available.

Table 5-A-2 Top 10 Major Players in Indonesia/North America Trade in 2001

Outbound ('000TEU)			Inbound ('000TEU)		
1	Maersk-Sealand	43,400	1	APL	16,600
2	APL	39,000	2	Maersk-Sealand	16,500
3	NYK	25,600	3	Evergreen	12,500
4	Evergreen	23,000	4	Hanjin	9,100
5	Hanjin	21,800	5	Hyundai (HMM)	7,700
6	Hyundai (HMM)	15,900	6	NYK	6,600
7	OOCL	13,700	7	OOCL	6,300
8	Senator	11,300	8	MOL	5,800
9	K Line	10,400	9	K Line	5,000
10	MOL	9,800	10	Yang Ming	4,800
	Top 10 Total	213,900		Top 10 Total	90,900

Source: JICA Study Team

77. It is observed that New World Alliance is exercising strong group influence over Indonesian International container market making full use of its trunk line services which are superior to other groups. On the other hand, Grand Alliance has historically been weaker than New World in the Trans-Pacific Route and this inferior background is reflected in the Indonesian shipping market. It is further observed that the Indonesian International container market consists of Trans-Pacific containers and Inter-Asia containers. The figures mentioned above include both categories as it is not possible to disaggregate them.

European (North Continent) Trade

78. Table 5-A-3 shows the historical cargo movement from/to European North Continent from 1994 through 2001. In 2001, the total volume of outbound containers from Indonesia to European North Continental ports was 220,000 TEU. The conference members carried about 170,000 TEU (77%) and the estimated liftings by the non-conference lines were 50,000 TEU.

Table 5-A-3 Container Movement between Indonesia/European North Continent

'000TEU

	1994	1995	1996	1997	1998	1999	2000	2001
Outbound	131	164	196	187	226	215	232	220
Growth %	9.6	25.6	19.2	-4.6	21.0	-4.9	8.1	-4.5
Inbound	60	63	92	114	79	129	143	132
Growth %	14.1	5.2	44.5	24.7	-31.2	63.6	11.2	-7.7

Source: FEFC. Outbound figures include estimated liftings by the independent carriers.
Remarks: Conference member lines are Hapag-Lloyd, K Line, Maersk-Sealand, MISC, MOL, NYK, OOCL, P&O Nedlloyd, APL, Senator, Yang Ming, CMA CGM, Hyundai, NSCSA at the end of 2001.

79. Table 5-A-4 shows the top 10 liner operators in the trade. This data is compiled by the JICA Study Team and not official data of the concerned conferences.

Table 5-A-4 Top 10 Major Players in Indonesia/European North Continent Trade in 2001

Outbound ('000TEU)			Inbound ('000TEU)		
1	Maersk-Sealand	34,700 TEU	1	Maersk-Sealand	30,900 TEU
2	P&O Nedlloyd	21,300	2	P&O Nedlloyd	18,600
3	APL	18,400	3	APL	14,300
4	Hapag-Lloyd	18,100	4	MOL	11,300
5	NYK	17,500	5	OOCL	11,100
6	CMA-CGM	12,600	6	K Line	10,700
7	OOCL	11,400	7	Hyundai	9,300
8	MOL	10,300	8	CMA-CGM	6,500
9	Senator	9,500	9	Hapag-Lloyd	6,400
10	Hyundai	7,300	10	NYK	5,600
	Top 10 Total	161,100		Top 10 Total	124,700

Source: JICA Study Team

Inter Asian Traffic centering Indonesia

80. Table 5-A-5 shows the breakdown of Inter-Asian International movement of containers centering on Indonesia in 2001. The figures are based on the statistics return from the member lines of IADA (Intra Asia Discussion Agreement).

Table 5-A-5 Indonesia/Asian Countries Breakdown in 2001 (TEU)

	Outbound	Inbound	Total
Japan	145,800	75,400	221,200
South Korea	56,900	74,900	131,800
North China	30,100	34,700	64,800
South China	22,200	23,200	45,400
Hong Kong	61,600	33,200	94,800
Taiwan	28,600	29,500	58,100
Philippines	23,600	3,700	27,300
Cambodia	1,600	100	1,700
Vietnam	9,000	3,500	12,500
Thailand	19,400	34,800	54,200
Malaysia	30,200	19,800	50,000
Singapore	26,900	61,000	87,900
Asian Total	455,900	393,800	849,700

Source: Mitsui O. S. K. Lines Business Research Division based on Statistics of IADA.

81. About 850,000 TEU containers moved in the Inter Asia Region to /from Indonesia. Top five trade partners of Indonesia are: Japan, South Korea, China, Hong Kong and Singapore. The total container volume of the top five countries is 600,500 TEU which represents 71 % of the Asian Total.

82. In summing up, the container numbers of Indonesian International Trade in 2001 were:

East-West Trunk Line Total	729,000 TEU
North American Trade	377,000 TEU
European North Continent	352,000 TEU
Inter Asia Region	849,700 TEU
Grand Total	1,578,700 TEU

83. Throughput in 2001 was reported at around 2 million TEU. The balance of about 400,000 TEU would be caused by liftings of independent carriers in both North American Trade and European trade. Another cause could be attributed to the fact that the above grand total does not include those containers to/from European ports other than North Continental ports.

5-B. MAJOR CONTAINER HANDLING PORTS AROUND INDONESIA

5-B-1 Port Status in terms of Liners' Calling Ratio

84. The port status of the five ports from the perspective of some major shipping lines is evaluated in Table 5-B-1. Of these five ports, Singapore is evaluated most highly, followed by Hong Kong. Port Klang is ranked as an important regional port and if operated jointly with Tanjung Pelepas, the allied ports will be able to compete with Singapore effectively. Laem Chabang is closely connected with East & South Africa through a weekly service by a shipping alliance of some major lines. The way in which Laem Chabang is being treated suggests that it may become a regional hub port in future.

Table 5-B-1 Status of Five Ports by Major Shipping Routes

	Hong Kong	Singapore	Port Klang	Laem Chabang	Tanjung Pelepas
North America	?	?	X	*	*
Europe	?	?	?	x	
Other Minor Routes	?	?	?	*	
South East Asia	?	?	?	?	
Inter Asia	?	?	?	*	

Source: JICA Study Team based on various brochures and interviews
Remarks
? : Strategically Important Port
? : Important Port
x: Possible to skip when needed
*: with some remarks

5-B-2 Port Activity (Container)

85. Container throughputs of the five ports are summarized as follows:

'000TEU

	Hong Kong	Singapore	Laem Chabang	Port Klang	Tanjung Pelepas
1991	6,162	6,354	1	608	-
1992	7,972	7,560	34	678	-
1993	9,204	9,046	219	772	-
1994	11,050	10,399	377	944	-
1995	12,550	11,846	529	1,134	-
1996	13,460	12,944	820	1,410	-
1997	14,567	14,135	1,105	1,685	-
1998	14,582	15,136	1,559	1,820	-
1999	16,211	15,945	1,828	2,550	-
2000	18,100	17,040	2,195	3,207	418
2001	17,900	15,571	2,312	3,760	2,049
2002	19,140	16,941	2,749	4,533	2,660

Source: Containerization International

86. Available data on transshipment container is limited to Singapore and Port Klang.

Table 5-B-2 Container Throughput in Singapore

	Transship Cargo	Local Cargo	Total	Transship Ratio	Overseas Management
1998	11.7	3.4	15.1	78%	1.46
1999	12.9	3.0	15.9	81%	1.72
2000	13.9	3.1	17.0	82%	2.73

Sourece: PSA Corp. Year 2001 data came from MPA.

Table 5-B-3 Container Cargo in Port Klang

unit: TEU

	Laden	Empty	Total	Transship Container	Transship %
1995	986,862	146,949	1,133,811	32,614	2.9%
1996	1,216,793	192,801	1,409,594	154,147	10.9%
1997	1,452,884	231,624	1,684,508	278,619	16.5%
1998	1,466,261	353,757	1,820,018	460,809	25.3%
1999	1,960,353	590,066	2,550,419	996,090	39.1%
2000	2,551,553	776,881	3,206,753	1,350,484	42.1%
2001	2,910,305	849,207	3,759,512	1,886,745	50.2%

5-C. PERFORMANCE OF MEGA CONTAINER TERMINAL OPERATOR IN THE ASIA REGION

87. The history of international container terminal operating companies is not a long one. Table 5-C-1 shows how some of today's companies were born.

Table 5-C-1 Background and Outline of Major International Container Terminal Operators

	Background	Established	Stocks
HPH	Originally a port operation division of Wharf company, the biggest and oldest Company in HK. Started from HIT (Hong Kong International Terminal)	1994	Not listed
PSA Corp.	Started from PSA (Port of Singapore Authority), a governmental organization which was privatized in 1996.	1997	Listed, but all stocks are owned by Government
P&O Ports	Started as a subsidiary company of P&O Australia, now going to be changed to P&O Ned. Group member.	1986	Not listed
SSA	Seattle based stevedoring company. Now quickly growing by active buying water-front companies abroad.	1987	Not listed
Eurogate	Two major German stevedoring companies merged to form a big company.	1999	Not listed
ICTSI	Some Philippine financial groups merged to form an international company.	1987	Listed
APM (AP Moller Terminal)	Originally started from a terminal planning division of AP Moller. After merging with SeaLand, the new terminal division quickly grew.	2001	Not listed
CSX World Terminals	When SeaLand was swallowed by Maersk, its international container terminals became independent to form CSX World Terminals.	1996	Not listed

Source: Mitsui O. S. K. Lines Business Research Division, JICA Study Team

88. Of the above big companies, HPH, P&O Ports, PSA and APM are called the New Big Four. Until recently, "Big Five" consisted of HPH, P&O Ports, PSA, Eurogate and SSA, but a new formation of APM has vaulted it into the top four. Table 5-C-2 shows the leading seven container terminal operators.

Table 5-C-2 International Container Terminal Operators' Global Volumes (million TEU)

Operators	1999	2000	2001	2001/2000 %
HPH	18.0	25.3	29.0	+ 14.6
PSA	17.9	19.8	19.1	- 3.2
APM Terminals	12.5	13.3	18.0	+ 35.3
P&O Ports	6.2	8.3	9.8	+ 18.0
Eurogate	6.3	7.0	8.6	+ 22.5
SSA	3.6	4.5	6.0	+ 33.3
CSX World T.	N/A	3.5	3.6	+ 2.9
Total	64.5 +	81.7	94.1	+ 15.2

Source: Containerization International March, 2002