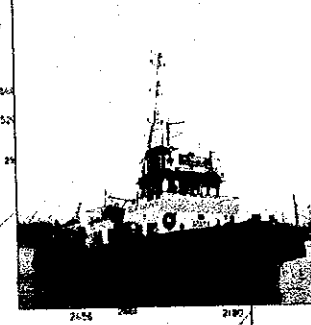
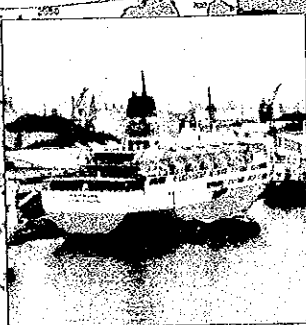


Japan International Cooperation Agency (JICA)
Directorate General of Sea Communication (DGSC)
Ministry of Communications

NO. 62

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FINAL REPORT THE STUDY ON THE PORT DEVELOPMENT STRATEGY IN THE REPUBLIC OF INDONESIA



SUMMARY

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PREFACE

In response to a request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct a study on Port Development Strategy in the Republic of Indonesia and entrusted to study to the Japan International Cooperation Agency.

JICA selected and dispatched a study team headed by Dr. Tadahiko Yagyu, Senior Advisor of the Overseas Coastal Area Development Institute of Japan (OCDI) to the Republic of Indonesia, three times between November 1997 and December 1998.

The team held discussions with the officials concerned of the Government of the Republic of Indonesia and conducted 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 this 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 the Government of the Republic of Indonesia for their close cooperation extended to the study.

March 1999



Kimio Fujita

President

Japan International Cooperation Agency

LETTER OF TRANSMITTAL

March 1999

Mr. Kimio FUJITA
President
Japan International Cooperation Agency

Dear Mr. Fujita:

It is my great pleasure to submit herewith the Final Report of the Study on Port Development Strategy in the Republic of Indonesia.

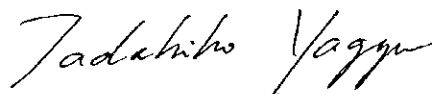
The study team of the Overseas Coastal Area Development Institute of Japan (OCDI) conducted surveys in the Republic of Indonesia over the period between November 1997 and December 1998 as per the contract with the Japan International Cooperation Agency.

The findings of this study, which are compiled in this report, were fully discussed with the officials of the Ministry of Communications of the Indonesian Government and other authorities concerned to formulate the Port Development Strategy in the Republic of Indonesia for the period up to the year 2018.

On behalf of the study team, I would like to express my heartfelt appreciation to the Government of the Republic of Indonesia, the Ministry of Communications and other authorities concerned for their diligent cooperation and assistance and for the heartfelt hospitality which they extended to the study team during our stay in the Republic of Indonesia

I am also greatly indebted to the Japan International Cooperation Agency, the Ministry of Foreign Affairs, the Ministry of Transport and the Embassy of Japan in Indonesia for giving us valuable suggestions and assistance during the preparation of this report.

Yours faithfully,



Tadahiko Yagyu
Team Leader for the Study
on Port Development Strategy
in the Republic of Indonesia



Map of Indonesia

CONTENTS

ABBREVIATION LIST

EXECUTIVE SUMMARY

SUMMARY

PART 1 PRESENT CONDITIONS

Chapter 1 INTRODUCTION.....	I-1-1
Chapter 2 SOCIO-ECONOMIC CONDITIONS.....	I-2-1
2.1 Socio-economic Activity.....	I-2-1
2.2 Trade.....	I-2-1
2.3 Industries.....	I-2-2
2.4 Transportation.....	I-2-3
Chapter 3 SEA TRANSPORTATION.....	I-3-1
3.1 Outline of World Sea Transportation.....	I-3-1
3.2 International Shipping.....	I-3-1
3.3 Indonesian Shipping in International and Inter-island Trade.....	I-3-2
Chapter 4 NATIONAL AND REGIONAL DEVELOPMENT RELATED TO THE PORTS.....	I-4-1
4.1 Outline of National and Regional Development.....	I-4-1
4.2 Regional Development in the Eastern Part of Indonesia.....	I-4-4
4.3 Transportation Infrastructure Development.....	I-4-5
Chapter 5 POLICY ON PORT SECTOR DEVELOPMENT.....	I-5-1
5.1 The Current Policy for Transportation System.....	I-5-1
5.2 The Current Policy for Port System.....	I-5-1

Chapter 6	SEABORN CARGO AND PASSENGER TRAFFIC.....	I-6-1
6.1	Cargo and Passenger of International Trade/Travel.....	I-6-1
6.2	Cargo and Passenger of Domestic Trade/Travel.....	I-6-1
6.3	Container Cargo.....	I-6-1
Chapter 7	PORT DEVELOPMENT PLANS.....	I-7-1
7.1	Current Long-term Development Plan Related to Ports.....	I-7-1
7.2	Five Year Development Plan (REPELITA).....	I-7-1
Chapter 8	NAVIGATIONAL SAFETY AND WATERWAY MAINTENANCE.....	I-8-1
8.1	The Present Legislation Governing Navigation Safety.....	I-8-1
8.2	Competent Authority.....	I-8-1
8.3	Navigational Aids.....	I-8-1
8.4	Pilotage System.....	I-8-2
8.5	Sea Accidents.....	I-8-2
8.6	Strategy for Promoting Navigation Safety in Ports.....	I-8-2
8.7	Dredging.....	I-8-3
Chapter 9	PORT FACILITIES.....	I-9-1
9.1	Port Facilities.....	I-9-1
9.2	Cost Estimation and Construction Cost.....	I-9-3
Chapter 10	PORT ADMINISTRATION, MANAGEMENT AND OPERATION.....	I-10-1
10.1	Major Organizations of the Port Sector.....	I-10-1
10.2	Present Situation of Port Administration and Management/Operation.....	I-10-2
10.3	Recommendations on Related Items Shown in Recent Study Reports.....	I-10-2
10.4	Productivity of Container Handling.....	I-10-2
Chapter 11	FINANCE OF THE PORT DEVELOPMENT AND MANAGEMENT.....	I-11-1
11.1	Financial Situation of the Government.....	I-11-1
11.2	Financial Situation of IPC I ~IV.....	I-11-2

11.3 Port Tariff System.....	I-11-6
11.4 Financial Review of REPELITA.....	I-11-10
Chapter 12 PRIVATE SECTOR PARTICIPATION.....	I-12-1
12.1 General Outline.....	I-12-1
12.2 Basic Laws and Regulations Regarding PSP and Foreign Investment.....	I-12-2
12.3 Working Fields and Possible Forms of PSP for Port Development and Operation.....	I-12-4
12.4 Procedures for Selection of Private Sector Partner.....	I-12-7
12.5 Present Situation of Private Sector Participation Projects.....	I-12-11
Chapter 13 ENVIRONMENTAL ASPECTS.....	I-13-1
13.1 General.....	I-13-1
13.2 Environmental Circumstances.....	I-13-1
13.3 Environmental Pollution.....	I-13-1
13.4 National Environmental Policy and Basic Principles.....	I-13-1
13.5 Environmentally Related Institution.....	I-13-2
13.6 Review of EIA Reports.....	I-13-2

PART 2 PORT DEVELOPMENT STRATEGY

CHAPTER 1 INTRODUCTION.....	II-1-1
CHAPTER 2 BASIC POLICY OF THE STUDY AND APPLICATION OF THE PROPOSALS.....	II-2-1
CHAPTER 3 ANALYSIS OF FUTURE TREND ON KEY FACTORS ON PORT SECTOR DEVELOPMENT.....	II-3-1
3.1 General.....	II-3-1
3.2 Nationwide Development Scenario related to Port Development.....	II-3-3
3.3 Trading Condition between Indonesia and Major Trading Partners.....	II-3-13
3.4 Container and Major Domestic Shipping.....	II-3-14
3.5 International Competitiveness of Container Cargo Transportation.....	II-3-16
3.6 Sea Traffic Demand.....	II-3-21

CHAPTER 4 FABRIC OF THE PORT DEVELOPMENT STRATEGY.....	II-4-1
4.1 Recent Trend Surrounding Ports.....	II-4-1
4.2 Expected Scenario of National Development.....	II-4-2
4.3 Roles of Ports.....	II-4-4
4.4 Strategy Framework.....	II-4-5
4.4.1 Identified Problems.....	II-4-5
4.4.2 Viewpoint of Strategy.....	II-4-5
4.5 Main Strategies.....	II-4-8
4.5.1 Strategy for Strengthening Port Development.....	II-4-8
4.5.2 Strategy for Port Finance and Private Sector Participation.....	II-4-9
4.5.3 Strategy for Effective Port Administration, Management and Operation.....	II-4-10
4.6 Procedure for Coordination and Monitoring.....	II-4-11
CHAPTER 5 STRATEGY FOR STRENGTHENING PORT DEVELOPMENT.....	II-5-1
5.1 General.....	II-5-1
5.2 Clarification of the Function of Major Respective Ports.....	II-5-2
5.3 Strategy for Port System.....	II-5-4
5.3.1 Policy for International Container Port.....	II-5-4
5.3.2 Policy for Conventional (General) Cargo Terminal.....	II-5-14
5.3.3 Policy for Terminal for Other Port Traffic Demand.....	II-5-25
5.3.4 Policy for River Port Development.....	II-5-35
5.3.5 Policy for Notable Ports Development.....	II-5-35
5.4 Future Port Hierarchy.....	II-5-37
5.4.1 Port Classification.....	II-5-37
5.4.2 Policy for Selecting Strategically Important Ports.....	II-5-40
CHAPTER 6 STRATEGY FOR PORT FINANCE AND PRIVATE SECTOR PARTICIPATION.....	II-6-1
6.1 Strategy for Port Finance.....	II-6-1
6.1.1 Roles of Government, IPC and Private Sector.....	II-6-1
6.1.2 Establishment of General Policy for National Budget.....	II-6-4
6.1.3 Establishment of General Policy for IPC's Financial Sources..	II-6-12

6.2 Strategy for Port Tariff System.....	II-6-19
6.2.1 Establishment of “Flexible” Tariff System.....	II-6-19
6.2.2 Establishment of “Time-Conscious” Tariff System.....	II-6-21
6.2.3 Establishment of “Appropriate” Tariff System in International Hub Port.....	II-6-23
6.3 Strategy for Private Sector Participation.....	II-6-26
6.3.1 General Philosophy for Promoting Private Sector Participation.....	II-6-26
6.3.2 Review and Reevaluation of the Present Legal Framework.....	II-6-31
6.3.3 Expansion of Working Field of Port Services.....	II-6-34
6.3.4 Review of Possible Forms for Port Development and Operation.....	II-6-45
6.3.5 Establishment of Transparent Selection Procedure for PSP.....	II-6-50
6.3.6 Incentives Through Deregulation.....	II-6-54

CHAPTER 7 STRATEGY FOR EFFECTIVE PORT ADMINISTRATION, MANAGEMENT AND OPERATION.....

7.1 Administration and Management Policy.....	II-7-1
7.1.1 General.....	II-7-1
7.1.2 Policy for Commercial Port.....	II-7-1
7.1.3 Policy for Non Commercial Port.....	II-7-2
7.1.4 Policy for Special Port.....	II-7-3
7.1.5 Transfer of Competence.....	II-7-7
7.2 Formulation and Authorization System of Port Master Plan.....	II-7-7
7.3 Improvement of Port Operation.....	II-7-9
7.4 Environmental Consideration in Port Development and Use.....	II-7-11
7.4.1 Environmental Impact Factors.....	II-7-11
7.4.2 Countermeasures for Environmental Conservation.....	II-7-11
7.4.3 Promoting Sea Transportation from the Viewpoint of Environmental Conservation.....	II-7-11
7.4.4 Basic Concepts for Port Environmental Consideration.....	II-7-12
7.5 Navigation Safety and Channel Maintenance.....	II-7-14
7.5.1 Safe Navigation Control in Port Basin, Long Sea and River Channel.....	II-7-14
7.5.2 Maintenance of Navigational Channels.....	II-7-17

7.6 Staff Training System for Port Sector.....	II-7-18
7.7 Policy on Port Statistics.....	II-7-19
7.8 Port Engineering, Research and Survey.....	II-7-20
7.9 Supporting Activities for Port Sector Development.....	II-7-23

CHAPTER 8 IMPLEMENTATION PROCESS POLICY..... II-8-1

8.1 Port Sector Development Process Policy.....	II-8-1
8.2 Prioritized Actions under the Current Economic Situation.....	II-8-15
8.3 Rough Estimation of Required Port Development Investment.....	II-8-22
8.4 Projection of Port Development Investment.....	II-8-23
8.5 Review of Funds Allocation.....	II-8-28

CONCLUSIONS AND RECOMMENDATIONS

ABBREVIATION LIST

A	ADPEL	Port Administrator Office
	AMDAL	Environmental Impact Analysis
	ADB	Asian Development Bank
	ASEAN	Association of South East Asian Nations
	ATN	Aids to Navigation
B	BAPEDAL	Environmental Impact Management Agency
	BAPPEDA	Provincial Development and Planning Board
	BAPPENAS	National Development Planning Agency
	BHI	Indonesia Legal Entity
	BIRO	Bureau
	BKPM	Investment Coordination Board
	BKPMD	Regional Investment Coordination Board
	BOD	Biological Oxygen Demand
	BOR	Berth Occupancy Rate
	BOT	Built-Operate-Transfer
	BPS	Central Bureau of Statistics
	BTKP	Shipping Safety Technology Office
C	BUMN	State Owned Company
	CFC	Chlorofluorocarbon
	CFS	Container Freight Station
	CHT	COSCO-HIT Terminals (Hong Kong) Limited.
	COD	Chemical Oxygen Demand
	COSCO	China Ocean Shipping Company
	CT I	Container Terminal I
D	Dati I	First Level Local Government (Province)
	Dati II	Second Level Local Government (District / Municipality)
	DGLC	Directorate General of Land Communication
	DGSC	Directorate General of Sea Communication
	DNI	Negative Investment List
	DO	Delivery Order
	DO	Dissolved Oxygen

E	EDI	Electric Data Interchange
	EIA	Environmental Impact Assessment
	EIDC	Eastern Indonesia Development Council
	EIJA	Export Import Bank of Japan
	EMKL	Sea Freight Forwarding Company
F	FIRR	Financial Internal Rate of Return
	FOI	Foreign Direct Investment
G	GBHN	National Development Guideline
	GDP	Gross Domestic Product
	GHG	Green House Gas
	GOI	Government of Indonesia
	GOJ	Government of Japan
	GRDP	Gross Regional Domestic Product
	GRT	Gross Register Tonnage
	GT	Gross Tonnage
H	HGB	Building Use Right
	HIT	Hongkong International Terminal Limited.
	HMC	Harbor Mobile Crane
I	IBRD	International Bank of Reconstruction and Development
	IDB	Islamic Development Bank
	IEAT	Industrial Estate Authority of Thailand
	ILS	Inter-Island Liner System
	IMF	International Monetary Fund
	INPRES	President Instruction
	INSA	Indonesian National Ship Owner Association
	IPC	Indonesia Port Corporation
J	JICA	Japanese International Cooperation Agency
	JKT	Jakarta
	JO	Joint Operation
	JVC	Joint Venture Company

K	KANPEL	Port Administration Office (Non-commercial Port)
	KANWIL	Province Office of a Central Ministry
	KANWIL DEPHUB	Regional Office of MOC
	KAPET	Integrated Economical Development Area
	KM	Minister Decree
	KSO	Kerjasama Operasi (Joint Operation)
L	L't Beacon	Lighted Beacon
M	MOC	Minister of Transport
	MOF	Minister of Finance
	MOTC	Ministry of Transport and Communications of Thailand
	MOU	Minute of Understanding
	MPA	Maritime and Port Authority
	MSDP	Maritime Sector Development Program
	MSTC	Maritime Training Center
	MTL	Modern Terminals Limited.
N	Nav. Aids	Navigation Aids
	NPSP	National Port System Plan
O	OD	Origin and Destination
	OECD	Overseas Economic Cooperation Fund
P	PAT	Port Authority of Thailand
	PBM	Stevedoring Company
	PBMTD	Terminal Operator Loading-unloading
	PDB	Port Development Board
	PEB	Export Documents
	PELNI	Indonesian National Shipping Company
	PERINTIS	Pioneer Ship System to Serve Remote Area
	PERUMKA	Indonesia State Railways
	PELRA	Rakyat (Traditional Wooden Vessel)
	PERSERO	State-Owned Company
	PERTAMINA	State-Owned Oil Company
	PERUM ASDP	State-Owned Ferry Terminal Company
	PJP II	The Second Long Term Development Plan

	PKL	Local Activity Center
	PKN	National Activity Center
	PKW	Regional Activity Center
	PL	Sailing Vessel
	PLM	Sailing Vessel with Engine
	PP	Government Regulation
	PPKB	Permintaan Pelayanan Kapal dan Barang (The Demands of Ship and Good Services)
	PPSA	One Roof Port Service Center
	PSA	PSA Company (changed from Port of Singapore Authority)
	PSP	Private Sector Participation
	P.T.	Limited Company
	PTPI	IPC (Indonesia Port Corporation)
	PT.RUKINDO	Indonesia Dredging State Limited Company
R	REPELITA	National Five-year Development Plan
	REPELITADA	Local Five-year Development Plan
	Rp.	Rupiah
	RTRW	Spatial Use Plan
S	SAR	Search and Rescue
	SFD	Saudi Arabia Fund Development
	SIMOPPEL	Port Operation Management Information System
	SLOT	Sea-Land Orient Terminals Limited.
	SO	Supervisi Operasi (Operation Supervisor)
	SOLAS	International Convention on Safety of Life at Sea
	SS	Suspended Solid
	STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
T	TEU	Twenty Foot Equivalent Unit
	TKBM	Loading / Un-loading Workers
	TOR	Term of Reference
	TSP	Total Suspended Particular
U	UPT	Technical Planning Unit
	ULCC	Ultra Large Crude Oil Carrier

V	VLCC	Very Large Crude Oil Carrier
W	WB	World Bank
	WPPI	Central Area of Industrial Development

EXECUTIVE SUMMARY

Executive Summary

1. General

[Background and Objective of this Study]

(1) Indonesia is the biggest archipelago country in the world with over 17,000 islands. Sea transportation is vitally important to both domestic and international transportation. In recent years, the socio-economic disparity between advanced and less advanced regions of Indonesia has been widening despite government efforts.

On the other hand, rapid changes in port activities, such as the increase in the number of import/export cargoes as well as the worldwide trend of containerization and the necessity of private sector participation even in port activities, have been clearly envisaged.

The objective of the Study is to formulate a long term port development strategy for the Indonesian ports up to the year 2018 to cope with these recent trend surrounding ports.

[Expected Scenario of National Development]

(2) Considering the nature of Indonesia as described above, the port is one of the most crucial infrastructure for realizing the comprehensive national development. Therefore, port development strategy should be examined from the viewpoint of realizing future scenario of overall national development.

Judging from the current economic situation of Indonesia, the first priority of the government efforts should be placed on economic recovery for at least the next several years. After the national economy recovers, a long term national policy of realizing well-balanced nationwide development shall be pursued.

[Prioritized Actions under Current Economic Situation]

(3) Indonesian Government is preparing an "Urgent Plan for the Economic Recovery". It is important for the port sector to support the eight (8) prioritized activities announced by the Government in May 1998, which include supporting fluent distribution of basic commodities, supporting maritime safety, supporting export oriented industry and tourism for obtaining foreign currency and so on.

[Structure of the Port Development Strategy]

(4) Based on the recent trend surrounding ports and expected scenario of national development, three roles of ports; namely "Supporting Socio-economic Development", "Rectifying Regional Disparity" and "Surviving in the Age of Global Exchange and Great Competition" are envisaged.

In order to realize the above expected roles of ports, the main structure of the basic policy

for this strategy is as summarized below.

- I Strategy for Strengthening Port Development
- II Strategy for Port Finance and Private Sector Participation
- III Strategy for Effective Port Administration, Management and Operation

2. Strategy for Strengthening Port Development

2.1 Strategy for Port System

[Policy for International Container Port Network System]

(1) In the first stage of development, major container ports to which Inter-Asia container service route vessels call should be developed with high priority. In particular, ports which are located not only in Sumatra (north, central and south) and Java (west, central and East) but also in east Kalimantan and south Sulawesi are recommended to be developed as major container ports.

After the international container volume handled at the ports reaches a sufficient level, international container ports including international hub container port(s) should be developed. Finally, the establishment of the nationwide container port network shall be pursued. Also, the development of International container hub ports should be pursued not only in Java but also in eastern Indonesia in order to realize well-balanced nationwide development, provided that various countermeasures are conducted for a port to satisfy the required container volume for an international container hub port.

Conceptual image of international container port network system is given in Figure 5.3.1.3 – 5.3.1.5.

[Policy for Conventional Cargo Terminal]

(2) Each province should have at least one port which has a major conventional cargo terminal or a hub conventional cargo terminal. Hub conventional cargo terminals should be developed not only in western Indonesia but also in eastern Indonesia.

Demand for unitization of general cargoes and frequent delivery of cargoes from port users are being intensified as the recent worldwide trend. Therefore, introduction of a multi purpose cargo terminal, which can accommodate container vessels, Ro/Ro vessels or ferry vessels, shall be pursued to ensure that the quality and condition of cargo is maintained and to achieve quick cargo handling.

[Policy for Terminal for Other Port Traffic Demand]

(3) Ports play an important role in various kinds of fields, such as bulk cargo transportation, passenger transportation, supporting tourism, supporting regional

development and supporting people's livelihood. Policies for the respective fields of port traffic demand are proposed.

For the bulk cargo terminal, taking into account the importance of the role of special ports and wharves in bulk cargo transportation, supporting the activities of the private sector in the field of port planning coordinated with public port planning and management is emphasized.

For the passenger terminal, importance of the passenger terminal, which supports the people's livelihood all over Indonesia and promotes human exchange to be activated by international regional economic cooperation with neighboring countries, is emphasized. Coordination between DGSC and DGLT which administrates ferry system is necessary to increase an efficiency of passenger transportation.

For tourism support, taking into account that the government places special emphasis on promoting foreign tourism which is one of the most effective measures for the acquisition of foreign currency, the port development policy for supporting tourism is proposed. It is also proposed to develop "Main Strategic Ports" for attracting foreign tourists and "Internal Network Ports" connecting to various tourist destinations.

For regional development support, taking into account that port development and various activities in port areas greatly contribute to promoting various regional industries in port surrounding areas and hinterland, three types of port development policy for supporting regional development are proposed.

For people's livelihood support, taking into account that ports which are located in less advanced regions play an important role as the means of transporting the people and daily goods, port development policy for securing the minimum requirement of the citizen is proposed.

2.2 Future Port Hierarchy

[Port Classification]

(1) For the sake of identifying the importance of ports in terms of function and investment priority, ports are classified into 6 categories, primarily by considering the scale of the influence in the hinterland of ports as main standard criteria (see Table 5.4.1.1 and 5.4.1.2).

It is also proposed that in the lowest level port, the degree of public sector's financial commitment such as port development investment should be the highest considering the difficulty in obtaining private funds for such ports. However, public sector has to be responsible for port planning and port space management/control in the higher class ports as well as the lower class ports.

[Selecting Strategically Important Port]

(2) In order to utilize the limited port investment funds efficiently and effectively, the strategically important ports should be selected. For selecting strategically important ports, not only activity of the port itself but also contribution of the port to socio-economic activity in the hinterland should be taken into account.

The strategically important ports are proposed as shown in Table 5.4.2.2 based on a rough evaluation of the expected roles of ports and in consideration of regional balance.

3. Strategy for Port Finance and Private Sector Participation

3.1 Strategy for Port Finance

[Roles of Government, IPC and Private Sector]

(1) The government should play a role of “regulator”, “policy maker”, “planner”, “safety regulator” from the national viewpoint. In addition, the government must be responsible for the development of non-profitable infrastructure such as main channels and breakwaters. On the other hand, IPC should develop and operate “profitable” public ports in cooperation with the private sector.

[Establishment of General Policy for National Budget & IPC Financial Sources]

(2) In principle, national budget should be used for the development of non-commercial ports and non-profitable port facilities. In the future, the government should phase out national subsidy to the IPC ports. Introduction of “special account system”, funded by tax and divided revenues from IPC and to be used for development of “non-commercial” ports, will be a valuable idea.

From the long term perspective, IPC should strengthen their financial ability by seeking appropriate financial sources such as loans, issue of bonds and sales of stock.

3.2 Strategy for Port Tariff System

[Establishment of “Flexible” Tariff System]

(1) It is desirable that the tariff rates of IPC ports should be determined by IPC itself. Therefore, government intervention should be limited to the necessary and minimum scope. In addition, the port tariff should be determined based on “Cost Accounting”.

[Establishment of “Time-Conscious” Tariff System]

(2) “Time-Conscious” tariff enables users to reduce the berthing time of ships and promotes quick turn-around of the cargoes. Making reference to the example of Singapore,

the establishment of time-conscious tariff structure and “Fast Connection Rebate System”(FCR system) to the transshipment cargoes is proposed.

[Establishment of “Appropriate ” Tariff System in International Container Hub Port]

(3) It is a valuable idea to introduce “lower tariff rate” and “incentive tariff reduction” for transshipment cargoes in order to compete with neighboring competitive ports such as Singapore and revive direct shipping routes.

3.3 Strategy for Private Sector Participation (PSP)

[General Philosophy and Legal Framework for Promoting Private Sector Participation]

(1) It is important for the government to clarify the “general philosophy”, “issues of PSP” and other basic concepts such as “fairness”, “transparency”, “legal certainty” and “competitiveness” for promoting private sector participation. From the long term perspective, based on the “Presidential Decree No.7”, the government should make efforts to establish the PSP-related legal frameworks in detail.

[Expansion of Working Field of Port Services]

(2) It is important for the government to open gradually the working field of port services wider to the private sector to provide a higher level of services with lower costs for the users. The port type should be gradually shifted from “Operating Port Type” to “Tool Port Type” and “Land-Lord Type” in port operation.

[Review of Possible Forms of Private Sector Participation]

(3) The government agencies concerned are strongly required to discuss appropriate & concrete measures to allocate, eliminate or minimize the risks of “BOT projects” for the private sector to induce investors into large-scale port development projects.

[Establishment of Transparent Selection Procedure for PSP]

(4) The most important point in the selection process of private sector is to choose the lowest and the most effective bidder through healthy and fair competition. Therefore, the government and IPC should promote a “competitive selection” process. In order to enhance the transparency of the whole system and ensure confidence from investors, it is essential to establish “Internal Monitoring Committee”(neutral third sector) in MOC.

[Incentive Through Deregulation (Utilization of Foreign Investment)]

(5) In order to attract more foreign capital, an appropriate tax incentive system and simplification of incentive procedure for foreign investors should be taken into

consideration.

4. Strategy for Effective Port Administration and Management

4.1 Administration and Management Policy

[Policy for Commercial Port]

(1) For improvements of ferry service administration, effective coordination of port planning on ferry and other public port facilities, realization of comprehensive water transport planning for passenger and cargo vehicle traffic and so on can be considered.

[Policy for Non Commercial Port]

(2) Non commercial ports have been playing an important role to secure the livelihood of the people living in remote areas by distributing indispensable goods to them. Taking into consideration the world trend of decentralization, management of minor non-commercial ports should be gradually transferred to local governments. Of course, to achieve a nationwide well-balanced development of ports, it is necessary for DGSC to exercise certain control over local governments. In future, the function of DGSC should be centered on such tasks so that the expanded affairs related to port management can be conducted well.

[Policy for Special Port]

(3) Special ports and wharves also have been playing a crucial role in handling specific commodities for the industries. Effective utilization of special port & wharf also should be carefully considered.

[Establishment of Nation Wide Comprehensive Coastal Area Management]

(4) It is recommended to establish a nation wide comprehensive plan for coastal management. This may become a part of National Spatial Plan of Indonesia.

4.2 Formulation and Authorization System of Port Master Plan

[Port Planning Body]

(1) Provisions of port master plan should contain planning of special wharf, ferry port, navigational channels and other related facilities which would fall under the same port administrative area (DLKR: port working area, and DLKP: port safety area in Indonesia). However, individual facilities could be developed and operated separately by different management bodies, if appropriate, according to nature of the facilities.

It is desirable in principle that the port master plan is originated by the individual "Port Management Body (PMB)".

[Port Council]

(2) Opinions from government agencies, local people, users and people of academic fields should be invited and reflected in the master plan accordingly by establishing a permanent port council. If establishment of such a system would be difficult, an alternative organization with similar function needs to be set up even on an ad hoc basis.

4.3 Improvement of Port Operation

[Conventional Terminal]

(1) All stevedores should be allowed to participate in the operation of terminals regardless of their business connection with shipping lines for fair and efficient cargo handling operation.

Currently, stevedoring workers are supplied from the labor union through ADPEL. Direct procurement of the workers from labor market shall be allowed to further increase cargo handling productivity.

[Container Terminal]

(2) Introduction of so called "first come – first serve system" may be one of the possible alternatives for more flexible use of the available berthing spaces of the terminal.

The "one roof system" should be also employed in every port to eliminate cumbersome procedure of bringing documents from one department to another.

The EDI system should be employed in every container port to make the procedure at the port more reliable and to reduce documentation.

4.4 Environmental Consideration in Port Development and Use

[Environmental Conservation]

In the implementation of a port development project, various countermeasures for environmental conservation should be proposed according to the type and size of impact.

Environmental conservation in port development should be considered from the beginning of planning. Also, it is very important that an adequate "environmental impact monitoring system" is established and securely implemented. This system must clarify the proponent's obligation and responsibility for implementation, scope and publicity of monitoring survey.

A port environmental management plan should be established. And based on that, the

port administrators should preserve the environment, accurately grasp the environmental situation and make efforts to appropriately maintain the environment with the cooperation of related organs.

4.5 Navigation Safety and Channel Maintenance

[Channel Maintenance]

(1) Under severe budget constraints, the initial and maintenance dredging requirements of Indonesian ports are not fully satisfied, and maintaining the sound performance of ports has become difficult even in the most important ports in Indonesia. Therefore how to use the limited budget effectively is the most important point in this regard.

Cost and benefit evaluation is indispensable at port planning in the case of a port which has siltation problems. To cope with shortage of budget for dredging, beneficiary-payment principle should be employed according to degree of their benefit such as number, size and draught of vessels operated, and cargo volume transported through the channel. The accountability for the beneficiary to bear a part of the cost should be secured by clarifying the role-sharing between public sector and beneficiary for developing or maintaining the channels.

[Navigation Safety]

(2) Although some port authorities have been formulating a set of sailing regulations, which are in force within their administrative water areas, a fundamental law stipulating common essential provisions and covering entire Indonesian ports is desired. In addition to this, detailed regulations should be provided by the Ministry of Communications to meet local circumstances. The existing pilotage system should be reviewed in terms of further establishment of pilotage districts and additional pilots, in particular, to cope with the increasing vessel traffic.

The tug fleet at a port should accordingly be comprised of an appropriate composition of small, medium and large powers to meet the anticipated calling vessels. The operation of tugboats should be transferred to the private sector in order to provide effective services for users.

[Removal of Wrecks]

(3) Removal of wrecks or installation of navigational aids for securing safety is needed at ports, such as Tg.Perak, Palembang and Tg. Priok.

4.6 Others

The following policies are also proposed as the important elements of this strategy.

- (1) "Staff Training System for Port Sector" to enhance ability of personnel
- (2) "Policy on Port Statistics" for better management and port planning
- (3) "Port Engineering, Research and Survey" including the formulation of "Technical Standards for Port Facilities"
- (4) "Supporting Activities for Port Sector Development" to obtain national consensus and understanding

5. Implementation Process Policy

[General]

- (1) In order to utilize the limited investment funds effectively, it is important to make the prioritized and urgent plans at each intermediate target year. It also greatly contributes to the realization of the Long Term Port Development Strategy.

[Securing the Investment Fund]

- (2) In order to implement the port development based on this port development strategy, intensive investment by the national government, IPCs, and the private sector is necessary.

Based on the estimation result of required investment for the port development, which considered role of ports and economic efficiency, the share of port sector investment of total investment should be at least doubled in the forthcoming REPELITAS (at present the above share is about 1.7 %), even though the investment by the IPCs and private sector should be also increased (at present the share of IPCs and private sectors represents about 70% of the total).

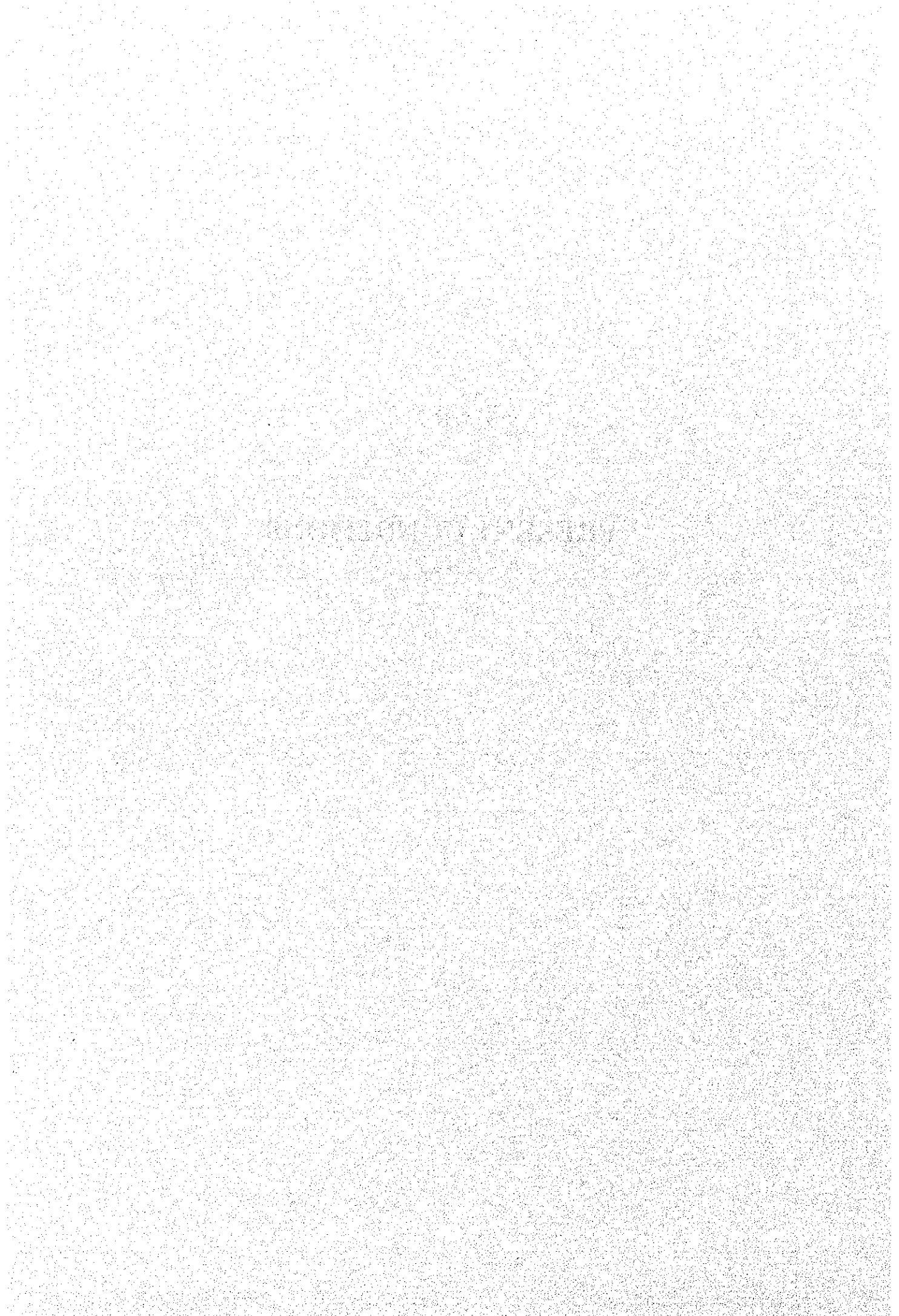
6. Follow-up of the Proposed Strategies

- (1) Although the Study proposals have been conceived from the long term perspective, it is essential to periodically review, and make necessary adjustments of each policy element for better application of the basic concept of the proposed strategies under any future changes in the socio-economic situation of Indonesia.
- (2) Since the objective of the Study is to propose the overall direction and framework of long term port development and administration strategies, detailed studies on the individual port projects are not discussed in the report. It is therefore essential to conduct further studies on prioritized projects for effective implementation of the strategies.

SUMMARY

PART 1

PRESENT CONDITIONS



Chapter 1 INTRODUCTION

(1) Background of the Study

Indonesia is the biggest archipelago country in the world with over 17,000 islands. Sea transportation is vitally important to both domestic and international transportation.

In recent years, the socio-economic disparity between advanced and less advanced regions of Indonesia has been widening despite steady economic growth.

Under these circumstances, one of the Government's principal policies is to develop the sea transportation as a measure to deal with the increasing traffic demand and to eliminate the regional socio-economic disparity.

Rapid changes in port activities, such as the increase in the number of import/export cargoes as well as the worldwide trend of containerization and the necessity of private sector participation even in port activities, have been clearly identified.

To cope with these recent changes in port activities, the Government of Indonesia has begun to prepare REPELITAVII and to formulate a new long-term port development strategy.

In response to the request of Government of Indonesia, Government of Japan has decided to conduct the Study for Port Development Strategy in the Republic of through the Japan International Cooperation Agency.

(2) Objectives of the Study

The objectives of the Study is to formulate the long term port development strategy for the Indonesian ports up to the year 2018.

(3) Members of the Study Team

The Study Team is headed by Dr. Tadahiko Yagyu and composed of 12 (twelve) experts.

(4) Steering Committee

DGSC has set up the Steering Committee, which is organized by related officials of BAPPENAS, MOC, DGSC and others. Director General of DGSC chairs the committee.

(5) Counterparts

DGSC has nominated 32 officials as counterparts of each professional field for the Study Team. Drs. Tjipto TH is the chairman of the counterparts.

1) Organization of Steering Committee

Chairman : Director General of Sea Communication

Vice Chairman: 1. Secretary of Directorate General of Sea Communication

2. Head of Port and Dredging Directorate, DGSC

Secretary : Head of Planning Division, DGSC

Members : 1. Head of Communication & Transportation Bureau, Bappenas

2. Head of Planning Bureau - DGSC

3. Head of Sea Traffic Directorate, DGSC

4. Head of Navigation Directorate, DGSC

5. Head of Marine Safety Directorate, DGSC

6. Head of Sea Cost Guard Directorate, DGSC

7. Board of Director Port Corporation I; II; III and IV Indonesia

2) Counterparts

No.	N a m e	Position	Division
1.	Drs. Tjipto TH	Chairman	Planning Division
2.	Ir. Djoko Pramono	Vice Chairman I	Port & Dredging Directorate
3.	Ir. Adolf R. Tambunan, MSc	Vice Chairman II	Planning Division
4.	Drs. Eko H. Rumecko, MBA	Secretary	Planning Division
5.	Ir. Kemal Heryandry, Dipl. Ing (Ir. Iskandar S)	Member	P & D Directorate
6.	Drs. Cholik Kirom	Member	P & D Directorate
7.	Ir. Suwandi Saputro	Member	P & D Directorate
8.	Ir. Bambang Ristianto	Member	Planning Division
9.	Drs. Hotman OP	Member	Planning Division
10.	Ir. Bhakti Sitepu	Member	Planning Division
11.	Ir. Harry Budiarto	Member	P & Directorate
12.	Ir. Albert Samboh, MSc	Member	P & D Directorate
13.	Drs. TW Pasaribu	Member	P & D Directorate
14.	Ir. Frankie Napitupulu	Member	Planning Division
15.	Ir. Wijayanto	Member	P & D Directorate
16.	Ir. M. Tohir	Member	P & D Directorate
17.	Ir. Irawan Setiabudi	Member	Planning Division
18.	Simson Sinaga, SE, MSc	Member	Sea Traffic Directorate

19.	Ir. A. Tonny Budiono	Member	Navigation Directorate
20.	Ir. T. Sitorus	Member	Navigation Directorate
21.	Ir. Tumbaksyah	Member	Planning Division
22.	Ir. Paulus Raga, MStr	Member	Research & Development Agency of MOC
23.	Ir. Fadly Sulaiman, MStr	Member	Research & Development Agency of MOC
24.		Member	Planning Bureau MOC
25.	Sri Ida Lumongga, SE	Member	Planning Division
26.	Drs. Soepardi	member	Indonesian Port I
27.	Ir. Iskarnanto	Member	Indonesian Port I
28.	Ir. Syambu Rizal, MM	Member	Indonesian Port II
29.	Ir. S. Djauharioanto, MM	Member	Indonesian Port III
30.	Drs. Ferdinand N.MBA	Member	Indonesian Port III
31.	Ir. Alfred Natsir	Member	Indonesian Port IV
32.	Ir. Edy DM Nursewan	Member	Indonesian Port IV

3) Members of the Study team

Dr. Tadahiko YAGYU	Team Leader, Basic Direction of Port Policy
Mr. Yukio NISHIDA	Sub-Leader, Port Management and Operation (1)
Dr. Shuichi SODA	Sub-Leader, Port Management and Operation (1)
Mr. Takeo KONO	Maritime Transportation
Mr. Shinichi TAGAWA	National and Regional Development
Mr. Tomoo AMANO	Demand Forecast
Mr. Hidetoshi KUME	Port Planning (1)
Capt. Nobuaki KOJIMA	Navigation Safety and Waterway Maintenance
Mr. Makoto SAWAI	Port Planning (2)
Mr. Toshihiro OKURA	Port Finance
Mr. Hidetoshi TAKAHASHI	Port Management and Operation (2)
Mr. Hideki KOBAYASHI	Environmental Consideration
Mr. Hiroshi MAEDA	Coordination

Chapter 2 SOCIO-ECONOMIC CONDITIONS

2.1 Socio-Economic Activity

2.1.1 Gross Domestic Products (GDP)

The growth rates of GDP with and without oil, gas and its products from 1993 to 1996 are approximately 7.3% and 8.5% respectively. The highest growth rate is Electricity, gas and drinking water (17.4%) and the lowest one is agriculture (3.1%).

The highest per capita GRDP in 1996 at constant price of 1993 is about Rp.8.5 million/person (with oil and gas) in East Kalimantan. The highest per capita GRDP without oil and gas in 1996 is approximately Rp.7.1 million/person in Jakarta.

The highest average annual growth rate by industrial sector without oil and gas between 1994 and 1996 in each province is Mining and quarrying in East Kalimantan (154.8%).

2.1.2 Population

Population in Indonesia exceeds 198 million and its population density is 102 person/km² in 1996. The growth rate of population from 1990 to 1996 is about 1.6% per year. The highest population province is West Jawa with approximately 40 million in 1996. As for the population density, Jakarta is the highest with approximately 14,000 persons/km² in 1996. The lowest population density province is Irian Jaya with about 8 persons/km² in 1996. The province with the highest annual population growth rate is East Kalimantan with 4.28%.

2.2 Trade

2.2.1 International Trade

In 1995, Indonesia's international trade reached about 301 million tons (US\$86 billion) which consisted approximately 246 million tons (approximately US\$45 billion) for export and 55 million tons (approximately US\$41 billion) for import. The average annual growth rate of exported cargo volume and value between 1990 and 1995 is about 18%. The average annual growth rate of imported cargo volume in the same period is approximately 13%. The province with the biggest foreign trade volume is Jakarta for import with about 18 million tons and East Kalimantan for export with about 44 million tons in 1996.

2.2.2 Domestic Trade

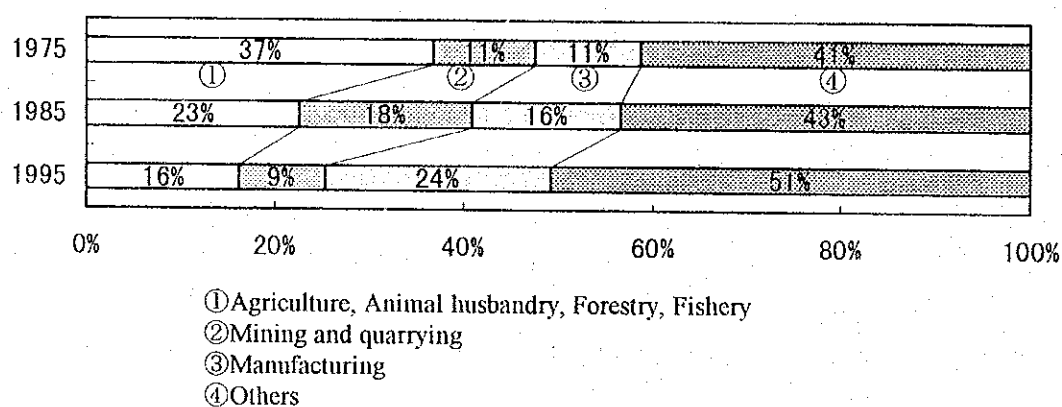
The domestic cargo volume has reached approximately 292 million tons in 1995. The average annual growth rate of domestic cargo volume between 1983 to 1995 is approximately 13%. The number of domestic passengers exceeded 23 million persons in 1995. The average annual growth rate between 1983 to 1995 is approximately 14%.

2.3 Industries

2.3.1 Structure of Industry

The structural change of industry in Indonesia is shown in Figure 2.3.1.

Figure 2.3.1 The Structural Change of Industry in Indonesia
(GDP Composition by Industrial Origin)



Source : Statistics during 50 years Indonesian independence (BPS)

The target of GDP composition in PJP II is shown in Table 2.3.1.

Table 2.3.1 Target of GDP Composition in PJP II

Category	Unit	End of Repelita V	Target in PJP II (End of Repelita)				
			VI	VII	VIII	IX	X
a. Agriculture	%	20.2	17.6	15.2	12.8	10.5	8.2
b. Manufacturing	%	20.8	24.1	27.4	30.5	32.4	32.5
- Non-oil/gas Manufacturing	%	17.6	21.3	25.1	28.7	31.0	31.5
c. Others	%	59.0	58.3	57.4	56.7	57.1	59.4
Total (=a+b+c)	%	100	100	100	100	100	100

Source : Repelita VI, a Summary (BAPPENAS)

2.4 Transportation

2.4.1 Trend of Transportation Mode

The trend of each transportation mode is shown in Table 2.4.1. Regarding sea transportation, the growth rate of passenger is 16.3% per year, and that of cargo is 14.1% per year. It is amazing growth even if compared with the past high economic growth in Indonesia.

Table 2.4.1 Trend of each Transportation Mode

Mode	Category	unit	1988	1995	Growth (% year)
Road	Number of Motorized Vehicles	thousand car	7,771	13,209	7.9
Rail	Passenger	million person	53	141	15.0
	Cargo	thousand ton	10,775	16,868	6.6
River, Lake and Ferry 1)	Passenger	million person	17	62	20.3
	Cargo	thousand ton	4,494	11,601	14.5
Sea (Inter-island)	Passenger	million person	8	23	16.3
	Cargo 2)	thousand ton	58,117	146,166	14.1
Air (Domestic)	Passenger 3)	million person	8	13	7.2
	Cargo 3)	thousand ton	101	178	8.4

Note : 1) Number of state-owned enterprises (PT ASDP)

2) Average of loading and unloading

3) Departure

Source : Statistics during 50 years Indonesian independence (BPS), Transportation statistics (MOC)

Chapter 3 SEA TRANSPORTATION

3.1 Outline of World Sea Transportation

Since 1984, cargo movement in the sea transportation has been increasing and reached to 4.79 billion tons in 1996. The rate of increase is 2.2% lower than the increase rate of 1995, but it reflects the growth of world economy.

In ton-mile base, it showed 20 trillion ton-miles which was +1.0% higher than that of 1995. In the whole sea transportation, 38.5% was crude oil and oil production, 34% was dry bulk cargo such as iron ore, coal and cereals the rest was other cargo including general cargo.

Crude oil and its production which share a big in world cargo movement are mostly transported by over Cape-sized vessels, VLCC and ULCC.

Dry bulk cargo are mostly carried by over 10,000 to 50,000DWT (Pana-max size) vessels.

3.2 International Shipping

3.2.1 Full Container Liner Services

Full container vessels which engaged in international trades in 1995 were 1,225 vessels. Far East/North America service were 318 vessels, Far East/Europe and Middle East trades were 279 vessels. North America/Europe & Mediterranean Sea were 215 vessels. Total of the three major trades were 812 vessels and load capacity were about 2,145,000TEU. This is 1.42 times of 1990.

Full container vessels in Asian territories were 365 vessels which have space of around 250,000TEU in 1995 and shared 8.3% in the whole full container vessels, which were remarkable high at high at 2.45 times against 1990.

3.2.2 Sea Transportation in Asian Economic Region

Money crisis which has suddenly broke out in Thailand in July 1997 expanded most of major developed countries in the world as well as other Asian countries and caused economic recession. It will need some years for world economy to be back to normal condition. However afterwards, world economy and trades would be basically

progressing at gentle pace.

Apart from the money crisis, world trades surrounding Asia are increasing. In this connection, Asian shipping companies based on Taiwan, Hong Kong, China, Singapore have made rapid progress in container transportation.

3.3 Indonesian Shipping in International and Inter-island Trade

The simplification and liberalization in the sea transportation in accordance with the Government Regulation No.17, 1988 which resulted in the development of the sea transportation.

The results of deregulation of shipping law have brought some improvement, but at same time some items will have to be reviewed

- 1) Non-shipping companies (Industrial company, forestry, mining, tourism) are allowed to operate their vessels.
- 2) Shipping route and ship replacement are not determined by the government but determined by shipping or non-shipping company.
- 3) Shipping or non-shipping company are free to use foreign vessel for local transportation without permission from Indonesian government.
- 4) Shipping company is free to organize foreign vessel so as to ship export and import cargo without permission from Indonesian government
- 5) Indonesian national shipping share of export in 1996 was 6.59% whereas foreign shipping was 93.41%.
- 6) Indonesian national shipping share of domestic transportation in 1996 was 53.27% whereas foreign shipping was 46.73%.

Chapter 4 NATIONAL AND REGIONAL DEVELOPMENT RELATED TO THE PORTS

4.1 Outline of National and Regional Development

4.1.1 Basic Concept

(1) Development Concept in PJP II

In PJP II, great emphasis is placed on the need for more equitable development.

(2) Development Concept in Repelita VI

Regarding basic concept of development, it is explained in Repelita VI that the enhancement of equitable development is one of the important general objectives based on PJP II.

4.1.2 Current Situation

(1) Industrial Characteristics of each Province

1) GRDP by Industrial Origin

Industrial characteristics of each area are as follows;

- (Jawa) In every province, various industries are developed, together with remarkable development of the agriculture sector. The value of GRDP in only Jawa is 242 trillion Rp, or approximately 60% of total GRDP in all Indonesia.
- (Sumatra) Various industries are developed in North Sumatra as in Jawa. The value of GRDP in North Sumatra is the biggest in Sumatra.
- (Kalimantan) The value of GRDP in East Kalimantan is remarkable. However, this is due to its rich natural resources of petroleum, and so on.
- (Sulawesi) The value of GRDP in South Sulawesi is high only in Sulawesi. This is mainly due to the strong agriculture sector.
- (Others) Development of other provinces in the eastern part of Indonesia is proceeding very slowly, especially compared with the western part of Indonesia. The development of the mining sector in Irian Jaya is only superior to other provinces in the eastern part of Indonesia.

2) Industrial Classification of Special Port and Special wharf

The general characteristic of each area in Indonesia as below;

- Items of fuel oil and fish are seen in almost all areas.
- Items of LNG/LPG, and coal/charcoal are mainly seen in Sumatra and Kalimantan.
- Similarly, items of wood, rubber, coconut oil and cooking oil are mainly seen in Sumatra and Kalimantan. In addition, item of wood is also largely seen in Sulawesi, Maluku and Irian Jaya.

3) Current Situation of Industrial Estate Development

Cumulative number and area of Industrial estate development from 1967 to 1996 is shown in Table 4.1.1. The development is overwhelmingly concentrated in West Jawa.

Table 4.1.1 Cumulative Number and Area of Industrial Estate Development from 1967 to 1996

Province	Number	Area (ha)
Special Territory of Aceh	2	470
North Sumatra	6	972
West Sumatra	1	150
Riau	12	9,448
Special Territory of Jakarta	3	869
West Jawa	66	19,272
Central Jawa	11	2,382
East Jawa	17	3,462
West Kalimantan	1	117
Central Kalimantan	1	95
South Kalimantan	1	100
East Kalimantan	2	900
North Sulawesi	1	150
Central Sulawesi	1	100
Total	125	38,487

Source : BKPM

(2) National and Local Governmental Budget for Development

As compared with the building expenditures of provinces in the western part of Indonesia, those of provinces in the eastern part of Indonesia are mostly scanty with modest exceptions in East Kalimantan, South Sulawesi and Irian Jaya.

Inpres for development of first local government is distributed almost equally to each province, and that of second local government is distributed in proportion to population of each province. On the other hand, Inpres for upgrading provincial road is distributed for the purpose of reducing inequities between regions. Emphasis is being put on the development of the eastern part of Indonesia.

(3) Domestic and Foreign Investment by Private Sector

All investment by the private sector is approved by Investment Coordinating Board (BKPM).

Investment trends are as follows;

- Investment in the western part of Indonesia is still much bigger than that in the eastern part of Indonesia. And the concentration to Jawa is remarkable.
- Foreign investment in the eastern part of Indonesia remarkably increased in the past three years.
- Domestic investment in the eastern part of Indonesia has been increasing gradually.
- Investment in the agriculture and forestry sector is mainly seen in Sumatra and Kalimantan.
- Investment in the manufacturing and services sector has concentrated in Jawa.
- In the eastern part of Indonesia, investment in the fishery sector in Maluku has been remarkable.
- Mining sector has attracted more foreign than domestic investment, and the investment in East Kalimantan, South Sulawesi and Irian Jaya has been remarkable.

(4) Coordination of National and Regional Development

Development Plans of the national level and regional level which are proposed by several sectors (i.e. several ministries and local office of each ministry (KANWIL)) are coordinated by BAPPENAS and BAPPEDA respectively. Namely they coordinate each planning, budget, development schedule, and so on.

4.1.3 Strategy for National Spatial Plan

Concerning the national and regional spatial plan, the Act No. 24 was established in 1992. According to this Act, Government Regulation concerning national spatial plan was established at the end of December 1997. In this Government Regulation, the national space is divided into "protection area" and "cultivation area" based on the main function of area, and the area which has especially strategic importance is classified as a "special area".

In "Special area", the functional hierarchy of city which has the potential to be developed is defined as "Activity center". "Activity center" is further divided into the following three categories;

- National activity center (PKN)
- Regional activity center (PKW)
- Local activity center (PKL)

4.1.4 Strategy for Industrial Zone Development

In order to unite and arrange the various areas of industrial development, Central Area of Industrial Development (WPPI; Wilayah Pusat Pertumbuhan Industri) is defined as connection of several Industrial Zones. All Indonesia is divided into 6 WPPI, and WPPI consists of 53 Industrial Zones. In the study of industrial zone development conducted by the Ministry of Industry and Trade in 1994, quantity of increasing industrial business unit in each WPPI is estimated according to different growth scenarios. The result in the case of moderate scenario is shown in Table 4.1.2.

Table 4.1.2 Estimation of Quantity of Increasing Industrial Business Unit per year
(unit/year)

WPPI	Term		
	Repelita VI	Repelita VII	PJP II
I	160	185	210
II	860	960	1100
III	300	340	385
IV	110	120	135
V	80	85	95
VI	60	70	75
Indonesia	1570	1760	2000

Source : National Study for Strategy Research of Industrial Zone Development in PJP II, 1994
(Ministry of Industry and Trade)

4.2 Regional Development in the Eastern Part of Indonesia

4.2.1 Eastern Indonesia Development Council (EIDC)

In 1993, it was stipulated in the National Development Guideline (GBHN) that development in the eastern part of Indonesia be accelerated.

To implement this policy, Eastern Indonesia Development Council (EIDC) was formed in 1993 via Presidential Decree No.120/1993.

4.2.2 Integrated Economical Development Area (KAPET)

(1) Outline of KAPET

In order to give priority to the development in the provinces of the eastern part of Indonesia, 13 strategic areas (one by one in each province) have been chosen as Integrated Economical Development Zone (KAPET).

Under Presidential Decree No.89/1996, special investment incentives such as tax reduction

and licensing facilities are awarded in KAPET area.

(2) Current Situation

Current situation of KAPET is in the stage of preparing the master plan, and area determination of each KAPET is being now enforced in order. Current situation of area determination of KAPET is shown in Table 4.2.1.

Table 4.2.1 Current Situation of Area Determination of KAPET

Province	Name of KAPET	Presidential Decree	Date
Iran Jaya	Biak	No.90	3 Dec. 1996
		No.10* (*changes of No.90)	19 Jan. 1998
South Kalimantan	Batulicin	No.11	19 Jan. 1998
East Kalimantan	SASAMBA	No.12	19 Jan. 1998
West Kalimantan	Sanggau	No.13	19 Jan. 1998
North Sulawesi	Manado-Bitung	No.14	19 Jan. 1998
East Nusa Tenggara	Mbay	No.15	19 Jan. 1998

4.3 Transportation Infrastructure Development

4.3.1 Road Transportation

Road length and density by each province in 1996 are shown in Table 4.3.1. Regarding motorization, the number and type of registered motor vehicles are shown in Table 4.3.2.

4.3.2 Rail Transportation

Rail transportation is managed by PERUMKA (Perusahaan Umum Kereta Api : Indonesian State Railways). At present, the length of railway is 6,441km (4,726km, 73% in Jawa and 1,715km, 27% in Sumatra), but active operating length is still 5,042km (3,672km, 73% in Jawa and 1,370km, 27% in Sumatra), in addition, the majority (96.6%) is single track.

4.3.3 River, Lake and Ferry Transportation

Major lines of river, lake and ferry transportation in 1995 are shown in Table 4.3.3.

Table 4.3.1 Road Length and Density by Province in 1996

Province	Land Area Km ²	Population 1000person	Vehicles Cars	Length		Density (1)		Density (2)		Density (3)	
				Km	%	Km/1000Km ²	note	Km/1000person	note	Cars/Km	note
1 Special Territory of Aceh	55,390	3,945	221,432	14,241	3.7	257		3.6		16	○
2 North Sumatra	71,680	11,306	960,338	30,990	8.0	432		2.7		31	
3 West Sumatra	42,898	4,390	224,238	18,297	4.7	427		4.2	○	12	○
4 Riau	94,361	4,057	304,239	13,289	3.4	141		3.3		23	
5 Jambi	53,436	2,459	856,844	9,268	2.4	173		3.8		21	
6 South Sumatra	109,254	7,413		15,135	3.9	139		2.0			
7 Bengkulu	19,789	1,464		5,985	1.6	302		4.1	○		
8 Lampung	35,385	6,806		11,320	2.9	320		1.7			
9 Special Territory of Jakarta	664	9,341	3,397,748	8,651	2.2	13,029	◎	0.9	×	393	×
10 West Java	43,177	40,118	1,243,076	28,329	7.3	656	○	0.7	×	44	
11 Central Java	32,549	29,881	2,576,856	24,973	6.5	767	○	0.8	×	63	×
12 Special Territory of Yogyakarta	3,186	2,915		15,742	4.1	4,941	◎	5.4	○		
13 East Java	47,923	34,124	2,591,890	33,066	8.6	690	○	1.0		78	×
14 West Kalimantan	146,807	2,924	205,115	11,817	3.1	80	×	4.0	○	17	○
15 Central Kalimantan	153,564	3,708	352,523	14,075	3.6	92	×	3.8		16	○
16 South Kalimantan	36,535	3,641		7,823	2.0	214		2.1			
17 East Kalimantan	210,985	860	240,254	6,977	1.8	33	×	8.1	◎	34	
18 North Sulawesi	27,488	3,732	334,017	9,804	2.5	357		2.6		17	○
19 Central Sulawesi	63,689	1,686		9,797	2.5	154		5.8	○		
20 South Sulawesi	62,483	2,960	499,166	27,772	7.2	444		9.4	◎	14	○
21 Southeast Sulawesi	38,140	2,429		6,820	1.8	179		2.8			
22 Bali	5,633	2,686	749,792	8,004	2.1	1,421	◎	3.0		19	○
23 West Nusa Tenggara	20,153	1,997		7,127	1.8	354		3.6			
24 East Nusa Tenggara	47,349	7,693		16,181	4.2	342		2.1			
25 East Timor	14,609	1,643		8,160	2.1	559	○	5.0	○		
26 Maluku	77,871	2,142	55,043	9,359	2.4	120		4.4	○	6	◎
27 Irian Jaya	421,981	2,021	73,531	12,834	3.3	30	×	6.4	◎	6	◎
Western part of Indonesia	615,525	160,906	13,126,453	237,290	61.5	386		1.5		55	
Eastern part of Indonesia	1,321,654	37,437	1,759,649	148,546	38.5	112		4.0		12	
Total	1,937,179	198,343	14,886,102	385,836	100	199		1.9		39	

Note : (Density (1) : Length / Land Area)
 ◎ : >1,000 (Km/1000Km²)
 ○ : 500~1,000 (Km/1000Km²)
 × : <100 (Km/1000Km²)

(Density (2) : Length / Population)
 ◎ : >6 (Km/1000person)
 ○ : 4~6 (Km/1000person)
 × : <1 (Km/1000person)

(Density (3) : Cars / Length)
 ◎ : <10 (Cars/Km)
 ○ : 10~20 (Cars/Km)
 × : >50 (Cars/Km)

Source : Made by OCID based on Statistical Data in BPS

Table 4.3.2 Number of Registered Motor Vehicles by Type

(Unit)

	1978	1988	1996
Passenger car	535,442	1,073,106	2,410,526
Bus	58,389	385,731	724,914
Truck	336,753	892,651	1,454,585
Motorcycle	1,990,250	5,419,531	10,296,077
Total	2,920,834	7,771,019	14,886,102

Source : Statistics during 50 years Indonesian independence (BPS),
Statistical Yearbook of Indonesia 1996 (BPS)

Table 4.3.3 Major Lines of River, Lake and Ferry Transportation in 1995

(thousand person)

Line	Number	Line	Number
1. Ujung-Kamal	14,828	11. Kupang-Rote	116
2. Merak-Bakauheni	12,042	12. Sabang-Malahayati	109
3. Ketapang-Gilimanuk	5,282	13. Bira-Pamatata	104
4. Poka-Galala	4,795	14. Kupang-Larantuka	73
5. Kodya Pontianak	1,396	15. Bau Bau-T. Dona	71
6. Padang Bai-Lembar	1,132	16. Sape-Komodo-L. Bajoe	58
7. Lombok-Potano	953	17. Sibolga-Nias	55
8. Balikpapan-Penajam	786	18. Cilacap-Sidareja	51
9. Hunimua-Waipirit	398	19. Kupang-Ende	42
10. Bajoe-Kolaka	126	20. Sorong-Jefman	38

Source : Transportation statistics 1996 (MOC)

4.3.4 Air Transportation

In Indonesia, 21 major airports are managed by two state-owned enterprises, PAP (PT. Angkasa Pura) I and II. Other airports are managed by DGAC (Directorate General of Air Communication), and those airports are classified at the class status I, II, III, IV, V and non class in accordance with the Ministry's Decree of No.KM.36/1993.

Chapter 5 POLICY ON PORT SECTOR DEVELOPMENT

5.1 The Current Policy for Transportation System

5.1.1 National Transportation System (SISTRANAS)

In December 1996, Indonesian Government issued the National Transportation System as the first step in formulating a nationwide master plan of transportation. The function of the national transportation system is to support and stimulate the national and regional development, to strengthen the unity of entire country and to increase international relationship.

It stressed that sea transportation is able to transport both a large volume of passengers and cargoes over a long distance inter-regionally and internationally. Therefore, sea transportation network development can play a crucial role in supporting and stimulating the national and regional development and in uniting all Indonesia regions.

5.1.2 Regional Transportation System (SISTRAREG)

National Transportation System has been formulated from the viewpoint of national level. Due to the large area of Indonesia and the vast differences between regions, it is necessary to establish more detailed transportation system at the regional level.

The function of Regional Transportation System is to support and to stimulate regional development.

5.2 The Current Policy for Port System

In accordance with Shipping Law No. 21/1992, ports in Indonesia are categorized into two kinds: public ports and special ports. Public ports are developed to serve public/common users, while special ports are developed and used by and for the interest of industries to support them, such as manufacturing, forestry, fishery, mining, tourism and other sectors. Now, 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 110 public ports would be managed commercially by four Indonesian Port Corporations. The remaining 546 public ports are managed non-commercially by the government.

In National Transportation System formulated in 1996, ports are classified by their functions into 5 (five) classifications, based on their functions, namely primary trunk port, secondary trunk port, tertiary trunk port, regional feeder port and local feeder port.

Table 5.2.1 Port System (based on Shipping Law No.21/1992)

Port Management Bodies	Operators	Number of Ports	Port Classification	
			International Port	Local Port
Public Ports				
1. Commercial Port	Indonesian Port Corporation	112	72	40
2. Non Commercial Port	Government Unit	544	8	536
Special Ports	Private Sector - Industry - Mining - Fishery - Agriculture - Turism etc.	1,233	51	1,182
Total		1,889	131	1,758

Source : DGSC

Chapter 6 SEABORN CARGO AND PASSENGER TRAFFIC

6.1 Cargo and Passenger of International Trade/Travel

Total foreign trade cargo at the public ports is approximately 201 million tons (including 52 million tons at non-commercial ports) in 1995. As for the number of passengers at all public ports in 1995, those for commercial and non-commercial ports are about 13 million persons and 6 million person respectively.

At IPC ports, the average growth rates of cargo volume from 1988 to 1995 are about 13% for import and 8% for export. The average growth rate of passenger of international routes during the same period as that of the cargo is 14.4%. As for the export cargo volume, the growth tendency during the first five years (until end of 1993) is increased with an average of about 10.7%, but that of the latter period is decreased about -5.4%. Figure 6.1.1 shows the change in cargo volume for import/export at IPC ports from 1988 to 1995.

6.2 Cargo and Passenger of Domestic Trade/Travel

Cargo volume of domestic trade at IPC ports in 1995 is approximately 172 million tons. The average growth rate of total cargo volume for domestic routes from 1988 to 1995 is about 10.1%. The number of passengers for domestic routes at IPC ports in 1996 is approximately 12 million persons.

6.3 Container Cargo

Container cargoes are handled at major ports under jurisdiction of each IPCs. Table 6.3.1 shows the number of containers handled by the container size and the container cargo volume at ports under all IPCs in 1995 and 1996.

According to Table 6.3.1, approximately 65% of containers are handled by 20's type. The growth rates of container cargo and the number of TEU from 1995 to 1996 are approximately 10.6% and 10%.

According to the interview at Tg. Perak, the ratio of transshipment containers to the total handling containers is approximately 30%.

Figure 6.1.1 Change of Cargo Volume at IPC Ports

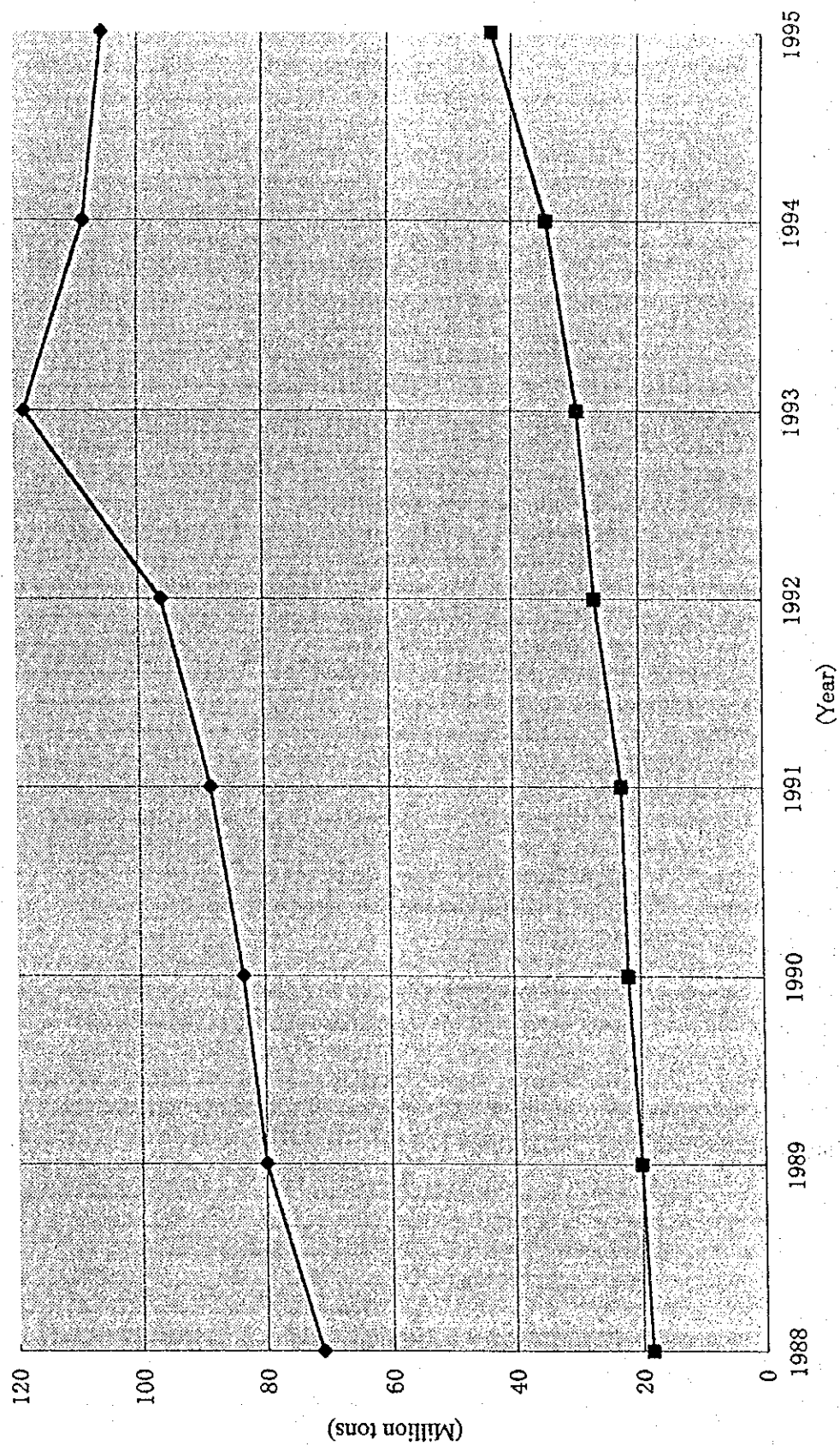


Table 6.3.1 Number of Containers at IPC Ports in 1995 and 1996

year	IPC	Unloading			Loading			Total		
		20'	40'	TEU	Total ton	20'	40'	TEU	Total ton	Total ton
1995	IPC-1	51,829	24,816	101,461	552,496	48,623	25,381	99385	1,223,083	100,452
	IPC-2	363,678	210,401	784,480	7,898,633	344,845	211,277	746,928	6,775,148	708,523
	IPC-3	154,032	110,632	375,296	3,364,416	165,958	95,345	356,548	3,969,487	319,990
	IPC-4	54,945	1,413	57,771	761,289	75,786	1,283	79,312	423,417	130,731
	Total	624,484	347,262	1,319,008	12,576,834	635,212	333,286	1,282,173	12,391,135	1,259,696
1996	IPC-1	84,122	28,982	142,086	995,626	74,390	28,755	131,900	1,383,925	158,512
	IPC-2	373,193	217,744	808,682	7,615,372	387,997	232,994	853,997	8,042,171	761,190
	IPC-3	172,234	95,403	363,440	3,689,037	189,818	108,997	407,812	4,380,302	362,052
	IPC-4	77,910	1,773	81,456	1,005,272	72,920	1,386	73,692	497,668	150,830
	Total	707,459	343,902	1,395,664	13,305,307	725,125	372,132	1,467,401	14,304,066	1,432,584

Source: DGSC

Chapter 7 PORT DEVELOPMENT PLANS

7.1 Current Long-term Development Plan Related to Ports

In 1969, "Long-term Development Plan I" (PJP I) started as the first long-term national economic development plan. In PJP I, development policy in transportation sector was to support national and regional economic development by providing a transportation means.

In the wake of PJP I, "The Second Long term Development Plan" (PJP II) started in 1994. In the transportation sector, improvement of the transportation infrastructures as well as improvement of the quality of transportation services, such as improvement of transportation reliability, were aimed at. In particular, necessity for improving the transportation service in isolated area, especially Eastern Indonesia was described.

7.2 Five Year Development Plan (REPELITA)

7.2.1 History of the Five year Development Plan

Since REPELITA I, almost 30 years have passed. Based on these REPELITA I ~ VI, port development has been conducted.

During the REPELITA I ~ VI, share of budget of sea transportation for total investment has been 1 ~ 2.5%. Even though port development has played a very important role for socio-economic development, this share is very low compared to the share of other infrastructures, especially considering that Indonesia is the biggest archipelago country. In REPELITA VI, the share of the sea transportation budget for total development budget is about 1.7%, which is lower than the air transportation budget (See Table 7.2.1).

7.2.2 Present Situation for Preparing the REPELITA VII

REPELITA VI ends in 1998/1999. So, in April 1998, General direction (GBHN) of REPELITA VII was announced from the Diet.

However, because of the severe currency crisis and political instability, the preparation of REPELITA VII has been suspended. After a new president is elected in 1999, the preparation of REPELITA VII shall be resumed. So, in April, 2000, new GBHN shall be announced and preparation of the REPELITA VII shall start officially. Thus the preparation of REPELITA VII shall be delayed by almost 2 years.

At present, the Indonesian Government is preparing the "Urgent Plan for the Economic Recovery" which aims at economic recovery in 2 years.

Table 7.2.1 Resource Allocation for Transportation under REPELITA I ~ VI

(Rp, million)

	REPELITA					
	I	II	III	IV	V	VI
A. Road	257 (75.0%)	389 (77.7%)	1,475 (66.5%)	4,223 (46.3%)	11,863 (62.7%)	22,195 (67.6%)
B. Land Transportat (Railways, Rreight & Passenger Road Transportat and Ferries)	22 (6.3%)	34 (6.7%)	189 (8.5%)	1,605 (17.6%)	2,327 (12.3%)	3,783 (11.5%)
C. Sea Transportat (Ports & Shipping)	34 (9.8%)	52 (10.4%)	293 (13.2%)	1,970 (21.6%)	2,176 (11.5%)	2,991 (9.1%)
D. Civil Aviation (Airports & Air- crafts)	30 (8.9%)	26 (5.2%)	262 (11.8%)	1,323 (14.5%)	2,554 (13.5%)	3,870 (11.8%)
Total Transport Budget	342 (100%)	500 (100%)	2,218 (100%)	9,121 (100%)	18,920 (100%)	32,839 (100%)
Total Development Budget (in billion Rp)	2,012	3,125	15,845	78,628	107,500	175,933
E. Share of Sea Transport for the total development budget (%)	1.7%	1.3%	2.4%	2.5%	2.0%	1.7%
F. Share of Transport for the total development budget (%)	17.0%	16.0%	14.0%	11.6%	17.6%	18.7%

Source : BAPPENAS and DGSC

Chapter 8 NAVIGATION SAFETY AND WATERWAY MAINTENANCE

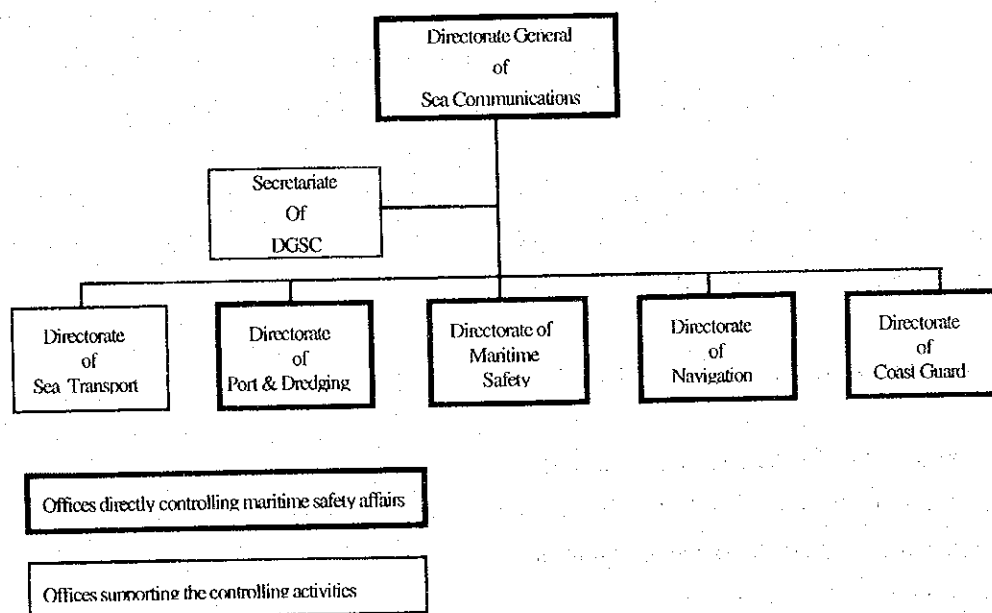
8.1 The Present Legislation Governing Navigation Safety

To date there are more than 20 important international conventions in force concerning maritime safety. The Government has ratified nine of those conventions with slight protocols/amendments by presidential decree. Although the main idea of those conventions came into force by an internal law, the Shipping Law 21 (1992), various important technical standards e.g. the issue of ship stability, haven't been formulated yet.

8.2 Competent Authority

The comprehensive control of navigation safety is the exclusive responsibility of DGSC, which has many directorates/divisions/sub-divisions which collectively share that responsibility. Although those vertically divided units formally cover almost all the management, in fact, there is insufficient contact among the directorates and divisions. The lack of information-sharing makes it difficult to formulate a practical safety policy. A example of the status of shared functions of each unit is schematically shown as follows.

Figure 8.1 Shared responsibility in DGSC concerning safety



8.3 Navigational Aids

The state of navigational aids has been steadily improving in accordance with the phased schedule, which was furnished by the JICA study team in 1985. However, the situation hasn't reached the

desired level of 60 % due to the rapid development of sea traffic and recent establishment of the three international sea-lanes in Indonesian waters.

The current state of installed equipment, tenders and work force is shown in the chapter concerned.

8.4 Pilotage System

There are 50 designated compulsory pilotage water areas and 20 non-compulsory ones, and 420 pilots in total are engaged in service.

The number of designated compulsory pilotage water seems to be insufficient considering that there are 656 public ports which are open to foreign vessels. On the other hand, , the lower limit of objective vessel size, 150 GRT, could be raised up to 500 GRT from viewpoints of easier maneuverability and bringing Indonesian ports in line with current international practice.

In order to achieve better service, about 40 % of the aged facilities such as tugboats, pilot boats and communication devices, should be replaced with up-dated ones.

8.5 Sea Accidents

The number of sea accidents involving Indonesian vessels in the period of 1982/83 – 1996/97 was 3,837, resulting in the loss of 868 lives and 196,991 tons of cargo. The number of accidents shows a steady decrease throughout the 14 year period, and several trends are pointed out in the report.

The above outlook is based on the formal reports collected throughout the sub offices of DGSC. The report should describe in full detail the number and cause of sea accidents so that a policy can be formulated to prevent such accidents in future.

8.6 Strategy for Promoting Navigation Safety in Ports

Main focus of consideration hereinafter is as follows:

- Seaworthiness of Indonesian vessels and their survey system,
- Training and certification of Indonesian seafarers,
- Expanding search and rescue system,
- Introducing Vessel Traffic Service wherever it is necessary.

8.7 Dredging

Dredging work is done by the PT. RUKINDO with a fleet of twenty seven dredgers in Indonesia.

(1) Dredging Area and Volume

Dredging works are conducted at about forty ports in Indonesia. The name of ports, dredged volume and channels are listed in Table 8.7.1.

(2) Dredging Vessels

The PT. RUKINDO has a fleet of twenty seven dredgers consists of fourteen trailing suction hopper dredgers, four cutter suction dredgers, two sand pump dredgers and seven grab/clamshell dredgers. Total dredging realization of the fleet is 23,600,000m³ in 1997. Trailing suction hopper dredgers realized dredging volume of 19,100,000m³, grab/clamshell dredgers realized dredging volume of 1,550,000m³, cutter suction dredgers realized dredging volume of 2,700,000m³ and sand pump dredgers realized dredging volume of 250,000m³ in 1997.

(3) Dredging Implement

Implementation of the dredging works is listed in Table 8.7.2. Total dredged volume is 13,358,200m³, and total cost is 42,119 million Rupiah in 1997. Dredging cost is increasing rapidly in recent 10 years.

Table 8.7.1 The names of ports and dredged volume

Unit: 000m3

No.	Name of Port	Abbreviation	Realization of Year I 1994/1995	Realization of Year II 1995/1996	Realization of Year III 1996/1997	Realization of Year IV 1997/1998	Plan of Year V 1997/1998	Site		
								Length(m)	Width(m)	Slope
1	Belawan	Bel	1,635.77	1,805.88	1,800.00	1,800.00	1,800.00	15,500	100	9.5
2	Kuala Langsa									
3	Palembang	Plg	2,300.00	2,300.00	2,300.00	2,300.00	2,300.00	80,000	100	6.5 to 7
4	Pangkal Balam			140.00			200.00			1:6
5	Tanjung Pandan			105.00			200.00			
6	Muntok						200.00			
7	Jambi	Jbi	350.00	350.59	350.00	350.00	350.00	8,100	70	4.5
8	Kuala Tungkal									1:8
9	Muara Pandang				76.37					
10	Air Bangis									
11	Bengkulu	Bkl			1,172.55	193.20	1,000.00	2,700	80	10.0
12	Cirebon	Crb		250.00	250.00	250.00	250.00	2,100	70	6.0
13	Karangantu									1:4
14	Semarang	Smg						4,000	100	10.0
15	Juwana	Jua		350.23		350.00	350.00	3,500	30	3.0
16	Tegal	Teg		100.00	75.06	100.00	100.00	3,500	50	4.0
17	Batang				80.00					1:4
18	Pekalongan									
19	Rembang									
20	Gilacap									
21	Surabaya	Sba			700.00			7,000	100	10.0
22	Probolinggo						200.00			1:5
23	Pesuruan						200.00			
24	Kaliangai					275.00				
25	Pontianak	Ptn	1,506.96	1,700.00	1,700.00	1,700.00	1,700.00	12,000	80	5.5
26	Sintete						500.00			1:5
27	Banjarnasin	Bjm	2,331.88	2,500.00	2,169.46	2,400.00	2,500.00	14,000	60	5.5
28	Samarinda	Smd	1,617.47	1,477.43	1,333.33	1,350.00	1,500.00	23,435	60	7.0
29	Kunai	Kun	400.00			500.00	500.00	18,900	60	5.0
30	Sampit	Spt		780.00		700.00		14,700	50	5.0
31	Pulang Pisau						1,000.00			1:8
32	Gorontalo					90.00				
33	Manado						60.00			
34	Luwuk						60.00			
35	Benoa						500.00			
36	Lembar						60.00			
37	Nabire									
38	Serui									
39	DKI Jakarta					1,000.00				
40	Tanjung Priok	Tpk								
TOTAL			10,162.08	11,859.13	12,006.77	13,358.20	16,340.00	8,000	120	14.0
										1:4

Source: DGSC

Table 8.7.2 Implementation of dredging

No.	FISCAL YEAR	VOLUME OF MUD DREDGED (m3 SITU SOIL)		COST (Rp.)	
		PLAN	REALIZATION	PROVIDED	REALIZATION
1	1969/1970	9,741,000	9,772,679	1,028,000,000	838,044,888.13
2	1970/1971	6,096,424	10,484,462	724,400,000	551,038,275.34
3	1971/1972	9,600,000	11,207,263	1,600,000,000	1,323,308,030.34
4	1972/1973	9,000,000	12,100,172	1,499,900,000	1,411,656,855.25
5	1973/1974	5,164,755	7,568,793	1,600,000,000	1,581,088,211.00
6	1974/1975	7,035,000	9,118,026	2,192,500,000	1,968,411,505.00
7	1975/1976	9,177,950	12,091,052	3,665,500,000	2,884,017,877.00
8	1976/1977	9,350,245	12,413,950	4,000,000,000	3,827,689,448.00
9	1977/1978	11,284,408	12,247,168	5,021,300,000	4,906,139,671.00
10	1978/1979	12,536,000	15,764,843	5,272,500,000	4,888,812,311.00
11	1979/1980	15,040,540	15,737,908	5,212,200,000	5,090,220,560.75
12	1980/1981	17,082,950	19,841,068	6,801,011,600	5,111,073,091.50
13	1981/1982	17,207,625	19,623,400	7,545,012,000	7,523,998,769.69
14	1982/1983	16,894,425	19,387,117	7,986,052,000	6,151,287,088.00
15	1983/1984	15,727,000	16,385,609	6,445,601,000	6,447,739,744.00
16	1984/1985	13,030,400	14,186,449	6,211,855,000	6,201,000,000.00
17	1985/1986	11,416,534	12,582,272	6,023,000,000	6,010,000,000.00
18	1986/1987	11,817,773	11,972,165	5,618,955,000	5,600,800,000.00
19	1987/1988	7,200,122	7,570,665	3,315,725,000	3,314,300,000.00
20	1988/1989	9,014,850	11,934,050	9,128,515,000	9,125,450,000.00
21	1989/1990	12,020,000	12,793,247	13,450,024,000	13,445,250,000.00
22	1990/1991	16,254,000	16,130,448	16,850,000,000	16,838,750,000.00
23	1991/1992	21,886,982	14,366,127	26,785,000,000	26,775,600,000.00
24	1992/1993	14,933,000	13,707,522	25,549,738,000	24,444,203,000.00
25	1993/1994	21,106,257	13,349,700	42,045,850,000	22,874,000,000.00
26	1994/1995	10,400,000	10,162,080	26,808,000,000	26,587,990,000.00
27	1995/1996	14,181,000	11,859,130	40,328,000,000	31,796,360,000.00
28	1996/1997	10,650,000	12,006,770	32,531,000,000	32,282,880,000.00
29	1997/1998	14,115,000	13,358,200	48,234,000,000	42,119,400,000.00
30	1998/1999	10,725,000	15,400,000	40,422,000,000	51,583,640,000.00

Source: DGSC

