

7.9 Supporting Activities for Port Sector Development

7.9.1 Objective of the Policy

Considering the importance of port sector activities in Indonesia, port development seems to have been neglected by the higher spheres of government. Table A.4.4.1 "Share of the Port Development Investment for Total Infrastructure Development Investment" and Table 5.3.3.9 "Number of Public Ports in Indonesia, Japan and Philippines and Other Related Figures" indicate that the Indonesian level of investment and number of public ports are lower than in other countries. While this can partly be explained by Indonesia's unique background, the above situation may also stem from a lack of understanding on the part of relevant parties including higher government authorities or major private sector entities on the importance of ports. Conversely, port sector entities are partially to blame themselves since they have not made sufficient efforts to persuade the above parties of the port sector's importance.

Under the severe conditions in promoting port development in Indonesia, it is vital that the Indonesian port sector should become more powerful as a whole in its economic, administrative, and even political position. The objectives of the policy in this section are, therefore, to strengthen financial, institutional and theoretical foundation for promoting sound port development and management through the following informal port supporting activities.

- (1) Promoting national consensus and international understanding on Indonesia's port policy
- (2) Improving legal, institutional and organizational arrangements
- (3) Strengthening theoretical base for better understanding of the parties concerned
- (4) Securing adequate allocation of public funds (national and local government budget) for port sector development
- (5) Attracting private sector participation

7.9.2 Organization of Supporting Groups

In order to achieve the above mentioned objectives, it is required to establish a semi-formal (or informal) supporting body and system consisting not only of the government or public entities but of a wide range of private or semi-private port/transport related business circles. Headquarters of the supporting body may be in a semi-public organization acting in close cooperation with the responsible government section such as a certain division of DGSC, which may be an actual control tower of the supporting activities of the body.

Supporting groups may be comprised of appropriate sections or individuals from central government, local governments, port management bodies (such as IPCs), port operators, stevedores, shipping lines, shippers, waterfront oriented industries, marine contractors, tourist

agencies, intellectuals of academic circles or research institute, journalists, opinion leaders, popular artists or entertainers and relevant statesmen.

The above variety of potential supporters of port sector needs to be organized under several appropriate sub-sectors as shown as follows.

- (1) Public Sector
 - 1) Central Government Organization
(ex. port related sections in MOC and other ministries concerned)
 - 2) Local Government Organization
(ex. port related section of local government or local port management bodies if established in future)

- (2) Semi-Public Sector (for examples in Japan see Table A.7.9.1)
 - 1) Chartered Foundation
 - 2) Chartered Association or Society

- (3) Private Sector
 - 1) Private Association or Society
(ex. INSA)
 - 2) Individual Entity
(ex. individual private firms of which businesses are deeply dependent on port development and activities)
 - 3) Voluntary Group
(ex. non-chartered private supporting group or NGO)
 - 4) Intellectuals and Opinion Leaders
(ex. professors, journalists, columnists, or other opinion leaders)

- (4) Political Sector
 - 1) Supporting Sect in Ruling Party
 - 2) Individual Statesmen or Groups (in central and local congress)

- (5) Local Supporting Bodies
 - 1) Local Branches or Sections of Each Sub-Sector

7.9.3 Example of Supporting Activities

While there may be many types of supporting activities for port sector development appropriate to the conditions and requirements of each country, following sample activities

are considered worthwhile for further examination for Indonesian port sector development.

- (1) Collective Activities for National/Local Budget Promotion
- (2) Donation for Supporting Activities
- (3) Strengthening Theoretical Background for Port development
- (4) PR Activities for Public Understanding and Acceptance
- (5) Coordination of Collective Supporting Activities
- (6) Promoting Dialogue between Opposite Parties
- (7) Adjustment of Conflicting Interests among Port Supporting Parties
- (8) Organizing and Supporting Port-related Statesmen
- (9) Promoting International Relations on Port Sales Activities
- (10) Policy Making and Maintenance of Overall Supporting Organization and its Activities

Actual implementation of the above supporting activities should be allocated appropriately to the supporting bodies considering their original function of which performance and achievement need to be controlled by the responsible section of a core supporting organization.

Considering the current situation surrounding the port administration of Indonesia, it may not be easy to organize this kind of informal supporting system for port sector development even under positive efforts of DGSC. However, it may become possible simply by starting collective and cooperative actions of the port family parties in achieving the common targets and interests. Since some sophisticated know-how or special consideration on local conditions may be required in realizing this kind of policy, the original strategies to be applied to the Indonesian port sector should carefully be examined by the government.

Chartered institutes or associations which have close relation to the Japanese port sector activities are listed in Table A.7.9.1 for reference.

Chapter 8 IMPLEMENTATION PROCESS POLICY

8.1 Port Sector Development Process Policy

(1) General

The objective of this study is to prepare a Long Term Port Development Strategy up to the year 2018. However in order to utilize the limited investment funds effectively, it is important to show the prioritized and urgent plans at each intermediate target year. This would also greatly contribute to the realization of the Long Term Port Development Strategy.

In Section 8.2, prioritized actions under the current economic situation are examined. Under this situation, the preparation of REPELITAVII will be delayed by almost 2 years. Prior to the formulation of REPELITAVII, Indonesian Government is preparing an "Urgent Plan for the Economic Recovery". Therefore, the prioritized actions under the current economic situation in the port development sector as well as port administration and management field are examined.

In Section 8.3, rough estimation of required investment in port development up to each intermediate target year is conducted. In addition, in Section 8.4, macro-view analysis of required investment in port development is conducted in order to check and confirm the result of the rough estimation in Section 8.3.

(2) Basic principle of port sector development process policy

In formulating the port sector development process policy, the viewpoint of realizing the nationwide development network as well as supporting socio-economic development in Indonesia shall be considered. The following Japanese experience has been referred to in proposing a port sector development program.

In Japan, since the 1950s, prioritized port development areas and fields had been changed based on the demand derived from the national policy and socio-econom situation.

From the 1950s to 1960s, the development of main islands of Japan was more prioritized in comparison with the development of isolated islands such as Hokkaido and Okinawa, since economic recovery was given the most priority in those days. With regards to the development field, development of basic port facilities, which enable ports to play an important role as the national and regional center for transporting cargoes and passengers, was prioritized.

From the 1970s to 1980s, the share of port development in the isolated islands increased. This change of the prioritized areas for port development was reflected in national policy which aimed at the realization of well balanced socio-economic development. With regards to the development fields, port development which contributes to improvement of environment is prioritized. And careful consideration of environmental aspect has become indispensable for port development projects.

From the 1990s to now, again the share of port development in the main islands has been increasing since port development in the main islands is more effective and efficient in comparison with elsewhere. The focus of development is on increasing international competitiveness and improving environmental condition in and surrounding ports. For example, large-scale container terminals, which can accommodate over Panamax container vessels and environment-friendly port facilities, are being given priority.

Although the above experience can not be directly applied to the Indonesian situation, the general direction of time wise port development policy can be proposed as follows.

(a) Short term

- To concentrate efforts on revitalizing the developed areas, such as Java and Sumatra, which have high potential for effective and efficient development.
- To support the eight (8) prioritized activities for quick economic recovery of the country, which were decided by the Indonesian Government in May 1998 (See Chapter 8.2 (1) Present Situation)
- To select the actions of which effect can be expected to be materialized in 2 to 5 years
- To spread improvement of people's livelihood all over Indonesia
- To select the actions which require only small amount of cost or investment

(b) Middle term

- To concentrate efforts on extending development axes to relatively high potential areas in the less advanced areas such as East Kalimantan, Sulawesi and East Nusa Tenggara
- To spread improvement of people's livelihood all over Indonesia
- To increase international competitiveness mainly in the developed areas such as Java and Sumatra
- To select the actions of which effect can be expected to be materialized in 5 to 10 years

(c) Long term

- To concentrate efforts on extending development axes to the least advanced areas and finally realizing a well balanced development network
- To spread improvement of people's livelihood all over Indonesia

- To increase international competitiveness in the less developed areas
- To select the actions of which effect can be expected to be materialize in 10 to 20 years

(3) Implementation program

Based on the above basic principle the Study Team proposed the implementation program for respective strategies as shown in Table 8.1.1 – 8.1.4.

Table 8.1.1 Basic Principle of Port Sector Development Process Policy (in general)

	Short Term	Middle Term	Long Term
General Policy	<ol style="list-style-type: none"> 1) Concentrating efforts on revitalizing the developed areas, such as Java and Sumatra, which have high potential for effective and efficient development 2) Supporting 8 prioritized activities, which were decided by the Indonesian Government in May 1998 3) Selecting the actions of which effect can be expected to be materialized in 2 to 5 years 4) Spreading improvement of people's livelihood all over Indonesia 5) Selecting the actions which require only small amount of cost or investment 	<ol style="list-style-type: none"> 1) Concentrating efforts to extending a development axes to relatively high potential areas in the less advanced areas such as East Kalimantan, Sulawesi and East Nusa Tenggara. 2) Spreading improvement of people's livelihood all over Indonesia 3) Increasing international competitiveness mainly in the developed areas such as Java and Sumatra 4) Selecting the actions of which effect can be expected to be materialized in 5 to 10 years 	<ol style="list-style-type: none"> 1) Concentrating efforts to extending development axes to the least advanced areas and finally realizing a well balanced development network 2) Spreading improvement of people's livelihood all over Indonesia 3) Increasing international competitiveness in the less developed areas 4) Selecting the actions of which effect can be expected to be materialize in 10 to 20 years

Table 8.1.2 Implementation Program of Strategy for Strengthening Port Development

	Short Term (Urgent Program)	Middle Term	Long Term
1. Strategy for Port System (in general)	<ol style="list-style-type: none"> 1) Completion of the ongoing construction work 2) Reducing construction costs 3) Conducting the manpower oriented and local material oriented construction work 4) Securing the maritime safety especially <ul style="list-style-type: none"> - Safety of international sea lanes 	<ol style="list-style-type: none"> 1) Promoting the development of ports located in advanced areas with high potential 2) Promoting the development of ports which increase international competitiveness <ul style="list-style-type: none"> - Container terminals - Conventional terminals which can accommodate international cargo including containers 3) Promoting the development of ports which greatly contribute to people's livelihood in less advanced areas 4) Promoting the development of ports which support economic independence of Indonesia, such as supporting export oriented industry 	<ol style="list-style-type: none"> 1) Promoting the development of ports which increase international competitiveness 2) Promoting the development of ports located in the high potential regions, in less advanced areas, for promoting economic growth and extending economic development network <ul style="list-style-type: none"> - Areas in which international economic cooperation is becoming active - Areas which are located near the international sea lanes 3) Promoting the port development which contributes to improvement of environment

(Table 8.1.2 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
2. Strategy for Respective Port System			
(1) Container Port System	1) Continuing the ongoing container terminal development projects, such as TgPriok, Tg Perak, Tg Emas, Makassar, Bitung, Kupang and so on	1) Strengthening the development of "Major Container Terminals" 2) Developing TgPriok / Bojonegara port as an International Container Hub Port.	1) Strengthening the development of "Major Container Terminals" and "Feeder Container Terminals" 2) Developing Bitung port as an International Hub Port in addition.
(2) Conventional Cargo Terminal	1) Continuing the ongoing conventional cargo terminal development projects	1) Strengthening the development of "Domestic Hub / International Conventional Cargo Terminals" 2) Introducing multi purpose terminal system - Ro/Ro vessels - Semi container vessels	1) Strengthening the development of "Domestic Hub / International Conventional Cargo Terminals" and "Major Conventional Cargo Terminals" 2) Promoting multi purpose terminal system - Ro/Ro vessels - Semi container vessels
3. Port Hierarchy	1) Establishment of Port Hierarchy 2) Selection of the strategically important ports	1) Monitoring the activities of the strategically important ports	1) Monitoring the activities of the strategically important ports

Table 8.1.3 Implementation Program of Strategy for Port Finance and Private Sector Participation

	Short Term (Urgent Program)	Middle Term	Long Term
1. Strategy for Port Finance	<ol style="list-style-type: none"> 1) Clarification of roles of the government, IPC and private sector 2) Establishment of clear allocation policy for national budget 3) Effective use of limited national budget for port development 4) Increase of the national budget for port development 5) Enhancement of financial ability of IPCs 6) Strengthening self-funding ability of IPC 7) Careful consideration of possibility of "Initial Public Offering" (IPO) of each IPC 	<ol style="list-style-type: none"> 1) Creation of more "competitive" circumstances for promotion of PSP 2) Decrease of national subsidy to IPCs 3) Establishment of "Special Account System" for funding of port development 4) Reevaluation and justification of "Tariff Levy System" in special port and wharf 5) Consideration of diversification of financial sources of IPC for port development (borrowing, issue of bond & sales of stock etc.) 6) Establishment of incentive policy for bond-issuing (government-guaranteed bonds & bonds with tax credit, etc.) 7) Establishment of total debt service policy for bond-issuing (setting limitation of bond-issuing) 	<ol style="list-style-type: none"> 1) Abolishment or phasing out of national subsidy to IPCs 2) Introduction of cost sharing system with beneficiary 3) Arrangement of basic concept and whole legal framework regarding cost sharing system 4) Fostering domestic bond & stock market for funding for port development

(Table 8.1.3 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
2. Strategy for Port Tariff System	<ol style="list-style-type: none"> 1) Collecting the port charges without fail 2) Allowing initiative of IPC for tariff determination 3) Consideration of proper incentive tariff reduction 	<ol style="list-style-type: none"> 1) Setting the port tariff in line with inflation 2) Introduction of a "Tariff Ceiling" system 3) Establishment of "Time-Conscious" tariff structure 4) Introduction of "Fast Connection Rebate System" (FCR) 	<ol style="list-style-type: none"> 1) Establishment of "Flexible" tariff system (more deregulation to IPC's determination) 2) Establishment of "Lower" tariff rate as a national policy in potential international hub port 3) Establishment of proper "Incentive" tariff rate for transship cargoes

(Table 8.1.3 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
3. Strategy for Private Sector Participation	<ol style="list-style-type: none"> 1) Reconfirmation & establishment of general philosophy for promoting PSP 2) Confirmation of roles of each sector (government, IPC & private sector) for promoting PSP 3) Usual preparation of PSP project lists and issue of "a booklet" for PSP promotion 4) Establishment of "Implementing Regulation" based on "Presidential Decree No.7" 5) Consideration of diversification of possible PSP types (lease, management contract, etc.) 6) Establishment of possible forms for port development & operation 7) Introduction of the private sector to "container terminal operation" in new ports through "Lease Contract" 	<ol style="list-style-type: none"> 1) Establishment of close coordinating relationship among PSP relevant agencies for promotion of PSP 2) Formulation of "Guideline for PSP" for port development and operation 3) Opening of port services to private sector (tug, pilot & utility service, etc.) 4) Introduction of the private sector to operation of existing "container terminals" in major ports through "Lease Contract" 5) Promotion of BOT & Joint Operation in container & multi-purpose terminals of major ports 6) Establishment of "Risk-Allocation Policy" & "Incentive Measures" for BOT projects 7) Foundation of "Internal Monitoring 	<ol style="list-style-type: none"> 1) Arrangement of consistent PSP-related legal frameworks & Foreign Investment Laws 2) Reevaluation of compulsory requirement of cooperation with IPC 3) Shifting the port type from "operating port type" to "tool port type" or "land-lord type" 4) Establishment of "Comprehensive Incentive Package" for foreign investors

	<p>8) Establishment of clear selection criteria of PSP applicants</p> <p>9) Promotion of "Competitive Bidding System" in selection procedure of PSP applicants based on "Presidential Decree No.7"</p> <p>10) Promotion of simplifying licensing procedure for foreign investors</p>	<p>Committee" (monitoring system through eyes of third sector & ex post facto check)</p> <p>8) Upgrading of total PSP system and promotion of disclosure of PSP related-information</p> <p>9) Allowing of participation of "100 % foreign-owned company" in "prioritized" port development projects</p>	
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Table 8.1.4 Implementation Program of Strategy for Effective Port Administration, Management and Operation

	Short Term (Urgent Program)	Middle Term	Long Term
1. Administration and Management Policy	<ol style="list-style-type: none"> 1) Improvement of the various coordination function <ul style="list-style-type: none"> - In order to complete the foreign aid projects - Securing the social safety net and maritime safety 2) Promotion of active port sales, foreign private sector participation and other activities which attract foreign investors 3) Increasing capable human resources for maintaining and improving administrative performance 	<ol style="list-style-type: none"> 1) Clarification of the competence for decision making <ul style="list-style-type: none"> - in order to define the responsibilities related to the port management 	<ol style="list-style-type: none"> 1) Demarcation of certain area such as harbor limit or waterfront area <ul style="list-style-type: none"> - in order to secure smooth operation and future development 2) Transfer of certain authority to the port administrators <ul style="list-style-type: none"> - toward the era of decentralization
2. Formulation and Authorization System of Port Master Plan	<ol style="list-style-type: none"> 1) Establishment of the guideline for port master planning <ul style="list-style-type: none"> - in order to facilitate the preparation of port master plan 2) Establishment of port master plan for major ports 	<ol style="list-style-type: none"> 1) Establishment of port master plan for all ports 	<ol style="list-style-type: none"> 1) Integration of ferry port and special wharf into the port master plan <ul style="list-style-type: none"> - in order to make up comprehensive port master plan 2) Establishment of permanent port council in central and local government <ul style="list-style-type: none"> - in order to reinforce the authority of port master plan

(Table 8.1.4 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
3. Improvement of Port Operation	<ol style="list-style-type: none">1) Giving incentives for handling basic commodities2) Strengthening security measures for securing the safe and effective management3) Strengthening the maintenance activities without spending much cost	<ol style="list-style-type: none">1) Promotion of port service including cargo handling productivity up to the level of partner ports and rival ports.2) Employ the "one roof center system" at the ports, which handle international cargoes.3) Employ the EDI system at the ports, which handles container cargo.	<ol style="list-style-type: none">1) Privatization of the port function where the efficiency of port management and operation are expected to improve by privatization (Ex. Container Terminals).

(Table 8.1.4 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
4. Environmental Consideration in Port Development and Use	<ol style="list-style-type: none"> 1) Revision of the guideline for EIA - for smoothly grasping the present situation and impacts 2) Implementation of monitoring survey 3) Securing of special staff for environmental conservation in DGSC - in order to clarify the responsibilities for environmental conservation 	<ol style="list-style-type: none"> 1) Execution of EIA in port master planning - in order to implement the proper countermeasures 2) Establishment of post-EIA system - for suitable environmental management 3) Realization of public participation - in order to collect various information and opinion and reflect them into port planning 	<ol style="list-style-type: none"> 1) Integration with other city development including road and sewage, etc. - in order to actualize the comprehensive environmental management 2) Securing of amenity - in order to enhance the quality of living environment
5. Navigation Safety and Channel Maintenance	<ol style="list-style-type: none"> 1) Formulation of sailing rules in ports and prescribed channels 2) Revision of the pilotage system 3) Additional DGSC duties concerning the control of safety 4) Expanding the system of vessel inspection 5) Examine priority of dredging projects and their scopes from cost and benefit of view 	<ol style="list-style-type: none"> 1) Reinforcement of tug fleet 2) Additional installation of navigational aids 3) Expanding the system of search and rescue 4) Careful preparation of institutional counter measures on the future environmental problems originated from dredging works 	<ol style="list-style-type: none"> 1) Removal of wrecks 2) Positive involvement in securing international navigational channels through international cooperation

		<p>6) More accurate engineering surveys and assessment on the results of dredging works with upgraded engineering standards</p> <p>7) Conduct a comprehensive study on development of entirely different solution for the issues to be applied</p>	

(Table 8.1.4 Continued)

	Short Term (Urgent Program)	Middle Term	Long Term
6. Staff Training System for Port Sector	<ol style="list-style-type: none"> 1) Training for strengthening and deep understanding on other sub-sectors' business 2) Active introduction of information on new technology 3) Promotion of on the job training 4) Establishment of effective personnel exchange system among the port sub-sectors and other semi governmental organizations 5) Strengthening evaluation of effect of training 	<ol style="list-style-type: none"> 1) Training on the latest technologies in the field of port and others 2) Promotion of retraining system 	<ol style="list-style-type: none"> 1) Improvement of basic human resource for port related business (Ex. School, Institute, etc.)
7. Port Statistics	<ol style="list-style-type: none"> 1) Revision of survey items (improvement of SIMOPPEL system) - in order to grasp various data needed for port planning 	<ol style="list-style-type: none"> 1) Over all implementation of statistical survey in public ports 2) Grasping annual change of the port situation (proper analysis and management of data) 	<ol style="list-style-type: none"> 1) Compulsory implementation of statistical survey in ferry and special ports 2) Making statistics internationally compatible

8.2 Prioritized Actions under the Current Economic Situation

(1) Present Situation

Indonesian Government announced that project proposal shall be arranged in order to support the recovery from the current economic crisis in 6 months to 2 years.

Based on the above announcement, prioritized activities are as follows.

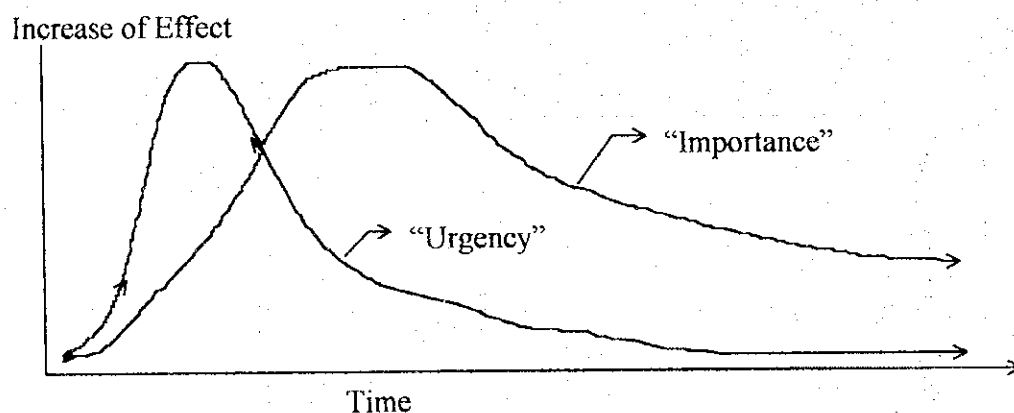
- (a) Activities which support fluent distribution of nine basic staple supplies and medicines.
- (b) Activities which are connected to the social safety net or support the alleviation of poverty
- (c) Maintenance activity and main infrastructure rehabilitation to maintain the appropriate service level for producing and distributing the goods
- (d) Activities which support safety
- (e) Activities which support the economy; particularly agriculture, tourism and export oriented industry sectors, to contribute to the economic recovery by yielding foreign currency quickly
- (f) Further activities which should be operated immediately in order to support (a) to (e)
- (g) Activities which improve human resource development to the international level, especially in the field of technical education and training
- (h) Supplying local cost to foreign aid projects which need urgent implementation

(2) Procedure for selecting prioritized actions

In selecting prioritized actions, the Study Team used two criteria; "Urgency" and "Importance".

"Urgent" programs will be expected to generate immediate results. On the other hand, "Important" programs will be expected to generate a large-scale effect, although their impact may not be immediately felt.

Figure 8.2.1 Investment effect of the prioritized actions in "Urgency" and "Importance"



In evaluating "Urgency", safety, alleviation of poverty and urgent maintenance are the main criteria. On the other hand in evaluating "Importance" contribution to the activating export oriented activities and contribution to obtaining foreign currency and others are the main criteria.

(3) Preliminary ideas of the prioritized actions under the current economic situation

1) General

The Study Team examined the preliminary ideas of the prioritized actions under the current economic situation based on the following basic principles. (See Table 8.2.1)

The prioritized actions shall be examined in port development field as well as in port administration/management field, because under current economic situation comprehensive action needs to be taken in order for the economy to recover. In addition, a comprehensive action is both more efficient and more cost effective.

2) Port Development Field

(a) Completion of the ongoing construction work

Certain and swift completion of the ongoing construction work shall be given the first emphasis because of the increased job opportunities that will result. In addition, unless ongoing construction work is completed, the previous investment for the concerned project will have been meaningless.

(b) Reducing construction costs

Due to the severe budget condition for infrastructure development, saving the cost of construction work shall be well considered. For example, division of the project period into several phases and provisional start of the use of the port facilities is one effective way to reduce the construction cost and facilitate the appearance of the project effect.

(c) Conducting the manpower oriented and local material oriented construction work

Public works are generally effective in stimulating the economy and in providing people with job opportunities. However, under the current economic situation, large-scale construction work cannot be conducted due to budget constraints.

Therefore, manpower oriented and local material oriented construction work shall be prioritized. In the field of port development, utilization of local stone and wood and adoption of the manpower oriented traditional construction methods shall be considered.

(d) Securing maritime safety

In May, 1998, IMO officially legalized the following 3 sea channels in Indonesia for the ships which pass through Indonesian sea waters. Therefore, the Indonesian Government is now obliged to secure the safety of the vessels which pass those international sea lanes.

First ; Sea channel of "Sunda straits - Java sea - Kalimantan straits - South China sea"

Second ; Sea channel of "Lombok straits - Sulawesi sea - Makassar straits"

Third ; Sea channel of "Pacific Ocean - Maluku sea - Seram sea - Banda sea -
Numberi straits - Sawu sea - Timor sea - Arafura sea"

The Indonesian government must shoulder the burden for securing the maritime safety along those sea lanes. Therefore, installment of necessary equipment for navigational safety shall be prioritized.

In addition, necessary maintenance and repair work for securing the safety of the people shall also be prioritized as the basic obligation of the government.

3) Port Administration Field

(a) In order to make swift and proper decisions for coping with the current economic difficulty of Indonesia, various coordinating functions of relevant agencies and in-house sections of the government organizations should be improved. In connection with port administration affairs, efficient coordination on the following items is most critical in this regard.

- Facilitating legal procedure
- Fluent distribution of basic commodities
- Cooperation of logistic distribution sector with labor union
- Maintenance of accessibility of sea and land transport

(b) Providing a social safety net for poor people in particular as well as improving maritime safety is another key policy which also requires coordination among the government sections concerned.

(c) To generate much-needed foreign currency, promotion of active port sales, foreign private sector participation, special legal consideration on export oriented industry, and transferring the power to the regional related office may be effective and recommendable.

(d) Since efficient human resource utilization is always required for maintaining better administrative performance, a kind of advisory committee comprised of capable government staffs or members of opinion leaders is recommended to be established.

(e) In order to make best use of the limited internal budget for the implementation of

foreign aid projects, coordination and cooperation between relevant parties are essential.

4) Port Management Field

- (a) Activity for supporting fluent distribution of nine basic staple supplies and medicines
 - Giving incentives for handling nine basic stable supplies and medicines to realize quick and cheap handling, allocation of the convenient berth and storage area and swift legal procedure for international cargoes. In this case, it is necessary for these cargoes to be distinguished by taking appropriate measures, such as attaching a sticker
 - Strengthen the security measures for preventing these cargoes from pilferage by frequent and careful patrol
 - Promotion of the multi purpose utilization of the terminal on a temporary bases by simplification of the procedure for approving cruising vessels to use cargo terminals
- (b) Activity for social safety net and for supporting the poor
 - Improvement of the port labor's wage and welfare level
 - Reduction of the fare of port passengers and the tariff of the basic commodities
- (c) Maintenance activity
 - Improving the maintenance of equipment in order to reduce the need for imported spare parts
 - Preparing a list of spare parts which are stocked in the workshop
- (d) Activity for maritime safety
 - Formulation of sailing rues in ports and prescribed channels
 - Revision of the pilotage system in terms of further establishment of pilotage districts and additional pilots, in particular, to cope with the increasing vessel traffic
 - Additional DGSC duties concerning the control of safety, such as implementation of the international safety management code (ISM Code) and collecting information on navigation safety
 - Expanding the system of vessels inspection to prevent and minimize sea accidents
 - Expanding the system of search and rescue

Table 8.2.1 Ideas of Prioritized Actions under Current Economic Situation

1. Urgent Programs

Items	Prioritized Actions		
	Port Development Field	Port Administration Field	Port Management Field
(1) Activity which fluent distribution of nine basic staple supplies and medicines	<p>1) Promotion of ongoing construction work of conventional cargo terminal which handles basic staple supplies and medicines</p> <p>2) Provisional start of the use of port facilities in the middle stage of the construction work</p>	<p>1) Facilitation of the legal procedure for taking appropriate coordination with related organization to implement the countermeasures to deal with current situation</p> <p>2) Establishment of the coordination committee for fluent distribution of basic commodities</p> <p>3) Appropriate coordination with logistic distribution sector and labor union sector</p>	<p>1) Giving incentive for handling nine basic staple supplies and medicines</p> <ul style="list-style-type: none"> - Quick handling - Cheap handling - Allocation of the convenient berth and storage area - Swift legal procedure for international cargo <p>(It is necessary for these cargoes to be distinguished by taking appropriate measures, such as attaching a sticker.)</p> <p>2) Strengthening the security measures for preventing these cargoes from pilferage</p> <ul style="list-style-type: none"> - Frequent and careful patrol <p>3) Promotion of the multi purpose utilization of the terminal on a temporary basis</p> <ul style="list-style-type: none"> - Simplification of the procedure for approving cruising vessel to use cargo terminal

(Table 8.2.1 Continued)

Items	Prioritized Actions		
	Port Development Field	Port Administration Field	Port Management Field
(2) Activity for social safety net and for supporting the poor	<p>1) Strengthening the inspection of the port facilities for securing the social safety</p> <p>2) Promotion of manpower oriented port project for increasing the employment opportunities</p> <p>3) Promotion of the port project in which domestic materials are mainly used</p>	<p>1) Strengthening the coordination with related organizations to secure appropriate accessibility between sea and land transportation</p> <p>2) Strengthening the present measures for securing the social safety net</p> <p>3) Strengthening the coordination with port labor organization which is responsible for welfare of port labors</p>	<p>1) Improvement of the port labors wage level</p> <p>2) Reduction of the fare of port passengers and the tariff of the basic commodity</p>
(3) Maintenance activity	<p>1) Strengthening the inspection of the port facilities for maintaining the expected functions</p> <p>2) Application of the cost-saving and manpower oriented technology to the maintenance work Utilization of the stone and wood Utilization of waste materials</p>		<p>1) Improving the maintenance to prevent use of imported spare parts</p> <p>2) Preparing a list of spare parts which are stocked</p>

(Table 8.2.1 Continued)

Items	Prioritized Actions		
	Port Development Field	Port Administration Field	Port Management Field
(4) Activity for maritime safety	<p>1) Strengthening the inspection of the port facilities for securing the safety</p> <p>2) Arranging the necessary and urgent facilities and equipment for securing maritime safety along the three international sea lanes</p>	<p>1) Strengthening the present measures for securing the maritime safety</p>	
(5) Continuation of ongoing or very urgent projects	<p>1) Selection of the projects of which continuation is necessary</p> <p>2) Announcement of the projects whose suspension is inevitable</p> <p>3) Increasing the efficiency of the ongoing projects by dividing the project period into several phases</p> <p>4) Reducing the cost of ongoing projects by using local or waste materials</p>		

(Table 8.2.1 Continued)

2. Important Programs

Items	Prioritized Actions		
	Port Development Field	Port Administration Field	Port Management Field
(1) Activity for supporting agricultural, tourism and export oriented industry	<p>1) Promotion of ongoing construction work of container terminals which mainly handle international containers</p> <p>2) Promotion of ongoing or small scale construction work of multi-purpose terminal which can be utilized not only by cargo vessels but also by passenger vessels, ferry vessels or tourism vessels</p> <p>3) Promotion of the ongoing construction work of all terminals and other facilities in order to complete them as swiftly as possible</p>	<p>1) Promotion of port sales</p> <ul style="list-style-type: none"> - Requesting necessary budget including foreign aide scheme for dispatching the "Port Sales Mission" - Establishing a "Cruising Day" for promoting the calling of cruising vessels - Allowing the private sector to use idle port areas for commercial purpose for inviting the tourism vessels <p>2) Announcement and advertisement of the project list for Private Sector Participation</p> <p>3) Provisional simplification of the legal procedures for formulating countermeasures to promote export oriented activities</p> <ul style="list-style-type: none"> - Simplification of obtaining the license for developing and operating the special ports 	<p>1) Promotion of export oriented industrial activities by private sectors</p> <ul style="list-style-type: none"> - Discount of the port - Temporary suspension of collecting port dues from the users of ports - Allowing the port management body to set a more flexible tariff for attracting more cargo <p>2) Introduction and popularization of "First Come First Serve" Operation Policy</p> <p>3) Popularization of "One Roof Service" Policy</p> <p>4) Temporary suspension of collecting port dues from tourism vessel for promoting the cruising vessel calling</p>

(Table 8.2.1 Continued)

Items	Prioritized Actions		
	Port Development Field	Port Administration Field	Port Management Field
(2) Activity for human resource development	1) On-the-job training of the technical staff in the field of maintenance and cost minimize construction work which can be conducted during slack periods	4) Streamlining the port administration by transferring the authority to the regional related office 1) Setting the advisory committee comprised of port users and related organizations in order to take appropriate countermeasures to deal with the current problems 2) Monitoring the priority policy program under the current economic situation to learn from this crisis	1) On-the-job training of the technical staff in the field of active management and operation which can be conducted during slack periods
(3) Activity for facilitating foreign aid projects	1) Completion of the ongoing foreign aid projects	1) Strengthening the coordination with the related government organizations in order to prepare the internal budget for promoting the implementation of foreign aid projects	

8.3 Rough Estimation of Required Port Development Investment

(1) General

The flow chart to estimate the total amount of the initial investment for the development of public port facilities until the target years is shown Figure 8.3.1. The estimation consists of following seven Steps;

- A. Review, Evaluate and Estimate the Capacity of the Existing Facilities
- B. Select the Standardized Port Facilities and Decide the Capacities.
- C. Demand Forecast as of the Target Year
- D. Formulate National Port Development Policy and Plan
- E. Decide the Required Quantity of Standardized Facilities until the Target Years
- F. Initial Cost Estimation for Standardized Facilities
- G. Estimate the Required Initial Investment Amount by the Target Years

Step C and D are already described in previous Chapter in this Study. (See Section 3.6 and Chapter 5) The result of the demand forecast (Case3, Scenario2) and International Container Port Network System (Scenario 2) (See Section 5.3.1) are used in this estimation.

(2) Standardized Port Facilities and Capacities

The basic dimension of future port facilities is to be standardized as guideline for development, considering modernization of sea and land transportation system such as containerization of domestic shipping, RO/RO shipping and door-to-door service.

The standard for facilities development during REPELITA VI and the Standardized facilities for port development at present are shown in Table A.8.3.1 and Table A.8.3.2 of Appendix 8.3. The standard for port facility development is already proposed in Section 5.4.1 and the details of standardized facilities for this estimation are shown Table A.8.3.3.

(3) Capacity of Existing Facilities

The present condition of port facilities is to be evaluated based on review and evaluation of the inventory of facilities, short-term development plan, the requirement of rehabilitation and the result of inspection. The capacity of the existing facilities is decided considering the result of the latest berth throughput and the improvement of related equipment in future and the productivity of standardized facilities.

In this estimation, the present condition of port facilities is estimated referring to Part 1: Present Conditions Appendix C Table C.9.1.3 and C.9.1.7. The capacity of existing port facilities is summarized in Table A.8.3.4 of Appendix 8.3.

(4) Required Quantity of Standardized Facilities until Target Years

The required facilities of public ports until target years were calculated, based on the result of demand forecast, the capacity of existing facilities and the productivity of the standardized facilities. The handling volume at possible International Hub Port (at Jawa Island and eastern part of Indonesia) is calculated considering a certain volume of transshipment from domestic feeder ports.

The development in non-commercial port is assumed as follows.

- Facilities will be built in 282 ports which have no berthing facilities at present by the year 2018
- 30% of the required facilities will be built by the year 2008 and the rest of the required facilities (70%) will be built from 2009 to 2018

(5) Cost Estimation for Standardized Facilities

The unit prices of the construction and the procurement of standardized facilities are estimated referring the past construction projects and cost estimation in other feasibility studies. The construction costs of each standardized facility per unit berth length (m) or unit wharf are summarized in Table A.8.3.6 in Appendix 8.3

(6) Required Investment Amount for the Development of Public Port

Based on the above-mentioned required quantity of facilities and estimated costs, the required total investment amount for the port development at public port until target years are calculated. The results of estimation are summarized in Table 8.3.1 and Table 8.3.2.

The maintenance cost of the existing and constructed facilities until the target year is not considered in this estimated investment amount.

Figure 8.3.1 Flow Chart of Estimating Total Investment Until Target Year

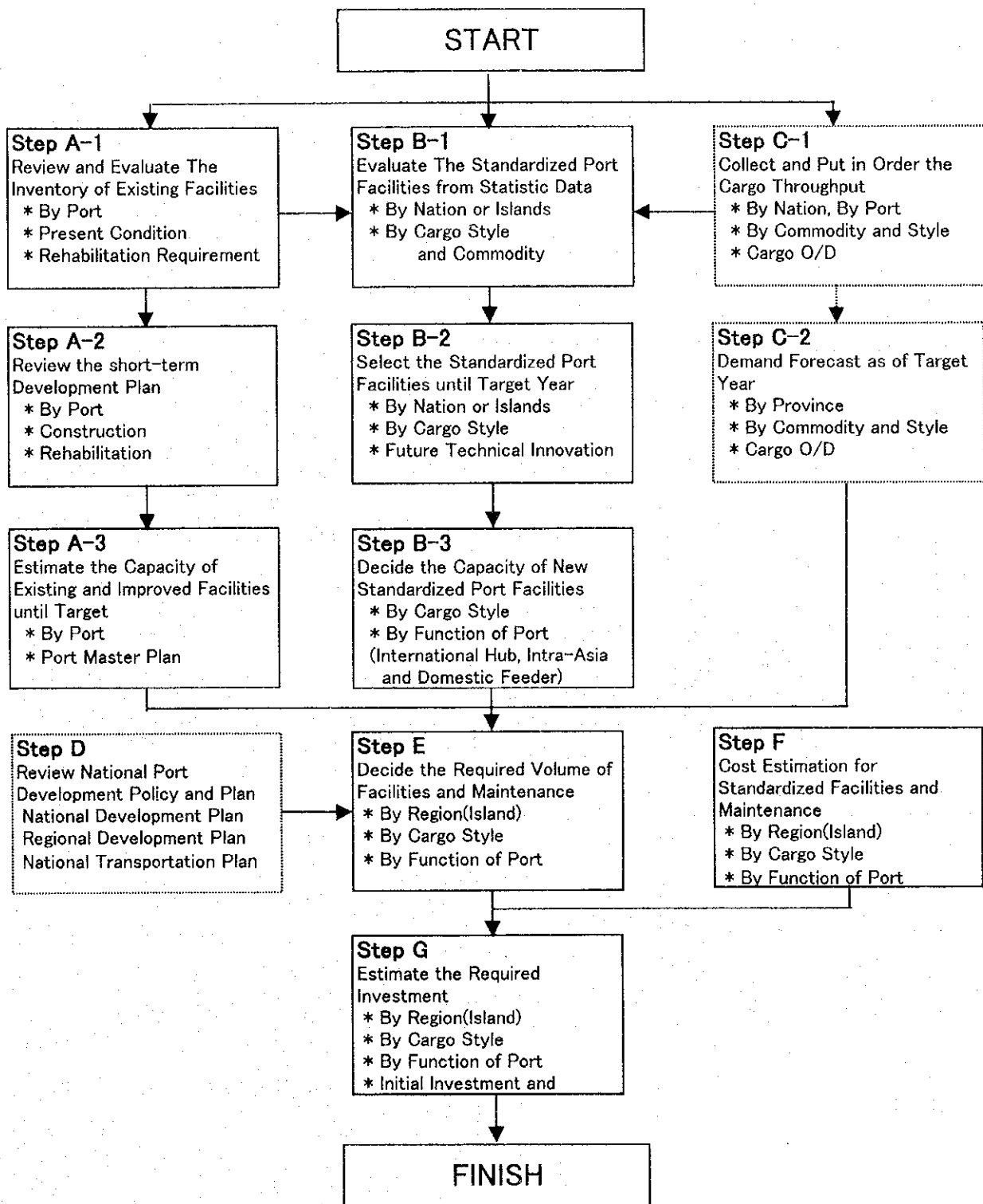


Table 8.3.1 Estimated Total Amount of Initial Investment until 2008

Initial Investment for Container Terminal in Each Area Until 2008										(Unit Million US\$)	
Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal		Total		
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super	
Sumatra	0.0	0.0	0.0	0.0	12.2	10.8	65.3	62.7	77.5	73.4	
Jawa	49.4	46.9	0.0	0.0	122.1	107.5	25.6	24.6	197.1	179.0	
Kalimantan	0.0	0.0	0.0	0.0	0.0	0.0	64.1	61.6	64.1	61.6	
Sulawesi	0.0	0.0	0.0	0.0	0.0	0.0	13.3	12.7	13.3	12.7	
Others	0.0	0.0	0.0	0.0	0.0	0.0	64.1	61.5	64.1	61.5	
Total	49.4	46.9	0.0	0.0	134.3	118.3	232.3	223.1	416.0	388.2	
Grand Total										804.2	

Initial Investment for Conventional Cargo in Each Area Until 2008										(Unit Million US\$)	
Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship		Total		
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super	
Sumatra	478.6	83.5	1,006.1	272.7	209.6	62.0	34.2	0.0	1,728.5	418.2	
Jawa	580.0	101.2	1,216.0	329.9	162.0	47.9	10.4	0.0	1,968.4	479.1	
Kalimantan	223.5	39.0	729.7	209.8	282.0	83.4	6.7	0.0	1,242.0	332.2	
Sulawesi	48.0	8.4	80.0	36.5	27.7	8.2	43.4	0.0	199.1	53.1	
Others	206.8	36.1	231.7	65.6	25.3	7.5	77.6	0.0	541.4	109.2	
Total	1,537.0	268.2	3,263.5	914.5	706.7	209.0	172.2	0.0	5,679.4	1,391.8	
Grand Total										7,071.2	

Initial Investment for Bulk Terminal in Each Area Until 2008										(Unit Million US\$)	
Area	Dry Bulk		Liquid Bulk						Total		
	Infra	Super	Infra	Super					Infra	Super	
Sumatra	236.5	72.0	345.1	8.6					581.6	80.6	
Jawa	65.6	20.0	115.5	2.9					181.1	22.9	
Kalimantan	153.9	46.8	100.3	2.5					254.2	49.3	
Sulawesi	20.2	6.1	0.0	0.0					20.2	6.1	
Others	0.9	0.3	3.6	0.1					4.5	0.4	
Total	477.0	145.2	564.6	14.1					1,041.6	159.3	
Grand Total										1,200.9	

Initial Investment for Passenger Terminal in Each Area Until 2008										(Unit Million US\$)	
Area	International		National		Domestic		Local		Total		
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super	
Sumatra	26.7		87.9		46.9		268.5		430.0		
Jawa	10.2		26.3		7.4		22.5		66.4		
Kalimantan	1.3		44.3		39.6		8.8		94.0		
Sulawesi	0.3		22.9		25.5		130.3		179.0		
Others	1.0		59.3		59.3		116.2		235.8		
Total	39.5		240.7		178.6		546.4		1,005.2		
Grand Total										1,005.2	

Total Initial Investment Until 2008 (Unit Million US\$)

Area	Total	
	Infra	Super
Sumatra	2,817.6	572.2
Jawa	2,413.0	680.9
Kalimantan	1,654.2	443.1
Sulawesi	411.6	71.9
Others	845.8	171.1
Total	8,142.2	1,939.3
Grand Total		10,081.5

Table 8.3.2 Estimated Total Amount of Initial Investment until 2018

Initial Investment for Container Terminal in Each Area Until 2018 (Unit Million US\$)										
Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal		Total	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	0.0	0.0	0.0	0.0	65.2	57.5	206.2	198.0	271.4	255.5
Jawa	73.5	69.7	76.9	75.2	313.1	275.9	398.1	382.3	861.7	803.2
Kalimantan	0.0	0.0	0.0	0.0	0.0	0.0	257.4	247.2	257.4	247.2
Sulawesi	1.7	1.6	41.6	40.7	84.6	74.6	483.8	464.6	611.8	581.5
Others	0.0	0.0	0.0	0.0	0.0	0.0	184.8	177.4	184.8	177.4
Total	75.2	71.3	118.5	116.0	463.0	408.0	1,530.3	1,469.6	2,187.0	2,064.9
Grand Total										4,251.9

Initial Investment for Conventional Cargo in Each Area Until 2018 (Unit Million US\$)										
Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship		Total	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	723.7	126.3	2,836.0	823.9	1,249.3	369.5	117.6	0.0	4,926.6	1,319.7
Jawa	1,317.3	229.9	2,630.3	704.8	708.1	209.4	35.7	0.0	4,691.4	1,144.1
Kalimantan	452.5	79.0	2,460.7	731.5	1,266.9	374.7	23.1	0.0	4,203.2	1,185.2
Sulawesi	108.5	18.9	498.5	150.2	203.6	60.2	149.1	0.0	959.7	229.4
Others	409.5	85.4	550.1	134.3	69.6	20.6	266.7	0.0	1,295.9	240.3
Total	3,011.5	539.5	8,975.6	2,544.7	3,497.6	1,034.5	592.2	0.0	16,076.9	4,118.7
Grand Total										20,195.6

Initial Investment for Bulk Terminal in Each Area Until 2018 (Unit Million US\$)										
Area	Dry Bulk		Liquid Bulk						Total	
	Infra	Super	Infra	Super					Infra	Super
Sumatra	700.8	213.3	1,007.1	25.2					1,707.9	238.5
Jawa	120.4	36.6	189.4	4.7					309.8	41.4
Kalimantan	444.1	135.2	208.6	5.2					652.7	140.4
Sulawesi	38.5	11.7	1.3	0.0					39.8	11.8
Others	0.8	0.2	2.6	0.1					3.4	0.3
Total	1,304.6	397.1	1,408.9	35.2					2,713.5	432.3
Grand Total										3,145.8

Initial Investment for Passenger Terminal in Each Area Until 2018 (Unit Million US\$)										
Area	International		National		Domestic		Local		Total	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	71.2		247.8		206.4		366.7		892.2	
Jawa	15.2		105.6		31.5		31.5		183.8	
Kalimantan	1.9		119.3		123.4		11.5		256.1	
Sulawesi	0.3		24.8		27.7		170.5		223.2	
Others	2.8		148.0		157.9		161.7		470.4	
Total	91.4	0.0	645.5	0.0	546.8	0.0	741.9	0.0	2,025.7	0.0
Grand Total										2,025.7

Total Initial Investment Until 2018 (Unit Million US\$)

Area	Total	
	Infra	Super
Sumatra	7,798.1	1,813.7
Jawa	6,046.7	1,988.7
Kalimantan	5,369.4	1,572.8
Sulawesi	1,834.4	822.7
Others	1,954.4	418.1
Total	23,003.1	6,615.9
Grand Total		29,618.9

8.4 Projection of Port Development Investment

8.4.1 Macro-View Analysis

(1) General

Port development investment should be estimated from the following two views, that is, the “micro-view” and “macro-view” analysis. In this section, the estimation based on the “macro-view” analysis shall be explained. The main purpose of the macro-view analysis is to roughly show how much money can be invested as a whole for the port development by 2008 & 2018.

Macro-view analysis is based on the actual results of “investment in port development” during a certain period of time (REPELITA). In this case, it is practical to calculate “total investment” in commercial & non-commercial ports during “REPELITA VI (1994-1998)” in order to estimate total investment during the next REPELITA VII~X. The basic concept of macro-view analysis is founded on the idea that total investment will increase in accordance with the projected GDP.

* Note : Although REPELITA VI was recently completed in 1998, it is not clear at this time whether subsequent 5-year plans will be formulated. Therefore, references to REPELITA VII-X in this section are only for the sake of convenience.

(2) Method of Calculation

“Total investment” during REPELITA VI is calculated using the following methods. In this case, the data from 1994 to 1997 represents the actual investment while that of 1998 is the “projected” investment.

1) Total Investment Scale for Port Development

(a) Government Investment

Based on the data of DGSC, the investment by the government is calculated by island.

(b) IPC Investment

Based on the data of IPCs, the investment by IPCs is calculated by island.

2) GDP Growth Rate from 1994 to 2018

GDP growth rate from 1994 to 2018 based on 1983 constant price is referred to in Table 8.4.1. In this case, “alternative-3” and “sensitivity-1” (lowest case) shall be employed (see Chapter 3.6).

Table 8.4.1 GDP Growth Rate from 1994 to 2018 (1983 Constant Price)

(Unit : Billion Rp.)

REPELITA	Year	GDP Growth Rate (%)	
		Alternative-3	Sensitivity-1 (Lowest case)
VI	1994	-	-
	1995	7.85	7.85
	1996	6.30	6.30
	1997	5.8	5.8
	1998	-5.4	-14.2
Transition Period	1999	4.6	-6.9
	2000	4.6	0.0
VII	2001	4.6	3.0
	2002	4.6	3.0
	2003	4.6	3.0
	2004	6.8	3.0
	2005	6.8	7.1
VIII	2006	6.8	7.1
	2007	6.8	7.1
	2008	6.8	7.1
	2009	8.6	7.8
	2010	8.6	7.8
IX	2011	8.6	7.8
	2012	8.6	7.8
	2013	8.6	7.8
	2014	10.1	8.7
	2015	10.1	8.7
X	2016	10.1	8.7
	2017	10.1	8.7
	2018	10.1	8.7

Note : GDP from 1994 to 1996 : Actual

GDP from 1997 to 2018 : Estimated

(3) Total Investment during REPELITA VI

Total investment during REPELITA VI is seen in the following Table 8.4.2. The Table shows that the total investment during the five years amounts to Rp.2,197 billion. While the national budget accounted for Rp.867 billion (40%), IPC budget accounted for Rp.1,329 billion (60%).

Details of total investment during REPELITA VI are given in Appendix for Chapter 8.4.

Table 8.4.2 Total Investment during REPELITA VI

(Unit : Rp.Million)

Island	Source	1994- 1995	1995- 1996	1996- 1997	1997- 1998	1998- 1999	① Total	①/②
1. Sumatra	National	23,705	38,732	20,207	34,371	20,188	137,203	0.16
	IPC	30,311	38,156	48,176	56,085	79,030	253,757	0.19
	Total	54,016	76,888	68,383	90,456	99,218	390,960	0.18
2. Jawa	National	29,450	57,715	86,304	27,550	19,264	220,283	0.25
	IPC	38,153	80,374	214,314	213,790	391,364	937,995	0.71
	Total	67,603	138,089	300,618	213,790	410,628	1,158,278	0.53
3. Kalimantan	National	19,598	9,433	10,174	11,894	15,771	66,870	0.08
	IPC	11,578	11,617	9,657	18,266	28,881	81,652	0.06
	Total	31,176	21,050	19,831	30,160	44,652	148,522	0.07
4. Sulawesi	National	44,636	89,942	57,554	65,294	43,223	300,649	0.35
	IPC	1,073	1,953	1,603	2,206	1,252	11,159	0.01
	Total	45,709	91,895	59,157	67,500	44,475	311,808	0.14
5. Others	National	20,460	34,695	29,429	36,501	20,969	142,054	0.16
	IPC	7,574	9,890	12,841	3,055	9,186	45,432	0.03
	Total	28,034	44,585	42,270	39,556	30,155	187,486	0.09
② Total	National	137,849	230,157	203,668	175,610	119,415	867,059	1.00
	IPC	88,689	141,990	286,591	293,402	509,713	1,329,995	1.00
	Total	226,538	372,507	490,012	469,012	629,128	2,197,054	1.00

Source : DGSC & IPCs

(4) Review of Total Investment during REPELITA VI (1994/95~1998/99)

Based on the actual result of investment during REPELITA VI and the projected GDP, total investment during REPELITA VII shall be estimated. Table 8.4.3 shows the summary of total investment during REPELITA VI.

However, "abnormal consumer price index" (34.22%) in 1997/98 makes it difficult for us to estimate the total investment for the subsequent REPELITA. In order to avoid a distortion of figure brought by the drastic change of "consumption price index", it is necessary for us to convert the figures by using 1997/98 constant price (before monetary crisis). The result of "converted" total investment during REPELITA is summarized in Table 8.4.4. The total investment during REPELITA VI is Rp.2,110 billion.

Table 8.4.3 Summary of Total Investment during REPELITA VI

(Unit : Rp.Million)

Source	REPELITA VI					
	1994/95	1995/96	1996/97	1997/98	1998/99	Total
National	137,849	230,517	203,668	175,610	119,415	867,059
	61%	62%	42%	37%	19%	39%
IPC	89,353	144,315	290,885	294,499	510,943	1,329,995
	39%	38%	58%	63%	81%	61%
Total	227,202	374,832	494,553	470,109	630,358	2,197,054
Consumption Price Index (%)	8.57	8.86	5.17	34.22	NA	-
* Comparison with GDP (%)	1.5	2.3	2.8	2.5	3.6	2.6

Note : GDP figures represent each calendar year (e.g. GDP of 1994 is under 1994/95 heading).

Table 8.4.4 Summary of Total Investment during REPELITA VI (1997/98 Constant Price)

(Unit : Rp.Million)

Source	REPELITA VI					
	1994/95	1995/96	1996/97	1997/98	1998/99	Total
National	169,003	262,859	214,197	175,610	78,551	900,220
	61%	62%	41%	37%	19%	43%
IPC	109,546	164,562	305,924	294,499	336,098	1,210,629
	39%	38%	59%	63%	81%	57%
Total	278,549	427,421	520,121	470,109	414,649	2,110,849
Consumption Price Index (%)	8.57	8.86	5.17	34.22	NA	-
Comparison with GDP (%)	1.5	2.3	2.8	2.5	2.4	2.5

(5) Method to Estimate Total Investment during Subsequent REPELITA

In order to estimate the total investment after 1999/2000, the following method shall be used.

- 1) The result of average national & IPC investment per year during REPELITA VI is seen in Table 8.4.5.
- 2) The Table shows that the national budget per year is about Rp.180,044 million (43%) and that of IPC budget per year is about Rp.242,126 million (57%).
- 3) The total investment after 1999/2000 shall be estimated from the co-relationship between the average investment per year during REPELITA VI and the subsequent economic growth rate (e.g. 4.60% in 1999/2000, 4.60% in 2000/01).

Table 8.4.5 Average Investment Per Year during REPELITA VI

(Unit : Rp.Million)

Source	Total Investment by Source during REPELITA VI	Average Investment Per Year during REPELITA VI
National	900,220 (43%)	180,044 (43%)
IPC	1,210,629 (57%)	242,126 (57%)
Total	2,110,849 (100%)	422,170 (100%)
Comparison with GDP (%)	2.57%	-

(6) Total Investment from 1999/2000-2018/19 based on "Alternative-3"

Total national and IPC investment from 1999/2000-2018/19 shall be calculated by using economic growth rate based on "Alternative-3". The result of the total investment is shown in the following Table 8.4.6.

The Table shows that total investment by 2008 will amount to Rp.5,654 billion (government Rp.2,411 billion & IPC Rp.3,243 billion) and that by 2018 will reach Rp.17,863 billion (government Rp.7,618 billion & IPC Rp.10,245 billion).

Table 8.4.6 Total Investment from 1999/2000-2018/19 based on "Alternative-3"

(Unit : Rp.Million)

Source	Average Investment Per Year During REPELITA VI	Transition Period		
		1999/2000	2000/2001	Total
National	180,044 (43%)	188,326 (43%)	196,989 (42%)	385,315 (42%)
IPC	242,126 (57%)	253,264 (57%)	264,914 (58%)	518,178 (58%)
Total	422,170 (100%)	441,590 (100%)	461,903 (100%)	903,493 (100%)
Economic Growth Rate (%)	-	4.6	4.6	-
Comparison with GDP (%)	-	2.45	2.45	-

Source	REPELITA VII					
	2001/02	2002/03	2003/04	2004/05	2005/06	Total
National	206,050	215,528	225,442	240,772	257,144	1,144,936
IPC	277,100	289,847	303,180	323,796	345,814	1,539,737
Total	483,150	505,375	528,622	564,568	602,958	2,684,673
Economic Growth Rate (%)	4.6	4.6	4.6	6.8	6.8	-
Comparison with GDP (%)	2.45	2.45	2.45	2.45	2.45	2.45

Source	REPELITA VIII					
	2006/07	2007/08	2008/09	2009/10	2010/11	Total
National	274,630	293,305	313,250	340,190	369,446	1,590,821
IPC	369,329	394,443	421,265	457,494	496,838	2,139,369
Total	643,959	687,748	734,515	797,684	866,284	3,730,190
Economic Growth Rate (%)	6.8	6.8	6.8	8.6	8.6	-
Comparison with GDP (%)	2.45	2.45	2.45	2.45	2.45	2.45

Source	REPELITA IX					
	2011/12	2012/13	2013/14	2014/15	2015/16	Total
National	401,218	435,723	473,195	520,988	573,608	2,404,732
IPC	539,566	585,969	636,362	700,635	771,399	3,233,931
Total	940,784	1,021,692	1,109,557	1,221,623	1,345,007	5,638,663
Economic Growth Rate (%)	8.6	8.6	8.6	10.1	10.1	-
Comparison with GDP (%)	2.45	2.45	2.45	2.45	2.45	2.45

Source	REPELITA X				Total by 2008	Total by 2018
	2016/17	2017/18	2018/19	Total		
National	631,542	695,328	765,556	2,092,426	2,411,436	7,618,230
IPC	849,310	935,090	1,029,534	2,813,934	3,242,952	10,245,149
Total	1,480,852	1,630,418	1,795,090	4,906,360	5,654,388	17,863,379
Economic Growth Rate (%)	10.1	10.1	10.1	-	-	-
Comparison with GDP (%)	2.45	2.45	2.45	2.45	2.45	2.45

(7) Total Investment from 1999/2000 to 2018/19 based on "Sensitivity-1" (Lowest Case)

For reference, total national and IPC investment from 1999/2000 to 2018/19 shall be calculated by using economic growth rate based on "sensitivity-1". The result of the total investment is shown in the following Table 8.4.7.

The Table shows that total investment by 2008 will amount to Rp.4,586 billion (government Rp.1,956 billion & IPC Rp.2,630 billion) and that by 2018 will reach Rp.13,731 billion (government Rp.5,856 billion & IPC Rp.7,845 billion).

Table 8.4.7 Total Investment from 1999/2000 to 2018/19 based on "Sensitivity-1"

(Unit : Rp.Million)

Source	Average Investment Per Year During REPELITA VI	A Transition Period		
		1999/2000	2000/2001	Total
National	180,044 (43%)	167,621 (43%)	167,621 (43%)	335,242 (43%)
IPC	242,126 (57%)	225,419 (57%)	225,419 (57%)	450,838 (57%)
Total	422,170 (100%)	393,040 (100%)	393,040 (100%)	786,080 (100%)
Economic Growth Rate (%)	-	-6.9	0.0	-
Comparison with GDP (%)	2.57	2.7	2.7	

Source	REPELITA VII					
	2001/02	2002/03	2003/04	2004/05	2005/06	Total
National	172,650	177,830	183,165	188,660	202,055	924,360
IPC	232,182	239,147	246,321	253,711	271,724	1,243,085
Total	404,832	416,977	429,486	442,371	473,779	2,167,445
Economic Growth Rate (%)	3.0	3.0	3.0	3.0	7.1	-
Comparison with GDP (%)	2.7	2.7	2.7	2.7	2.7	2.7

Source	REPELITA VIII					
	2006/07	2007/08	2008/09	2009/10	2010/11	Total
National	216,401	231,765	248,220	267,581	288,452	1,252,419
IPC	291,016	311,678	333,807	359,844	387,912	1,684,257
Total	507,417	543,443	582,027	627,425	676,364	2,936,676
Economic Growth Rate (%)	7.1	7.1	7.1	7.8	7.8	-
Comparison with GDP (%)	2.7	2.7	2.7	2.7	2.7	2.7

Source	REPELITA IX					
	2011/12	2012/13	2013/14	2014/15	2015/16	Total
National	310,951	335,205	361,351	392,789	426,962	1,827,258
IPC	418,169	450,786	485,947	528,224	574,179	2,457,305
Total	729,120	785,991	847,298	921,013	1,011,141	4,284,563
Economic Growth Rate (%)	7.8	7.8	7.8	8.7	8.7	-
Comparison with GDP (%)	2.7	2.7	2.7	2.7	2.7	2.7

Source	REPELITA X				Total by	Total by
	2016/17	2017/18	2018/19	Total	2008	2018
National	464,108	504,485	548,375	1,516,968	1,955,988	5,856,247
IPC	624,133	678,433	737,457	2,040,023	2,630,424	7,875,508
Total	1,088,241	1,182,918	1,285,832	3,556,991	4,586,412	13,731,755
Economic Growth Rate (%)	8.7	8.7	8.7	-	-	-
Comparison with GDP (%)	2.7	2.7	2.7	2.7	2.7	2.7

(8) Review of the Total Investment during REPELITA I ~ VI

Table 8.4.8 shows total investment during REPELITA I ~ VI. In REPELITA VI, there is a gap between the planned budget and the actual budget. In the planned budget, the government funds including foreign loan accounts for 65%, while IPC/private funds accounts for 35%. However, actually, the former accounts for 30% and the latter accounts for 70%.

In short, the government funds accounts only for “30%” (Rp.867 billion), while IPC funds accounts for “46%” (Rp.1,329 billion) and purely private funds accounts for “24%” (Rp.718 billion) in REPELITA VI.

It is presumed that this trend will not change in the following REPELITA (VII ~ X) as long as the today’s basic policy for role sharing between the public and private sector doesn’t change drastically. However, there is a high possibility that the ratio of private funds will increase to a considerable extent by 2008 or 2018. This depends on the government’s policy on PSP.

Table 8.4.8 Review of Total Investment during REPELITA I ~ VI

(Unit : Rp.billion)

REPELITA (FY)		I (1969-73)	II (1974-78)	III (1979-83)	IV (1984-88)	V (1989-93)	VI (1994-98)
① Total National Budget		2,463	12,476	43,510	154,581	240,332	483,194
② Total Development Budget (②/①)		1,059 (43%)	5,249 (42%)	21,894 (50%)	78,609 (51%)	107,532 (45%)	183,293 (38%)
③ Total Transport Budget (③/②)		231 (22%)	787 (15%)	2,998 (14%)	9,107 (12%)	18,966 (18%)	33,054 (18%)
④ Port Development Budget	Budget	45	63	179	925	1,245	3,149
	(④/②)	(4.2%)	(1.2%)	(0.8%)	(1.1%)	(1.1%)	(1.7%)
	(④/③)	(19%)	(8%)	(6%)	(10%)	(6.6%)	(9.5%)
⑤ Planned Budget	Total	45	63	179	925	1,245	3,149
	National Funds	45	63	179	925	1,245	2,046 (65%)
	IPC/Private Funds	0	0	0	0	NA	1,103 (35%)
⑥ Actual Budget	Total	NA	NA	NA	NA	1,185	* 2,914
	National Funds	NA	NA	NA	NA	1,185 (100%)	867 (30%)
	IPC Funds	0	0	0	0	NA	**1,329 (45%)
	Private Funds	0	0	0	0	0	** 718 (25%)

Note :

*1) Data as of December 1997 indicates that total investment will reach Rp.3,126 billion (government Rp.1,079 billion & IPC/Private Rp.2,047 billion)

**2) It is presumed that in total IPC/private funds (Rp.2,047 billion), IPC funds account for Rp.1,329 billion (65%) and "purely private funds" account for Rp.718 billion (35%).

(9) Total Investment during REPELITA VII ~ X (Including Private Funds)

The following Table 8.4.9 is a projection of total investment (excluding private funds) during REPELITA VII ~ X based on economic growth rate of "alternative-3" & "sensitivity-1". Taking into consideration the trend of current private funds during REPELITA VI, the total investment (including private funds) during REPELITA VII ~ X can be summarized in the Table 8.4.10 and 8.4.11.

Total investment ("alternative-1") will amount to Rp.7,503 billion by 2008 and Rp.23,704 billion by 2018. Total investment ("sensitivity-1") is projected to amount to Rp.6,086 billion by 2008 and Rp.18,222 billion by 2018.

Table 8.4.9 Projection of Total Investment (excluding Private Funds)
during REPELITA VII ~ X

(Unit : Rp.billion)

REPELITA (FY)		Transition Period (1999-00)	VII (2001-05)	VIII (2006-10)	IX (2011-15)	X (2016-18)	Total
Alternative-3	Total	903	2,685	3,730	5,639	4,906	17,863
	National Funds	385	1,145	1,591	2,405	2,092	7,618
	IPC Funds	518	1,540	2,139	3,234	2,814	10,245
"Sensitivity- 1" (lowest case)	Total	786	2,167	2,937	4,284	3,557	13,731
	National Funds	335	924	1,253	1,827	1,517	5,856
	IPC Funds	451	1,243	1,684	2,457	2,040	7,876

Table 8.4.10 Total Investment Projection (including Private Funds)
during REPELITA VII~X

(Unit : Rp.billion)

REPELITA (FY)		Transition Period (1999-00)	VII (2001-05)	VIII (2006-10)	IX (2011-15)	X (2016-18)	Total
Alternative-3	Total	1,198	3,562	4,949	7,482	6,510	23,704
	National Funds	385	1,145	1,591	2,405	2,092	7,618 (32%)
	IPC Funds	518	1,540	2,139	3,234	2,814	10,245 (43%)
	Private Funds	295	877	1,219	1,843	1,604	5,841 (25%)
"Sensitivity- 1" (lowest case)	Total	1,043	2,876	3,897	5,685	4,720	18,222
	National Funds	335	924	1,253	1,827	1,517	5,856 (32%)
	IPC Funds	451	1,243	1,684	2,457	2,040	7,876 (43%)
	Private Funds	257	709	960	1,401	1,163	4,490 (25%)

Table 8.4.11 Total Investment Projection (including Private Funds)
by 2008 & 2018

(Unit : Rp.billion)

Case	Source	Total by 2008	Total by 2018
Alternative-3	Total	7,503 (100%)	23,704 (100%)
	National Funds	2,411 (32%)	7,618 (32%)
	IPC Funds	3,243 (43%)	10,245 (43%)
	Private Funds	1,849 (25%)	5,841 (25%)
Sensitivity-1	Total	6,086 (100%)	18,222 (100%)
	National Funds	1,956 (32%)	5,856 (32%)
	IPC Funds	2,630 (43%)	7,876 (43%)
	Private Funds	1,500 (25%)	4,490 (25%)

8.5 Review of Funds Allocation

8.5.1 Review of Actual Result of REPELITA VI

The following Table 8.5.1 shows the actual result of fund sources during REPELITA VI. According to the document named "APENDIX EXPLANATORY – NOTE S/D TAHUN KE4-PELITA VI", while the government budget including foreign loan accounts only for 35%, IPC & private budget accounts for 65%. This is because government has no choice but to depend upon the funds coming from the private sector owing to lack of government budget.

The other particularities of this Table can be summarized as follows ;

- 1) 50% of funds for the development of wharves comes from government budget and the other 50% comes from IPC & private budget.
- 2) 94% of funds for development of "open storage" and "equipment" comes from IPC & private funds.
- 3) 87% of funds for development of passenger terminal comes from government budget.

Table 8.5.1 Actual Result of REPELITA VI

(Unit : Rp.Billion)

Item *	Government		IPC/Private		Total
1. Wharf	984	50%	969	50%	1,953
2. Warehouse	16	89%	2	11%	18
3. Open Storage	29	6%	482	94%	511
4. Passenger Terminal	13	87%	2	13%	15
5. Equipment	37	6%	588	94%	625
6. Human Resources	0	0%	4	100%	4
Total	1,079	35%	2,047	65%	3,126

* Note : 1~3 includes a small portion of rehabilitation.

: Data is as of December 1997

(APENDIX EXPLANATORY – NOTE S/D TAHUN KE4-PELITA VI)

* Source : DGSC

8.5.2 Establishment of Funds Allocation Standard for Development of Each Terminal

(1) Fund Allocation Standard

In Chapter 8.3, required port development investment by 2008 and 2018 was roughly estimated. Table 8.5.3 and Table 8.5.4 show how the funds will be allocated among government, IPC and private funds. Table 8.5.5 and 8.5.6 indicates the result of funds allocation by 2008 and 2018.

The result is summarized in the following Table 8.5.2. Government funds are forecasted to account for 31% while IPC & private funds will account for 69% by 2008. By 2018, the former will account for 25% while the latter will account for 75% due to the increase of private sector participation.

Table 8.5.2 Result of Required Port Development Investment by 2008 & 2018

Funds	REPELITA VI Projection (1994-98)	* Required Investment by 2008	* Required Investment by 2018
Government	Rp.5,826 billion (32%)	US\$3,157 million (31%)	US\$7,345 million (25%)
IPC	Rp.7,876 billion (43%)	US\$4,729 million (47%)	US\$11,141 million (38%)
Private Sector	Rp.4,490 billion (25%)	US\$2,195 million (22%)	US\$11,133 million (38%)
Total	Rp.18,222 billion (100%)	US\$10,081 million (100%)	US\$ 29,619 million (100%)

* Note : The figure is based on "FY 1997 constant price".

Table 8.5.3 Funds Allocation Policy for Each Terminal by 2008

(1) Funds Source for Container Terminal in Each Area

Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Jawa	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Kalimantan	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Sulawesi	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Others	B/C	C	B/C	C	B/C	B/C	B/C	B/C

(2) Funds Source for Conventional Cargo in Each Area

Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	A/B	C	A/B	C	A	B/C	A	A
Jawa	B	C	B	C	A	B/C	A	A
Kalimantan	A/B	B/C	A/B	B/C	A	B/C	A	A
Sulawesi	A/B	B/C	A/B	B/C	A	B/C	A	A
Others	A/B	B/C	A/B	B/C	A	B/C	A	A

(3) Funds Source for Bulk terminal in Each Area

Area	Dry Bulk		Liquid Bulk					
	Infra	Super	Infra	Super				
Sumatra	B/C	C	B/C	C				
Jawa	B/C	C	B/C	C				
Kalimantan	B/C	C	B/C	C				
Sulawesi	B/C	C	B/C	C				
Others	B/C	C	B/C	C				

(4) Funds Source for Passenger Terminal in Each Area

Area	International		National		Domestic		Local	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	A/B	C	A/B	C	A/B	C	A	A
Jawa	A/B	C	A/B	C	A/B	C	A	A
Kalimantan	A/B	C	A/B	C	A/B	C	A	A
Sulawesi	A/B	C	A/B	C	A/B	C	A	A
Others	A/B	C	A/B	C	A/B	C	A	A

A : National Budget

B : IPC Funds

C : Private Funds

Table 8.5.4 Funds Allocation Policy for Each Terminal by 2018

(1) Funds Source for Container Terminal in Each Area

Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Jawa	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Kalimantan	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Sulawesi	B/C	C	B/C	C	B/C	B/C	B/C	B/C
Others	B/C	C	B/C	C	B/C	B/C	B/C	B/C

(2) Funds Source for Conventional Cargo in Each Area

Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	B/C	C	B/C	C	A	B/C	A	A
Jawa	B/C	C	B/C	C	A	B/C	A	A
Kalimantan	A/B	B/C	A/B	B/C	A	B/C	A	A
Sulawesi	A/B	B/C	A/B	B/C	A	B/C	A	A
Others	A/B	B/C	A/B	B/C	A	B/C	A	A

(3) Funds Source for Bulk terminal in Each Area

Area	Dry Bulk		Liquid Bulk					
	Infra	Super	Infra	Super				
Sumatra	B/C	C	B/C	C				
Jawa	B/C	C	B/C	C				
Kalimantan	B/C	C	B/C	C				
Sulawesi	B/C	C	B/C	C				
Others	B/C	C	B/C	C				

(4) Funds Source for Passenger Terminal in Each Area

Area	International		National		Domestic		Local	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	B/C	C	B/C	C	A/B	C	A	A
Jawa	B/C	C	B/C	C	A/B	C	A	A
Kalimantan	B/C	C	B/C	C	A/B	C	A	A
Sulawesi	B/C	C	B/C	C	A/B	C	A	A
Others	B/C	C	B/C	C	A/B	C	A	A

A : National Budget

B : IPC Funds

C : Private Funds

Table 8.5.5 Funds Source for Each Terminal by 2008

(Unit : US\$million)

(1) Funds Source for Container Terminal in Each Area

Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	0.0	0.0	0.0	0.0	12.2	10.8	65.3	62.7
Jawa	49.4	46.9	0.0	0.0	122.1	107.5	25.6	24.6
Kalimantan	0.0	0.0	0.0	0.0	0.0	0.0	64.1	61.6
Sulawesi	0.0	0.0	0.0	0.0	0.0	0.0	13.3	12.7
Others	0.0	0.0	0.0	0.0	0.0	0.0	64.1	61.5

804.2

(2) Funds Source for Conventional Cargo in Each Area

Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	478.6	83.5	1,006.1	272.7	209.6	62.0	34.2	0.0
Jawa	580.0	101.2	1,216.0	329.9	162.0	47.9	10.4	0.0
Kalimantan	223.5	39.0	729.7	209.8	282.0	83.4	6.7	0.0
Sulawesi	48.0	8.4	80.0	36.5	27.7	8.2	43.4	0.0
Others	206.8	36.1	231.7	65.6	25.3	7.5	77.6	0.0

7,071.2

(3) Funds Source for Bulk terminal in Each Area

Area	Dry Bulk		Liquid Bulk					
	Infra	Super	Infra	Super				
Sumatra	236.5	72.0	345.1	8.6	0.0	0.0	0.0	0.0
Jawa	65.6	20.0	115.5	2.9	0.0	0.0	0.0	0.0
Kalimantan	153.9	46.8	100.3	2.5	0.0	0.0	0.0	0.0
Sulawesi	20.2	6.1	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.9	0.3	3.6	0.1	0.0	0.0	0.0	0.0

1,200.9

(4) Funds Source for Passenger Terminal in Each Area

Area	International		National		Domestic		Local	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	26.7	0.0	87.9	0.0	46.9	0.0	268.5	0.0
Jawa	10.2	0.0	26.3	0.0	7.4	0.0	22.5	0.0
Kalimantan	1.3	0.0	44.3	0.0	39.6	0.0	8.8	0.0
Sulawesi	0.3	0.0	22.9	0.0	25.5	0.0	130.3	0.0
Others	1.0	0.0	59.3	0.0	59.3	0.0	116.2	0.0

1,005.2

(5) Total Initial Investment in Each Area By 2008

Area	Infra	Super
Sumatra	2,817.6	572.2
Jawa	2,413.0	680.9
Kalimantan	1,654.2	443.1
Sulawesi	411.6	71.9
Others	845.8	171.1
Total	8,142.2	1,939.3
Grand Total	10,081.5	

Government	3,157	31%
IPC	4,729	47%
Private	2,195	22%
Total	10,081	100%

Note : Exchange Rate (US\$1=Rp.2,000 as of July, 1997)

Table 8.5.6 Funds Source for Each Terminal by 2018

(Unit : US\$million)

(1) Funds Source for Container Terminal in Each Area

Area	Mother Port Type Hub Port Terminal		Transshipment Type Hub Port Terminal		Intra-Asia Container Port Terminal		Domestic Container Port Terminal	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	0.0	0.0	0.0	0.0	65.2	57.5	206.2	198.0
Jawa	73.5	69.7	76.9	75.2	313.1	275.9	398.1	382.3
Kalimantan	0.0	0.0	0.0	0.0	0.0	0.0	257.4	247.2
Sulawesi	1.7	1.6	41.6	40.7	84.6	74.6	483.8	464.6
Others	0.0	0.0	0.0	0.0	0.0	0.0	184.8	177.4
								4,251.9

(2) Funds Source for Conventional Cargo in Each Area

Area	Multi-purpose (-12m)		Multi-purpose (-10m)		Conventional		Small Ship	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	723.7	126.3	2,836.0	823.9	1,249.3	369.5	117.6	0.0
Jawa	1,317.3	229.9	2,630.3	704.8	708.1	209.4	35.7	0.0
Kalimantan	452.5	79.0	2,460.7	731.5	1,266.9	374.7	23.1	0.0
Sulawesi	108.5	18.9	498.5	150.2	203.6	60.2	149.1	0.0
Others	409.5	85.4	550.1	134.3	69.6	20.6	266.7	0.0
								20,195.6

(3) Funds Source for Bulk terminal in Each Area

Area	Dry Bulk		Liquid Bulk					
	Infra	Super	Infra	Super				
Sumatra	700.8	213.3	1,007.1	25.2	0.0	0.0	0.0	0.0
Jawa	120.4	36.6	189.4	4.7	0.0	0.0	0.0	0.0
Kalimantan	444.1	135.2	208.6	5.2	0.0	0.0	0.0	0.0
Sulawesi	38.5	11.7	1.3	0.0	0.0	0.0	0.0	0.0
Others	0.8	0.2	2.6	0.1	0.0	0.0	0.0	0.0
								3,145.8

(4) Funds Source for Passenger Terminal in Each Area

Area	International		National		Domestic		Local	
	Infra	Super	Infra	Super	Infra	Super	Infra	Super
Sumatra	71.2	0.0	247.8	0.0	206.4	0.0	366.7	0.0
Jawa	15.2	0.0	105.6	0.0	31.5	0.0	31.5	0.0
Kalimantan	1.9	0.0	119.3	0.0	123.4	0.0	11.5	0.0
Sulawesi	0.3	0.0	24.8	0.0	27.7	0.0	170.5	0.0
Others	2.8	0.0	148.0	0.0	157.9	0.0	161.7	0.0
								2,025.7

(5) Total Initial Investment in Each Area By 2018

Area	Infra	Super
Sumatra	7,798.1	1,813.7
Jawa	6,046.7	1,988.7
Kalimantan	5,369.4	1,572.8
Sulawesi	1,834.4	822.7
Others	1,954.4	418.1
Total	23,003.1	6,615.9
Grand Total		29,618.9

Government	7,345	25%
IPC	11,141	38%
Private	11,133	38%
Total	29,619	100%

Note : Exchange Rate (US\$1=Rp.2,000 as of July, 1997)

(2) Reasons for the Allocation Policy

Based on the understanding of the actual result of funds source in REPELITA VI and the current trend of PSP projects, funds allocation standard for required port development investment shown in Table 8.5.3 and Table 8.5.4 shall be set up. However, this is a mere standard, and the more detailed schemes of funds allocation in each development projects shall be established. (For reference, see Chapter 6.3.3 Expansion of Working Field of Port Services and Chapter 6.3.4 Review of Possible Forms for Port Development and Operation).

1) Funds Source for Container Terminal in Each Area

At present, a few container terminal development projects are progressing under mainly “Joint Operation Type” agreement in which IPC provides “infrastructure” and private sector provides “gantry cranes and other equipment” (e.g. CT projects at Tg. Priok & Tg. Perak). Although the government is eager for BOT projects, there are not so many of them.

① Mother Port Type & Transshipment Type Hub Container Port Terminal

Taking into consideration “high viability” of the development projects of hub container port, it is appropriate that the infrastructure shall be provided by IPC and private funds while the superstructure shall be provided only by private funds. Usually, “Joint Operation type”(JO), which shares the funds risk among IPC and private sector, is the most recommendable practice as a comparatively moderate form. However, at the same time, the development based on “BOT type”, which transfers all risks to the private sector, should be also considered. As mentioned before, it is important for the government to establish an appropriate risk allocation policy (see Chapter 6.3.4.2 Review of Possible Forms for Development Projects).

“Lease” or “Contract Out” type (Land-lord Type) is also another alternative. In this case, IPC provides the infrastructure, while the private shipping company (tenant) provides the superstructure (see Chapter 6.3.3. Expansion of Working Field of Port Services).

② Intra-Asia & Domestic Container Port Terminal

Taking account of the considerable viability of the development projects, the infrastructure shall be provided by IPC and private funds while the superstructure shall be provided only by private funds. Usually, “JO type” is most recommendable, but the “BOT based projects” or “Lease based scheme” should be also considered.

2) Funds Source for Conventional Terminal in Each Area

At present, most conventional terminal development projects are funded by government & IPC budget, and thus there are few PSP projects. However, in order to relieve the government from its high financial burden and secure efficient management and operation, the government and IPC should induce the private sector into provision of superstructure by 2008 or 2018 by utilizing various kinds of measures.

① Multi-purpose Berth (-12m & -10m) from 1999-2008

In the relatively advanced island of "Jawa", it is recommended that the infrastructure shall be provided only by IPC while the superstructure shall be provided only by private funds.

In other islands ("Sumatra", "Kalimantan", "Sulawesi" & Others), infrastructure shall be provided by National & IPC funds while the superstructure shall be provided by private funds or IPC & private funds.

② Multi-purpose Berth (-12m & -10m) from 2009-2018

In relatively advanced islands such as "Jawa" & "Sumatra" islands, it is recommended that the infrastructure shall be provided by IPC and private funds while the superstructure shall be provided only by private funds.

In other islands ("Kalimantan", "Selawesi" & Others), infrastructure shall be provided by National & IPC funds while the superstructure shall be provided by IPC & private funds.

③ Conventional Terminal

In all islands, the infrastructure facilities shall be provided only by national funds and superstructure facilities shall be provided by IPC & private funds.

④ Small Ship

Owing to its "low viability", both infrastructure facilities and superstructure facilities for small ship will be provided only by the government.

3) Funds Source for Bulk Terminal in Each Area

At present, most of bulk terminals are developed by purely private funds as a special port & wharf. However, development projects on "BOT type" for bulk terminals of IPC public ports will be more and more popular (e.g. : development of bulk terminal at "Panjang Port", "Kotabaru Port" & "Gresik Port").

Taking into consideration "its high profitability", various kinds of PSP types (BOT, Joint Operation, Lease & Contract Out) shall be introduced.

① Dry Bulk

In all islands, while infrastructure facilities shall be provided by IPC & private funds, superstructure shall be provided only by private funds. "Lease" & "contract out" type are the most recommendable types. However, "BOT type" or "JO type" is also worth introducing.

② Liquid Bulk

In all islands, while infrastructure facilities shall be provided by IPC & private funds, the superstructure shall be provided only by private funds. "Lease" & "contract out" type are the most recommendable types. However, "BOT type" or "JO type" is also worth introducing.

4) Funds Source for Passenger Terminal in Each Area

During REPELITA VI, 87% of funds for development of passenger terminal comes from government budget owing to its “comparatively low profitability”. However, it will be necessary for the government to reduce its financial burden as much as possible by introducing IPC & private funds.

① International & National Terminal

Taking account of the “comparable viability” of development projects of those terminals, it is recommendable that the infrastructure facilities shall be provided by the government & IPC from 1999-2008 and IPC & private sector from 2009-2018 while the superstructure facilities shall be provided only by private sector.

② Domestic Terminal

The superstructure facilities shall be provided only by private funds. It is appropriate that infrastructure facilities shall be developed by national and IPC funds owing to the “low viability” of such facilities.

③ Local Terminal

Taking into consideration the actual result of REPELITA VI, it will be difficult for the government to introduce IPC & private funds for the time being. Thus, both infrastructure & superstructure facilities will be developed only by national funds.

8.5.3 Total Review of Port Development Investment

(1) Comparison between Required Investment and Projected Investment

The co-relationship between “rough estimation of required port development investment” (Chapter 8.3) and “projection of port development investment” (Chapter 8.4) shall be reviewed. The result of the co-relationship can be summarized in the following Table 8.5.7. The former by 2018 is approximately 2.5 times as much as that of the latter by 2018.

However, there is a high possibility that government funds for infrastructure will increase by the rate higher than economic growth rate (For reference, see Table 8.5.8). Since the country can afford for spending government funds for infrastructure development as a progress of economic development which results in fulfilling citizen’s basic living requirement. Therefore, it is forecasted that the gap will be narrowed to 1.5 or 2 times.

Table 8.5.7 Co-relationship between Required Investment & Predicted Investment
(Unit: Rp.billion)

Funds Source		By 2008	By 2018
* Required Investment (Chapter 8.3)	Government	Rp.6,314	Rp.14,690
	IPC	Rp.9,458	Rp.22,282
	Private	Rp.4,390	Rp.22,266
	① Total	Rp.20,162	Rp.59,238
Projected Investment based on Alternative-3 (Chapter 8.4)	Government	Rp.2,411	Rp.7,618
	IPC	Rp.3,243	Rp.10,245
	Private	Rp.1,849	Rp.5,841
	② Total	Rp.7,503	Rp.23,704
①/②		2.68	2.5

* Note : The figure is converted by the exchange rate of US \$ & Rp. before monetary crisis (US\$1=Rp.2000 as of July, 1997).

Table 8.5.8 Co-relationship between GDP Growth and Investment
(Rp.billion)

Item	1994	1995	1996	1994-96 Growth Rate
GDP (1993 Constant Price)	354,641	383,768	408,233	15%
	(-)	(8.2%)	(6.4%)	
* Government & IPC Investment (1997 Constant Price)	279	427	520	86%
	(-)	(53%)	(22%)	

* Note : The figures represents each fiscal year (e.g. Investment of 1994/95 is under 1994 heading).

(2) Review of the Comparison

Although the gap between required investment and projected investment is within 1.5 or 2 times, this gap can also be rectified or narrowed by employing all kinds of effective measures. In this case, “public investment” is definitely important because public investment possibly will be able to induce IPC and private investment. First of all, the government must take a positive step to secure as much funds as possible for port development.

Based on the understanding of the current situation and the future trends, the following measures shall be carefully considered among related government agencies in order to narrow the gap between required investment and projected investment.

1) Government Funds

- ① Taking into consideration the importance of port development in the world’s largest archipelago country, the government must strive to increase the budget to stimulate private investment.
- ② In this case, the government must pay more attention to effective use of the limited budget (see Chapter 6.1).
- ③ From the long term perspective, the government must make every effort to establish effective mechanism funding for development of necessary infrastructure of the public works. In this sense, issue of “National Bonds” as a tool for the funding will be essential for Indonesia in the future.

2) IPC Funds

- ① IPC should seek more financial sources such as issue of bond & sale of stocks for port development.
- ② It is necessary for the government and IPC to change the port type from operating port type to tool port type and land-lord port type. “Land-lord port type” enables IPC to use private funds for superstructure developments.

3) Private Funds

- ① As mentioned in Chapter 8.4, there is a high possibility that private funds will increase rapidly to a considerable extent by 2008 or 2018. This depends upon the government’s policy on PSP (see Chapter 6.3).
- ② The government should strive to promote PSP (e.g. BOT & Joint Operation) in port development and operation in cooperation with IPC to secure the required investment from the private funds.