

## **CONCLUSIONS AND RECOMMENDATIONS**



## Conclusions and Recommendations

### 1. General

[ Expected Scenario of National Development ]

(1) Considering the nature of Indonesia as the largest archipelago in the world, 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.

In this study, the following scenario can be recommended for future national development based on the discussion with the authorities of the government and relevant organizations.

- (a) 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. During this period, various kind of development resources such as national budget, institutional actions and private sector funds shall be utilized for the development of Java and other selected areas where more direct economic impacts can be expected compared to other areas.
- (b) After the national economy recovers, a long term national policy of realizing well-balanced nationwide development shall be pursued. During this period, various kinds of development resources, especially government budget shall be utilized predominantly for the development of East Indonesia which is a less advanced area. However, during this period, it will be foreseen that input efficiency of the development resources will be lower than in the earlier period.

[ Prioritized Actions under Current Economic Situation ]

(2) Indonesian Government is preparing an "Urgent Plan for the Economic Recovery". It is important for port sector to support the announced eight (8) prioritized activities 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 (see Chapter 8.2). In supporting fluent distribution of basic commodities, it is indispensable to improve comprehensive transportation system including sea and river transportation.

In particular, effective port administration, management and operation are very important in order to utilize the present capacity of the port facilities without spending much money.

Under the current severe economic situation, it is also recommended to concentrate investment and other efforts in revitalizing the developed areas, such as Java and Sumatra, which have high potential for effective economic development.

[ Role of Ports ]

(3) Based on the recent trend surrounding ports and expected scenario of national development, basic roles of ports are envisaged as follows.

- (a) Supporting Socio-economic Development
- (b) Rectifying Regional Disparity
- (c) Surviving in the Age of Global Exchange and Great Competition

[ Structure of the Port Development Strategy ]

(4) Based on the expected role of ports, the main structure of the basic policy for this strategy is summarized into the following three pillars. (See Figure 4.4.1)

- 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 order to deal with the rapidly increasing containerization, an efficient and effective international container port network system should be established all over the country.

The required container volume for international container ports, which is proposed in this study, can be utilized as a standard for evaluating appropriate timing for starting port development (see Chapter 5.3.1).

(2) Based on the result of demand forecast and standard container volume required for establishing respective international container routes, container port network system were proposed. The following scenario, which considered rectifying regional disparity as well as economical feasibility, is recommended.

- (a) 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 the major container ports (see Chapter 5.3.1).
- (b) After the international container volume handled at the ports reaches a sufficient level, international container ports including international hub container port(s) should be more 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.

(3) For examining the possibility of the development of an international container hub port in Indonesia, volume of the OD containers (originated and destined containers within the hinterland of ports), national development policy such as policy for rectifying regional disparity and geographical condition such as closeness to the international container service routes should be considered.

[ Policy for Conventional Cargo Terminal Network System ]

(4) In order to deal with the increase of conventional cargo, an efficient and effective conventional cargo terminal network system should be established all over the country. Hub and major conventional cargo terminal should be developed based on the cargo demand, present shipping routes and regional balance. In particular, each province should have at least one port which have 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 (see Chapter 5.3.2).

(5) Conventional cargo terminal should be developed based on the future trend of increase of the vessel size and unitization of cargo such as containerization and introduction of Ro/Ro vessel.

Regarding the vessel size, it is clarified that the cargo transportation cost by 3,000 – 5,000 DWT size vessel is the cheapest among other size vessels.

Regarding unitization of cargo, it is clarified that the cargo transporting cost by conventional cargo vessel is cheaper than any other vessel such as semi-container vessel, full container vessel and Ro/Ro vessel in ascending order.

However demand for unitization of general cargoes and frequent delivery of cargoes from port users are being intensified as a 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. It should be pursued, in particular, at the ports where large amount of unitizable cargo is to be handled. In addition, it is also recommended to decrease the freight rate of Ro/Ro shipping, which is much higher than the freight rate of other shipping vessels, and promote closer coordination between domestic shipping and ferry system which have been separately administrated by the different government organization.

[ Policy for Bulk Cargo Terminal System ]

(6) In order to establish an efficient and effective bulk cargo terminal system, taking into account importance of the role of special ports and wharves in bulk cargo transportation, the following policy need to be applied by the public sector.

- (a) Formulating a comprehensive port plan including special port/wharf and public port facilities
- (b) Developing the conventional cargo terminal which accommodates break-bulk cargo
- (c) Developing the bulk cargo terminal in cooperation with the private sector
- (d) Supporting the private sector in developing and operating the special port/wharf

[ Policy for Passenger Terminal Development ]

(7) Considering that Indonesia is the largest archipelago country in the world, formulation of sea transport system for passenger traffic is crucial for supporting daily lives of the people and regional economies.

Development of passenger terminal, which supports and promotes human exchange to be activated by international regional economic cooperation with neighboring countries, is also important.

In addition, further coordination between DGSC and DGLT, which administrates ferry system, is necessary in order to strengthen the passenger transportation capacity and efficiency through coordination with ferry system.

[ Policy for Supporting Tourism Development ]

(8) Tourism is one of the most effective measures for the acquisition of foreign currency. Therefore, the government places special emphasis on promoting foreign tourism.

The policy for supporting tourism development is proposed as follows.

- 1) In order to support tourism, port sector should promote development of tourism port (terminal for sightseeing boat, cruiser and yacht) and provision of sites for commercial zone (restaurant, souvenir shop, park, etc.) in potential tourist areas.
- 2) It is proposed that Tg. Priok, Belawan, Batam, Manado, Benoa and Biak become the central areas for tourism in the central part, western, northern, southern and eastern Indonesia respectively. It is also proposed to define and develop these important ports as "Main Strategic Ports" for attracting many foreign tourists, and the other high-potential ports as "Internal Network Ports" for widening the combination of tourist destinations.

[ Policy for Supporting Regional Development ]

(9) Port development and various activities in port areas greatly contribute to promoting various regional industries in port surrounding areas and hinterland. Considering that the role of port for promoting regional industries is respectively different according to the progress of

regional development, the following 3 types of policy for supporting regional development are proposed.

- (a) Supporting primary industries (transporting primary products from scattered remote areas by means of "joint shipment")
- (b) Supporting processing industries for primary products (formation of processing industry zone)
- (c) Supporting industrial complexes (formation of industrial complexes by accumulating manufacturing industries, heavy industries, etc. in port area)

[ Policy for People's Livelihood Support ]

(10) Since those ports, which are located in less advanced regions, play an important role as the means of transporting the people and daily goods, effective development is needed for ports with insufficient facilities in order to secure the minimum requirement of the citizen.

Concerning the above objective, the national and regional government shall use the budget to promote such development, since securing the civil minimum is a basic task of the national and local governments which cannot be achieved only by private sector.

(11) In the isolated islands and remote areas, the frequency of the liner cargo and passenger shipping calls is not so much. In order to utilize the port facilities in such areas effectively, multipurpose port facility which can accommodate passenger ships, cargo ships and ferry ships including rakyat ships shall be developed. In order to achieve this task, coordination with relevant organizations is indispensable.

In addition, it is also recommended to develop the required facilities which accommodate rakyat vessels safely and efficiently.

[ Policy for River Port Development ]

(12) Major ports in Sumatra and Kalimantan are river ports which are located in the densely populated areas along the river. It is very important to improve the transportation system, particularly river transportation, since these river ports play an important role in regional development and in sustaining people's livelihoods.

[ Policy for Notable Ports Development ]

(13) In formulating an efficient and effective container port network, high priority is expected to be given to the development of ports, especially in East Java (such as Tg.Priok/Bojonegara).

In addition, in rectifying regional economic disparity and dealing with internationalization high priority is also expected to be given to the development of ports in North Sulawesi, East Nusa Tenggara and North Sumatra (such as Bitung, Kupang and Sabang ports).

## **2.2 Future Port Hierarchy**

### **[ Port Classification ]**

(1) For the sake of identifying importance of ports in terms of function and investment priority, ports should be classified. In this study, it is proposed to categorize ports into six classes namely "Class AA", "Class A", "Class B", "Class C", "Class D" and "Class E". These classified ports play an important role as an international level center, a national/district level center, a regional level center, a provincial level center, a local level center and a daily life supporting place respectively.

Degree of the public sector's financial commitment such as port development investment is different among those port categories. In the Class AA Port, degree of the public sector's financial commitment will be the lowest. On the other hand, in the Class E Port, it will be the highest. 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 (see Chapter 5.4.1).

### **[ Policy for Selecting Strategically Important Ports ]**

(2) For selecting strategically important ports, not only activity of port itself but also contribution of port to socio-economic activity in the hinterland should be taken into account.

It is recommendable to invite opinions from port users, related national and local organizations on how to select the strategically important ports. Through this process, more accountability and transparency of port development can be secured.

(3) Roles of ports shall be the most important factor in selecting strategically important ports. Based on a rough evaluation of the expected roles of ports and in consideration of regional balance, the strategically important ports (Class A, AA Ports) are proposed (see Chapter 5.4.2).

## **3. Strategy for Port Finance and Private Sector Participation**

### **3.1 Strategy for Port Finance**

#### **[ Roles of Government, IPC and Private Sector ]**

(1) It is advisable for the government to clearly reconfirm roles of the public & private sector for formulating port development strategy. The clarification will give clear guidance in defining scope of works of each sector.

The government should play a role of "regulator", "policy maker", "planner", "safety



regulator” and others 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 ]

(2) In principle, national budget should be used for the development of non-commercial ports. However, it is impractical to abolish the subsidy for commercial ports under IPC’s control all at once. In the future, the government should phase out national subsidy to the IPC ports.

The introduction of “special account system” and “cost sharing system” is a valuable idea for the government to secure funds for port development. The former allows the “tax” and “dividend” revenues paid by IPC to be used for development of “non-commercial” ports. The latter requires the third parties such as “beneficiary” to share the costs for port development and management.

[ Establishment of General Policy for IPC Financial Sources ]

(3) From the long term perspective, IPC should not depend upon financial support from the government and must strengthen their financial ability. IPC should seek appropriate financial sources such as loans, issue of bonds and sales of stock. However, the government and IPC must carefully approach privatization taking into consideration the negative aspects, such as its tendency for seeking only profit.

### **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. A lack of “competitive theory” at ports may make it necessary for the government to intervene. The intervention, even if it is needed, should be limited to the necessary and minimum scope. In the future, increase of private sector participation in port services will make it possible to change the tariff system.

The port tariff should be determined so that moderate income and the depreciation cost, and management and operational costs etc. can be recovered from operational revenues. Therefore, differences of tariff rates at major ports also should be allowed. This will be useful to induce the private sector into development and operation of new terminals.

[ Establishment of “Time-Conscious” Tariff System ]

(2) “Time-Conscious” tariff enables users to reduce the berthing time of ships and promote

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 should be proposed. FCR system grants the discount rates of stevedoring charge in accordance with the connection time from the 1st carrier to the 2nd carrier in order to promote quick turn-around of transshipment containers.

[ 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 for Promoting Private Sector Participation ]

(1) It is very important for the government to clarify the “general philosophy”, “issues of PSP”, “roles of public and private sector” and “basic requirements” for promoting PSP. Clarification of those philosophies is effective for promoting private sector participation. The basic concept of “fairness”, “transparency”, “legal certainty” and “competitiveness” shall be applied, in particular to the entire PSP procedure.

[ Review and Reevaluation of the Present Legal Frameworks ]

(2) 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. These frameworks should be established based on actual experience in PSP projects.

[ Expansion of Working Field of Port Services ]

(3) It is important for the government or IPC to open gradually the working field of port services wider to the private sector. Private sector involvement in the port operations will bring not only more efficient works with lower costs for the government but also a higher level of services for users.

In order to do so, the government and IPC should gradually shift the port type from “Operating Port Type” to “Tool Port Type” and “Land-lord Type” in port operation. Tool port and land-lord types will enable for the government and IPC to secure efficient operations through the competition of “plural terminal operators” including IPCs themselves.

[ Review of Possible Forms of Private Sector Participation ]

(4) 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 ]

(5) 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, which assesses, monitors and reviews the overall procedure and releases the related information to the public from a neutral position. In particular, “monitoring through eyes of a neutral organization” and “ex post facto check system” will be more and more important.

[ Incentive Through Deregulation (Utilization of foreign investment) ]

(6) Owing to a lack of domestic capital and the current monetary problem in Indonesia, foreign investment for large-scale port projects will be more and more important. In order to attract more foreign capital, an appropriate tax incentive system and simplification of licensing procedure for foreign investors should also be taken into consideration

#### **4. Strategy for Port Administration, Management and Operation**

##### **4.1 Administration and Management Policy**

[ General ]

(1) Overall port administration structure needs to be simplified in general, with positive delegation of power to the lower branches of the government organization.

[ Participation of Local Governments in Port Administration Affairs ]

(2) Participation of the local governments in port administration affairs should be promoted at appropriate timing when their administrative capability would be strengthened enough under the overall local administration policy of the government.

[ Establishment of Nation Wide Comprehensive Coastal Area Management ]

(3) In connection with designation of port working area (DLKR) and port safety area (DLKP), it is recommended to establish a nation wide comprehensive plan for coastal area management. This may become a part of National Spatial Plan of Indonesia with more detailed and practical components of the planning factors.

[ Policy for Commercial Port ]

(4) "Commercial Ports" to be included in IPCs' management need to be selected reasonably enough so that IPCs could keep positive incentives in operating the ports with sound business mind.

[ Coordination of DGSC and DGLT ]

(5) The current practice of ferry port administration by DGLT and passenger port administration by DGSC should be streamlined at least in the planning stage of the facilities to avoid duplicated investment and management losses.

[ Policy for Non Commercial Port ]

(6) In order to enrich the managing and operational system of non-commercial ports, the functions of regional office of MOC (KANWIL & KANPEL) should be strengthened for formulating Port Master Plan. It is one idea to transfer the specific authority of licensing procedure for "special port & wharf" and "environmental assessment" to KANWIL.

Furthermore, taking into consideration the importance of local government involvement, management of minor non-commercial ports should gradually be transferred to the local government. In order to do so, human resources of KANPEL also should be enriched.

[ Policy for Special Port ]

(7) Effective utilization of special port & wharf is an important aspect for successful port development. For example, the development of "a special wharf" adjacent to "a public port" will be required in order to promote effective regional development by making use of port function. This will also lead to a reduction in the total construction cost for the private sector. In order to do so, the government should strive to remove the obstructions which discourage port development.

The government should also establish clear and transparent criteria on how to draw the border line between the "port working area (DLKR)" and "water safety area (DLKP)". That is because the demarcation will be crucial in determining which organization will be responsible for the management of each area.

## **4.2 Formulation and Authorization System of Port Master Plan**

[ General ]

(1) It is essential to formulate authorized port master plans both nation wide and on an individual port basis to ensure consistent port development and harmonized allocation of port function and investment.

[ Port Planning Body ]

(2) It is desirable in principle that the port master plan is originated by the individual "Port Management Body (PMB)" which is responsible for promoting regional prosperity through planning and developing ports in each region, and therefore be responsible in port planning as a "Port Planning Body(PPB)".

[ Port Council ]

(3) Opinions from various parties concerned should be fairly reflected in official port master plans through a permanent port council so that smooth and reasonable port development could be realized. If permanent 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) It may be worthwhile to abolish the current practice of the fixed terminal operators system. 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.

(2) Currently, stevedoring workers are supplied from the labor union through ADPEL. This system often jeopardizes timely and adequate provision of well trained workers for reliable and stable stevedoring activities. Direct procurement of the workers from labor market shall be allowed to further increase cargo handling productivity.

(3) For the effective use of cargo handling equipment, private stevedores shall be allowed to hire the equipment from competitive suppliers of the equipment including IPC and other private lease companies.

[ Container Terminal ]

(4) 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.

[ Procedure of Documentation]

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

(6) The EDI system should be employed in every container port to make the procedure at

the port more reliable and to reduce documentation. The EDI system, linked with customers and relevant government agencies, can minimize the paper flow, eliminate errors in communications and accelerate response time.

#### **4.4 Environmental Consideration in Port Development and Use**

##### [ Environmental Conservation ]

(1) Environmental conservation in port development should be considered from the beginning of planning. It needs to be fully discussed and reflected in formulating the port master plan for easy public acceptance.

##### [ Environmental Impact Monitoring System ]

(2) An adequate environmental impact monitoring system should be established and securely implemented so that various environmental related data can be accumulated and reflected in other port projects. This system must clarify the proponent's obligation and responsibility to implementation, scope and publicity of monitoring survey.

##### [ Public Opinions and Post-EIA System ]

(3) A certain report which includes the public opinions and views of the proponent obtained in the course of the formulation of a port master plan should be made public. In addition, to grasp the effect of the countermeasures for environmental conservation and to make improvement on the environment, if necessary, the system of the post-EIA based on the monitoring results should also be established.

##### [ Environment Planning ]

(4) Along with the improvement in living standards and changes in people's lifestyle and perceptions, people will become more conscious of their living environments. Parks, promenades, fishing places, restaurants and shops, etc, when space is available at waterfronts, should be dealt with in the port planning.

#### **4.5 Navigation Safety and Channel Maintenance**

##### [ Prioritized Channel Maintenance ]

(1) In view of the constraint of channel maintenance budget, critical examination is necessary to select priority dredging projects and their scope from the cost and benefit point of view. In order to achieve the target, it may be necessary to strengthen DGSC capability in collecting sufficient engineering data and information, and in conducting economic analyses on the data as well as in developing an effective coordinating procedure.

[ Engineering Survey and Investigation ]

(2) More accurate engineering surveys and assessment on the results of dredging works is required for the channels which are utilized under very critical or restricted conditions. At every stage of port development, economic and technological investigation on siltation and counter measures should be done carefully. This requires substantial upgrading of total engineering survey system of the DGSC.

[ Beneficiary-payment Principle ]

(3) To cope with shortage of budget for dredging, beneficiary-payment principle should be employed according to degree of the 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.

[ Formulation of Sailing Rules in Ports and Prescribed Channels ]

(4) A fundamental law stipulating common essential provisions is desired. The law should contain sailing rules in ports; priority of specified vessels; safe speed; preservation of environment and commission Minister of MOC on additional regulations to cope with local circumstances.

[ Further Allocation of Pilotage Water Area and Additional Pilots ]

(5) In line with increasing vessel traffic, additional pilotage water areas should be allocated. On the other hand the lower limit of vessel size which is subject to pilotage should be raised to 500GRT from 150GRT.

[ Providing Capable Tug Fleet ]

(6) Considering the current strength of small and old tug fleet at ports, a capable tug fleet should be provided at major ports which accommodate large vessels.

[ Additional Installation and upkeep of Navigational Aids ]

(7) Present situation requires additional installation and comprehensive maintenance of navigational aids in order to accommodate the growing vessel traffic and also to prepare the new international sea-lanes in Indonesian waters.

[ DGSC's Duties Concerning the Control of Safety ]

(8) In accordance with amendment of the safety management codes of the SOLAS Convention, the authorities should carry out new duties concerning the new codes, and

training/stationing of capable officers is thus urgently desired.

[ Removal of Wrecks ]

(9) Removal of wrecks in port channels or identifying their present condition and installation of any navigational aids is necessary at ports such as Tg.Perak, Palembang and Tg. Priok in particular.

[ Expanding of Vessel Inspection System ]

(10) Most domestic trading vessels remain in substandard conditions in terms of structure, equipment and operation. The authorities should formulate technical standards on stability, ship inspection, ship plying limit, maximum passengers, load line and life-saving equipment in particular.

Additional inspectors with sufficient qualifications to carry out the above mentioned inspection should be provided.

[ Search and Rescue System ]

(11) It is anticipated that sea accidents will increase with the increase of vessel traffic, therefore the present poor search and rescue system should be strengthened with sufficient rescue fleet and communications system.

#### **4.6 Staff Training System for Port Sector**

[ Increasing Knowledge ]

(1) Knowledge and deep understanding of the business of other sub-sectors are particularly important in making better coordination with relevant agencies or entities.

(2) Promotion of on-the-job-training (OJT) becomes more effective by developing OJT methods and manuals applicable to actual training stage.

[ Personnel Exchange ]

(3) Establishment of effective personnel exchange system should be executed among the port sub sector entities including MOC, DGLT, DGSC, IPCs, and ADPELs, in order for personnel to obtain a wider knowledge of port related business and understand role and activity of each organization.

[ Evaluation and Retraining ]

(4) Strengthening evaluation of effects of training is another requirement for improving the staff training system. And a retraining system is necessary to pass on the latest techniques to



workers.

#### **4.7 Port Statistics**

(1) Since port statistics are indispensable for making various kinds of port policies including port master plan, port management policy and so on, they should be collected comprehensively from all ports including special ports and special wharves based on laws and regulations. In addition, it should clarify at least the trend of cargo handling volume by lot and the origin/destination of each kind of commodity and cargo type, as well as number of calling vessels, number of passenger and situation of basin, warehouse and stock yard, etc. And, if possible, it should be integrated with statistics system of land transportation that is closely related to the port activities and be compatible to international statistics system.

#### **4.8 Port Engineering, Research and Survey**

(1) In order to utilize the limited investment funds more efficiently, to secure safety of facilities and to envisage earlier materialization of the investment effects, more sophisticated technology shall be introduced in the port development field as well as the port management and operation field.

In formulating a policy for port engineering, research and survey, the following four (4) items should be conducted.

- 1) Arrangement and application of "Technical Standards for Port Facilities"
- 2) Accumulation and analysis of technical information for port development
- 3) Introduction of new technology and promotion of technology development
- 4) Enhancement of total capability of port engineers

#### **4.9 Supporting Activities for Port Sector Development**

(1) Under the severe economic conditions in promoting port development in Indonesia in particular, 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 informal port supporting activities as listed as follows.

- 1) Promoting national consensus and international understanding on the Indonesian port policy.

- 2) Improving legal, institutional and organizational arrangements
- 3) Strengthening theoretical base for better understanding of the parties concerned regarding the importance of the port development
- 4) Securing adequate allocation of public fund (national and local government budget) for port sector development
- 5) Attracting private sector participation in the port development

## **5. Implementation Process Policy**

[ General ]

(1) In order to utilize the limited investment funds effectively, it is important to show the prioritized and urgent plans at each intermediate target year. 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 main 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
- (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
- (c) Long term
  - To concentrate efforts on extending development axes to the least advanced areas and finally realizing a well balanced development network

[ Securing of Investment Funds ]

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

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

sectors for total is about 70%).

## **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.









Uncharted depths in the water in sections 10-14 (68) indicate the height of the offshore rock or island.

THAILAND

KAMPUCHEA

TRANG PHU HO CHI MINH

CHINA

KAUING TRAP

GULF OF

DANGEROUS GROUND - SEE CAUTION



BORNEO

KALIMANTAN

JAVA

