

### 5.3.3.2 Passenger Terminal System

#### (1) General

In passenger transportation, it is necessary that a lot of transport modes are available, for example air, road, rail, sea and river. Passenger often selects the most appropriate transportation means or a combination of several means after considering time, cost, convenience, comfort, pleasure and so on, depending on the purpose. Time is the most important factor, especially on trunk routes, in selecting a transport means, but cost is also an important factor for the majority of passengers. It is desirable that several competitive modes are in service on the same O/D, so passengers can select a proper mode according to their purpose, terms and conditions.

Punctual and easy connection between different means at a transfer point is another essential factor for passengers to select a route, because the transfer time may represent the longest part of a journey. Establishing an integrated transfer terminal is vital to improving the competitiveness of a particular mode.

Each means of transportation has different characteristics and different competitive points. For example, air transportation is faster but more expensive than other modes. Vehicle is convenient and railway is better for mass transportation. Ferry is convenient for both passenger and cargoes. Shipping is effective and economical for remote and isolated area.

The operators of each means have to change service pattern in accordance with the demands of passenger, considering the characteristics and competitiveness of each mode.

Passenger shipping is a crucial mode of transportation for the people's daily life, regional economy and international interchange in large archipelago countries; such as Indonesia, Japan and the Philippines.

In general, passenger shipping consists of ferry service and passenger vessel service. Ferry service is effective in rather short distance service pattern up to one day's itinerary and trunk route on which not only passenger but also a certain volume of consumption goods moves. Passenger vessel service is effective in long distance service or round trip pattern and in such route that the number of same O/D passenger is not so large.

In Indonesia, the dominant operator of passenger vessel service is PT. PELNI and that of ferry service is PT. ASDP. Both are government-owned entities. On the other hand, PERINITS and Rakyat service are vital means of transportation for passengers in isolated and remote area.

In 1998, PT. PELNI is operating 17 routes by three types of vessels, namely 2000 Passenger Type, 1000 Passenger Type and 500 Passenger Type vessels. The number of routes operated by 2000 Type vessel, which are regarded as trunk routes, is 11. Main sections in which 2000 Type

vessels are frequently operated (at least every day) are as follows. (See Appendix 5.3.10)

- Makasar-Surabaya
- Surabaya-Tg. Priok
- Belawan-Batam
- Batam-Tg. Priok
- Tg.Priok-Tg.Balai
- Makasar-Balikpapan

The number of passengers carried by PELNI vessels during 1993/1997 is shown in Table 5.3.3.1. In 1996 and 1997, number of passengers did not increase as in the previous years because of the unstable economic situation in Indonesia. However in 1998 the number of passengers is increasing again. One of reasons why passengers by sea have increased in 1998 seems to be a result of increased airfare price.

Table 5.3.3.1 Number of Passengers carried by PELNI

Year	1993	1994	1995	1996	1997
Number of Passengers	3,714,736	4,598,242	5,180,950	4,512,810	4,579,520

Total ferry traffic in 1995 is comprised of 46 million passengers, 4.7 million 4-wheel vehicles, 3.7 million 2-wheel vehicles and 11 million tons of cargo.

The total number of ferry routes in operation is 102 at present and the routes could be classified into 5 patterns by physical composition. That is a) 5 Interregional routes, b) 21 Mainland to island routes, c) 43 Island to island routes, d) 13 Coastal and crossing bay routes and e) 20 Inland waterway routes. The major ferry service routes are

- a) Ujung-Kamal (Surabaya - Madura island),
- b) Merak-Bakauheni (western end of Jawa - southern end of Sumatra),
- c) Galala-Poka (in Ambon island) and
- d) Ketapang-Grimanuk (eastern end of Jawa -- Bali island).

The function of ferry service was categorized by the Nationwide Ferry Study as follows.

- a) A part of national highway trunk lines including important connecting routes between major islands,
- b) Connection for provincial capital cities in conjunction with national road (less than 1,000km or sailing time of 20 hours), and
- c) Connection for small islands or isolated areas to a regional center or island waterway and river crossings.

It is anticipated that private shipping sector might join these ferry service routes or start other service pattern and service routes in the near future.

In order to establish a passenger port system, it is essential to formulate an appropriate passenger shipping service pattern in combination with ferry service, considering characteristics and competitiveness of these two means.

## (2) Classification of Port Facilities

The Study Team has classified passenger terminals into 5 categories; Hub Passenger Terminal, Major Passenger Terminal, Provincial Passenger Terminal, Local Passenger Terminal and Small Passenger Terminal. (See Table 5.3.3.1)

Table 5.3.3.2 Classification of Passenger Terminal

Classification	Definition
Hub Passenger Terminal	Terminal which plays a role as a national level center on trunk services of domestic passengers as well as that of international passengers.
Major Passenger Terminal	Terminal which plays a role as a regional level center on a trunk service of domestic passengers as well as that of international passengers.
Provincial Passenger Terminal	Terminal which plays a role as a provincial level center for transporting domestic passengers
Local Passenger Terminal	Terminal which plays a role as a local level center for transporting passengers in limited area
Small Passenger Terminal	Terminal which plays a role in transporting passengers in isolated areas and remote areas

Note : Prepared by the Study Team

“Hub Passenger Terminal” plays a role as a national level center, in which not only domestic trunk route services but also international trunk route services call and very large numbers of passengers with various nationwide destinations are accommodated. Transition of passengers is a main function of the terminal and therefore good accessibility to/from other transportation modes, such as air, rail and road as well as sea, is essential for a hub terminal. Connection to international airport will be especially important in future, because the number of international airport is limited and international exchange through passenger terminal will be vital for Indonesian society and the economy.

“Major Passenger Terminal” plays a role as a regional level center for a trunk route of domestic passengers and/or that of international passengers and large numbers of passengers with various destinations in certain region are accommodated.

“Small Passenger Terminal” plays a role for transporting passengers to support the peoples’ daily life in isolated areas and remote areas. Such terminal may have multi-function such as passenger terminal, consumption goods handling and fishery etc.

### (3) Main Policies for Passenger Terminal Network System

In order to formulate comprehensive passenger terminal network, the Study Team recommends the main policies for passenger terminal development and cooperation between DGSC and DGLT.

#### 1) Promotion of the Efficient Passenger Terminal Development

While the number of the passengers is not so large, it is possible for the passenger ships to use conventional cargo terminal, if certain specialized facilities such as passenger boarding, passageway and waiting room are provided. After the number of passengers and passenger ships increase, allocation of passenger ships to conventional cargo berths shall cause problems in view of safety of the passengers, efficiency of cargo handling and so on.

When the passenger traffic becomes substantial, it is preferable to allocate a specialized separate berth or terminal with appropriate facilities including connection to other passenger transportation mode. If the port opens for international routes, special services, such as customs, immigration, quarantine and health service, will need to be provided to meet international standards.

#### 2) Promotion of International Exchanges Among Peoples

Recently International economic cooperation with neighboring countries, such as IMT-GT, IMS-GT, BIMP-EAGA and AIDA is becoming active, especially in the regions which face neighboring countries, and passenger traffic as well as cargo transportation are increasing steadily. For example in Sumatra, people come/go from/to Malaysia frequently. In North Sulawesi, people in the Philippines come to Bitung for business. Content of human exchange is becoming diversified steadily from business to tourism. Considering the above recent trend, an increase in international passenger traffic shall be considered in formulating the national transportation system. In this system, ports have to serve the key connection point of international passenger transportation as well as domestic passenger transportation, and shall be given development priority to promote international exchanges.

#### 3) Improving Passenger Transportation Plan by Cooperating with DGLT

Ferry system is an effective sea transportation system, which has the function of transporting passengers as well as cargoes. But coordination between passenger shipping and ferry service has been inadequate, because passenger shipping is administrated by DGSC and ferry service is by DGLT under the control of MOC.

Passenger shipping service and ferry service have different characteristics in operation, service pattern and level of service. Good coordination between passenger shipping (DGSC) and ferry (DGLT) should be made in the planning and implementation stage, from the viewpoint of effective use of national resources and introducing private sector participation.

#### (4) Passenger Terminal Network System

##### 1) Criteria for Selecting Each Class Port

###### a) Selecting Hub Passenger Terminal

The role of hub passenger terminal is national level center of passenger transportation. For selecting this class terminal, number of international and domestic passengers, present situation of passenger shipping route and ferry route, location of international airport, national development policy, future regional development plan and so on shall be considered.

- The criteria for selecting Hub Passenger Terminal (mainly for International route) are as follows.

- (a) International service vessel calls daily and number of passengers is more than 600,000 per year. ( Daily service by 3,000GWT ferry)
- (b) International major airport is located about one hour driving distance from the port
- (c) The port is located apart from adjacent Hub Terminal by about 500 miles and is sufficiently connected to land and/or local sea transportation.

- The criteria for selecting Hub Passenger Terminal (mainly for domestic route) are as follows.

- (a) International service vessel calls at least every 2 days and number of international passengers is more than 300,000 per year. ( Every 2 days by 3,000GWT ferry)
- (b) Major domestic airport located near the port
- (c) Number of domestic and international passengers is more than 2,400,000 per year (Twice a day service by 3,000GWT ferry)

###### b) Selecting Major Passenger Terminal

The role of major passenger terminal is a regional level center of passenger transportation.

At least one port in each province should be selected as a Hub or Major Passenger Terminal. When there are several ports within one province, which play important role as regional level centers, one or two additional Major Passenger Terminals are to be selected as an exceptional case subject to the condition that the terminals are located apart from adjacent Hub or Major terminals by more than 250 miles.

##### 2) Conceptual passenger terminal network

Based on the above-mentioned criteria, the characteristics of candidate port are summarized in Table 5.3.3.3 and evaluated in conjunction with national development policy.

The Study Team recommends the conceptual passenger terminal network in Indonesia by the year 2018. (See Table 5.3.3.4 and Figure 5.3.3.1~5.3.3.2)

Table 5.3.3.3 Characteristics of Candidate Ports for Passenger Terminal Network

	Province	Name of Port	Number of Passenger as of 2018 (1,000persons)		Total	Airport		Distance from Hub Terminal (mile)	Port Classification
			International	Domestic		International	Major Domestic		
1	Aceh	Lhok Seumawe	439	2,879	3,318			120 / Belawan	Major
2	North Sumatra	Belawan	913	5,979	6,892	Medan		-	Hub (1)
3	West Sumatra	Teluk Bayur	304	1,993	2,297		Padang	573 / Jakarta	Major
4	Riau	Dumai	777	5,093	5,871	Batam	Pekanbaru	162 / Batam	Hub (2)
5	Jambi	Jambi	101	664	766			242 / Batam	Major
6	South Sumatra	Palembang	507	3,322	3,829		Palembang	295 / Batam	Major
7	Bengkulu	Bengkulu	68	443	511			374 / Jakarta	Major
8	Lampung	Panjang	270	1,772	2,042			124 / Jakarta	Major
9	West Java	Tg.Priok	202	2,808	3,011			-	
10	DKI.Jakarta	Tg.Priok	195	2,708	2,903	Jakarta		-	Hub (1)
11	Central Jawa	Tg.Emas	123	1,705	1,828			183 / Surabaya	Major
12	East Jawa	Tg.Perak	181	2,508	2,688	Surabaya		-	Hub (1)
13	Bali	Benoa	22	301	323	Denpasar		-	Hub (1)
14	West Nusa Tenggara	Ende	26	2,961	2,987			427 / Benoa	Major
15	East Nusa Tenggara	Kupang	21	2,368	2,389			532 / Benoa	Hub (1)
16	East Timur	Dilli	5	592	597			660 / Benoa	Major
17	West Kalimantan	Pontianak	16	2,151	2,166		Pontianak	355 / Batam	Hub (2)
18	South Kalimantan	Sampit	14	1,912	1,926			293 / Surabaya	Major
19	Central Kalimantan	Balikpapan	10	1,314	1,324		Balikpapan	268 / Makassar	Hub (2)
20	East Kalimantan	Banjarmasin	48	6,571	6,620		Banjarmasin	269 / Surabaya	Hub (2)
21	North Sulawesi	Bitung	3	523	526	Manado		-	Hub (1)
22	Central Sulawesi	Pantoloan	2	324	326			475 / Manado	Major
23	South East Sulawesi	Kendari	1	224	225			365 / Manado	Major
24	South Sulawesi	Makassar	8	1,420	1,427	Ujung Pandang		-	Hub (1)
25	Maluku	Ambon	24	2,664	2,688			366 / Manado	Hub (2)
26	Irian Jaya	Sorong	55	6,217	6,272	Biak/Jayapura		485 / Manado	Hub (2)

Note ;  
 Hub (1) : Hub Passenger Terminal (mainly for international route)  
 Hub (2) : Hub Passenger Terminal (mainly for domestic route)

Table 5.3.3.4 Conceptual Passenger Terminal Network

Classification	Timing	Proposed Location
Hub Passenger Terminal (mainly for international route)	by the year 2018	Belawan, Batam(Singapore), Jakarta, Surabaya, Bena, Kupang, Makassar, Bitung,
Hub Passenger Terminal (mainly for domestic route)	by the year 2018	Dumai, Pontianak, Banjarmasin, Balikpapan, Ambon, Sorong
Provincial Passenger Terminal	by the year 2018	Sabang, Padang, Jambi, Bengkulu, South Sumatra, Semarang, Ende, Dilli, Sampit, Pantoloan, Kendari, Biak, Jayapura, Merauke

Figure 5.3.3.1 Passenger Terminal Network in Indonesia  
(at present)

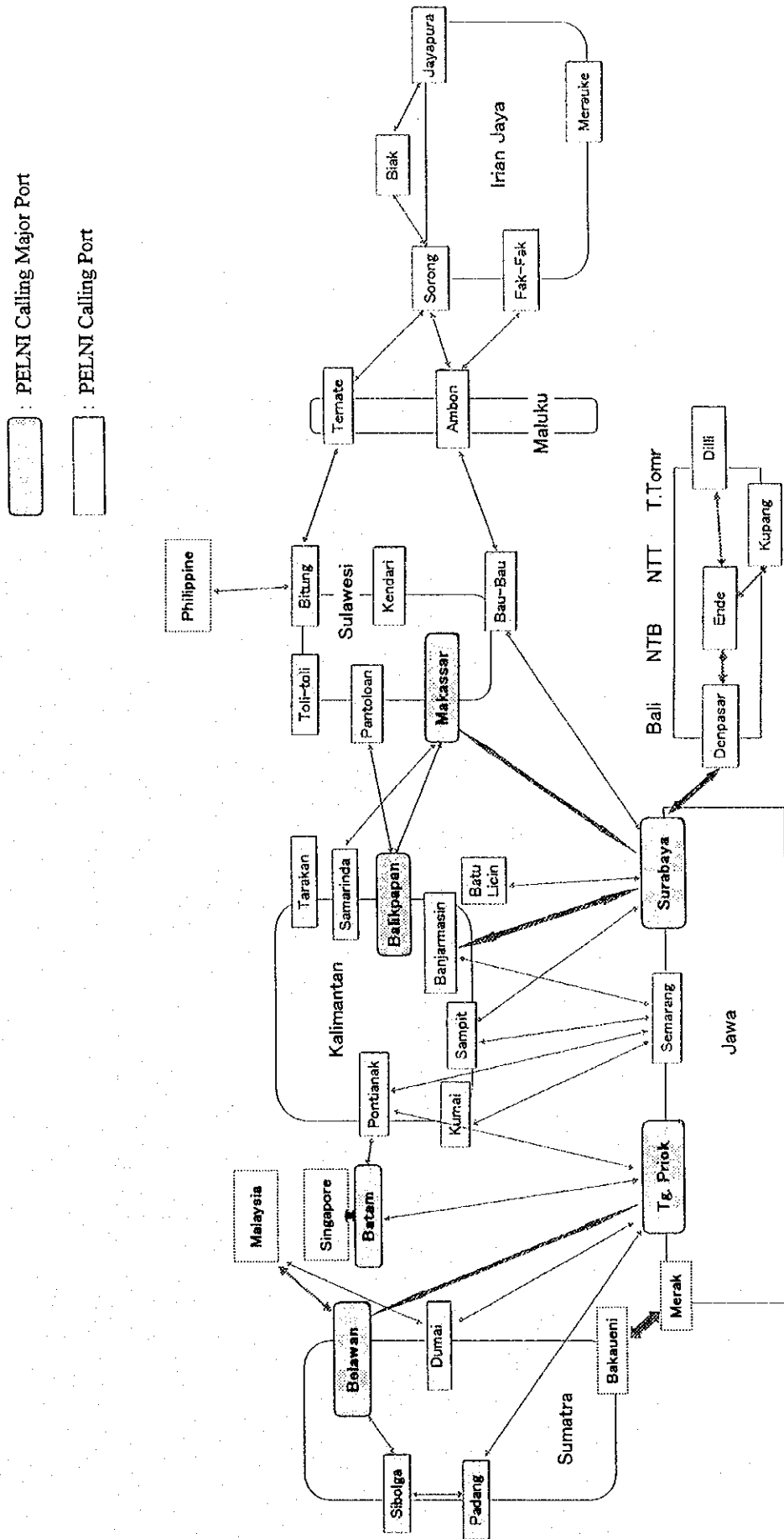
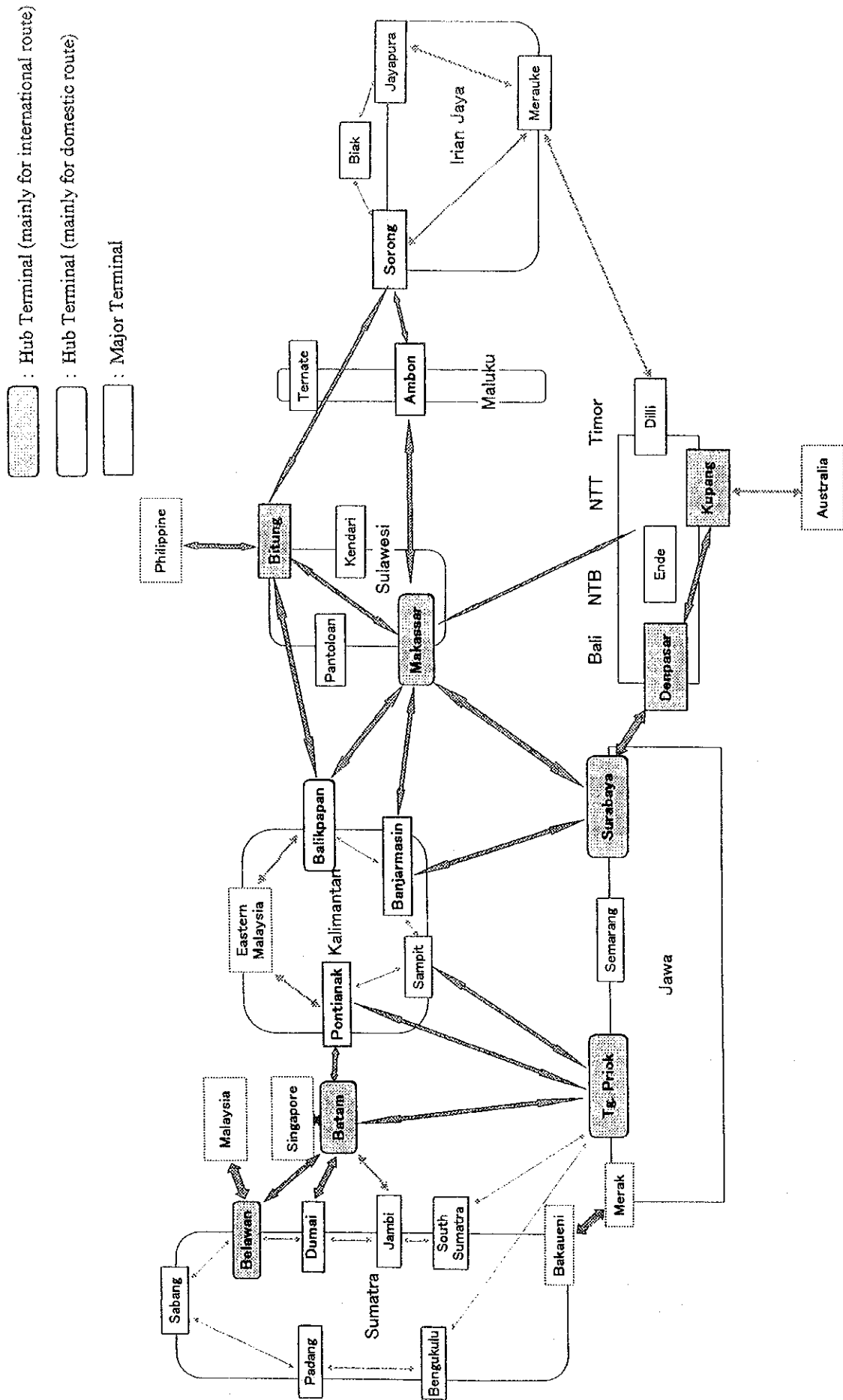




Figure 5.3.3.2 Passenger Terminal Network in Indonesia  
(Long Term Plan)



### 5.3.3.3 Policy for Supporting Tourism Development

At present, tourism is developed mainly in Bali, Jawa and some part of Sumatra/Sulawesi. (See Table 5.3.3.5 and Appendix for Chapter 5.) There are also many tourism resources in other areas, but they are not yet sufficiently developed due to the lack of transportation infrastructure, capital for investment and so on.

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

In June 1998, requests for joint efforts were made to the several ministries by the General Directorate of Tourism, as the 'Integrated Efforts to Promote the Foreign Tourism'. Their requests to the Ministry of Communication are as follows;

- To increase the service and facilities of airport terminal, seaport and border crossing entry, especially those that serve as a gateway for foreign tourists.
- To increase the public transportation service, especially where tourists are expected to concentrate.
- To make it easy for tourist vessels, both Cruise Ships and Yachts, to enter Indonesia.

In this request, they also show the future prospect of the tourist destinations to be promoted as shown in Table 5.3.3.6.

Meanwhile, data of the foreign cruising ship's call in Indonesia are shown in Table 5.3.3.7 and Table 5.3.3.8. According to these tables, number of ship's call is high in Bali, Nusa Tenggara, Central Jawa, Jakarta and Riau (Batam and Bintan).

We classified tourism ports into two categories; one is "Main Strategic Port" for attracting many foreign tourists, and the other is "Internal Network Port" for widening the combination of tourist destinations, which have high potential for tourism. (See Figure 5.3.3.3)

Accordingly, we propose the policy for supporting tourism as follows.

- 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.
- We consider that Tg. Priok, Belawan, Batam, Manado, Bena and Biak will become the central area for tourism in the central part, western, northern, southern and eastern Indonesia respectively. We defined these important ports as "Main Strategic Port", and the other high-potential ports as "Internal Network Port". The development policy for the two kinds of categorized ports is as follows.

Table 5.3.3.5 Major Tourism Resources in Indonesia

Province	Main Tourism Sites	Developed, Existing Sites	Ongoing, Intended Project	Nature		Culture	Others
				Beach, Marine Sports, etc.	Others		
Special Territory of Aceh	Gunung Leuser National Park	○			○		
	Krueng Raya		○	○			
	Sabang Island (Weh)		○	○			
North Sumatra	Toba lake and Karo Batak region	○			○	○	
	Nias Island		○	○		○	
West Sumatra	Bukittinggi (Minangkabau highland)	○			○	○	
	Telukbayur		○	○			
Riau	Batam, Bintan Island		○	○			
Jambi							
South Sumatra	Bangka, Belitung Island		○	○			
Bengkulu							
Lampung	Krakatau-Lampung		○	○			
	Way Kambas	○			○		
Special Territory of Jakarta	Jakarta city	○					○
	Pulau Seribu Islets	○		○			
	Taman Mini Indonesia	○				○	○
West Jawa	Jawa western coast	○		○			
	Pelabuhanratu, Pangandaran Bay	○		○			
	Bogor botanical garden	○					○
	Tanjung Lesung Resort		○	○			
	Pendegangan Lakes Resort		○		○		
Central Jawa	Dieng highland	○			○	○	
	Baturaden Mountain Resort		○		○	○	
	Borobudur and Prambanan temples	○				○	
	South coast (Parangtritis dunes)	○		○			
East Jawa	Probolinggo (Mountain Bromo)	○			○		
	Madura Island	○		○			○
	Malang (Batu, Tretes, Pringen)	○			○	○	
	Banyuwangi (Plengkung Beach)	○		○			
Bali	Sanur, Kuta, Ubud, etc.	○		○	○	○	
	Penida Island		○	○			
West Kalimantan	Kapuas River	○			○	○	
Central Kalimantan	Tanjung Puting National Park	○			○		
South Kalimantan	Banjarmasin (Pasar Terapung)	○					○
East Kalimantan	Makaham River	○			○	○	
North Sulawesi	Manado-Minahasa (Tasik Ria resort, Bunaken, Selayar, Bangkara Island, Tangkoko Batangus, etc.)	○		○	○		
	Limboto, Tondano Lake	○			○		
	Sangihe, Talaud Island		○	○			
	Mountain Klabat	○			○		
Central Sulawesi	Mountain Porekautimbu	○			○		
	Lindu, Poso Lake		○		○		
South Sulawesi	Toraja highland	○				○	
	Kaposang, Samalona Island	○		○			
	Selaya Island		○	○			
	Bonerate Island		○	○			
	Bantimurung	○			○		
	Malino mountain area	○			○		
Matano, Towuti Lake	○			○			
Southeast Sulawesi	Muna, Buton Island		○	○			
West Nusa Tenggara	Lombok Island	○		○			
East Nusa Tenggara	Komodo Island	○		○			
	Maumere (Flores I.), Kailala (Sumba I.)	○		○			
Maluku	Ambon, Banda Islands	○		○			
Irian Jaya	Biak and Paidaido Islands	○		○			
	Wamena	○				○	
East Timor	Maumere	○					○

Source : Prepared by OCDI based on "National Tourism Development Master Plan" by Euro Asia

“Main Strategic Port” should be sufficiently developed for tourism and play an important role as the front gate for foreign tourists.

“Internal Network Port” should be developed to more heighten the potential and shape the internal tourism network on the basis of the cooperation with the neighboring high-potential port, by means of making good use of the character of each tourism resource.

Table 5.3.3.6 Future Prospect of Tourist Destinations to be promoted

Destination	Short Term	Middle Term	Long Term
	Bali & Lombok Bromo, East Jawa Toraja, South Sulawesi Batam	Bali & Lombok Jakarta DI Yogyakarta East Jawa Batam & Bintan Manado Medan Balikpapan, East Kalimantan West Jawa Padang, West Sumatra South Sulawesi	Bali & Lombok Jakarta DI Yogyakarta East Jawa Batam & Bintan Manado Medan Balikpapan, East Kalimantan West Jawa Padang, West Sumatra South Sulawesi Ambon Biak-Marau, Irian Jaya

Source : Integrated Efforts to Promote Foreign Tourism (1998, General Directorate of Tourism)

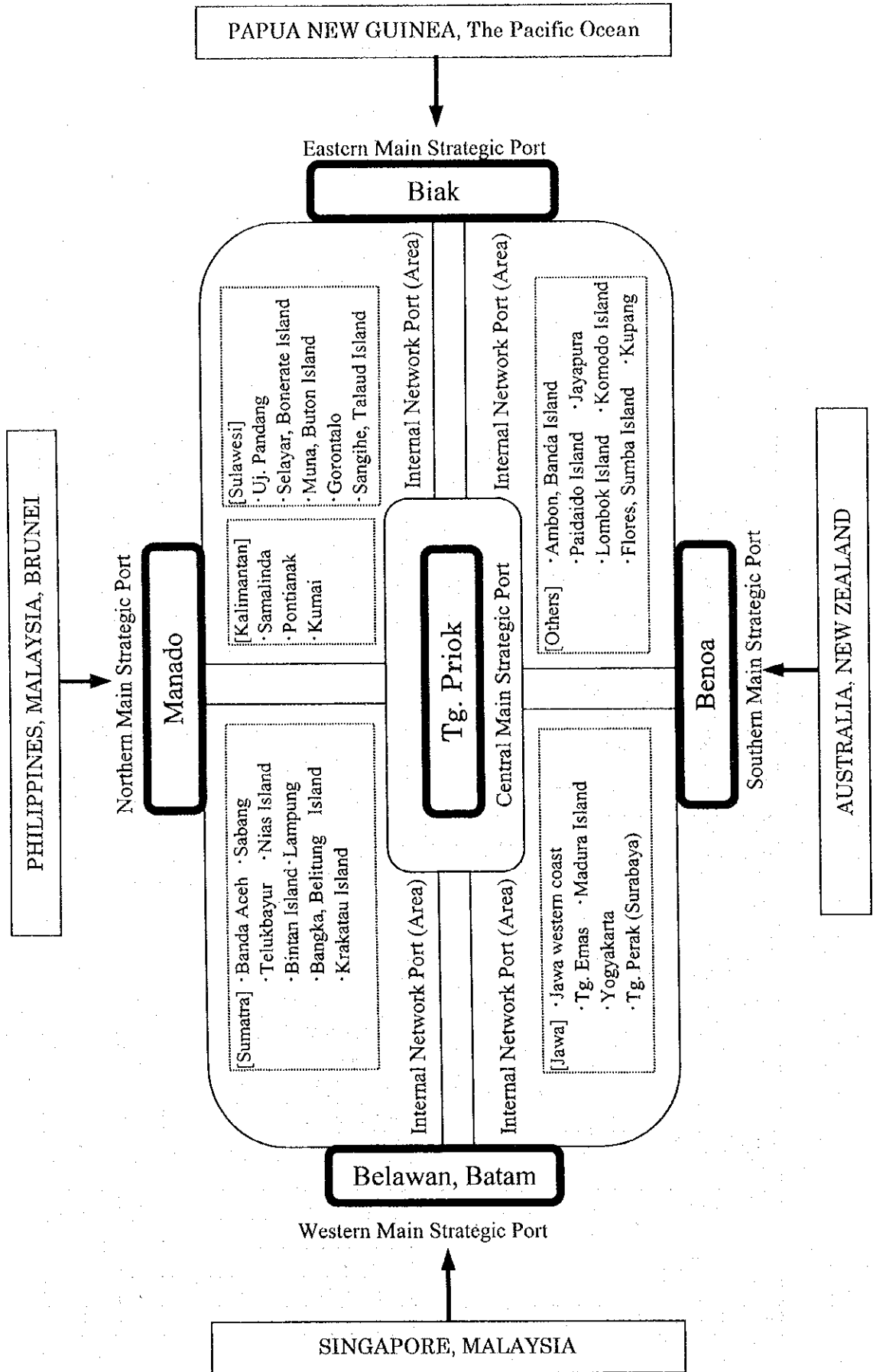
Table 5.3.3.7 Data of the Foreign Cruising Ship's Call in Indonesia (1997-1998)

Year	Nationality	Dimensions (m)		GRT		Number of Persons		Last port of call before entering Indonesia	Next port of call after leaving Indonesia	Ports of call in Indonesia	Purpose
		Length	Width	Draft	Crew	Passengers	Total				
98	Japan	183.4	?	6.5	26,518	180	200	380	Muara Port(Brunei)	Benoa(Bali)	Tourism
98	Bahamas	139.3	22.8	8.6	16,754	370	700	1,070	Singapore	Batam, Bintan, Semarang, Surabaya, Bali	Tourism
98	Italy	155.8	21.4	5.4	16,900	212	300	512	Romblon(Philippines)	Jayapura, Bitung	Tourism
98	Bahamas	176.3	23.6	8.2	22,080	361	800	1,161	Singapore	Bali, Semarang	Tourism
98	Bahamas	176.0	22.6	6.1	20,606	252	650	902	Singapore	Ende(Flores), Waingapu(Sumba), Komodo, Lembar(Lombok), Benoa(Bali), Semarang	Tourism
98	Bahamas	184.3	24.2	8.8	24,803	293	700	993	Romblon Island, Colombo(Sri Lanka)	Ambon, Bitung, Belawan, Sabang	Tourism
98	Bahamas	188.9	24.5	8.3	24,474	389	580	969	Singapore	Benoa(Bali), Semarang	Tourism
98	Panama	71.5	14.0	7.0	3,264	50	150	200	Singapore	Jakarta, Bintan, Batam, Medan, Bali, Semarang, Krakatau, Surabaya	Tourism
98	Bahamas	139.8	22.8	8.6	16,254	370	700	1,070	Singapore	Krakatau, Surabaya	Tourism
98	Bahamas	128.2	22.5	7.3	12,764	200	825	1,025	Singapore	Batam, Bintan, Lampung, Krakatau, Jakarta	Tourism
98	Malta	156.2	21.8	6.2	16,214	235	554	789	Penang(Malaysia)	Batam, Bintan, Lampung, Krakatau, Jakarta	Tourism
97	British	249.5	31.2	?	44,807	866	1,000	1,866	Hongkong	Belawan	Tourism
97	Bahamas	162.0	19.8	7.2	14,173	319	576	895	Zamboanga(Philippines), Wewak(PNG)	Bali	Tourism
97	Japan	192.8	24.7	6.6	28,717	255	600	855	Singapore	Iemate, Jayapura, Biak, Sorong, Manokwan, Ambon, Palopo, Komodo, Lombok, Benoa(Bali), Pare Pare, Surabaya, Semarang, Jakarta	Tourism
97	Italy	155.8	21.4	5.4	16,900	208	300	508	Yangon(Myanmar), Singapore, Port Kelang	Padangbai(Bali), Semarang	Tourism
97	Panama	175.1	25.2	11.0	28,388	578	800	1,378	Singapore	Belawan, Tg. Priok, Semarang, Bali, Pare Pare, Bena, Komodo	Tourism
97	British	292.7	32.0	?	67,140	1,087	1,500	2,587	Darwin(Australia)	Krakatau, Jakarta, Lombok, Komodo, Bali, Padangbai(Bali)	Tourism
97	Netherlands	214.7	27.2	7.2	33,933	524	1,374	1,898	Singapore	Padangbai(Bali)	Tourism
97	Norway	135.0	19.0	5.5	9,961	149	190	339	Singapore	Bali	Tourism
97	Germany	199.6	28.5	8.5	37,012	299	600	899	Mamla(Philippines)	P. Seribu, Jakarta, Semarang, Padangbai(Bali), Komodo, Waingapu(Sumba), Sebat(Savu)	Tourism
97	Liberia	162.4	21.4	8.7	13,660	230	450	680	Singapore	Bitung, Pare Pare, Ujung Pandang, Lember, Nias, Padang, Padangbai(Bali), Tg. Priok, P. Seribu	Tourism
97	Norway	104.8	18.2	?	4,253	93	116	209	Langkawi(Malaysia), Singapore	Tg. Priok, Semarang, Benoa(Bali)	Tourism
97	England	292.7	32.0	?	67,140	1,087	1,500	2,587	Darwin(Australia)	Semarang, Sepa Island, Lombok, Palopo, Padangbai(Bali), Komodo, Larantuka, Batu Bau, Ujung Pandang, Tg. Priok	Tourism
97	Norway	171.8	24.0	6.7	18,559	356	726	1,082	Port Kelang(Malaysia)	Ujung Pandang, Tg. Priok	Tourism
97	Norway	171.8	24.0	6.7	18,559	356	726	1,082	Port Kelang(Malaysia)	Padangbai(Bali)	Tourism
97	Bahamas	111.5	17.0	4.8	6,752	99	164	263	Port Moresby(PNG)	Semarang, Surabaya, Bali	Tourism
97	U.S.A.	203.0	?	?	36,000	463	700	1,163	Cebu(Philippines)	Semarang, Surabaya, Bali	Tourism
97	Netherlands	228.0	?	?	37,784	752	1,100	1,852	Perth(Australia)	Teluk Flamingo River, Agats(Asmat), Larantuka, P. Sawu(Sunda), Komodo, Benoa(Bali), Semarang, P. Seribu	Tourism
97	England	241.0	30.0	8.2	46,087	553	900	1,453	Cairns(Australia)	Biak	Tourism
97	Bahamas	238.0	30.2	10.5	50,202	540	960	1,500	Fremantle/Perth(Australia)	Padangbai(Bali), Surabaya, Semarang	Tourism

Table 5.3.3.8 Port(Area) of the Foreign Cruising Ship's Call in Indonesia  
(1997-1998)

Province	Port/Area of Call	Frequency	
Special Territory of Aceh	Sabang	1	1
North Sumatra	Belawan	3	5
	Medan	1	
	Nias	1	
West Sumatra	Padang	1	1
Riau	Batam	4	8
	Bintan	4	
Jambi			0
South Sumatra			0
Bengkulu			0
Lampung	Lampung	2	6
	Krakatau	4	
Special Territory of Jakarta	Jakarta	10	13
	P. Scribu	3	
West Jawa			0
Central Jawa	Semarang	16	16
Special Territory of Yogyakarta			0
East Jawa	Surabaya	6	6
Bali	Benoa	17	25
	Padangbai	8	
West Kalimantan			0
Central Kalimantan			0
South Kalimantan			0
East Kalimantan			0
North Sulawesi	Bitung	3	3
Central Sulawesi			0
South Sulawesi	Ujung Pandang	2	7
	Pare Pare	3	
	Palopo	2	
Southeast Sulawesi	Bau Bau(Buton)	1	1
West Nusa Tenggara	Lombok	5	5
East Nusa Tenggara	Ende(Flores)	1	14
	Larantuka(Flores)	2	
	Waingapu(Sumba)	2	
	Komodo	7	
	Seba(Savu)	2	
Maluku	Ambon	2	3
	Ternate	1	
Irian Jaya	Jayapura	2	6
	Biak	2	
	Sorong	1	
	Manokwari	1	
East Timor			0

Figure 5.3.3.3 Conceptual Image of Main Strategic Port and Internal Network Port for Tourism



#### 5.3.3.4 Policy for Supporting Regional Development

Supporting regional development means to promote various regional industries in the port surrounding area and the hinterland, on the basis of the port development and port activities. Of course, efficient and effective transportation of the products to markets and the reliable supply of materials are vital factors for the success of regional development.

In the eastern part of Indonesia, KAPET projects are planned for rectifying regional economic disparity. In those plans, promoting regional industries which utilize local natural resources such as agricultural products and mining resources is the most important objective for regional development. Therefore we consider the role of port for promoting regional industries.

According to the progress of regional development, the role of port for promoting regional industries is respectively different. In this report, we propose the policy for supporting regional development in 3 classified types as follows.

##### (1) Supporting primary industries

Primary industries such as agriculture, fishery and so on are still main industries in Indonesia, especially in the eastern part of Indonesia where processing industries and manufacturing industries are not well developed. There are many potential areas for primary industries in the eastern part of Indonesia. However, port facilities for transporting the products are still limited except for the base ports of major Inter-island shipping. In remote areas, many products are transported by small shipping such as Rakyat because the cargo volume from remote areas is small.

In order to promote primary industries in the potential areas, it will be necessary to improve the efficiency of transportation in the remote areas because value of commodity of primary products is relatively low. Transportation cost has to be lowered for profitable trade. Namely the function of "joint shipment" to gather dispersed cargoes at a certain port will be required in the transportation system. In this sense, ports can play a role as the base of joint shipment for primary products gathered from individual production areas. In addition, ports can also play a role as the distributive base of feed and fertilizer products for primary industries. Conceptual image of this type of port is shown in Figure 5.3.3.4.

##### (2) Supporting processing industries for primary products

At present, processing industries for primary products are not well developed except in Jawa, Sumatra and some parts of eastern Indonesia. The government is attempting to promote the processing industries in order to heighten added-value of primary products.



Ports can play a role not only as the base of shipment for primary products, but also as the base for providing sites for processing industries which utilize these primary products. In order to support regional development, port sector should consider inclusion of “processing industry zone in port area” when they formulate the port master plan in the potential area for processing industries. In addition, they should make efforts to induce the private sector to the “processing industry zone” in cooperation with the local government. Conceptual image of this type of port is shown in Figure 5.3.3.5.

(3) Supporting industrial complexes (Formation of industrial complexes by accumulating manufacturing industries, heavy industries, etc.)

Recently, the share of manufacturing products in total GDP is increasing. Improvement of the people’s income is one of the reasons for the increased demand for manufacturing products. Another key reason is that foreign companies, as a means to reduce production costs, have invested a lot of capital in setting up their factories in Indonesia.

The government also places special emphasis on promoting manufacturing industries, especially export-oriented industries. Therefore we should consider measures to promote these industries.

Port is not only a place for distribution, but also a place for various industries. In Japan, development of “New Industrial Cities” and “Special Industrial Development Areas” have played important roles in economic development. (See section 3.2.5) These schemes may offer a hint in triggering regional development in less developed areas in Indonesia.

Port area has great potential to be the center of industrialization, especially for heavy industries, because a port can play a role as the base for providing large scale sites for industrial estate in the port area. Especially in the case of heavy industries, transportation cost will be reduced by transporting heavy raw materials/products directly through a port located near the factory, compared to the case that industrial activity is conducted inland.

Therefore, port sector should arrange “industries-inducing zones” when they formulate the port master plan in the potential area for industrialization, and “industries-inducing activities” should be strengthened positively. In addition, it is indispensable that port development is well-linked with the overall regional development plan including road, railway, water supply and so on proposed by local governments.

As a result, it will be possible not only to promote efficient use of port, but also to create industrial complexes based on the port. Conceptual image of this type of port is shown in Figure 5.3.3.6.

Figure 5.3.3.4 Conceptual Image of Port Supporting Primary Industries

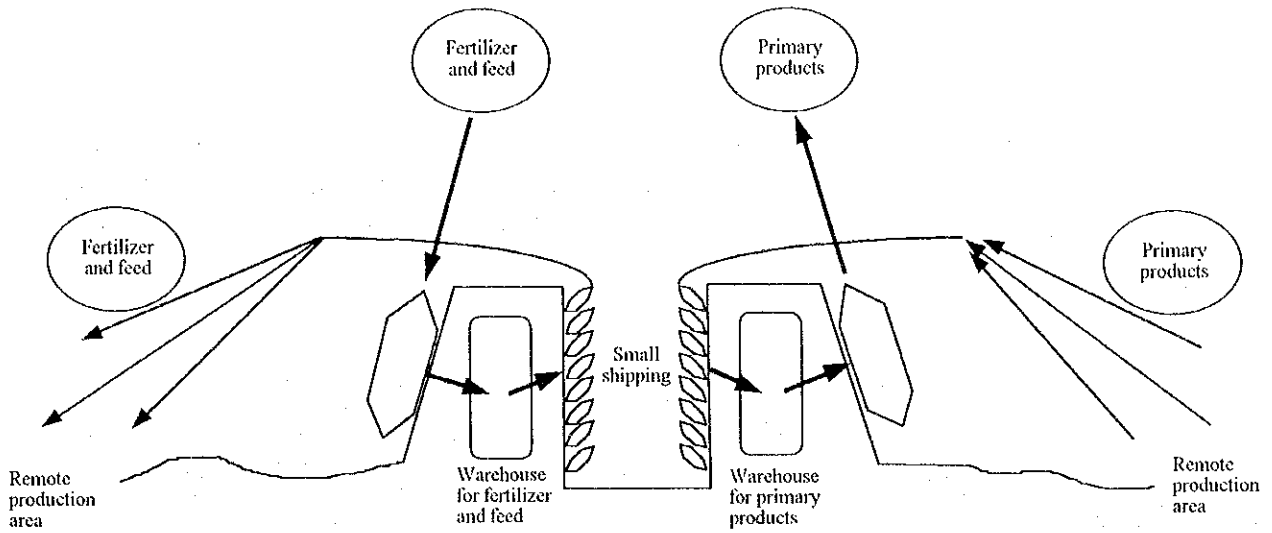


Figure 5.3.3.5 Conceptual Image of Port Supporting Processing Industries

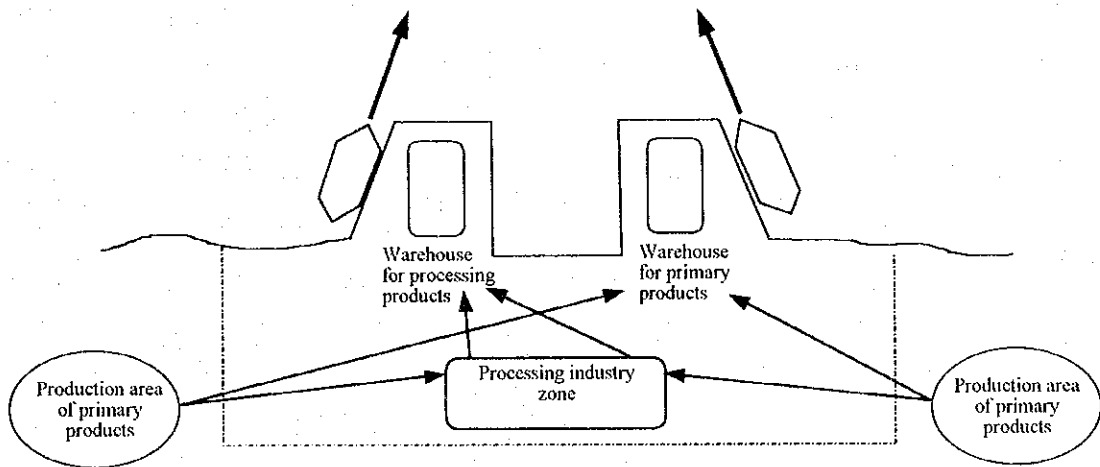
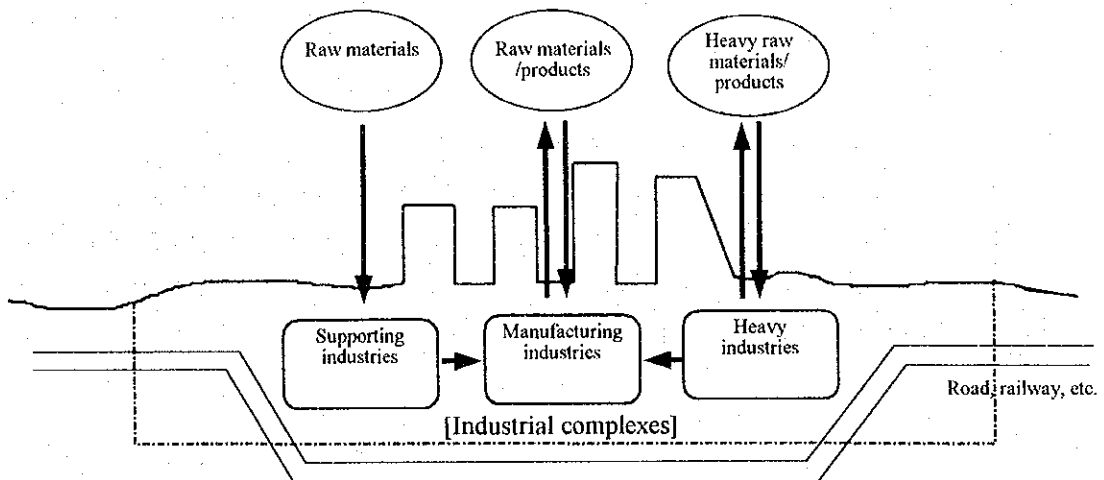


Figure 5.3.3.6 Conceptual Image of Port Supporting Industrial Complexes



### 5.3.3.5 Supporting People's Livelihood

#### (1) Present situation

One of the very important tasks of government is securing an acceptable standard of living for citizens and supporting the various activities of citizens equally all over the country. There are more than 17,000 islands in Indonesia, and many are found in the Eastern Indonesia. Therefore transportation by sea is the most essential and economical means for cargo and passenger transportation especially in isolated and remote areas.

#### 1) Comparison of the number of public ports with other archipelago countries

However, at present the number (656) of public ports is much smaller than in Japan (1,102) and the Philippines (851) in spite of the great importance of public ports in Indonesia.

Table 5.3.3.9 Number of Public Ports in Indonesia, Japan and the Philippines and other relevant figures

		Number of the public ports	Number of the islands	Size of the country (Thousand km <sup>2</sup> )	Population (in 1995) (Million Person)	GNP Par Capita (US\$/Person)
Indonesia		656	about 17,000	1,920	194.757	714
	Par Port		25.9 /Port	2.93 /Port	0.30 /Port	1.09 /Port
Japan		1,102	about 4,000	370	125.210	24,105
	Par Port		3.6 /Port	0.34 /Port	0.11 /Port	21.87 /Port
Philippines		about 700	7,100	320	68.595	630
	Par Port		10.1 /Port	0.46 /Port	0.10 /Port	0.9 /Port

Source : Prepared by OCDI

#### 2) Sea transportation related to non-commercial ports

To transport passengers and cargoes, Indonesian Government introduced pioneer ship operation system. Now, 37 pioneer shipping routes are in operation. Among them, 29 routes have been allocated in the Eastern Indonesia. However these pioneer ship routes cover only 140 ports of the approximately 380 ports in the Eastern Indonesia.

Moreover almost half of the public ports do not have any port facilities. Even in ports to which pioneer shipping vessels make calls, average length of mooring facilities is no more than 20m. In the Eastern Indonesia about 210 ports (about 60%) out of 380 non commercial public ports are not equipped with port facilities. This share is much bigger than that in the Western Indonesia (about 40%). (See Table C.9.1.4 Part 1)

At these ports which have no port facilities, not only pioneer ships but also general cargo and passenger ships anchor offshore, and transport passengers and cargoes to/from the port through a small boat for transshipment.

## (2) Policy for supporting people's livelihood

### 1) Developing and maintaining the port facilities for securing the civil minimum

The regions having disadvantages in transportation conditions such as isolated islands, depend almost solely on ports for public transportation means, industrial infrastructure and the supply of daily necessities. To achieve well balanced national and regional development, port facilities shall be constructed or improved especially in the less advanced regions for securing the civil minimum requirement.

Concerning the above objective, national government shall play an initiative role in those developments by using the national budget, since securing civil minimum is basic task of the national government which cannot be conducted by private sectors.

### 2) Strengthening the development of port facilities which accommodate pioneer and passenger liner shipping vessels

In ports called by inter-island, pioneer and passenger (PT. PELNI) liner shipping vessels, necessary port facility development should be given the first priority, because the hinterland population of those ports is larger than at ports which are not called by these liner shipping vessels. At the same time, in public ports which support the livelihood of people who live in isolated areas, minimum level of port facilities should be developed in order to attain an acceptable standard of living for citizens.

### 3) Construction of multipurpose port facilities

In the isolated and remote areas, the liner cargo and passenger shipping is infrequent. In order to utilize the port facilities effectively, in the first stage, multipurpose port facility shall be developed. In the same terminal, passenger ships, cargo ships and ferry ships including rakyat ships can be accommodated.

After the activity of the concerned port becomes active, new facility shall be constructed in order to specify the function of each facilities and originally constructed facility shall be allocated for a certain purpose.

4) Playing a role as the central place and space for activities of the regional community

In isolated islands and remote areas, ports are located in the center of the various activities of municipalities. The community center, exhibition center and other facilities are constructed in the port area. By promoting various activities held in the port area together with port development, quality of life in remote and isolated areas will be improved.

5) Utilization of rakyat shipping

In the Eastern Indonesia, especially Maluku, rakyat shipping plays an important role for transporting cargoes and passengers. Pioneer shipping and passenger shipping (PELNI) shall play a major role in connecting ports located in relatively big islands, which are recognized as the gate way ports of the region. On the other hand, rakyat shipping shall play a supplementary but crucial role in connecting ports located on the big islands with ports on small islands.

When the frequency of not only rakyat but also inter-island, pioneer and passenger shipping services is high, rakyat terminal shall be separated from the conventional cargo, passenger and bulk terminals in order to secure the maritime safety and increase the efficiency.

### 5.3.4 Policy for River Port Development

#### (1) General

Among 25 Strategic Ports in which 70% of general cargo in Indonesian public ports are handled, six ports are situated along riversides, so called river port, such as Belawan, Pekanbaru, Palembang, Pontianak, Banjarmasin and Samarinda. These six ports are handling more than 15% of cargoes handled at the Strategic Ports. The ports are located at eastern side of Sumatra Island and Kalimantan Island and they are main distribution centers of these areas where natural resources are rich and great possibility for industrial prosperity is expected in future.

These ports were originally developed to ship the natural resources and the workers lived around the ports. This means that town was developed depending on activity of port, and then the city had been getting bigger gradually with port related activity. After the city grew up to a certain scale and various business activities, not necessarily related to port, were flourished. Then the port was required to expand in capacity and function to support economic activities in hinterland, such as unloading consuming goods, loading processed materials for international trade and personnel interchange.

During such progress, port should be, in general, expanded, rebuilt or relocated to satisfy necessary demands. But especially for river port, there are some cases that those measures are restricted by physical reasons. Those six ports are already facing some problems for expansion, relocation and so on. Some other public ports located in these areas also will face similar problem soon.

Sea, river, road, rail and air are the main transportation mode in Indonesia, and sea and river transportation mode are dominant in those areas such as Sumatra and Kalimantan, and will have a vital role in future. In order to support future economical prosperity in those areas, comprehensive transportation system should be established in taking into consideration the character of land, river and sea transportation including introduction of new technology. Appropriate combination of several transportation modes should be selected considering geographical condition of the area, the character of cargoes and so on.

Road transportation mode is one of the most important means to promote regional development in a certain area but the development of road involves environmental impact in some respect. It should be recognized that river is an important transportation mode for the peoples and private industries located along riverside. International and inter-island trades are essential for the area in which economic activities grew up to a certain level. Sea and river transportation mode should be well organized in such area to improve reliability and punctuality of the transportation for the trades.

## (2) Policy for River Port Development

The present situation of the above five river ports is summarized in Table 5.3.4.1.

The major problems of sea transportation and port activity on these ports are

- a) limited depth and width of access channel,
- b) long access channel and navigation safety,
- c) large expenditure of maintenance dredging,
- d) limitation of port area for expansion or relocation, and
- e) availability of land transportation in neighboring area.

The following factors should be studied and evaluated to select appropriate sea and river transportation means in a certain region.

- a) required minimum depth and width of the access channel for all river transport
- b) difficulty and possibility of deepening and maintaining the access channel
- c) possibility of land transportation alternatives
- d) limitation for expansion of the port area
- e) requirement for modernization of transportation
- f) possibility for introducing new technology

In order to improve the capacity and the reliability of sea and river transportation and to alleviate the current burden of initial and maintenance dredging of DGSC, the Study Team proposes following two alternative measures.

- a) Improving existing river ports with resolving the current obstacles of the siltation at port basins and approach channels.
- b) Developing a new port to satisfy future trend of international transportation and to avoid the siltation at port basins and approach channels.

Further studies are required to understand present condition and improve the existing water surface transportation system. And finally the comprehensive regional transportation system should be established.

In order to improve the function of the existing river port, the countermeasures for reducing siltation and suitable dredging method should be examined, based on the result of field survey. On the other hand, economical method of sea and river transportation, such as an advanced shipping system with shallow draft inner/ocean vessel, should be examined considering the present condition and future improvement of each river port.

In case that such improvement will not satisfy some requirements, new seaport might be developed. With respect to the category of the new seaport, allocation or interaction of port function between the new seaport and the existing river port should be considered.

Table 5.3.4.1 Present Situation of Typical River Port in Indonesia

Port	Situation	Condition of Access Channel	Vessel Traffic (unit 1,000t)	Traffic Safety Control	Maintenance Dredging
Belawan	<p>1.Outline: The Deli river channel flowing into the strait of Malacca in North Sumatra.</p> <p>2.Channel length: 17km</p> <p>3.Navigable width: 75m at the narrowest part</p> <p>4.Depth: 5.1-6.9m off the mouth, 8-9m most of the channel</p> <p>5.Tidal range: 1.6m</p> <p>6.Nav. Aids: Fairly good</p>	<p>1. Annual traffic volume: Almost stable since 1992, domestic trade (2,400~2,100), foreign trade (2,200~2,400)</p> <p>2. Maximum vessel size: Ujung Baru (30,000DWT), Citra (20,000DWT), Gabion (45,000DWT)</p>	<p>1. Pilotage: Compulsory over 500GRT vessels; licensed pilots 16</p> <p>2. Navigation control: 1,050 to 3,500GRT vessels</p> <p>3. Open for 24hour, provided that harbor master's permission is required during night time sailing</p> <p>4. Navigable two-way traffic</p> <p>5. Draft limit; under 90% of tidal height</p>	<p>1. Volume of annual maintenance dredging is about 1,800,000m<sup>3</sup> during REPELITA VI</p> <p>2. The port located in Labuhan Deli, originally. But due to serious sedimentation, the port was relocated to the present place.</p>	
Palembang	<p>1.Outline: The Palembang river channel flowing into the strait of Banka in South Sumatra</p> <p>2.Channel length: 110km</p> <p>3.Navigable width: 120m at the narrowest part</p> <p>4.Depth: 3.5 m at the sandbar, Payang bank 3.4-4.2m, S. Upang bank 3.5-5.0m</p> <p>5.Tidal range: 3 ~ 3.5m with seasonal variation in rainy season</p> <p>6.Nav. Aids: Good</p>	<p>1. Annual traffic volume: Gradually increasing since 1992 from 4,000 to 4,700, decreased to 4,397 in 1996, details 1,149 foreign trader, 2,952 domestic trader and 296 others.</p> <p>2. Maximum vessel size: domestic tanker 5,000DWT passenger ship 17,000GRT</p>	<p>1. Pilotage: Compulsory</p> <p>2. Open for 24 hour</p>	<p>1. Volume of annual maintenance dredging is about 2,300,000m<sup>3</sup> during REPELITA VI</p> <p>2. The outer channel, which continue to seaward about 12km from estuary, is maintained twice a year.</p>	
Pontianak	<p>1.Outline: The Kapuas river channel flowing into the strait of Kalimantan</p> <p>2.Channel length: Sandbar channel 10km, river channel 10km</p> <p>3.Navigable width: 80m</p> <p>4.Depth: 5.5m</p> <p>5.Tidal range: Mean 0.7m, maximum 1.7m</p> <p>6.Nav. Aids: Fairly good</p>	<p>1. Annual traffic volume: 5,366(1992), 4,841(1996), bounding 60%JKI, 40%SNG.</p> <p>3. Maximum vessel size: 5,000DWT</p>	<p>1. Pilotage: Compulsory, 6 river pilots; 2 harbor pilots</p> <p>2. Traffic control: One-way traffic</p>	<p>1. Volume of annual maintenance dredging is about 1,700,000m<sup>3</sup> during REPELITA VI</p> <p>2. 12km length of access channel from estuary needs annual maintenance dredging.</p>	



Table 5.3.4.1 Present Situation of Typical River Port in Indonesia (Cont.)

Port	Situation	Condition of Access Channel	Vessel Traffic (unit 1,000t)	Traffic Safety Control	Maintenance Dredging
Banjarmasin	<ol style="list-style-type: none"> <li>1. Outline: The Barito river channel flowing into the Java sea</li> <li>2. Channel length: 25km</li> <li>3. Navigable width: 55m</li> <li>4. Depth: 2.3-4.2m at sandbar, 4.7m at mouth nearby, over 6m throughout river channel</li> <li>5. Tidal range: 1.2m at sandbar, 1.0m at berths nearby</li> <li>6. Nav. aids: Poor, mostly damaged by collision with ships</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual traffic volume: <ul style="list-style-type: none"> <li>• Trisaki berth (The Brito right bank in 1995) GC; foreign trader 92, domestic trader 581</li> <li>Cont.; foreign trader 60, domestic trader 258</li> <li>Passenger ship; 1,860</li> <li>• New Martapura berth Local; 1,132</li> <li>• Old Martapura berth Rakyat; 1,274</li> </ul> </li> <li>2. Maximum vessel size: <ul style="list-style-type: none"> <li>• Triaski GC; GRT3,400, DWT5,000 (6.8d) Con.; GRT3,400, DWT5,000 (6.8d) Passenger; GRT6,000 (3.2d)</li> <li>• New Marutapura Local; GRT450, DWT700 (3.7d)</li> <li>• Old Marutapura Rakyat; GRT150, DWT300 (2.0d)</li> </ul> </li> <li>3. Pilotage: Compulsory</li> <li>4. Traffic control: one-way traffic</li> <li>1. Annual traffic volume: N.A.</li> <li>2. Maximum size of vessel: N.A.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pilotage: Compulsory</li> <li>2. Traffic control: N.A.</li> </ol>	<ol style="list-style-type: none"> <li>1. Volume of annual maintenance dredging is about 2,400,000m<sup>3</sup> during REPELITA VI.</li> </ol>	
Samarinda	<ol style="list-style-type: none"> <li>1. Outline: N.A.</li> <li>2. Channel length: 59km</li> <li>3. Navigable width: 70m</li> <li>4. Depth: 5m at river mouth</li> <li>5. Tidal range: N.A.</li> <li>6. Nav. aids: Poorly maintained</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual traffic volume: N.A.</li> <li>2. Maximum size of vessel: N.A.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pilotage: Compulsory</li> <li>2. Traffic control: N.A.</li> </ol>	<ol style="list-style-type: none"> <li>1. Volume of annual maintenance dredging is about 1,500,000m<sup>3</sup> during REPELITA VI</li> </ol>	

### 5.3.5 Policy for Notable Ports Development

#### (1) General

In this section, the Study Team reviewed the present situation of several ports in Indonesia, which are expected to have important roles in sea transportation these days, and recommends the future development policy.

##### 1) Dealing with containerization

In order to deal with the rapid containerization and increase in container cargo volume, efficient and effective future container port network should be established. Especially, role of Tg.Priok/Bojonegara shall be crucially important as mentioned Chapter 5.3.1. The Indonesian government classified Batam Port as the international hub port in SISTRANAS.

Regarding the development of the ports around western Java area including Tg.Priok/Bojonegara, there are many studies, plans or proposals. However, it is considered that they are not really useful in alleviating the current confusion or conflict in port development policy. The above situation creates serious cargo traffic congestion and jeopardizes smooth improvement not only of port function but of road network and effective location of industries in the hinterland of the area.

From the above background, in this section, the Study Team reviews the role of Tg.Priok/Bojonegara Port and Batam port and proposes future development policies.

##### 2) Dealing with rectifying regional disparity and internationalization

Regional economic disparity in Indonesia, particularly in east and west, has been a urgent problem for a long time, even though various kinds of countermeasures for tackling this problem have been conducted.

In recent years, international socio-economic cooperation with neighboring countries, such as IMT-GT, IMS-GT, BIMP-EAGA and AIDA is becoming active, especially in the regions which face neighboring countries. For example, the cargo and passenger traffic between the southern region of the Philippines and the northern Sulawesi regions, between the northern region of Australia/New Zealand and the eastern Nusa Tenggara regions and between coastal areas of Malaysia/Thailand/Singapore and the northern Sumatra regions are increasing steadily. In addition, the potential for tourism development in those areas is also very high considering the increase in the number of cruising vessels, which call various tourism points located in surrounding areas.

In the meantime in May 1998, IMO officially admitted the right of free passage for foreign vessels to pass the 3 designated straits located in Indonesia. Therefore, the Indonesian government has been obliged to secure the safety of the vessels which pass those sea-lanes. In

addition, the various kinds of activities, which utilize those sea-lanes, are expected to be activated in the areas which are facing those international sea-lanes.

It is necessary to examine development of related ports, which consider the future comprehensive regional development and impacts of the trend of internationalization of those regions, in order to deal with the forthcoming "Era of Global Exchange and Great Competitiveness" properly.

In particular, the formulation of port development plans for the northern Sulawesi, the eastern Nusa Tenggara and the northern Sumatra regions are given priority considering the great potential for those ports (due to their advantageous locations) to handle international cargo and passengers.

From the above background, in this section, the Study Team reviews the role of Bitung Port, Kupang Port and Sabang Port and proposes conceptual future development policies.

## (2) Batam Port

Batam Island is located 20km southeast of Singapore and the land area is 415km<sup>3</sup>, one of the largest island of Riau province archipelago.

In 1972, Indonesia Government prepared a master plan for Batam Island development through PERTAMINA in conjunction with American and Japanese consultants. The study recommended developing oil, gas and related downstream industries.

In 1978, Batam Island was declared a bonded zone and Batam Industrial Development Authority (BIDA) was formed to carry out massive infrastructure developments. These developments included airport, seaports, housings, telecommunications, power supply, reservoirs, schools, drainage and road network.

With the completion of infrastructure projects, a considerable number of foreign investors were attracted. The most prominent project is BATAMINDO Industrial Estate, which grew out of a vision by the Indonesia and Singapore. The project had enabled Singapore's multi-national and local manufacturing companies to expand to a nearby location while maintaining linkages to Singapore.

Singapore Deputy Prime Minister recognized the economic potential in the business linkages between Singapore, Batam and southern part of Johor in Malaysia and Prof. Dr.Ing.B.J.Habibie declared "SIJORI Growth Triangle Concept".

There are three seaports in Batam Island. Sekupang port is for ferry and passenger, and Batu Ampar port and Kabil port are for general cargo and container. It is expected that the port facilities for 150,000DWT vessel in Kabil port, namely Asia Port Project, will be developed by private funds.

The Indonesian Government has already designated Batam port as a "primary trunk port", which is an international container port directly called by the International Trunk Container service. The port has many potential advantages, such as its proximity to International Trunk Sea-lane.

The Study Team evaluated two scenarios of Batam port development (See Appendix 5.3.4), and recommends that the role of Singapore was essential for the development of Batam Island and an international hub container terminal in Kabil port should be also developed in cooperation with Singapore.

### (3) Tg.Priok/Bojonegara Port

The western part of Jawa Island, where DKI Jakarta and West Jawa Province are located, is economically the most important area in Indonesia at present. In order to promote the recovery from the present severe economic condition in Indonesia, it is considered that concentrated investment in this area is the most effective in short term.

Tg.Priok port is the largest port in the western part of Java where the demand for cargoes is and will continue to be the greatest in Indonesia. But the capacity of the port is restricted physically. For example, the capacity of container terminal is estimated up to 3,000,000TEU/year, considering various factors including limitation of land transportation in Jakarta City. To cope with this problem, IPC II prepared a new container port development plan in Banten area that is located at the western end of Jawa Island, namely Bojonegara. The construction program of Bojonegara container terminal had already been started, but due to the severe economic situation the program was postponed at the end of 1997.

Bojonegara port would be a candidate of direct calling port by the International Trunk Container Service with enough volume of O/D container from/to industrial estates in West Jawa area. The port has a further advantage of location that it is located along the Sunda Strait which is an international open sea-lane. International Trunk Container Route vessels use the Malacca Strait, but it is worried that the heavy traffic along this route makes this route dangerous these days. Shipping companies may look for an alternative route where traffic is less heavy. From this viewpoint, the Sunda Strait would be a possible choice. However, at present it is rather hard to handle transshipment container cargo of other countries at Bojonegara port, because the distance between the port and the present International Trunk Container Route as well as neighboring countries is great. If in the future, trade volume between African countries and Asian countries increases, possibility for Bojonegara port to be an International Hub Container Port will be intensified, because the Africa-Asia Container Route vessels will pass the Sunda Strait.

The Study Team recommends the improvement of the function of Tg.Priok, including administration, management and operation of the port, to support the economical recovery in short term. We also recommend that the integrated cargo transportation system including sea and land transportation in the western part of Jawa Island should be examined with separate study to be conducted in near future. The study should include not only to define the role of Tg.Priok but also to evaluate the development plans of Bojonegara and other ports located in the area. Particularly, in order to formulate an efficient and effective container port network, higher priority

is expected to be given to the development of Bojonegara port in middle and long term.

#### (4) Bitung Port

Bitung port is located at the northern end of Sulawesi Island and at rim of the Pacific Ocean. The port is not only the principal port of North Sulawesi Province but also an important base of sea transport linking Sulawesi, Maluku and western part of Irian Jaya. And for international regional cooperation, the port is situated at eastern end of BIMP (Brunei, Indonesia, Malaysia and Philippines)- East ASEAN Growth Area (BIMP-EAGA).

Manado-Bitung Kapet (Integrated Economic Development Area) is one of the prioritized areas in this program and Bitung port is designated as main seaport in the area. Recently, local government of North Sulawesi province is concentrating on developing all kinds of infrastructure, such as road, airport, power supply and water supply, to promote the industrial development by private investor.

Within Association of Southeast Asian Nations (ASEAN), two agreements were concluded, IMT-GT and BIMP-EAGA. BIMP-EAGA was established to develop the potentials of BIMP (Brunei (Darussalam), Indonesia (North Sulawesi, East Kalimantan and West Kalimantan province), Malaysia (Sabah, Sarawak and Labuan) and Philippines (Mindanao and Palawan)) area. The favorable factor for development in this area is rich natural resources, such as forest, marine and agricultural products. The geographical proximity of commercial and trading centers in the EAGA region serves as a positive factor to increase trade in the sub-region. Present trade within the EAGA region is principally fish imports and consumer and durable materials. Based on present trade pattern, a regional shipping service might be established calling Sandakan, Labuan, Bitung, Maluku, Zamboanga, Cotabato, Davao and General Santos. The synchronized upgrading of facilities and operation system in these ports could complement the regional shipping service.

It is advantageous that Bitung port is facing the rim of Pacific Ocean, and the port has a possibility to be a center of Indonesian transpacific trade in distant future.

The Study Team evaluated future development scenario of Bitung port (See Appendix 5.3.5) and recommends that the port should be developed to support the economic activity of North Sulawesi Province and promote deep relation among eastern part of Indonesia and BIMP-EAGA in the near future. If the socio-economic activity in hinterland and neighboring area would mature in certain level, an International Container Hub Port in this area including Bitung port should be developed to improve sea transportation system.

#### (5) Kupang Port

Kupang Port is situated near the western end of Timor Island in East Nusa Tenggara Province

and at the southern end of Indonesia.

The port is not only one of principal ports in East Nusa Tenggara Province but also an important base of sea transport linking the northern Australian region. And for international regional cooperation, the port is situated at the center of AIDA.

The basic policy of AIDA (Australia Indonesia Development Area) is now under preparation, but Kupang is the most important port in present trades between Australia and Indonesia and will continue in future. The favorable factor for development in this area is rich natural resources, such as oil, gas and mining, and another resource is tourism.

The Study Team recommends that Kupang port should be developed to support natural resource oriented industries. But environmental conservation in the area should be considered appropriately because marine tourism is another important resource.

#### (6) Sabang Port

Sabang port is situated on Weh Island, which is located approx. 25km north of the northern tip of Sumatra, and facing to the Northwest end of Malacca Strait. The port has a long history as a banking and transshipment port and had deep relation with European countries from the Age of Great Voyages because of geographical advantage in that era.

Cargoes handled in the port include coal, crude oil and general cargo. Berthing facilities are Passenger Berth (32m long, 9m deep) and General Cargo Berth (280m long, 7.5m deep) for public use and safety anchorage is available in Sabang Bay up to 9m LWL. Bulk Berth and Tanker Berth are also available. Regular ferry service is connecting between Balohan, which is located at the south side of Weh Island, and Malahayati in Sumatra.

It should be noted that a KAPET area is currently designated in Weh Island and a transshipment base for supertankers, fisheries and tourism will be strengthened in the area according to the development plan.

The main hinterland of Sabang port is Weh Island, which has not so large area but the port has geographical advantage that is facing Malacca Strait, which is one of the most important international trunk sea-lanes. The role of the port is expected to be transshipment port for western part of Sumatra and to connect neighboring and the western countries.

Shipping service pattern is, in general, decided by shipping companies in seeking minimum cost and maximum profit, namely market policy. In order to establish such transshipment system, port facility management and operation system should be developed in cooperation with shipping sector.

The Study Team recommends that the development of Sabang port should be evaluated thoroughly, considering future demand of sea and land transport in the western part of Sumatra and between neighboring countries.

## 5.4 Future Port Hierarchy

### 5.4.1 Port Classification

For the sake of identifying importance of ports in terms of function and investment priority, port facilities shall be classified. In this study, mainly international container cargo handling, conventional cargo handling and passenger transportation/ferry are considered as the function for classifying facilities of public ports. In classifying port facilities, role of port facilities which is judged from the scale of the influence in the hinterland of ports is considered as a main standard criteria. (See Table 5.4.1.1)

Based on the above consideration, we propose 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 level center, a regional level center, a provincial level center, a local level center and a daily life supporting place respectively. (See Table 5.4.1.2)

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.

General standards of each terminal in each classification are also proposed (See Table 5.4.1.3). Maximum size of calling vessel on each terminal given in this Table is estimated considering future trend of sea transportation. Management and operation of terminal, as well as berthing facilities, are important factors for shipping operator and shipper to select transportation route. Considering the size of calling vessel and service pattern, the general standards of each classified terminal are defined to assure certain level of service.

The figures in this standards should be reviewed periodically, because innovation of sea transportation and information technology will occur in future. For example, several medium size ports, which may be classified class B conventional terminal, are called by 3,000DWT semi-container vessel at present. But 10,000DWT vessel is selected in the Table, because this size of vessel is most effective for inter-island service in term of shipping cost and port facilities should be developed considering future trend of shipping. And if shallow type container vessel, which described in Section 7.8, is introduced into inter-island container transportation, general standard of container terminal should be amended considering the effect of this innovation.

Table 5.4.1.1 Classification of the Port Facilities by Function

Role of the Port Facilities	Function of Port Facilities				Tourism Support
	International Container Cargo Handling	Conventional (general) Cargo Handling	Passenger Transportation / Ferry	Industrial Development Support	
International Center	Hub International Container Terminal				
National Level Center	Major Container Terminal	Hub Conventional Cargo Terminal	Hub Passenger Terminal		
Regional Level Center	Feeder Container Terminal	Major Conventional Cargo Terminal	Major Passenger Terminal		
Provincial Level Center		Provincial Conventional Cargo Terminal	Provincial Passenger Terminal		
Local Level Center		Local Conventional Cargo Terminal	Local Passenger Terminal		
Daily Life Support		Small Conventional Cargo Terminal	Small Passenger Terminal		
				Special Port	Special Port



Table 5.4.1.2 Classification of Ports by Evaluating Roles of Port Facilities

Role Sharing between Public and Private Sector in Fund Raising	Rank of Ports	Status of Port	Criteria for Determining each port class
Private	Class AA	International Center	<ul style="list-style-type: none"> <li>- Ports having International Hub Container Terminal are classified as "Class AA" port.</li> <li>- Usually "Class AA" port has international hub container terminals as well as conventional cargo terminals and passenger terminals.</li> </ul>
	Class A	National Level Center	<ul style="list-style-type: none"> <li>- Ports having national level center terminal(s) of any function are classified as "Class A" port.</li> <li>- Usually "Class A" port has multi functional port facilities.</li> </ul>
	Class B	Regional Level Center	<ul style="list-style-type: none"> <li>- Ports having regional level center terminal(s) of any function are classified as "Class B" port.</li> <li>- Basically each province should have at least one port which level is higher "Class B" port.</li> </ul>
	Class C	Provincial Level Center	<ul style="list-style-type: none"> <li>- Ports having provincial level center terminal(s) of any function are classified as "Class C" port.</li> </ul>
	Class D	Local Level Center	<ul style="list-style-type: none"> <li>- Ports having local level center terminal(s) are classified as "Class D" port.</li> </ul>
Public	Class E	Daily Life Support	<ul style="list-style-type: none"> <li>- Ports, which play a role on supporting people's livelihood, are classified as "Class E" port.</li> </ul>
<p>Note : Role sharing between Public and Private Sector in Fund Raising depends on the type of port facilities. For breakwaters and basic infrastructure facilities, degree of the public sector's financial commitment will be high. For the crane and other relatively beneficial facilities, degree of it will be low.</p>			

Table 5.4.1.3 Standard for Each Rank of Terminal

Container Terminal										
	Size of Vessel (TEU)	Berth Depth	Berth Length	Remarks	Land Use and Allocation	Access Road	Navigation Safety Control	Pollution Prevention	Procedure	Master Plan Approval
Class AA	6,000	16.0	400	Post Panamax	Separated Terminal Area	Designated Ramp to Toll Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility	EDI System	National Level
Class A	3,000	14.0	350	Panamax	Separated Terminal Area	Designated Ramp to Toll Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet, Facility	Waste Oil Disposal Facility	EDI System	National Level
Class B	1,500	12.0	280	Underpanamax	Separated Terminal Area	Six-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet, Facility	Waste Oil Disposal Facility	One Roof System	National Level

Conventional Terminal										
	Size of Vessel (DWT)	Berth Depth	Berth Length	Remarks	Land Use and Allocation	Access Road	Navigation Safety Control	Pollution Prevention	Procedure	Master Plan Approval
Class A	30,000	12.0	240	Multi-Purpose	Separated Terminal Area	Designated Ramp to Toll Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility	EDI System	National Level
Class B	10,000	5.0 - 10.0*	150 - 170*	Multi-Purpose	Separated Terminal Area	Six-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility	One Roof System	National Level
Class C	5,000	7.5	130	Conventional	Separated Berth	Four-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility	One Roof System	Regional Level
Class D	1,000	5.0	80	Conventional	Combined Berth	Dual lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility		Province Level
Class E	1,000	5.0	80	Conventional	Combined Berth	Access Road to Center of Area	Sailing Rule in port, Nav.Aid	Waste Oil Disposal Facility		Province Level

Note : \* 10m deep and 170m long berth is preferable to Class B terminal, but considering future development of access channel in future, appropriate depth and length for each terminal should be selected

Passenger Terminal										
	Size of Vessel (GT)	Berth Depth	Berth Length	Remarks	Land Use and Allocation	Access Road	Navigation Safety Control	Pollution Prevention	Procedure	Master Plan Approval
Class A	30,000	10.0	280	International	Separated Terminal Area	Six-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility		National Level
Class B	15,000	7.5	220	National	Separated Terminal Area	Four-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility		National Level
Class C	5,000	6.0	150	Domestic	Separated Berth	Four-lane Access Road to Arterial Road	Sailing Rule in port, Pilotage, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility		Regional Level
Class D	500	3.0	60	Local	Combined Berth	Dual lane Access Road to Arterial Road	Sailing Rule in port, Nav.Aid, Tug.fleet	Waste Oil Disposal Facility		Province Level
Class E	500	3.0	60	Small	Combined Berth	Dual lane Access Road to Arterial Road	Sailing Rule in port, Nav.Aid	Waste Oil Disposal Facility		Province Level

## 5.4.2 Policy for Selecting Strategically Important Ports (Class A or AA ports)

### (1) General

The Study Team focused on selecting the class AA or A ports (International or National Level Center) from Class B ports (Regional Level Center) mainly from the viewpoint of national level development policy. In this study strategically important ports are equivalent to the Class A or AA ports.

For selecting strategically important port, we shall take into account not only activity of port but also contribution of port to socio-economic activity in the hinterland. In addition character of transportation in the area such as a sea transportation dependence rate of total cargo transportation shall be also taken into account.

General criteria for selecting strategically important ports and the present situation of the socio-economic activity in the hinterland are shown in Table 5.4.2.1 and Appendix 5.4.

It is recommendable to invite opinions from port users, related national and local organizations about the procedure how to select the strategically important ports. By doing so, accountability and transparency of port development can be secured.

### (2) Policy for selecting strategically important port

Roles of ports shall be the most important factor to be considered for selecting strategically important port.

The selected strategically important ports shall be recognized as the ports which play an important role on supporting socio-economic development, rectifying regional disparity and surviving in the age of global exchange and great competition.

In selecting the strategically important ports which need to be developed under the authorized port development plan, not only the above mentioned strategic importance but also the actual situation of the port facilities should be considered.

Procedure of selecting strategically important ports is as follows.

In this procedure, provinces which are possible and feasible for having the strategically important port (Class A or AA Port) but ports themselves shall be selected.

#### 1) Clarification of roles of ports (First step)

Based on the fabric of the port development strategy (Chapter 4), expected roles of ports can be summarized as follows. And expected roles of ports including the concrete items are shown in Table 5.4.2.2.

Role I Supporting Socio-economic Development

1. Establishment of the effective cargo distribution system
2. Contribution for maintaining, sophisticating and introducing the industrial activities

Role II Rectifying Regional Disparity

1. Contribution for extending the future land development axis
2. Contribution for promoting the regional development in the less advanced regions

Role III Surviving in the Age of Global Exchange and Great Competition

1. Contribution for strengthening the international competitiveness
2. Contribution for promoting the international economic cooperation with neighboring countries

2) Selection of the criteria representing expected roles of ports (Second step)

Preliminary ideas of the criteria for selecting strategically important ports are shown in Table 5.4.2.2.

The criteria for the first role (Role I) is mainly related to socio-economic condition of the hinterland and future cargo volume.

The criteria for the second role (Role II) is mainly related to national development policy, regional disparity and degree of the dependence to the sea transportation.

The criteria for the third role (Role III) is mainly related to international trade activity, the relation with international economic cooperation and closeness to international sea lanes.

3) Evaluation of the strategically important ports by respective roles (Third step)

From the viewpoint of Role I, ports whose hinterland has large scale socio-economic activity, such as ports in Java and Sumatra are basically prioritized more than others.

On the other hand, from the viewpoint of Role II, less advanced areas shall be prioritized.

From the viewpoint of Role III, areas which are close to international sea lanes and have large amount of international cargo traffic demand shall be prioritized.

Based on the above procedure, the Study Team preliminary evaluated the strategically important ports as shown in Table A.5.4.2.1~5.4.2.4.

4) Preliminary result of total evaluation of strategically important ports (Fourth Step)

The proportion of degree of importance among Role I, Role II and Role III cannot be theoretically decided. However, the degree of importance on Role I should be much higher than other roles. Because Role I is the fundamental role of ports. In addition, evaluation by Role I also considers rectifying regional disparity and international competitiveness, since in the demand forecast in this study, scenario2, which put much

importance on the rectifying regional disparity, is adopted and the international cargo traffic occupies the significantly large proportion of the forecasted cargo traffic.

Considering the above matters, the following 3 alternatives are assumed.

Alternative 1 : Proportion of the weight among Role I , Role II and Role III is 70%, 15%, 15% respectively.

Alternative 2 : Proportion of the weight among Role I , Role II and Role III is 60%, 20%, 20% respectively.

Alternative 3 : Proportion of the weight among Role I , Role II and Role III is 50%, 25%, 25% respectively.

In case of alternative 1, mainly the demand of economic activities is considered more carefully. So strategically important ports are selected mainly from Sumatra, Java, Kalimantan and South Sulawesi. (See Table A.5.4.2.5)

In case of alternative 2 and 3, national policy of realizing well balanced development are considered more deeply. In this case, ports in NTT and North Sulawesi are added to the strategically important ports in alternative 1.

Based on the above examination and consideration of the regional balance, the strategically important ports (Class A, AA Ports) are examined. Preliminary idea is shown in Table 5.4.2.3.

Table 5.4.2.3 Provinces which have Strategically Important Port

Island or Island Group	Province which should have the Strategically Important Port	Number
Sumatra	Sumatra Utara, Riau, Sumatra Selatan and Lampung	4
Java	Java Barat, Java Tengah and Java Timur	3
Bali, NTT, NTB, TT	NTT	1
Kalimantan	Kalimantan Barat, Kalimantan Selatan and Kalimantan Timur	3
Sulawesi	Sulawesi Utara and Sulawesi Selatan	2
Makulu, Irian Jaya	Irian Jaya	1
Total		14

Prepared by OCDI

Table 5.4.2.1 Criteria for Selecting Strategically Important Ports (Draft)

Items	Discription	Representing Data (Example)
1. Geographical Condition	<ul style="list-style-type: none"> <li>■ Location for distributing and collecting cargoes to/from any other area</li> <li>■ Location for connecting with international cargo handling ports/facilities</li> <li>■ Regional development</li> </ul>	<ul style="list-style-type: none"> <li>■ Location</li> <li>■ Location</li> <li>■ Location</li> </ul>
2. Socio- economic Condition of the Hinterland	<ul style="list-style-type: none"> <li>■ Scale of socio-economic activity of the hinterland</li> <li>■ Growth of socio-economic activity of the hinterland</li> </ul>	<ul style="list-style-type: none"> <li>■ Population</li> <li>■ GRDP</li> <li>■ Growth rate of Population</li> <li>■ Growth rate of GRDP</li> </ul>
3. Transportation Condition of the Hinterland	<ul style="list-style-type: none"> <li>■ Character of transportation</li> <li>■ Road transportation</li> <li>■ Air transportation</li> </ul>	<ul style="list-style-type: none"> <li>■ Dependence rate of sea transportation</li> <li>■ Length of national and provincial road</li> <li>■ Location of Airport</li> </ul>
4. Sea Transportation Condition related to Respective Port	<ul style="list-style-type: none"> <li>■ Character of the cargo traffic of sea transportation</li> <li>■ Shipping route</li> </ul>	<ul style="list-style-type: none"> <li>■ Volume of cargo Traffic</li> <li>■ OD distribution</li> <li>■ Commodity</li> <li>■ Inter-island shipping</li> <li>■ Pioneer shipping</li> </ul>
5. Port Condition	<ul style="list-style-type: none"> <li>■ Character of cargoes</li> <li>■ Character of the port facilities</li> </ul>	<ul style="list-style-type: none"> <li>■ Volume of cargoes</li> <li>■ Type of cargoes</li> <li>■ Length and Depth of port facilities</li> <li>■ Area of the cargo handling yard</li> </ul>

Table 5.4.2.2 Expected Roles of Ports and Representing Criteria for Selecting the Strategically Important Ports

Role of Ports			Criteria for Selecting Strategically Important Ports which contribute to achieve the Expected Role
Main Item	Sub Item	Detailed Item	Representing Data
I Supporting socio-economic development	1. Establishment of the effective cargo distribution system	1) Establishment of international and domestic cargo transportation system 2) Modernization of the international cargo transportation system 3) Modernization of the domestic cargo transportation system 4) Contribution to promoting the modal shift to the mass transportation system	a) Socio-economic condition of the hinterland  b) Transportation condition of the hinterland  c) Cargo condition  - Population - Growth rate of population - GRDP - Growth Rate of GRDP  - Dependence rate of sea transportation - Length of national and provincial road  - Cargo volume - Growth rate of cargo volume
	2. Contribution to maintaining and the sophisticated industrial activities	1) Supporting the promotion of assembly industry (Establishment of effective system for transporting the materials and products) 2) Supporting the industry which utilize national resources (Establishment of effective system for transporting the materials and products and providing the space for industry)	a) Economic (Industrial) condition of the hinterland  b) Transportation condition of the hinterland  - GRDP of manufacturing - Growth Rate of GRDP of manufacturing  - Distance from the port to Industrial zone by access road

(Table 5.4.2.2 Continued)

Role of Ports			Criteria for Selecting which contribute to achieve	Strategically Important Ports the Expected Role
Main Item	Sub Item	Detailed Item	Items	Representing Data
II Contribution to realizing the well balanced land development structure	1. Contribution to extending the future land development axis	1) Contribution to extending the future land development axis in the short and middle term 2) Contribution to extending the future land development axis in the long term	a) Fitness to the direction of the National Policy  b) Fitness to the future prospect of national land development	- Existence of the prioritized KAPET - Development prospect in the future land development structure  - Dependence rate of sea transportation - Length of major road
	2. Contribution to promoting the regional development in the less advanced regions	1) Supporting the peoples' livelihood in less developed district  2) Contribution to establishing the effective transportation system for the materials and products in the regional areas	a) Socio-economic condition of the hinterland  b) Transportation condition of the hinterland	- GRDP/Population  - Dependence rate of sea transportation



(Table 5.4.2.2 Continued)

Role of Ports			Criteria for Selecting which contribute to achieve Items	Strategically Important Ports the Expected Role
Main Item	Sub Item	Detailed Item		
III Contribution to the coping with international competitiveness and cooperation	1. Contribution to strengthening international competitiveness	1) Contribution to establishing the effective international cargo transportation system	a) Condition of International Cargo	- International cargo volume as of 2018 - Growth rate of international cargo
		2) Contribution to establishing the effective domestic cargo transportation system	b) Strategic Geographical Location	- Location with relation to international sea lane
	2. Contribution to promoting international economic cooperation with neighboring countries	1) Contribution to promoting BIMF-EAGA and other international economic cooperation	a) Strategic Geographical Location	- Designation in the International Economic Regional Cooperation
		2) Contribution to promoting APEC, NAFTA and other international economic cooperation	b) Sea transportation condition	- Number of Cruising Vessels

## Chapter 6 STRATEGY FOR PORT FINANCE AND PRIVATE SECTOR PARTICIPATION

### 6.1 Strategy for Port Finance

The strategy for port finance is presented in Figure 6.1.1.1. Details will be explained item by item.

#### 6.1.1 Roles of Government, IPC and Private Sector

##### 6.1.1.1 Necessity and Merits of Clarifying Roles of Public and Private Sector

###### (1) Necessity of Clarification of Roles

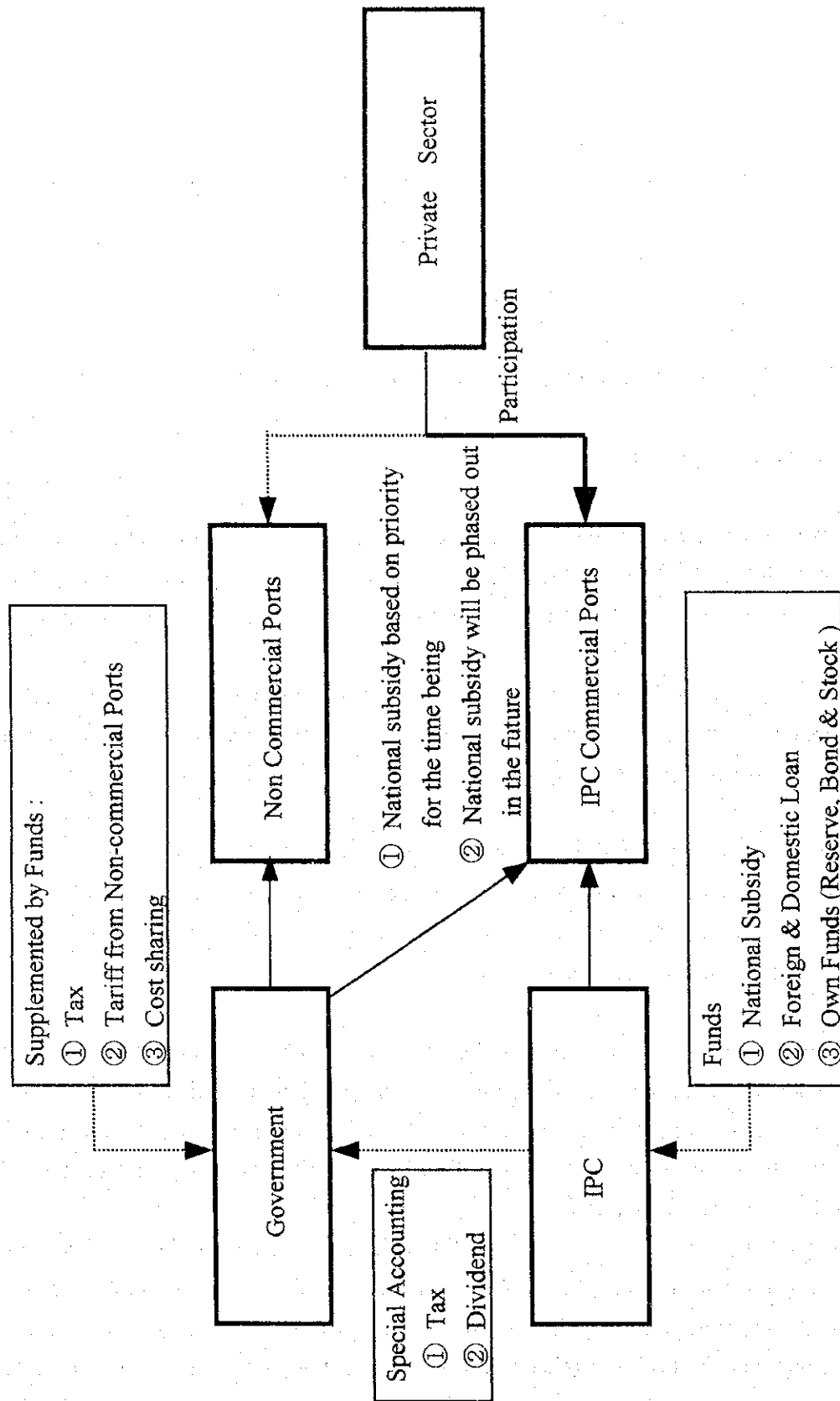
It is very important for the government to clarify the roles of the public and private sector to establish the long-term port development policy. There are appropriate fields for which the public sector should be responsible while other fields should be the domain of the private sector.

The scope of works of each sector differs throughout the world. For example, in Japan, the national government (public sector) plays a role of “policy maker” and “regulator”, the local government (public sector) administers and manages each port and the private sector provides almost all port services to users. However, there are some countries in which the public sector alone plays almost all roles, especially in developing countries. On the contrary, ports in the United Kingdom and New Zealand are completely privatized. Major ports in the world are attempting to introduce privatization and private sector participation or at least commercialism and market theory.

In Indonesia, the situation is complicated. For example, corporated IPCs, which develop and manage commercial public ports, are interested in privatization in the near future. Furthermore, the increase of private sector participation in port development and operation will also bring in not a little change. These facts will have an impact on the relationship between the government and IPC.

On the other hand, the increase of PSP will lead to some problems. The nature of the private sector is to seek only “profit” and as a result, it tends to ignore the “public interest”. Without the appropriate regulations, the private sector may neglect “maritime safety” or “environmental issues” and other important public interests. In this case, the public sector (government) must give appropriate and necessary guidance to IPC and the private sector. However, the government should avoid unnecessary and excessive interventions so as

Figure 6.1.1.1 Strategy for Port Finance



not to discourage PSP.

In addition, the economic disparities between the West and East or Jawa island and other islands are serious problems for Indonesia. Simply introducing "market theory" will not solve this problem. In this case, the public sector is strongly required to play a positive role in rectifying the disparities in less-developed and remote areas, especially "Eastern Indonesia". The government must make every effort to secure the minimum requirement of citizen's life (civil minimum) as much as possible.

Taking the above into consideration and making reference to examples of other countries, the most suitable roles of the public & private sector in Indonesia will be carefully elaborated.

## (2) Merits of Clarification of Roles of Public and Private Sector

The clarification of the roles of public and private sector has the following merits.

- 1) The clarification enables both sectors to fully understand their respective roles.
- 2) This also gives clear guidance to allocation policy of the national budget. As a result, the national government can optimize the limited budget.
- 3) This makes it possible to make good use of strengths of the private sector such as efficient and effective management and operation through competition.

Based on the clear-cut concept regarding roles of each sector, it is advisable for the government to establish the allocation policy of the national budget.

### 6.1.1.2 Clarification of Roles of Government, IPC and Private Sector in Indonesia

There are 656 commercial ports in Indonesia. While 112 profitable ports are managed and operated by corporatized IPCs, the remaining 544 small and unprofitable ports are directly managed by the government. Since 1994, private sector participation has been encouraged in port development and operation. In spite of the slow pace, PSP has made positive progress step by step in the last five years. Although the pace has been further slowed by today's monetary crisis, private sector participation will definitely be most important key to promote port development and enhancing the port efficiency.

On the other hand, the increase of PSP can't change the important roles of the government (public sector) from national, neutral and financial view point. The most important is to clarify or reconfirm what kinds of roles the government, IPCs and private sector should play in the process in order to develop the long term policy for port development. The present main roles of each are summarized as follows ;

## 1) Roles of the Government

The government usually plays a role of “regulator”, “policy maker”, “planner”, “safety watcher”, “developer” and “shareholder of IPC”.

- ① To establish basic policies including laws and regulations regarding port as a “regulator” and “policy maker”
- ② To formulate “Port Master Plan” in cooperation with IPC as a “planner”
- ③ To formulate technical policies in sea transportation, provide guidance and standards for sea transportation & port activities, issue permits for ships and seamen
- ④ To conduct navigation safety, coastal guard and rescue as a “safety watcher”
- ⑤ To be responsible for environmental consideration
- ⑥ To handle special port affairs (policy, licensing & supervising etc.)
- ⑦ To determine classification and structure of port tariff
- ⑧ To formulate national budget for port development, management & operation as a “developer”
- ⑨ To develop and maintain channels and navigation aids
- ⑩ To develop, manage and operate non-commercial ports
- ⑪ To provide financial support to IPC ports
- ⑫ To establish fundamental policies regarding PSP as an executing agency
- ⑬ To promote, evaluate and monitor PSP
- ⑭ Other related activities

## 2) Roles of IPC

IPC usually plays a role of not only “planner” but also “manager” and “day-to-day operator” in commercial ports.

- ① To formulate “Port Master Plan” in cooperation with the government
- ② To formulate their own budget for operation and development of IPC ports
- ③ To establish basic policies for their funds including borrowing loans & issue of bonds
- ④ To determine amount of its port tariff
- ⑤ To develop, manage and operate own IPC ports
- ⑥ To allocate and control berthage and storage
- ⑦ To provide support services such as pilotage, towage, utility, lines, hopper provision and wharf cleaning
- ⑧ To invite the private sector to participate in development, management & operation of IPC ports
- ⑨ To arrange all kinds of contractual procedures with the private sector as an executing agency
- ⑩ Other related activities

### 3) Roles of Private Sector

The private sector must play positive roles to alleviate the government's burden and bring high efficiency to port development and operation.

- ① To participate in all kinds of port activities with the exception of ; (a) port basin for ship safety & (b) possession of land and waters in port areas.
- ② To provide port services such as cargo marshalling and stevedoring operations in order to support the operation of IPC
- ③ To participate in port development, management & operation through contract with IPC
- ④ To relieve the government from high financial burdens
- ⑤ To contribute to development of port infrastructure facilities through introduction of higher standards of efficiency & transfer of technology
- ⑥ Other related activities

Table 6.1.1.1 Summary of Main Roles of the Government, IPC and Private Sector

#### Main Roles of the Government

- ① To establish basic principles, related laws & regulations and formulate "port master plan" in cooperation with IPC
- ② To develop and maintain "channel", "breakwaters" and facilities of "maritime safety" which protect livelihoods of the people from national view point
- ③ To manage port-related space
- ④ To develop, manage & operate unprofitable "non-commercial ports" in order to secure the "national minimum"
- ⑤ To allocate national subsidies to main facilities of IPC ports

#### Main Roles of IPC

- ① To formulate "port master plan" in cooperation with the government
- ② To develop, manage and operate "profitable" ports
- ③ To provide day-to-day port services to users
- ④ To invite the private sector to participate in development, management & operation of IPC ports

#### Main Roles of Private Sector

- ① To participate in development of port facilities in cooperation with IPCs
- ② To participate in operation of commercial ports in cooperation with IPCs
- ③ To relieve government from high investment burden and to introduce higher standards of efficiency & technology through fair competition  
Exception ; (a) Port basin for ship safety  
(b) Possession of land & waters in port areas

Prepared by OCDCI

### 6.1.1.3 Recommendation

#### (1) Necessity of Establishment of Clear-Cut Policy

It is very advisable for the Indonesian government to establish a clear-cut policy for the roles of the government (public sector), IPC and the private sector. To this end, the Japanese system may serve as a valuable reference.

#### (2) Creation of Competitive Ports

- 1) In Japan, while the fundamental policies are determined by the government, the actual management and operation are left to the port management body (mostly, local government) and the private sector.
- 2) However, the Japanese national government has been responsible for development of infrastructure facilities through the examination of the "Port Master Plan" and allocation of national subsidies in major ports.
- 3) Japanese national government has been playing a crucial role in cooperation with local government in the port development, especially "basic infrastructure facilities". The financial sources usually come from "general revenues" such as tax. That is, the "general beneficiary" (people) shoulders the burden.
- 4) This concept also can be applied to Indonesia. In Indonesia, it is advisable that the government should be responsible for development of non-profitable facilities such as channel dredging, breakwaters and related roads even in commercial ports operation. These infrastructure facilities should be developed by using general tax from the point view of national interest.
- 5) These fundamental facilities will be important as a common property of the people. This concept also will be useful for encouragement of private sector participation in IPC ports.

#### (3) Promotion of Private Sector Participation

- 1) The promotion of private sector participation is also an important task of the government. The government should dismantle the monopolistic structure and create a good environment in which the private sector will be able to participate in port development and operation as freely as possible.
- 2) The government should ensure efficient and effective port development and operation by introduction of "competitive theory".

## 6.1.2 Establishment of General Policy for National Budget

### 6.1.2.1 Allocation Policy of National Budget for Port Development

#### (1) Present Allocation Policy

At present, there seems to be no consistent policy on how to allocate the national budget for port development. The distribution of the budget in the last three years is shown in Table 6.1.2.1. In FY 1997, the budget was distributed almost equally between IPC ports and non-commercial ports.

Table 6.1.2.1 Distribution of National Budget for Port Development

(Unit : million Rp.)

Item		FY 1995	1996	1997
IPC Ports	Government Budget	59,722	79,364	55,578
	Foreign Loan	101,173	79,995	90,441
	Total	160,895 (62%)	159,359 (70%)	146,019 (51%)
Non commercial Ports	Government Budget	60,203	45,480	77,608
	Foreign Loan	36,387	21,977	60,453
	Total	96,590 (38%)	67,457 (30%)	138,061 (49%)
Grand Total		257,485	226,816	284,060

Prepared by OCDI

#### (2) Establishment of Allocation Policy

##### 1) General

From the long term perspective, it is important for the government to establish a general policy for optimization of the limited budget. Three alternatives policies are given in the following Table 6.1.2.2. "Alternative No.3" seems to have been favored in the last few years.



Table 6.1.2.2 Alternatives to Allocate the National Budget for the Port Development

No.	Alternatives	Merits and Demerits
1	For only profitable and major IPC ports	<ul style="list-style-type: none"> <li>① Economic impact is largest.</li> <li>② It is useful to inspire PSP for profitable ports.</li> <li>③ But, it is contrary to the basic policy of IPC, which develop their own ports on their own.</li> </ul>
2	For only non-commercial ports	<ul style="list-style-type: none"> <li>① In line with the general government policy, which secure the national minimum and rectifies the regional disparities.</li> <li>② It is taken as a matter of course because they are ports managed by government ports.</li> <li>③ Effective and efficient development of the commercial ports becomes more difficult.</li> </ul>
3	For not only non-commercial ports but also IPC ports (The distribution ratio depends on the situation)	<ul style="list-style-type: none"> <li>① It is the most moderate and well-balanced alternative.</li> <li>② It is very flexible and practical to cope with changes in circumstances.</li> <li>③ It is not compatible with the basic concept of establishment of IPC and its privatization policy.</li> </ul>

Prepared by OCDI

## 2) Issues to be considered

In adopting a budget allocation policy, the following issues should be taken into consideration.

- ① In principle, the national budget should be used for non-commercial ports.
- ② However, as REPELITA VI shows, all IPCs except for IPC II depend upon financial support from the government. It is impractical to abolish or drastically reduce the national subsidies to the dependent IPCs.
- ③ It is advisable that the government should maintain the national subsidy system for the time being to make financially-weak IPCs independent financially in the future. However, the government should consider phasing out the subsidy in the future in order to activate IPC's entrepreneurial spirits.
- ④ In principle, IPCs shouldn't depend upon the national subsidy. There is a possibility that profitable IPCs will be privatized in the future. Hereafter, IPCs will be required to enhance their financial abilities and secure their own funds.

### (3) Cost Sharing System in Japan

For reference, the Japanese sharing cost system for port development is introduced. The details of the Japanese system (relations between national government & local government and construction project, cost sharing system) are shown in Appendix for Chapter 6.1.2.

#### 1) Basic Principles

Many kinds of development projects are implemented according to various development schemes prescribed by the laws and regulations. The cost-sharing scheme between national and local government is clearly defined for each port structure & facility.

The basic principles of the cost sharing system are as follows ;

- ① Basic facilities (water facilities, protective facilities, mooring facilities, harbor transport facilities) for “public use” should be developed by port management bodies (local government) or national government as public works with national government subsidies.
- ② Basic facilities for “limited users”, and other facilities for public use should be developed by appropriate organizations such as public corporation, container terminal company, marina company, local government, and construction cost should be borne by beneficiaries according to their degree of benefits.
- ③ Private facilities for “limited users” should be developed by themselves.

#### 2) Reasons for Cost Sharing System

There are some reasons why the cost sharing system is adopted as follows ;

- ① It is difficult for local government to carry out the development of basic facilities by itself from the financial view point. The financial support from the national government makes it easier for local government to implement the projects rationally.
- ② Port development projects are of great national interest. Thus, the national government is required to be involved itself in the projects from the national point of view. In this case, the requirement justifies the use of general revenues such as general tax. That is to say, the Japanese people are regarded as general beneficiaries of development of basic facilities.
- ③ On the other hand, the local government including its citizens also obtain the benefit from the development. Therefore, the laws require national and local governments to share these costs.

Table 6.1.2.3 Summary of Cost Sharing System in Specially Designated Major Ports

① Construction by national government

Item	Water Facilities	Protective Facilities	Mooring Facilities	Port Transport Facilities
Portion of the national government	2/3 (*1) or 5/10	2/3 (*2) or 5/10	5/10	2/3
Portion of the local government	1/3 or 5/10	1/3 or 5/10	5/10	1/3

② Construction by port management body (Local government)

Item	Water Facilities	Protective Facilities	Mooring Facilities	Port Transport Facilities
Portion of the national subsidies	5/10	5/10	5/10	5/10
Portion of the local government	5/10	5/10	5/10	5/10

Note \* 1 For channel dredging only \* 2 For breakwater only

Prepared by OCDI

(4) Recommendation

Taking account of the above mentioned matters, allocation policy for national budget in Indonesia should be elaborated as follows ;

1) National Budget

① Non-commercial ports

The national budget must be used for non-profitable infrastructure development and port development of "non-commercial" ports.

② IPC ports

(a) In principle, the national budget shouldn't be used for port development of IPC ports.

(b) As a rule, the national government must be responsible for the development of non-profitable infrastructure such as "main channel dredging" and "breakwater" for the

following reasons ;

- a) Those facilities are regarded as the facilities to protect the national land and maintain security of people from natural forces.
- b) Those facilities are basic requirement of port development similar to national roads in land development.
- c) The social benefit for Indonesian people can be expected to be maintained for a long time.
- d) A large amount of investment is required for construction of channels and breakwaters. In addition, those facilities are non-profitable basic facilities, and thus it is difficult for IPC to develop them by themselves from the financial viewpoint.
- e) It takes a lot of time before such infrastructure can be used.
- f) The government needs to make every effort to create desirable circumstances to induce the private sector into playing a more active role in port activities.

(c) However, the national budget should be used for port development of even IPC ports from practical viewpoint. In this case, specific standards should be introduced as follows ;

- a) The government should prepare the "project list" of port development subject to the national budget disbursement for IPC ports.
- b) The "priority" of the projects shall be determined based on a national policy.
- c) The national budget shall be allocated according to the "national priority" in order to optimize the national budget allocation.

(d) But, if some financially sound IPCs are privatized in the future, the government shouldn't subsidize them. At most, the government has only to provide "low-interest" foreign or domestic loans. The government should take gradual steps to phase out the national subsidies in the future.

## 2) IPC Budget

- (a) IPC must use its own budget for the development of IPC ports.
- (b) In this case, IPCs should consider carefully diversification of their financial sources including surplus, borrowing from banks, foreign loan, issue of bond and sales of stock.
- (c) In principle, IPCs should not depend upon national subsidies. IPC must be able to finance their own activities by improving their financial situations.
- (d) It should be remembered that IPC was established to promote efficient and effective management and operation. This concept is in line with the original purpose.

## 3) Difference of Cost Sharing System between Japan and Indonesia

① “Public Sector” Type

As explained before, in Japan, the cost-sharing scheme between national and local government is clearly defined for each port structure & facility. In this case, both organizations are public sector, and therefore it is very rational that both public sectors share the cost for infrastructure developments according to a fixed ratio from the “public” point of view. Both public sectors can invest general tax revenue in profitable and non-profitable basic port facilities. It can be called “Public Sector” Type.

② “Private Sector Participation-supporting” Type

(a) Nature of IPCs

Different from the Japanese type, the counterparts of the government are profit-making “state-owned corporations”(IPCs), which plan to be privatized in the future. IPCs are required to keep retained earnings for port investment of commercial ports. Besides, IPCs are very interested in inducing the private sector into port development as well as port operation. Therefore, the nature of both countries is different.

Hereafter, IPCs are strongly required to enhance their financial abilities. IPCs will not only have to secure funds for the port development but also to induce the private sector into port development projects. Their poor performances, which will lead to low value in the market, will make it difficult for IPC to secure funds from the market.

(b) Lessons form European Ports

In “competitive ports” (Hamburg, Rotterdam & Antwerp) on the European main land, the allocation of roles between the public and private sector clearly are defined. While the public sector is responsible for unprofitable facilities (channel, breakwater & road), the local government plays a role of “land-lord” port management body and the private terminal operator provides efficient port operation.

This theory can be applicable to Indonesian ports. In order to create a competitive port system, the roles of each sector shall be carefully considered as follows ; In principle, the government should be responsible for development of “unprofitable” infrastructure facilities in order to create a good environment for the private sector. While the government is responsible for “unprofitable” basic facilities (channel, breakwater & related roads), IPCs and the private sector cooperatively invest in port development and operation of the “viable ports”. This type can be called “PSP-supporting” Type.

## 6.1.2.2 Establishment of Special Account For Funding of Port Development

### (1) General Idea for Financial Sources

As mentioned before, the government should be responsible not only for port development in non-commercial ports but also for main channel dredging and development of breakwaters in IPC ports. In this case, the government should seek financial sources from general funds such as tax, port tariff and others. Furthermore, tax and dividend revenues from IPC should be spent for development of government-managed non-commercial ports.

For reference, Table 6.1.2.1 shows the national budget for port development and the following Table 6.1.2.4 represents the total "state income tax" and "dividend" paid from IPC to the government. The total state tax (Rp.76,766million) and dividend (Rp.79,867million) in 1996 amounts to Rp.156,633million. This figure covers about 69% of the national budget "including foreign loan" (Rp.226,816million) for port development in 1996. This is more than pure national budget "excluding foreign loan" for port development (Rp.124,844million) in 1996.

Table 6.1.2.4 Total State Income Tax & Dividend Paid from IPC  
to the Government in the Last Four Years

(Unit : million Rp.)

Item		1993	1994	1995	1996
IPC I	Tax	6,073 (31%)	8,537 (22%)	10,813 (29%)	7,429 (26%)
	Dividend	NA	NA	9,294 (30.9%)	13,671 (35%)
	Total	6,073	8,537	20,107	21,100
IPC II	Tax	24,754 (24%)	43,784 (33%)	49,739 (28%)	43,758 (21%)
	Dividend	NA	NA	34,079 (26.18%)	39,995 (24%)
	Total	24,754	43,784	83,818	83,753
IPC III	Tax	5,266 (9%)	13,688 (30%)	21,394 (25%)	22,164 (22%)
	Dividend	NA	NA	18,847 (30%)	23,400 (30%)
	Total	5,266	13,688	40,241	45,564
IPC IV	Tax	4,466 (32%)	1,906 (20%)	3,159 (22%)	3,415 (22%)
	Dividend	NA	NA	2,832 (25%)	2,801 (23%)
	Total	4,466	1,906	5,991	6,216
Total	Tax	40,559	67,915	85,105	76,766
	Dividend	NA	NA	65,052	79,867
	Total	40,559	67,915	150,157	156,633

Note : Tax ( ) is tax percentage against profit.

Dividend ( ) is dividend percentage against profit after tax.

Prepared by OCDI

(2) General and Special Account System in Japan

In Japanese central and local governments, there are many special accounts established by specific laws for a variety of purposes. For reference, the example of Osaka Port is summarized in the following Table 6.1.2.5.

Generally speaking, "General Account" is used for development of "non-profitable fundamental facilities" such as breakwaters, greenery and sea walls, which contribute to promotion of people's welfare. Therefore, the city is allowed to use "general tax revenues".

On the other hand, "Special Account" is used for development of "profitable facilities" such as reclaimed lands, sheds and warehouses, and procurement of cargo handling facilities in order to activate the entrepreneurial spirit. In the special account, specific revenues from operations must be used.

Table 6.1.2.5 Account System of Osaka Port in FY 1996

Account	Budget (¥million)		Specific Expenditures	Specific Revenues
Port General Account	Expenditure	54,765	① Development for fundamental facilities (75%) ② Debt service (13%) ③ General affairs (11%)	Bond revenue, national subsidy, general tax & port charges
	Revenue	49,624		
Port Special Account	Expenditure	71,593	① Development of reclaimed lands (67%) ② Debt service (16%) ③ Operating expenditure (10%) ④ Development for port facilities (4%)	① Bond (43%) ② Miscellaneous (29%) ③ Land sales (15%) ④ Operating revenue (12%)
	Revenue	70,043		

Prepared by OCDC



### (3) Recommendation

Taking account of the current tax and dividend system in Indonesia and the merits of special account system, the following recommendation can be made ;

1) The government should use the “tax” and “dividend” revenues paid by IPC as the basic funds for the port development. In this case, it is wise to establish “Special Account System” or similar system for port development.

2) “Special Account System” allows specific revenues to be used only for specific purposes. The system is very useful to clarify the relationship between the revenue and expenditure.

The reasons of adopting “ Special Account System” are as follows ;

① It is rational to collect tax and dividend revenue from “profitable commercial” ports and allocate them to development of “non-commercial” ports. This is because IPCs use the facilities developed by the national government for nothing, and thus IPCs should give back to the people part of what they have earned.

② It is important for the government to reallocate the wealth for the sake of balanced development of the national ports.

③ It is necessary for the government to secure “national minimum” for the people living in remote areas, and therefore the government needs stable and firm funds.

④ “Special account system” is very useful not only to clarify the relationship between the revenue and expenditure but also to encourage the efficient and effective use of the limited budget.

3) The shortages of the budget should be supplemented by general revenue such as general taxes and tariff of non-commercial ports for the time being.

The following Table 6.1.2.6 & Figure 6.1.2.1 show imagined examples of special account system for port development in Indonesia.

Table 6.1.2.6 Imaginary Special Account System in Indonesia

(Unit: million Rp.)

Description	1995	1996
① Tax revenue from IPCs	85,105	76,766
② Dividend revenue from IPCs	65,052	79,867
③ Tariff revenue from non-commercial ports	9,791	11,497
④ Total revenue (①~③)	159,948	168,130
⑤ National budget for port development	257,485	226,816
⑥ National budget for development of non-commercial ports	96,590	67,457
⑦ National budget for development of IPC ports	160,895	159,359
⑧ ④/⑤	0.621	0.741
⑨ ④/⑥	1.655	2.492

Figure 6.1.2.1 Imaginary Special Account System in 1996

(Unit : million Rp.)

