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

3-A GENERAL DESCRIPTION

108. Transport sector is a vital sector of the economy and is estimated to make up 4.2% of GDP in 2001, while 3.8% in 2000. There is the need for continuous and heavy annual expenditure to keep pace with increasing demand and to maintain and rehabilitate existing infrastructure. Consequently, national transportation system has an important role in supporting national development by facilitating all aspects of people's activities socially as well as economically. It promotes population mobility and flow of goods and services from one region to another.

109. Sub-sectors capacity has been increasing to keep up with demand, however, such as road and port, in particular, suffer from serious overloading and congestion in/around urban center. There is also serious congestion in some inter-urban corridors, e.g., along the north coast of West Java area.

110. The Ministry of Communication, in accordance with Presidential Decrees No.44/1974 and No.45/1974, is responsible for the formation and execution of Government Policies, and the planning and implementation of development programs for all aspects of transport sector and development. At regional level the Ministry of Communication has been represented since 1988 by 26 regional offices known as Kanwil, which contained technical implementation offices for land, sea and air communications. The position of Kanwil is abolished under Law No.22/1999 and it is understood that their functions is now undertaken by / absorbed into provincial administrations.

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

Table 3-A-1 Outline of Transport Service

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

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

3-B LAND TRANSPORT SYSTEM

3-B-1 Road Infrastructure

112. There are about 203,000km of asphalt-roads, accounts for 57% of total road length in Indonesia, as of 1999.

Table 3-B-1 Length of Road by Type of Surface

Km

	1995	1996	1997	1998	1999 [1]	
Asphalted	171,508	180,614	192,668	168,072	203,374	57%
Non-asphalted	135.505	139,233	132,237	155,390	136,210	38%
Others	20,214	16,530	16,562	31,901	16,367	5%
Total	327,227	336,377	341,467	355,363	355,951	100%

Note: 1) Excluding Timor Timur
Source: Transportation and Communication Statistics 2000

113. The situation of West Java province (including Banten) is shown as follow. The portion of asphalted road is 67%, higher than that of whole Indonesia, however, total of good and moderate remains 59% meaning some lack of maintenance.

Table 3-B-2 Length of Road by Type of Surface in West Java province

Km

	1997	1998	1999	2000	
Asphalted	16,375	17,620	17,060	16,177	67%
Gravel	2,648	3,082	2,613	3,723	16%
Land	1,418	1,377	1,426	2,695	11%
Unspecified	980	1,058	1,007	1,398	6%
Total	21,421	23,137	22,106	23,993	100%

Table 3-B-3 Length of Road by Condition in West Java

Km

	1997	1998	1999	2000	
Good	7,957	7,600	6,014	7,078	30%
Moderate	7,220	8,714	7,621	6,994	29%
Damage	3,771	4,670	5,001	5,485	23%
Seriously Damage	2,473	2,152	3,469	4,436	18%
Total	21,421	23,137	22,106	23,993	100%

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

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

116. Another classification by the functions exists. They are Arterial road, Collector road and Local road. The government formulates a Primary Road System, in which the function of road is defined by the level of areas that a road links. The role of the primary arterial road network is

to serve and connect between National Activity Centers, Regional Activity Centers and large and rapidly growing cities. The role of the primary collector road network is to serve Regional Activity Centers and local activity centers. (See Table 3-B-4) Table 3-B-5 shows an example of such classification in the Study area.

Table 3-B-4 Classification by the Function (Primary Road System)

Function	Linking Area
Arterial	Level I - I and I - II
Collector 1	Alternative to Arterial or Link to Arterial
Collector 2	Links Level II - II
Collector 3	Links Level II - III
Collector 4	Links Level III - III
Local	Links Level III - IV

Level I: Province Capitals / Major Cities
Level II: Kabupaten (Regency) Capitals / Large Cities
Level III: Kecamatan (District) Capitals / Small Towns
Level IV: Villages

Table 3-B-5 Classification of Major Route

Route	Total (km)	Arterial (km)	C-1 (km)	C-2 (km)	C-3 (km)
Merak – JKT	134.31	134.31			
Serdang – Bojonegara - Merak	34.85		34.85		
JKT – Bogor	62.95	62.95			
Bogor - Bandung	138.11	88.08	50.03		
JKT – Cikampek	104.68	104.68			
Cikampek – Bandung	110.07	110.07			
Bandung - Cirebon	141.83	138.53	33.3		
Cikampek - Cirebon	169.96	166.66	3.3		

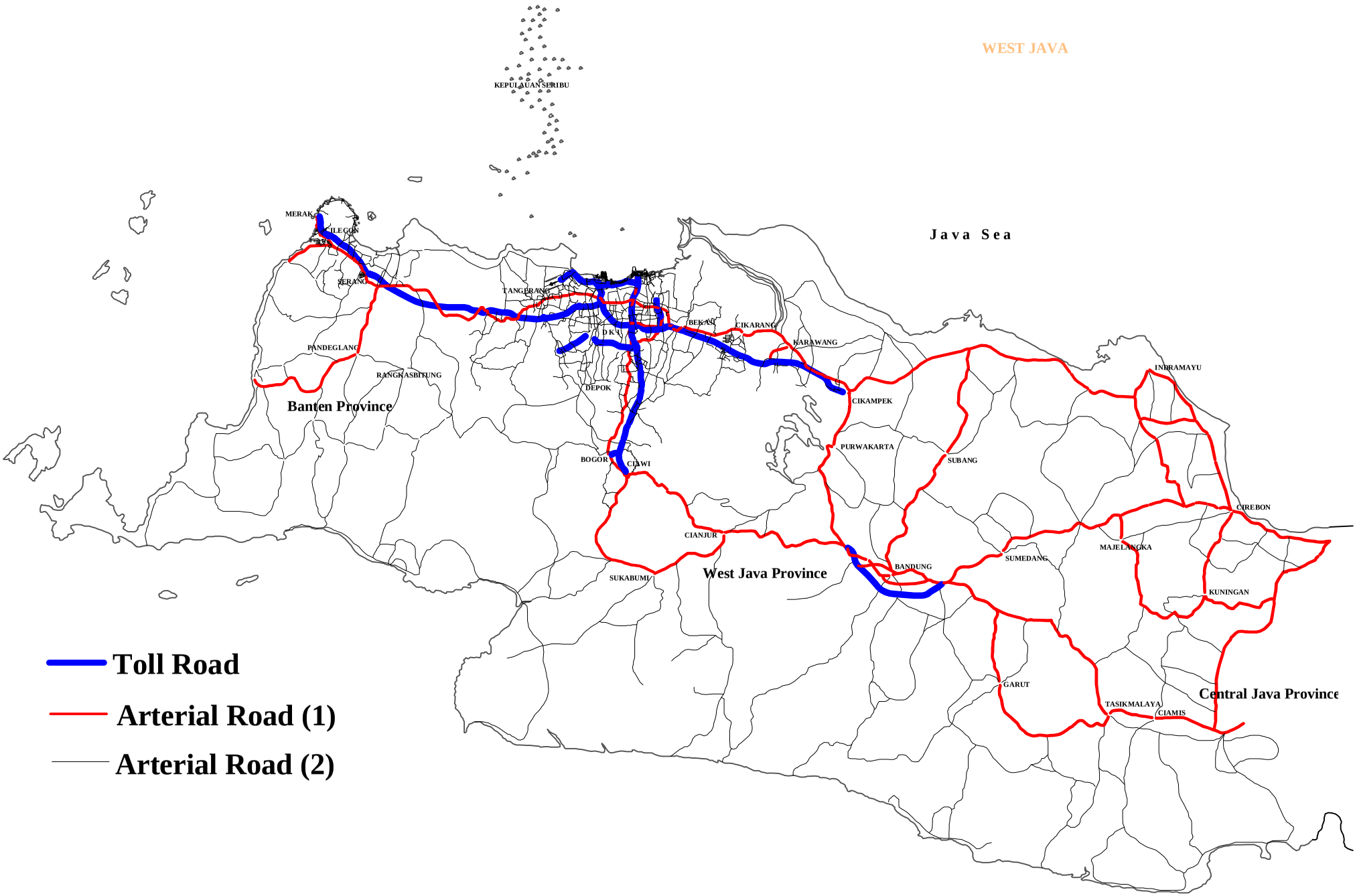
117. Highway network in Jabotabek area (Jakarta, Bogor, Tangerang and Bekasi) is mainly covered by toll road and main arterial roads. The toll roads is consisting of West Java Toll Road and Inter-urban Toll Road through the inter-city trunk lines, while the main arterial roads are crossing the major urban zone and inner-city routes. Main arterial roads in the urban area are under improvement by the flyover crossing or the road widening in order to avoid the traffic congestion. Present toll road network in Jakarta metropolitan area is listed below. Main road network including toll road in West Java area is shown in Figure 3-B-1

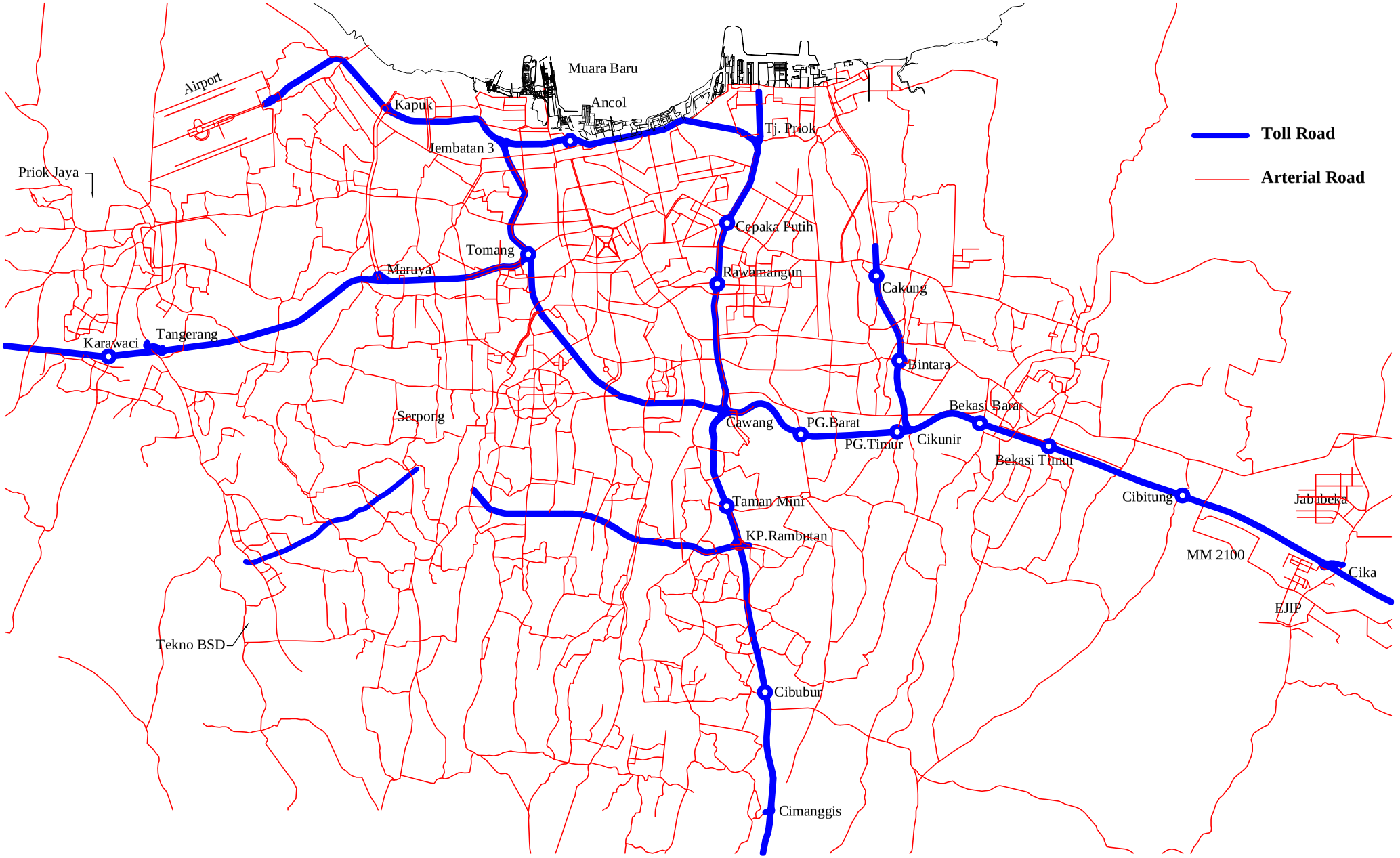
Table 3-B-6 Present toll road network in Jakarta metropolitan area

Type	Route
Circular Route	Inter-urban Toll Road Cengkareng Access Toll Road Outer Ring Road Harbor Toll Road
Radial Routes	Jagorawi Toll Road Cikampek Toll Road Tangerang to Merak Toll Road

Figure 3-B-1 Road Network In West Java area

118. In the other hand, for the purpose of traffic and transport regulation, utilization and demand, roads are classified five classes. They are:


WEST JAVA
KEPULAUAN SERIBU
Java Sea
MERAK
CILEGON
SERANG
TANGERANG
D K I
BEKASI
CIKARANG
KARAWANG
PANDEGLANG
RANGKASBITUNG
Banten Province
DEPOK
BOGOR
CIAWI
CIKAMPEK
PURWAKARTA
SUBANG
INDRAMAYU
CIREBON
CIANJUR
SUKABUMI
West Java Province
BANDUNG
SUMEDANG
MAJELANGKA
KUNINGAN
GARUT
TASIKMALAYA
CIAMIS
Central Java Province
Toll Road
Arterial Road (1)
Arterial Road (2)


Toll Road
Arterial Road
Airport
Muara Baru
Ancol
Kapuk
Jembatan 3
Tj. Priok
Priok Jaya
Cepaka Putih
Tomang
Maruya
Rawamangun
Cakung
Karawaci
Tangerang
Bintara
Bekasi Barat
Serpong
Cawang
PG.Barat
PG.Timur
Cikunir
Bekasi Timur
Cibitung
Jababeka
Taman Mini
KP.Rambutan
MM 2100
Cika
EJIP
Tekno BSD
Cibubur
Cimanggis

- Class I
  - Arterial roads passable by motor vehicles, including their loads, having a width of not more than 2,500mm, a length of not more than 18,000mm and a maximum allowed axle load of more than 10 ton.
- Class II
  - Arterial roads passable by motor vehicles, including their loads, having a width of not more than 2,500mm, a length of not more than 18,000mm and a maximum allowed axle load of less than or equal to 10 ton.
- Class IIIA
  - Arterial or collector roads passable by motor vehicles, including their loads, having a width of not more than 2,500mm, a length of not more than 18,000mm and a maximum allowed axle load of 8 ton.
- Class IIIB
  - Collector roads passable by motor vehicles, including their loads, having a width of not more than 2,500mm, a length of not more than 12,000mm and a maximum allowed axle load of 8 ton.
- Class IIIC
  - Collector roads passable by motor vehicles, including their loads, having a width of not more than 2,100mm, a length of not more than 9,000mm and a maximum allowed axle load of 8 ton.

3-B-2 Public Road Transport Services

119. A mix of private and one state-owned enterprise provides road transport services (as opposed to infrastructure). The general outline of service provision is follows:

- Bus passenger : mainly private with some BUMNs (PT.DAMRI for urban and inter-urban services and PPD for urban services in Jakarta)
- Roads haulage : Private Operators

120. There are several other government departments concerned with roads and road transport. The Police is responsible for law enforcement and traffic control. The Ministry Finance is responsible for local fuel prices as well as tariff policy for state-owned transport corporations.

3-B-3 Railway Infrastructure

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

122. Java has an extensive railway network, covering much of the island. The rail network consists of two main lines running east to west. The northern line follows the north coast corridor, connecting Jakarta with Surabaya. The southern line connects a string of large towns and provincial cities from Bandung, Yogyakarta, and Solo to Surabaya. Three routes running

from north to south connect these two main lines forming a network. The rail network is shown in Figure 3-B-2.

Figure 3-B-2 Railway Network in West Java area

3-B-4 Railway Services

123. During period of 1996-2000, generally, there was an increasing pattern of production of railway freight transportation. It growth 1.60 percent annually. In Java the production of railway fright transportation decreased by 3.93 percent annually and in Sumatra increased by 3.78 percent annually.

Table 3-B-7 Production of Railway Freight Transportation in Java and Sumatra (Km-ton)

Region	1996	1997	1998	1999	2000	Annually Increase (%)
Java	1,439	1,410	1,230	1,237	1,226	-3.93%
Sumatra	3,261	3,620	3,733	3,798	3,783	3.78%
Total	4,700	5,030	4,963	5,035	5,009	1.6%

Source: Transportation and Communication Statistics 2000

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

3-C MARITIME TRANSPORT SYSTEM

3-C-1 Port Infrastructure

125. Currently, Indonesia has 656 public ports and 1,233 special ports. In order to improve effectiveness and efficiency of public port management, the government decided that four Indonesian Port Corporation (IPC) should manage 112 public ports on a commercial basis. The remaining 544 public ports are managed non-commercially by the government. Shipping Law (UU No.21/1992) stipulates some ports are open to international trade, and thus, existing classification of the port is as follows:

Table 3-C-1 Classification of Ports

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

126. DGSC-MoC designate 25 strategic ports out of the commercial ports. (See Table 3-C-2) Furthermore, Belawan, Tanjung Priok, Tanjung Perak and Makassar are called the Four Main Ports in Indonesia.

127. In the other hand, in 2001, the new Government Regulation for Port Affairs (PP No.69/2001) issued and based on the regulation, National Port System was prepared in 2002 and new port classification such as "international hub port" was introduced as we describe later.

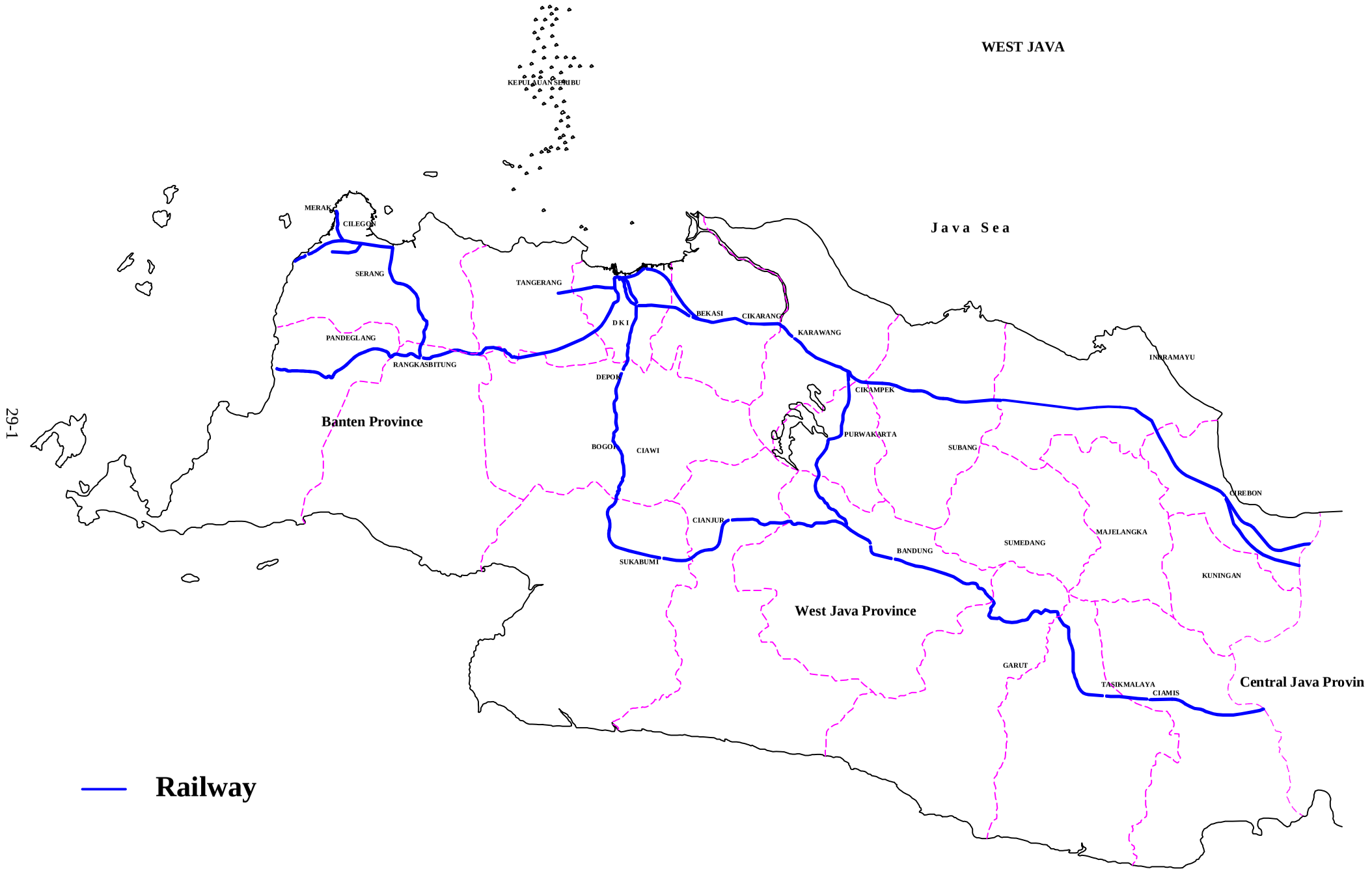

WEST JAVA
KEPULAUAN SERIBU
Java Sea
MERAK
CILEGON
SERANG
TANGERANG
D K I
BEKASI
CIKARANG
KARAWANG
PANDEGLANG
RANGKASBITUNG
Banten Province
DEPOK
BOGOR
CIAWI
CIKAMPEK
PURWAKARTA
SUBANG
INDRAMAYU
CIREBON
CIANJUR
SUKABUMI
BANDUNG
SUMEDANG
MAJELANGKA
KUNINGAN
West Java Province
GARUT
TASIKMALAYA
CIAMIS
Central Java Provin
Railway

Table 3-C-2 Strategic Ports in Indonesia

	Port	Province	PELINDO	Main Port
1	L.Seumawe	Ache	I	
2	Belawan	North Sumatra		◎
3	Dumai	Riau		
4	Pekanbaru	Riau		
5	Batam	Riau		
6	Tg.Pinang	Riau		
7	Tlk.Bayur	West Java	II	
8	Palembang	South Sumatra		
9	Panjang	Lampung		
10	Banten/Bojonegara	Banten		
11	Tg. Priok	Jakarta		◎
12	Tg. Emas	Central Java	III	
13	Tg. Perak	East Java		◎
14	Banjarmasin	South Kalimantan		
15	Pontianak	West Kalimantan	II	
16	Balikpapan	East Kalimantan	IV	
17	Samarinda	East Kalimantan		
18	Benoa	Bali	III	
19	Tenau/Kupang	East Nusa Tenggara		
20	Bitung	North Sulawesi	IV	
21	Makassar	South Sulawesi		◎
22	Ambon	Maluku		
23	Sorong	Irian Java		
24	Biak	Irian Java		
25	Jayapura	Irian Java		

3-C-2 Maritime Shipping Services

128. In maritime shipping services, foreign flag ships are predominant for export/import trade, while Indonesian shipping companies are small and weak in competition due to the large number of companies (more than 1,300).

129. Almost all major foreign shipping companies supply feeder services between Indonesia and Singapore. Ship size varies from 500 TEU to 1,000TEU. On the other hand, Indonesian flags deploy small and old ships, although some of them are now being changed to semi-container ships.

130. Freight rate of domestic line keeps high against relatively low service, while freight rate of feeder line keeps low for the sake of competition.

Table 3-C-3 International cargo Ratio

	Indonesian Ship		Foreign Ship	
	'000ton	%	'000ton	%
1983	20,081	17.9	92,282	82.1
1985	15,454	16.1	80,761	83.9
1990	6,735	4.4	146,072	95.6
1995	5,989	3.3	272,231	97.9
1996	24,262	7.2	312,801	92.8
1997	10,283	3.9	256,795	96.2
1998	9,381	3.5	257,405	96.5
1999	16,236	4.8	322,532	95.2

Source: DGSC

Table 3-C-4 Domestic cargo Ratio

	Indonesian Ship		Foreign Ship	
	'000ton	%	'000ton	%
1983	38,417	65.3	20,448	34.7
1985	56,625	68.5	25,996	31.5
1990	55,088	56.9	41,680	43.1
1995	75,478	51.5	71,220	48.6
1996	90,631	53.3	79,502	46.7
1997	61,965	46.4	71,844	53.6
1998	58,719	46.9	66,455	53.1
1999	90,986	50.5	89,244	49.5

Source: DGSC

3-D AIR TRANSPORT SYSTEM

3-D-1 Airport Infrastructure

131. Indonesia has 123 airports (Class-IV) and 371 airstrips (non-Class). DGAC selected 31 strategic airports out of the Class airports as shown in Figure 3-D-1.

Figure 3-D-1 Strategic Airport in Indonesia

3-D-2 Aviation Services

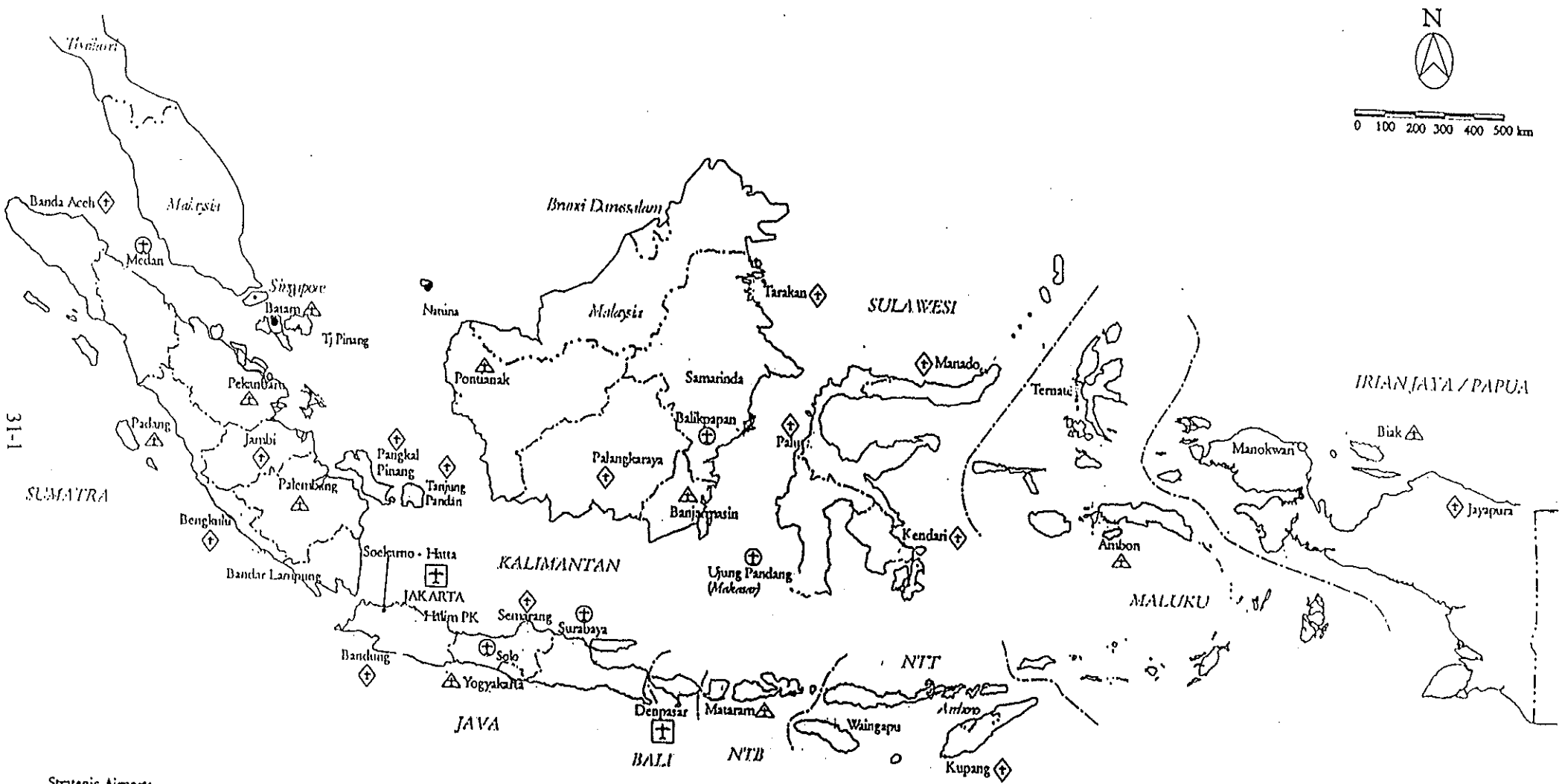
132. Indonesia's geographical feature creates a greater dependence on air transport compared to other countries in the Southeast Asia region. In total, there are around 500 airports and/or air strips, among which around 150 are administrated by three official agencies, the rest being operated by missionary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

Table 3-D-1 National Airlines Cargo Production for Domestic and International Flights

(million Ton-Km)

	1996	1997	1998	1999
Government	2,551	2,596	1,643	1,456
Baggage	1,858	1,897	1,227	1,095
Freight	679	683	402	347
Mail	14	16	14	14
Private	440	415	182	139
Baggage	385	360	152	111
Freight	52	53	27	26
Mail	3	2	3	2
Gov. & Private	2,991	3,011	1,825	1,595
Baggage	2,243	2,257	1,379	1,206
Freight	731	736	429	373
Mail	17	18	17	16

Source: Statistics Indonesia 2000



Strategic Airports in Indonesia

Table 3-D-2 Domestic Air Traffic

(000 Ton)

	1996	1997	1998	1999
Cargo	361	394	279	282
Loaded	194	216	148	155
Unloaded	167	178	131	127
Baggage	247	212	168	145
Loaded	124	109	84	71
Unloaded	123	103	84	74
Parcels	25	27	26	30
Loaded	13	14	14	16
Unloaded	12	13	12	14
Total	633	633	473	457
Loaded	331	339	246	242
Unloaded	302	294	227	215

Source: Statistics Indonesia 2000

Table 3-D-3 International Air Traffic

(000 Ton)

	1996	1997	1998	1999
Cargo	224	276	232	232
Loaded	169	168	171	152
Unloaded	55	108	61	80
Baggage	107	133	110	125
Loaded	59	60	54	60
Unloaded	48	73	56	65
Parcels	2	3	2	2
Loaded	1	1	1	1
Unloaded	1	2	1	1
Total	333	412	344	359
Loaded	229	229	226	213
Unloaded	104	183	118	146

Source: Statistics Indonesia 2000

3-E TRAFFIC SITUATION & DEMAND

133. The Study team has not been able to obtain information of cross-modal traffic situation, however, 'Transport Sector Strategy Study' (hereinafter referred to as "TSSS") implemented by ADB in 2000 gives us some general ideas for its profile. According to TSSS, inter-provincial traffic situation and demand in cross-modal views are summarized in Table 3-E-1.

Table 3-E-1 Inter-provincial Traffic Situation and Demand

Unit: '000

	1998			2009			Annual
	Trips	%		Trips	%		Growth (%)
Domestic	418,420	100.0%	98.6%	635,068	100.0%	98.1%	3.9%
Road	352,035	84.1%	82.9%	530,486	83.5%	81.9%	3.8%
Railway*1	30,638	7.3%	7.2%	41,589	6.5%	6.4%	2.8%
Inland Waterway	1,796	0.4%	0.4%	2,918	0.5%	0.5%	4.5%
Ferry	20,211	4.8%	4.8%	35,045	5.5%	5.4%	5.1%
Sea (Domestic)	7,375	1.8%	1.7%	14,056	2.2%	2.2%	6.0%
Air (Domestic)	6,365	1.5%	1.5%	10,974	1.7%	1.7%	5.1%
International*2	6,036	100.0%	1.4%	12,352	100.0%	1.9%	6.7%
Sea (International)	2,403	39.8%	0.6%	4,869	39.4%	0.8%	6.6%
Air (International)	3,633	60.2%	0.9%	7,483	60.6%	1.2%	6.8%
Total	424,456		100.0%	647,420		100.0%	3.9%

*1: Excludes local & urban trips (represents inter-city services)

*2: Average of arrivals & departures

Unit: '000

	1998			2009			Annual
	Tonnes	%		Tonnes	%		Growth (%)
Domestic	303,197	100.0%	81.2%	496,527	100.0%	75.5%	4.6%
Road	279,444	92.2%	74.8%	461,961	93.0%	70.2%	4.7%
Railway*1	1,918	0.6%	0.5%	1,918	0.4%	0.3%	0.0%
Inland Waterway	32	0.0%	0.0%	52	0.0%	0.0%	4.5%
Ferry*2	{3,045}			{5,059}			4.7%
Sea (Domestic)	21,650	7.1%	5.8%	32,320	6.5%	4.9%	3.7%
Air (Domestic)	153	0.1%	0.0%	276	0.1%	0.0%	5.5%
International*3	70,160	100.0%	18.8%	161,340	100.0%	24.5%	7.9%
Sea (International)	69,923	99.7%	18.7%	160,754	99.6%	24.4%	7.9%
Air (International)	237	0.3%	0.1%	586	0.4%	0.1%	8.6%
Total	373,357		100.0%	657,867		100.0%	5.3%

*1: Excludes oil, coal, cement and fertilizer (Private bulk movement); No forecast

*2: Ro-Ro vehicles ('000)

*3: Total import & export tonnes, sea freight includes containerized tonnages

* Sea freight includes containerized tonnages

134. The principal mode to serve the major national and regional domestic needs in Indonesia will continue to be road transport. TSSS expects that road transport carry over 80% of inter-provincial passengers and 90% of domestic tonnages over the next ten years.

135. Railway is considered an important supplementary mode, particularly for passengers in major urban corridors in Java and for bulk freight commodity transport, such as coal in Sumatra. TSS estimates railway travel account for about 6% of total passengers excluding urban and local travel by 2009.

136. Ferry services are important in providing multi-modal linkages between island grouping and regions and are expected to provide for about 5% of total passenger movement in next ten years according to TSSS.

137. Sea and air transport is vitally important to the national economy serving international and inter-island market as well as supporting national integration and regional development. Sea transport is the principal international cargo mode, providing 99% of total international cargo. TSSS expects that sea transport will make up nearly 30% of total (domestic and international) tonnages by 2009 compared to 24.5% in 1998. Air travel also provides an important function for international tourists and business travel. TSSS considers air transport will continue to be the dominant mode for international passenger travel comprising 60% of the total.

138. In terms of comparison international transport with domestic one, TSSS expect much more annual growth rate in international transport than in domestic, i.e., 6.7% against 3.9% for passenger, 7.9% against 4.6% for freight respectively.

3-F INVESTMENT IN TRANSPORT SECTOR

139. The trend of domestic/foreign investment is shown in Table 3-F-1 based on BKPM report. Investment in transport sector has 3-5% share to the total investment. (BKPM reports are on approval project basis and should be used as no more than an indicator of possible trends as we mentioned earlier section 2-C-3.)

Table 3-F-1 Trend of Investment

Billion Rp.

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

Source: Capital Investment Coordinating Board (BKPM)

140. Aside from general trends of the investment of transport sector as mentioned above, in the light of investment conditions, it should be noted that several very important Presidential Decrees (Keppres) have been issued after the crisis:

- Keppres No.39/1997: about 'Postponement / re-investigation of the government, state-owned corporation and private projects related to the government / state-owned corporation'
- Keppres No.15/2002: about 'Revocation of Keppres No.39' and,
- Keppres No.96/2000: about 'Regulation for business fields closed and open to investment'.

141. Keppres No.39/1997 was issued in order to prevent financial situation in Indonesia from monetary fluctuation in the crisis. From this point of view, the on-going and/or planned projects financed with foreign credit at that time were classified into "should be postponed", "should be re-investigated" and "continued". Table 3-F-2 is a summary of the listed project. In terms of expected investment amount, energy sector was dominant following by transport sector.

Table 3-F-2 Project List

Billion Rp.

Sector	Continued		Re-investigated		Postponed		Total	
	Num.	Cost	Num.	Cost	Num.	Cost	Num.	Cost
Industry	13	9,051	10	6,928	2	386	25	16,365
Agriculture	7	162	1	213	2	1,414	10	1,789
Finance	1	747	19	3,576	0	0	20	4,323
Transport	30	18,328	32	10,924	62	33,015	124	62,267
Mining & Energy	22	29,851	11	39,139	14	14,681	47	83,671
Telecommunication	8	7,817	1	700	1	70	10	8,587
Housing settlement	2	1,514	0	0	0	0	2	1,514
Information & Statistic	2	137	0	0	0	0	2	137
Defence & Security	0	0	1	145	0	0	1	145
Total	85	67,607	75	61,624	81	49,565	241	178,797

142. Projects related to port development in the Study area are identified as follows:

- Postponed Projects

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

- Re-investigated Projects

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

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

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

144. Some projects in paragraph 142 have been already resumed such as construction of Koja's new container berth, however, most projects are considered to be still under suspension. Unfortunately, the Study team has not been able to get clear picture of decision-making procedure used to greenlight projects.

145. Keppres No.96/2000 defined business fields closed and opened to investment with the lists of four categories as follows:

- A: Business fields absolutely closed to investment
- B: Business fields closed to investment in which a part of the shares are owned by foreign citizens and/or foreign business entities
- C: Business fields open to investment under condition of a joint venture between foreign and domestic capital (divided two categories of share, i.e., maximum 95% and maximum 45%), and

- D: Business fields open to investment under certain conditions

146. As far as transport sector concerned, the following business fields were listed up in the Keppres No.96/2000. It should be remarked that 'Building and operation of seaport' is a business field open to a joint venture between foreign and domestic capital with a foreign portion of maximum 95%.

- A: Air traffic system (ATS) providers, Ship certification and classification inspections
- B: Taxi/bus transportation services, Small scale sailing
- C: Building and operation of seaport, Shipping, Public railway services for maximum 95% share of foreign ownership; Regular/non-regular chartered commercial airlines for maximum 45% share of foreign ownership
- D: None

3-G TRANSPORT POLICY AND PLANNING

147. Transport planning plays a vital role to realize effective investment based on the traffic demand. Though planning process consists of various stages, basic policy should be a base for all of planning process. The most basic and latest transport policy is defined in PROPENAS (2000-2004). It is specially mentioning the Program for Developing Transportation Facilities and Infrastructure. The objectives of the program are:

- Maintaining and increasing transportation facilities and infrastructure services
- Restructuring and reforming transportation
- Increasing accessibility of society transportation facilities and infrastructure services

148. In the light of private participation, PROPENAS pointed out the following important manners under the above second item:

- To open business opportunities in transportation services, in a fair, open and transparent manner to the business community thereby *lessening the possibilities of monopolistic enterprises* in transportation facilities and infrastructure services
- To realize active participation of the government and BUMNs (State Enterprises) and private companies in the transportation services, wherein *the government is directed to act as regulator and facilitator while BUMNs and private sector are aimed to become operators and owners of transportation*

149. As mention earlier in 2-E-1, based on the PROPENAS, five-year strategic plan (RENSTRA) for transport sector was formulated and issued in May 2002. Basically, the above policy is reflected in this RENSTRA, however, the following strategies should be remarked:

- Giving priority to rehabilitation and maintenance activities which already built, to maintain their capacity and quality, as well as increasing their performance.
- Developing private investment opportunity for transportation infrastructure and facility.
- Determining tariff system with cost recovery principle.

- Introducing multi-year subsidy system.
- Providing incentives and special criteria to the area that has not yet developed, isolate and border area.

150. In the light of integrated planning for inter-modal transportation, both of PROPENAS and RENSTRA do not always give clear vision and/or blueprint. So far, SISTRANAS (National Transport System; KM No.15/1997) is the only one trying to formulate a nationwide master plan of transportation. The national transport system proposed in SISTRANAS (hereinafter referred to as "the System") consists of policy principles for each sub-sector and a conceptual plan for a future transport strategy as well as a data bank based on OD surveys undertaken in 1990 and 1996. Although the System is recognized to be in need of some revision and/or updating since SISTRANAS was enacted before the crisis, it is still the sole legalized national transport system. The key objectives of the System are:

- Providing an efficient and cost-effective transport system;
- Using the transport system to promote regional development in remote areas and eastern Indonesia. This covers both provision of basic infrastructure for public and private sector services as well as operating pioneer (*Perintis*) services;
- Developing mass transportation, affordable to all which would overcome urban congestion and improve environmental quality;
- Improving transportation for industry, agriculture, trade and tourism to facilitate the movement of people and the efficient supply of raw materials and distribution of goods;
- Improving quality service for transportation and operations using advanced technologies;
- Increasing community involvement in transportation, aimed at promoting the improvement of traffic discipline and road safety;
- Increasing private sector participation in both investment and management under a variety of structures;
- Improving application of human resources and promote the use of modern management systems; and
- Developing an integrated land, sea and air transportation system for freight and passenger traffic.

151. As for the last point in the key objectives of the System, sectoral co-ordination should be more enhanced and improved. For example, responsibilities for road network are split into two Ministries, MoC (Ministry of Communication) and MoSRD (Ministry of Settlement and Regional Development). The former is responsible for land transport planning, operations and control, while the latter for national road infrastructure planning, construction and maintenance. Hence good coordination is dispensable especially for congested urban area.

152. Another example is inter-island transport. In planning level, modal competition and coordination should be carefully taken into account. Nevertheless, there appears to have been poor coordination even with sea transport services and ferry services. Cargo flow at least should be grasped and analyzed comprehensively, but never coordinating is there.

153. Moreover, in the decentralization movement, coordination among central/local governments is also urgently needed in planning process. There seem to be quite a few confusion in the process of coordinating their own concepts and interests.

CHAPTER-4. MARITIME TRANSPORT SITUATION IN INDONESIA

4-A BASIC POLICY FOR MARITIME TRANSPORT IN INDONESIA

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

155. In fact, high priority is given to port development as well as to the development of national shipping in national policy, and which forms the basis of all kinds of regulations and plans/strategies. Basic policy for port and shipping can be summarized as follows:

1) Port

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

157. As for classification of ports, the Shipping Law categorizes the ports into two groups, public ports and special ports. Public ports are developed to serve public/common users and are further subdivided into commercial and non-commercial ports, while special ports are developed and used by specific industries such as manufacturing, forestry, fishery, mining, tourism etc. The law also stipulates that 131 ports are open to international trade in order to achieve the national and regional economic development, which is classified in details according to the function of the ports in the regulation PP No.69/2001 as described later.

2) Shipping

158. The basic policies for shipping development are:

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

159. As for the first point, it is hard to compete with foreign shipping for national shipping companies, whose ships are aged, small and slow compared to foreign ships. The government is now making effort to redress this imbalance by supporting national shipping through tax exemptions on transfer of ownership and so forth. The new shipping regulation, PP No.82/1999, reflects this situation aiming to strengthen the position of Indonesia shipping companies.

160. As for the second point, the government subsidizes shipping operations on low capacity and/or pioneer routes, which are generally concentrated in eastern Indonesia. The regulation PP No.82/1999 stipulates that regular services which should be maintained are determined by the

government, which will be followed by a draft Ministerial Decree for Domestic Shipping Network.

4-B KEY LAWS AND REGULATIONS RELATED TO MARITIME TRANSPORT

161. Key laws/regulations regarding maritime transport are chronicled in Figure 4-B-1 which includes national policy/plan and overall transport sector strategy for reference. These laws/regulations should be carefully considered in the course of the Study. The most important government regulations are the regulation of Shipping Operation (PP No.82/1999), and the regulation of Port Affairs (PP No.69/2001). General principle of these regulations is summarized below.

Figure 4-B-1 Key Laws/Regulations

4-B-1 Government Regulation for Shipping Operation (PP No.82/1999)

162. Government Regulation for Shipping Operation (PP No.82/1999) is the revised regulation (PP No.17/1988) which aims at strengthening the position of Indonesian shipping companies with regard to competition among international shipping companies. The regulation adopts rather restricted cabotage principles than previous regulation for international shipping. The regulation also stipulates general principles in terms of the following issues: Sea transportation concept by type of activities. Shipping network concept. Activities of shipping agency. Requirement for shipping companies and so forth.

163. Several Ministerial Decrees have been issued based on the regulation. They are decree for Sea Transport Operation (KM No.33/2001), decree for Stevedoring (KM No.14/2002), decree for Cargo Handling Charge (KM No.25/2002) and drafted decree for Domestic Shipping Network which determines the list of domestic shipping routes to be serviced regularly.

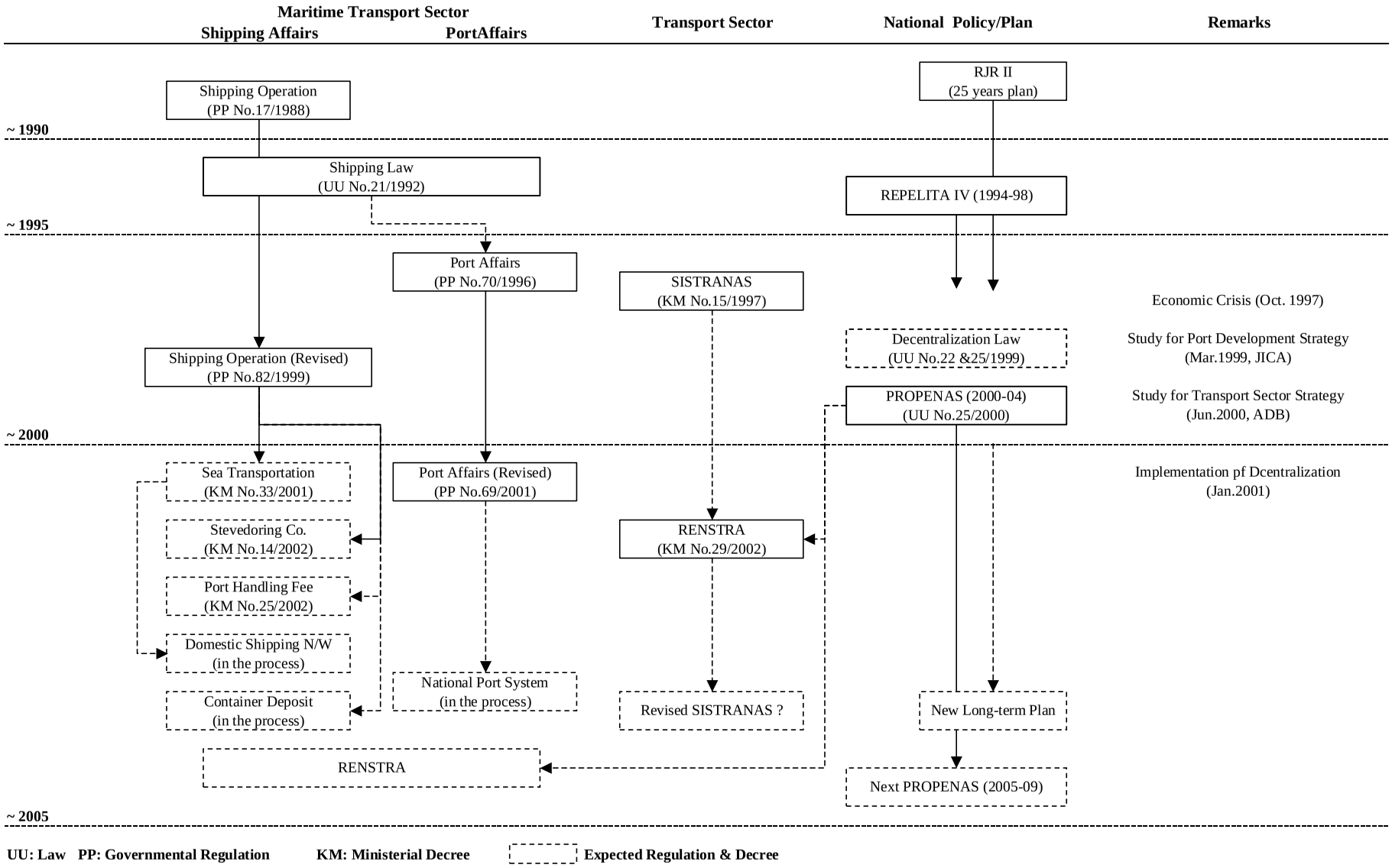
4-B-2 Government Regulation for Port Affairs (PP No.70/1996 and PP No.69/2001)

164. Previous Government Regulation for Port Affairs (PP No.70/1996) identified basic roles of the nation's ports and classified them into several categories, stressing the need of establishing the national port structure and development of the ports in line with the structure. It also introduced the concept of "port working area" and "port interest area" regarding port water area.

165. In line with the Law of Autonomy (UU No.19/25/1999), the government issues the revised Government Regulation for Port Affairs (PP No.69/2001, hereinafter referred to as "Port Regulation"). Main stipulation in the Port Regulation are as follows:

- National Port System consisting of their activity, role and function, classification and kind of port, which is decided by Communication Minister.
- Decision system of port location, Port Master Plan, and Port Working Area & Port Interest Area with each responsibility of central/local government and port organizer.
- Principals of development and operation of the public/special ports.
- Activities and services to be provided in the public/special ports.
- Principals of tariff system such as kind, structure and classification.

Key Laws, Regulations and Decree regarding Maritime Transport Policy



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

Table 4-B-1 Concept of Port Classification

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

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

4-C PAST STUDIES RELATED TO MARITIME TRANSPORT SECTOR

4-C-1 Transport Sector Strategy (ADB)

1) Objective of the study and recommendation

168. The main objectives are as follows.

- Identification of strategic links, terminals and service network
- Analysis of current capacity and performance and constraints including physical, policy and institutional
- Definition of key transport infrastructure projects and associated costs and benefits for short and medium term development programs

169. The key recommendation is as follows.

- Economic development is enhanced by export led growth with important support from re exports (of imports)
- Privatization and/or PSP should be considered for all projects wherever possible
- Safety and expansion of container facilities should be the highest priorities for expenditure

2) Future Traffic demand

170. Future traffic demand is shown as follows.

Table 4-C-1 Future Cargo Demand ('000 ton)

	1998				2009			
	International Cargo	Domestic Cargo	International Container	Total Cargo	International Cargo	Domestic Cargo	International Container	Total Cargo
DKI Jakarta	7,769	6,340	15,028	29,137	14,749	9,406	44,140	68,295
West Java	1,108	1,156	-	2,264	2,319	1,852	-	4,171

Table 4-C-2 Future Passenger Demand (Thousand per year)

	1998			2009		
	International	Domestic	Total	International	Domestic	Total
Tg.Priok	46	459	505	76	936	1,012

171. Tanjung Priok is estimated that future demand will exceed its capacity in 2004. It is shown in Figure 4-C-1

Figure 4-C-1 Future Demand and Capacity

3) Strategic Transport System

172. The study raised up 45 strategic ports. It is important to stress that the movement of ships in port basins and channels requires careful co-ordination and that at many ports cargo and passengers are handled at the same berths. The 45 ports, therefore, comprise 28 ports which have strategic cargo facilities and 38 ports which have strategic passenger facilities. The 45 designated strategic ports handled most of Indonesian's public port cargo and passenger respectively and provide a balanced regional distribution of facilities.

173. Tanjung Priok classified as a hub port. Bojonegara is included in Tanjung Priok. Bojonegara is expected to function in association with Tanjung Priok.

4-C-2 Port Development Strategy (JICA)

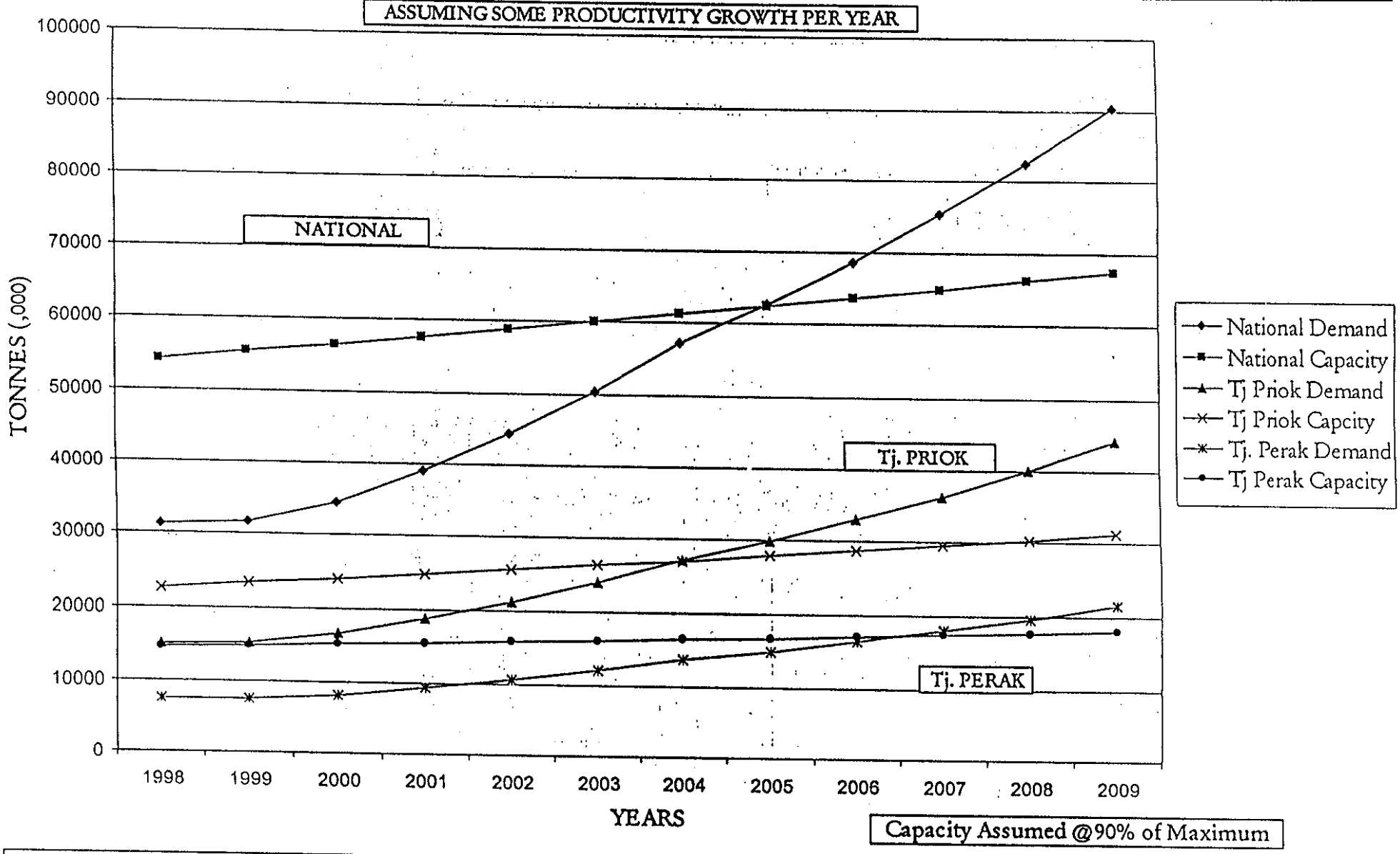
1) Objective of the Study and Recommendation

174. The objective of the study is to formulate the long-term port development strategy for the Indonesian ports up to the year 2018. The strategy was examined from view of realizing future scenario of overall national development.

175. In the study, the following container port networking policy was proposed.

- In the first stage of development, major container ports to which Inter-Asia container service route vessels call should be developed with high priority. In particular, ports which are located not only Sumatra and Java but also in east Kalimantan and south Sulawesi are recommended to be developed as the major container ports.
- After the international container volume handled at the ports reaches a sufficient level, international container ports including international hub container ports

INDICATIVE PROJECTED CONTAINER CAPACITY AND DEMAND



should be more developed. Finally, the establishment of the nationwide container port network shall be pursued. Also, the development of international container hub ports should be pursued not only in Java but also in eastern Indonesia in order to realize well-balanced nationwide development, provided that various countermeasures are conducted for a port to satisfy the required container volume for an international container hub port.

176. As for conventional cargo terminal network, the following policy was proposed:

- In order to deal with the increase of conventional cargo, an efficient and effective conventional cargo terminal network system should be developed based on the cargo demand, present shipping routes and regional balance. In particular, each province should have at least one port which has a major conventional cargo terminals should be developed not only in western Indonesia but also in eastern Indonesia.

177. In terms of passenger terminal development, the following policy was proposed.

- Considering that is the largest archipelago country in the world, formulation of sea transport system for passenger traffic is crucial for supporting daily lives of the people and regional economies. Development of passenger terminal, which supports and promotes human exchange, is also important. In addition, future coordination between DGSC and DGLT, which administrates ferry system, is necessary in order to strengthen the passenger transportation capacity and efficiency through coordination with ferry system.

2) Future Traffic Demand

178. It was assumed that growth rate of GDP just after the economic crisis was approximately minus 5 %. Then, the value was set at the middle position between growth rate will be restored to the original estimated value of GDP of PJP II from the 2006 and gradually restored to the original growth rate estimated in PJP II.

Table 4-C-3 GDP Growth Rate

1999-2003	2004-2008	2009-2013	2014-2018
4.6%	6.8%	8.6%	10.1%

179. The estimated export and import cargo volume at target years are shown as follow.

Table 4-C-4 Cargo Volume in All Indonesia in Target Years

Million tons

	2003	2008	2018
International	619.32	1,128.05	3,011.40
Export	540.70	1,008.32	2,696.16
Import	78.62	119.73	315.24
Domestic	238.30	353.04	905.89
Outbound	124.75	177.14	439.75
Inbound	113.55	175.90	466.14
Total	857.62	1,481.09	3,917.29

Table 4-C-5 Cargo Volume in West Java in Target Years

Million tons

	2003	2008	2018
International	30.71	42.41	106.39
Export	13.21	23.08	58.01
Import	17.50	19.33	48.38
Domestic	45.51	56.35	104.68
Outbound	9.78	13.58	32.91
Inbound	35.73	42.77	71.77
Total	76.22	98.76	211.07

3) *National Port Network System*

a) *International Container Port Network System*

➢ Basic concept

- Tanjung Priok/Bojonegara will be an International Hub Port in Indonesia.
- Singapore, which is the main hub port all Indonesia at present, will be a hub port for eastern part of Sumatra and western part of Kalimantan in future.
- Batam port will be developed in good cooperation with Singapore.
- In the long term, one supplemental International Hub Port should be developed to support the economic activities in the eastern part of Indonesia, because this area is far away from the existing International Hub Port.

➢ Middle Term

- Singapore is main international hub port in the network and Batam port development, if possible, could start in cooperation with Singapore.
- Tanjung Priok/Bojonegara will be developed as Major Container Port called by Transpacific Service vessel and additional Belawan Tg.Emas and Tanjung Perak, a Major Container Port should be developed in East Kalimantan and South Sulawesi, respectively.
- Six locations are selected as Feeder Container Port development considering container volume in certain areas and the need to support the eastern part of Indonesia.

➢ Long Term

- The international hub port are Singapore, Tanjung Priok/Bojonegara and Tanjung Perak/Gresik

b) *Basic Concept for Conventional Terminal Network System*

- Conventional cargo terminal plays an important port in handling not only domestic cargoes but also international cargoes including container cargoes. Handling of international cargo is also very important for playing a role as a national center for handling domestic cargo. Because, such port can play an important role as transit points connecting to foreign countries and any region in Indonesia. Major conventional cargo terminal is an important as a regional level distribution center for handling conventional cargo.

c) *Basic Concept for Passenger Terminal Network System*

- 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. 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.

180. Table 4-C-6 summarizes recommended status of the ports in West Java area. Banten/Ciwandan and Cirebon were not specially mentioned in the study.

Table 4-C-6 Network System in West Java

	Container Port		Conventional Terminal	Passenger Terminal
	Middle Term	Long Term	Long Term	Long Term
Merak	-	-	-	Provincial Passenger Terminal
Banten/Ciwandan	-	-	-	-
Tg.Priok/Bojonegara	Major Container Port	International Hub Port	Hub Conventional Cargo Terminal	Hub Passenger Terminal
Cirebon	-	-	-	-

4) Policy for Special Port

181. Effective utilization of special port & wharf is an important aspect for successful port development. For example, the development of "a special wharf" adjacent to "a public port" will be required in order to promote effective regional development by making use of port function. This will also lead to reduction in the total construction cost for the private sector. In order to do so, the government should strive to remove the obstructions which discourage port development. The government should also establish clear and transparent criteria on how to draw the border line between "port working area (DLKR)" and "water safety area (DLKP)". That is because the demarcation will be crucial in determining which organization will be responsible for the management of each area.

4-C-3 Ferry Port Development (JICA)

1) Objective of the Study and Recommendation

182. In accordance with the rapidly increasing motorization in Indonesia, greater demands are being put on ferry service, aiming at higher quality services including long distance express, formation of a reliable network between land and sea to link island, and mitigation of congested land transport.

183. The following ferry routes for the long-term are proposed.

Jakarta – Pontianak	Kendari – Ambon
Surabaya – Banjarmasin	Ambon – Sorong
Surabaya – Ujung Pandang	Selayar – Labuhan Bajo
Patani - Sorong	Manokwari – Biak
	Wahai – Babang

2) Future Traffic Demand

184. The total passenger and cargo volume records from 1998 to 1995 and future demand are shown as follows.

Table 4-C-7 Total Passenger and Cargo Volume

year	Passenger (Ferry+Sea+Air)	Cargo (Ferry+Sea+Air)
1988	36,035,523	89,378,482
1989	40,750,160	81,515,546
1990	44,039,890	101,328,124
1991	47,136,569	126,927,895
1992	53,537,546	140,401,502
1993	56,241,866	139,060,909
1994	66,714,347	156,149,821
1995	70,229,485	157,680,030

Table 4-C-8 Future Demand ('000)

Year	Passenger		Cargo	
	Ferry	Total	Ferry	Total
2019	409,778	1,0093,586	294,980	174,995

185. OD volume of passenger and cargo in 1988 and 2019 are shown as follows.

Table 4-C-9 Passenger and Cargo OD in 1988 (Origin)

Origin	Passenger			Cargo (ton)		
	West Java	Ratio of West Java	Total	West Java	Ratio of West Java	Total
Sumatra	3,492,426	60%	5,810,867	9,602,286	25%	37,656,187
Java	1,333,486	5%	26,280,740	3,584,861	17%	20,754,104
Kalimantan	339,929	22%	1,552,073	3,180,160	16%	20,415,824
Sulawesi	258,363	18%	1,445,952	177,829	3%	5,457,280
Maluku and Irian Jaya	116,312	12%	945,891	1,057,961	21%	5,095,087
Total	**5,540,516**	**15%**	**36,035,523**	**17,603,097**	**20%**	**89,378,482**

Table 4-C-10 Passenger and Cargo OD in 1988 (Destination)

Destination	Passenger			Cargo (ton)		
	West Java	Ratio of West Java	Total	West Java	Ratio of West Java	Total
Sumatra	4,042,763	63%	6,367,741	3,914,188	16%	24,097,718
Java	1,508,436	6%	25,712,117	935,100	2%	39,933,655
Kalimantan	339,896	22%	1,560,932	524,895	5%	10,731,395
Sulawesi	152,474	11%	1,412,730	591,744	6%	9,226,098
Maluku and Irian Jaya	130,459	13%	982,003	193,098	6%	3,389,616
Total	**6,174,028**	**17%**	**36,035,523**	**6,159,025**	**7%**	**87,378,482**

Table 4-C-11 Ferry Passenger and Cargo OD in 2019 (Origin)

Origin	Passenger			Cargo (ton)		
	West Java	Ratio of West Java	Total	West Java	Ratio of West Java	Total
Sumatra	30,824,638	57%	54,171,880	109,739,335	21%	527,666,228
Java	3,129,727	2%	196,123,052	19,843,468	11%	184,475,334
Kalimantan	261,257	3%	9,068,530	28,659,583	13%	227,373,426
Sulawesi	0	0%	12,925,623	1,259,057	2%	66,096,967
Maluku and Irian Jaya	0	5	22,691,698	18,751,179	21%	87,974,387
Total	**34,215,622**	**12%**	**294,980,783**	**178,252,622**	**16%**	**1,093,586,342**

Table 4-C-12 Passenger and Cargo OD in 2019 (Destination)

Destination	Passenger			Cargo (ton)		
	West Java	Ratio of West Java	Total	West Java	Ratio of West Java	Total
Sumatra	43,749,833	52%	84,637,055	40,566,006	10%	401,655,162
Java	9,050,655	4%	231,693,248	6,395,224	2%	389,912,176
Kalimantan	2,829,924	10%	28,392,329	3,043,575	2%	129,633,764
Sulawesi	1,278,788	5%	26,178,891	4,803,658	4%	113,071,562
Maluku and Irian Jaya	1,062,972	3%	38,876,912	2,021,754	3%	60,313,678
Total	**57,972,172**	**14%**	**409,778,435**	**56,830,217**	**5%**	**1,093,586,342**

3) Ferry Network System

186. The study recommended that Jakarta, the social, economic and culture center of Indonesia should be connected to major cities in Indonesia by air and sea transportation. Among of all, the route of Jakarta - Pontianak, which is ranked 7th in air transportation and 3rd in sea transportation by PT.PELNI, will be the second most important North-South trunk in the future transport network, while the most important North-South trunk line is Surabaya – Banjarmasin.

4-C-4 Container Dry Port Development (JICA)

1) Objective of the Study and Recommendation

187. The objective of the study is to conduct a master plan on container cargo handling ports and dry ports connected by railways, aiming to formulate development strategies to realize the efficient nationwide container transport network coupled with railway services.

188. The ports of Tanjung Priok and Tanjung Perak should be strengthened because these ports may serve as national gateways to accept direct service calls by large-sized container carriers loading around 3,000TEUs. The ports of Belawan, Tanjung Emas, Ujung Pandang and Panjang should function as both cores of regional development and as inter-regional distribution centers. These ports will mainly accommodate Intra-Asia feeders loading around 1,500TEUs.

189. A highest priority project recommended in the study is Gedebage – Tanjung Priok route, followed by Solo – Semarang route.

2) Future Traffic Demand

190. As for GDP and each sectoral growth rates, the figures of the 25 Year Long Term Development Plan II (PJP II) are adopted. The forecast of container cargo volume of Indonesia, Tanjung Priok and Gedebage were set as in Table 4-C-14 and Table 4-C-15.

Table 4-C-13 Estimated GDP Growth Rate

1994-1998	1999-2003	2004-2008	2009-2013	2014-2018
6.2%	6.6%	7.1%	7.8%	8.7%

Table 4-C-14 Forecast International and Domestic Container Cargo Volume

(Unit: 000TEU)

		International			Domestic		
		Export	Import	Total	Outbound	Inbound	Total
Indonesia	2003	2,481	2,481	4,962	—	—	—
	2010	3,973	3,973	7,946	1,380	1,380	2,760
	2018	7,316	7,316	14,632	—	—	—
Tanjung Priok	2003	1,276	1,276	2,552	—	—	—
	2010	1,975	1,975	3,950	172	172	344
	2018	4,221	4,221	8,442	—	—	—

Table 4-C-15 Future Traffic Demand (Dry Port)

(Unit; TEU)

	1993	2003	2010	2018
Gedebage	60,918	134,000	210,000	338,000

4-D SITUATION OF MAJOR CONTAINER HANDLING PORTS IN INDONESIA

4-D-1 General Description of the Ports

191. Table 4-D-1 shows major container handling ports in Indonesia according to DGSC data. While some discrepancy between DGSC data and IPC branch office data is observed among the major ports total container throughput in five major ports counts 4.6 million TEUs in 2001 which make up more than 80% of whole Indonesia.

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

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

* Including Inter-island (Domestic) Container

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

Source: DGSC

cf. Pelindo Branch Office (2000)

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

1) Belawan

192. Port of Belawan is the largest among the ports under the supervision of Pelindo-I, located in Medan City, the capital of North Sumatra province facing the Malacca Strait. Its hinterland is distributed mainly in North Sumatra, Riau and Aceh province. The port has an important role for exporting cargo dominated by agricultural products such as crude palm oil (CPO), rubber (SIR), plywood, timber, pulp, vegetable etc. It also provides regular services for passenger ship mainly for Tanjung Priok and international ferry for Penang Malaysia.

2) Tanjung Perak

193. Port of Perak is the largest among the ports under the supervision of Pelindo-III, located in Surabaya City, the capital of East Java province. Its hinterland is distributed mainly in East Java province, however, some cargo comes from part of Central Java province. The port has an important role for exporting/importing cargo. It also provides regular services for passenger ship mainly for Madura Island as well as Tanjung Priok and Tanjung Emas.

3) Tanjung Emas

194. Port of Tanjung Emas is the second biggest port under the supervision of IPC-III, located in Semarang City (population: around 0.8 million) the capital of Central Java province. Its hinterland is distributed mainly in Central Java province, however, some cargo comes even from Cirebon, the eastermost city of West Java province. The port provides regular services for passenger ship mainly for Tanjung Priok, Tanjung Perak and Makassar.

195. A big problem facing the port is ground subsidence. Although this matter is not within the study scope, it should be noted that the ground has been sinking by 10cm annually. When

the Study team visited the port, sea level has reached almost the same level as the yard and seawater flooded into the yard. The sinking can be partially attributed to the pumping up of ground and and partlially to subsoil conditions. The work on raising the road level has been carried out every five years, however, the raising work for yard seems to be far behind the speed of subsidence. The Study team is concerned that the port will not be able to function in several years. Urgent and effective countermeasures are required.

4) Makassar

196. Port of Makassar is the biggest among the ports under the supervision of Pelindo-IV, located in Makassar (Ujung Pandang) City, the capital of South Sulawesi province. Its hinterland is distributed mainly in Sulawesi island. The port has an important role for exporting cargo dominated by agricultural products such as crude palm oil (CPO), cacao, coffee, plywood, timber and so forth. It also provides regular services for passenger ship mainly for Tanjung Perak and Tanjung Priok.

4-D-2 Port Facilities & Equipment

197. Belawan has no breakwater because it is located at the estuary and juncture of the two rivers; Belawan river and Deli river. Tanjung Perak also has no breakwater thanks to being behind the Madura Island. The dimension of breakwaters and access channels are as follows:

Table 4-D-2 Dimension of Breakwaters and Access Channels

	Belawan	Tg. Perak	Tg. Emas	Makasar
Main Breakwater (km)	-	-	W:2.8km E:2.8km	1.0km
Main Access Channel				
Length (nm)	11nm	West: 25nm East: 22.5nm	unknown	2nm
Depth (m)	-10m	West: -9.7m East: -2.5m	-10.0m	-13.0m
Min. Width (m)	100m	West: 100m East: 100m	unknown	150m
(Tidal Range)	2.5m	2.2m	1.6m	1.4m

Source: Pelind I, III & IV, Lloyd's List Ports of the World 2002

198. Sedimentation problem exists in Belawan and Tg. Emas because of their location at the mouth of rivers. In case of Belawan, maintenance dredging of 200,000m3/year volume for basin and 80,000m3/year volume for channel is needed, twice a year and once a year respectively. In

case of Tg. Emas, maintenance dredging of 800,000m3 volume for channel has been carried out in 2001 after capital dredging in 1997.

199. Berth and other port facilities in these four ports are summarized as in Table 4-D-3. The maximum depth of the ports is -12m in Tanjung Perak and Makassar. In Belawan and Tanjung Perak, large size vessels accommodated with the deepest berth in the container terminals need to utilize the tide to enter the ports. General layout of the port is given in Figure 4-D-1.

Table 4-D-3 Port Facilities of Major Container Port in Indonesia

Figure 4-D-1 Port Layout of Major Container Port in Indonesia

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

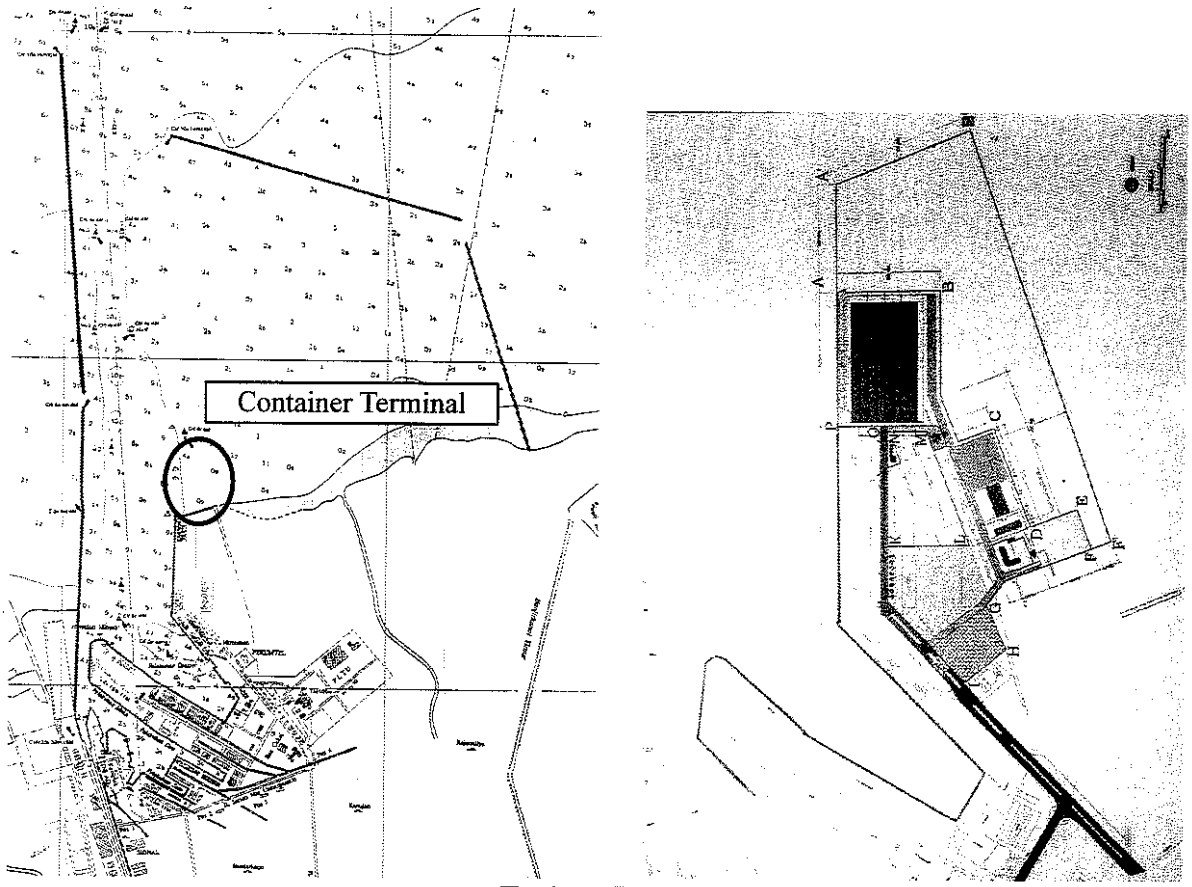
201. As for the passenger terminals, all of them are located in the middle of cargo handling wharf and mix-use of cargoes and passengers cause not only severe congestion but also safety problem. They should be relocated to a new place where accessible from the city and separated from cargo handling area with much more amenity as an important gate of the city.

4-D-3 Port Activity

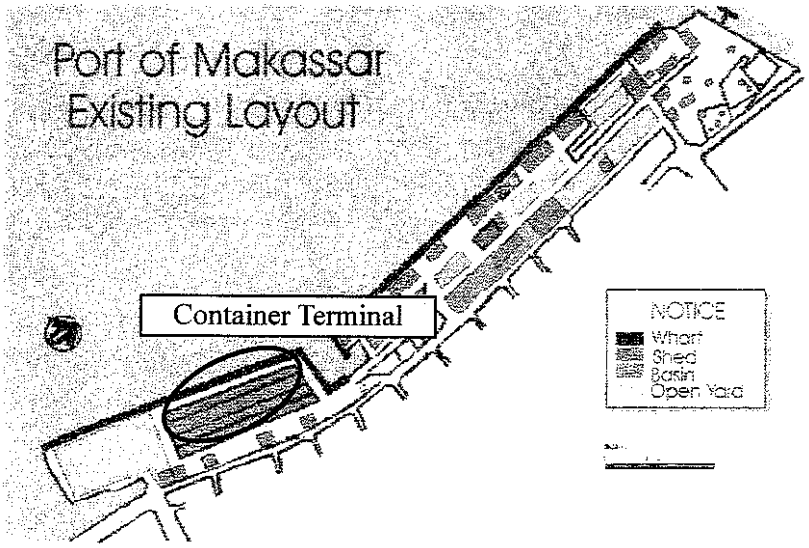
1) Calling Vessels

202. Table 4-D-4 shows numbers of ship calls at the five major ports. Numbers of ship calls at Tanjung Priok and Tanjung Perak are about twice or three times larger than those in the rest. Ports in Indonesia are dominated by the two ports; Tanjung Priok Port in central and western parts of Indonesia, and Tg Perak Port in Eastern part of Indonesia.

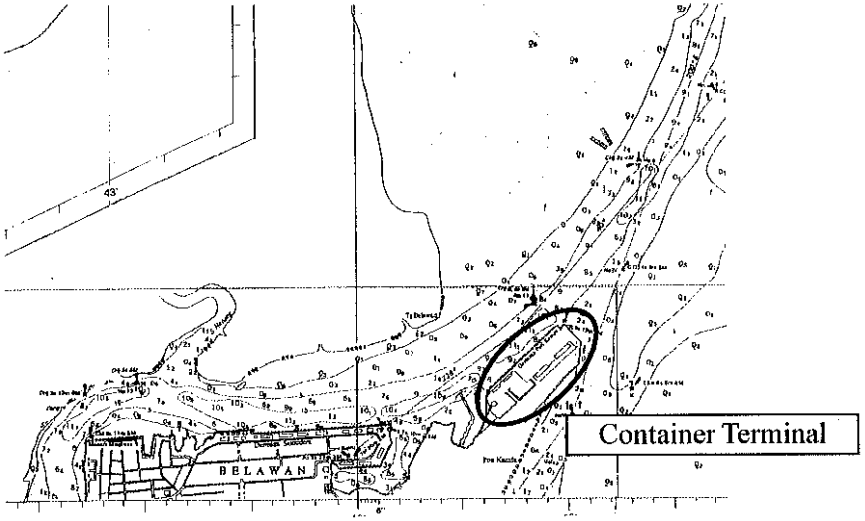
Port	Type	District/ (Operator)	Facilities					Remarks
			Kind	Length	Depth	Unit	Area	
Belawan	Container terminal	Gabion/ (Belawan CT Unit)	Berth	500	-11.0			International
				350	-10.0			Inter-island, Multi porpose
			Container yard				125,270	
			CFS				11,000	
	Other terminal	Lama Base	Berth	675	-5.0~7.0			Inter-island
			Warehouse			6	5,372	
			Open Yard				540	
		Ujung Baru Base	Berth	1,670	-9.5			
				115	-7.0			Passenger ship and ferry
			Warehouse			10	31,508	
			Open Yard				16,395	
		Citra Base	Berth	625	-7.0			Inter-island (general cargo)
				150	-6.0			Inter-island (chemical cargo)
			Warehouse			3	16,800	
			Open Yard				28,730	
Tanjung Perak	Container terminal	(PT. TPS)	Berth	500	-12.0			International
				500	-10.5			International
				450	-10.5			Inter-island
			Container yard				340,000	
			CFS				10,000	
		Berlian/ (PT.BJTI)	Berth	420	-9.0			Multi purpose use
			Container yard				2,000	
			CFS				4,400	
	Other terminal	Jamrud	Berth	930	-9.0			
				960	-8.0			Inter-island
				270	-9.0			Passenger ship
				2,177	-5.0			Small boat
			Warehouse			14	45,886	
			Open Yard				7,589	
		Mirah	Berth	640	-7.0			Inter-island
			Warehouse			4	13,700	
			Open Yard				15,965	
		Intan	Berth	100	-4.0			Inter-island
			Warehouse			4	13,700	
			Open Yard				15,965	
		Berlian	Berth	785	-10.0			Liquid bulk
				700	-10.0			Dry bulk
			Warehouse			4	17,946	
			Open Yard				19,500	
		Nilam	Berth	860	-9.0			Inter-island
			Warehouse			4	18,235	
			Open Yard				14,125	
Tanjung Emas	Container terminal	(TPKS Unit)	Berth	345	-10.0			
			Container yard				77,000	
			CFS				9,600	
	Other terminal		Berth	605	-9.0			Including passenger terminal
				320	-5.0			
				1,963	~ -4.0			
			Warehouse			17	44,790	
			Open Yard				28,800	
Makasar	Container terminal	Hatta/ (Cabang Makasar)	Berth	500	-12.0			International
				350	-12.0			Inter-island, Multi purpose
			Container yard				114,416	
			CFS				4,000	
	Other terminal	Sukarno	Berth	1,360	-9.0			Including passenger terminal
			Warehouse			5	19,200	
			Open Yard				36,203	
		Hasanuddin	Berth	210	-5.0			Inter-island

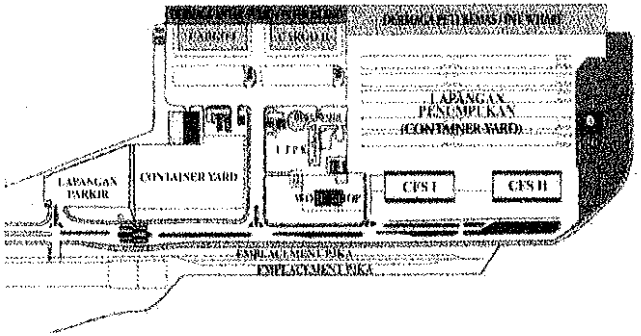


Tanjung Emas

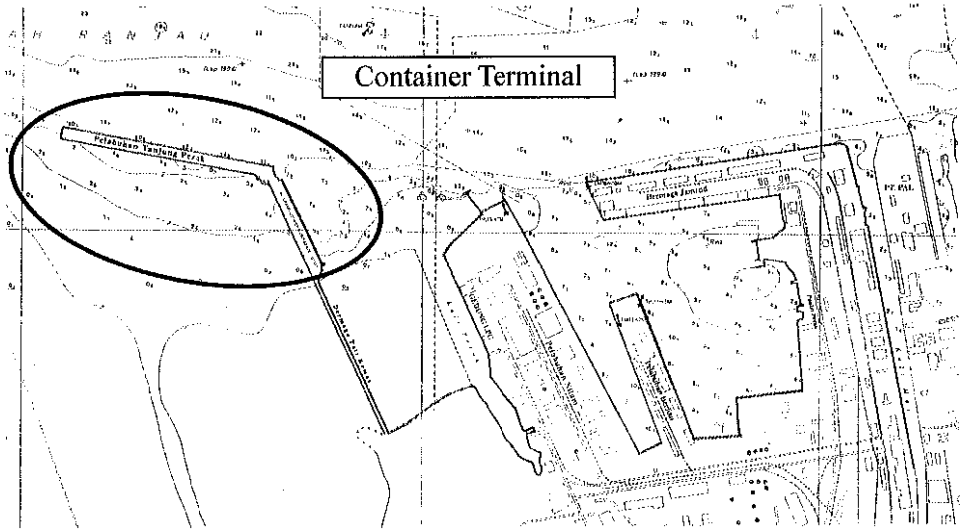


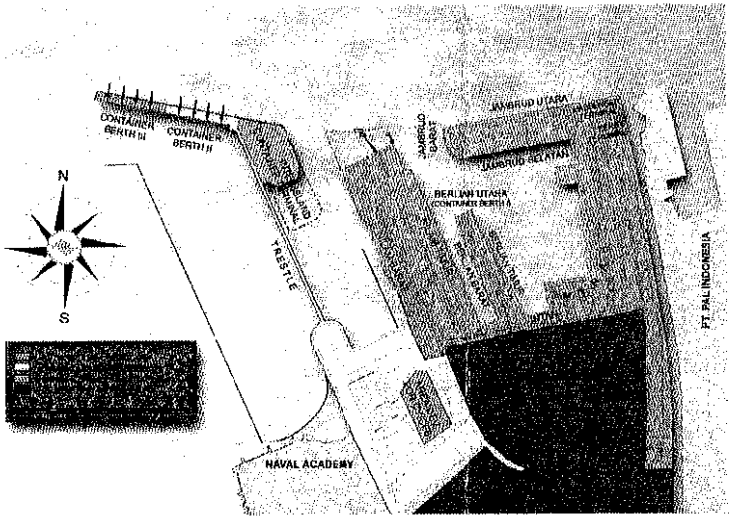
Makassar





Belawan



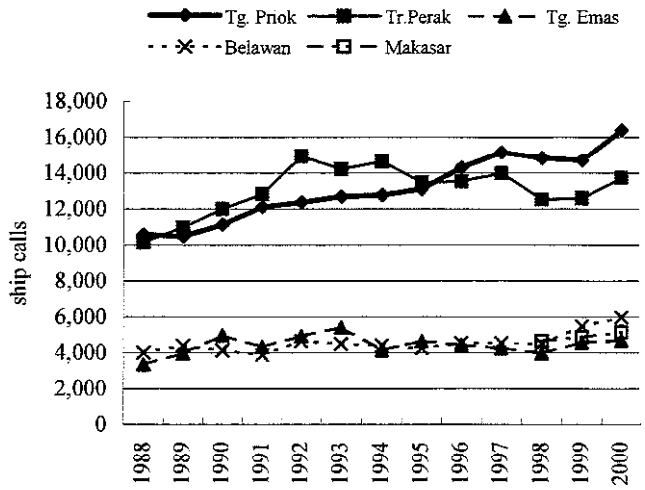


Tanjung Perak

Table 4-D-4 Calling Vessels at the Five Major Ports

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

Source: DGSC, IPC



203. If we look at the total number of ship calls at the five major ports, 45,866 calls were recorded in 2000, 43 percent increase from that in 1988. Looking at the ship calls at the individual port, different features can be seen. Tanjung Priok and Belawan show fast growing in terms of number of ship call, and the other three ports show rather moderate growth.

204. It should be noted that number of ship call at Tanjung Priok and Tanjung Perak was reversed around in 1995. Tanjung Perak has been a leading port in entire Indonesia and the number of ship calls was about 20 per cent larger than that at Tanjung Priok in 1992. Since 1996, however, Tanjung Priok Port has been keeping a position of leading port in terms of ship calls. The number of ship calls at Tanjung Priok was 16,580, which means about 45 vessels call at Tanjung Priok every day.

2) Cargo Throughput

205. According to the DGSC's statistics, total throughput at the five major ports in 2000 were as follows;

Table 4-D-5 Total Cargo Throughput at the Five Major Ports in 2000

'000 ton

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

206. It should be noted that data for Tanjung Priok Port above do not include container handling volume at JICT I, II and KOJA terminal. Detailed data and discussion about Tanjung Priok Port will be made at the latter part of the report.

207. Tanjung Perak port is characterized by the huge portion of domestic traffic, which accounts for 72.6 per cent of the total throughput. This is the evidence that Tanjung Perak Port has been playing a hub port for Eastern Indonesian ports, and providing necessary services for the region.

208. Unlike other major ports in Indonesia, exporting activities at Belawan Port are eye-catching. According to this statistics, nearly three million tons cargo are exported through this port annually. Major commodities in Belawan are agricultural product, rubber, tea, coffee etc.

209. Apart from the total throughput, general cargo throughputs at the five major ports are displayed in Table 4-D-6. It will be wise to re-examine the data for 2000, general tendencies can be depicted. Except Makassar, the general cargo is decreasing since middle of 1990's meaning that it has been containerized dramatically. On the other hand, general cargo volume at Makassar has been increasing rapidly.

Table 4-D-6 General Cargo Throughputs at the Five Major Ports

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

Source: DGSC, IPC

210. Container throughput at the major Indonesian ports is shown in the following Table and Figure. Container throughput at Tanjung Priok Port exceeds two million TEUs, and that at Tanjung Perak Port has been about half, currently more than one hundred million TEUs. Other three ports handles about 2 to 3 hundred thousands TEUs annually, and have shown steady increase every year. The share of the combined three ports among the five major container ports is around 20 per cent currently.

211. In terms of each characteristic of the port, Belawan enjoyed 30% growth rate in 2001 for inter-island container, mainly to/from Tanjung Priok. In Makassar, container is increasing in 2002 with the growth rate of 15%. Foreign container account for 15% of the total container, however, they are not directed to foreign country such as Singapore, but to Tg. Perak and

Tanjung Priok. Major commodities of container are sea product, soy beans, plywood, cacao, furniture etc.

Table 4-D-7 Container Throughput at the Five Major Ports

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

Source: DGSC, IPC

3) Hinterland & Origin-Destination Flow of Container Cargo

212. As Tanjung Perak Port is the largest public port in East Java, large portion of container cargo comes to and from densely populated Surabaya urban areas and surrounding industrial areas. In addition to that, this port has a secondary hinterland in the eastern parts of Indonesia. Not only domestic containers but also considerable portion of international containers originated from Eastern Indonesia are transshipped at Tanjung Perak Port. It is reported that Tanjung Priok Port also has been functioning as a transshipment port for the eastern parts of Indonesian ports.

213. According to the management of conventional berths at Tanjung Perak Port, containers handled at their facilities have been increasingly steadily. Origins and Destinations of these containers are roughly estimated as follows;

Banjarmasin	57 %
Makassar	35 %
Belawan/Sumatra	5 %
Others	3 %

214. Hinterlands of Makassar port are the southern part of Sulawesi Island. Although origins and destinations of container cargo are unknown, OD s for cargo in general are obtained from the IPC IV. Main trading partners and their commodities are reported as follows;

	Export	Import
Bangladesh	17.8 % (Cement)	
USA	10.2 % (Biji Co)	
Philippines	10.1 % (Cement)	
Singapore	8.2 % (Biji Co)	
Japan	8.0 % (Plywood)	
Malaysia	7.7 % (Cement)	
Australia		54.5 % (Wheat)
Thailand		21.0 % (Gula)
Canada		10.6 % (Wheat)

215. As for PTKS in Tg. Emas, 50% is Singapore and it will become 70% adding Tanjung Pelepas, Colombo and Port Klang. Recently, regular service for China has started and shows much increase.

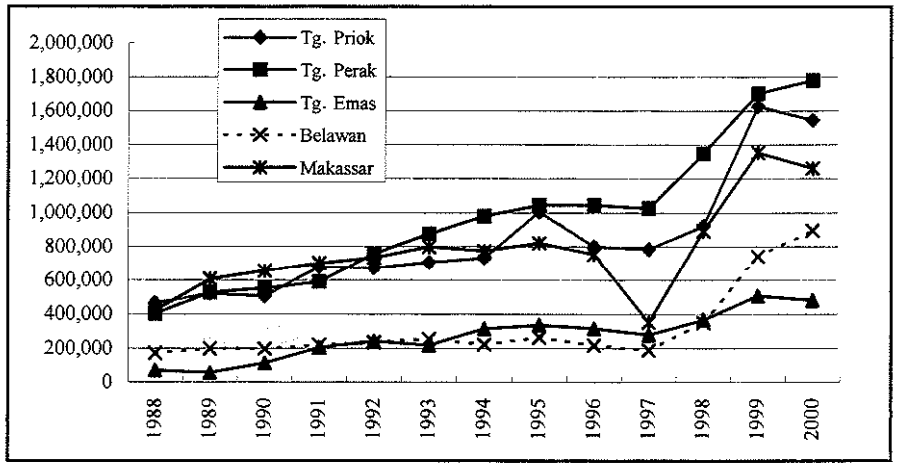
4) Passenger Movement

216. In 2001, Tanjung Perak Port handled about 1.8 million passengers and Tanjung Priok Port handled about 1.5 million. Makassar followed the two ports and handled about 1.3 million passengers. These three ports accommodate more than one million passengers annually.

Table 4-D-8 Passenger Movement at the Five Major Ports

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

Source: DGSC



217. All of the five ports show same tendency about the historical trend of number of passengers. Each of the ports showed the lowest number of passengers in 1997 when economic crisis occurred. After the crisis each port showed increase of number of passengers. It is said that the economic crisis forced people to shift to more economically reasonable mode of transportation. Makassar showed rather big fluctuation, dropped to 350 thousand in 1997, jumped up to 1,352 thousand in 1999, then decreasing gradually to 1183 thousand in 2001.

4-D-4 Container Terminal Operation

1) Operating Bodies

218. There are 6 major container terminals in Indonesia as shown in Table 4-D-9. The operators of these container terminal are classified into several categories according to their relation with IPC: *Joint-Venture* (PT. JICT and PT. TPS); *Joint operation* (TPK Koja); *Direct concerned operation (Subsidiary company of IPC and Branch office of IPC)*:

Table 4-D-9 Major Container Terminals in Indonesia

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

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

219. It should be remarked that several operators show interest on operating the terminal (SPA, Tanjung Pelepas, P&O joint with TPS. The same situation is observed in Belawan (by Port Klang West Port).

2) Container Handling System

220. All of them introduce transtainer handling system in yard operation. TPS is far located from CY in distance of about 2km, however, there are enough chassis for handling container. Tanjung Emas has railway distribution bound for Solo, but few (20~30TEU/week).

221. In terms of custom clearance, any special problems have not been reported except Tanjung Priok. Dwelling time in the yard for imported container is just 3~5 days.

222. With regard to number of employee, in Belawan, there are 280 employees including 120 of contract basis and 50 persons of administration. In Makassar, there are 100 persons working for container terminal.

3) Performance of Container Terminal

223. Facilities and equipment as well as the performance of each container terminal including Tanjung Priok are shown in Table 4-D-10. Although not all relevant data has been obtained yet, we can make the following observations:

- Berth Occupancy Ratio (BOR) is relatively low; there is still room to handle more containers.
- Berthing Time (BT) and Effective Time (ET) seem to be reasonable, but the significant difference between BT and ET in Belawan indicates low efficiency.
- The box/crane/hr (BCH) of approx. 20 is low compared to the international standard. It is said that 1,000 boxes should be loaded/unloaded in around 10 hours, therefore 30 BCH should be achieved assuming 3 gantry cranes are used per ship.
- The figures of box/ship/hr (BSH) seem to be miss-calculated because usually more than one crane is devoted to loading/unloading boxes per vessels.
- High Yard Occupancy Ratio (YOR) means that yard is utilized efficiently, however an extremely high figure means that it is too congested to respond to

orders promptly. In addition, high YOR sometimes stems from long dwelling containers in yard, and this should be carefully investigated. Generally 70 ~ 80% is considered the maximum YOR on yard. On the other hand, low YOR means there is still enough room to handle more containers and yard can be utilized more efficiently. However, requests to move containers can be coped with more easily when the YOR is low:

- Yard Dwell Time (YDT) for import container is longer than for export because of customs clearance. YDT of more than one week should be improved in order to secure the efficiency of yard operation.

Table 4-D-10 Container Terminal Facilities and Productivity

4) Future Expansion Plan for Container Terminal

224. Belawan has a plan to extending another 200m berth with the depth of -12m next to the existing berth by 2005, and another 300m berth to be added by 2015. At the moment, the plan is still being examined. In 2003, one gantry crane will be introduced to the existing terminal.

225. TPS in Tanjung Perak has a plan for expanding inter-island container terminal, however, it has not been started yet reflecting recent stagnant of inter-island container movement in TPS.

226. TPKS in Tg. Emas is now working on developing 150m berth next to the existing berth (345m) by 2003, followed by expansion plan of an another terminal with 400 ~ 500m berth in north side of the existing terminal.

227. Makassar is planning to introduce another gantry crane also has a rough sketch for future development including expansion of container terminal. The plan is now carefully being examined.

Major Container Terminal Facilities and Productivity

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

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

CHAPTER-5. INTERNATIONAL CONTAINER MOVEMENT AROUND INDONESIA

5-A INTERNATIONAL CONTAINER SHIPPING NETWORK AROUND INDONESIA

5-A-1 Status of Indonesian International Container Ports in the South Asia Region

228. The Indonesia-Japan/Japan-Indonesia Freight Conference (IJJIFC), the only conference of trade by shipping lines providing service between Indonesia and Japan, also does not have any particular stipulation concerning international container ports. The FEFC (Far East Freight Conference), on the other hand, which covers all trades between Asia and Europe classifies ports according to their status, namely as main ports and local or out ports.

229. On the other hand, the Indonesian government is now preparing National Port System which includes the following classification of each port based on the Government Regulation for port affairs (PP.69/2001) as we mentioned in earlier section 4-B.

- International Hub Port, the Primary Trunk Port
- International Port, the Secondary Trunk Port
- National Port, the Territorial Trunk Port
- Regional Port, the Primary Feeder Port
- Local Port, the Secondary Feeder Port

230. In this report, it is assumed that any port serving any international container service by ocean carriers, regardless whether by trunk lines or feeder lines, shall be regarded as an international container port. As we described in 4-C-4, there are five major international container ports. Their container movement is shown in Table 5-A-1.

Table 5-A-1 Five Major Indonesian International Container Ports (1,000TEU)

	1994	1995	1996	1997	1998	1999	2000	2001
Medan	177	198	234	180	203	258	274	
Tanjung Priok	1,252	1,465	NA	2,091	1,898	2,273	2,476	2,222
Tanjung Perak	411	447	NA	NA	NA	891	949	868
Tanjung Emas								
Makassar	70	88	106	258	186	129	165	172
Total	1,910	2,198	340	2,529	2,287	3,551	3,864	3,262

Source: Containerization International Yearbooks (1996-2001) The figures for 2001 is extracted from CI News report.
Remarks: The figures include all containers both international/domestic and empty. NA: Not Available

231. Table 5-A-2 shows the historical growth and present position of containers in Asian Countries from 1986 to 1999. It is interesting to see how containerization has evolved in Asia. In 1986, containerization in Asia was still in its early stage. In that year Hong Kong and Singapore handled only 2,274,000 TEU and 2,203,000 TEU respectively. At that time, Taiwan handled the largest volume of containers.

232. The throughput of the same year for Indonesia was only 233,000 TEU which microscopic when compared with today. In 1986, Indonesian ports handled only 2.6% of the total throughput of the whole Asian region excluding Japan, but in 1994 the share had risen to 4.2%. The share of Indonesian container throughput in Asia excluding Japan remains at the

same level of 4.2% in 1999. Indonesia's share of the Asian total including Japan in 1999 is 2.0%.

Table 5-A-2 Historical Change of Container Throughput handled in Asian Countries (1,000TEU)

	1986	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Taiwan	4,105	5,451	6,130	6,179	6,795	7,296	7,849	8,078	7,720	8,856	9,758
H.K.	2,274	5,101	6,162	7,972	9,204	11,050	12550	13460	14567	14582	16211
Singapore	2,203	5,224	6,354	7,560	9,046	10,399	11846	12944	14135	15100	15945
S. Korea	1,533	2,348	2,571	2,751	3,071	3,213	4,503	4,725	5,637	6,331	7,014
Philippines	754	1,408	1,441	1,158	1,663	2,007	1,892	2,260	2,492	3,167	2,813
China	487	1,204	1,506	2,011	2,785	3,878	17232	17927	19929	24729	28215
Thailand	511	1,078	1,172	1,337	1,492	1,743	1,962	2,052	2,124	2,639	2,892
Indonesia	364	924	1,153	1,397	1,611	1,912	2,048	1,764	2,479	2,000	2,102
Malaysia	402	888	1,074	1,218	1,398	1,731	2,075	2,506	2,843	3,015	3,942
India	486	687	699	793	1,017	1,257	1,360	1,461	1,738	1,829	1,762
Sri Lanka	341	584	669	676	858	973	1,029	1,356	1,687	1,714	1,704
Pakistan	292	390	470	510	510	513	551	555	505	701	697
Total (I)	14,252	25,287	29,401	33,562	39,450	45,972	64,897	69,088	75,856	84,663	93,055
Increase %	26.5	12.6	16.3	14.2	17.5	16.5	41.2	6.5	9.8	11.6	9.9
Japan	5,615	7,956	8,782	8,965	9,349	10,091	10,604	12,381	10,847	10,228	11,796
Increase %	1.8	5.5	10.4	2.1	4.3	7.9	5.1	16.8	-13.4	-5.7	1.2
Total (II)	19,867	33,243	38,183	42,527	48,799	56,063	75,501	81,469	86,703	94,891	104,851
Increase %	16.6	10.8	14.9	18.5	7.8	14.9	34.7	7.9	6.4	9.4	10.5

Source: Mitsui O. S. K. Lines Business Research Division, Japan Container Association
Remarks: Total (I) is Asian Total excluding Japan. Total (II) is All Asian Total including Japan.

233. If we refer again to Table 5-A-1. the total containers handled at the five major ports amounted to 3,551,000 TEUs in 1999, while the figure in Table 5-A-2 for the same year reads 2,102,000 TEUs. The difference of about 1,450,000 TEUs is likely a result of domestic containers moving in the Indonesian archipelago. The share of Indonesian ports among the all Asian countries is approximately 2% for international boxes, but if domestic containers are taken into account, the share would be around 3.5%, both cases including Japanese throughput.

234. Assuming the south Asian countries as being Hong Kong, Singapore, Philippines, Thailand, Malaysia, India, Sri Lanka and Pakistan and excluding China, the status of Indonesia changes as follows:

The total containers handled at the above eight countries in 1999 --- 45,966,000 TEU
The total containers handled at Indonesian major ports in 1999 ------- 2,102,000 TEU
The share of Indonesian international containers in the South Asian Region --- 4.57%

235. In conclusion, the status of Indonesian International Container port is not high at this stage for both trunk lines and feeder lines. However, judging from the large population and possible GDP growth of Indonesia in the future, the status of the ports could rapidly change.

5-A-2 Major Shipping Lines and Ports of Call in the South Asia Region

236. There are many service route in the South Asia Region as is shown in Table 5-A-3. Some of them are dedicated to each inter Asia service, while others are utilizing East-West or North South trunk lines and feeder networks. There is no direct call service to North American

Ports with only exception of Maersk Sealand Line serving Trans-Pacific, West and East Coast of USA. Some major lines or consortium are maintaining regular direct service to some European ports from Jakarta as is shown in Table 5-A-4.

237. It is appropriate to mention further about the ports of call for each service route. Because there are many routes, it is difficult to recapitulate in one table. Table 5-A-5 is a table of the major ports of call classified by service routes.

Table 5-A-3 Major Shipping Routes in the South Asia Region

Serving Route	Conference & Ports of call	Major Shipping Lines	Conf. And/or Major Independent Lines' Liftings
Bangkok Southbound	Japan/Thailand Freight Conference (JTFC) Territory: from Japanese ports to Thai ports	Conference Members ICNAL (HK),P&ON (UK) Kansai Steamship, K NYK,MOL (Japan) Maersk-Sealand (Denmark) Siam Petra, Unithal, Thai Mercantile, Jutha Maritime (Thailand) Independent Lines APL,COSCO,OOCL and 10 others.	(2001) 64,000 TEU
Northbound	Thailand/Japan Conference (TJC) Territory: from Thai ports to Japanese ports	Conference Members Almost same with JTFC Independent Lines Almost same with JTFC	113,000 TEU
Indochina Southbound & Northbound	Japan/Saigon Freight Conference(JSFC) Territory: From Japan to Ho Chi Minh City	Conference Members K,MOL,NYK (Japan) Maersk-Sealand (Denmark) Independent Lines COSCO, Wan Hai and 9 others	(2000) Southbound to Vietnam from Asian countries: 145,000 TEU to Cambodia: 22,250 TEU
	Japan/Indochina Freight Conference(JIFC) Territory: From Japanese ports to Vietnamese ports excluding Ho Chi Minh	Conference Members K, Tokyo Senpaku (Japan) Independent Lines Almost same with JSFC	Northbound to Asian countries from Vietnam: 88,500 TEU from Cambodia: 1,350 TEU
Philippines Southbound	Japan/Philippines Freight Conference (JPFC) Territory: from Japan to Manila and other Philippines Islands ports	Conference Members K, MOL,MO Seaways, NYK (Japan) and 12 others Independent Lines APL,FESCO,Maersk-Sealand and 2 others	(2000) 35,416 TEU
Northbound	Philippine/Asia Conf. (PAC) Territory: from Philippines to all south Asian destinations		

Serving Route	Conference & Ports of call	Major Shipping Lines	Conf. And/or Major Independent Lines' Liftings
Indonesia Southbound /Northbound	Indonesia-Japan/Japan-Indonesia F. C. (IJJIFC) Territory: from Japanese ports &vice versa	Conference Members Indonesian National Lines Group (6 Lines) Japanese Lines (Tokyo Senpaku, MOL, NYK) Independent Lines APL, OOCL, HHM & 12 others.	(2000) Southbound 49,600 TEU Northbound 47,700 TEU
Sabah&Sarawak Southbound Northbound	Sabah, Brunei, Sarawak Freight Conference (SBSFC) Territory: from Japan, Korea and Taiwan to Sabah, Sarawak and Brunei SBSFC Territory: from Sabah, Sarawak and Brunei to Japan, Korea and Taiwan	Conference Members K and 3 others Independent Lines 3 Lines	Container Data Not Available
Hong Kong & Straits Southbound Northbound	Japan/Hong Kong and Japan/Straits Freight Agreement (JHJSFA) Japan/Hong Kong and Japan/Straits Container Carriers Discussion Agreement (JHSCCDA) Hong Kong /Japan Freight Conference (HJFC) East Asia Rate Agreement (EARA)	Conference Members 13 Lines (12 Japanese, and 1 Malaysian) Independent Lines 22 Lines Sleeping since 1975 APL, K, MOL, NYK, OOCL, Maersk-Sealand, Regional Container Line, Tokyo Senpaku	(2000) Southbound to Hong Kong 233,000 TEU to Singapore 104,000 TEU to Malaysia 118,000 TEU Total 455,000 TEU Northbound from Hong Kong 216,000 TEU from Singapore 54,000 TEU from Malaysia 122,000 TEU Total 392,000 TEU

Source: International Transportation Handbook 2002, MOL Business Research Division
Remarks: Container liftings are based on the statistics of the conferences /agreements and include estimation.

Table 5-A-4 Indonesia-Europe Direct Service

	Route and Ports of Call	Frequency	Deployed Vessel	Slot Charter by
CMA-CGM/ Norasia NCX Service	Route: Europe/Red Sea/ Far East/China Ports of Call: Southampton, Hamburg, Rotterdam, Zeeburgge, Le Havre, Marsaxlokk, Port Kelang, **Jakarta,** Hong Kong, Qindao, Port Kelang, Damoietta, Marsaxlokk, Southampton	Weekly	5,000 TEU x 9	ANL-CL, Contship, China Shipping, Evergreen
Contship/ CMA-CGM/ Marfret	Route: Europe/US/South Pacific/Oceania/Far East/ Europe Ports of Call: London, Hamburg, Rotterdam, Dunkirk, Le Havre, New York, Norfolk, Savanna, Kingston, Manzanillo (Panama). Papeete, Auckland, Noumea, Brisbane, Sydney, Melbourne, **Jakarta**, Singapore, Colombo, Port Said, La Spezia, Marseilles, London	33Slgs per year	2,000 TEU x 8	Hyundai
Grand Alliance Loop 5 Service	Route: Europe/Mediterranean/Red Sea /South East Asia Ports of Call: Hamburg, Rotterdam, Southampton, Gioia Tauro, Jeddah, Jubel Ali, Colombo, **Jakarta,** Singapore, Port Klang, Colombo, Jeddah, Gioia Tauro, Hamburg	Weekly	6,000 TEU	Andrew Weir Shipping

Table 5-A-5 Extraction of Major Ports of Call by Service Routes in the South Asia Region

Shipping Line	Service Nick Name	Frequency	Ports of Call
Cheng Lie	B1 Service (Taiwan/Hong Kong) 2x 800 TEU ship	Weekly	Kobe-Tokuyama-Keelung-Kaohsiung-Hong Kong-Keelung-Osaka-(Kobe)
	CN-1 Service (North/South Asia) 4 x 1,100 TEU ship	Weekly	Qindao-Shanghai-Hong Kong-Manila-**Jakarta**-Surabaya-Manila-Hong Kong-(Qindao)
	V Service (Manila/Vietnam) 3 x 1,000 TEU ship	Weekly	Keelung-Taichung-Kaohsiung-Manila-Ho Chi Minh-Rayon-Laem Chabang-Ho Chi Minh-Hong Kong-(Keelung)

Shipping Line	Service Nick Name	Frequency	Ports of Call
TSK	Pegasus Service (Manila/Malaysia/ Singapore/Indonesia) 4x1,675 TEU ship	Weekly	Tokyo-Shimizu-Nagoya-Kobe-Manila-Singapore-Port Kelang-**Jakarta**-Pasir Gudang-Singapore-Manila-Osaka-
	Southern Cross (Taiwan/Singapore/ Indonesia) 3 x 1,461 ship	Weekly	Osaka-Kawasaki-Tokyo-Yokohama-Nagoya-Kobe-Keelung-Hong Kong-Singapore-**Jakarta**-Port Klang -Singapore-Hong Kong-Keelung-(Osaka)
Uniglory (Evergreen)	Japan-Straits-Express 3 x 1,164 TEU ship	Weekly	Tokyo-Yokohama-Osaka-Keelung-Hong Kong-Port Kelang-Singapore-Johor-Hong Kong-Tokyo
	South East Asia 4 x 998 TEU ship	Weekly	Tokyo-Yokohama-Nagoya-Yokkaichi-Keelung-Taichung-Kaohsiung-HK-Laem Chabang-Bangkok-Laem Chabang-HK-Kaohsiung-Taichung-Keelung-(Tokyo)
Wan Hai	Kanto/Manila, Java Direct Service 5 x 1,183 TEU ship	Weekly	Tokyo-Yokohama-Shimizu-Nagoya-Keelung-Taichung-Kaohsiung-HK-Manila-**Jakarta**-Semarang-Surabaya-HK-Kaohsiung-Taichung-Keelung-Tokyo
	Japan/China/Indonesia Service 5 x 1,200 TEU ship	Weekly	Tokyo-Yokohama-Osaka-Xingang-Qindao-Shanghai-HK-Shekou-Manila-Surabaya-**Jakarta**-Kaohsiung-HK-(TK)
Yang Ming	PAN Asia Service 4 x 1,200 TEU ship	Weekly	Oita-Moji-Hakata-Busan-Kwangyang-Keelung-Taichung-Kaohsiung-HK-**Jakarta**-Surabaya-HK-Kaohsiung-Taichung-Keelung-(Oita)

Source: Brochures and Homepages of Each Line

238. In south East Asia/ North Europe Trade, the main stream of the service is via Singapore. As is shown on Table 5-A-6 below, the transit time of a standard service via Singapore is rather short compared with that of a Jakarta direct service. One reason is that even a direct service boat from Jakarta calls Singapore on its way to European destination ports. Another reason is that newly built ships with excellent speed are deployed to the trunk line. the ships being used in the Jakarta-Europe direct service are rather old with inferior speed. In this trade, direct calling or indirect calling is not a major point but one of the points of competition. The two major factors are level of ocean freight charges and transit time.

Table 5-A-6 Comparison of Transit Days (Direct and Transship Service to North Europe)

To North Europe	Singapore	Rotterdam	Hamburg	Southampton	Le Havre	Bremenhaven
Via Singapore	1	16	18	21	22	19
Direct Service	1	27	25	28	19	22

Source: JICA Study Team based on Indonesia Shipping Gazette, June 2002

239. Regarding the direct service between Jakarta/Pacific-North America maintained by MSL, no detailed information is available as those information is available only to their customers through the customer service devices of the MSL in-house computer system with a strict control rule. However, judging from the fact that the rather low speed ships are being

deployed and therefore comparatively long transit time to destination ports then that of their competitors' ships, the direct service to North America is not so popular in the market.

240. Generally, shippers and consignees are very much concerned about the transit days from the day of shipment to the days of arrival/delivery of their containers. In this regard, the transit time of a service route plays a decisive role among the shippers. Table 5-A-7 is a comparison table of a direct service to North America and a standard transshipment service to North America via Singapore.

Table 5-A-7 Comparison of Transit Days (Direct and Transship Service to US ports)

To West Coast US	Singapore	Los Angeles/ Long Beach	Oakland	Chicago/ Dallas	Memphis/ Houston	New York/ Atlanta
Via Singapore	1	16	20	21	21	23
Direct Service	-	21	29	-	-	29

To East/East Coast US & Canada	Singapore	Seattle	Vancouver	Los Angeles	Chicago	New York
Via Singapore	1	16	18	21	24	26
Direct Service	-	25	27	29	-	34

Source: JICA Study Team based on Indonesia Shipping Gazette, June 2002

241. The framework of the major shipping network in the South Asia Region is outlined. More detailed in formation with the focus on Jakarta is given the separate chapter of 6-D-4.

5-A-3 Market Shares of Major Shipping Alliances in the South Asia Region

242. Generally, from a managerial view point, it is shipping lines' preference to solicit containers from port of origin to a final destination port. It is quite natural for a shipping line to try to fill a ship with such containers which brings the highest earnings to the line. Because of this, any port on the way between a port of commencement to a port of completion of a voyage is called a way port. For example, on the East/West trunk line which connects Asia with Europe, or North America, major shipping alliances such as Grand Alliance, New World Alliance, Maersk-Sealand while CMA CGM are deploying most of their superior container ships and the inter-Asia containers are carried by small regional shipping lines or their subsidiary lines.

In order to find out the market share of major shipping lines, therefore, it is necessary to grasp the container volume of inter-Asia movement first, then to look into the trend of the main East/West trunk lines for both North American Trade and Europe Trade. Table 5-A-8 shows the break-down of container movements throughout the world.

Table 5-A-8 Matrix of World's Container Movement in 2000(1,000 TEU)

From/To	N. Am.	E.Asia	Europe	S.Am.	M.East	India	Africa	Oceania	Total
N.Amer.	450	3,945	1,717	1,727	238	188	134	220	8,619
E. Asia	7,646	5,408	4,580	1,080	800	480	665	592	21,251
Europe	2,662	2,864	4,620	736	380	350	799	246	12,657
S. Amer.	1,422	720	1,373	550	33	33	66	29	4,226
M. East	129	262	200	4	180	163	26	18	982
India Etc.	470	600	520	4	203	240	38	30	2,105
Africa	103	396	559	50	26	40	160	30	1,364
Oceania	159	744	207	22	54	99	37	260	1,582
Total	13,041	14,939	13,776	4,173	1,914	1,593	1,925	1,425	52,786

Source: MOL Business Research Division based on Piers/JOC, Conference Statistics

243. Some remarks on the classification of the specific regions of Table 3-1 will be necessary. East Asia of the above table covers Far East including China , South East Asia (Thailand,

Malaysia, Singapore, Indonesia). India etc. covers India, Pakistan, Sri Lanka, Bangladesh, Myanmar.

244. Inter regional movement of containers is represented by shaded boxes on the table. The total container numbers moving in each region account for about 22.5 % of the world total while the share of the inter Asia containers is 10.2% and the highest. The details are recapitulated as follows:

		Share to the World Total of 52,786,000 TEU
Inter Asia	5,408 ,000 TEU	10.245 %
Inter Europe	4,620 ,000 TEU	8.752 %
Inter South America	550 ,000 TEU	1.042 %
Inter North America	450 ,000 TEU	0.852 %
Inter Oceania	260 ,000 TEU	0.493 %
Inter India Semi-Continent	240 ,000 TEU	0.455 %
Inter Middle East	180 ,000 TEU	0.341 %
Inter Africa	160 ,000 TEU	0.303 %
Inter Region Total	11,868 ,000 TEU	22.483 %

245. Figure 5-A-1 shows the numbers of containers carried by various service routes. The largest container flow (45% of the total) is found on East-West Route which includes Asia/Europe and Asia/North America. Inter Asia containers represent about half of the Inter Regional movement.

246. Indonesia's International traffic can be divided into two categories. One is East-West and the other is Inter-Asia. East-West traffic carried via East-West trunk line is further divided into North-American trade and European trade.

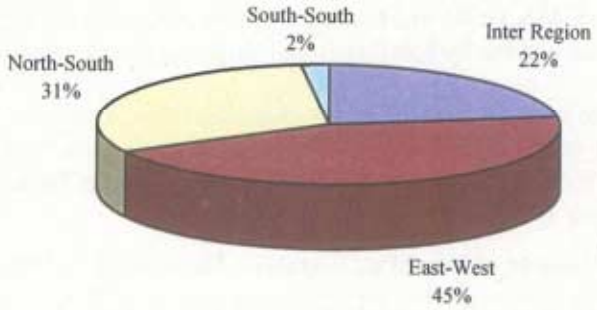


Figure 5-A-1 Containers Carried by Service Route

1) North American Trade

247. As is shown in Table 5-A-8, containers from East Asia to North America amounted to 7,646,000 TEU, while those from North America to East Asia were 3,945,000 TEU in the year 2000. The trade imbalance between Eastbound and Westbound was 3,701,000 TEU. North American countries bought almost double. Given this general trend of North America and Asia, it is noteworthy that Indonesia is not an exception as is shown on Table 5-A-10 (10 Major Players in Indonesia/North America) which shows 213,900 TEU were carried outbound while 90,900 TEU were inbound containers.

248. Table 5-A-9 shows the historical cargo movement between Indonesia and North America from 1994 through 2001. In 2000, the total volume of containers of both import and export of Indonesia/North America was 396,000 TEU which is about 3.5 % of the total Eastbound/Westbound (East Asia/North America) volume of 11,591,000 TEU in Table 5-A-8. It is worth noticing that the separate share for outbound and inbound is almost the same at 3.4.

Table 5-A-9 Container Movement between Indonesia/North America (1,000 TEU)

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

Source: Piers/JOC

249. North American Trade (Trans-Pacific Route) is one of the three major battle fields of the liner shipping industry. Many shipping lines are competing in this trade. Because of many changes in the rules and regulations of governments and conferences, it has become more and more difficult to grasp the trade share of each competing line. Table 5-A-10 has been produced through a series of interviews with major shipping lines as official publications are not available.

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

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

Source: JICA Study Team

250. In 2001, the total volume of outbound containers destined to North America from Indonesian ports were 264,000 TEU in Table 5-A-9, thus Top 10 lines' outbound total shares about 81 % of the trade. The inbound share is 80 %, the total share for both outbound and inbound is 82 %. Alliance wise share for outbound/inbound is calculated by adding the volume of each line in the alliance.

Maersk-Sealand	43,400 TEU + 16,500 TEU = 59,900 TEU	15.9 %
Grand Alliance (NYK, OOCL)	39,300 TEU + 12,900 TEU = 52,200 TEU	13.8 %
New World Alliance (APL, MOL, HMM)	64,700 TEU + 30,100 TEU = 124,900 TEU	33.1 %
Evergreen	23,000 TEU + 12,500 TEU = 35,500 TEU	9.4 %
K Line, Yang Ming	9,800 TEU + 9,800 TEU = 19,600 TEU	5.2 %
Hanjin, Senator	33,100 TEU + 9,100 TEU = 42,200 TEU	11.2 %

251. Among the alliances and the independent lines, New World Alliance holds the largest share at 33.1 %. Generally a share exceeding 25 % is called a "Lion's share" and alliance with such a share is believed to have a strong influence over the market. The total share of Alliances/Independent Lines for outbound and inbound is 88.6 % and thus the market can be characterized as oligopoly.

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

2) European (North Continent) Trade

253. According to Table 5-A-8, 4,580,000 TEU containers flew out from East Asia to Europe and 2,864,000 TEU flew into East Asia in 2000. A trade imbalance of 1,716,000 TEUs exists in this trade too. European Trade Route is one of the three major routes centering on Asia. The other two are Asia/North America and Inter Asia. The trend of European Trade is different from that of North American Trade mainly because of differences in the historical and political background. The major difference is caused by the Development of EU and some important changes in the logistic infrastructure and new regulations concerning traffic in the region.

254. Table 5-A-11 shows the historical cargo movement from/to European North Continent from 1994 through 2001. The definition of European ports is changing nowadays, especially after the collapse of the Soviet Union. There is a long queue of East European countries applying for EU membership and this situation is affecting in the shipping industry. Many East European ports are being included in European ports group but it will be some years before all shipping conferences and agreements accept those ports as conference ports. The statistics of container movement to/from East European Region are incomplete at present.

255. Under these circumstances, the available data are limited to those of North Continent Region where FEFC (Far East Freight Conference) is dominant and has a long established data gathering system supported the by member lines.

Table 5-A-11 Container Movement between Indonesia/European North Continent

'000TEU

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

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

256. In 2001, the total volume of outbound containers from Indonesia to European North Continental ports was 220,000 TEU. The conference members carried about 170,000 TEU (77%) and the estimated liftings by the non-conference lines were 50,000 TEU. The destination port wise breakdown is as follows:

- UK/Eire 38,600 TEU
- Germany 37,400 TEU

- Netherlands 37,400 TEU
- Belgium 23,200 TEU
- France 9,900 TEU

257. Inbound volume from the same region to Indonesia in 2001 was 132,000 TEU, and the breakdown by the place of receipt in Europe is:

- Germany 36,500 TEU
- UK/Eire 29,200 TEU
- Netherlands 27,200 TEU
- Belgium/Luxembourg 21,600 TEU
- France 7,500 TEU
- Sweden 3,300 TEU

258. Table 5-A-12 shows the top 10 liner operators in the trade. This data is compiled by the JICA Study Team and not official data of the concerned conferences.

Table 5-A-12 Top 10 Major Players in Indonesia/European North Continent Trade in 2001

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

Source: JICA Study Team

259. In 2001, the volume of outbound total containers destined to European North Continent ports were 220,000 TEU and Top 10 Lines' share was 73 %, while the same share in Inbound containers of 132,000 TEU from the same region was 94 %. The outbound/inbound total share is 81 %. Alliance wise share for outbound/inbound containers are calculated in the same manner as North American Trade.

Maersk-Sealand (Grand Alliance)	34,700 TEU + 30,900 TEU = 65,600 TEU	18.6 %
NYK, P&O-N, Hapag, OOCL (New World Alliance)	68,300 TEU + 41,700 TEU = 110,000 TEU	31.3 %
APL, MOL, HMM	36,000 TEU + 34,900 TEU = 70,900 TEU	20.1 %
CMA-CGM	12,600 TEU + 6,500 TEU = 19,100 TEU	5.4 %
Others (K, Senator etc.)	9,500 TEU + 10,700 TEU = 20,200 TEU	5.7 %

260. In addition to liftings by conference members, outbound containers are also moved by major independent lines (non conference lines) such as Hanjin (16,000TEU in 2001), Evergreen (11,500TEU) and Contship Container Lines, Lloyd Triestini, UASC, Norasia. (each 3,000TEU).

261. In addition to the traffic between Indonesia and European North Continent, there are small container streams between Indonesia and Mediterranean ports as is shown in Table 5-A-13.

Table 5-A-13 Container Movement between Indonesia and Mediterranean Ports in 2001

	West Med.	East.Med.	Black Sea	North Africa	Total
Outbound	27,500	12,300	2,000	2,500	44,300
Inbound	11,000	4,600	600	40	16,240
Total	38,500	16,900	2,600	2,540	60,540

Source: JICA Study Team

3) Inter Asian Traffic centering Indonesia

262. Table 5-A-14 shows the breakdown of Inter-Asian International movement of containers centering on Indonesia in 2001. The figures are based on the statistics return from the member lines of IADA (Intra Asia Discussion Agreement).

Table 5-A-14 Indonesia/Asian Countries Breakdown in 2001 (TEU)

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

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

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

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

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

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