



Bitung as a Future Hub Port in The Eastern Part of Indonesia

Prasetyadi(a), Rheo Hary Widiyanto(b)

(a)Assistant Senior Manager, Indonesia Port Corporation IV

(b)Staff of Port Planning, Indonesia Port Corporation IV

Abstract

The issue of the development in eastern part of Indonesia is complicated. For the last 10 years, the eastern part of Indonesia has become a central point in the context of national development, considering its limitations in several economy and social sectors. In spite of its abundant natural resources, in some aspects of development the eastern part of Indonesia is left behind the western part, indicated as follows : a. Respectively only 15% and 9% of the local and foreign investment is absorbed in this area, while the rest is given to the western area.; b.The quality of human resource in eastern part of Indonesia is below the national average. One of the dominant constraints faced by the eastern part of Indonesia in economic development is that export commodities from this area should go first to Tanjung Priok in Jakarta and Tanjung Perak in Surabaya, while in fact it is nearer for the cargo to reach their destination countries, especially in Asia Pacific region, from the eastern part of Indonesia. It resulted in the high transportation cost and it is difficult for products from the eastern Indonesia to compete in the global market, as well.

1.Preface

1.1.General

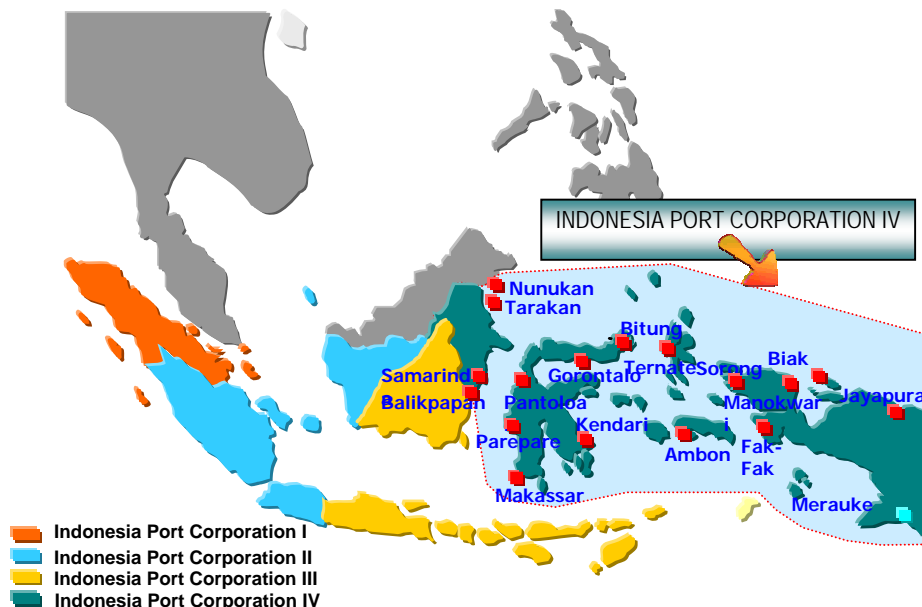


Figure 1. Areas of Indonesia Port Corporation (IPC)

1.2.Container Movement In Indonesia

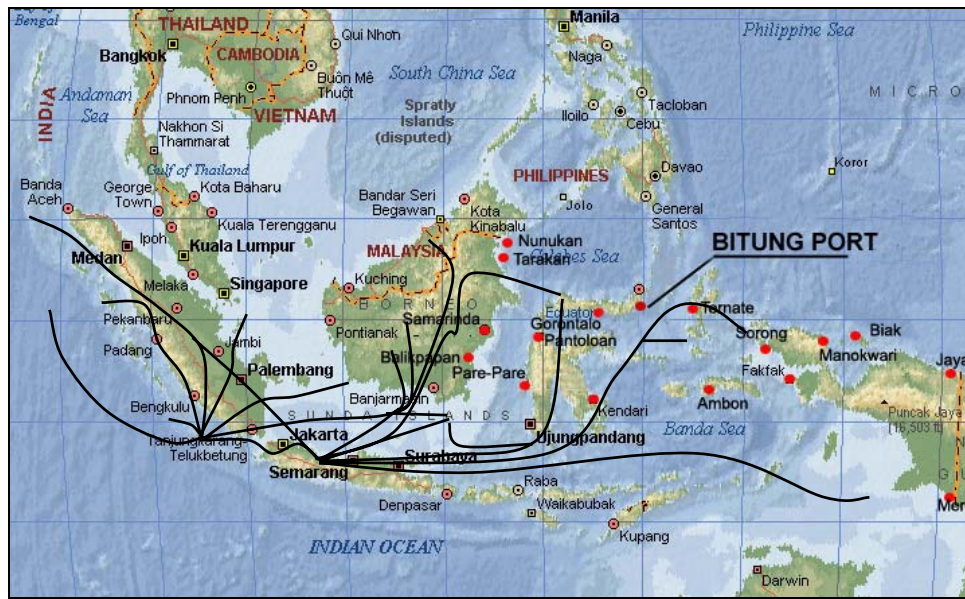
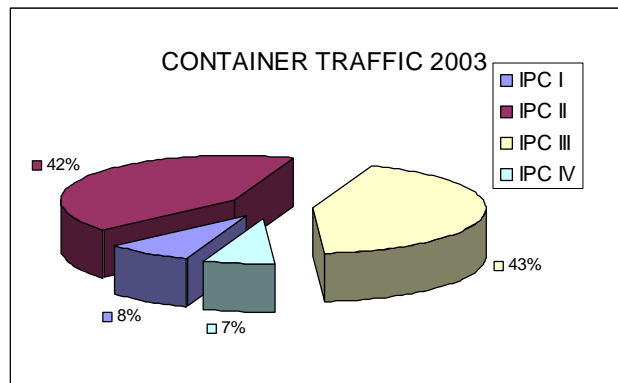


Figure 2.Existing Condition of Container Sea Transportation Network

Table 1. Container Traffic at Major Port In Indonesia

No	NAME OF PORTS	YEAR (TEUs)				REMARKS
		2000	2001	2002	2003*	
A.	IPC I :					
1	Belawan	312.781	372.883	408.666	437.847	
2	Pekanbaru	86.721	98.354	117.946	170.366	
3	Dumai	464	170	217	313	
	Total IPC I :	399.966	471.407	526.829	608.527	
B.	IPC II :					
1	Tanjung Priok	2.494.596	2.524.396	2.607.144	2.968.230	
2	Panjang	7.690	76.469	76.134	103.782	
3	Pontianak	83.093	100.813	112.240	121.206	
	Total IPC II :	2.585.379	2.701.678	2.795.518	3.193.218	
C.	IPC III :					
1	TPKS Semarang	0	135.467	315.071	320.000	
2	Tanjung Perak	305.514	399.928	341.480	586.432	
3	Banjarmasin	0	138.840	149.302	159.500	
4	Benoa	0	19.972	22.413	24.500	
5	Sampit	0	11.188	18.276	20.453	
6	Tenau Kupang	0	7.840	8.865	10.750	
7	TPS Surabaya	0	876.136	936.166	1.500.000	
8	BJTI Surabaya	0	0	511.953	682.600	
	Total IPC III :	305.514	1.589.371	2.303.526	3.304.235	
D.	IPC IV :					
7	Makassar	164.684	177.416	208.384	221.479	
8	Bitung	66.737	80.386	84.680	87.894	
9	Balikpapan	22.401	34.210	52.632	55.540	
10	Samarinda	68.685	71.618	88.043	132.887	
	Total IPC IV :	322.507	363.630	433.739	497.800	
	Total IPC I ~ IV	3.613.366	5.126.086	6.059.612	7.603.780	

*estimated

Table 2. Container handling movement by composition in Indonesia

2. The Existing Condition of Bitung Port

2.1. Existing Port Facilities

Container Terminal

Wharf	130 M
Stacking Yard	44.000 M ²
Traditional Wharf	60 M
CFS	42 X 30 M ²
Head Truck and Chasis	1 UNIT
Top Lifter	1 UNIT
Forklift 5 Ton	4 UNIT
Tug Boat 1.500 HP	1 UNIT
Mooring Boat 160 HP	1 UNIT
Pilot Boat	1 UNIT

Reach Stacker, 48 Ton	1 Unit
Crane Mobile, 150 Ton & 25 Ton	2 Unit
Forklift 28 Ton	3 Unit
Forklift 7, 3.5 & 2 Ton	@1 Unit
Forklift 5 Ton	4 Unit
Forklift 3 Ton	3 Unit

Conventional Terminal

Wharf	
- Ocean Going	605 M
- Domestic	602 M
- Chemical Industry	146 M
- Traditional	60 M
Container Wharf	
- Conblock Yard	27.311 M ²
- Hotmix Yard	2.735 M ²
Transhit shed	13.392 M ²
Passenger Terminal	3.195 M ²
Mobile Crane 25 Ton	1 Unit
Reach Stacker 42 Ton	1 Unit
Forklift 5, 3, & 2 Ton	@1 Unit
Fire Fighting 25 Ton	1 Unit
Tronton 18 Ton	2 Unit
Electricity	99 KVA
Water Supply (owned)	200 Ton/Hour
Water Supply (PAM)	100 Ton/Hour
Tug Boat (1.160 HP)	2 Unit
Pilot Boat	2 Unit
Barge	1 Unit

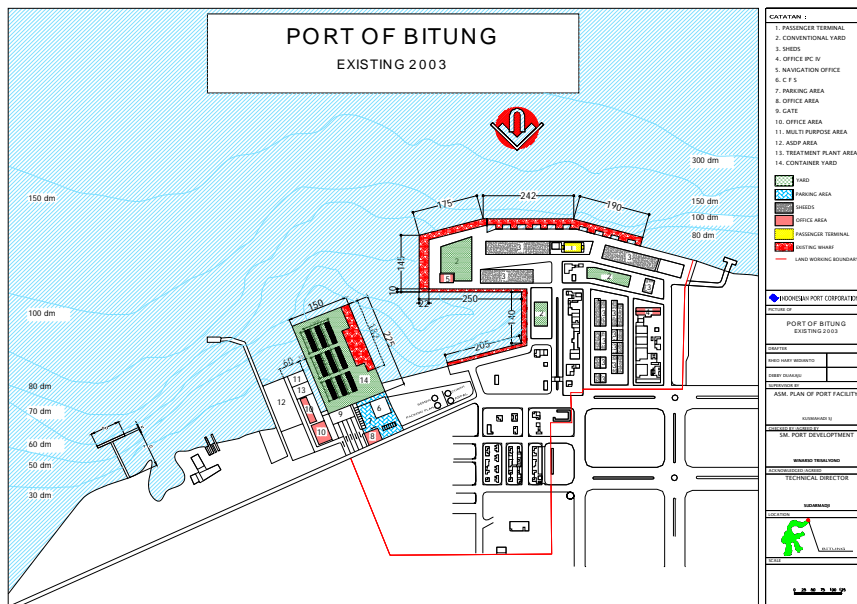


Table 3. Container handling movement by composition in Indonesia

2.2. Container Traffics Container Cargoes at Bitung Port

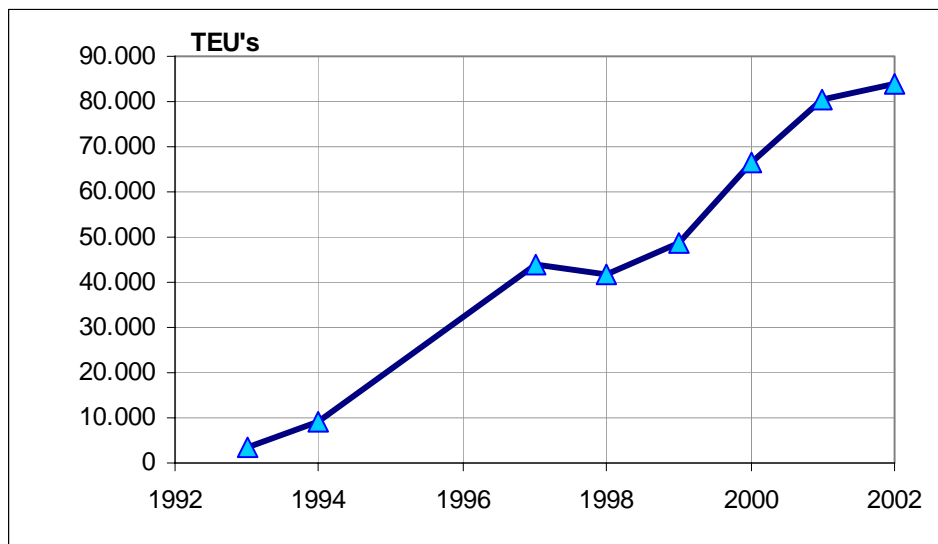


Figure3 Container Cargo Throughput at Bitung Port (TEU's) (1993-2002)

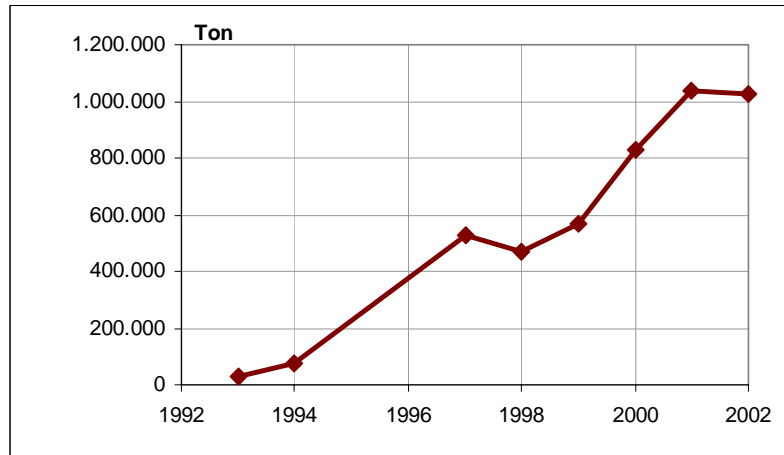


Figure 4 Container Cargo Throughput at Bitung Port (Ton) (1993-2002)

Table 4 Container Cargo Traffic at the ports of Bitung, Balikpapan, Samarinda, Tarakan, Pantoloan, Gorontalo, Kendari, Ternate, Ambon

	Unit	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Bitung	TEUs	3.811	8.576	14.239	19.869	43.760	41.929	48.674	66.737	80.386	83.861
Pantoloan	TEUs	44	435	660	1.423	5.977	6.908	8.740	15.083	20.791	28.348
Gorontalo	TEUs	0	0	0	0	0	0	0	0	0	0
Kendari	TEUs	211	295	804	1.467	2.502	74	40	0	6.216	8.216
Ternate	TEUs	422	550	1.608	2.734	4.914	4.244	5.068	2.112	2.504	3.691
Ambon	TEUs	971	1.207	2.124	7.257	15.092	13.630	6.634	12.607	18.452	21.139
Tarakan	TEUs	0	0	0	0	0	0	0	0	16.014	17.454
Balikpapan	TEUs	3.111	4.133	4.245	7.641	28.583	13.435	20.684	22.401	34.210	52.632
Samarinda	TEUs	1.513	1.296	1.450	28.499	52.413	50.548	54.569	68.685	71.618	88.043
TOTAL	TEUs	57.079	90.219	114.469	140.569	245.732	130.768	145.323	189.788	256.088	313.543

3.Bitung Port Development Plan

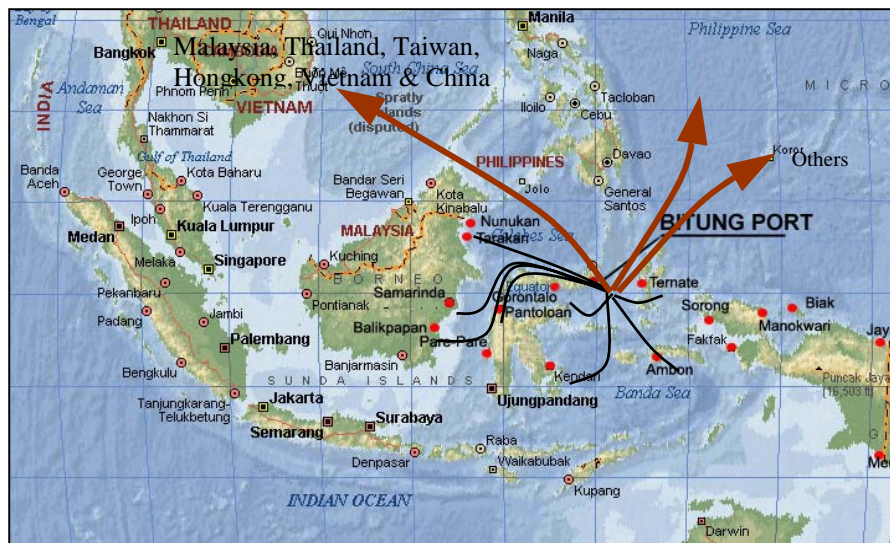


Figure 5 Interaction between Bitung Port and other ports in Container Sea Transportation Network Nearby International Linkage Area

3.1. Forecasting of Container Cargoes

Table 5 Container Forecast at Bitung, Balikpapan, Samarinda, Ambon, Pantoloan, Ternate, Kendari, Tarakan, Gorontalo

	YEAR (TEU's)				
	2003	2007	2015	2020	2025
BITUNG	87.894	128.686	553.325	891.135	1.137.339
AMBON	25.764	53.424	123.118	198.283	319.337
PANTOLOAN	31.007	43.769	87.212	140.456	179.262
TERNATE	4.462	6.533	14.004	22.553	33.020
KENDARI	10.498	15.370	22.709	28.983	36.990
TARAKAN	16.909	18.303	39.234	63.186	101.762
GORONTALO	12.428	16.565	24.474	31.236	39.865
BALIKPAPAN	55.540	81.918	107.378	140.750	182.041
SAMARINDA	132.887	160.369	228.508	295.814	386.059
TOTAL	377.389	524.936	1.199.961	1.812.396	2.415.675

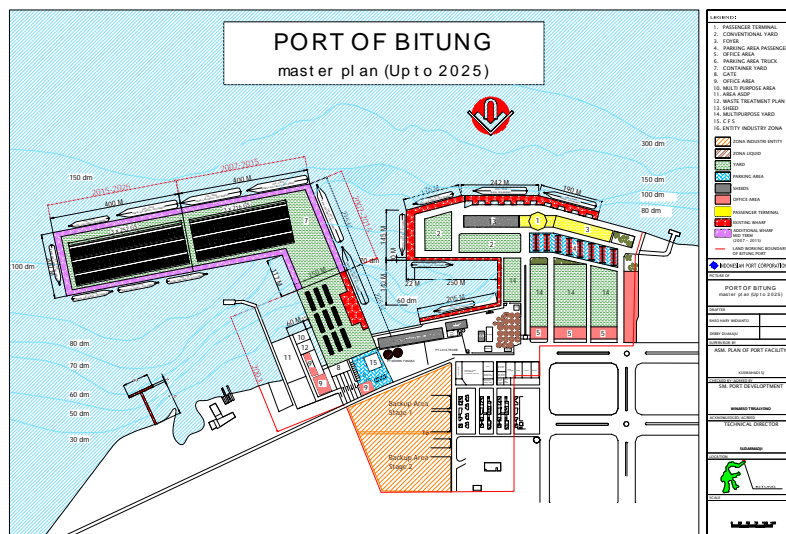
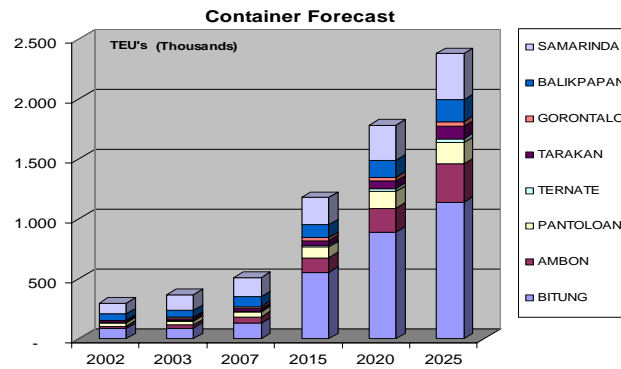


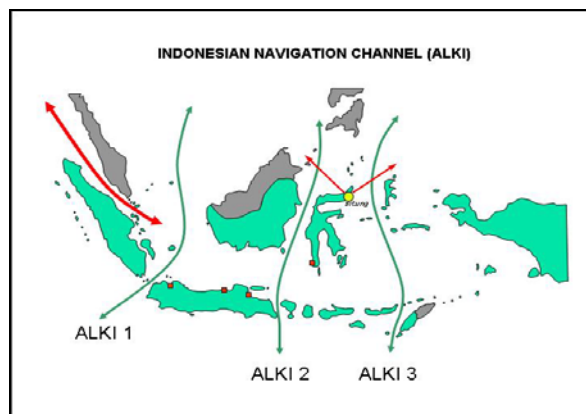
Table 6 Required Berth

Year		2008	2013	2018	2023	2028
Container Volume	TEU	154.000	202.000	264.000	342.000	439.000
No. of required berth		2	2	2	2	3
No. of crane	Mobile crane	2	2	2	2	2
	Gantry Crane	2	2	2	2	4
Berth Capacity	TEU	362.000	362.000	362.000	362.000	588.000

Development of Bitung Port in short term operated up to 2015:

<p>Infrastructures :</p> <p>1) Container wharf : 130 m'; handling capacity : 300,000 teus/year</p> <p>2) Container Yard : 31.000 m2 CY capacity (4 staking) : 200.000 teus/year</p> <p>3) Truck parking area : 2.450 m2</p> <p>4) Office :</p> <ul style="list-style-type: none"> - CFS - WRF (waste processing building) 	<p>Port Handling equipments :</p> <p>1) Container Crane : 1 unit</p> <p>2) Transtainer : 2 unit</p> <p>3) Head Truck : 4 unit</p> <p>4) Chassis : 8 units</p> <p>5) Forklift 7 ton : 1 units</p> <p>6) Reefer Plug : 16 plugs</p> <p>Criteria of Vessel will be handle of New Container Terminal in Bitung Port :</p> <ul style="list-style-type: none"> - GT = 20.000 - LOA = 201 m - Draft = 16 m - Capacity of Container ship = 1.500 TEUs
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4.The Opportunity of Bitung Port to be a Hub Port



Figures 6 Indonesian Navigation Channel

Table 7 Gross Regional Domestic Products (GRDP) of North Sulawesi Province at Constant Prices by Origin

No	Industrial Origin	Year (Million Rp.(1993 Prices))								
		1993	1994	1995	1996	1997	1998	1999	2000	2001
1	Agriculture	775,1	829,8	902,0	974,3	1006,1	1004,9	1046,2	1101,8	882,6
	a) food Crop	303,0	320,4	337,8	356,7	347,4	325,6	342,9	346,7	272,6
	b) Plantation	263,7	277,1	302,6	324,2	343,7	366,3	358,6	381,6	391,2
	c) Livestock & Products	58,7	60,5	72,6	80,9	84,3	75,0	75,0	84,5	65,4
	d) Forestry	65,6	74,4	81,4	90,7	103,5	105,4	102,8	99,3	12,3
	e) Fishery	84,0	97,5	107,6	121,7	127,2	132,7	166,9	189,7	141,1
2	Mining & Quarrying	96,9	111,9	119,5	179,5	192,1	229,4	279,1	315,3	252,2
3	Manufacturing & Processing Industries (non gas/oil)	238,3	260,5	286,9	315,8	336,3	353,8	371,2	395,2	301,7
4	Elect, gas & Watersupply	16,9	18,8	22,0	25,2	28,0	29,2	31,2	32,6	27,1
5	Trade, Restaurant & Hotel	302,9	337,4	378,2	441,7	435,3	461,6	488,4	521,5	415,2
6	Transport & Communication	391,3	414,4	456,2	493,2	526,9	540,0	561,9	587,5	539,5
7	Banking & financial services	151,4	164,5	176,5	190,7	200,5	87,5	121,2	141,2	99,3
	a) Banking	57,1	64,4	68,9	75,6	78,2	-27,3	0,2	15,0	3,3
	b) Non Banking	9,9	10,4	11,1	11,8	12,6	11,5	12,2	12,8	9,2
	c) Rental & Company Services	84,4	89,7	96,6	103,3	109,7	103,2	108,8	113,4	86,8
8	Properties 7 Constrution	302,2	331,9	364,7	400,7	432,1	363,2	367,4	379,8	341,1
9	Public Admin & Defense	531,8	548,9	565,8	583,6	497,7	497,1	505,3	515,5	403,1
10	Services (Private/Social & Recreation)	94,8	97,7	101,4	105,0	112,1	111,2	117,7	126,8	95,7
	TOTAL	2.901,8	3.115,9	3.373,4	3.709,7	3.767,0	3.677,9	3.889,7	4.117,1	3.357,5



Figure 7 Interaction - Connection of Bitung Port

4.1. Manufacturing

The manufacturing of hinterland bitung came from port of Ambon, Ternate → Agriculture, industry & mining product

East Kalimantan (Samarinda, Balikpapan, Tarakan, Nunukan) also has significant contributions for cargo to port of Bitung such as world products, coal, oil & containerization plywood.

Strength of Bitung Port

1. Located directly alongside the Pacific Ocean;
2. Natural port;
3. Suitable infrastructure and superstructure available;
4. Located in Indonesian Navigation Channel

4.2. The Fundamentals Factor to be a Hub Port

Based on the above explanation, question occurs is “Is Bitung Port possible to become a hub ports in Indonesia?”

There are fundamental factors required to be considered :

a. Geographical position and location

Positioned at 01°26'00'' N and 125°11'00'' E, in the island of Sulawesi, closed with the Philippines, and having the nearest distance to Europe and Asia Pacific. As one of ports in Indonesia located at Navigation Channels 2 (ALKI 2), Bitung Port is very strategic as Makassar Strait is in the center of Indonesia archipelago, connecting the western with the eastern region of Indonesia.

Taking the strategic position into consideration, in the future Bitung Port will be prepared to become an hub port handling local cargo transportation, and a transshipment port, supported also by the potential of hinterland and surrounding ports.

b. Hydro oceanography of Bitung Port

Navigation Channel :

The length of the channels is 9 mile, width 600 meters and the depth 12 to 15 m LWS. And the condition of sea bed is Sand/Clay.

Basin :

Bitung port has a basin with the total area 4,5 hectares, and the draught - 7,00 to - 15,00 m LWS. The draught can be handle the container vessel, with capacity more than 3,000 teu (40,000 DWT).

c. Cargo potential surrounding Port of Bitung

The cargo flow within the period of 1993 to 2002 through other ports around Bitung such as Gorontalo, Pantoloan, Ambon, Ternate, Kendari, Tarakan and in Bitung itself indicated an average increase of 5% per year, meaning that interisland trading activities in the eastern part of Indonesia was quite promising.

d. Hinterland & hinter island potentials and growth of areas

The potentials hinterland & hinter island of Bitung Port support the development of the port, indicated by the crop products according to GRDP data of agriculture, fishery, forestry, mining, processing, water supply products, hotel and tourism as well as transportation and communication infrastructure, in which it indicated a significant growth between 4 – 6% per year.

It can be concluded that the economic activities in North Sulawesi, particularly in the city of Bitung, can be expected to support the development of Bitung Port to become an international hub port.

e. Supports from other ports in Indonesia and other countries

Developing Bitung Port also relies on the contributions given by the surrounding ports. So it is expected that the whole cargo, exported or imported to/from countries in the regions of Asia Pacific, Europe, and Southeast Asia can be collected at Bitung Port to be distributed according to the destinations.

5. Conclusion

The first stage Construction of Container Terminal of Bitung Port will be finished at the end of 2003. That new facilities will encourage the container movement particularly in the eastern part of Indonesia, and even accelerate the optimum use of Indonesian Navigation Channel (ALKI) II.

It is required to involve capable investors to make a new network in container movement pattern in the eastern part of Indonesia.

Advantages gained from making Bitung Port a hub port, idest.

As a trigger the development of eastern areas of Indonesia so they can accelerate the regional development like in the western part of Indonesia for the future.

6. Références

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