Japan International Cooperation Agency (JICA)
Department of Transportation & Communications (DOTC)

NO.

Final Report

The Study on the Master Plan for the Strategic Development of The National Port System in the Republic of the Philippines

Appendices 1

January 2004

The Overseas Coastal Area Development Institute of Japan (OCDI)

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CONTENTS OF APPENDICES 1

Appendix

LIST OF FIGURES IN APPENDICES 1

LIST OF TABLES IN APPENDICES 1

Appendix 1 Major Points of Discussion at the Workshops

Appendix 1.1 First Workshop

First workshop was held at the 16th floor meeting room of DOTC on June 5th, 2003 and 47 participants attended. The theme of the workshop was port planning.

Major points of discussion are as follows;

[Planning]
Q: Does the study include the shipping operation and the future direction of maritime industry such as shipbuilding?

A: The study will be conducted for formulating the master plan for the strategic development of the national port system. Maritime transport will be reviewed and examined, however the maritime industry will not.

[International Container Gateway Ports]
S: The number of international container gateway ports should be limited to one or two. Four gateway ports are not economical from the viewpoint of shipping company. Manila has already two gateway ports; MICT and south harbor. In Batangas, international container terminal is being constructed.

S: In general, if many ports are constructed, shipping companies have to dispatch many vessels. Competition will become severe. Shipping companies will have to pay more port tariffs.

S: Batangas port is being developed as the base for CALABARZONE and connects to Mindoro and Visayasu area. As far as Subic port is concerned, international container terminal project is under bidding. In Mindanao, PHIVIDEC is constructing an international container terminal and it could be a gateway port.

S: In my personal view, the international container volume of Minadanao is about 100,000 TEUs. As for relation between ports, it takes 6 to 8 hours between Davao and Cagayan De Oro, 3 hours between Dabao and General Santos, and 12 hours between Cagayan De Oro and General Santos. Therefore cooperation between Cagayan De Oro and Davao would be difficult.

S: Ruson and Minadanao function as international container gateways. Minadanao needs international container ports since it is expected that Mindanao forge close relations with Malaysia and Singapore.

A: Four international container gateways will be needed because international container demand in the three main regions will increase steadily in the coming 20 years and Manila port has limited space to expand.

[Cargo Handling and Labor Problem]

S: There are many workers in Philippine ports. Operators employ workers, who load and unload cargo in what is called "Mouth to Mouth Operation". If gearless ships are introduced, workers will lose their jobs. In addition, gearless vessels will not be popular in the Philippines because there are many islands in the Philippines and each island has a different situation. Cargo handling charge occupies 40% of the maritime transport cost in the Philippines. If pure RO/RO vessels, which transport only cargo, are permitted, RO/RO vessels carrying containers will not decrease.

A: If the container volume increases rapidly, containers will be handled not only by RO/RO vessels but also by gearless container vessels and quay-side cranes.

[Private Sector Participation]

S: The President issued the Executive Order 170 which promotes private sector participation into the RO/RO system. It can be said that SLDP through DBP loan is a project for developing RO/RO shipping and ports by private companies. This Study should include private ports.

S: DBP tries to support the participation of private companies in RO/RO terminal projects, however, it seems that private companies are reluctant to join these projects.

S: Port development funds fall short in the Philippines. We have to urge private companies to join port development projects.

S: It would be difficult for private companies to participate in the port development projects in remote islands which have small demand. Economically non-viable ports should be developed by the government, while economically viable ports should be developed by the private sector.

A: In the Study, both private and public investment in port development are reviewed.

[Container Size]

Q: In the Philippines, many 10 feet containers are being used. Will 20 feet containers take the place of 10 feet containers?

A: It will depend on the cargo volume. 10 feet containers are exclusively used for domestic transport. 10 feet containers will continue to be used for domestic cargo of small lots, because many shippers do not like mixed use in one container.

Appendix 1.2 Second Workshop

Second workshop was held at the Manila Hotel on July 18th. The themes of the workshop were long-term development plan, private sector participation, management and operation.

Major points of discussion are as follows;

[Management and Operation]

S: Modernization of North harbor has not progressed due to the labor problem. Cargo handlers, forwarders and consumer groups oppose modernization plans because they fear that the port usage fee will raise.

S: Berths are occupied by vessels for long hours because port tariff is charged per calendar day.

S: Regarding creation of port modernization fund to procure cargo handling equipment, we do not consent that shippers bear it, because 10% of income is paid to PPA.

S: Consumers suffer as a result of inefficient port operations. PPA has the responsibility to provide efficient cargo handling operation.

A: Port charges in the Philippines are low compared with other neighboring countries. The word "fund" may lead to a misunderstanding. Only a small percentage of the cargo handling charge is collected for fund.

[Private Sector Participation]

S: Since the financial situation of the central government is severe, the government should promote private sector participation through giving more incentives. For example, PPA has to generate funds in order to make private companies get profit instead of putting up barriers. Tax exemptions and dredging of channel by port authorities should be also studied.

S: As for PSP, combination of a port operator and a shipping company may be an effective measure. Moreover cooperation between a shipping company and LGU could make port development, management and operation more viable.

S: Private sector participation in port development really depend on whether a route is viable or not, or whether a route can generate the necessary cargo/passenger volume to make it feasible or not. In fact, market forces decide whether the private sector will participate or not.

S: Based on examples in other countries, privatization is not always a big success. Many cases of PSP have ended in failure. Private sector usually asks large risk margin because they have to bear

foreign exchange fluctuation, economic decline and so on. Therefore PSP often costs.

[Planning]
S: Port should be developed in harmony with the road network. The Study should be coordinated with DPWH.

S: Road conditions should be considered. Trucks can travel on major roads but cannot on secondary roads.

S: Transport of passenger and cargo are complementing each other due to the seasonal demand changes. Shares between air transport and sea transport are dependent on their fares.

S: Domestic tourism depends on the local playing field.

[Maritime Transport]
S: In the long distance transport of domestic containers by RO/RO vessels, drivers stay idle. What range of distance is economical for domestic container transport by RO/RO vessels? All components including economy of scale which affect the transportation cost should be studied.

S: Requirements of DBP loans are too strict. Borrowers have to purchase international class vessels, but procurement cost of international class vessel is very expensive.

S: Used vessel price often fluctuates.

S: The problem of domestic shipping is that fuel and vessel itself are purchased in dollars while tariff revenue is obtained in peso.

Appendix 1.3 Third Workshop

Third workshop was held at Westine Philippine Plaza on September 15th. The themes of the workshop were short-term development plan, private sector participation, management and operation and port administration.

Major points of discussion are as follows;

[Greater Manila Region Ports]
Q: It is important for not only manila but also Davao and Cagayan De Oro to develop road network together with ports.

A: New expressway will be developed through Private Sector Participation (PPP). The road to Batangas is now under construction. The Study result will indicate which matters should be coordinated by both port and road sectors.

Q: Did the Study team consider railway as transport means between a port and destinations?

A: Railway transport requires cargo handling at both the place of origin and destination. In the case that transport distance is short, transport cost is higher than that of road transport due to the double handling. In addition, train speed is not fast in the Philippines because many squatters are found along railways. Under these circumstances, it seems to be difficult to rely on railway as land transport.

Q: Does the Study team propose that South Harbor development should be restrained, because little progress has been made with road development in Manila area?
A: The basic idea of the Study team is that additional load on the road network in Manila should be as small as possible in consideration of the present road congestion although cargo consumed in Manila area must be handled at Manila port.

Q: What impacts on the road capacity in a city?
A: At present roads around Manila port are congested. However the impact by truck transport is smaller than that by sedan transport.

[Private Sector Participation on Port Development]
S: Three to four round trips on the existing RO/RO ferry routes cannot always be realized every month. They may be possible from January to May. However it is difficult for them to operate in the other months due to typhoons.

S: In the Study, cargo distribution between Manila and Batangas is discussed. If Manila port will be less convenient than Batangas due to the road traffic congestion, port users do not want use Manila port. Both financial and economical viabilities of projects should be examined in the Study.

S: One of the reasons that the private sector is reluctant to take part in RO/RO operation is the intensified regulations by MARINA.

S: As to PPA, regulatory function should be separated from operational function.

Q: How does the Study team distinguish the port developed using official funds from the port developed by the private sector?
A: Small ports, which support local economy and society, should be developed using official funds.

Q: What are the risks faced by the private sectors besides foreign exchange fluctuations? And how can the risks be lowered?
A: The risks include cargo demand fluctuation, social security, social stability and so on.

[Port management and operation]
Q: What are the factors deteriorating port management and operation in the Philippines?
A: Port tariff for domestic cargo has been relatively decreasing, although wages in the Philippines have been increasing as a whole. Therefore port authorities gain profit from foreign container berths and use it for the other port facilities. Raising the tariff will improve the financial situation of port authorities.

S: Port tariff is by no means expensive. It can be said to be more expensive due to the low productivity in the Philippines.
A: Tariff is actually cheap. However low productivity is surely an issue. In order to solve this problem, daily base tariff should be changed to hourly basis. New tariff system can be an incentive and contribute to improved efficiency.

Q: What is the source of the modernization fund for cargo handling equipment?
A: Shippers pay the money for the modernization fund.

Q: The Study report says that PPA should be a port regulator. Then what is the role of PPA regarding cargo handling.
A: PPA should lengthen the contract period and secure qualified workers for cargo handling.

Q: Who judges if workers are qualified or not?
A: In Japan the Ministry of Labor.

Q: It would be difficult and time-consuming for Department of Labor in the Philippines alone, which is not familiar with port management and operation, to foster experts. Port authorities should be in charge of this business.
A: PPA has a training center and trains port workers. However PPA does not give them a certification.

[Port Administration]
S: Dispute on the separation of operational and regulatory functions of PPA has not been settled. It is expected that the Study will make an effective proposal.
The largest problem of PPA as a regulator is that PPA has the right to set the port tariff.

Q: What is the difference of the role between NPAC and NPPD?
A: NPAC covers ports of PPA, while NPPD deals with all port in the Philippines.

Q: The Study recommends that LGUs should participate in port management and operation.

(1) Does LGU have such capability or not?

(2) Can LGU obtain foreign loan?

A: LGU should be trained. In the case of obtaining a loan, the central government would be the borrower.

Appendix 2 Socio-Economic Conditions

Appendix 2.2 Economic Activities

Appendix 2.2.1 Explanation of Estimation

Coefficient of Correlation between GDP & GRDP

	Region	a	b	Period
NCR	National Capital Region	0.330	-21,808	1985-2001
CAR	Cordillera Administrative	0.038	-13,145	1987-2001
1	Ilocos Region	0.034	-3,007	1987-2001
2	Cagayan Valley	0.026	-3,618	1987-2001
3	Central Luzon	0.087	5,896	1985-2001
4	Southern Tagalog	0.167	-10,750	1985-2001
5	Bicol Region	0.021	6,600	1985-2001
6	Western Visayas	0.066	4,786	1985-2001
7	Central Visayas	0.080	-10,322	1985-2001
8	Eastern Vizayas	0.017	5,668	1985-2001
9	Western Mindanao	0.021	5,832	1985-2001
10	Northern Mindanao	0.044	-5,302	1985-2001
11	Southern Mindanao	0.068	-5,082	1985-2001
12	Central Mindanao	0.022	4,325	1993-2001
13	Caraga	0.016	-1,170	1997-2001
ARMM	ARMM	0.009	545	1993-2001

(1) Procedure of GRDP Projection

② ③ ④

STATISTICS — GRDP PROJECTION = aX+b (In million pesos at constant 1985 prices)

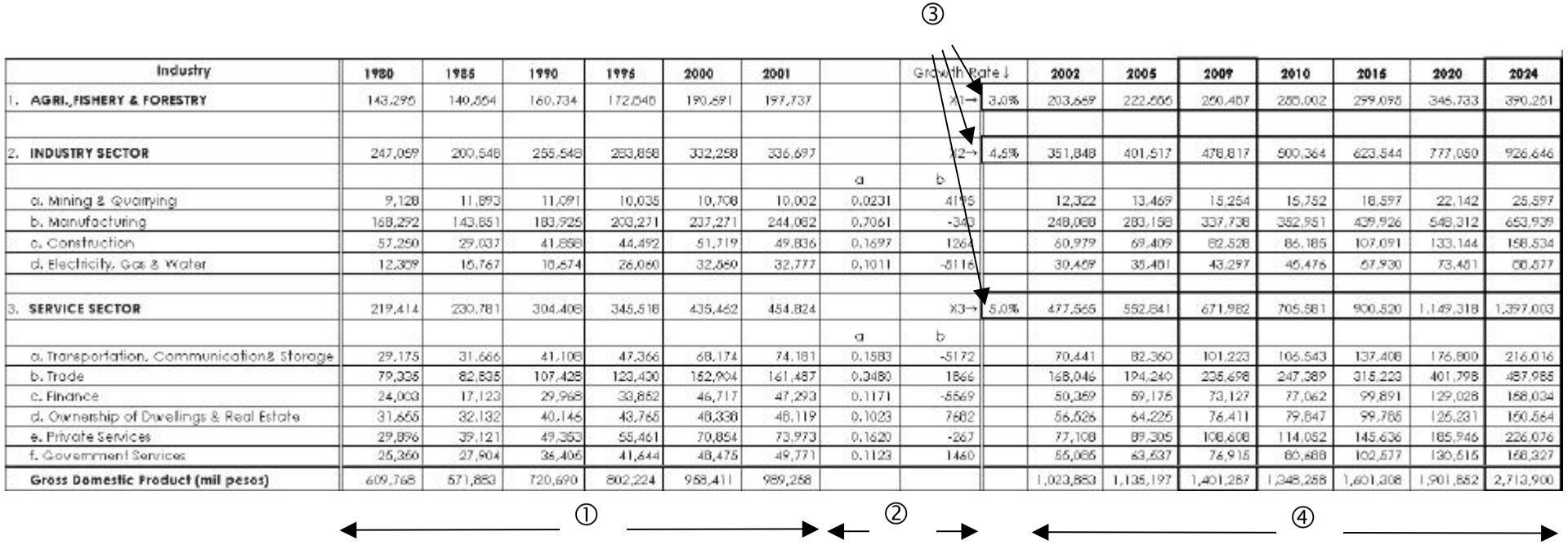
Region	Philippines GDP as X	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2005	2009	2010	2015	2020	2024
NCR	National Capital Region	166,879	173,326	181,740	196,486	208,968	215,976	214,601	215,399	220,419	231,047	242,877	258,351	272,878	271,179	281,129	294,410	304,588	319,275	367,425	442,360	460,247	582,659	751,468	876,488
CAR	Cordillera Administrative	8,458	9,196	10,159	11,733	13,276	14,079	13,921	14,013	14,588	15,804	17,189	18,930	20,593	20,399	21,538	23,059	24,224	25,905	31,418	39,997	42,389	56,060	73,097	89,700
1	Ilocos Region	16,267	16,925	17,785	19,189	20,566	21,282	21,142	21,223	21,736	22,822	24,030	25,611	27,094	26,921	27,937	29,294	30,334	31,834	36,752	44,407	46,540	58,738	73,938	88,752
2	Cagayan Valley	11,004	11,504	12,156	13,221	14,266	14,809	14,703	14,764	15,153	15,977	16,894	18,093	19,219	19,087	19,858	20,887	21,676	22,814	26,545	32,352	33,971	43,225	54,757	65,995
3	Central Luzon	58,180	56,874	59,085	62,697	66,240	68,082	67,520	67,930	69,249	72,042	75,151	79,217	83,034	82,588	85,203	88,693	91,367	96,227	107,880	127,571	133,060	164,440	209,544	251,663
4	Southern Tagalog	85,008	88,274	92,544	99,519	106,361	109,918	109,120	109,625	112,172	117,566	123,569	131,421	138,793	137,981	142,981	149,720	154,885	162,339	186,773	224,800	235,399	295,997	371,512	445,105
5	Bicol Region	18,720	19,134	19,674	20,557	21,423	21,873	21,785	21,836	22,159	22,842	23,601	24,595	25,528	25,419	26,059	26,912	27,565	28,509	31,602	36,415	37,757	45,427	54,986	64,301
6	Western Vizayas	42,289	43,571	45,243	47,975	50,655	52,048	51,774	51,933	52,931	55,043	57,395	60,470	63,358	63,020	64,998	67,637	69,660	72,580	82,150	97,044	101,195	124,930	154,507	183,331
7	Central Vizayas	35,419	36,982	39,022	42,354	45,622	47,321	46,988	47,181	48,398	50,975	53,843	57,594	61,115	60,703	63,116	66,235	68,802	72,369	84,035	102,201	107,265	136,212	172,287	207,442
8	Eastern Vizayas	15,373	15,705	16,138	16,845	17,588	17,899	17,828	17,869	18,127	18,674	19,283	20,078	20,826	20,738	21,250	21,933	22,457	23,212	25,689	29,543	30,618	36,760	44,414	51,873
9	Western Mindanao	17,989	18,404	18,947	19,832	20,701	21,152	21,064	21,115	21,439	22,123	22,886	23,883	24,819	24,709	25,350	26,206	26,862	27,808	30,910	35,738	37,084	44,778	54,366	63,709
10	Northern Mindanao	20,105	20,973	22,106	23,956	25,772	26,716	26,530	26,638	27,314	28,745	30,338	32,421	34,377	34,149	35,488	37,277	38,647	40,625	47,108	57,198	60,011	76,090	96,127	115,654
11	Southern Mindanao	34,003	35,338	37,081	39,928	42,721	44,173	43,888	44,053	45,093	47,295	49,745	52,951	55,960	55,608	57,669	60,420	62,528	65,571	75,545	91,067	95,393	120,129	150,953	180,993
12	Central Mindanao	16,906	17,336	17,897	18,813	19,713	20,180	20,088	20,141	20,476	21,185	21,974	23,005	23,974	23,861	24,524	25,410	26,088	27,068	30,278	35,275	36,668	44,630	54,532	64,222
13	Caraga	7,743	8,047	8,444	9,094	9,731	10,062	9,997	10,084	10,271	10,773	11,332	12,063	12,749	12,669	13,139	13,766	14,247	14,941	17,215	20,755	21,741	27,382	34,411	41,261
ARMM	ARMM	5,739	5,916	6,148	6,526	6,897	7,090	7,052	7,074	7,213	7,505	7,881	8,257	8,657	8,610	8,884	9,249	9,530	9,934	11,259	13,222	13,897	17,184	21,280	25,273

①

Procedure

1. Prepare a serious of GRDP statistics. - ①
2. Calculate coefficient of correlation with linear regression method using the prepared GDP and GRDP for each region. -②
3. Calculate GDP projection as X by using a medium growth rate of 4.5%. - ③
4. Calculate GRDP projection by using a formula GRDP = aX+b with the above variations. - ④
5. Adjust GRDP figures of ④ to agree with the total of GDP ③.

(2) Procedure of GDP Projection by Industry



Industry	1980	1985	1990	1995	2000	2001		Growth Rate ↓	2002	2005	2009	2010	2015	2020	2024
1. AGRI.,FISHERY & FORESTRY	143,295	140,554	160,734	172,040	190,691	197,737		X1→ 3.0%	203,669	222,565	250,407	255,002	299,095	345,733	390,251
2. INDUSTRY SECTOR	247,059	200,548	255,548	283,858	332,258	336,697		X2→ 4.5%	351,848	401,517	478,817	500,364	623,544	777,050	926,646
							a	b							
a. Mining & Quarrying	9,128	11,893	11,091	10,035	10,708	10,002	0.0231	4195	12,322	13,469	15,254	15,752	18,597	22,142	25,597
b. Manufacturing	168,292	143,851	183,925	203,271	237,271	244,082	0.7061	-343	248,068	283,158	337,738	352,951	439,926	548,312	653,939
c. Construction	57,250	29,037	41,858	44,492	51,719	49,836	0.1697	1264	60,979	69,409	82,528	86,185	107,091	133,144	158,534
d. Electricity, Gas & Water	12,389	15,767	18,674	26,060	32,560	32,777	0.1011	-5116	30,469	35,481	43,297	45,476	57,930	73,451	88,577
3. SERVICE SECTOR	219,414	230,781	304,408	345,518	435,462	454,824		X3→ 5.0%	477,565	552,841	671,982	705,581	900,520	1,149,318	1,397,003
							a	b							
a. Transportation, Communication& Storage	29,175	31,666	41,108	47,366	68,174	74,181	0.1583	-5172	70,441	82,360	101,223	106,543	137,408	176,800	216,016
b. Trade	79,335	82,835	107,428	123,430	162,904	161,487	0.3480	1866	168,046	194,240	238,698	247,389	315,223	401,798	487,985
c. Finance	24,003	17,123	29,968	33,852	46,717	47,293	0.1171	-5569	50,359	59,176	73,127	77,062	99,891	129,028	158,034
d. Ownership of Dwellings & Real Estate	31,655	32,132	40,146	43,765	48,338	48,119	0.1023	7682	56,526	64,225	76,411	79,847	99,785	125,231	150,564
e. Private Services	29,896	39,121	49,353	55,461	70,854	73,973	0.1620	-267	77,108	89,305	108,608	114,052	145,636	185,946	226,076
f. Government Services	25,350	27,904	36,406	41,644	48,475	49,771	0.1123	1460	55,085	63,537	76,915	80,688	102,577	130,515	158,327
Gross Domestic Product (mil pesos)	609,768	571,883	720,690	802,224	958,411	989,258			1,023,883	1,135,197	1,401,287	1,348,258	1,601,308	1,901,852	2,713,900

Procedure

1. Prepare a serious of GRP (by industry) statistics. - ① (note all statistical data are not shown in the above table.)
2. Calculate coefficient of correlation with linear regression method using the prepared GDP by industry and GDP by industry groups. - ②
3. Calculate GDP projection as Xi by using an assumed growth rate for each industry - ③
4. Calculate GDP projection by using a formula GDP = aXi+b with the above variations. - ④
5. Adjust the assumed growth rates so that the summation of GDP by industry can agree with the GDP projection at the growth rate of 4.5%.

Appendix 2.2.2 Agriculture and Fisheries Modernization Act of 1997

Republic Act No. 8435

An Act prescribing urgent related measures to modernize the agriculture and fisheries sectors of the country in order to enhance their profitable, and prepare said sectors for the challenges of the globalization through an adequate, focused and rational delivery of necessary support services, appropriating funds therefore and for other purposes

Be it enacted by the Senate and House of Representative of the Philippines in Congress assembled:

SEC. 1. Short Title---This act shall be known as the "Agriculture and Fisheries Modernization Act of 1997".

SEC. 2. Declaration of Policy---The goals of the national economy are more equitable distribution of opportunities, income and wealth; a sustained increase in the amount of goods and services produced by the nation for the benefit of the people; and an expanding productivity as the key to raising the quality of life for all, especially the underprivileged.

The State shall promote industrialization and full employment based on sound agricultural development and agrarian reform, through industries that make full and efficient use of human and natural resources, and which are competitive in both domestic and foreign markets. In pursuit of these goals, all sectors of the economy and all regions of the country shall be given optimum opportunity to develop. Private enterprises, including corporations, cooperatives, and similar collective organizations, shall be encouraged to broaden the base of their ownership.

Thus, it is hereby declared the policy of the State to enable those who belong to the agriculture and fisheries sectors to participate and share in the fruits of development and growth in a manner that utilizes the nations resources in the most efficient and sustainable way possible by establishing a more equitable access to assets, income, basic and support services and infrastructure.

The State shall promote food security, including sufficiency in our staple food, namely rice and white corn. The production of rice and white corn shall be optimized to meet our local consumption and shall be given adequate support by the State.

The State shall adopt the market approach in assisting the agriculture and fisheries sectors while recognizing the contribution of the said sector to food security, environmental protection, and balanced urban and rural development, without neglecting the welfare of the consumers, especially the lower income groups. The state shall promote market-oriented policies in agricultural production to encourage farmers to shift to more profitable crops.

The state shall empower the agricultural and fisheries sector to develop and sustain themselves. Toward this end, the State shall unsure the development of the agriculture and fisheries sectors in accordance with the following principles

a) Poverty Alleviation and Social Equity---The State shall ensure that the poorer sectors of society have equitable access to resources, income opportunities, basic and support services and infrastructure especially in areas where productivity is low as a means of improving their quality of life compared with other sectors of society;

b) Food Security---The State shall assure the availability, adequacy, accessibility of food supplies to all at all times;

c) Rational Use of Resources---The State shall adopt a rational approach in the allocation of public investments in agriculture and fisheries in order to assure efficiency and effectiveness in the use of scarce resources and thus obtain optimal returns on its investments;

d) Global Competitiveness---The State shall enhance the competitiveness of the agriculture and fisheries sectors in both domestic and foreign markets;

e) Sustainable Development---The State shall promote development that is compatible with the preservation of the ecosystem in areas where agriculture and fisheries activities are carried out. The State should exert care and judicious use of the country's natural resources in order to attain long-term sustainability;

f) People Empowerment---The State shall promote people empowerment by enabling all citizens through direct participation or through their duly elected, chosen or designated representatives the opportunity to participate in policy

formulation and decision-making by establishing the appropriate mechanisms and by giving them access to information; and

g) Protection from Unfair Competition---The State shall protect small farmers and fisher folk from unfair competition such as monopolistic and oligopolistic practices by promoting a policy environment that provides them priority access to credit and strengthened cooperative-based marketing system.

SEC. 3. Statement of Objectives---This Act shall have the following objectives

a) To modernize the agriculture and fisheries sectors by transforming these sectors from a resource-based to a technology-based industry;

b) To enhance profits and incomes in the agriculture and fisheries sectors, particularly the small farmers and fisherfolk, by ensuring equitable access to assets, resources and services, and promoting higher-value crops, value-added processing, agribusiness activities, and agro-industrialization;

c) To ensure the accessibility, availability and stable supply of food to all at all times;

d) To encourage horizontal and vertical integration, consolidation and expansion of agriculture and fisheries activities, group functions and other services through the organization of cooperatives, farmers' and fisherfolk's associations, corporations, nucleus estates, and consolidated farms and to enable these entities to benefit from economies of scale, afford them a stronger negotiating position, pursue more focused, efficient and appropriate research and development efforts and enable them to hire professional managers;

e) To promote people empowerment by strengthening people's organizations, cooperatives and NGO's and by establishing and improving mechanisms and resources for their participation in government decision-making and implementation;

f) To pursue a market-driven approach to enhance the comparative advantage of our agriculture and fisheries sectors in the world market;

g) To induce the agriculture and fisheries sectors to ascend continuously the value-added ladder by subjecting their traditional or new products to further processing in order to minimize the marketing of raw, unfinished or unprocessed products;

h) To adopt policies that will promote industry dispersal and rural industrialization by providing incentives to local and foreign investors to establish industries that have backward linkages to the country's agriculture and fisheries resource base;

i) To provide social and economic adjustment measures that increase productivity and improve market efficiency while ensuring the protection and preservation of the environment and equity for small farmers and fisherfolk; and

j) To improve the quality of life of all sectors.

SEC. 4. Definition of Terms---

"Agrarian Reform Community" is a barangay at the minimum or a cluster of contiguous barangays where there is a critical mass of farmers or farm workers and which features the main thrust of agrarian development land tenure improvement and effective delivery of support services.

"Agricultural Lands" refers to lands devoted to or suitable for the cultivation of the soil, planting of crops, growing of trees, raising of livestock, poultry, fish or aquiculture production, including the harvesting of such farm products, and other farm activities and practices performed in conjunction with such farming operations by persons whether natural or juridical and not classified by the law as mineral land, forest land, residential land, commercial land, or industrial land.

"Agricultural Land Use Conversion" refers to the process of changing the use of agricultural land to non-agricultural uses.

"Agricultural Sector" is the sector engaged in the cultivation of the soil, planting of crops, growing of fruit trees, raising of livestock, poultry, or fish, including the harvesting and marketing off such farm products, and other farm activities and practices.

"Agricultural Mechanization" is the development, adoption, manufacture and application of appropriate location-specific, and cost-effective agricultural technology using human, animal, mechanical, electrical and other non-conventional sources of energy for agricultural production and post-harvest operations consistent with agronomic conditions and for efficient and economic farm management.

"Agriculture and Fisheries Modernization" is the process of transforming the agriculture and fisheries sectors into one that is dynamic, technologically advanced and competitive yet centered on human development guided by the sound practices of sustainability and the principles of social justice.

"Agro-Processing Activities" refers to the processing of raw agricultural and fishery products into semi-processed or finished products which include materials for the manufacture for food and/or non-food products, pharmaceuticals and other industrial products.

"Banks", collective used, means government banks and private banks, rural banks and cooperative banks.

"Basic Needs Approach to Development" involves the identification, production and marketing of wage goods and services for consumption of rural communities.

"Communal Irrigation System (CIS)" is an irrigation system that is managed by a bona fide Irrigators Association.

"Competitive Advantage" refers to competitive edge in terms of product quality and/or price. It likewise refer to the ability to produce a product with the greatest relative efficiency in the use of resources.

"Cooperatives" refers to duly registered associations of persons with a common bond of interest who have voluntarily joined together to achieve a lawful common social and economic end, making equitable contributions to the capital required and accepting a fair share of the risks and benefits of the undertaking in accordance with universally accepted cooperatives principles.

"Department" refers to the Department of Agriculture.

"Economic Scale " refers to the minimum quantity of volume of goods required to be efficient.

"Economies of Scale"refers to the decrease in unit cost as more units are produced due to the spreading out of fixed costs over a greater number of units produced.

"Empowerment" involves providing authority, responsibility and information to people directly engaged in agriculture and fishery production, primarily at the level of the farmers, fisher folk and those engaged in food and non-food production and processing, in order to give them wider choices and enable them to take advantage of the benefits of the agriculture and fishery industries.

"Extension Services" refers to the provision of training, information, and support services by the government and non-government organizations to the agriculture and fisheries sectors to improve the technical, business, and social capabilities of farmers and fisher folk.

"Farmer's and Fisherfolk's Organizations or Associations" refer to farmers and fisherfolks cooperatives, associations or corporations duly registered with appropriate government agencies and which are composed primarily of small agricultural producers, farmers, farm, workers, agrarian reform beneficiaries, fisher folk who voluntarily join together to form business enterprises or non-business organizations which they themselves own, control and patronize.

"Farm-to-Market Roads" refer to roads linking the agriculture and fisheries production sites, coastal landing points and post-harvest facilities to the market and arterial roads and highways.

"Fisheries" refers to all systems or networks of interrelated activities which include the production, growing, harvesting, processing, marketing, developing, conserving, and managing of all aquatic resources and fisheries areas.

"Fisheries Sector" is the sector engaged in the production, growing, harvesting, processing, marketing, developing, conserving, and managing of aquatic resources and fisheries areas.

"Fishing" refers to the application of techniques using various gear in catching fish and other fisheries products.

"Fishing Grounds" refers to areas in any body of water where fish and other aquatic resources congregate and become target of capture.

"Food Security" refers to the policy objective, plan and strategy of meeting the food requirements of the present and future generations of Filipinos in substantial quantity, ensuring the availability and affordability of food to all, either through local production or importation, of both, based on the country's existing and potential resource endowment and related production advantages, and consistent with the over all national development objectives and policies. However, sufficiency in rice and white corn should be pursued.

"Fresh Agricultural And Fishery Products" refers to agricultural and fisheries products newly taken or captured directly from its natural state or habitat, or those newly harvested or gathered from agricultural areas or bodies of water used for aquiculture.

"Global Competitiveness" refers to the ability to compete in terms of price, quality and value of agriculture and fishery products relative to those of other countries.

"Gross Value-Added" refers to the total value, excluding the value of non-agricultural of fishery intermediate inputs, of goods and services contributed by the agricultural and fisheries sectors.

"Head works" refers to the composite parts of the irrigation system that divert water from natural bodies of water such as river, streams, and lakes.

"Industrial Dispersal" refers to the encouragement given to manufacturing enterprises to establish their plants in rural areas. Such firms normally use agricultural raw materials either in their primary • r intermediate state.

"Irrigable Lands" refers to lands which display marked characteristics justifying the operation of an irrigation system.

"Irrigated Lands" refers to lands services by natural irrigation or irrigation facilities. These include lands where water is not readily available as existing irrigation facilities need rehabilitation or upgrading or where irrigation water is not available year-round.

"Irrigation System" refers to a system of irrigation facilities covering contiguous areas.

"Irrigators' Association (IA)" refers to an association of farmers within a contiguous area served by a National Irrigation System or Communal Irrigation System.

"Land Use" refers to the manner of utilizing the land, including its allocation, development and management.

"Land Use Plan" refers to a document embodying a set of policies accompanied by maps and similar illustrations which represent the community-deserved pattern of population distribution and a proposal for the future allocation of land to the various land-using activities, in accordance with the social and economic objectives of the people. It identifies the location, character and extent of the area's land resources to be used for different purposes and includes the process and the criteria employed in the determination of the land use.

"Land Use Planning" refers to the act of defining the allocation, utilization, development and management of all lands within a given territory or jurisdiction according to the inherent qualities of the land itself and supportive of sustainable, economic, demographic, socio-cultural and environmental objectives as an aid to decision-making and legislation.

"Main Canal" refers to the channel where diverted water from a source flows to the intended area to be irrigated.

"Market Infrastructure" refers to facilities including, but not limited to, market buildings, slaughterhouses, holding pens, warehouses, market information centers, connecting roads, transport and communication and cold storage used by the farmers and fisher folk in marketing their produce.

"National Information Network (NIN)" refers to an information network which links all offices and levels of the Department with various research institutions and local end-users, providing easy access to information and marketing services related to agriculture and fisheries.

"National Irrigation System (NIS)" refers to a major irrigation system managed by the National Irrigation Administration.

"Network of Protected Areas for Agricultural and Agro-industrial Development (NPAAD)" refers to agricultural areas identified by the Department through the Bureau of Soils and Water Management in coordination with the National Mapping and Resources Information Authority in order to ensure the efficient utilization of land for agriculture and Agro-industrial development and promote sustainable growth . The NPAAD covers all irrigated areas, all irrigable lands already covered by irrigation projects with firm funding commitments; all alluvial plain land highly suitable for agriculture whether irrigated or not; Agro-industrial crop lands or lands presently planted to industrial crops that support the viability of existing agricultural infrastructure and agro-based enterprises, highlands, areas located at an elevation of five hundred (500) meters or above and have the potential for growing semi temperate and high-value crops; all agricultural lands that are ecological fragile, the conversion of which will result in serious environmental degradation, and mangrove areas and fish sanctuaries.

"On-Farm Irrigation Facilities" refers to composite facilities that permit entry of water to paddy areas and consist of farm ditches and turnouts.

"Primary Processing" refers to the physical alteration of raw agricultural or fishery products with or without the use of mechanical facilities.

"Post-Harvest Facilities" includes, but is not limited to , threshing, drying, milling, grading , storing, and handling of produce and such other activities as stripping, winnowing, chipping and washing.

"Post -Harvest Facilities" includes, but it is not limited to, threshers, moisture meters, dryers, weighing scales, milling equipment, fish ports, fish landings, ice plants and cold storage facilities, processing plants, warehouses, buying stations, market infrastructure and transportation.

" Premature Conversion of Agricultural Land" refers to the undertaking of any development activity, the results of which modify or alter the physical characteristics of the agricultural lands to render them suitable for non-agricultural purposes, without an approved order of conversion from the DAR.

" Resource Accounting" refers to a tracking changes in the environment and natural resources biophysically and economically (in monitory terms)

"Resource-based" refers to the utilization of natural resources.

"Rural Industrialization" refers to the process by which the economy is transformed from one that is predominantly agricultural to one that is dominantly industrial and service-oriented. Agriculture provides the impetus and push for industry and services through the market that it creates, the labor that it absorbs, and the income that it generates which is channeled to industry and services. As development continues, with agriculture still an important sector, industry and services begin to generate income and markets and concomitantly increase their share of total income.

"Strategic Agriculture and Fisheries Development Zones (SAFDZ)" refers to the areas within the NAPAAD identified for production, Agro-Processing and marketing activities to help develop and modernize, either the support of government, the agriculture and fisheries sectors in an environmentally and socio-cultural sound manner.

"Secondary Canal" refers to the channel connected to the main canal which distributes irrigation to specific areas.

"Secondary Processing" refers to the physical transformation of semi-processed agricultural or fishery products.

"Shallow Tube Well (STW)" refers to a tube or shaft vertically set into the ground for the purpose of bringing ground water to the soil surface from a depth of less than 20 meters by suction lifting.

"Small Farmers and Fisherfolk" refers to natural person dependent on small-scale subsistence farming and fishing activities as their primary source of income.

"Small and Medium Enterprise (SME)" refers to any business activity or enterprise engaged in industry, agribusiness and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plan and equipment are situated, must have value falling under the following categories:

Micro - not more than P 1,500,000

Small - P 1,500,001 to P 15,000,000

Medium - P15,000,001 to P 60,000,000

The Department, in consultation with the Congressional Oversight Committee on Agricultural and Fisheries Modernization, may adjust the above values as deemed necessary.

"Socio-culturally Sound" means the consideration of the social structure of the community such as leadership pattern, distribution of roles across gender and age groups, the diversity of religion and other spiritual beliefs, ethnicity and cultural diversity of the population.

"Technology-based" refers to utilization of technology.

"Zoning Ordinance" refers to a local legislation approving the development land use plan and providing for the regulations and other conditions on the uses of land including the limitation of the infrastructure that may be placed within the territorial jurisdiction of a city or municipality.

TITLE I
PRODUCTION AND MARKETING SUPPORT SERVICES

Chapter 1

Strategic Agricultural and Fisheries Development Zones

SEC. 5 Declaration of Policy- It is the policy of the State to ensure that all sectors of the economy and all regions of the country shall be given optimum opportunity to develop through the rational and sustainable use of resources peculiar to each area in order to maximize agricultural productivity, promote efficiency and equity and accelerate the modernization of the agriculture and fisheries sectors of the country.

SEC. 6 Network of Areas for Agricultural and Agro-Industrial Development -The Department shall, within six (6) months after the approval of this Act, and in consultation wit the local government units , appropriate government agencies, concerned non-government organizations (NGOs)and organized farmers' and fisherfolk's groups, identify the strategic Agriculture and Fisheries Development Zones (SAFDZ) within the network of protected areas for agricultural and agro -industrial development to ensure that lands are efficiently and sustainably utilized for food and non-food production and agro - industrialization.

The SAFDZ which shall serve as centers where development in the agriculture and fisheries sectors are catalyzed in an environmentally and socio-cultural sound manner, shall be identified on the basis of the following criteria

a. Agro -climatic and environmental conditions giving the area as competitive advantage in the cultivation , culture, production and processing of particular crops, animals and aquatic products;

b. Strategic location of the area for the establishment of agriculture or fisheries infrastructure, industrial complexness, production and processing zones;

c. Strategic location and of the area for market development and market networking both at the local and international levels; and

d. Dominant presence of agrarian reform communities (ARCs) and/or small owner-cultivators and amortizing owners/agrarian reform beneficiaries and other small farmers and fisher folk in the area.

The SAFDZ shall have an integrated development plan consisting of production, processing , investment , marketing , human resources and environmental protection components.

SEC. 7 Modern Farms- The Department in coordination with the local government units (LGUs) and appropriate government agencies, may designate agrarian reform communities (ARCs) and other areas within the SAFDZ suitable for economic scale production which will serve as model farms.

Farmer -landowners whose lands are located within these designated areas shall be given the option to enter into a management agreement with corporate entities with proven competence in farm operations and management , high-end quality production and productivity through the use of up-to -date technology and collateral resources such as skilled manpower, adequate capital and credit, and access to markets, consistent with the existing laws.

SEC. 8 Mapping - The Department , through the Bureau of Soils and Water Management (BSWM), in coordination with the National Mapping and Resource Information Authority (NAMRIA) and the Housing and Land Use Regulatory Board (HLURB) shall undertake the mapping of network of areas for agricultural and agro-industrial development for all municipalities, cities and an appropriate scale . The BSWM may call on other agencies to provide technical and other logistical support in this undertaking .

SEC. 9 Delineation of Strategic Agriculture and Fisheries Development Zones- The Department, in consultation with the Department of Agrarian Reform, the Department of Trade and Industry, the Department of Environment and Natural Resources, Department of Science and Technology, the concerned LGU's, the organized farmers and fisher folk groups, the private sector and communities shall, without prejudice to the development of identified economic zones and free ports, establish and delineate based on sound resource accounting, the SAFDZ within one (1) year from the effectivity of this Act.

All irrigated lands, irrigable lands already covered by irrigation a projects with firm funding commitments, and lands with existing or having the potential for growing high-value crops so delineated and included within the SAFDZ shall not be converted for a period of five (5) years front the effectivity for this Act. Provided, however, That not more than five percent (5%) of the said lands located within the SAFDZ may be converted upon compliance with existing laws, rules, regulations, executive order and issuances, and administrative orders relating to land use conversion: Provided, further, That thereafter 1) a review of the SAFDZ, specifically of the productivity of the areas, improvement of the quality of life of farmers and fisher folk, and efficiency and defectiveness of the support services shall be conducted by the Department and the Department of Agrarian Reform, in coordination with the Congressional Oversight Committee on Agricultural Committee and Fisheries Modernization; 2) conversion may be allowed, if at all, on a case-to-case basis subject to existing laws, rules, regulations, executive orders and issuances, and administrative orders governing land use conversion; 3) in case of conversion, the land owners will pay the Department the amount equivalent to the government's investment cost including inflation.

SEC. 10. Preparation of Land Use and Zoning Ordinance---Within one (1) year from the finalization of the SAFDZ, in every city and municipality, all cities and municipalities shall have prepared their respective land use and zoning ordinance incorporating the SAFDZ, where applicable. Thereafter, all land use plans and zoning ordinances shall be updated every four (4) years or as often as may be deemed necessary upon the recommendation of the Housing and Land Use Regulatory Board and must be completed within the first year of the term of office of the mayor. If the cities/municipalities fail to comply with the preparation of zoning and land use plans, the DILG shall impose the penalty as provided for under Republic Act No.7160

SEC.. 11. Penalty for Agricultural Inactivity and Premature Conversion.---Any person or juridical entity who knowingly or deliberately causes any irrigated agricultural lands seven (7) hectares or larger, whether contiguous for not, within the protected areas for agricultural development, as specified under Section 6 in relation to Section 9 of this Act, to lie idle and unproductive for a period exceeding one (1) year, unless due to force majeure, shall be subject to an idle land tax of Three Thousand Pesos (P3,000.00) per hectare per year. In addition, the violator, shall be required to put back such lands to productive agricultural use. Should the continued agricultural inactivity, unless due to force majeure, exceed a period of two (2) years, the land shall be subject to escheat proceedings.

Any person found guilty of premature or illegal conversion shall be penalized with imprisonment of two (2) to six (6) years, or a fine equivalent to one hundred percent (100%) of the government's investment cost, or both, at the discretion of the court, and an accessory penalty of forfeiture of the land and any improvement thereon.

In addition, the DAR may impose the following penalties, after determining, in an administrative proceedings, that violation of this law has been committed

a. Consolation or withdrawal of the authorization for land use conversion; and

b. Backlisting, or automatic disapproval of pending and subsequent conversion applications that they may file with the DAR.

SEC. 12. Protection of Watershed Areas.---All watersheds that are sources of water for existing and potential irrigable areas and recharge areas of major aquifers identified by the Department of Agriculture and the Department of Environment and Natural resources shall be preserves as such at all times.

Chapter 2

Agriculture and Fisheries Modernization Plan

SEC. 13. Agriculture and Fisheries Modernization Plan (AFMP).---The Department, in consultation with the farmers and fisher folk, the private sector, NGOs, people's organizations and the appropriate government agencies and offices, shall formulate and implement a medium- and long-term comprehensive Agriculture and Fisheries Modernization Plan.

The Agriculture and Fisheries Modernization Plan shall focus on five (5) major concerns

a. Food security;

b. Poverty alleviation and social equity;

c. Income enhancement and profitability, especially for farmers and fisher folk;

d. Global competitiveness; and

e. Sustainability.

SEC. 14. Food Security , Poverty Alleviation, Social Equity and Income Enhancement.---The Department, in coordination with other concerned departments or agencies, shall formulate medium-and long-term plans addressing food security, poverty alleviation, social equity and income enhancement concerns based on, but not limited to, the following goals and indicators for development

a. Increased income and profit of small farmers and fisherfolk;

b. Availability of rice and other staple foods at affordable process;

c. Reduction of rural poverty and income inequality;

d. Reduction of the incidence of malnutrition;

e. Reduction of rural unemployment and underemployment; and

f. Improvement in land tenure of small farmers.

SEC. 15. Global Competitiveness and Sustainability.---The Department shall formulate medium- and long-term plans aimed at enhancing the global competitiveness and sustainability of the country in agriculture and fisheries based on, but not limited to, the following goals and indicators for development

a. Increase in the volume, quality and value of agriculture and fisheries production for domestic consumption and for exports;

b. Reduction in post-harvest losses;

c. Increase in the number/types and quality of processed agricultural and fishery products;

d. Increase in the number of international trading partners in agriculture and fishery products;

e. Increase in the number of sustainable agriculture and fisheries firms engaged in domestic production, processing, marketing and export activities;

f. Increase in and wider level of entrepreneurship among farmers and fisher folk in the area;

g. Increase in the number of farms engaged in diversified farming; and

h. Reduced use of agro-chemicals that are harmful to health and the environment.

SEC. 16. Global Climate Change.---The Department, in coordination with the Philippine Atmospheric, Geophysical and Astronomical Service Administration (P. A. G. A. S. A.) and such other appropriate government agencies, shall devise a method of regularly monitoring and considering the effect of global climate changes, weather disturbances, and annual productivity cycles for the purpose of forecasting and formulating agriculture and fisheries production programs.

SEC. 17. Special Concerns.---The Department shall consider the following areas of concerns, among other in formulating the AFMP

a. Strategies and programs aimed to achieve growth and profitability targets in the context of the constraints and challenges of the World Trade Organization (WTO);

b. Programs arising from the implementation of the Agrarian Reform Program;

c. Identification of SAFDZ;

d. Infrastructure and market support for the SAFDZ;

e. Infrastructure support to make agriculture and fisheries production inputs, information and technology readily available to farmers, fisherfolk, cooperatives and entrepreneurs;

f. Credit programs for small farmers and fisher folk, and agricultural graduates;

g. Comprehensive and integrated agriculture and fisheries research, development and extension services;

h. Preservation of biodiversity, genetic materials and the environment;

i. Adequate and timely response against environmental threats to agriculture and fisheries;

j. Rural non-farm employment;

k. Access to aquatic resources by fisher folk;

l. Basic needs program for the impoverished sectors of society who will be affected by liberalization;

m. Indigenous peoples;

n. Rural youth;

o. Women;

p. Handicapped persons; and

q. Senior citizens.

SEC. 18. Monitoring and Evaluation.---The Department shall develop the capability of monitoring the AFMP through a Program Benefit Monitoring and Evaluation System (PBMES). In addition, it can secure the services of independent consultants and external evaluators in order to assess its over-all impact. The Department shall make periodic reports to the Congressional Oversight Committee on Agriculture and Fisheries Modernization.

SEC. 19. Role of Other Agencies.---All units and agencies of the government shall support the Department in the implementation of the AFMP.

In particular, the Department of Public Works and Highways shall coordinate with the Department with respect to the infrastructure support aspect of the plan order to accomplish networking of related infrastructure facilities.

The Department of Interior and Local Government shall provide assistance to the Department in mobilizing resources under the control of local government units.

The Department of Trade and Industry, Agrarian Reform, Science and Technology, and Environment and Natural Resources shall coordinate their investment programs and activities to complement the Department's implementation of the AFMP.

The Department of Education, Culture and Sports, the Technical Educational and Skills Development Authority, the Department of Health with the Department of Social Services and Development shall coordinate with the Department to determine the financial requirements of small farmers and fisherfolk to adjust to the effects of modernization as envisioned in the Agriculture and Fisheries Modernization Plan.

The departments referred above shall be required to identify in their budget proposals the allocation intended for the improvement of the environmental and other conditions affecting agriculture and fisheries.

Congressional initiatives shall also be coordinated by the Committees on Agriculture on both Houses to complement and enhance the programs and activities of the Department in the implementation of the AFMP.

Chapter 3

Credit

SEC.20. Declaration of Policy. - It is hereby declared the policy of the State to alleviate poverty and promote vigorous growth in the countryside through access to credit by small farmers, fisher folk, particularly the women involved in the production, processing and trading of agriculture and fisheries products and the small and medium scale enterprises (SMEs) and industries engaged in agriculture and fisheries.

Interest rates shall be determined by market forces, provided that existing credit arrangements with agrarian reform beneficiaries are not affected. Emphasis of the program shall be on proper management and utilization.

In this regard, the State enjoins the active participation of the banking sector and government financial institutions in the rural financial system.

SEC. 21 Phase-out of the Directed Credit Programs (DCPs) and Provision for the Agro-Industry Modernization Credit and Financing Program (AMCPP)- The Department shall implement existing DCPs; however, the Department shall, within a period of four (4) years from the effectivity of this Act, phase-out all DCPs and deposit all its loanable funds including those under the Comprehensive Agricultural Loan Fund (CALF) including new funds provided by this Act for the AMCFP and transfer the management thereof to cooperative banks , rural banks, government financial institutions and viable NGOs for the Agro-Industry Modernization Credit Financing Program (AMCFP). Interest earnings of the said deposited loan funds shall be reverted to the AMCFP.

SEC.22 Coverage- An agriculture, fisheries and agrarian reform credit and financing system shall be designed for the use and benefit of farmers, fisher folk those engaged in food and non-food production, processing and trading, cooperatives, farmers'/fisherfolk's organization, and SMEs engaged in agriculture hereinafter referred to in this chapter as the "beneficiaries"

SEC. 23 . Scope of the Agro -Industry Modernization Credit and Financing Program (AMCFP) - THE agro -industry Modernization Credit and Financing Program shall include the packaging and delivery of various credit assistance programs for the following

a. Agriculture and fisheries production including possessing of fisheries and agri-based products and farm inputs;

b. Acquisition of work animals, farm and fishery equipment and machinery;

c. Acquisition of seeds, fertilizer, poultry, livestock, feeds and other similar items;

d. Procurement of agriculture and fisheries products for storage, trading , processing and distribution;

e. Acquisition of water pumps and installation of tube wells for irrigation;

f. Construction , acquisition and repair of facilities for production, processing , storage, transportation, communication, marketing and such other facilities in support of agriculture and fisheries;

g. Working capital for agriculture and fisheries graduates to enable them to engage in agriculture and fisheries related economic activities;

h. Agribusiness activities which support soil and water conservation and ecology-enhancing activities;

i. Privately-funded and LGU-funded irrigation systems that are designed to protect the watershed;

j. Working capital for long-gestating projects; and

k. Credit guarantees on uncollaterized loans to farmers and fisherfolks.

SEC. 24. Review of the mandates of Land Bank of the Philippines Crop Insurance Corporation, Guarantee Fund For Small and Medium Enterprises, Quedan and Rural Credit Guarantee Corporation, Agricultural Credit Policy Council. - The Department of Finance shall commission and independent review of the charters and the respective programs of the Land Bank of the Philippines (LBP), Philippine Crop Insurance Corporation (PCIC), Guarantee Fund for Small and Medium Enterprises (GFSME), Quedan and Rural Credit Guarantee Corporation (Quendancor), and Agricultural Credit Policy Council (ACPC), and recommend policy changes and other measures to induce the private sectors participation in lending to agriculture and to improve credit access by farmers and fisherfolk: Provided, That agriculture and fisheries projects with long gestation period shall be entitled to a longer grace period in repaying the loan based on the economic life of the project.

The Land Bank of the Philippines, shall, in accordance with its original mandate, focus primarily on plans and programs in relation to the financing of agrarian reform and the delivery of credit services to the agriculture and fisheries sectors, especially to small farmers and fisherfolk.

The review shall start six (6) months after the enactment of this Act. Thereafter, the review shall make recommendations to the appropriate Congressional Committees for possible legislative actions and to the Executive Branch for policy and program changes within six (6) months after submission.

SEC. 25. Rationalization of Credit Guarantee Schemes and Funds.---All existing credit guarantee schemes and funds applicable to the agriculture and fishery sectors shall be rationalized and consolidated into an Agriculture and Fisheries Credit Guarantee Fund. The rationalization shall cover the credit guarantee schemes and funds operated by the Quendancor, the GFSME and the Comprehensive Agricultural Loan Fund. The Agriculture and Fisheries Credit Guarantee Fund shall be managed and implemented by the Quendancor Provided, That representation to the Quendancor Board shall be granted to cooperatives, local government units and rural financial institutions; Provided, further, That credit guarantee shall be given only to small-scale agriculture and fisheries activities and to countryside micro-small, and medium enterprises. It may also cover loan guarantees for purchase orders and sales contracts.

The Agriculture and Fisheries Credit Guarantee Fund shall be funded by at least ten percent (10%) of the funding allocation for the AMCFP.

Chapter 4

Irrigation

SEC. 26. Declaration of Policy- It is the policy of the State to use its natural resources rationally and equitably. The state shall prevent the further destruction of watersheds, rehabilitate existing irrigation systems and promote the development of irrigation systems that are effective, affordable , appropriate , and efficient.

In the choice of location-specific irrigation projects, the economic principle of comparative advantage shall always be adhered to.

SEC. 27. Research and Development - Irrigation Research and Development (R&D) shall be pursued and priority shall be given to the development of effective, appropriate , and efficient irrigation and water management technologies.

The Department shall coordinate with the Department of Environment and Natural Resources concerning the preservation and rehabilitation of watersheds to support the irrigation systems.

SEC. 28. Criteria for Selection of Irrigation Development Scheme. The Selection of appropriate scheme of irrigation development shall be location-specific and based on the following criteria

a. Technical feasibility;

b. Cost-effectiveness;

c. Affordability, low investment cost per unit area;

d. Sustainability and simplicity of operation;

e. Recovery of operation and maintenance cost;

f. Efficiency in water use;

g. Length of gestation period; and

h. Potential for increasing unit area productivity.

All irrigation projects shall, in addition to the criteria enumerated above, be subjected to a social cost-benefit analysis.

SEC. 29. Simplified Public Bidding- The construction, repair , rehabilitation, improvement , or maintenance of irrigation projects and facilities shall follow the Commission on Audit (COA) rules on simplified public bidding .

Irrigation projects undertaken by farmers, farmer's organizations and other private entities whose funding is partly or wholly acquired by way of loan from government financial institutions shall not be subject to the bidding requirements of the government.

SEC. 30. National Irrigation Systems (NIS)- The National Irrigation Administration (NIA) shall continue to plan, design, develop, rehabilitate, and improve the NISs. It shall continue to maintain and operate the major irrigation structures including the head works and main canals.

In addition , the NIA is mandated to gradually turn over operation and maintenance of the National Irrigation System's secondary canals and on-farm facilities to Irrigators' Associations

SEC. 31. Communal Irrigation Systems (CIS) The Department shall, within five (5) years from the effectivity of this Act, devolve the planning, design and management of CISs, including the transfer of NIA's assets and resources in relation to the CIS, to the LGUs. The budget for the development, construction, operation and maintenance of the CIS and other types of irrigation systems shall be prepared by and coursed through the LGUs. The NIA shall continue to provide technical assistance to the LGUs even after complete devolution of the Irrigation Systems to the LGUs, as may be deemed necessary.

SEC. 32 Minor Irrigation Schemes- The Department shall formulate and develop a plan for the promotion of a private sector-led development of minor irrigation systems, such as Shallow Tube Wells (STWs), Low-Lift pumps (LLPs) and other inundation systems. the plan shall be included in the Short-term Agriculture and fisheries Modernization Plan.

SEC. 33. Other Irrigation Construction Schemes- The Government shall also encourage the construction of irrigation facilities through other viable schemes for the construction of irrigation such as build-operate-transfer, build-transfer and other schemes that will fast-track the development of irrigation systems.

SEC. 34. Guarantee of the National Government- To make build-operate -transfer (BOT) projects for irrigation attractive to proponents, the national government shall issue the need payment guarantee for BOT projects which shall answer for

default of the National Irrigation Administration. Such amounts needed to answer for the payment guarantee is hereby to be appropriated.

SEC. 35. Irrigation Service Fees (ISF)- Upon effectivity of this Act, the NIA shall immediately review the ISF rates and recommend to the Department reasonable rates within six (6) months from the effectivity of this Act.

SEC. 36. Monitoring and Evaluation- The Department shall monitor the implementation of R&D programs and irrigation projects. The Department shall review all existing irrigation systems every four (4) years, to determine their viability or ineffectiveness. The Department shall employ the services of independent evaluators to assess the overall impact of the country's irrigation development .

SEC. 37. Exemption from Election Ban- The repair, maintenance and rehabilitation of irrigation facilities as well as BOT irrigation projects shall be exempted from the scope of the election ban on public works.

Chapter 5

Information and Marketing Support Service

SEC. 38. Declaration of Policy- It is hereby declared the policy of the State to empower Filipino farmers and fisherfolk, particularly the women, involved in agriculture and fisheries through the provision of timely, accurate and responsive business information and efficient trading services which will link them to profitable markets for their products. They shall likewise be given innovative support toward the generation of maximum income through assistance in marketing.

SEC. 39. Coverage- A market information system shall be installed for the use and benefit of, but not limited to, the farmers and fisher folk, cooperatives, traders, processors, the LGUs and the Department.

SEC. 40. The Marketing Assistance System- The Department shall establish a National Marketing Assistance Program that will immediately lead to the creation of a national marketing umbrella in order to ensure the generation of the highest possible income for the farmers and fisher folk or groups of farmers and fisher folk, matching supply and demand in both domestic and foreign markets.

SEC. 41. National Information Network- A National Information Network (NIN) shall be set up from the Department level down to the regional, provincial and municipal offices within one (1) year from the approval of this Act taking into account existing information networks and seems.

The NIN shall likewise link the various research institutions for easy access to data on agriculture and fisheries research and technology. All departments, agencies, bureaus, research institutions, and local government units shall consolidate and continuously update all relevant information and data on a periodic basis and make such data available on the Internet.

SEC. 42. Information and Marketing Service- The NIN shall provide information and marketing services related to agriculture an fisheries which shall include the following:

a. Supply data;

b. Demand data

c. Price and Price trends;

d. Product standards for both fresh and processed agricultural and fisheries projects;

e. Directory of, but not limited to cooperatives, traders, key market centers, processors and business institutions concerned with agriculture and fisheries at the provincial and municipal levels;

f. Research information and technology generated from research institutions involved in agriculture and fisheries;

g. International, regional and local market forecasts; and

h. Resource accounting data.

SEC. 43 Initial Set-up. The Department shall provide technical assistance in setting -up the NIN at the local level through the cooperatives and the LGUs Provided , That , at the local level, a system that will make marketing information and services related to agriculture and fisheries will be readily available in the city/municipal public market for the benefit of the producers, traders and consumers.

SEC. 44. Role of Government Agencies- The Bureau of Agricultural Statistics will serve as the central information server and will provide technical assistance to end-users in accessing and analyzing product and market information and technology.

The Department of Transportation and Communications shall provide technical and infrastructure assistance to the Department in setting up the NIN.

LGUs shall coordinate with the Department for technical assistance in order to accelerate the establishment and training of information end-users in their respective jurisdictions.

The Cooperative Development Authority shall coordinate with the Department for technical assistance in order to provide training assistance to cooperatives in the use of market information and technology.

SEC. 45. Role of Private Sector- The NIN shall likewise be accessible to the private sector engaged in agriculture and fisheries enterprises. The Department shall formulate guidelines and determine fees for private sector entities that use the NIN.

Chapter 6

Other Infrastructure

SEC. 46. Agriculture and Fisheries Infrastructure Support Services- The Department of Public Works and Highways , the Department of Transportation and Communications, the Department of Trade and Industry and the LGUs shall coordinate with the Department to address the infrastructure requirements in accordance with this Act Provided, that The Department and the LGU shall also strengthen its agricultural engineering support in carrying out the smooth and expeditious implementation of agricultural infrastructure projects.

SEC. 47. Criteria for Prioritization- The prioritization of government resources for rural infrastructure shall be based on the following criteria

a. Agro -industrial potential of the area;

b. Socio-economic contributions of the investments in the area;

c. Absence of public investments in the area; and

d. Presence of agrarian reform beneficiaries and other small farmers and fisher folk in the area.

SEC. 48. Public Infrastructure Facilities- Public Infrastructure investments shall give preference to the kind , type and model of infrastructure facilities that are cost-effective and will be useful for the production, conservation, and distribution of most commodities and should benefit the most number of agriculture and fisheries producers and processors.

SEC. 49. Private Infrastructure Facilities- For infrastructure facilities primarily benefiting private investors, the State shall facilitate the purchase and use of such utilities and shall keep to the minimum the bureaucratic requirements for these types of investments. Private investors include cooperatives or corporations of agriculture and fisheries producers and processors.

SEC. 50. Public Works Act. - The Department of Public Works and Highways shall coordinate with the Department for the purpose of determining the order of priorities for public works funded under the Public Works Act directly or indirectly affect agriculture and fisheries.

SEC. 51. Fishports, Seaports and Airports- The Department of Transportation and Communications, Philippine Ports Authority and Philippine Fisheries Development Authority shall coordinate with the Department for the purpose of determining priority fishports, seaports and airports and facilitating the installation of bulk-handling and storage facilities , and other post-harvest facilities needed to enhance the marketing of agriculture and fisheries products Provided, that

fishports , seaports an airports are also equipped with quarantine , sanitary and phytosanitary centers. The Department of Transportation and Communications (DOTC) shall have the mandate to cancel arrastre and cargo handling franchises among operators whom it deems inefficient and/or ineffective owing, but not limited to, a past history of under-capitalization, lack of equipment and lack of professional expertise. The DOTC shall recommend to the Philippine Ports Authority and consult with ship-owners and ship-operators in assessing the cargo-handling capabilities of cargo operators prior to extending new franchises or awards.

SEC. 52. Farm-to-Market Roads- The Department shall coordinate with the LGUs and the resident-farmers and fisher folk in order to identify priority locations of farm-to -market roads that take into account the number of farmer and fisher folk and their families who shall benefit therefrom and the amount , kind and importance of agricultural and fisheries products produced in the area.

Construction of farm-to -market roads shall be a priority investment of the LGUs which shall provide a counterpart of not less than ten percent (10%) of the project cost subject to their IRA in the area.

SEC. 53. Rural Energy- The Department shall coordinate with the Department of Energy (DOE), the Department of Public Works and Highways (DPWH), the National Electrification Administration (NEA) and the National Power Corporation (NAPOCOR) for the identification and installation of appropriate types of energy sources particularly in the use of non-conventional energy sources for the locality in order to enhance agriculture and fisheries development in the area.

SEC. 54. Communications Infrastructure- The Department shall coordinate with the DOTC to facilitate the installation of telecommunication facilities in priority areas, in order to enhance agriculture and fisheries development .

SEC. 55 Water Supply System- the Department shall coordinate with the DPWH and the LGUs for the identification and installation of water supply system in the locality for agro-industrial uses to enhance agriculture and fisheries development in the area.

SEC. 56. Research and Technology Infrastructure- The Department in coordination with other government agencies shall give priority and facilitate the funding of infrastructure necessary for research ventures such as farm laboratories and demonstration farms with state colleges and universities that derive their core funds from the Department .

SEC. 57. Post -Harvest Facilities- The Department shall coordinate with the Bureau of Post-Harvest for Research and Extension and the Post-harvest Horticulture, Training and Research Center of the University of the Philippines, Los Baños, to identify appropriate post-harvest facilities and technology needed to enhance agriculture and fisheries development in the area.

SEC. 58. Public market and Abattoirs- The Department shall encourage the LGUs to turn over the management and supervision of public markets and abattoirs to market vendors' cooperatives and for that purpose, the appropriation for post-harvest facilities shall include the support for market vendor' facilities.

The Department shall coordinate with the LGUs in the establishment of standardized market systems and use of sanitary market , facilities , and abattoirs, intended to ensure the food safety and quality.

All markets shall have a sanitation unit, proper and adequate drainage and sewerage system, ample water supply, public toilets with lavatories, garbage receptacles, ice plants and cold storage, adequate lighting and ventilation and supply of electricity to ensure cleanliness and sanitation. Price monitoring bulletin boards for selected commodities and weighing scales accessible to the public shall also be established.

Proper protection and preservation of agriculture and fisheries products being sold in the market shall also be observed. All foods which require no further cooking shall be wrapped , covered , or enclosed in containers to preserve the freshness and prevent contamination. Selling of products on market floors shall be prohibited.

SEC. 59. Agricultural Machinery- The Department shall give priority to the development and promotion of appropriate agricultural machinery and other agricultural mechanization technologies to enhance agricultural mechanization in the countryside.

Chapter 7

Products Standardization and Consumer Safety

SEC. 60. Declaration of Policy- It is the policy of the State that all sectors involved in the production, processing, distribution and marketing of food and non-food agricultural and fisheries products shall adhere to, and implement the use of product standards in order to ensure consumer safety and promote the competitiveness of agriculture and fisheries products.

SEC. 61. Bureau of Agriculture and Fisheries Product Standards- The Department , within six (6) months after the approval of this act , and in consultation with the Department of Trade and Industry and the Bureau of Food and Drug, shall establish the Bureau of Agriculture and Fisheries Product Standards (BAFPS).

SEC. 62. Coverage- The BAFPS shall set and implement standards for fresh, primary-and -secondary- processed agricultural and fishery products.

SEC. 63. Powers and Functions- The BAFPS shall have the following powers and functions

a. Formulate and enforce standards of quality in the processing, preservation, packaging, labeling, importation, exportation, distribution, and advertising of agricultural and fisheries products;

b Conduct research on product standardization, alignment of the local standards with the international standards; and

c. Conduct regular inspection of processing plants, storage facilities , abattoirs , as well as public and private markets in order to ensure freshness, safety and quality of products.

SEC. 64. Pool of Experts and Advisers- The BAFPS may coordinate , seek the services of, and consult with both private and governmental agencies, research institute, educational establishments and such other individuals and entities with expertise in the field of product standards and consumer safety.

The Department of Trade and Industry, the Food and Nutrition Research Institute, and the Bureau of Food and Drug Administration shall provide technical advice and form part of the pool of experts/ advisers of the BAFPS.

TITLE 2

HUMAN RESOURCE DEVELOPMENT

SEC. 65. Declaration of Policy- It is hereby declared the policy of the State to give priority to education and training on science and technology in order to accelerate social progress and promote total human liberation and development .

The State shall promote industrialization and full employment , based on sound agriculture and fisheries development and agrarian reform, through industries that make full and efficient use of human and natural resources.

SEC. 66. National Agriculture and Fisheries Education System (NAFES)- The Commission on Higher Education (CHED), in coordination with the Department and appropriate government agencies, shall establish a National Agriculture and Fisheries Education System (NAFES) which shall have the following objectives

a. To establish, maintain and support a complete and integrated system of agriculture and fisheries education relevant to the needs of the economy , the community and society.

b. To modernize and rationalize agriculture and fisheries education from the elementary to the tertiary levels;

c. To unify, coordinate and improve the system of implementation of academic programs that are geared toward achieving agriculture and fisheries development in the country; and

d. To upgrade the quality , ensure sustainability and promote the global competitiveness, at all levels, of agriculture and fisheries education.

SEC. 67. Education Program for Elementary and Secondary Levels- There is hereby established an Agriculture and Fisheries Education Program, under the NAFES specially designed for elementary and secondary levels. The program shall be formulated, organized and implemented by the DECS with the following objectives

a. to develop appropriate values that form the foundation for sustained growth in agriculture and fisheries modernization.

b. to increase the attractiveness of agriculture and fisheries education, so that more young and talented person will look at agriculture and fisheries as an acceptable option for career and livelihood;

c. to promote appreciation of science in agriculture and fisheries development;

d. to develop among students, positive attitudes towards entrepreneurship and global competition in the agriculture and fisheries business;

e. to improve the present curriculum in the elementary and secondary levels by emphasizing the core values necessary for agriculture and fisheries modernization; and

f. to develop an outreach program where students, parents and schools become instruments in effecting positive changes in the pupil's home and community.

SEC. 68. Post-Secondary Education Program- There is hereby established a Post-Secondary Education Program for Agriculture and Fisheries under the NAFES, which shall be formulated and developed by TESDA in coordination with the appropriate government agencies and the private sector. The program shall include, among others, the following

a. a mechanism for a flexible process of curriculum development;

b. integration of the dual training system in the various agricultural curricula and training programs;

c. integration of entrepreneurship and global competitiveness in the agro-fisheries curricula;

d. institutionalizing agriculture and fisheries skills standards and technical testing and certification;

e. regular upgrading of learning/training facilities, school buildings , laboratory equipment; and

f. development of a system for the strict enforcement of school regulations regarding standards and requirements.

SEC. 69. Network of National Centers of Excellence for Territory Education- There is hereby established a Network of National Centers of Excellence in Agriculture and Fisheries Education , composed of qualified public and private colleges and universities , duly accredited as National Centers of Excellence (NCE) in the field of agriculture and fisheries.

For this purpose, the CHED shall formulate and implement a system of accreditation Provided, That not more than one provincial institute in every province and no more than one national university in each field in every region shall be accredited as such and Provided, further, That the system shall be based on the following criteria

a. institutional accessibility , population , economic contribution of agriculture and fisheries in the community, and the needs or unique requirements of the area

b. quantity and quality of research studies conducted;

c. degree of utilization of research results ;

d. quantity and quality of faculty members;

e. type of facilities;

f. linkage with international organizations; and

g. potential contribution to agriculture and fisheries development in the target area.

SEC. 70. Rationalization Plan- For the purpose of upgrading and maintaining a high decree of academic excellence in the fields of agriculture and fisheries, all existing public and private colleges and universities that are not hereinafter designated and accredited as centers of excellence shall be given adequate time to redirect its program to non-agriculture and/or non-fisheries areas needed by the province or region and /or merge their program with accredited NCEs in accordance with the Rationalization Plan to be jointly formulated by CHED and the Philippine Association of State Universities and Colleges (PASUC) upon consultation with the institution concerned.

The Rationalization Plan shall include a policy for the effective utilization of affected personnel and facilities, and shall not be construed as to result in the decrease of the budget allocation for the state universities and colleges concerned.

SEC. 71. Counterpart Funding from LGUs- The LGUs shall , within two, (2) years from the effectivity of this Act, provide at least ten percent (10%) of the Maintenance and Other Operating Expenses (MOOE) budget for the operation of the provincial institutes within their area of responsibility.

In consultation with the LGUs, the CHED shall develop a provincial-national partnership scheme for a reasonable sharing of financial support taking into account social equity factors for poor provinces.

SEC. 72. National Integrated Human Resource Development Plan in Agriculture and Fisheries- the CHED ,in coordination with the Department and appropriate government agencies , shall formulate , develop and implement an integrated human resource development plan in agriculture and fisheries which shall serve as an instrument that will provide over-all direction in setting priorities in curricular programs, enrollment , performance targets, and investment programs.

SEC. 73. Output-Oriented Performance Standards- In order to ensure the institutional accountability, efficiency, and quality, there shall be formulated and developed an Output-Oriented Performance Standards which shall serve as the primary instrument for institutional evaluation.

For this purpose, all public and private universities and colleges, that are designated as centers of excellence, shall cause to be installed a computerized monitoring and evaluation system that periodically collects and regularly measures variables indicating institutional performance based on the Output-Oriented Performance Standards.

SEC. 74. Evaluation System- Not later than one (1) year from the effectivity of this Act, the CHED shall establish a baseline information using the Output-Oriented Performance Standards referred to in Section 73 of this Title. Once every five (5) years thereafter, all designated NCEs in agriculture and fisheries shall be subject to a third party evaluation.

The evaluation shall include, among others, management and educational experts of national stature and representatives of key sectors of the agriculture and fisheries industries , as well as representatives of the Department , the Department of Environment and Natural Resources, the Department of Science and Technology, and the National Economic and Development Authority.

SEC. 75. Agriculture and Fisheries Board- There shall be created an Agriculture and Fisheries Board in the Professional Regulation Commission to upgrade the Agriculture and Fisheries profession.

Those who have not passed the Civil Service Examination for Fisheries and Agriculture but have served the industry in either private or public capacity for not less than five (5) years shall be automatically granted eligibility by the Board of Examiners.

The first board of examination for B.S. Fisheries and/or Agriculture Graduates shall be conducted within one (1) year from the approval of this Act.

SEC. 76. Continuing Agriculture and Fisheries Education Program- The Commission on Higher Education , the Department of Education , Culture and Sports and Technical Education and Skills Development Authority, in coordination with the Department and the public and private universities and colleges , shall formulate and develop a National and Integrated Continuing Agriculture and Fisheries Education Program, which shall address the current education and training requirements of teachers, professors and educators in agriculture and fisheries.

For this purpose , pre-service and in -service training of teachers in Home Economics Livelihood Education (HELE) for the primary level and Technology and Home Economics (THE) for the Secondary level, shall be upgraded.

SEC. 77. Scholarship Program- The CHED in coordination with the public and private universities and colleges, TESDA and the DBM , shall develop a national scholarship program that provides opportunities for deserving academic staff to pursue advanced degrees in agriculture and fisheries. Where appropriate , such scholarship program shall also provide opportunities for graduate work in foreign universities.

SEC. 78. Merit System- To promote the development of scientific excellence and academic scholarship, the public and private universities and colleges , in cooperation with the CHED and the DBM, shall institute an output- oriented unified system of promotion for the academic personnel.

SEC. 79. Budgetary Allocation Scheme- The Budgetary Allocation Scheme for NAFES shall be as follows

a. The current appropriation or budgets of state universities and colleges, that are herein designate as NCEs, shall continue and shall be modified and adjusted in succeeding years in order to meet the standards of the rationalized programs of the institutions as approved by Congress and shall be included in the annual General Appropriations Act;

b. NCEs that are created under this Act shall likewise be provided with budgetary support based on their programs and a new staffing pattern as approved by DBM and shall be included in the annual General Appropriations Act.

TITLE 3
RESEARCH DEVELOPMENT AND EXTENSION

Chapter 1

Research and Development

SEC. 80. Declaration of Policy- It is hereby declared the policy of the State to promote science and technology as essential for national development and progress.

The State shall likewise give priority to research and development , invention, innovation, and their utilization and to science and technology education, training, and services. In addition to appropriate and relevant technology, the state shall support indigenous and self-reliant scientific and technological capabilities, and their application to the country's productive system and national life.

SEC. 81. The National Research and Development System in Agriculture and Fisheries- The Department , in coordination with the Department of Science and Technology and other appropriate agencies and research institutions shall enhance, support and consolidate the existing National Research and Development System in Agriculture and Fisheries within six (6) months from the approval of this Act. Provided, That fisheries research and development shall be pursued separately, from but in close coordination with that of agriculture.

SEC. 82. Special Concerns in Agriculture and Fisheries Research Services.- Agriculture and Fisheries Research and Development activities shall be multidisciplinary and shall involve farmers, fisherfolk and their organizations, and those engaged in food and non-food production and processing including the private and public sectors.

Research institutions and centers shall enjoy autonomy and academic freedom. The Department , in collaboration with the Department of Science and Technology and other appropriate agencies, shall harmonize its merit and output-oriented promotion system governing the scientific community in order to promote increased research excellence and productivity and provide the government research system a competitive edge in retaining its scientific personnel.

Appropriate technology shall be used to protect the environment, reduce cost of production , improve product quality and increase value added for global competitiveness.

SEC. 83. Funds for Research and Development-Considering , the nature of research, development and extension activities , funding shall be based on the following guidelines

a. Allocation of multi-year budgets which shall be treated as research and development grants.

b. The budget for agriculture and fisheries research and development shall be at least one percent (1%) of the gross value added (GVA) by year 2001 allocating at least one percent (1%) of the total amount by 1999. The Department of Finance (DOF) in consultation with the Department shall formulate revenue enhancement measures to fund this facility.

c. At least twenty percent (20%) shall be spent in support of basic research and not more than eighty percent (80%) shall be used for applied research and technology packaging and transfer activities.

d. A science fund shall be established from which the scientific community in agriculture and fisheries shall draw its financial resource for sustained career development, Provide, That only the interest earnings of the funds shall be used.

The Department and other research agencies , in the national interest, are encouraged to go into co-financing agreements with the private sector in the conduct of research and development provided that the terms and conditions of the agreement are beneficial to the country.

SEC. 84. Excellence and Accountability in Research and Development. The Department , in collaboration with the Department of Science and Technology and other appropriate government agencies, shall formulate the national guidelines in evaluating research and development activities and institutions, which shall involve an independent and interdisciplinary team of collegial reviewer and evaluators.

SEC. 85. Communication of Research Results and Research-Extension Linkage- Research information and technology shall be communicated through the National Information Network (NIN)

All government agencies including the state colleges and universities and private educational institutions selected as NCEs shall be computerized , networked , provided with regular updated information and shall likewise provide, through the NIN results of research and development activities and current available technology relating agriculture and fisheries.

Chapter 2

Extension Services

SEC. 86. Declaration of Policy- It is hereby declared the policy of the State to promote science and technology as essential for national development and progress. The State shall give priority for the utilization of research results through formal and non-formal education, extension, and training services. It shall support the development of a national extension system that will help accelerate the transformation of Philippine agriculture and fisheries from a resource -based to a technology-based industry.

SEC. 87. Extension Services - Agriculture and Fisheries extension services shall cover the following major services to the farming and fishing community.

a. Training services;

b. Farm or business advisory services;

c. Demonstration services; and

d. Information and communication support services through trimedia.

SEC. 88. Special Concerns in the Delivery of Extension services. The delivery of agriculture and Fisheries Extension Services shall be multidisciplinary and shall involve the farmers, fisherfolk , and their organizations and those engaged in food and non-food production and processing , including the private and public sectors.

There shall be a national merit and promotion system governing all extension personnel, regardless of source of funding, to promote professionalism and achieve excellence and productivity in the provision of the government extension services.

SEC. 89. The National Extension System for Agriculture and Fisheries (NESAF) - The Department in coordination with the appropriate government agencies, shall formulate a National Extension System for Agriculture and Fisheries.

The National Extension System for Agriculture and Fisheries shall be composed of three (3) subsystems

a. the national government subsystem which directly complements;

b. The local government subsystems; and

c. the private sector subsystem.

SEC. 90. The Role of Local Government Units- The LGUs shall be responsible for delivering direct agriculture and fisheries extension services

The provincial governments shall integrate the operations for the agriculture extension services and shall undertake an annual evaluation of all municipal extension programs.

The extension program of state colleges and universities shall primarily focus on the improvement of the capability of the LGU extension service by providing

a) Degree and non - degree training programs;

b) Technical assistance;

c) Extension cum research activities;

d) Monitoring and evaluation of LGU extension projects; and

e) Information support services through the tri-media and electronics.

SEC. 91. Role of the Private Sector in Extension. The department shall encourage the participation of farmers and fisherfolk cooperatives and associations and others in the private sector in the training and other complementary extension services especially in community organizing, use of participatory approaches, popularization of training materials, regenerative agricultural technologies, agri-business and management skills.

The Department is hereby authorized to commission and provide funding for such training and extension services undertaken by the private sector.

SEC. 92. The role of Government Agencies.- The Department, together with state colleges and universities shall assist in the LGU's extension system by improving their effectiveness and efficiency through capability-building and complementary extension activities such as;

a) technical assistance;

b) training of LGU extension personnel;

c) improvement of physical facilities;

d) extension cum research; and

e) information support services;

SEC. 93. Funding for Extension Activities.- Extension activities shall be supported by the following measures

a) allocation of multi- year budgets that shall be treated as grants;

b) allow transfer of funds from the Department to the local government units as extension grants, and

c) the budget for agriculture and fisheries extension services shall be at least one percent (1%) of the gross value added (GVA) by year 2001

SEC.94. Excellence and Accountability in Extension.-The Department shall formulate the guidelines in evaluating extension, activities, and institutions, which shall involve an independent and interdisciplinary team of the collegial reviewers and evaluators.

SEC.95. Extension Communication Support for LGU's.-The Department in coordination with the public and private universities and colleges, shall develop an integrated multimedia support for national and LGU extension programs. The Department shall assist the LGU's in the computerization of communication support services to clients and linkages to the NIN.

TITLE 4
RURAL NON-FARM EMPLOYMENT

Chapter 1

SEC. 96. Declaration of policy. It is hereby declared the policy of the State to promote full employment. Economic history, however, shows that as an economy modernizes the number of workers employed in its agricultural sector declines. It is therefore necessary to formulate policies and implement programs that will employ workers efficiently in rural areas in order to improve their standard of living, and reduce their propensity to migrate to urban areas.

SEC. 97. Objectives.- Rural non-farm employment aims to

a) promote a basic needs approach to rural development;

b) make rural workers more adaptable and flexible through education and training;

c) promote rural industrialization and the establishment of agro- processing enterprises in rural communities; and

d)increase the income of rural workers.

Chapter 2

The Basic Needs Program

SEC. 98. Principles.- The Department, in coordination with the appropriate government agencies, shall formulate the Basic Needs Program to create employment and cushion the effect of liberalization based on the following principles

a) No credit subsidies shall be granted. The normal rules of banking shall apply to all enterprises involved, provided that existing credit arrangements with ARBs shall not be affected.

b) Enterprises can use training, information, advisory and related services of the Government free of charge.

c) The participation of the private sector shall be voluntary.

Teams composed of specialists from government agencies and the private sectors shall develop pilot programs in selected locales to establish the planning, implementation and evaluation procedures.

SEC. 99. Participation of Government Agencies. The replication of the program shall be the responsibility of the local government units concerned in collaboration with the appropriate government agencies, and the private sector. The local government units shall bear the costs of promoting and monitoring the basic needs program for which their IRA shall be increased accordingly as recommended by the Secretary of the Department Provided, That the appropriate national government agencies shall continue to provide the necessary technical as well as financial assistance to the LGUs in the replication of the program.

The Cooperatives Development Authority shall encourage the establishment and growth of associations and cooperatives as vehicles for the stable expansion of basic needs enterprises.

The Department of Education, Culture and Sports, Department of Health, and the Technical Education and Skills Development Authority shall coordinate with the Department and Congress in the review, rationalization and reallocation

of their regular budgets as well as their budgets under the GATT- related measures fund to finance education, training, health and other welfare services for farmers and fisherfolk.

Chapter 3

Rural Industrialization
Industry Dispersal Program

SEC. 100. Principles- Rural industrialization and industry dispersal programs shall be based on the interplay of market forces. The Board of Investments (BOI) is hereby required to give the highest priority to the grant of incentives to business and industries with linkages to agriculture.

SEC. 101. Role of Government Agencies- The appropriate government agencies, under the leadership of the LGUs concerned, shall provide integrated services and information to prospective enterprises under the one-stop-shop concept.

Local government units are authorized to undertake investment and marketing missions provided that the costs of such missions are borne by the LGUs concerned. In making their land use plans, the LGUs, in consultation with the appropriate government agencies concerned, shall identify areas for industrial parks.

The Department shall coordinate with the Department of Trade and Industry , in particular, the Board of Investments, in the formulation of investments priorities for rural areas.

The Regional Wage Boards shall consult participating enterprises in this program before they issue wage orders.

SEC. 102. Participating Enterprises - Participating enterprises may request any government agency for training, technical and advisory services free of cost.

A set of incentives shall be given to enterprises that subcontract part of their production to farmers, fisherfolk and landless workers during periods when they are not engaged in agricultural activities.

SEC. 103. Financing- Except for basic infrastructure and other goods that benefit all citizens, the facilities of this program should be undertaken and financed by the private sector.

Chapter 4

Training of Workers

SEC. 104. Role of TESDA- TESDA shall organize local committees that will advise on the scope , nature and duration of training for the above-mentioned programs.

TESDA is authorized to request the additional budgetary resources for these programs: Provided, That after a reasonable period, the task of coordinating the training is transferred to the LGUs concerned.

SEC. 105 Role of the DENR- The Department and the DENR shall organize the training of workers in coastal resources management and sustainable fishing techniques.

SEC. 106. Role of the Technology and Livelihood Resource Center (TLRC)- The TLRC shall undertake field training in entrepreneurship and management of workers involved in the basic needs program.

SEC. 107. Special Training Projects for Women- The Department , in collaboration with the appropriate government agencies concerned shall plan and implement special training projects for women for absorption in the basic needs and rural industrialization programs.

TITLE 5
TRADE AND FISCAL INCENTIVES

SEC.108 Taxation policies must not deter the growth of value-adding activities in the rural areas.

SEC. 109. All enterprises engaged in agriculture and fisheries as duly certified by the Department in consultation with the Department of Finance and the board of Investment, shall, for five (5) years after the effectivity of this Act, be exempted from the payment of tariff and duties for the importation of all types of agriculture and fisheries inputs, equipment and machinery such as, but not limited to, fertilizer, insecticide, pesticide, tractor, trailers, trucks, farm implements and machinery, harvesters, threshers, hybrid seeds, genetic materials, sprayers, packaging machinery and materials, bulk-handling facilities such as conveyors and mini loaders, weighing scales, harvesting equipment , spare parts of all agricultural equipment, fishing equipment and parts thereof, refrigeration equipment, and renewable energy systems such as solar panels Provided, however, That the imported agricultural and fishery inputs, equipment and machinery shall be for the exclusive use of the importing enterprise.

The Department , in consultation with the Department of Finance and the Board of Investment , shall, within ninety (90) days from the effectivity of this Act, formulate the implementing rules and regulations governing the importation of agriculture and fishery inputs, equipment and machinery.

SEC. 110. Any person, partnership, corporation, association and other juridical entity found circumventing the provisions of Section 109 of this Act shall suffer the penalty of imprisonment for a period of not less than six (6) months but not more than one (1) year, or a fine equivalent to two hundred percent (200%) of the value of the imported materials , or both, at the discretion of the court, and the accessory penalties of confiscation of the imported goods in favor of the government and revocation of the privileges given under this title.

In cases where the violator is a juridical entity, the officers responsible in the violation of Section 109 shall suffer the penalty of imprisonment prescribed in this Section.

The importation of goods equivalent to or exceeding the declared assets of the enterprise, partnership, or the authorized capital stock in case of corporations, and/or the resale of the imported goods shall be a prima facie evidence of the violation of the provisions of Section 109 of this Act.

GENERAL PROVISIONS

SEC. 111. Initial Appropriation- For the first year of implementation of this Act, the amount of Twenty Billion pesos (P20,000,000,000.00) is hereby appropriated. The Department is hereby authorized to re-align its appropriations in the current year of the date of effectivity of this Act to conform with the requirements of this Act Provided, That the amount shall be allocated and disbursed as follows

1. Thirty percent (30%) for irrigation

2. Ten percent (10%) for post-harvest facilities Provided, That the Secretary of Agriculture may invest up to fifty percent (50%) of the said amount to fund post-harvest facilities of cooperatives, especially market vendors' cooperatives, where said cooperatives exist and are operational Provided, further, That if no cooperatives are operational, said amount shall fund the post-harvest facilities of the market -assistance system;

3. Ten percent (10%) for other infrastructure including fishports, seaports, and airports, farm-and -coast-to-market roads, rural energy, communications infrastructure, watershed rehabilitation, water supply system, research and technology infrastructure, public markets and abattoirs;

4. Ten percent (10%) for the Agro-industry Modernization Credit and Financing Program (AMCFP) to be deposited by the Department in participating rural-based public and private financial institutions provided that no less than fifty percent (50%) of said funds shall be deposited in rural banks in cooperative banks;

5. Eight percent (8%) for the implementation of the Farmer-Fisherfolk Marketing Assistance System and support of market vendors' cooperatives.

6. Ten percent (10%) for research and development , four percent (4%) of which shall be used to support the Biotechnology Program;

7. Five percent (5%) for capability-building of farmers and fisherfolk organizations and LGUs for the effective implementation of the agriculture and fisheries programs at the local level;

8. Six percent (6%) for salary supplement of Extension Workers under the LGUs;

9. Five percent (5%) for NAFES , for the upgrading of the facilities of State Universities and Colleges that will be chosen as national center of excellence in agriculture and fisheries education;

10. Four percent (4%) for the National Information Network (NIN) consisting of both the national and local levels;

11. One-and -three-fourth percent (1.75%) for SUC- and TESDA-administered Rural Non-Farm Employment Training; and

12. One-fourth percent (0.25%) for the identification of the SAFDZs.

SEC. 112. Continuing Appropriation- The Department of Budget and Management (DBM) is hereby mandated to include annually in the next six (6) years, in the President's Program of expenditures for submission to Congress , and release, an amount not less than Seventeen billion pesos (P17,000,000,000.00) for the implementation of this Act.

Additional funds over and above the regular yearly budget of the Department shall be sourced from twenty percent (20%) of the proceeds of the securitization of government assets, including the Subic, Clark, and other special economic zones.

Other sources of funds shall be from the following:

a. Fifty Percent (50%) of the net earnings of the Public Estates Authority;

b. Loans, grants, bequest, or donations, whether from local or foreign sources;

c. Forty percent (40%) of the TESDA Skills Development Fund;

d. Net proceeds from the privatization of the Food Terminal Inc. (FTI), the Bureau of Animal Industry (BAI), the Bureau of Plant Industry (BPI), and other assets of the Department that will be identified by the DA Secretary and recommended to the President for privatization;

e. Proceeds from the Minimum Access Volume (MAV) in accordance with the provisions of Republic Act No. 8178;

f. Poverty alleviation Fund; and

g. Fifty Percent (50%) of the Support Facilities and Services Fund under Republic Act No. 6657.

SEC. 113. Implementing Rules and Regulations- The Secretary within ninety (90) working days after the effectivity of this act, together with the Department of Agrarian Reform (DAR), Department of Environment and Natural Resources (DENR), Department of Finance (DOF), Department of Science and Technology (DOST), Department of Trade and Industry (DTI), Commission on Higher Education (CHED), Technical Education and Skills Development Authority (TESDA), Department of Education , Culture and sports (DECS), Department of Social services and Development (DSSD), National Economic and Development Authority (NEDA), Department of Budget and Management (DBM), Department of Labor and Employment (DOLE), Commission on Audit (COA), Civil Service Commission (CSC), in consultation with other agencies concerned , farmers, fisherfolk and agribusiness organizations, and in coordination with the Congressional Oversight committee on Agriculture and Fisheries Modernization , shall promulgate the rules and regulations for the effective implementation of this act.

The Secretary shall submit to the Committee on Agriculture of both houses of congress copies of the implementing rules and regulations within thirty (30) days after their promulgation.

Any violation of this section shall render the official/s concerned liable under Republic Act. No. 6713 otherwise known as the "Code of Conduct and Ethical Standards for Public Officials and Employees" and other existing administrative and/or criminal laws.

SEC. 114. Congressional Oversight Committee on Agricultural and Fisheries Modernization- A congressional Committee on Agricultural and Fisheries Modernization is hereby created to be composed of the Chairs of the Committee on Agriculture of both Houses, six (6) members of the House of Representatives and six (6) members of the Senate, to be designated respectively by the Speaker of the House and the President of the Senate , who shall endeavor to have the various sectors and regions of the country represented.

The Chairs of the Committees on Agriculture in the Senate and House of Representatives, shall be respectively, the Chair and Co-Chair of the Oversight Committee. The other members shall receive no compensation; however, traveling and other necessary expenses shall be allowed.

The Committee shall oversee and monitor the implementation of the Congressional Commission on Agricultural Modernization (AGRICOM) recommendations as well as all programs, projects and activities related to agriculture and fisheries, and its allied concerns in both public and private sectors, with a view to providing all legislative support and assistance within the powers of Congress to ensure their inclusion, wherever feasible , in the national, regional, provincial, municipal, and sectoral development plans to recommend the disposal of assets no longer needed by the Department to fund the modernization program , and to see them through their successful implementation.

SEC. 115. Powers and Functions of the Committee- The Congressional Oversight on Agriculture and Fisheries Modernization shall have the following powers and functions

a. Prescribe and adopt guidelines that will govern its work;

b.Hold hearings, receive testimonies and reports pertinent to its specified concerns;

c. Secure from any department , bureau, office or instrumentality of the Government such assistance as may be needed , including technical information, preparation, and production of reports and submission of recommendations or plans as it may require;

d. Summon by subpoena any public or private citizen to testify before it, or require by subpoena duces tecum to produce before it such records , reports or other documents as may be necessary in the performance of its functions;

e. Use resource persons from the public and private sectors as may be needed;

f. Carry on the winding -up work of AGRICOM ,such as editing and printing all technical reports and studies as well as bibliographic cataloguing of its collection of source materials , continue its information and advocacy work;

g. Cause to be transferred to the Committee all works, outputs, source materials, and assets , funds, supplies and equipment of AGRICOM;

h. Approve the budget for the work of the Committee and all disbursements therefrom , including compensation of all personnel;

i. Organize its staff and hire and appoint such employees and personnel whether temporary , contractual or on consultancy, subject to applicable rules; and

j. Generally to exercise all the powers necessary to attain the purposes for which its created.

SEC. 116. Periodic Reports- The Committee shall submit periodic reports on its findings and make recommendations on actions to be taken by Congress and the appropriate department, and in order to carry out the objectives of this Act, an initial amount of Twenty million pesos (P20,000,000.00) is hereby appropriated for the Oversight Committee for the first year of its operation.

SEC. 117. Automatic Review- Every five (5) years after the effectivity of this Act, an independent review panel composed of experts to be appointed by the President shall review the policies and programs in the Agriculture and Fisheries Modernization Act and shall make recommendations, based on its findings, to the President and to both Houses of Congress.

SEC. 118. Repealing Clause- All laws, decrees, executive issuance, rules and regulations inconsistent with this Act are hereby repealed or modified accordingly.

SEC. 119. Separability Clause- The provisions of this Act are hereby declared to be separable, and in the event one or more of such provisions are held unconstitutional , the validity of the other provisions shall not be affected thereby.

SEC. 120. Effectivity. This Act shall take effect thirty (30) days from the date of its publication in the Official Gazette or in at least two (2) newspapers general circulation.

Approved

JOSE DE VENECIA, JR.
Speaker of the House of Representatives

ERNESTO M. MACEDA
President of the Senate

This Act, which is a consolidation of Senate Bill No. 2245 and House Bill No. 2 was finally passed by the Senate and the House of Representatives on December 15,1997, respectively.

ROBERTO P. NAZARENO
Secretary General House of Representatives

LORENZO E. LEYNES, JR.
Secretary of the Senate

Approved December 22, 1997

FIDEL V. RAMOS
President of the Philippines

Source: Department of Agriculture website http://www.da.gov.ph/AFMA/ra8435a.html

Appendix 2.2.3 PEZA Special Economic Zones

Table A2.2.1 PEZA Special Economic Zone (1/3)

NO.	NAME OF ECOZONE	LOCATION	DEVELOPER /OPERATOR	NUMBER OF OPERATING LOCATOR FIRMS (as of January 2003)	TOTAL APPROVED INVESTMENT for CY 2002 (in M Php)	DATE PROCLAIMED
Operating						
1	Amkor Technology Special Economic Zone	Km. 22, East Service Rd., South Super Highway, Brgy. Cupang, Muntinlupa City	AAPI Realty Corp	1		27-Oct-00
2	Angeles Industrial Park	Calibutbut, Bacolor, Pampanga	Angeles Industrial Park Inc	5	199.09	14-Aug-96
3	Asia Town Information Technology Park***	Lahug and Apas, Cebu City	Cebu Property Ventures and Dev't. Corporation	2		27-Feb-01
4	***Baguio City Economic Zone****	***Loakan Road, Baguio City***	***Philippine Economic Zone Authority***	***12***	346.30	27-Feb-79
						25-Jul-79
5	***Bataan Economic Zone****	***Nassco, Mariveles, Bataan***	***Philippine Economic Zone Authority***	***60***	424.00	29-Nov-69
						21-Aug-71
						21-Aug-71
						10-Dec-71
6	Calamba Premiere International Park	Batino, Parian and Barandal, Calamba, Laguna	Starworld Corporation	9	480.48	13-Apr-98
7	Carmelray Industrial Park	Canlubang, Calamba, Laguna	Carmelray Industrial Corporation	22	3,614.70	-
8	Carmelray Industrial Park II	Punta & Tulo, Calamba, Laguna	Carmelray-JTCI Corporation	32	560.36	09-Jan-98
9	***Cavite Economic Zone ****	***Rosario, Cavite***	***Philippine Economic Zone Authority***	***268***	1,794.26	30-May-80
						19-Sep-80
						22-Jun-98
	Cavite Economic Zone (Annexation)**	Bacao, Gen. Trias, Cavite	JD Holdings, Inc			
	Cavite Economic Zone (Annexation)**	Bacao, Gen. Trias, Cavite	Majestic Landscape Corporation			
10	Cebu Light Industrial Park	Basak, Lapu-Lapu City, Mactan, Cebu	Cebu Light Industrial Park Inc	1	186.20	23-Jun-98
11	Cocochem Agro-Industrial Park	Aplaya & Danglayan, Bauan, Batangas	United Coconut Chemicals, Inc	3		11-Nov-97
12	Daiichi Industrial Park	Maguyam, Silang, Cavite	Daiichi Property Ventures Inc.	5		23-Sep-97
13	Eastwood City CyberPark***	E Rodriguez, Jr. Avenue, Bagumbayan, Quezon City	Megaworld Properties & Holdings, Inc.	16	327.79	06-Oct-99
14	EMI-Special Economic Zone	Brgy. Anabu II, Imus Cavite	EMI-Jolou Realty, Inc.	1	356.97	14-Oct-02
15	E-Square Information Technology Park***	Fort Bonifacio Global City, Taguig, Metro Manila	Fort Bonifacio Development Corporation	9	47.95	04-May-00
16	First Cavite Industrial Estate	Langkaan, Dasmariñas, Cavite	First Cavite Industrial Estate Inc.	65	261.12	-
17	First Oriental Business and Industrial Park	Ilang, Bunawan District, Davao City	First Oriental Property Ventures, Inc.			05-Feb-97
18	First Philippine Industrial Park	Sta Anastacia , Sto. Tomas, Batangas	First Philippine Industrial Park Inc.	16	1,058.52	01-Oct-97
19	First Philippine Industrial Park (Expansion I)	Pantay Bata & Ulango , Tanauan, Batangas	First Philippine Industrial Park Inc.			22-Apr-98
20	First Philippine Industrial Park (Expansion II)	Pantay Bata and Ulango, Tanauan, Batangas	First Philippine Industrial Park, Inc.			05-Mar-01
21	Gateway Business Park	Javalera, Gen. Trias, Cavite	Gateway Property Holdings Inc.	17	226.00	-
22	Gateway Business Park I	Javalera, Gen. Trias, Cavite	Gateway Property Holdings Inc.			09-Jun-98

Data Source: PEZA

Table A2.2.1 PEZA Special Economic Zone (2/3)

Operating						
23	Greenfield Automotive Park	Don Jose, Sta. Rosa, Laguna	Balibago Land Corp.	3		06-Apr-98
	Greenfield Automotive Park II **	Don Jose, Sta. Rosa, Laguna	Balibago Land Corp.			
24	G.T. Tower International ***	Ayala Ave corner H.V. Dela Costa St., Makati City	Philippine Securities Corporation	1	1.50	20-Jun-02
	(Building floor area = 80,000 square meters)					
25	Jasaan Misamis Oriental Ecozone	Solana & Luz Banzon, Jasaan, Misamis Oriental	Misamis Oriental Land Development Corp.	1		20-Mar-01
26	Laguna International Industrial Park	Ganado & Mamplasan , Biñan, Laguna	Laguna Int'l. Industrial Park Inc.	24	260.41	-
27	Laguna Technopark I	Biñan, Laguna	Laguna Technopark Inc.	69	2,882.42	-
28	Laguna Technopark II	Biñan, Laguna	Laguna Technopark Inc.			07-Aug-97
29	Laguna Technopark III	Loma & Timbao, Biñan, Laguna	Laguna Technopark Inc.		186.39	09-Jan-98
30	Laguna Technopark IV	Don Jose, Sta. Rosa, Laguna	Laguna Technopark Inc			06-Sep-01
31	Leyte Industrial Development Estate	Isabel, Leyte	National Development Corporation	2		-
32	Light Industry & Science Park I	Diezmo, Cabuyao, Laguna	Science Park of the Phils. Inc.	38	545.35	-
33	Light Industry & Science Park II	Real & La Mesa, Calamba, Laguna	Science Park of the Phils. Inc.	22	207.46	09-May-96
						27-Jul-99
34	Lima Technology Center (Malvar)	Santiago & Payapa, Malvar, Batangas	Lima Land Inc.	12	96.53	09-Jan-98
	Lima Technology Center (Lipa)	San Lucas, Bugtong na Pulo & Inosluban, Lipa City, Batangas	Lima Land Inc.			04-Dec-97
35	Luisita Industrial Park	San Miguel, Tarlac	Luisita Realty Corporation	4		-
36	Macroasia Ecozone	Nichols Field, NAIA, Pasay City	MacroAsia Properties Development Corporation	1	1,115.00	31-Aug-00
37	***Mactan Economic Zone****	***Lapu-Lapu City, Mactan, Cebu***	***Philippine Economic Zone Authority***	***112***	121.12	15-Jan-78
38	Mactan Ecozone II	Basak, Lapu-lapu City, Mactan, Cebu	Acoland Inc.	43	181.38	17-Apr-96
39	MRI Ecozone	Sabang, Danao City, Cebu	Mitsumi Realty , Inc.	1	6.64	28-Mar-02
40	New Cebu Township	Cantao-an, Naga, Cebu	MRC Allied Industries Inc.	2		30-Sep-96
						03-Feb-97
41	Northgate Cyber Zone***	Filinvest Corporate City, Alabang, Muntinlupa	Filinvest Alabang, Inc.	9	98.77	30-Jan-00
42	Pacific Information Technology Center***	Pascor Drive, Brgy. Sto. Niño, Paranaque City	Pacific Space International Development Corporation		415.94	03-May-02
43	PBCOM Tower ***	Ayala Ave., cor. Herrera Street, Makati City	Filinvest Asia Corporation	2	70.00	30-May-01
	(Building floor area = 117,480 square meters)					
44	Philamlife I.T. Building	1207 Acacia Avenue, Madrigal Business Park, Barangay Ayala Alabang, Muntinlupa City	PERF Realty Corporation (PERFRC)	1	114.83	13-Jan-03
	11,977 square meters(floor area)					
45	People's Technology Park	Maduya, Carmona, Cavite	ROHM Realty Corporation	10	54.21	03-Jul-00
46	Plastic Processing Center SEZ	Alion and Cabcaben, Mariveles, Bataan	Diversified Ecozone Corporation	2	1,346.39	21-Apr-98
47	RCBC Plaza Information Technology Park***	Ayala Ave. cor. Gil Puyat Ave., Makati City	RCBC Realty Corporation.	8	224.92	07-Dec-00
	(Building floor area = 150,400 square meters)					

Data Source: PEZA

Table A2.2.1 PEZA Special Economic Zone (3/3)

NO.	NAME OF ECOZONE	LOCATION	DEVELOPER /OPERATOR	NUMBER OF OPERATING LOCATOR FIRMS (as of January 2003)	TOTAL APPROVED INVESTMENT for CY 2002 (in M Php)	DATE PROCLAIMED
Operating						
48	Rio Tuba Export Processing Zone	Rio Tuba, Bataraza, Palawan	Rio Tuba Nickel Mining Corporation		8,720.00	13-Dec-02
49	Sarangani Economic Development Zone	Cannery, Polomolok, South Cotabato	Sarangani Resources Corporation	1	115.00	29-Apr-02
50	Subic Shipyard Special Economic Zone	Cabangaan Point, Subic, Zambales	Consort Land Inc.	2		-
51	Summit One Office Tower***	Shaw Boulevard, Mandaluyong City	Facilities Incorporated	4	114.16	17-Sep-01
	(Building floor area = 56,385 square meters)					
52	Tabangao Special Economic Zone	Tabangao, Batangas	Shellgas Philippines Inc.	1		-
53	TECO Special Economic Zone	Bundagul and Paralayunan, Mabalacat, Pampanga	TIPCO Estates Corporation	1	22.93	20-Jan-03
54	Toyota Sta. Rosa (Laguna) Special Economic Zone	Pulong Sta Cruz, Sta. Rosa, Laguna	Toyota Motor Philippines Corp.	3		-
55	Victoria Wave Special Economic Zone	Malaria, Caloocan City	Victoria Wave Ltd. Inc.	17	8.20	-
56	West Cebu Industrial Park	Arpili & Buanoy, Balamban, Cebu	Cebu Industrial Park Developers Inc.	5		22-May-98
57	YTMI Realty Special Economic Zone	Brgy. Makiling, Calamba, Laguna	YTMI Realty Corporation		544.89	15-Apr-02
58	Filinvest Technology Park Calamba	Punta & Burol-Bubuyan, Calamba, Laguna	Filinvest Land Inc.		107.70	13-Feb-02

* Government-Owned Economic Zones

** Expansion less than 25 hectares

Data Source: PEZA

Table A2.2.2 PEZA Special Economic Zones (Proclaimed, 1/3)

Proclaimed

NO.	NAME OF ECOZONE	LOCATION	DEVELOPER/OPERATOR
58	Abra Agro-Industrial Center	Gadanni, Tayum,	Abra Privatization & Management Office
59	Agus Industrial Estate	Bulac, Sta. Maria, Bulacan	Sta. Maria Industrial Park, Corp.
60	Allegis Information Technology Park***	Carmelray Industrial Park II, Brgy. Tulo, Calamba,	Allegis Realty Holdings Corporation
61	Amihan Woodlands Township	Daja Daku & Taglawigan, San Isidro & Jubay,	MRC Allied Industries Inc.
62	Ayala de Zamboanga Industrial Park	Ayala, Zamboanga City	Nonito J. Bernardo Development Inc.
63	Carmelray International Business Park	Canlubang, Calamba, Laguna	Carmelray Industrial Corporation
64	Cavite Eco-Industrial Estate	Pasong Kawayan II, Gen. Trias, Cavite	Cavite Eco-Industrial Estate Corp.
65	Cavite Productivity Economic Zone	Sahud-Ulan, Tanza, Cavite	Cavite Productivity and Economic Zone Corp.
66	Central Technopark	San Miguel, Tarlac	Luisita Industrial Park Co.,
67	Eastbay Arts, Recreational and Tourism Zone	San Roque, Angono & Darangan, Binangonan,	Prime East Properties, Inc.
68	Eastern Visayas Regional Growth Center	Tagpuro, San Isidro, New Kawayan, Sto. Niño, Tacloban City, Leyte	City Government of Tacloban
69	Fil-Estate Industrial Park	Cavite	Fil-Estate Industrial Park Inc.
71	Filoil Special Economic Zone	Rosario, Cavite	Filoil Development & Management Corporation
72	First Batangas Industrial Park	Mang-hinao & Balayong, Bauan, Batangas	First Batangas Industrial Inc.
73	Kelly Special Economic Zone	Kelly, Tuding & Gumatdang, Itogon, Benguet	Benguet Corp.
74	Legaspi City Special Economic Zone	Sitio Caridad, Banquerohan, Legaspi City, Albay	City Government of Legaspi
75	Light Industry & Science Park III	San Rafael & Sta Anastacia, Sto. Tomas, Batangas	RFM-Science Park of the Phils. Inc.
76	Manila Harbour Center	District of Tondo, Manila City	R-II Builders
77	Nasipit Agusan del Norte Industrial Estate	Camagong and Talisay, Nasipit, Agusan del Norte	Provincial Government of Agusan Del Norte/ PEA
78	Pangasinan Industrial Park II	Alos, Alaminos & Tagudin, Mabini Pangasinan	Asea One Corporation
79	Philippine Int'l Air Terminals Co. SEZ	Villamor Airbase, Pasay City	Phil. Int'l Air & Transport Co., Inc.
80	Philnico Industrial Estate	Nonoc Island, Surigao del Norte	Philnico Mining & Industrial Corp.
81	Philtown Technology Park	Trapiche, Pagaspas, & Baloc-Baloc, Tanauaun,	Philippine Townships Inc.
82	PNOC Petrochemical Industrial Estate	Batangas Dos, Mariveles, Bataan	PNOC Petrochemical Dev't. Corp.
83	Polambato-Bogo Economic Zone	Polambato, Bogo, Cebu	WenMar Development Corp.
84	RLC Special Economic Zone	Simlong, Batangas City, Batangas	Robinson's Realty & Mgt. Corp.
85	Samal Casino Resort	San Isidro and Libertad, Kaputian, Island Ganden City of Samal, Davao Del	Ekran Services Inc.
86	San Carlos Ecozone	Palampas and Punao, San Carlos City, Negros	San Julio Realty, Inc.
87	Shannalyne Technological and Environmental Park	Milagros, Esperanza, Agusan del Sur	Shannalyne, Inc.
88	South Coast Ecozone	Papaya, Nasugbu, Batangas	Manila South Coast Development Corp.
89	Subic Hermosa Cyber City	Culis and Sumalo, Hermosa, Bataan	Subic-Hermosa Cyber City Dev't. Corp.
90	Tubay Agri-Processing Center	Doña Rosario, Tubay, Agusan del Norte	JC Agricultural Development, Inc.

*** Expansion less than 25 hectares*

**** Information Technology Parks/Buildings*

Data Source: PEZA

Table A2.2.2 PEZA Special Economic Zones (Proclaimed, 2/3)

Development In Progress

NO.	NAME OF ECOZONE	LOCATION	DEVELOPER/OPERATOR
91	6750 Ayala Avenue Building*** *4,759 square meters (land area)*	Ayala Avenue, Ayala Center, Makati City	Ayala Land, Inc.
	68,907 square meters (gross floor area)		
92	Apo Estates Special Economic Zone	Madaum, Tagum City, Davao	Apo Estates Corporation
93	Araneta Cyber Center***	EDSA corner Aurora Avenue, Cubao, Quezon city	Araneta Center, Inc.
94	Aseana Intelligent Technologies Plaza***	Aseana Business Park, Boulevard 2000, Parañaque City	Aseana IT Plaza, Inc.
95	Bais City Ecozone	Tamisu, Bais City, Negros Oriental	Bais City Oriental Negros SEPZ, Inc.
96	Barotac Nuevo Industry & Economic Park	Tinori-an, Barotac Nuevo, Iloilo	Don Jose Sustiguer Monfort Memorial National College
97	Batangas Industrial Estate	Maligaya, Rosario, Batangas	Brystol Realty Development Corp.
98	Best World Technopark	Batas, Silang, Cavite	Best World Land International, Inc.
99	Bicol Industrial Park	Sitio Banasi, San Jose, Bula, Camarines Sur	FPI Industrial Park Inc.
100	Bonifacio Information Special Technology Zone***	Fort Bonifacio, Taguig, Metro Manila	Bases Conversion and Development Authority
101	Cambridge Intelligent Park	Malinta, Dasmarinas, Cavite	Corp.
102	Cebu Cybertown Information Technology Park***	Lapu-Lapu City, Mactan, Cebu	First Centro, Inc.
103	Cebu South Reclamation Project	Tangke & Talisay, Cebu City	Local Government of Cebu City
104	Eastern Pangasinan Agro-Industrial Park	Sta Maria, Umingan , Pangasinan.	Corfarm Properties Inc.
105	Eugenio Lopez Jr. Communication Center ***	Mother Ignacia Ave., cor. Sgt. Esguerra St., Diliman, Quezon City	ABS-CBN Broadcasting Company
	(Building floor area = 101,608.32 square meters)		
106	Filinvest Technology Park Cavite	Hugo Perez, Trece Martirez , Cavite	Filinvest Land Inc.
107	Filinvest Technology Park Gen. Santos City	Gen. Santos City Tambler, General Santos City	Filinvest Land Inc.
108	Filinvest Technology Park Tanauan	Pantay Matanda, Tanauan, Batangas	Filinvest Land Inc.
109	Filinvest Technology Park Teresa	Dalig, Teresa Rizal	Filinvest Land Inc.
110	Filoil Special Economic Zone II	Rosario, Cavite	Filoil Development & Management Corporation
111	First Batangas Industrial Park II	Manghinao and Balayong, Bauan, Batangas	First Batangas Industrial Park, Inc.
112	First Cagayan De Oro Business Park	San Martin, Villanueva, Misamis Oriental	First Cagayan de Oro Business Park Co., Inc.
113	First Clarkway Industrial Park	Sta. Monica, San Simon, Pampanga	San Simon Realty Development, Inc.
114	General Santos City Special Economic Zone	Tambler, Gen. Santos City	Phil. Fisheries Dev't Authority
115	Global Industrial/Maritime Complex	Larap, Jose Panganiban, Camarines Norte	Mun. Government of Jose Panganiban
116	Golden Mile Business Park	Governor's Drive, Maduya, Carmona, Cavite	Golden Mile Resources Dev't. Corp.
117	Greenfield Industrial Center Ecozone	Bungahan and Mamplasan, Biñan, Laguna	Greenfield Industrial Center (Biñan), Inc.
118	Guimaras Growth Center	Maclain, Buenavista, Guimaras	Guimaras S E Z Development Corp.
119	Guoco Industrial Estate	San Pedro & San Pablo, Sto Tomas, Batangas	Guoco Property Devt. Inc.
120	Harbour Town	Calayo, Nasugbu, Batangas	Fil-Estate Land, Inc.
121	Hermosa Ecozone	Hermosa, Bataan	Hermosa Ecozone Development Corp
122	Isarog Heights Special Economic Zone	Cadlan, Pili, Camarines Sur	Manubay Agro-Ind'l and Dev't Corp., Inc.
123	LTI - Alaminos	San Andres and San Juan, Alaminos, Laguna	Laguna Technopark, Inc.
124	Leganes Industrial Growth Center	Leganes, Iloilo	Mun. Government of Leganes/Leganes Industrial Growth Center, Inc.

Data Source: PEZA

Table A2.2.2 PEZA Special Economic Zones (Proclaimed, 3/3)

Development In Progress

NO.	NAME OF ECOZONE	LOCATION	DEVELOPER/OPERATOR
125	Maguindanao Ecocity	Parang, Maguindanao	Maguindanao Ecocity Corporation
126	Marcelo IPG Industrial & Aqua Farming Park	Bacoor Bay, Cavite City	Marcelo Biotech, Inc.
127	MSE Building Information Technology Center *30,114.32 square meters (floor area)*	Ayala Ave., Ayala Triangle, Makati City	Ayala Land, Inc.
128	Mira Nila Ecozone	Municipalities of Barili & Aloguinsan, Cebu	Mira Nila Land Devt., Corp
129	Naga Agro-Industrial Center	Pacol, Naga City	Pacol Industrial Dev. Corp (PIDC)
130	New Coast Boracay Ecozone	Balabag & Yapak, Malay, Aklan	Fil-Estate Properties, Inc.
131	NSC Special Economic Zone	Tominobo, Sta Elena, Iligan City, Lanao del Norte	National Steel Corporation
132	Pagbilao Industrial & Science Park	Ibabang Polo, Pagbilao, Quezon	MCS Tanunliong, Inc.
133	Palayan City Agri-Industrial Center	Atate, Palayan City, Nueva Ecija City	City Government of Palayan City
134	Pangasinan Industrial Park I	Pangasinan	Asea One Corporation
135	Pavia Special Economic Zone	Pa-agon & Mali-ao, Pavia, Iloilo	Municipal Government of Pavia, Iloilo
136	PEC Industrial Park	Barrio Buenavista, Gen. Trias, Cavite	Philippine Estate Corporation
137	Petroleum Industry Economic Zone	Barangay Munting Mapino, Naic, Cavite	Jetti Industrial Development Corporation (JIDC)
138	PNOC Petrochemical Industrial Estate II	Batangas Dos, Mariveles, Bataan	PNOC Petrochemical Development Corp.
139	Polo Ecocity Special Economic Zone	Polo, Tanjay, Negros Oriental	Polo Plantation Properties, Inc.
140	Prince Cabuyao Special Economic Zone	Banlic, Cabuyao, Laguna	Matayog Properties Real Estate Inc.
141	Puerto Princesa Environmental Estate	Sta. Lucia, Puerto Princesa City, Palawan	City Government of Puerto Princesa
142	Pulupandan Ecozone	Patic, Pulupandan, Negros Occidental	Pulupandan Ecozone Corporation
143	Quezon International Center	Mangalang & Quiling, Sariaya, Quezon	Quezon International Devt Corp
144	Rancho Montana Ecozone	Luyos, Sulpoc and Suplang, Tanauan, Batangas	Rancho Montana Inc.
145	Rizal Industrial Estate	San Andres & Cuyambay, Tanay, Rizal	Provincial Government of Rizal
146	Robinson's CyberPark***	EDSA corner Pioneer Street, Mandaluyong City	Robinson's Land Corporation
147	Sarangani Economic Development Zone	Matinao, Polomolok, South Cotabato	Sarangani Resources Corporation
148	SM *it* City***	SM Central Business Park, Bay City, Pasay City	Shoemart, Inc.
149	Southwoods Ecocentrum Tourism Estate	Halang, Biñan, Laguna	Fil-Estate Ecocentrum Corporation
150	SRC Calumpang Economic Development Zone	Calumpang, General Santos City	Sarangani Resources Center
151	Sta. Rita Industrial Park	San Jose & Sagurong, Pili, Camarines Sur	Marasigan Construction & Dev. Corp.
152	Sterling Technopark	Maguyam, Silang & Bancal and Lantic, Carmona, Cavite	SP Properties Inc.
153	Sual Special Economic Zone	Pangasinan	Corporation
154	Taipan Gold Industrial Park	Defuego & San Francisco, Gen. Trias, Cavite	Taipan Gold Empire Corporation
155	The Enterprise Center ***	6766 Ayala Ave., cor. Paseo de Roaxas, Makati	KSA Realty Corporation
156	Theme Park Manila	Bay City Project formerly Boulevard 2000 Reclamation Project in Parañaque City	Philippine Amusement and Gaming Corporation (PAGCOR)
157	Tiger Valley Industrial Estate	Klinan 6, Polomolok , South Cotabato	Matutum Ridge Devt. Corp.
158	Tiwi Ecozone	Bagumbayan, Tiwi, Albay	Tiwi Ecozone Corporation
159	Toyota Sta. Rosa (Laguna) Special Economic Zone II	Pulong Sta. Cruz, Sta. Rosa, Laguna	Toyota Motors Philippines Corporation
160	UP Science and Technology Park (North)	Commonwealth Ave., Quezon City	University of the Philippines

Data Source: PEZA

Appendix 2.3 Major Key Interventions and Strategic Investment Programs on Sea Ports

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (1/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
NCR	**National Capital Region**	Encourage active and greater private sector participation in infrastructure development through BOT, etc..	na	na
		Promotion of the use of alternate airports and ports in the regions.		
		Study and establish "one stop"centers in Manila		
		Amend RA 1180 or the Retail Trade Law to allow foreign participation in retail activities.		
CAR	**Cordillera Administrative**	Growth Center	na	na
		Primary: Metro Baguio or BLIST Area		
		Secondary : Tabuk-Rizal, Bontoc-Sagada-Bauko-Besao Satellite Conglomeration, Lagawe-Banaue-Lamut, Around Metro Bangued, Kabugao-Paco Valeey-Pudtol Satellite Conglomeration		
1	**Ilocos Region**	Focus investment on the critical infrastructure, e.g., airports, seaports and water systems. Identified industrial centers and ecozones	Pursue the provision of infrastructure facilities as a means of enhancing the access of men and women to basic goods and services	San Fernando Seaport Implement / Upgrading-extension of pier and construction of warehouses (Private)
		Give attention and efforts on funding and implementation to identified industrial clusters, especially RAIC		Improvement of existing facilities at Currimao Port
		Priority Industrial Projects: Regional Agri-Industrial Center in La Union (RGC), Poro Point Special Economic and Free Port Zone in La Union (PPSEFPZ), Laolag Special Economic Zone (LSEZ), Sual Industrial Center		Sual Port Development (Master Plan / Feasibility Study Preparation / Fund Sourcing)

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (2/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
2	**Cagayan Valley**	The Cagayan Economic Zone (CEZA) for its port shall intensify their International Trade Relations.	Needs for support of the CSEZ in meeting domestic needs of the coastal and island municipalities.	Development of Port Irene
		The implementation and partial operationalization of the Sta. Ana and Cauayan.	Development of maritime outlets for domestic and international uses	Development of Basco, Port
		Aggressive tourism promotion and marketing	Development of inter island port especially for the island municipalities of Cagayan and Batanes	Development of Apari Port
3	**Central Luzon**	Subic Special Economic Zone (SEZ) Project, Hermosa Economic Zone (HEZ) Project, Clark Industrial Estate and Dry Port Development, Small and Medium Enterprises Center	Subic Bay Freeport with promoting synergism in the relation of SBFZ, CSEZ and LIC	Ro-Ro facilities at Capinpin Port, Orion, Bataan
		Greater Subic Tourism Core Development, Mt Pinatubo Ecotourism Packages, Mt Tapulao Ecotourism Project, Sibul Spring Development and Rehabilitation	Transport link access to the seaport as Subic-Clark-Tarlac Expressway	Subic Freeport Zone into an international port in the visoin of becoming a leading international transshipment hub in the Asia-Pacific Region
4	**Southern Tagalog**	Foster investment in S&T and R&D to ensure long-term growth of enterprise	National and Local Programs on Ports	Batangas Port Development Project Phase II
		Promote ICT to take advantage of the country's competitive edge and harmless productivity and efficiency of industries especially SMEs	Accelerate planning, development and implementation of seaports.	

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (3/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
		Promote the establishment of labor-intensive, local resource-based export-oriented industries	Provide domestic seaports in growth centers of MINAROPA provinces.	
		Develop innovative and cost-effective schemes on broadening access to infrastructure and support services		
5	**Bicol Region**	a) Albay-Abaca Industry, Piggery and Poultry Industries	RORO facilities will be constructed in the municipal ports of Pilar (Sorsogon), Aroroy (Masbate) and Mandaon (Masbate) to support inter-island and inter-regional transport linkage.	
		b) Camarines Norte - Pineapple Industry and Piggery Industry	Implementation of Pantao Regional Port shall be pursued.	
		c) Camarines Sur - Banboo Industry, Piggery and Pultry Industries		
		d) Catanduanes - Tiger-Grass Industry and Large Animals Industry		
		e) Masbate - Aquamarine Industry and Large animal Industry		
		f) Sorogon - Green Coffee Beans Industry and Poultry Industry		
		g) Regionwide Cluster - Livestock Industry		

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (4/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
6	**Western Visayas**	Modernize, diversify and intensify the agriculture and fishery-based industries to become a highly productive sector and promote their export potentials.	Provide adequate infrastructure facilities	Southern Philippine Ports Development Package (Culasi Port in Roxas City and Iloilo Commercial Port Complex)
		Enhance the economic viability of small and medium enterprises and promote investments.		Western Seaboard International Transport Project (Port of Caticlan, Iloilo, Jordan and Cabano in Guimaras and Pulupandan Port in Negros Occidental)
		Attract information and communication technology (ICT) related enterprises and electronic industries to enhance its utilization in agro-industry and tourism development		Expansion / Improvement of Dumangas, Estancia and Dumaguit Port
				San Carlos City Reclamation Project
7	**Central Visayas**	Promote and support investment in rural industries	To inprove port and airport facilities	Central Visayas Integrated Tranportation Master Plan
		Set up an Agri Investment Promotion Center	Encourage private sector involvement in port improvement projects	Feasibility Study on RORO Port Terminal Improvement Project
		Develop a culture of entrepreneurship	Collaborate with local government units in the provision and maintenance of port facilities	Study on alternative processes or technologoes used in port construction
		Capacitate rural labor force for possible employment in non agricultural activities	Fast track the implementation of the Project Development Management Fund	Port Improvement Projects
		Build infrastructure needed for designated industrial, tourism, and agricultural development	DOTC to advocate R & D on new technologies	Central Visayas RORO Port Terminal Improvement Projects

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (5/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
		LGUs to complete the formulation of CLUPs and strictly implement the zonings provisions thereof	To establish an integrated transportation system	
		Provide technical and capital support to rural industries	Formulate a regional transportation master plan	
			Ensure coordination of projects	
			Condust an integrated tranportaion system summit	
			Recognize DOTC or create a Department of Transportation	
			Promote the establishment of one-stop ticket counters	
8	**Eastern Visayas**	The Ginintuang Masaganang Ani Program (Rice, Corn, Livestock, High Value Commercial Crops, and Fisheries)	Westward bound passengers and cargoes to region 6 and 7 will embark from the port of Ormoc City, San Isidro, Palompon, Baybay and Massin in Leyte, Naval in Briliran and Catbalogan and Calbayog in Smar. These facilities will be upgraded to efficiently handle these activities.	same as left

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (6/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
		Agricultural Competitive Enhancement Program, Program for Strategic Agriculture and Fishery Development zones (SAFDZs), Establishment of a Bioresource Centrum to showcase advance agriculture practices specially mechanizations and robotics.	At present, fast ferries are serving the passengers coming in and going out of the region from and to Cebu through the Ormoc Port. Fast ferries are expected to expand there operations to other municipalities as soon as business climate in the region is favorable.	
		Investment promotion and industry development		
		Small and medium enterprise development assistance: the Eastern Visayas Regional Agri-Industrial Center (EVRGC) in Tacloban City declared as special economic zone		
		Development GTH and Food Processing Sectors : Identified three major commodities coconut, abaca and aquamarine products		
9	**Western Mindanao**	Zamboanga Freeport Authority (ZFA) and Special Economic Zone, Regional Agri-Industrial Center (RAIC), Provincial Industrial Center (PICs), People's Industrial Enterprises (PIEs), marketing centers and trading posts in strategic area in the region.	Improve / Upgrade transportation facilities in seaports and airports through the installation of mechanized equipment facilities especially for cargo handling.	Upgrading and improve Basila port system the include RORO facilities
		Construct. Improve and rehabilitate more farm to market roads, irrigation systems, fishing ports, rock causeways and post-harvest and processing facilities	Provision of incentives for the acquisition and operation of modern and efficient vessels	Rehabilitation . Improvement. Upgrading of Zamboanga, Pagadian. Pulawan and Irasan Ports
		Organize farmers , fishermen into cooperatives and provide appropriate trainings and market-oriented technologies to be able to efficiency operate and manage agri-business.		

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (7/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
10	**Northern Mindanao**	Strengthen networking and alliance with key stakeholders in the implementation od the Developing Rural Industries and Village Enterprises (DRIVE) Program	Sea cargo traffic will increase by 2 percent annually from 2.697 million metric tons in 2001 to 2.862 million metric tons in 2004	Detailed engineering studies for MICP Project
		Promote key projects identified in the industry cluster plans	Sea passenger traffic will increase from 1.312 million in 2001 to 1.424 million in 2004	Construction of MICP Project
		Implement industry cluster plans under priority programs such as the Agriculture and Fisheries Modernization Plan and the FSP, that is, develop strategic alliance to access technology, capital and markets for projects under industry cluster plans	To develop a new international cargo port to be located at the PHIVIDEC area	
		Develop and implement cluster plans for Cagayan de Oro City to support regional development.	all existing ports to be upgrade / improved	
		Establish strong network with stakeholders for endorsement and promotions of critical infrastructure project in growth centers.	Development of alternate ports as the Iligan City Port and Guinsiliban Port in Camiguin	
		Sustain awareness and develop investor interest in the Cagayan de Oro-Illigan Corridor and other growth centers		
		Promote use of information technology in investment promotion		

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (8/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
11	**Southern Mindanao**	Expand the role of local stakeholders in the management of natural resources.	The development of seaports in remote municipalities will slow direct access of remote production area.	Expansion and Modernization of Sasa Port in Dava City
		Intensify research and development in Agriculture, Fishery, Forestry, Mining, and Manufacturing		
		Program for Micro and Small-Scale Enterprises		
		Integrated SMEs IE Development Program		
12	**Central Mindanao**	SOCCSKSARGEN Economic Growth Cluster	Development and expansion of the Port	Development of Sarangai Bay into a major waterway that would physically integrated the Eastern and Western municipalities of the Province which will involve the construction, establishment and / or improvement of seaports in Maasim, Albal and Glan.
		Gen Santos as the industrial and commercial center, Koronadal, Tacurong and Polomok as agricultural distribution and processing center		
		Strengthening BIMP-EAGA initiatives		
		Saranggani as center for tourism, agri-industries and services		
		South Cotabato as the center of commercial crops		
		Sultan Kudarat as agriculture and fisheries		
		Cotabato Economic Growth Cluster		
		Major urban center in Cotabato and Kidapawan		

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (9/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
		Cotabato province: potential to become a agro-industrial center on the basis of SAFDZ		
ARMM	**Autonomous Region in Muslim Mindanao**	Promote more cottage and small scale industries with tax and marketing incentives in consonance with regional and national policies.	To provide adequate land, air and sea transport infrastructure support services.	Expansion / Upgrading of Plloc port in Maguinanao to a major port of entry
		Encourage and promote the setting up of cottage and small scale industries thorough tax and marketing incentives.	Upgrade the Bongo port into international transshipment port of the autonomous region.	Expansion / Upgrading of Jolo port in Sulu to a major port of entry
		Establish a Regional Agri-Industrial Center (RAIC) in Polloc, Parang, Muguindanao and Provincial Industrial Center in the three provinces of the region (Lanao del Sur, Sulu and Tawi-Tawi).	Expansion and improvement of port facilities serving primary and secondary growth centers and industrial areas.	Expansion / Upgrading of Bongo port in Tawi-Tawi to an international transshipment port
		Establish heavy industries with foreign capital influx or raw material supply in the RAIC.	Priority shall be given to the followings:	Construction of international containerized seaport in Panamao, Sulu
		Promote the establishment of industries to process agri-fishery products.	Ports, which have significant population and agricultural potential in their influence areas.	Expansion / upgrading of Siasi port in Sulu and Sitangkai port in Tawi-Tawi
		Implement a domestic and foreign marketing plan for regional products.	Ports, which are in serious repair and lack basic facilities	Construction of Malabang port in Lanao del Sur
		Promote non-traditional exports and at the same time expand the international market for traditional products.	Ports in the coastal and inland municipalities, which have no other possible means of transport	
		Supervise the barter trade to ensure its contribution to regional socio-economic development.		

Data Source: RDC, Regional Development Plans

Table A2.3.1 Major Key Interventions and Strategic Investment Programs on Sea Ports (10/10)

Region		Major Key Interventions or Policy / Priority Project in Industry	Major Key Interventions in Sea Transportation	Strategic Investment Program in Port
		Establish Physical Infrastructures such as roads, water, power and vertical structures in support to industrialization through BOT.		
13	**Caraga**	Strategic Production Area	Expand and improve airports and seaport facilities	Lipata RORO Ferry Terminal Project
		Forest / Agri-Forest Zones or Timber Corridor within the provinces of Agusan del Sur, Agusan del Norte, Surigao del Sur and Sirigao del Norte.	Construction od Lawigan Port in Bisig City	PPA Port System Project
		Strategic Agriculture and Fishery Development Zones in Butual City and within the provinces of Agusan del Sur, Agusan del Norte, Surigao del Sur and Surigao del Notre	Construction of new Siargao island Wharf in Jubang, Dapa, Surigao del Norte	Ferry Terminal in Butuan Port Terminal Project
		Nasipit, Agusan del Norte industrial Estate (NANIE) as the Regional Agri-Industrial Growth Center.	Improve / rehabilitate of Lipata RORO Ferry Terminal	
		Special Economic Zones, namely; Tubay Agri-Insustrial Processing Center (TAPCEN) in Agusan del Norte, Nonoc Island Special Economic Zone (NISEZ) in Surigao Ciry and Shannalyne Tecnological and Environmental Park (STEP) in Agusan del Sur.	Repair / Rehabilitate of existing 13 national ports in the PPA System in the region	
		Alternate Regional Agri-Industrial Growth Centers to be located in Butual City, Surigao City Bisig City and Cagwait, Surigao del Sur.	Construct Ferry Terminal in Butuan Port Terminal	
		Provincial Agri-Industrial Centers to be located in Talacogon, Agusan del Sur, Cantillan, Sutigao del Sur, and Claver, Surigao del Norte.		

Data Source: RDC, Regional Development Plans

Appendix 3 Summary of Physiographical Condition for Each Province

Table 11.1.1 (1/4) Summary of Physiographical Condition for Each Province

Physiographical Province		Character (Remarks)
Central	Northern Sierra Madre	Lower : Ophiolite Upper : Volcanic Rocks Limestone and Clastics (Miocene)
Eastern	Southern Sierra Madre	Lower : Rocks (Cretaceous to Tertiary) Intermediate: Younger rocks limestone, clastics and volcanic (Miocene) Upper : Volcanic and Congromerates (Miocene to Pleistocene)
	Western Bicol	Lower : Greenschists, volcanics, clastics and limestone (Cretaceous to Tertiary) Upper : Sedimentary and Volcanic rocks (Oligocene to Miocene)
	Bicol Basin	Sediments (Miocene to Pliocene)
	Samar	Lower : Metavolcanics and Metasediments (Cretaceous) Upper : Limestone, clastics and volcanics (Miocene to Pliocene)
	Diwata	Lower : Rock and Clastics Upper : Limestone and Clastics (Miocene)

Source : Geology and Mineral Resources of the Philippines

Table 11.1.1 (2/4) Summary of Physiographical Condition for Each Province

Physiographical Province		Character (Remarks)
Central	Bondoc Peninsula	Sediments (Miocene to Pleistocene)
	Marinduque	Under : Gray-wacke and Metamorphics (Cretacenous) Upper : Wackes and Limestone (Focene)
	Masbate	Under : Schist (Pre-Cretaceous) Intermediate: States, grey-wacke and meta-voltanics Upper : Tertiary clastics and limestone
	Leyte	Under : Sedimentary and Volcanic Rocks Intermediate: Sedimentary Rock (Miocene) Upper : Shallow marine and terrestrial deposits (Miocene to Pleistocene)
	Mindanao Central Cordillera	Under : Ophiolitic melange (Cretaceous to Paleogene) Intermediate: Sediments (Miocene) Upper : Diolite (Miocene)
	Cotabato Basin	Sedimentary Filo (Oligocene to Pleistocene)
	East-Panay Ridge (Central Masbate-Guimaras-Negros)	Lower : Diorite-Granodiorite Upper : Clastics and Limestone
	Visayan Basin	Metavolcanics (Cretaceous to Tertiary) and Sediments

Source : Geology and Mineral Resources of the Philippines

Table 11.1.1 (3/4) Summary of Physiographical Condition for Each Province

Physiographical Province		Character (Remarks)
Western	Zambales Range	Andestics volcanics (Miocene to Quaternary) (S to E parts)
	Mindoro	Under : Various rocks (Carboniferos to Pleistocene) Upper : Metamorphic and intrusive rock (Mountain) Tertiary sediments (coated area)
	Buruanga Peninsula	Metamorphic rocks (Pernian to Triassio)
	Zamboanga Peninsula	Under : Metamorphosed geosynclinal Rock (Paleozoic to Mesozoic) Upper : Sediments (Miocene) and Volcanics
Central	Luzon Central Cordillera	Under : Metavolcanics and Meta-sediments (Cretaceous to Tertiary) Upper : Limestone and clastics (Miocene)
	Cagayan Basin	Marine Clastics and Carbonato Rock (Oligocene to Pleistocene)
	Central Luzon	Sediments (Meocene to Pliocene)
	South of Manila Region	Quaternary Volcanos and Pyroclastic Deposite

Source : Geology and Mineral Resources of the Philippines

Table 11.1.1 (4/4) Summary of Physiographical Condition for Each Province

Physiographical Province		Character (Remarks)
Palawan	Northern Palawan	Under : Sediments Rock (Paleozoic to Mosozoic) Intermediate: Plutonic Rock Upper : Sediments (Eocene to Recent)
	Central to Southern Palawan	Under : Ultramafics core (shitore rock, chart, marble, quartzites) Intermediate: Clastic rock (Cretaceous to Eocene) Upper : Sediments (Eocene to Miocene)
	Northwest Sulu Sea Basin	Sedimentary Rock
Western	Ilocos	Under : Crystalline schists and quartzites Upper : Sedimentary Rock (Locally) (Eocene to Miocene)
	Zambales Range	Lower : Ultramafics (peridotite, dunite gabbro) Upper : Pelagic sediment (NE part) (Eocene to Oligocene) Ophiolite (NE part) Quartz diorites (N to NE part) and onioriteda Clastics (Eastern Parts) (Meocene)

Source : Geology and Mineral Resources of the Philippines

Appendix 5 Cargo and Passenger Estimation

Appendix 5.1 Cargo and Passenger Forecat for Major Ports

Page	Name of Port	Port Management Body		Kind of Port
		Authority	PPA-PMO	
A5-2	Batangas	PPA	Batangas	Base Port
A5-3	Cagayan de Oro	PPA	Cagayan de Oro	Base Port
A5-4	Calapan	PPA	Calapan	Base Port
A5-5	Cebu	PPA	Cebu	Base Port
A5-6	Cotabato	PPA	Cotabato	Base Port
A5-7	Davao	PPA	Davao	Base Port
A5-8	Dumaguete	PPA	Dumaguete	Base Port
A5-9	General Santos	PPA	General Santos	Base Port
A5-10	Iligan	PPA	Iligan	Base Port
A5-11	Iloilo	PPA	Iloilo	Base Port
A5-12	Legazpi	PPA	Legazpi	Base Port
A5-13	Limay	PPA	Limay	Base Port
A5-14	MICT	PPA	MICT	Base Port
A5-15	Manila North Harbor	PPA	Manila North Harbor	Base Port
A5-16	Manila South Harbor	PPA	Manila South Harbor	Base Port
A5-17	Subic	SBMA	-	Other Govt. Port
A5-18	Nasipit	PPA	Nasipit	Base Port
A5-19	Ozamis	PPA	Ozamis	Base Port
A5-20	Puerto Princesa	PPA	Puerto Princesa	Base Port
A5-21	Pulupandan	PPA	Pulupandan	Base Port
A5-22	San Fernando	BCDA	-	Other Govt. Port
A5-23	Surigao	PPA	Surigao	Base Port
A5-24	Tacloban	PPA	Tacloban	Base Port
A5-25	Tagbilaran	PPA	Tagbilaran	Base Port
A5-26	Zamboanga	PPA	Zamboanga	Base Port
A5-27	Harbor Center	PPA	-	Private Port
A5-28	Bredco	PPA	Bredco	Private Port
A5-29	Bauan	PPA	Batangas	Terminal Port
A5-30	Catagbacan	PPA	Tagbilaran	Terminal Port
A5-31	Catbalogan	PPA	Tacloban	Terminal Port
A5-32	Culasi	PPA	Iloilo	Terminal Port
A5-33	Currimao	PPA	San Fernando	Terminal Port
A5-34	Pulauan Dapitan	PPA	Ozamis	Terminal Port
A5-35	Estancia	PPA	Iloilo	Terminal Port
A5-36	Liloan Ferry	PPA	Tacloban	Terminal Port
A5-37	Lipata	PPA	Surigao	Terminal Port
A5-38	Maasin	PPA	Tacloban	Terminal Port
A5-39	Masao	PPA	Nasipit	Terminal Port
A5-40	Masbate	PPA	Legazpi	Terminal Port
A5-41	Matnog	PPA	Legazpi	Terminal Port
A5-42	Naval	PPA	Tacloban	Terminal Port
A5-43	Ormoc	PPA	Tacloban	Terminal Port
A5-44	Palompon	PPA	Tacloban	Terminal Port
A5-45	Pasacao	PPA	Legazpi	Terminal Port
A5-46	San Isidro	PPA	Tacloban	Terminal Port
A5-47	San Jose	PPA	Calapan	Terminal Port
A5-48	Tabaco	PPA	Legazpi	Terminal Port
A5-49	Irene	CEZA	-	Other Govt. Port
A5-50	Bay/River	PPA	M. South Harbor	Other Govt. Port
A5-51	Balwarteco	PPA	Tacloban	Private Port
A5-52	Tefasco	PPA	Davao	Private Port

CARGO & PASSENGER ESTIMATION

Batangas

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	999,602	1,044,563	8,658,629	12,040,272	20,471,881	25,977,951
a. Domestic	943,575	806,733	1,323,921	1,731,094	2,238,505	2,870,832
Inbound	562,159	382,768	659,632	871,173	1,134,792	1,463,308
Breakbulk	562,159	344,524	281,717	262,294	333,517	423,697
Bulk	0	26,497	152,003	218,350	301,030	404,065
Containerized	0	11,747	225,912	390,529	500,244	635,546
Ro/Ro Cargo	186,124	324,918	270,312	251,792	320,175	406,749
Actual Breakbulk	376,035	19,606	11,405	10,503	13,342	16,948
Outbound	381,416	423,965	664,289	859,921	1,103,713	1,407,524
Breakbulk	381,416	409,803	304,485	340,015	435,247	554,407
Bulk	0	7,006	7,068	10,869	15,605	21,507
Containerized	0	7,156	352,736	509,037	652,862	831,610
Ro/Ro Cargo	186,336	343,856	295,927	332,445	426,268	543,222
Actual Breakbulk	195,080	65,947	8,558	7,570	8,979	11,185
b. Foreign	56,027	237,830	7,334,709	10,309,178	18,233,376	23,107,119
Import	51,055	234,449	6,495,495	8,992,596	15,672,373	19,666,157
Breakbulk	51,055	153,850	95,704	104,743	142,187	189,052
Bulk	0	77,602	9,285	0	0	0
Containerized	0	2,997	6,390,506	8,887,853	15,530,186	19,477,105
Export	4,972	3,381	839,214	1,316,583	2,561,003	3,440,963
Breakbulk	4,972	2,041	4,012	6,847	10,379	14,780
Bulk	0	96	0	0	0	0
Containerized	0	1,244	835,201	1,309,736	2,550,625	3,426,183
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	1,200,434	2,613,542	5,340,383	7,443,209	10,063,714	13,329,339
Disembarking	601,295	1,363,451	2,670,191	3,721,605	5,031,857	6,664,669
Embarking	599,139	1,250,091	2,670,191	3,721,605	5,031,857	6,664,669

CARGO & PASSENGER ESTIMATION

Cagayan de Oro (PPA/PIA)

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	1,420,489	2,717,290	4,264,192	5,440,696	6,911,589	8,768,677
a. Domestic	1,178,410	2,245,580	2,415,092	2,962,198	3,643,592	4,494,570
Inbound	466,210	966,964	991,083	1,256,459	1,586,702	2,000,047
Breakbulk	181,069	237,691	315,468	373,546	454,183	561,701
Bulk	0	5,402	55,622	82,384	115,735	157,296
Containerized	285,141	723,871	619,993	800,528	1,016,784	1,281,051
Ro/Ro Cargo	7,471	15,008	20,084	24,258	30,084	37,949
Actual Breakbulk	173,598	222,683	295,384	349,289	424,099	523,751
Outbound	712,200	1,278,616	1,424,009	1,705,739	2,056,891	2,494,523
Breakbulk	384,032	244,307	264,732	312,192	378,607	463,627
Bulk	1,037	24,109	41,829	58,587	79,470	105,494
Containerized	327,131	1,010,200	1,117,448	1,334,961	1,598,814	1,925,402
Ro/Ro Cargo	1,783	4,186	10,751	20,548	39,737	75,711
Actual Breakbulk	382,249	240,121	253,981	291,644	338,869	387,916
b. Foreign	242,079	471,710	1,849,099	2,478,498	3,267,997	4,274,107
Import	123,011	358,424	1,422,723	1,958,586	2,626,833	3,457,787
Breakbulk	42,228	173,870	313,115	349,294	348,810	329,382
Bulk	77,084	146,408	263,115	328,988	411,078	513,377
Containerized	3,699	38,146	846,494	1,280,304	1,866,945	2,615,028
Export	119,068	113,286	426,376	519,912	641,164	816,320
Breakbulk	18,820	2,308	6,799	8,298	10,242	12,779
Bulk	65,233	56,336	38,655	19,330	0	0
Containerized	35,015	54,642	380,922	492,284	630,922	803,541
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	776,594	1,269,258	2,183,243	2,808,141	3,586,876	4,557,323
Disembarking	367,168	645,377	1,091,622	1,404,070	1,793,438	2,278,661
Embarking	409,426	623,881	1,091,622	1,404,070	1,793,438	2,278,661

CARGO & PASSENGER ESTIMATION

Calapan

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	702,559	391,294	555,653	660,973	792,221	955,781
a. Domestic	702,559	391,294	555,653	660,973	792,221	955,781
Inbound	310,990	195,963	267,757	309,394	361,280	425,941
Breakbulk	310,990	195,963	267,757	309,393	361,280	425,941
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	162,947	120,723	257,956	301,517	353,411	417,175
Actual Breakbulk	148,043	75,240	9,801	7,877	7,869	8,766
Outbound	391,569	195,331	287,896	351,579	430,941	529,840
Breakbulk	391,569	195,331	287,895	351,579	430,941	529,839
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	168,362	123,940	287,742	351,564	430,939	529,839
Actual Breakbulk	223,207	71,391	153	16	2	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	918,509	1,560,370	2,284,664	2,688,089	3,190,830	3,817,337
Disembarking	612,269	946,719	1,142,332	1,344,045	1,595,415	1,908,668
Embarking	306,240	613,651	1,142,332	1,344,045	1,595,415	1,908,668

CARGO & PASSENGER ESTIMATION

Cebu Base Port (CPA)

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	4,649,162	9,159,243	12,759,913	17,079,877	22,495,010	29,243,250
a. Domestic	4,214,747	7,733,583	9,254,243	10,740,908	13,843,510	17,713,589
Inbound	2,531,126	3,973,725	4,650,863	4,998,182	6,297,416	7,920,104
Breakbulk	1,450,438	1,741,964	1,959,572	2,215,987	2,481,568	2,768,044
Bulk	100	32,255	66,726	75,512	86,461	100,106
Containerized	1,080,588	2,199,506	2,624,564	2,706,682	3,729,386	5,051,954
Ro/Ro Cargo	30,035	0	176,547	287,701	447,234	661,691
Actual Breakbulk	1,420,403	1,741,964	1,783,026	1,928,286	2,034,334	2,106,354
Outbound	1,683,621	3,759,858	4,603,380	5,742,727	7,546,094	9,793,485
Breakbulk	789,785	2,251,423	2,554,745	2,809,137	3,049,321	3,346,824
Bulk	0	2,332	27,309	40,656	57,288	78,015
Containerized	893,836	1,506,103	2,021,325	2,892,934	4,439,485	6,368,646
Ro/Ro Cargo	32,112	0	397,835	577,683	795,795	1,062,508
Actual Breakbulk	757,673	2,251,423	2,156,910	2,231,454	2,253,526	2,284,316
b. Foreign	262,921	1,355,306	3,505,671	6,338,969	8,651,499	11,529,661
Import	171,296	1,011,753	2,652,468	4,737,808	6,501,781	8,696,408
Breakbulk	63,298	423,472	798,171	1,085,456	1,408,627	1,773,917
Bulk	24,401	70,971	25,415	0	0	0
Containerized	83,597	517,310	1,828,882	3,652,351	5,093,155	6,922,491
Export	91,625	343,553	853,203	1,601,161	2,149,718	2,833,253
Breakbulk	708	2,794	5,328	10,099	18,361	32,458
Bulk	0	5,542	13,401	15,553	18,234	21,576
Containerized	90,917	335,217	834,475	1,575,509	2,113,123	2,779,219
c. Transit Cargo	171,494	70,354				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	171,494	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	3,890,432	10,156,654	22,710,868	32,033,132	43,650,370	58,127,562
Disembarking	1,975,719	5,191,747	11,355,434	16,016,566	21,825,185	29,063,781
Embarking	1,914,713	4,964,907	11,355,434	16,016,566	21,825,185	29,063,781

CARGO & PASSENGER ESTIMATION

Cotabato

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	71,390	51,590	76,723	100,888	131,003	168,531
a. Domestic	71,390	51,590	76,571	100,654	130,666	168,066
Inbound	43,928	25,344	44,561	62,030	83,798	110,926
Breakbulk	43,928	25,344	44,561	62,030	83,798	110,926
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	43,928	25,344	44,561	62,030	83,798	110,926
Outbound	27,462	26,246	32,009	38,624	46,868	57,140
Breakbulk	27,462	26,246	32,009	38,624	46,868	57,140
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	27,462	26,246	32,009	38,624	46,867	57,140
b. Foreign	0	0	152	235	337	465
Import	0	0	152	235	337	465
Breakbulk	0	0	152	235	337	465
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	261,394	304,537	264,764	271,648	280,226	290,916
Disembarking	131,329	145,004	132,382	135,824	140,113	145,458
Embarking	130,065	159,533	132,382	135,824	140,113	145,458

CARGO & PASSENGER ESTIMATION

Davao

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	1,427,776	2,492,689	4,159,973	5,521,604	7,228,536	9,356,415
a. Domestic	1,175,353	1,507,863	1,629,465	1,904,452	2,246,936	2,674,651
Inbound	721,543	909,984	993,638	1,157,551	1,361,584	1,616,749
Breakbulk	168,782	168,962	181,412	190,732	206,492	229,598
Bulk	200	74,207	225,198	329,348	459,137	620,878
Containerized	552,561	666,815	587,027	637,471	695,956	766,273
Ro/Ro Cargo	13,168	24,343	44,118	59,907	78,479	99,730
Actual Breakbulk	155,614	144,619	137,294	130,825	128,013	129,868
Outbound	453,810	597,879	635,827	746,901	885,351	1,057,902
Breakbulk	99,233	89,342	82,558	96,849	116,235	141,100
Bulk	2,000	2,451	0	0	0	0
Containerized	352,577	506,086	553,269	650,052	769,116	916,802
Ro/Ro Cargo	3,122	2,842	3,737	5,063	7,004	9,776
Actual Breakbulk	96,111	86,500	78,821	91,786	109,231	131,324
b. Foreign	162,846	947,014	2,530,509	3,617,152	4,981,600	6,681,764
Import	121,031	670,788	1,750,749	2,474,278	3,376,160	4,499,166
Breakbulk	69,222	357,977	103,795	150,750	209,362	282,404
Bulk	51,809	102,223	365,595	484,071	631,713	815,702
Containerized	0	210,588	1,281,359	1,839,457	2,535,085	3,401,060
Export	41,815	276,226	779,760	1,142,874	1,605,441	2,182,598
Breakbulk	2,455	378	0	0	0	0
Bulk	39,360	11,540	9,157	587	0	0
Containerized	0	264,308	770,602	1,142,287	1,605,441	2,182,598
c. Transit Cargo	89,577	37,812				
Domestic	587	37,769				
Inward	0	9,566				
Outward	0	28,203				
Foreign	88,990	43				
Inward	0	43				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	116,441	153,265	224,565	262,426	309,608	368,405
Disembarking	54,303	78,183	112,282	131,213	154,804	184,202
Embarking	62,138	75,082	112,282	131,213	154,804	184,202

CARGO & PASSENGER ESTIMATION

Dumaguete

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	337,119	496,301	655,661	817,287	1,018,703	1,269,703
a. Domestic	324,543	489,064	655,661	817,287	1,018,703	1,269,703
Inbound	263,075	353,730	406,440	470,888	551,202	651,288
Breakbulk	190,218	185,669	140,863	127,599	121,960	124,278
Bulk	0	0	122	167	223	294
Containerized	72,857	168,061	265,456	343,123	429,019	526,716
Ro/Ro Cargo	481	7,652	24,855	42,731	56,137	64,537
Actual Breakbulk	189,737	178,017	116,008	84,867	65,823	59,742
Outbound	61,468	135,334	249,221	346,399	467,501	618,415
Breakbulk	16,945	42,855	65,164	75,798	89,556	108,076
Bulk	27,228	15,426	0	0	0	0
Containerized	17,295	77,053	184,056	270,601	377,944	510,339
Ro/Ro Cargo	0	3,074	33,313	41,398	49,224	59,438
Actual Breakbulk	16,945	39,781	31,851	34,399	40,332	48,638
b. Foreign	12,576	7,237	0	0	0	0
Import	8,736	7,237	0	0	0	0
Breakbulk	8,736	7,237	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	3,840	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	3,250	0	0	0	0	0
Containerized	590	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	432,503	1,097,785	2,004,319	2,639,265	3,430,522	4,416,573
Disembarking	205,903	563,084	1,002,160	1,319,632	1,715,261	2,208,286
Embarking	226,600	534,701	1,002,160	1,319,632	1,715,261	2,208,286

CARGO & PASSENGER ESTIMATION

General Santos

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	850,326	1,575,894	2,693,275	3,588,434	4,703,964	6,094,118
a. Domestic	781,404	1,318,628	2,315,693	2,388,747	3,104,959	3,998,407
Inbound	247,897	481,284	1,100,503	1,031,452	1,378,839	1,812,649
Breakbulk	106,321	109,985	192,790	230,483	278,316	339,943
Bulk	11,197	77,388	247,624	363,916	508,837	689,435
Containerized	130,379	293,911	660,089	437,052	591,687	783,271
Ro/Ro Cargo	839	11,074	31,102	42,895	54,399	67,500
Actual Breakbulk	105,482	98,911	161,688	187,588	223,917	272,443
Outbound	533,507	837,344	1,215,190	1,357,295	1,726,119	2,185,758
Breakbulk	177,150	101,607	72,755	80,726	96,668	119,610
Bulk	43,439	61,198	84,430	110,250	142,427	182,524
Containerized	312,918	674,539	1,058,004	1,166,319	1,487,024	1,883,624
Ro/Ro Cargo	386	1,954	9,269	14,312	18,793	23,768
Actual Breakbulk	176,764	99,653	63,486	66,414	77,876	95,842
b. Foreign	68,922	257,266	377,582	1,199,687	1,599,006	2,095,711
Import	38,368	189,869	327,798	943,803	1,278,020	1,693,613
Breakbulk	17,051	113,782	143,221	153,881	153,647	150,321
Bulk	12,956	59,250	70,141	95,419	126,920	166,176
Containerized	8,361	16,837	114,436	694,503	997,452	1,377,115
Export	30,554	67,397	49,784	255,883	320,986	402,099
Breakbulk	8,958	767	1,192	1,120	1,056	998
Bulk	270	0	0	0	0	0
Containerized	21,326	66,630	48,592	254,763	319,930	401,100
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	106,528	210,128	416,180	575,213	773,398	1,020,371
Disembarking	42,928	99,299	208,090	287,607	386,699	510,186
Embarking	63,600	110,829	208,090	287,607	386,699	510,186

CARGO & PASSENGER ESTIMATION

Iligan

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	403,659	247,638	319,948	335,453	354,775	378,854
a. Domestic	359,133	247,638	319,948	335,453	354,775	378,854
Inbound	136,499	130,646	158,131	182,524	212,922	250,804
Breakbulk	50,831	34,215	47,192	49,874	53,596	58,565
Bulk	0	0	0	0	0	0
Containerized	85,668	96,431	110,939	132,650	159,327	192,239
Ro/Ro Cargo	2,571	1,742	5,435	7,756	10,901	15,017
Actual Breakbulk	48,260	32,473	41,757	42,118	42,695	43,548
Outbound	222,634	116,992	161,817	152,929	141,853	128,050
Breakbulk	78,095	5,876	3,734	3,171	2,862	2,566
Bulk	0	0	0	0	0	0
Containerized	144,539	111,116	158,082	149,758	138,991	125,484
Ro/Ro Cargo	680	537	1,735	1,683	1,563	1,409
Actual Breakbulk	77,415	5,339	2,000	1,488	1,299	1,157
b. Foreign	43,910	0	0	0	0	0
Import	26,970	0	0	0	0	0
Breakbulk	501	0	0	0	0	0
Bulk	26,469	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	16,940	0	0	0	0	0
Breakbulk	6,299	0	0	0	0	0
Bulk	10,641	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	616	0				
Domestic	368	0				
Inward	0	0				
Outward	0	0				
Foreign	248	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	250,721	303,995	352,338	372,250	397,065	427,989
Disembarking	122,691	148,470	176,169	186,125	198,533	213,994
Embarking	128,030	155,525	176,169	186,125	198,533	213,994

CARGO & PASSENGER ESTIMATION

Iloilo

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	1,981,971	2,586,033	3,898,094	4,625,343	5,531,627	6,661,022
a. Domestic	1,607,817	2,212,382	3,201,551	3,814,095	4,577,337	5,528,934
Inbound	814,361	1,549,539	1,992,758	2,441,997	3,001,713	3,699,672
Breakbulk	522,734	637,449	729,602	786,939	854,910	944,210
Bulk	0	197,474	188,678	142,683	85,364	13,935
Containerized	291,627	714,616	1,074,478	1,512,375	2,061,440	2,741,528
Ro/Ro Cargo	7,346	17,026	59,107	99,420	159,795	244,356
Actual Breakbulk	515,388	620,423	670,496	687,520	695,115	699,854
Outbound	793,456	662,843	1,208,792	1,372,098	1,575,624	1,829,262
Breakbulk	566,000	411,975	620,460	619,340	622,383	632,485
Bulk	0	21,586	45,802	62,738	83,844	110,145
Containerized	227,456	229,282	542,530	690,021	869,397	1,086,631
Ro/Ro Cargo	3,971	6,929	40,181	75,061	128,171	194,455
Actual Breakbulk	562,029	405,046	580,279	544,279	494,212	438,030
b. Foreign	305,719	369,542	696,544	811,248	954,290	1,132,087
Import	302,219	369,406	619,628	708,531	819,436	957,193
Breakbulk	62,868	171,695	140,111	178,651	226,678	286,530
Bulk	239,351	197,711	305,517	288,522	267,343	240,950
Containerized	0	0	174,000	241,358	325,414	429,713
Export	3,500	136	76,916	102,717	134,854	174,894
Breakbulk	0	136	0	0	0	0
Bulk	3,500	0	0	0	0	0
Containerized	0	0	76,916	102,717	134,854	174,894
c. Transit Cargo	68,435	4,109				
Domestic	68,435	4,109				
Inward	0	4,109				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	2,111,706	2,311,370	3,407,496	3,884,156	4,478,161	5,218,398
Disembarking	1,060,737	1,180,610	1,703,748	1,942,078	2,239,080	2,609,199
Embarking	1,050,969	1,130,760	1,703,748	1,942,078	2,239,080	2,609,199

CARGO & PASSENGER ESTIMATION

Legazpi

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	220,904	365,535	457,320	572,532	716,108	895,030
a. Domestic	220,904	330,692	377,124	453,887	549,548	668,759
Inbound	186,114	221,992	295,826	350,532	418,707	503,664
Breakbulk	186,114	180,744	251,870	283,188	322,217	370,853
Bulk	0	41,248	43,955	67,344	96,490	132,811
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	29	82	113	184	303	507
Actual Breakbulk	186,085	180,662	251,758	283,005	321,913	370,346
Outbound	34,790	108,700	81,298	103,355	130,841	165,095
Breakbulk	34,790	93,585	60,982	72,940	87,841	106,411
Bulk	0	15,115	20,316	30,415	43,000	58,683
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	124	538	3	1	0	0
Actual Breakbulk	34,666	93,047	60,978	72,938	87,841	106,411
b. Foreign	0	34,843	80,196	118,645	166,560	226,271
Import	0	34,843	80,192	118,641	166,554	226,263
Breakbulk	0	24,907	66,911	99,130	139,282	189,318
Bulk	0	9,936	13,282	19,510	27,272	36,945
Containerized	0	0	0	0	0	0
Export	0	0	4	5	6	7
Breakbulk	0	0	4	5	6	7
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Limay

Mainly Anchor

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	0	196,105	280,928	426,165	607,157	832,707
a. Domestic	0	16,627	63,029	91,383	126,716	170,749
Inbound	0	341	17,861	25,542	35,113	47,042
Breakbulk	0	0	0	0	0	0
Bulk	0	341	17,861	25,542	35,113	47,042
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	0	0	0	0	0	0
Outbound	0	16,286	45,168	65,841	91,603	123,707
Breakbulk	0	0	313	435	587	777
Bulk	0	16,286	44,855	65,406	91,016	122,931
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	0	0	313	435	587	777
b. Foreign	0	179,478	217,899	334,782	480,441	661,958
Import	0	179,078	217,639	334,381	479,862	661,158
Breakbulk	0	0	0	0	0	0
Bulk	0	179,078	217,639	334,381	479,862	661,158
Containerized	0	0	0	0	0	0
Export	0	400	260	402	579	800
Breakbulk	0	0	0	0	0	0
Bulk	0	400	260	402	579	800
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

M.I.C.T

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	3,943,580	10,914,386	10,761,640	13,287,405	14,158,683	17,916,284
a. Domestic	54,739	0				
Inbound	54,093	0				
Breakbulk	44	0				
Bulk	0	0				
Containerized	54,049	0				
Ro/Ro Cargo	0	0				
Actual Breakbulk	44	0				
Outbound	646	0				
Breakbulk	0	0				
Bulk	0	0				
Containerized	646	0				
Ro/Ro Cargo	0	0				
Actual Breakbulk	0	0				
b. Foreign	3,888,524	10,904,546	10,761,640	13,287,405	14,158,683	17,916,284
Import	2,363,850	6,914,717	7,067,091	8,770,505	9,452,179	11,978,712
Breakbulk	5,984	28,730	52,585	70,708	92,885	120,043
Bulk	0	695,486	846,201	1,060,631	1,327,850	1,660,853
Containerized	2,357,866	6,190,501	6,168,305	7,639,166	8,031,445	10,197,817
Export	1,524,674	3,989,829	3,694,549	4,516,901	4,706,504	5,937,572
Breakbulk	0	0	1	0	0	0
Bulk	0	0	0	0	0	0
Containerized	1,524,674	3,989,829	3,694,548	4,516,900	4,706,504	5,937,571
c. Transit Cargo	317	9,840				
Domestic	317	9,840				
Inward	317	3,750				
Outward	0	6,090				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	81,458				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

North harbor manila

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	10,499,320	15,701,316	16,491,916	17,367,741	20,333,499	24,037,634
a. Domestic	10,499,320	15,029,316	16,491,916	17,367,741	20,333,499	24,037,634
Inbound	5,899,677	6,930,584	7,511,003	7,934,143	9,036,851	10,411,175
Breakbulk	2,551,828	1,061,795	967,360	1,048,582	1,197,158	1,398,206
Bulk	88,988	216,547	245,636	262,037	282,477	307,948
Containerized	3,258,861	5,652,242	6,298,007	6,623,523	7,557,216	8,705,021
Ro/Ro Cargo	10,737	7,466	10,449	15,032	22,728	35,054
Actual Breakbulk	2,541,091	1,054,329	956,911	1,033,550	1,174,431	1,363,153
Outbound	4,599,643	8,098,732	8,980,913	9,433,598	11,296,648	13,626,459
Breakbulk	907,127	908,556	838,620	889,355	1,000,914	1,172,555
Bulk	250	11,597	40,694	56,464	76,117	100,607
Containerized	3,692,266	7,178,579	8,101,599	8,487,780	10,219,617	12,353,297
Ro/Ro Cargo	33,665	13,061	9,200	7,189	5,953	5,127
Actual Breakbulk	873,462	895,495	829,421	882,166	994,960	1,167,429
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	672,000				
Domestic	0	672,000				
Inward	0	346,967				
Outward	0	325,033				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	3,175,992	3,420,855	3,249,440	3,790,788	4,465,406	5,306,103
Disembarking	1,692,495	1,825,586	1,624,720	1,895,394	2,232,703	2,653,052
Embarking	1,483,497	1,595,269	1,624,720	1,895,394	2,232,703	2,653,052

CARGO & PASSENGER ESTIMATION

South harbor manila

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	4,943,801	6,823,086	11,029,052	12,557,018	13,292,861	15,681,468
a. Domestic	5,792	0	1,400,000	1,400,000	1,400,000	1,400,000
Inbound	5,792	0	700,000	700,000	700,000	700,000
Breakbulk	0	0				
Bulk	0	0				
Containerized	5,792	0	700,000	700,000	700,000	700,000
Ro/Ro Cargo	0	0				
Actual Breakbulk	0	0				
Outbound	0	0	700,000	700,000	700,000	700,000
Breakbulk	0	0				
Bulk	0	0				
Containerized	0	0	700,000	700,000	700,000	700,000
Ro/Ro Cargo	0	0				
Actual Breakbulk	0	0				
b. Foreign	4,938,009	6,784,721	9,629,052	11,157,018	11,892,861	14,281,468
Import	4,579,810	6,324,392	9,090,997	10,607,856	11,386,325	13,709,259
Breakbulk	3,009,673	3,149,129	4,270,978	4,622,732	5,049,879	5,627,734
Bulk	723,428	650,017	0	0	0	0
Containerized	846,709	2,525,246	4,820,019	5,985,125	6,336,447	8,081,525
Export	358,199	460,329	538,055	549,162	506,535	572,210
Breakbulk	81,113	26,012	15,939	15,818	17,280	19,933
Bulk	4,416	26,242	37,724	35,233	32,129	28,261
Containerized	272,670	408,075	484,392	498,111	457,126	524,016
c. Transit Cargo	0	38,365				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	38,365				
Inward	0	23,714				
Outward	0	14,651				
d. Foreign (Transhipment)	0	10,556				
2. Total Passengers	10,672	14,808	1,419,480	1,424,804	1,431,440	1,439,709
Disembarking	5,337	7,410	709,740	712,402	715,720	719,854
Embarking	5,335	7,398	709,740	712,402	715,720	719,854

CARGO & PASSENGER ESTIMATION

Subic - SBMA

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
	tp					
1. Total Cargo Throughput (m.t.)	5,300	997,000	4,034,480	5,273,301	6,836,229	9,522,238
a. Domestic	5,300	0	85,700	111,120	144,360	184,620
Inbound	1,500	0	23,520	29,420	37,120	50,580
Breakbulk	0		23,520	29,420	37,120	50,580
Bulk	1,500		0	0	0	0
Containerized	0		0	0	0	0
Ro/Ro Cargo			0	0	0	0
Actual Breakbulk	0	0	23,520	29,420	37,120	50,580
Outbound	3,800	0	62,180	81,700	107,240	134,040
Breakbulk	0		62,180	81,700	107,240	134,040
Bulk	3,800		0	0	0	0
Containerized	0		0	0	0	0
Ro/Ro Cargo			0	0	0	0
Actual Breakbulk	0	0	62,180	81,700	107,240	134,040
b. Foreign	0	997,000	3,948,780	5,162,181	6,691,869	9,337,618
Import	0	840,000	2,436,000	3,132,347	4,002,789	5,487,042
Breakbulk	0					
Bulk	0	660,000	604,400	686,600	768,600	850,600
Containerized	0	180,000	1,831,600	2,445,747	3,234,189	4,636,442
Export	0	157,000	1,512,780	2,029,834	2,689,080	3,850,576
Breakbulk	0	27,000	28,180	36,960	48,560	60,760
Bulk	0					
Containerized	0	130,000	1,484,600	1,992,874	2,640,520	3,789,816
c. Transit Cargo	0					
Domestic	0					
Inward	0					
Outward						
	0					
Foreign	0					
Inward	0					
Outward						
d. Foreign (Transhipment)						
2. Total Passengers						
Disembarking			0	0	0	0
Embarking			0	0	0	0

CARGO & PASSENGER ESTIMATION

Nasipit

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	597,495	734,675	1,033,674	1,229,622	1,473,809	1,778,110
a. Domestic	595,327	718,560	1,033,674	1,229,622	1,473,809	1,778,110
Inbound	239,294	388,223	584,929	725,314	900,260	1,118,274
Breakbulk	93,131	59,453	61,028	71,316	87,144	108,255
Bulk	38,798	69,980	44,525	43,899	43,118	42,145
Containerized	107,365	258,790	479,376	610,099	769,997	967,874
Ro/Ro Cargo	26,026	9,997	14,856	15,205	16,077	17,084
Actual Breakbulk	67,105	49,456	46,172	56,111	71,068	91,171
Outbound	356,033	330,337	448,746	504,308	573,549	659,836
Breakbulk	266,263	160,727	145,444	139,511	137,618	140,174
Bulk	0	0	5,822	8,665	12,209	16,625
Containerized	89,770	169,610	297,480	356,132	423,722	503,037
Ro/Ro Cargo	10,405	2,192	1,865	1,151	729	476
Actual Breakbulk	255,858	158,535	143,579	138,359	136,889	139,698
b. Foreign	2,168	16,115	0	0	0	0
Import	0	15,700	0	0	0	0
Breakbulk	0	15,700	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	2,168	415	0	0	0	0
Breakbulk	2,168	415	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	488,029	385,244	495,400	497,992	501,222	505,248
Disembarking	249,422	194,573	247,700	248,996	250,611	252,624
Embarking	238,607	190,671	247,700	248,996	250,611	252,624

CARGO & PASSENGER ESTIMATION

Ozamiz

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	419,418	1,731,438	2,883,883	3,790,205	4,919,648	6,327,140
a. Domestic	388,599	1,714,885	2,851,625	3,740,875	4,849,043	6,230,021
Inbound	212,375	872,950	1,392,240	1,781,302	2,266,145	2,870,346
Breakbulk	75,516	681,646	1,354,325	1,768,446	2,261,886	2,868,948
Bulk	0	0	0	0	0	0
Containerized	136,859	191,304	37,916	12,857	4,259	1,398
Ro/Ro Cargo	0	544,289	1,286,608	1,680,023	2,148,792	2,725,501
Actual Breakbulk	75,516	137,357	67,716	88,422	113,094	143,447
Outbound	176,224	841,935	1,459,385	1,959,573	2,582,898	3,359,675
Breakbulk	85,722	705,651	1,388,692	1,897,960	2,518,799	3,287,483
Bulk	3,313	43,815	46,799	53,232	61,249	71,239
Containerized	87,189	92,469	23,894	8,381	2,850	953
Ro/Ro Cargo	0	579,259	1,180,388	1,613,266	2,140,979	2,794,361
Actual Breakbulk	85,722	126,392	208,304	284,694	377,820	493,122
b. Foreign	30,819	16,553	32,257	49,330	70,606	97,119
Import	6,207	16,553	32,257	49,330	70,606	97,119
Breakbulk	0	16,553	32,257	49,330	70,606	97,119
Bulk	6,207	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	24,612	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	24,612	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	2,286,608	2,720,892	2,532,248	2,479,072	2,412,804	2,330,223
Disembarking	1,152,360	1,320,322	1,266,124	1,239,536	1,206,402	1,165,111
Embarking	1,134,248	1,400,570	1,266,124	1,239,536	1,206,402	1,165,111

CARGO & PASSENGER ESTIMATION

Puerto Princesa

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	181,147	434,656	797,474	1,118,350	1,518,220	2,016,530
a. Domestic	180,698	426,307	786,161	1,100,987	1,493,317	1,982,232
Inbound	111,569	287,769	547,092	773,130	1,054,814	1,405,843
Breakbulk	63,876	95,840	113,605	132,011	161,001	202,462
Bulk	0	16,482	42,671	63,749	90,017	122,750
Containerized	47,693	175,447	390,816	577,370	803,796	1,080,631
Ro/Ro Cargo	1,444	2,922	26,508	38,190	48,070	60,701
Actual Breakbulk	62,432	92,918	87,097	93,821	112,931	141,761
Outbound	69,129	138,538	239,069	327,857	438,503	576,389
Breakbulk	26,828	41,862	46,257	55,914	67,800	82,736
Bulk	0	13,869	36,377	55,387	79,075	108,596
Containerized	42,301	82,807	156,435	216,557	291,628	385,057
Ro/Ro Cargo	740	501	4,356	15,158	35,973	58,462
Actual Breakbulk	26,088	41,361	41,901	40,756	31,827	24,274
b. Foreign	449	8,349	11,313	17,363	24,903	34,298
Import	298	8,349	11,313	17,363	24,903	34,298
Breakbulk	282	8,349	11,313	17,363	24,903	34,298
Bulk	0	0	0	0	0	0
Containerized	16	0	0	0	0	0
Export	151	0	0	0	0	0
Breakbulk	151	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	131,227	170,562	339,221	447,218	581,802	749,517
Disembarking	65,038	90,395	169,610	223,609	290,901	374,759
Embarking	66,189	80,167	169,610	223,609	290,901	374,759

CARGO & PASSENGER ESTIMATION

Pulupandan

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	358,843	78,027	93,569	92,145	90,436	100,737
a. Domestic	357,186	78,027	93,569	92,145	90,436	100,737
Inbound	152,458	37,490	50,757	63,719	79,873	100,737
Breakbulk	29,103	20,235	41,310	56,952	76,445	100,737
Bulk	24,808	17,255	9,447	6,767	3,428	0
Containerized	98,547	0	0	0	0	0
Ro/Ro Cargo	0	396	8,259	11,390	15,289	20,147
Actual Breakbulk	29,103	19,839	33,051	45,562	61,156	80,589
Outbound	204,728	40,537	42,812	28,426	10,563	0
Breakbulk	76,265	35,543	33,067	23,048	10,563	0
Bulk	12,731	4,994	9,744	5,378	0	0
Containerized	115,732	0	0	0	0	0
Ro/Ro Cargo	0	560	4,609	4,566	2,112	0
Actual Breakbulk	76,265	34,983	28,458	18,482	8,451	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	1,657	0				
Domestic	1,657	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	497	487	757	1,093	1,512
Disembarking	0	320	244	378	546	756
Embarking	0	177	244	378	546	756

CARGO & PASSENGER ESTIMATION

San Fernando (BCDA)

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	773,099	N/A	1,524,448	1,651,582	1,810,014	2,008,233
a. Domestic	601,921	0	681,780	691,340	703,253	718,883
Inbound	599,296	0	641,929	642,052	642,206	642,398
Breakbulk	74,491	0	50,836	41,182	29,153	14,162
Bulk	524,805	0	591,093	600,870	613,053	628,236
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	74,491	0	50,836	41,182	29,153	14,162
Outbound	2,625	0	39,851	49,288	61,047	76,486
Breakbulk	2,625	0	5,690	3,986	1,862	0
Bulk	0	0	34,162	45,302	59,185	76,486
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	2,625	0	5,690	3,986	1,862	0
b. Foreign	171,178	0	842,668	960,242	1,106,760	1,289,349
Import	168,424	0	842,668	960,242	1,106,760	1,289,349
Breakbulk	75,981	0	297,200	377,157	476,797	600,968
Bulk	92,443	0	545,468	583,085	629,963	688,381
Containerized	0	0	0	0	0	0
Export	2,754	0	0	0	0	0
Breakbulk	2,754	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Surigao

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	127,172	209,153	371,016	495,857	651,432	845,306
a. Domestic	127,167	209,153	371,016	495,857	651,432	845,306
Inbound	57,725	83,743	170,677	228,933	301,531	392,002
Breakbulk	43,660	58,750	110,272	141,064	177,091	219,156
Bulk	0	0	10,451	15,654	22,138	30,218
Containerized	14,065	24,993	49,954	72,216	102,302	142,628
Ro/Ro Cargo	516	2,153	8,077	14,332	24,397	39,795
Actual Breakbulk	43,144	56,597	102,195	126,731	152,694	179,360
Outbound	69,442	125,410	200,339	266,924	349,900	453,304
Breakbulk	23,849	44,034	79,310	109,922	148,838	198,142
Bulk	37,605	67,505	101,998	133,695	173,196	222,422
Containerized	7,988	13,871	19,031	23,306	27,866	32,741
Ro/Ro Cargo	281	693	1,694	2,559	3,776	5,474
Actual Breakbulk	23,568	43,341	77,615	107,363	145,062	192,667
b. Foreign	5	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	5	0	0	0	0	0
Breakbulk	5	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	332,788	694,325	1,660,244	2,294,983	3,085,984	4,071,714
Disembarking	164,343	380,033	830,122	1,147,492	1,542,992	2,035,857
Embarking	168,445	314,292	830,122	1,147,492	1,542,992	2,035,857

CARGO & PASSENGER ESTIMATION

Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	407,943	614,632	1,015,921	1,308,475	1,673,049	2,127,376
a. Domestic	333,571	558,809	987,919	1,267,541	1,616,001	2,050,245
Inbound	241,948	404,709	820,760	1,089,869	1,425,228	1,843,147
Breakbulk	163,925	281,656	431,054	525,996	645,511	798,463
Bulk	13,121	441	0	0	0	0
Containerized	64,902	122,612	389,706	563,873	779,717	1,044,683
Ro/Ro Cargo	467	868	1,797	2,459	3,384	4,694
Actual Breakbulk	163,458	280,788	429,257	523,537	642,126	793,769
Outbound	91,623	154,100	167,160	177,672	190,773	207,099
Breakbulk	37,528	21,962	28,996	28,902	29,183	29,857
Bulk	38,949	114,866	105,598	114,125	124,750	137,992
Containerized	15,146	17,272	32,566	34,645	36,839	39,250
Ro/Ro Cargo	240	177	241	248	260	275
Actual Breakbulk	37,288	21,785	28,755	28,654	28,924	29,582
b. Foreign	74,372	55,823	28,002	40,933	57,048	77,131
Import	2,087	12,956	27,538	40,217	56,018	75,709
Breakbulk	2,087	12,956	27,538	40,217	56,018	75,709
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	72,285	42,867	464	716	1,030	1,422
Breakbulk	0	417	464	716	1,030	1,422
Bulk	72,285	42,450	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	328,513	59,317	0	0	0	0
Disembarking	162,021	34,374	0	0	0	0
Embarking	166,492	24,943	0	0	0	0

CARGO & PASSENGER ESTIMATION

Tagbilaran

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	361,745	644,819	768,309	891,982	1,046,101	1,238,161
a. Domestic	361,745	614,972	768,309	891,982	1,046,101	1,238,161
Inbound	268,924	486,421	606,360	695,699	807,031	945,771
Breakbulk	176,028	296,278	357,835	388,065	425,602	472,021
Bulk	36,527	71,581	121,562	160,211	208,375	268,397
Containerized	56,369	118,562	126,963	147,422	173,053	205,353
Ro/Ro Cargo	10,612	10,782	14,963	13,435	11,945	10,539
Actual Breakbulk	165,416	285,496	342,872	374,631	413,657	461,482
Outbound	92,821	128,551	161,949	196,283	239,070	292,390
Breakbulk	57,210	58,303	75,830	86,154	98,985	114,924
Bulk	14,549	39,982	56,318	75,622	99,678	129,657
Containerized	21,062	30,266	29,801	34,508	40,406	47,809
Ro/Ro Cargo	3,835	3,687	10,157	12,929	16,522	21,175
Actual Breakbulk	53,375	54,616	65,673	73,225	82,463	93,748
b. Foreign	0	29,847	0	0	0	0
Import	0	29,847	0	0	0	0
Breakbulk	0	29,847	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	564,829	1,513,839	2,372,422	2,995,910	3,772,889	4,741,147
Disembarking	278,148	767,882	1,186,211	1,497,955	1,886,445	2,370,573
Embarking	286,681	745,957	1,186,211	1,497,955	1,886,445	2,370,573

CARGO & PASSENGER ESTIMATION

Zamboanga

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	621,056	1,253,679	2,256,592	3,030,219	3,994,300	5,195,721
a. Domestic	605,372	1,105,868	2,068,020	2,775,238	3,656,560	4,754,847
Inbound	387,189	643,850	1,111,473	1,455,302	1,883,775	2,417,731
Breakbulk	278,119	304,367	347,595	379,195	420,703	478,288
Bulk	0	0	0	0	0	0
Containerized	109,070	339,483	763,877	1,076,107	1,463,072	1,939,442
Ro/Ro Cargo	2,966	10,545	107,370	144,362	166,829	191,030
Actual Breakbulk	275,153	293,822	240,226	234,833	253,874	287,259
Outbound	218,183	462,018	956,548	1,319,937	1,772,785	2,337,117
Breakbulk	158,557	247,027	378,563	436,505	494,933	561,775
Bulk	0	0	0	0	0	0
Containerized	59,626	214,991	577,985	883,431	1,277,852	1,775,342
Ro/Ro Cargo	1,208	3,372	90,924	142,922	171,444	196,313
Actual Breakbulk	157,349	243,655	287,639	293,583	323,489	365,461
b. Foreign	15,219	147,811	188,571	254,981	337,740	440,873
Import	1,197	147,223	188,571	254,981	337,740	440,873
Breakbulk	1,197	145,883	171,392	147,783	170,208	220,511
Bulk	0	0	0	0	0	0
Containerized	0	1,340	17,179	107,198	167,533	220,362
Export	14,022	588	0	0	0	0
Breakbulk	14,022	410	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	178	0	0	0	0
c. Transit Cargo	465	0				
Domestic	465	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	1,311,210	2,908,149	3,886,965	4,743,955	5,811,920	7,142,799
Disembarking	657,109	1,415,833	1,943,483	2,371,977	2,905,960	3,571,399
Embarking	654,101	1,492,316	1,943,483	2,371,977	2,905,960	3,571,399

CARGO & PASSENGER ESTIMATION

Harbor Center
R-II - North Harbor (Mnl)

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)		2,156,121	1,854,399	2,611,577	3,555,157	4,731,031
a. Domestic		615,178	780,885	1,191,138	1,702,386	2,339,495
Inbound		449,199	437,693	657,821	932,141	1,273,994
Breakbulk		147,976	84,609	104,496	150,532	208,061
Bulk		280,046	101,087	135,989	179,484	233,687
Containerized		21,177	251,997	417,336	602,125	832,245
Ro/Ro Cargo			4,072	19,288	30,040	41,610
Actual Breakbulk	0	147,976	80,537	85,208	120,492	166,452
Outbound		165,979	343,193	533,316	770,245	1,065,502
Breakbulk		108,111	183,511	91,110	123,778	171,043
Bulk		33,066	67,236	104,891	151,817	210,295
Containerized		24,802	92,446	337,315	494,650	684,164
Ro/Ro Cargo			3,361	13,441	24,444	34,193
Actual Breakbulk	0	108,111	180,150	77,669	99,334	136,850
b. Foreign		1,540,943	1,073,514	1,420,439	1,852,771	2,391,535
Import		1,540,943	1,073,514	1,420,439	1,852,771	2,391,535
Breakbulk		0	60,724	95,085	137,905	191,266
Bulk		1,540,943	1,012,790	1,325,354	1,714,866	2,200,269
Containerized		0	0	0	0	0
Export		0	0	0	0	0
Breakbulk		0	0	0	0	0
Bulk		0	0	0	0	0
Containerized		0	0	0	0	0
c. Transit Cargo		0				
Domestic		0				
Inward		0				
Outward		0				
Foreign		0				
Inward		0				
Outward		0				
d. Foreign (Transhipment)		0				
2. Total Passengers		0				
Disembarking		0	0	0	0	0
Embarking		0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Bredco

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	0	1,495,052	3,117,156	4,555,201	6,347,267	8,580,508
a. Domestic	0	1,318,464	2,581,952	3,769,296	5,248,844	7,093,087
Inbound	0	843,162	1,477,654	2,077,645	2,825,228	3,757,302
Breakbulk	0	540,740	253,943	328,221	441,700	585,106
Bulk	0	33,924	92,429	143,488	207,117	286,410
Containerized	0	268,498	1,131,282	1,605,936	2,176,411	2,885,786
Ro/Ro Cargo	0	7,595	121,418	179,697	242,901	321,807
Actual Breakbulk	0	533,145	132,525	148,524	198,799	263,299
Outbound	0	475,302	1,104,298	1,691,651	2,423,616	3,335,785
Breakbulk	0	226,629	169,601	252,407	359,442	493,138
Bulk	0	33,877	74,433	113,566	162,333	223,105
Containerized	0	214,796	860,264	1,325,679	1,901,841	2,619,542
Ro/Ro Cargo	0	6,282	92,336	138,816	197,693	271,226
Actual Breakbulk	0	220,347	77,266	113,591	161,749	221,912
b. Foreign	0	176,588	535,204	785,905	1,098,424	1,487,420
Import	0	164,045	426,972	634,403	893,015	1,214,842
Breakbulk	0	100,623	96,587	148,707	203,944	198,077
Bulk	0	63,422	156,320	243,407	351,933	487,176
Containerized	0	0	174,065	242,289	337,138	529,589
Export	0	12,543	108,232	151,502	205,409	272,578
Breakbulk	0	0	0	0	0	0
Bulk	0	12,543	31,316	48,785	70,554	97,683
Containerized	0	0	76,916	102,717	134,854	174,894
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	1,688,338	3,489,143	5,351,561	7,672,473	10,564,751
Disembarking	0	860,348	1,744,571	2,675,780	3,836,236	5,282,376
Embarking	0	827,990	1,744,571	2,675,780	3,836,236	5,282,376

CARGO & PASSENGER ESTIMATION

Bauan - PMO Batangas

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	84,394	212,395	164,390	174,666	187,472	203,431
a. Domestic	84,394	212,395	164,390	174,666	187,472	203,431
Inbound	62,735	148,890	106,514	102,520	97,543	91,341
Breakbulk	27,937	60,070	56,712	53,742	50,041	45,428
Bulk	34,798	88,820	49,802	48,778	47,502	45,913
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	27,937	60,070	56,712	53,742	50,040	45,428
Outbound	21,659	63,505	57,876	72,146	89,929	112,090
Breakbulk	21,659	57,077	57,876	72,146	89,929	112,090
Bulk	0	6,428	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	4	0	0	0	0	0
Actual Breakbulk	21,655	57,077	57,876	72,146	89,929	112,090
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Catagbacan - PMO Tagbilaran

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	4,591	131,123	352,485	508,818	703,639	946,420
a. Domestic	4,591	131,123	352,485	508,818	703,639	946,420
Inbound	2,858	75,678	213,446	310,434	431,297	581,915
Breakbulk	2,858	74,878	185,513	268,024	370,847	498,983
Bulk	0	800	27,933	42,410	60,450	82,932
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	59,065	185,508	268,024	370,847	498,983
Actual Breakbulk	2,858	15,813	6	0	0	0
Outbound	1,733	55,445	139,038	198,385	272,342	364,505
Breakbulk	1,733	55,445	139,038	198,385	272,341	364,505
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	54,003	139,038	198,385	272,341	364,505
Actual Breakbulk	1,733	1,442	0	0	0	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	33,172	77,935	117,210	166,154	227,146
Disembarking	0	18,073	42,923	64,545	91,490	125,068
Embarking	0	15,099	35,012	52,665	74,664	102,078

CARGO & PASSENGER ESTIMATION

Catbalogan - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	92,760	81,948	102,066	120,814	144,177	173,291
a. Domestic	92,760	81,948	102,066	120,814	144,177	173,291
Inbound	54,672	68,221	85,579	103,499	125,831	153,660
Breakbulk	49,197	68,221	85,576	103,498	125,830	153,660
Bulk	2,340	0	0	0	0	0
Containerized	3,135	0	2	1	0	0
Ro/Ro Cargo	39	0	0	0	0	0
Actual Breakbulk	49,158	68,221	85,576	103,498	125,830	153,660
Outbound	38,088	13,727	16,488	17,315	18,346	19,631
Breakbulk	18,385	13,727	16,487	17,315	18,346	19,631
Bulk	16,995	0	0	0	0	0
Containerized	2,708	0	1	0	0	0
Ro/Ro Cargo	71	0	0	0	0	0
Actual Breakbulk	18,314	13,727	16,487	17,315	18,346	19,631
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	42,884	9,448	0	0	0	0
Disembarking	17,693	6,959	0	0	0	0
Embarking	25,191	2,489	0	0	0	0

CARGO & PASSENGER ESTIMATION

Culasi - PMO Iloilo

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	130,291	231,321	366,970	473,583	606,442	772,008
a. Domestic	130,291	231,321	366,970	473,583	606,442	772,008
Inbound	82,738	134,620	208,082	263,565	332,707	418,870
Breakbulk	51,054	56,107	84,327	105,749	133,177	167,576
Bulk	0	0	0	0	0	0
Containerized	31,684	78,513	123,755	157,816	199,530	251,295
Ro/Ro Cargo	1,011	1,663	38,612	69,410	92,451	117,180
Actual Breakbulk	50,043	54,444	45,714	36,338	40,726	50,396
Outbound	47,553	96,701	158,888	210,018	273,735	353,138
Breakbulk	29,692	57,555	79,057	98,182	119,801	144,172
Bulk	0	2,365	0	0	0	0
Containerized	17,861	36,781	79,831	111,836	153,934	208,966
Ro/Ro Cargo	220	250	45,634	67,529	83,737	100,908
Actual Breakbulk	29,472	57,305	33,423	30,653	36,064	43,264
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	194,922	260,800	321,894	365,708	420,309	488,351
Disembarking	98,694	134,586	160,947	182,854	210,154	244,176
Embarking	96,228	126,214	160,947	182,854	210,154	244,176

CARGO & PASSENGER ESTIMATION

Currimao - PMO San Fernando

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	107,628	110,643	124,937	172,720	232,266	306,472
a. Domestic	16,280	110,643	124,937	172,720	232,266	306,472
Inbound	16,280	108,612	123,568	170,578	229,160	302,164
Breakbulk	16,280	32,307	44,508	65,559	91,792	124,484
Bulk	0	76,305	79,060	105,019	137,368	177,680
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	16,280	32,307	44,508	65,559	91,792	124,484
Outbound	0	2,031	1,369	2,142	3,106	4,308
Breakbulk	0	0	1,369	2,142	3,106	4,308
Bulk	0	2,031	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	0	0	1,369	2,142	3,106	4,308
b. Foreign	91,348	0	0	0	0	0
Import	17,676	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	17,676	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	73,672	0	0	0	0	0
Breakbulk	38,472	0	0	0	0	0
Bulk	35,200	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	5,072				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Pulauan (Dapitan) - Ozamiz

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	0	283,053	419,710	543,509	697,785	890,040
a. Domestic	0	263,848	419,710	543,509	697,785	890,040
Inbound	0	150,437	242,760	305,649	384,021	481,686
Breakbulk	0	78,459	80,681	80,983	88,447	102,987
Bulk	0	0	0	0	0	0
Containerized	0	71,978	162,079	224,667	295,573	378,699
Ro/Ro Cargo	0	3,780	11,540	18,978	30,742	47,510
Actual Breakbulk	0	74,679	69,141	62,005	57,705	55,477
Outbound	0	113,411	176,950	237,859	313,764	408,354
Breakbulk	0	46,842	50,099	54,905	66,183	83,228
Bulk	0	15,628	0	0	0	0
Containerized	0	50,941	126,851	182,955	247,581	325,127
Ro/Ro Cargo	0	1,666	7,350	15,205	28,619	46,583
Actual Breakbulk	0	45,176	42,750	39,700	37,564	36,644
b. Foreign	0	19,205	0	0	0	0
Import	0	19,205	0	0	0	0
Breakbulk	0	19,205	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	417,761	1,352,008	2,042,038	2,901,941	3,973,536
Disembarking	0	213,575	676,004	1,021,019	1,450,970	1,986,768
Embarking	0	204,186	676,004	1,021,019	1,450,970	1,986,768

CARGO & PASSENGER ESTIMATION

Estancia - PMO Iloilo

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	0	154,681	46,639	57,676	71,431	88,571
a. Domestic	0	154,681	46,639	57,676	71,431	88,571
Inbound	0	136,242	29,229	39,582	52,485	68,564
Breakbulk	0	6,963	20,637	29,475	40,489	54,213
Bulk	0	129,279	8,591	10,107	11,996	14,351
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	17	963	2,781	6,342	11,424
Actual Breakbulk	0	6,946	19,675	26,694	34,146	42,790
Outbound	0	18,439	17,410	18,094	18,946	20,007
Breakbulk	0	1,331	3,995	6,239	9,035	12,521
Bulk	0	17,108	13,416	11,855	9,910	7,486
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	11	376	2,705	7,163	11,080
Actual Breakbulk	0	1,320	3,618	3,534	1,873	1,441
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	56,289	98,033	124,905	158,393	200,125
Disembarking	0	25,992	49,017	62,453	79,197	100,063
Embarking	0	30,297	49,017	62,453	79,197	100,063

CARGO & PASSENGER ESTIMATION

Liloan Ferry (T) - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	72,637	313,776	617,025	879,041	1,205,561	1,612,464
a. Domestic	72,637	313,776	617,025	879,041	1,205,561	1,612,464
Inbound	31,313	147,464	296,073	423,362	581,988	779,664
Breakbulk	31,313	147,464	295,936	423,162	581,709	779,287
Bulk	0	0	136	200	279	377
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	31,080	146,604	295,800	423,073	581,653	779,253
Actual Breakbulk	233	860	136	89	56	34
Outbound	41,324	166,312	320,952	455,679	623,573	832,800
Breakbulk	41,324	166,312	320,951	455,678	623,573	832,799
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	41,324	166,312	320,935	455,652	623,530	832,733
Actual Breakbulk	0	0	16	26	42	66
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	149,822	365,866	711,923	1,001,291	1,361,897	1,811,277
Disembarking	84,203	188,072	355,961	500,645	680,948	905,638
Embarking	65,619	177,794	355,961	500,645	680,948	905,638

CARGO & PASSENGER ESTIMATION

Lipata

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	75,578	352,710	694,170	971,046	1,316,084	1,746,063
a. Domestic	75,578	352,710	694,170	971,046	1,316,084	1,746,063
Inbound	38,480	172,439	336,775	469,611	635,150	841,441
Breakbulk	38,480	172,439	336,775	469,611	635,150	841,441
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	38,480	169,708	332,033	464,504	629,819	835,994
Actual Breakbulk	0	2,731	4,742	5,107	5,331	5,447
Outbound	37,098	180,271	357,395	501,435	680,934	904,622
Breakbulk	37,098	171,581	357,303	501,233	680,506	903,736
Bulk	0	0	0	0	0	0
Containerized	0	8,690	92	201	427	886
Ro/Ro Cargo	35,707	148,224	306,210	430,041	584,503	777,100
Actual Breakbulk	1,391	23,357	51,093	71,192	96,003	126,636
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	160,561	366,440	632,310	844,247	1,108,360	1,437,492
Disembarking	74,301	175,227	316,155	422,124	554,180	718,746
Embarking	86,260	191,213	316,155	422,124	554,180	718,746

CARGO & PASSENGER ESTIMATION

Maasin - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	33,210	91,080	180,768	248,868	333,734	439,492
a. Domestic	33,210	91,080	180,768	248,868	333,734	439,492
Inbound	21,220	57,022	111,190	151,557	201,862	264,551
Breakbulk	21,220	57,022	111,190	151,557	201,862	264,551
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	30	769	15,040	27,540	38,158	50,236
Actual Breakbulk	21,190	56,253	96,150	124,017	163,704	214,315
Outbound	11,990	34,058	69,578	97,311	131,872	174,941
Breakbulk	4,927	5,781	23,213	31,041	40,797	52,954
Bulk	7,063	28,277	46,365	66,270	91,075	121,987
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	54	52	5,870	22,585	37,486	50,118
Actual Breakbulk	4,873	5,729	17,343	8,457	3,311	2,836
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	97,757	181,983	377,372	514,632	685,682	898,842
Disembarking	42,464	91,060	188,686	257,316	342,841	449,421
Embarking	55,293	90,923	188,686	257,316	342,841	449,421

CARGO & PASSENGER ESTIMATION

Masao - PMO Nasipit

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	96,041	128,574	151,816	148,983	145,453	169,197
a. Domestic	85,906	50,398	88,289	109,586	136,124	169,197
Inbound	36,368	37,172	75,580	97,127	123,979	157,442
Breakbulk	35,951	31,474	42,238	48,796	54,920	60,246
Bulk	0	0	24,488	33,066	43,755	57,075
Containerized	417	5,698	8,853	15,265	25,305	40,122
Ro/Ro Cargo	0	572	15,236	37,341	43,862	48,193
Actual Breakbulk	35,951	30,902	27,003	11,455	11,058	12,052
Outbound	49,538	13,226	12,710	12,458	12,145	11,755
Breakbulk	49,495	6,660	2,546	2,492	2,429	2,351
Bulk	0	0	0	0	0	0
Containerized	43	6,566	10,164	9,967	9,716	9,404
Ro/Ro Cargo	174	0	0	0	0	0
Actual Breakbulk	49,321	6,660	2,546	2,492	2,429	2,351
b. Foreign	10,135	78,176	63,527	39,398	9,328	0
Import	4,413	78,176	63,527	39,398	9,328	0
Breakbulk	4,413	78,176	63,527	39,398	9,328	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	5,722	0	0	0	0	0
Breakbulk	5,722	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Masbate - PMO Legazpi

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	173,241	272,034	462,010	651,698	888,084	1,182,664
a. Domestic	158,119	272,034	462,010	651,698	888,084	1,182,664
Inbound	105,619	170,576	316,939	429,547	569,877	744,754
Breakbulk	74,492	145,787	282,892	390,313	525,774	696,064
Bulk	15,987	0	0	0	0	0
Containerized	15,140	24,789	34,047	39,234	44,103	48,690
Ro/Ro Cargo	271	20,813	132,374	193,116	262,460	347,945
Actual Breakbulk	74,221	124,974	150,518	197,197	263,314	348,119
Outbound	52,500	101,458	145,071	222,151	318,207	437,911
Breakbulk	44,504	45,791	122,982	190,203	275,017	381,853
Bulk	2,000	50,160	0	0	0	0
Containerized	5,996	5,507	22,089	31,948	43,190	56,058
Ro/Ro Cargo	104	17,115	109,747	171,090	247,507	343,667
Actual Breakbulk	44,400	28,676	13,234	19,113	27,510	38,186
b. Foreign	15,122	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	15,122	0	0	0	0	0
Breakbulk	15,122	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	182,096	433,238	774,514	1,074,587	1,448,532	1,914,536
Disembarking	91,388	221,950	387,257	537,293	724,266	957,268
Embarking	90,708	211,288	387,257	537,293	724,266	957,268

CARGO & PASSENGER ESTIMATION

Matnog - PMO Legazpi

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	619,422	1,357,222	2,387,567	3,254,871	4,335,690	5,682,587
a. Domestic	619,422	1,357,222	2,387,567	3,254,871	4,335,690	5,682,587
Inbound	305,761	682,737	1,173,399	1,597,004	2,124,893	2,782,739
Breakbulk	305,761	682,737	1,173,399	1,597,003	2,124,892	2,782,739
Bulk	0	0	0	0	0	0
Containerized	0	0	0	1	1	0
Ro/Ro Cargo	305,734	682,737	1,173,399	1,597,003	2,124,892	2,782,739
Actual Breakbulk	27	0	0	0	0	0
Outbound	313,661	674,485	1,214,168	1,657,867	2,210,797	2,899,847
Breakbulk	313,661	674,485	1,214,168	1,657,866	2,210,795	2,899,847
Bulk	0	0	0	0	0	0
Containerized	0	0	0	1	1	0
Ro/Ro Cargo	313,661	674,485	1,214,168	1,657,866	2,210,795	2,899,847
Actual Breakbulk	0	0	0	0	0	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	762,727	1,513,590	2,826,492	3,865,340	5,159,933	6,773,232
Disembarking	385,826	783,995	1,413,246	1,932,670	2,579,966	3,386,616
Embarking	376,901	729,595	1,413,246	1,932,670	2,579,966	3,386,616

CARGO & PASSENGER ESTIMATION

Naval - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	2	78,577	102,601	136,354	178,417	230,836
a. Domestic	0	78,577	102,601	136,354	178,417	230,836
Inbound	0	57,331	71,157	88,187	109,408	135,855
Breakbulk	0	36,281	42,344	43,736	45,470	47,631
Bulk	0	21,050	28,813	44,451	63,939	88,224
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	1	1	3	8
Actual Breakbulk	0	36,281	42,343	43,734	45,466	47,623
Outbound	0	21,246	31,444	48,168	69,009	94,981
Breakbulk	0	5,147	12,451	18,844	26,812	36,741
Bulk	0	16,099	18,993	29,323	42,197	58,240
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	0	5,147	12,451	18,844	26,812	36,741
b. Foreign	2	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	2	0	0	0	0	0
Breakbulk	2	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	47,632	70,631	92,940	120,741	155,385
Disembarking	0	24,795	35,316	46,470	60,370	77,693
Embarking	0	22,837	35,316	46,470	60,370	77,693

CARGO & PASSENGER ESTIMATION

Ormoc - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	116,450	229,015	335,478	379,845	435,135	504,037
a. Domestic	116,450	212,456	335,478	379,845	435,135	504,037
Inbound	79,367	140,323	211,390	229,916	253,002	281,771
Breakbulk	63,504	115,087	147,210	140,364	130,845	119,082
Bulk	0	0	0	0	0	0
Containerized	15,863	25,236	64,181	89,551	122,157	162,689
Ro/Ro Cargo	1,141	3,451	12,711	22,210	29,639	31,970
Actual Breakbulk	62,363	111,636	134,499	118,154	101,206	87,113
Outbound	37,083	72,133	124,087	149,930	182,134	222,266
Breakbulk	13,540	24,282	53,532	61,741	73,059	87,826
Bulk	16,183	43,088	41,154	50,574	62,314	76,944
Containerized	7,360	4,763	29,402	37,614	46,761	57,496
Ro/Ro Cargo	1,396	1,736	10,291	23,751	45,409	71,300
Actual Breakbulk	12,144	22,546	43,241	37,991	27,650	16,527
b. Foreign	0	16,559	0	0	0	0
Import	0	16,559	0	0	0	0
Breakbulk	0	16,559	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	336,223	769,288	1,029,078	1,163,370	1,330,721	1,539,271
Disembarking	169,990	373,364	514,539	581,685	665,360	769,635
Embarking	166,233	395,924	514,539	581,685	665,360	769,635

CARGO & PASSENGER ESTIMATION

Palompon - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	26,217	199,415	270,170	399,483	560,629	761,447
a. Domestic	26,217	199,415	270,170	399,483	560,629	761,447
Inbound	19,029	114,735	165,185	243,170	340,352	461,459
Breakbulk	19,029	79,497	106,254	167,014	247,549	352,741
Bulk	0	0	0	0	0	0
Containerized	0	35,238	58,931	76,156	92,803	108,719
Ro/Ro Cargo	2,847	55,131	66,090	114,047	172,418	246,670
Actual Breakbulk	16,182	24,366	40,164	52,967	75,131	106,070
Outbound	7,188	84,680	104,985	156,313	220,277	299,987
Breakbulk	7,188	56,028	58,321	92,022	134,761	188,065
Bulk	0	19,398	34,163	52,166	74,602	102,561
Containerized	0	9,254	12,502	12,125	10,914	9,362
Ro/Ro Cargo	554	54,456	57,266	91,875	134,743	188,063
Actual Breakbulk	6,634	1,572	1,054	147	19	2
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	136,446	144,996	224,910	268,061	321,837	388,850
Disembarking	67,231	75,526	112,455	134,031	160,918	194,425
Embarking	69,215	69,470	112,455	134,031	160,918	194,425

CARGO & PASSENGER ESTIMATION

Pasacao - PMO Legazpi

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	18,909	84,228	169,416	224,887	294,013	380,157
a. Domestic	18,909	84,228	169,416	224,887	294,013	380,157
Inbound	17,942	70,147	141,239	184,433	238,261	305,340
Breakbulk	17,942	70,147	141,239	184,433	238,261	305,340
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	27,845	36,881	47,652	61,068
Actual Breakbulk	17,942	70,147	113,394	147,552	190,609	244,272
Outbound	967	14,081	28,177	40,454	55,752	74,817
Breakbulk	567	14,081	28,177	40,454	55,752	74,817
Bulk	400	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	30	351	6,115	35,391	60,817
Actual Breakbulk	567	14,051	27,826	34,339	20,362	14,000
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

San Isidro - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	272,228	109,690	76,932	22,220	31,922	44,013
a. Domestic	272,228	109,690	76,932	22,220	31,922	44,013
Inbound	140,312	53,430	26,806	22,220	31,922	44,013
Breakbulk	140,312	41,366	12,372	0	0	0
Bulk	0	12,064	14,434	22,220	31,922	44,013
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	140,312	40,400	8,556	0	0	0
Actual Breakbulk	0	966	3,817	0	0	0
Outbound	131,916	56,260	50,125	0	0	0
Breakbulk	131,916	56,260	50,125	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	131,916	56,260	49,656	0	0	0
Actual Breakbulk	0	0	469	0	0	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	458,518	128,585	30,827	0	0	0
Disembarking	233,828	52,440	15,414	0	0	0
Embarking	224,690	76,145	15,414	0	0	0

CARGO & PASSENGER ESTIMATION

San Jose - PMO Calapan

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	210,159	248,391	352,145	416,221	496,071	595,578
a. Domestic	210,159	248,391	352,145	416,221	496,071	595,578
Inbound	74,365	116,233	171,921	221,427	283,122	360,004
Breakbulk	58,348	112,743	103,198	132,857	169,873	216,002
Bulk	16,017	0	0	0	0	0
Containerized	0	3,490	68,722	88,570	113,249	144,002
Ro/Ro Cargo	18,434	74,043	74,361	97,964	126,496	161,515
Actual Breakbulk	39,914	38,700	28,838	34,893	43,377	54,487
Outbound	135,794	132,158	180,224	194,793	212,949	235,574
Breakbulk	120,744	130,895	126,378	136,359	149,064	164,902
Bulk	15,050	0	0	0	0	0
Containerized	0	1,263	53,847	58,434	63,885	70,672
Ro/Ro Cargo	20,188	66,012	77,653	93,704	109,480	125,816
Actual Breakbulk	100,556	64,884	48,725	42,656	39,585	39,086
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	45,934	178,456	383,153	556,448	772,405	1,041,527
Disembarking	31,297	90,908	195,720	283,550	393,001	529,398
Embarking	14,637	87,548	187,433	272,898	379,404	512,129

CARGO & PASSENGER ESTIMATION

Tabaco - PMO Legazpi

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	126,233	354,815	539,128	765,323	1,047,203	1,398,477
a. Domestic	87,426	259,475	539,128	765,323	1,047,203	1,398,477
Inbound	59,178	128,527	255,585	355,062	479,028	633,513
Breakbulk	59,178	128,527	255,584	355,061	479,028	633,512
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	158	68,867	241,329	337,124	455,054	601,834
Actual Breakbulk	59,020	59,660	14,256	17,937	23,974	31,678
Outbound	28,248	130,948	283,544	410,262	568,176	764,965
Breakbulk	25,136	130,428	283,543	410,261	568,175	764,964
Bulk	3,112	520	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	360	75,716	225,412	327,953	454,496	611,964
Actual Breakbulk	24,776	54,712	58,132	82,308	113,679	153,000
b. Foreign	38,807	95,340	0	0	0	0
Import	10,307	95,340	0	0	0	0
Breakbulk	3,343	82,009	0	0	0	0
Bulk	6,964	13,331	0	0	0	0
Containerized	0	0	0	0	0	0
Export	28,500	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	28,500	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	115,570	406,497	854,218	1,234,224	1,707,780	2,297,917
Disembarking	58,755	191,218	427,109	617,112	853,890	1,148,959
Embarking	56,815	215,279	427,109	617,112	853,890	1,148,959

CARGO & PASSENGER ESTIMATION

Irene - PMO San Fernando
(CEZA)

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	64,848	55,913	58,911	91,344	131,761	182,128
a. Domestic	64,848	408	0	0	0	0
Inbound	8,051	408	0	0	0	0
Breakbulk	8,031	408	0	0	0	0
Bulk	20	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	8,031	408	0	0	0	0
Outbound	56,797	0	0	0	0	0
Breakbulk	56,677	0	0	0	0	0
Bulk	120	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	56,677	0	0	0	0	0
b. Foreign	0	55,505	58,911	91,344	131,761	182,128
Import	0	5	0	0	0	0
Breakbulk	0	5	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	55,500	58,911	91,344	131,761	182,128
Breakbulk	0	0	0	0	0	0
Bulk	0	55,500	58,911	91,344	131,761	182,128
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION

Balwarteco - PMO Tacloban

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	0	897,273	1,583,122	2,468,358	3,571,524	4,946,269
a. Domestic	0	897,273	1,583,122	2,468,358	3,571,524	4,946,269
Inbound	0	478,072	804,107	1,253,477	1,813,474	2,511,332
Breakbulk	0	478,072	804,106	1,253,476	1,813,473	2,511,331
Bulk	0	0	0	0	0	0
Containerized	0	0	0	1	1	1
Ro/Ro Cargo	0	478,072	804,106	1,253,476	1,813,473	2,511,331
Actual Breakbulk	0	0	0	0	0	0
Outbound	0	419,201	779,015	1,214,881	1,758,050	2,434,936
Breakbulk	0	419,201	779,015	1,214,881	1,758,049	2,434,935
Bulk	0	0	0	0	0	0
Containerized	0	0	0	1	1	1
Ro/Ro Cargo	0	419,201	779,015	1,214,881	1,758,049	2,434,935
Actual Breakbulk	0	0	0	0	0	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	960,353	1,646,029	2,566,118	3,712,716	5,141,586
Disembarking	0	483,654	823,014	1,283,059	1,856,358	2,570,793
Embarking	0	476,699	823,014	1,283,059	1,856,358	2,570,793

CARGO & PASSENGER ESTIMATION

Bay/River - South Harbor

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	293,782	1,336,246	1,031,788	1,064,394	1,105,027	1,155,664
a. Domestic	293,782	1,336,246	1,031,788	1,064,394	1,105,027	1,155,664
Inbound	245,863	1,336,246	1,031,788	1,064,394	1,105,027	1,155,664
Breakbulk	183,266	1,234,491	1,031,788	1,064,394	1,105,027	1,155,664
Bulk	62,597	101,755	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	0	0	0	0	0	0
Actual Breakbulk	183,266	1,234,491	1,031,788	1,064,394	1,105,027	1,155,664
Outbound	47,919	0	0	0	0	0
Breakbulk	47,919	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Ro/Ro Cargo	4	0	0	0	0	0
Actual Breakbulk	47,915	0	0	0	0	0
b. Foreign	0	0	0	0	0	0
Import	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
Export	0	0	0	0	0	0
Breakbulk	0	0	0	0	0	0
Bulk	0	0	0	0	0	0
Containerized	0	0	0	0	0	0
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

CARGO & PASSENGER ESTIMATION BY PORT

Tefasco - PMO Davao

PARTICULARS	1991	2001	2009	2014	2019	2024
B. CARGO AND PASSENGER						
1. Total Cargo Throughput (m.t.)	452,733	1,617,453	2,036,902	2,404,720	2,863,088	3,434,298
a. Domestic	330,502	1,060,371	1,227,882	1,383,590	1,577,631	1,819,441
Inbound	137,244	657,804	708,219	750,767	803,791	869,868
Breakbulk	70,145	65,332	37,810	36,281	37,426	39,544
Bulk	4,800	23,662	29,472	42,747	59,289	79,903
Containerized	62,299	568,810	640,936	671,740	707,076	750,420
Ro/Ro Cargo	1,373	13,930	14,979	17,755	19,802	21,479
Actual Breakbulk	68,772	51,402	22,831	18,526	17,625	18,066
Outbound	193,258	402,567	519,663	632,823	773,840	949,573
Breakbulk	78,561	73,072	57,309	65,836	78,521	95,350
Bulk	0	0	965	1,424	1,995	2,707
Containerized	114,697	329,495	461,389	565,563	693,325	851,516
Ro/Ro Cargo	667	342	953	1,202	1,574	2,096
Actual Breakbulk	77,894	72,730	56,356	64,633	76,947	93,254
b. Foreign	122,231	557,082	809,020	1,021,130	1,285,457	1,614,857
Import	87,261	248,978	325,283	391,720	474,513	577,689
Breakbulk	51,177	88,508	143,053	191,440	251,729	326,841
Bulk	35,787	160,470	182,213	200,247	222,720	250,726
Containerized	297	0	17	34	65	122
Export	34,970	308,104	483,737	629,409	810,944	1,037,168
Breakbulk	29,224	308,104	483,733	629,405	810,940	1,037,165
Bulk	0	0	0	0	0	0
Containerized	5,746	0	4	4	4	3
c. Transit Cargo	0	0				
Domestic	0	0				
Inward	0	0				
Outward	0	0				
Foreign	0	0				
Inward	0	0				
Outward	0	0				
d. Foreign (Transhipment)	0	0				
2. Total Passengers	0	0	0	0	0	0
Disembarking	0	0	0	0	0	0
Embarking	0	0	0	0	0	0

Appendix 5.2 Detailed Procedure for Cargo Estimations

Appendix 5.2.1 Regional Cargo Estimations

1) The statistical data on traffic activities, especially port-related data, is collected.
2) The data is arranged by regions according to the port management bodies.
3) The data is classified into foreign (import and export) and domestic (inbound and outbound) cargo and also arranged according to the cargo type such as container cargo, break bulk cargo, bulk cargo and RO/RO cargo.

Foreign	Import	Container, Breakbulk, Bulk
	Export	Container, Breakbulk, Bulk
Domestic	Inbound	Container, Breakbulk, RO/RO cargo, Bulk
	Outbound	Container, Breakbulk, RO/RO cargo, Bulk

4) Further data is arranged in a time series.
5) The cargo data is also classified into two categories such as general cargo, which is consisted of break bulk cargo, containerized cargo and RO/RO cargo, and bulk cargo.
6) The data is then analyzed to identify characteristics of each cargo type and trends such as containerized ratio and RO/RO ratio and growth of cargo and passenger traffic.

Containerized Ratio = Containerized cargo / (Containerized cargo + Breakbulk + RO/RO)
RO/RO ratio = RO/RO cargo / (Breakbulk + RO/RO cargo)

7) Analyze the relevancy by comparisons between socio-economic data and data of cargo, passenger and port activities.
8) Future general cargo volume, bulk cargo volume and passenger will be estimated according to the formulated socio-economic framework and based on above 7).
9) Future containerized ratio and RO/RO ratio will be estimated based on results of above 5) and using logistic method.
10) Cargo volume of each cargo type will be estimated according to the above ratio.

Appendix 5.2.2 Cargo and Passenger Forecasts for Major Ports

1) Cargo and passenger forecasts for major ports are carried out in the same manner as above.
2) Data may be adjusted based on the port development plans.

Appendix 6 Maritime Transport

Appendix 6.1 Maritime Transport in the World

Appendix 6.1.1 Competition among Mega Container Terminal Operators in the World

The history of international container terminal operating companies is not long. Table A6.1.1 and A6.1.2 show container terminals operated by major operating companies. South East Asia and South Asia are two large regions where many container terminals are in operation. In the North East Asia region ten (10) container terminals and, South /East Asia region eleven (11) container terminals are being on operated, while in the South Asia region seven (7) container terminals are operating many containers.

Table A6.1.1 Six Large Companies and Mega Container Terminals in Asia and Australia

Region	Country	HPH	PSA	P&O Port	SSA	APM	Eurogate
North East Asia	Japan		●			●	
	South Korea	●	●				
	Hong Kong	●	●			●	
	China	●	●	●			
South East Asia	Singapore		●				
	Malaysia	●				●	
	Brunei		●				
	Thailand	●		●			
	Myanmar	●					
	Philippines	●		●			
	Indonesia	●		●			
South Asia	Bangladesh				●		
	India		●	●			
	Pakistan	●		●			
	Sri Lanka			●			
Australia	Australia			●			
Total		9 Ports	7 Ports	8 Ports	1 Port	3 Ports	0

Source: JICA Study Team Remarks HPH =Hutchison Ports Holding (Hong Kong)

PSA = PSA Corporation (Singapore)

P & O Ports = P & O Ports Pvt. (Australia)

SSA = Stevedore Service of America (USA)

APM = A P Moller Terminals (Demark)

Eurogate = Eurogate Container Terminal (Germany)

Table A6.1.2 Six Large Companies and Mega Container Terminals in Other Area

Region	Country	HPH	PSA	P&O Port	SSA	APM	Eurogate
Middle East	Yemen		●				
	Oman					●	
	Saudi Arabia	●					
N.America	USA			●	●	●	
Central South America	Mexico	●					
	Panama	●			●		
	Bahamas	●					
	Brazil					●	
	Argentine	●		●			
	Chile				●		
North Europe	Germany						●
	Netherland	●					
	Belgium		●	●			
	UK	●		●			
South Europe	Italy		●	●			●
	Portugal	●					●
	Spain					●	
Russia	Russia			●			
Africa	Mozambique			●			
	Tanzania	●					
	Egypt				●		
Total		9 Ports	3 Ports	7 Ports	4 Ports	4 Ports	3 Ports

Source: JICA Study Team

Appendix 6.1.2 South-East Asia Planed Container Port Investment

Anticipated capacity development in the surround competition ports South East Asia region is summarized shown in Table A6.1.3.

Table A6.1.3 South East Asia Future Planed Container Handling Facilities 1/2
(As of December 2001)

Port	Project Terminal	Quay Length	Anticipated Capacity (TEU/Yr)	Date of Completion
China				
Hong Kong	Terminal No-9	600 m	750,000	2003 Year end
		1,000 m	1,300,000	2003 Year end
		400 m	550,000	2004
	Terminal No-10	1,500 m	2,500,000	2008
Shanghai	Waigaqiao Phase-III	665 m	600,000	2002 Year end
	Phase-IV	665 m	600,000	2003 Year end
	Wahaogou: New Terminal	600 m	400,000	2003 Year end
	Phase-II	600 m	400,000	2005
	Jinsanzui: New Terminal	600 m	400,000	2006
	Phase-II	600 m	400,000	2008
	Xiaoyangshan/Dayangshan	2,000 m	2,500,000	2007-2010
Ningbo	New Sea Port: Terminal	310 m	250,000	2002 Year end
		310 m	250,000	2003
		310 m	250,000	2003 Year end
		310 m	250,000	2004
Daxie Island	New Sea Port: Terminal	1,200 m	1,000,000	2008
Taicang	COSCO New Terminal	270 m	137,500	2002 Year end
Yantian	Phase-III	350 m	500,000	2003 Year end
Shekou	SCT Phase-II	700 m	800,000	2002 Year end
Chiwan	No-4 Container Berth	325 m	300,000	2003 Year end
Taiwan				
Tao Yuan	New Port Terminal	3,000 m	3,500,000	2005
	Phase-II	2,700 m	3,00,000	2010
Kaohsuing	No-6 Port Area Terminal	2,000 m	2,000,000	2005
	No-8 Port Area Terminal	4,000 m	4,000,000	2006 – 2010
Thailand				
Leam Chabag	Expansion Phase-II	500 m	350,000	2005

Table A6.1.3 South East Asia Future Planed Container Handling Facilities 2/2
(As of December 2001)

Port	Project Terminal	Quay Length	Anticipated Capacity (TEU/Yr)	Date of Completion
Vietnam				
Ho Chi Ming	VICT (Saigon) Expansion	400 m	400,000	2003
Danang	New Port	250 m	200,000	2003 Year end
Hai Phong	Phase-II	380 m	400,000	2004 Year end
Cai Lang	New Port	740 m	500,000	2004
Cambodia				
Sihanoukville	New Container Berth	240 m	150,000	2004
Singapore				
PSA Corp	Pasir Panjang Terminal	2,600 m	3,000,000	2005
	Phase-III	7,400 m	8,500,000	2010
Malaysia				
T. Pelepas	Further Phases	1,080 m	1,900,000	2005
	Planned	1,080 m	1,900,000	2010
	Planned	2,160 m	3,800,000	2020
Port Kelang	West Port 6th Berth	300 m	300,000	2003
Penang	NBCT Expansion Berth	300 m	330,000	2004
Indonesia				
T. Priok	JCT: New Container Berth	433 m	500,000	2003 end
	Phase-III	433 m	500,000	2005

Source: Ocean Shipping Consultant and Study Term

Appendix 6.1.3 Dry Bulk Cargo Transport

(1) Iron Ore Trades

World iron ore trade by sea transport in 2001 is estimated at 443 million tons, down 2.5% from 2000. According to the provisional report, at the end of the first half of the year 2002, the six major importing regions (Europe, Japan, USA, Korea, Taiwan and China), which collectively account for 95% of global trade, imported 212 million tons, down just 0.1% from the same period of the year 2001. It was expected that total iron ore trade by sea transport in 2002 grew very little from 2001, less than 0.1% or 1 million tons.

Sound recovery in trade will begin in 2003. Forecasts suggested that from the end of 2002, crude

steel production would be restored as global economic conditions improved. This in turn improves demand on iron ore and its trade is expected to grow steadily to 2007. It is predicted that an average annual growth rate of 2.2% will be achieved over the next five years and that the volume of sea transport trade will reach 500 million tons by 2005.

Although trade growth sometimes fluctuates, no substantial decline in imports is expected. Trends in the key iron ore by import regions for the period from 1997 to 3rd - 4th quarter of 2003 are shown in Table A6.1.4.

Table A6.1.4 Trends in the Key Iron Ore Import Regions

(Unit: million tons)

Year	EU-15	Japan	S/Korea	China	Taiwan
1997	134.7	126.4	38.6	55.0	14.0
1998	148.8	120.6	33.6	51.8	14.2
1999	135.8	120.1	35.5	55.3	13.3
2000	161.0	130.7	39.0	70.0	14.9
2001	135.4	126.3	45.9	92.5	15.8
2002*	132.8	125.1	42.7	100.4	15.6
2003*	135.2	126.3	43.6	103.1	15.9

Note: Year* are estimated figures.

Source: Tex Report, Euro-star, Drewry shipping Consultants Ltd.

(2) Coal Trades

Table A6.1.5 shows imports of coal by key import regions. It should be noted that due to the different time lags for reporting countries the second quarter figures of the year 2002 are still provisional. However, the projected trend is based on each country's results.

Total coal trade by sea transport in 2001 reached 561 million tons, up over 7% in 2000. In the coal trade volume, coking coal rose from half a million tons to 179.5 million tons and steam coal by almost 15 million tons to 381.8 million tons. Global coal consumption, according to the International Energy Outlook 2002, is projected to grow at an average annual rate of 1.7% to 2010. However there is considerable variation among regions. In particular China and India are projected to increase coal use substantially. Almost 65% of global coal consumption is used for power generation and this virtually contributes to all the projected growth. Coking and steam coal are handled separately because their quality is quite different.

Table A6.1.5 Trends in the Key Coal Import Regions

(Units: million tons)

	EU-15	Japan	S/Korea	Taiwan
1997	152.0	129.4	48.1	36.7
1998	112.8	128.5	51.4	37.3
1999	115.3	134.6	52.0	41.0
2000	121.9	141.5	63.9	45.4
2001	121.6	150.7	63.7	48.7
2002*	124.0	150.9	68.3	51.1
2003*	129.0	155.4	70.4	53.6

Note: Year* are estimated figures.

Source: Tex Report, Euro-star, Drewry Shipping Consultant Ltd

(3) Grain Trades

At the end of July in 2002 the International Grains Council revised its forecast for grain trade in 2002/2003 to 209 million tons. This is lower than the 2001/2002 estimate of 214 million tons by 2.3%. In the total figure, wheat trade forecast is 103.2 million tons, lower than the last season's estimate of 106.9 million tons. Total coarse grain trade is forecast to be 105.8 million tons, lower than the last season's estimate of 107.1million tons.

It is expected that all of the five major wheat exporters except EU will reduce imports by about 1 million tons each. EU decided to increase exports from last season’s very low volume of 9.5million tons to a more reasonable 14 million tons in this season. For coarse grain the USA is expected to increase exports by some 4 million tons over the next twelve months and the EU region by 1.2 million tons. However these will be offset by decreased exports from Argentina, Australia and China.

Wheat imports are forecast to drop in Europe and Near East Asia, while Far East Asia and Africa are expected to slightly increase their import volumes. It is forecast that EU reduces wheat imports by 4 million tons to 5 million tons over 2002/2003, after the last season's exceptionally high levels. Meanwhile it is expected that Iran will reduce imports of some 2 million tons over the season thanks to the improved harvest.

Most of the increased imports to Far East Asia are destined to China. The current forecast suggested that imported volume be 3 million tons, compared to 1.2 million tons last season, although this forecast was revised downward recently as it came to light that sufficient stocks to meet most of the need exist. As far as the trade balance is concerned, volume of imported wheat for food is nearly

equal to one of export lower grade wheat for forage in South Korea

Table A6.1.6 Trends in Sea Transport Grain Trade

(Unit: Million tons)

Export Countries					
Year	USA	Australia	Canada	Argentina	EU
1997	74.3	22.9	26.7	20.3	19.3
1998	74.3	18.9	18.3	24.2	18.0
1999	88.0	20.6	19.0	17.4	25.0
2000	83.8	20.6	22.2	22.6	27.8
2001	80.9	19.2	20.4	22.2	19.2
2002*	82.5	19.2	17.9	19.6	17.5
2003*	83.1	18.6	16.7	17.9	19.8

Note: Year* are estimated figures.

Source: International Grains Council, Drewry Shipping Consultants Ltd

(4) Minor Bulk Cargo Trade

The minor bulk cargo consists of a myriad of different commodities, of which 20 items are identified. Some of these items are highlighted in this section and their roles are discussed

(5) Steel products

Steel products transportation is greatly influenced by the state of their import in the US. The decision on March 2002 to impose a 30% tariff on imported steel and the subsequent decision by the European Commission to take "retaliatory action" brought about a trade war. According to tariff lists, the 14 imported products in the Asian region amounted to 8 to 9 million tons of imports affected. The major exporters to the USA, that would be seriously affected are the EU, South Korea and Japan.

(6) Forest Products

Forest product transportation is keenly sensitive to economic activities and therefore it comes as no surprise that trade in 2001 fell by around 5% compared with 2000. It was also clear that this trend was unlikely to continue in the 2nd half of the year 2002 as global economic conditions started to improve. There are three categories in this trade sector; logs, pulp, paper and woodchips.

(7) Agriculture Bulk Cargoes

This sector covers grain, rice soybeans, oilseeds, sugar and tapioca. Grain is one of the major bulk commodities, however it should be noted that small vessels play a significant role in its transportation. Forecast of these commodities is greatly influenced not only by the global economic situation but also by climate.

(8) Rice Bulk Trade

Rice trade grew by over 2% in 2001 although it was expected to grow by 5%. It is now forecast that the average annual growth rate until 2007 may be 2% in Asia and that at least half of the predicted volume will surely be achieved.

(9) Oilseed Bulk Trade

Oilseeds is one of the major cargoes in the minor bulks and it is expected to have an average annual growth rate of 2.8% until 2007.

(10) Sugar Bulk Trade

Sugar recorded a drop in 2001 compared to 2000 and it was expected to decrease again in 2002. However it is expected that the average annual growth rate from 2003 to 2007 will be 0.8%.

Appendix 6.2 Maritime Transport in the Philippines

Appendix 6.2.1 THC (Container Handling Charge) of Intra Asia Region

These charge are basically applied in local currency rate.

Table A6.2.1 Comparison of THC Rate

Intra Asia Ports	20' Container		40' Container		Effect
	Dry Box	Reef Box	Dry Box	Reef Box	
Japan	¥ 11,000	¥11,000	¥ 16,500	¥ 16,500	'96 April
Korea	W 101,000	W 135,000	W 137,000	W 180,000	'99 Aug
China	BMB 370	RMB 410	RMB 560	RMB 610	'02 Jan
Taiwan	NT 5,600	NT 7,280	NT 7,000	NT 9,100	'02 April
Philippines	*Ps 4,080*	*Ps 5,300*	*Ps 5,100*	*Ps 6,630*	*'02 June*
Hong Kong	HK 1,800	HK 2,340	HK 2,650	HK 3,445	'98 Aug
Singapore	S$ 182	S$ 237	S$ 270	S$ 351	'96 Aug
Malaysia	RM 295	RM 440	RM 440	RM 670	'02 June
Thailand	Bt 2,600	Bt 3,100	Bt 3,900	Bt 4,650	'95 Nov
Indonesia	US$ 150	US$ 210	US$ 230	US$ 280	'02 Oct
Vietnam	US$ 57	US$ 57	US$ 85	US$ 85	'03 Mar

Source: Shipping Gazette in Japan

Appendix 6.2.2 Port-related Costs in the Asian Port

Charges of the ports in the Asian region, which are in competition with Manila Port, are shown in the Table A6.2.3/4/5. Model vessel used in calculations is shown in Table A6.2.2

Table A6.2.2 Model Vessel

Gross Tonnage	15,533 tons
Net Tonnage	7,477 tons
Length Over All	171.14 meters / 553.62 feet
Port Stay Hours	24 hours
Tug Boat Service	2 tug / direction operating time per direction is 1 hour

Table A6.2.3 Comparing Port Charge in Asia Region Ports(1)

PORT ITEM	Singapore	Port Kerang Malaysia	Leam Chabang	Bangkok
Port Due	S$ 1,398	RM 777	Bht 1,032	Bht 1,132
Pilot-age (in/out)	S$ 1,760	RM 800	Bht10,972	Bht 24,002
Tug Boat (in/out)	S$ 2,552	RM 1,800	Bht20,000	Bht 24,000
Mooring/Unmooring	S$ 300	RM 383	-----	Bht 44,735
Dockage (24 Hrs)	S$ 5,654	-----	-----	-----
State Taxes	-----	RM 1,500	1)Bht 155,330	1)Bht 155,330
Tonnage Due	-----	-----	-----	-----
MISC	3) S$ 105	-----	2)Bht 7,000	2) Bht 15,000
Total Local Amount	S$ 11,769	RM 5,260	Bht 194,334	Bht 264,199
Exchange Rate / $	1.77/US$	-----	42.02/US$	42.02/US$
Total US $	US$6,639	US$5,260	US$4,624	US$6,287

Note: 1) Channel Dues 2) Light due 3) PMA Due

Source: Regional Container Lines and Study Team

Table A6.2.4 Comparing Port Charge in Asia Region Ports(2)

PORT ITEM	Ho C, Ming Vietnam	Kaohsuing Taiwan	Hong Kong	Jakalta Tan- jung Priok
Port Due	-----	NT$ 93,198	------	US$ 683
Pilot-age (in/out)	US$ 5,331	NT$ 12,930	HK$ 9,019	US$ 351
Tug Boat (in-out)	US$2,204	NT$ 43,384	H-K$ 6,000	US$1,808
Mooring/Unmooring	US$ 66	NT$ 3,805	-----	-----
Dockage	US$1,305	NT$ 45,360	HK$ 10,000	US$3,604
State Taxes	US$8,761	-----	-----	-----
Tonnage due	US$3,207	-----	-----	-----
MISC	-----	4) NT$ 375	-----	-----
Total Local Amount	US$ 20,874	NT$ 199,052	HK$ 25,019	-------
Exchange Rate	-----	34.9/US$	7.65/US$	-------
Total US $	US$20,874	US$ 5,704	US$ 3,271	US$6,446

Note: 4) Harbor Cleaning Fee

Source: Regional Container Lines and Study Team

Table A6.2.5 Comparing Port Charge in Asia Region Ports (3)

PORT ITEM	Manila	Cebu	General Santos	Tokyo Japan
Port Due	US$1,258	US$1,258	US$1,258	¥ 201,188
Pilotage (in/out(	US$ 494	US$ 500	US$ 796	¥172,990
Tug Boat Fee (in/out)	US$ 724	US$ 843	US$ 394	¥203,400
Mooring/Unmooring	-----	-----	-----	¥ 38,800
Dockage	US$ 606	US$ 606	US$ 606	¥260,177
State Taxes	US$ 571	US$ 429	US$ 771	-----
Tonnage due	-----	-----	-----	¥139,797
MISC	-----	5) US$ 311	-----	-----
Total (Local Amount)	US$ 3,653	US$ 3,953	US$ 3,825	¥835,352
Exchange Rate	-----	-----	-----	¥121.45/$
Total (US$)	US$3,653	US$3,947	US$ 3,825	US$ 6,904

Note: 5) Anchorage Due

Source: Regional Container Lines.

Appendix 6.2.3 Domestic Container Transport by Vessel Type

Table 6.2.6 Long Distance RO/RO Ferry Operating Presumption (2003)

Port of Call	Calling Port Modulus /Wk	Trip Per Annual	Annual Transport by TEU	Number of Annual Passenger Embarkation
Cebu	5.7	296.4	296.4x150 x2 = 88,920	296.4 x 1,050 x 2 = 622,440
Surigao	1.1	57.2	57.2 x150 x 2= 17,160	57.2 x 1,050 x 2 = 120,120
Davao	0.6	31.2	31.2 x 150 x 2= 9,360	31.2 x 1,050 x 2 = 65,520
Cagayan D.O	1.9	98.8	98.8 x 150 x 2 =29,640	98.8 x 1,050 x 2 = 207,480
Nasipit	0.5	26.0	26.0 x 150 x 2 = 7,800	26.0 x 1,050 x 2 = 54,600
Zamboanga	1.0	52.0	52.0 x 150 x 2 =15,600	52.0 x 1,050 x 2 = 109,200
Gen, Satos	0.6	31.2	31.2 x 150 x 2 = 9,360	31.2 x 1,050 x 2 = 65,520
Bacolodo	4.0	208.0	208.0x150 x 2 =62,400	208.0 x 1,050 x 2 = 436,800
Iloilo	2.6	135.2	135.2x150 x 2 =40,560	135.2 x 1,050 x 2 = 283,920
Ozamis	0.8	41.6	41.6 x 150 x 2 =12,480	41.6 x 1,050 x 2 = 87,360
Iligan	0.9	46.8	46.8 x 150 x 2 =14,040	46.8 x 1,050 x 2 = 98,280
Dumaguete	0.8	41.6	41.6 x 150 x 2 =12,480	41,6 x 1,050 x 2 = 87,360
Roxas	2.5	130.0	130.0x150 x 2 =39,000	130.0 x 1,050 x 2 = 273,000
Estancia	0.5	26.0	26.0 x 150 x 2 = 7,800	26.0 x 1,050 x 2 = 54,600
Dumaguit	1.0	52.0	52.0 x 150 x 2 =15,600	52.0 x 1,050 x 2 = 109,200
Dadiangas	0.3	15.6	15.6 x 150 x 2 = 4,680	15.6 x 1,050 x 2 = 32,760
Coron	0.5	26.0	26.0 x 150 x 2 = 7,800	26.0 x 1,050 x 2 = 54,600
P. Princess	0.5	26.0	26.0 x 150 x 2 = 7,800	26.0 x 1,050 x 2 = 54,600
Palawan	1.0	52.0	52.0 x 150 x 2 =15,600	52.0 x 1,050 x 2 = 109,200
Masbate	0.5	26.0	26.0 x 150 x 2 = 7,800	26.0 x 1,050 x 2 = 54,600
Calubian	0.4	20.8	20.6 x 150 x 2 = 6,180	20.8 x 1,050 x 2 = 43,840
Baybay	0.4	20.8	20.6 x 150 x 2 = 6,180	20.8 x 1,050 x 2 = 43,840
Massin	0.2	10.4	10.4 x 150 x 2 = 3,150	10.4 x 1,050 x 2 = 21,840
Tugbilaran	0.8	41.6	41.6 x 150 x 2 =12,480	41.6 x 1,050 x 2 = 87,360
Dipolog	0.9	46.8	46.8 x 150 x 2 =14,040	46.8 x 1,050 x 2 = 98,280
Tacloban	1.0	52.0	52.0 x 150 x 2 =15,600	52.0 x 1,050 x 2 = 109,200
Total	31 Trips Per Week	1,612 Trips Per Annual	483,600 TEU / Round Transport per Annual	6,609,200 Persons /Round Embarkation per Annual

Source: News Paper Shipping Advertisement and Study Team

Appendix 6.2.4 Number of Future Vessels

(1) Calculation of future long distance RO/RO ferry vessel

2002 Passenger Transport by long distance RO/RO ferry vessel

Per Annual Embarkation	= 4,680,063 Persons
Per Week Service Trips	= 31 Trips / Week
Number of Arrangement Vessels	= 28 Vessels

2009 Passenger Estimated transport by long distance RO/RO ferry vessel

Estimated Number of Passenger	= 5,598,494 Persons
Per Week Service Trips	
(5,598,494÷2)÷1,050 /Vessel ÷ 52 Weeks	52 Trips/Week
Number of Arrangement Vessels (52 Trips x 90%)	47 Vessels

2024 Passenger Estimated transport by long distance RO/RO ferry vessel

Estimated Number of Passenger	= 7,576,606 Persons
Per Week Service Trips	
(7,576,606÷2)÷1,050 / Vessel)÷52 Weeks	70 Trips/Week
Number of Arrangement Vessel (70 Trips x 90%)	= 63Vessels

(2) Calculation of required number of Lo/Lo type container vessel

1) Required number in 2009

Typical Service Route of Round Trip

580 Nautical miles ÷13 Knots = 45 Hours	1.8 days
Container handling / Trip (Discharging / Loading 800 x 75%= 600 TEUs)	
Container handling / Trip (Discharging /Loading 800x75%= 600 TEUs)	
(600 TEUs = 20' x 300 Boxes / 40' x 150 boxes = 450 Boxes)	
450 Boxes ÷17 Boxes/Hour =26.5 Hrs	1.2 days
580 Nautical miles ÷ 13 Knots = 45 Hours	1.8 days
(450 Boxes ÷ 17 Boxes/Hr)	1.2 days
Idling time (Berth occupation /rough sea etc)	1.0 days/trip
Term of Round Trip	7.0 days
365 Days ÷ 7.0 days/trip	52 trips

Average Carried Container by Lo/Lo Type Container Vessel (one way)

1,870,156TEUs÷(400 TEU x 75%)÷ 2	3,117 Vessel/year

Required for Number of Lo/Lo Type Container Vessel (Keeping Weekly Service)

(3,117 Trips ÷ 52 Week/year) 60 Trip/year

Movement per day of ports

60 Trips/vessels ÷(7.0 Day/week) 9 Vessels/week

2) Required number in 2024

Condition;

Average Lo/Lo type vessel capacity	600 TEUs/450 boxes
Average space occupation ratio	75%
Average container handling productivities	20 boxes/hour
Average vessel speed	15 knots
Average distance of port to port	580 nautical miles
Average idling time	1.0day/trip
(berth occupancy and rough sea etc)	

Typical Service Route of Round Trip

580 Nautical mails ÷15 Knots 39 Hours 1.6 days

Container handling Trip (Discharging / Loading 1,200 x 75%= 900 TEUs)

(900 TEUs = 20' x 450Boxes / 40' x 225 = 675 Boxes)

(675 Boxes ÷ 20 Boxes/Hr) ÷1.6 Cranes 22Hrs 0.9 days

580 Nautical miles ÷15 Knots 39 Hours 1.6 days

Container handling hours (Discharging / Loading 900 x 75%= 675 Boxes)

(675 Boxes ÷ 20 Boxes/Hr)÷1.6 Cranes 22 Hrs 0.9 days

Idling time(Berth occupation and rough sea etc) 1.0 days

Term of Round Trip = 6.0 days

365 days ÷6 Days/trip 61Trip/year

Average carried container by per Lo/Lo type vessel (one way)

7,418,213TEUs÷(600 TEU x 75%) ÷2 8,243 Trip/vessel

Required for number of Lo/Lo type container vessel (keeping weekly service)

(8,243 Trips ÷61 Vessel/trips/year) 136 Trip /vessel

Movement vessel per day of port

136 Vessels/trip ÷7 days 20 Vessels/week

(3) Calculation of required number of conventional cargo vessels (By tonnage group)

1) Required number of vessel in 2009

Typical service route of single trip distance	
700 Nautical miles ÷ 12.0 knots	= 58 hours (2.5 days)
Average cargo loading capacity per trip	= 1,300 tons/trip
Load factor 70% (1,300 tons x 70%)	= 910 tons/trip
Average cargo handling productivity	= 40 tons/hour
Port stay by cargo operation (910 tons ÷ 40tons/hour)	23 hours (1.0 day)
Idling time (Rough sea, gale and berth congestion)	1.0 day / trip
Total term of per trip	7.0 days / trip
Forecast of cargo volume in 2009	= 24,584,417 tons/Annual
Required number of vessels (365 days ÷ 7 days)	52 period/year
(23,584,417 tons ÷ 910 tons/vessel) ÷ 52 period	520 Vessels

2) Required number of vessel of in 2024

Typical service of single trip distance	
700 Nautical miles ÷ 12.0 knots	= 58 hours (2.5 days)
Average cargo loading capacity per trip	= 2,000 tons / trip
Loading factor (2,000 tons x 70 %)	= 1,400 tons /trip
Average cargo handling productivity	= 40 tons / hour
Port stay by cargo operation (1,400 tons ÷ 40 tons/hour)	35 hours (1.5 days)
Idling time (Rough sea, gale and berth congestion)	1.5 day / trip
Total term of per trip	8.0 days / trip
Forecast of cargo volume in 2024	= 32,805,293tons/Annual
Required number of vessels (365 ÷ 8.0 days)	45 period/year
(32,805,293 tons ÷ 1,400 tons)÷ 44 period	533 Vessels

Appendix 6.2.5 Domestic Container Freight Rate

Table A6.2.7 Domestic Container Fare carried by Truck (July 2003)

Destination	Distance	Fare (Laden Box)		Remarks
		20'	40'	
Northern Luzon				
Irene (San Viccente)	775 Km	Ps 60,200	Ps 73,160	North end of Luzon
Aparri	587 Km	Ps 40,000	Ps 45,000	
Tuguegarao	496 Km	Ps 38,540	Ps 46,820	
Laoag	453 Km	Ps 28,500	Ps 33,500	
Vigan	360 Km	Ps 28,000	Ps 34,000	
San Fernando (La Union)	269 Km	Ps 18,000	Ps 20,500	
Lingayen	227 Km	Ps 14,300	Ps 16,300	
Bataan	150 Km	Ps 12,000	Ps 13,500	
Olongapo (Subic)	125 Km	Ps 11,500	Ps 12,500	
San Fernando (Panpanga)	66 Km	Ps 7,200	Ps 7,900	
Metro Manila Area				
Manila City Area	10 Km	Ps 3,700	Ps 4,200	
Metro Manila Area	20 Km	Ps 5,500	Ps 7,000	Farthest Point
Southern Luzon				
Laguna	35 Km	Ps 6,300	Ps 7,000	Nearest point
Santa Cruz	95 Km	Ps 8,800	Ps 9,500	
Batangas	129 Km	Ps 11,500	Ps 12,600	Farthest Point
Lusena	135 Km	Ps 11,500	Ps 13,000	
Deat	350 Km	Ps 25,000	Ps 29,000	
Naga	445 Km	Ps 28,000	Ps 33,000	
Legazpi	550 Km	Ps 36,000	Ps 41,000	
Sorogon	595 Km	Ps 40,000	Ps 45,000	
Matnog	640 Km	Ps 42,000	Ps 47,000	South End of Luzon

Note 1) Not including trailer rental fee (20' x Ps 400 / 40' x Ps 450 and per day)

2) Subject to VAT (Value Added Tax) 10 %

Source: CATAP Rate and JICA Study Team

Table A6.2.8 Land and Sea Transport Freight Rate (Warehouse to Warehouse)

Origin	Destination	Distance/Mode	4 Wheel Vehicle	6 wheel Vehicle	8 Wheel Vehicle	Transit time
Manila	Urban Area	0-15 Km Inland	Ps 3,000 + VAT	Ps 3,500 + VAT	Ps 4,700 + VAT	1 Day
Manila	Quezon city	15-50 Km Inland	Ps 3,000 + VAT	Ps 3,500 + VAT	Ps 4,700 + VAT	1 Day
Manira	Caloocan	15-30 Km Inland	Ps 3,000 + VAT	Ps 3,500 + VAT	Ps 4,700 + VAT	1 Day

Table A6.2.9 Break bulk Cargo Door to Door (Sea and Land Transport)

Original Point	Destination Point	Distance / Mode	Rates of inclusive Trucking Fee	Surcharge	Transit time
Manila	Davao city	1,761 Km	Ps 3,500 / CBM (Sea + Inland)	Plus other charges	3 Days
Cebu	Manila	810 Km	Ps 3,000 / CBM (Sea + Inland)	Plus other charge	2 Days
Cebu	Quezon city	825 Km	Ps 3,000 / CBM (Sea + Inland)	Plus other charge	2 Days
Cebu	Caloocan	825 Km	Ps 3,000 / CBM (Sea + Inland)	Plus other charge	2 Days
Cebu	Davao city	882 Km	Ps 3,000 / CBM (Sea + Inland)	Plus other charge	2 Days

Other Charge: Valuation Charge; (5% of Declared Value) B/L Issuing Fee; (Ps 20 per B/L) VAT; (10% of Freight) Document Fee; (Ps 10 per B/L)

Table A6.2.10 Container Door to Door (Sea and Land Transport)

Original Pt	Destination Port	Distance	Mode	10’	20’	Transit Time	Remarks
Manila	Davao city	1,761 Km	Sea + Land	Ps 29,000	Ps 51,000	3 Days	All charge in
Cebu	Manila	810 Km	Sea + Land	Ps 20,000	Ps 32,000	3 Days	All charge in
Cebu	Quezon city	825 Km	Sea + Land	Ps 22,000	Ps 34,000	2 Days	All charge in
Cebu	Caloocan	825 Km	Sea + Land	Ps 22,000	Ps 34,000	2 Days	All charge in
Cebu	Davao City	882 Km	Sea + Land	Ps 20,000	Ps 34,000	2 Days	All charge in

Source: MD Express Manila, Inc. and JICA Study Team

Table A6.2.11 Passenger Fare (One Way) by Transport Mode

Transport Mode	Long Distance Ferry Vessel				Long Distance Bus & Ferry			Aircraft		
Grade / Class	Transit T	Super Value	Mega Value	Tourist	Transit T	Standard	Deluxe	Transit T	Economy	PAG-ASA
Legaspi	Not Service				11.5 Hrs	Ps 441	Ps 466	00hr-55m	Ps 2,738	N/A
Coron	24 Hours	Ps 850	Ps 1,210	Ps 1,450	12.5 Hrs	Ps 764	Ps 807	01hr-10m	Ps 2,498	N/A
Cebu	25 Hours	Ps 1,370	Ps 1,520	Ps 1,710	30 Hours	Ps 984	Ps 1,038	01hr-10m	Ps 2,898	Ps 2,568
Iloilo	23 Hours	Ps 1,430	Ps 1,630	Ps 1,720	20 Hours	Ps 546	Ps 780	01hr-05m	Ps 2,778	Ps 2,448
Dumaguete	28 Hours	Ps 1,370	Ps 1,500	Ps 1,750	Not Service			01hr-15m	Ps 2,898	Ps 2,568
Cagayan De Oro	36 Hours	Ps 1,740	Ps 1,800	Ps 2,100	40 Hours	Ps 1,190	Ps 1,263	01hr-25m	Ps 3,645	Ps 3,238
Surigao	30 Hours	Ps1,510	Ps 1,680	Ps 1,930	29 Hours	Ps 918	Ps 969	Not Service		
Bacolod	23 Hours	Ps 1,430	Ps 1,630	Ps 1,720	Not Service			01hr-10m	Ps 2,678	Ps 2,348
General Santos	45 Hours	Ps 1,820	Ps 1,970	Ps 2,130	Not Service			03hr-00m	Ps 3,667	Via Cebu
Davao	50 Hours	Ps 1,820	Ps 1,970	Ps 2,130	44 Hours	Ps 1,265	Ps 1,335	01hr-40m	Ps 3,667	Ps 3,238
Zamboanga	31 Hours	Ps 1,420	Ps 1,670	Ps 1,740	Not Service			01hr-40m	Ps 3,667	Ps 3,238

*Long Distance Bus & Ferry Mode (Arastre Ps 200 and Wharfage Ps 200 / Bus =Bus Operator Account)

*Long Distance Ferry Mode(Arastre and Port Due Shipping Line Account)

*Air Craft Mode (Air Port Due ＝Air line Account)

Appendix 6.3 Transport Fleet

Appendix 6.3.1 Passenger Fleet in the world Tonnage Group

Table A6.3.1 International Passenger (Cruise) Fleet in the Worldwide Tonnage Group (Oct, 2001)

Radius of Gross Tons	Number of Vsls	Average Specification of Hull Structure		
		LOA	Max Draft	Beam
Over 110,000 tons	15	306.08m	8.57m	40.37m
100,000-100,999 tons	8	278.56m	8.25m	36.58m
90,000-99,999 tons	7	293.63m	8.25m	35.95m
80,000-89,999 tons	25	291.67m	7.77m	32.95m
70,000-79,999 tons	37	265.45m	7.88m	32.32m
60,000-69,999 tons	11	251.92m	7.70m	32.23m
50,000-59,999 tons	16	230.12m	7.92m	30.60m
40,000-49,999 tons	23	216.34m	7.16m	29.11m
30,000-39,999 tons	24	206.68m	7.25m	27.49m
25,000-29,999 tons	16	188.16m	7.15m	25.34m
20,000-24,999 tons	35	181.49m	7.73m	24.83m
15,000-19,999 tons	25	163.73m	6.59m	22.91m
10,000-14,999 tons	24	151.89m	6.05m	20.74m
5,000- 9,999 tons	37	125.18m	5.15m	17.96m
4,000-4,999 tons	16	100.99m	4.41m	15.59m
3,000-3,999 tons	13	91.55m	4.29m	15.68m
1,000-2,999 tons	27	84.83m	3.36m	13.25m
Radius of Gross tons	Number of Vesls	Average Specification of Hull Structure		
		LOA	Max Draft	Beam
Under 999 tons	19	53.94m	2.23m	10.27m

Source: Fairplay data and JICA Study Team

Appendix 6.3.2 The RO/RO Ferry Fleets which Operated in Japan in July 2003

Table A6.3.2 RO/RO Ferry Fleets in Japan (as of July 2003)

Before 1990

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Ferry Acacia	19,796	192.91	29.40	6-78	88-02	
Ferry Lilac	19,329	192.91	26.50	6-78	84-02	
New Hamanasu	17,311	184.50	29.40	6-78	86-08	
New Shirayuki	17,309	184.50	16.50	6-78	86-11	
Sun Flower Ooarai	15,139	178.00	24.80	6-51	87-06	
Kitakami	13,937	192.50	27.00	6-92	89-10	
Kiso	13,730	192.50	27.00	6-87	87-10	
New Harima	12,589	174.50	26.50	6-18	88-03	
New Seto	12,589	174.80	26.80	6-18	88-06	
Sun Flower Erimo	11,272	178.00	25.00	6-52	89-03	
Ohsado	11,085	131.90	21.00	5-19	89-01	’95 Remodeled
White Sanho No-2	10,182	155.60	23.60	5-49	81-06	
Camellia	9,707	160.00	24.00	6-47	75-06	’90 Remodeled
Ferry Fukuoka	9,320	160.00	25.00	6-31	89-03	
Ferry Kyoto	9,320	160.00	25.00	6-31	89-01	
Ferry Diamond	9,023	150.87	25.00	5-54	87-01	’97 Remodeled
Queen Diamond	9,022	150.87	25.00	5-54	87-01	’97 Remodeled
Kosado Maru	8,754	119,00	20.40	5-19	89-01	’99 Remodeled
Orange Ace	7,318	147.22	23.50	4-99	89-07	
New Katsura	6,773	141.31	22.70	5-62	81.04	
Kariyuki Okinawa	6,613	145.78	22.40	6-27	88-01	
Ferry Muroto	6,472	120.00	20.00	5-45	87-06	
Ferry Akebono	6,466	141.50	22.00	6-22	89-09	
Shuri No-2	6,178	136.66	20.00	7-46	87-05	Cargo RO/RO
Shinsho Maru	6,178	136.66	21.00	6-90	89-07	Cargo RO/RO
Shinka Maru	6,163	136.72	21.20	6-90	89-10	Cargo RO/RO
Hidaka	5,887	134.86	20.00	6-09	88-06	Cargo RO/RO
Ferry Hachinohe	5,603	126.55	20.70	5-66	89-07	’00 Remodeled
Vanir	5,193	126.23	20.00	5-52	84-07	’00 Remodeled
Veda	5,087	126.23	20.00	5-52	86-08	’00 Remodeled
Honshu Maru	4,695	127.97	20.40	6-10	88-10	Cargo RO/RO
Shinjyo Maru	4,409	114.13	20.00	6-00	87-10	Cargo RO/RO
Shinei Maru	4,405	114.75	20.00	5-43	88-09	Cargo RO/RO
Ferry Hurushima	4,273	119.00	21.00	5-01	87-04	’92 Remodeled
Ferry Hayatomo	4,234	119.00	21.00	5-01	87-09	’92 Remodeled
Ferry Tachibana No-2	3,891	131.16	20.00	5-40	89-07	Cargo RO/RO
Koyo Maru	3,864	114.82	19.00	5-81	88-09	Cargo RO/RO
Vela	3,644	120.58	17.80	5-32	79-09	
Konpira No-2	3,560	115.90	20.00	4-71	89-12	
New Soya	3,520	95.70	15.00	4-08	89-05	’00 Remodeled
Ferry Amami	2,980	115.75	18.20	5-05	89-04	
Sirahama Maru	2,614	76.09	18.00	3-41	89-12	’96 Remodeled
Ferry Okiji	2,589	90.00	13.40	3-95	80-03	
Kurihama Maru	2,356	78.83	16.29	3-46	89-06	
Kyushu	2,291	98.63	17.20	4-66	87-01	
Vena	2,290	98.63	17.20	4-66	87-02	
New Shikoku	2,182	110.00	16.00	4-50	89-03	
Beppu No-2	2.167	112.91	16.00	4-55	88-12	

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Fufu	2,165	89.40	15.60	4-08	89-04	
Ferry Kumano	2,137	92.95	13.00	3-80	89-03	
Uwajima No-2	2,099	91.56	15.49	4-28	83-03	
Esan	1,998	104.65	16.20	4-71	88-09	
Ferry Nagasaki	1,868	79.76	14.30	3-80	82-04	
Ferry Fukue	1,867	79.66	14.30	3-81	78-04	
New Tsushima	1,776	93.20	14.40	3-95	89-10	
Esan Maru No-5	1,734	98.54	16.20	4-51	85-08	
Hidetsuru Maru	1,659	71.60	13.70	3-71	83-09	’98 Remodeled
Vayu	1,629	86.25	14.50	5-43	88-06	’97 Remodeled
Baayu	1,529	83.44	14.50	3-80	88-06	
Ferry Dejima	1,519	77.12	14.60	3-67	87-01	
Ferry Sazau	1,509	83.44	14.50	3-80	88-06	
Tohkaku Maru	1,485	71.57	13.60	3-60	81-01	
Hayazuru Maru	1,484	71.57	13.30	3-30	81-01	
Atumi Maru	1,447	64.30	13.50	3-51	87-10	
Ise Maru	1,447	64.32	13.00	3-31	84-03	’00 Remodeled
Ferry Tachibana	1,412	80.10	13.50	4-10	86-07	
Ferry Ohsnmi N0-5	1,300	71.24	13.30	3-50	84-03	
Ferry Agata	1,296	71.31	13.40	3-79	79-07	
Asakaze Maru	1,296	65.02	14.00	2-95	89-09	’00 Remodeled
Asashio Maru	1,295	65.02	14.00	2-95	89-11	’99 Remodeled
Shima Maru	1,286	64.30	13.50	3-16	86-11	
Ferry Gotoh	1,263	73.56	12.00	3-65	71-06	
Shinko Maru	1,253	71.35	12.80	3-59	72-06	
Ferry Ohsimi No-6	1,196	76.20	13.30	3-50	89-11	
Ferry Tsubaki	1,151	68.62	13.00	3-75	74-07	
Ferry Namiji	1,150	75.10	13.80	3-70	87-11	
Hayabusa Maru	999	87.35	15.00	3-60	80-03	
New Ashizuri	999	73.62	13.60	3-51	85-06	
Senyo Maru	942	65.30	15.04	3-40	71-02	Cargo RO/RO
Tanegashima Maru	908	65.02	13.50	5-14	86-04	Cargo RO/RO
Tanegashima Maru No-1	903	79.86	13.50	5-14	86-07	Cargo RO/RO
Okayama Maru	835	71.82	14.70	3-10	88-11	’00 Remodeled
Kanpira Maru	835	71.82	14.70	3-30	88-03	’00 Remodeled
Ritssurin Maru	828	71.82	14.70	3-10	88-03	’00 Remodeled
Tamatake Maru No-82	820	71.55	14.30	2-70	88-03	’00 Remodeled
Shodoshima Maru	816	71.50	14.30	2-70	88-12	’00 Remodeled
Iwasho No-28	795	49.24	12.40	2-30	66-04	
Ariake Maru No-10	722	57.02	12.80	2-60	88-02	’00 Remodeled
Blue Line	699	65.80	13.80	2-85	87-10	
Geiyo	699	59.54	12.25	2-83	89-05	
Ishitegawa	699	55.90	13.07	2-77	87-03	
New Himeji	699	57.03	13.00	3-11	86-02	
Olive Maru No-3	699	57.59	13.00	3-11	83-04	
Queen	698	61.35	12.60	2-80	89-03	’99 Remodeled
Ferry Unzen	697	49.85	13.20	2-85	72-04	
Ferry Naha	697	73.50	12.50	3-05	82-05	
Ferry Aso	697	53.70	13.50	2-94	89-02	
Koyo Maru	696	55.90	13.11	2-77	87-06	
Fukuyama Maru	696	63.25	12.00	3-06	79-06	’88 Remodeled
Ariake Maru No-8	694	57.32	12.80	2-60	85-06	

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Nittsu Maru No-15	693	60.95	13.90	3-80	82-06	
Ariake Maru No-7	692	54.00	12.80	2-60	80-02	
New Olympia	690	56.00	14.00	2-52	88-06	
Orange Princess	690	60.77	14.00	2-79	87-03	
Ferry Azusa	683	65.66	12.80	3-50	87-07	
Hinase Maru	680	62.16	12.80	2-70	84-03	
New Kumwshima	679	73.70	12.50	3-40	88-11	
Ferry Genkai	675	65.06	12.80	3-40	83-06	
Ferry Hayatomo	674	56.60	12.80	2-80	88-11	
Sakurajima Maru No-8	657	53.25	13.00	2-63	79-12	’99 Remodeled
Horie Maru	657	46.40	11.50	2-80	87-10	
New Koshiki	645	59.50	12.60	3-36	87-05	
Sun Olympia	641	59.50	14.00	2-50	79-02	’98 Remodeled
Aga Maru	634	44.40	11.50	2-78	85-06	’89 Remodeled
Nittsu Maru No-13	634	54.00	11.40	3-80	76-02	’92 Remodeled
Nittsu Maru No-11	625	55.00	10.50	2-60	68-11	’77 Remodeled
Olympia	606	51.00	13.85	2-30	79-11	’84 Remodeled
Nittsu Maru No-8	591	59.30	11.00	2-00	65-07	’99 Remodeled
Ieshima	553	63.00	12.80	1-80	87-05	
Naanshima No-2	523	44.00	9.50	2-40	86-03	
Ooshima No-8	517	48.60	12.00	2-70	86-11	
Sakurajima Maru	502	53.00	12.80	2-69	87-11	’96 Remodeled
Ferry Hikari	499	68.00	13.00	3-41	88-07	
Ferry Ezaki No-10	199	45.50	10.30	2-63	82-06	
Ferry Misaki No-38	199	65.10	12.00	2-69	89-03	

Build on 1990

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Ferry Lavender	19,904	192.91	29.40	6-78	90-11	
Ferry Lilac	19,329	192.91	29.40	6-78	90-07	
New Utopia	12,344	192.97	21.00	6-17	90-03	
Blue Diamond	9,447	150.87	25.00	5-54	90-07	
Silver Queen	7,005	134.00	16.50	5-70	90-03	
New Tosa	6,939	141.54	23.00	5-72	90-03	
Vurugo	6,358	145.61	22.00	6-26	90-09	’00 Remodeled
Vega	6,340	134.60	21.00	5-70	90-09	’00 Remodeled
Shinsei Maru	6,165	139.72	21.20	6-90	90-02	Cargo RO/RO
Shinka Maru	6,163	139.72	21.20	6-92	90-04	Cargo RO/RO
Kuroshio Maru	4,945	119.00	18.40	5-84	90-03	Cargo RO/RO
Ferry Takachiho	3,891	131.16	20.00	5-40	90-02	Cargo RO/RO
Ritsurin No-2	3,664	115.58	20.00	4-80	90-07	’00 Remodeled
Shinko Maru	1,254	71.35	12.80	3-59	90-03	
Azuki Maru	965	65.00	14.00	2-94	90-12	’00 Remodeled
Hinase Maru	936	65.80	13.80	2-80	90-09	’00 Remodeled
Tamataka Maru No-85	819	71.55	14.30	2-70	90-10	’00 Remodeled
New Hoyo	699	71.50	12.60	3-39	90-02	
Nittsu Maru No-18	699	60.95	13.90	3-80	90-01	
Orange Angel	698	61.35	12.60	2-80	90-11	
Orange Venus	698	61.35	12.60	2-80	90-11	
Sakurajima Maru No-5	575	53.00	13.00	2-50	90-03	

Build on 1991

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
New Akashi	14,988	185.50	26.80	6-65	91-03	
Sun Flower Ooarai	15,139	178.00	24.80	6-51	91-03	
New Nagato	14,988	185.50	26.80	6-65	91-01	
Ishikari	14,257	192.50	27.00	6-92	91-03	
Ocean West	11,523	166.00	25.00	6-16	91-06	
Ocean East	11.523	166.00	25.00	6-16	91-05	
Star Diamond	9,463	150.87	25.00	5-54	91-01	
Wakanatsu Maru	8,052	151.13	23.00	6-42	91-02	
Nichiou Maru	7,096	153.12	21.40	6-99	91-05	Cargo RO/RO
Virtus	6,327	134.60	21.00	5-70	91-07	
Hekiryu Maru	5,196	115.02	18.00	5-12	91-03	Cargo RO/RO
Hakuryu Maru	5,195	115.00	18.00	5-12	91-05	Cargo RO/RO
Kokuryu Maru	5,195	115.02	18.00	5-12	91-06	Cargo RO/RO
Ohryu Maru	5,195	115.00	18.00	5-12	91-09	Cargo RO/RO
Kobe Maru	3,717	116.03	23.00	4-70	91-09	Double Hull
Ariake Maru No-1	3,692	114.50	20.00	5-80	91-07	
Ferry Kirishima	3,649	131.16	20.00	5-41	91-05	Cargo RO/RO
New Hiyama	2,258	76.61	14.50	3-80	91-05	’00 Remodeled
Ferry Southern	1,509	69.70	14.50	3-50	91-03	
Ferry Osumi No-7	1,473	77.00	13.30	3-51	91-09	
Atsumi Maru	1,447	64.90	13.30	3-51	91-10	
Asanagi Maru	1,381	65.02	14.00	2-95	91-10	’00 Remodeled
Kokudo Maru	999	73.32	12.80	3-10	91-11	’00 Remodeled
Shimantogawa	699	60.85	13.16	2-78	91-06	
Ooshima No-11	676	58.45	14.00	2-80	91-11	’99 Remodeled

Build on 1992

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Pacific Express	11.582	170.00	25.00	6-50	92-11	’96 Remodeled
Sun Flower Kogane	9.684	150.87	25.00	5-47	92-07	’03 Remodeled
Sun Flower Nishiki	9,684	150.88	25.00	5-47	92-12	’03 Remodeled
Ferry Osaka	9,347	160.00	25.00	6-06	92-01	
Ferry Kitakyushu	9,345	160.00	25.00	6-06	92-04	
Hokuren Maru	7,039	153.62	21.40	6-99	92-10	Cargo RO/RO
New akatsuki	6,412	145.61	22.00	6-26	92-07	
Hekiryu Maru	5,196	115.01	18.00	5-12	92-04	Cargo RO/RO
Kokuryu Maru	5,195	115.02	18.00	5-12	92-02	Cargo RO/RO
Oryu Maru	5,195	115.02	18.00	5-12	92-03	Cargo RO/RO
Shiryu Maru	5,195	115.00	18.00	5-12	92-12	Cargo RO/RO
Kairyu II	4,572	124.71	17.50	6-05	92-01	Cargo RO/RO
Ariake Maru No-1	3,692	114.50	20.00	5-81	92-04	Cargo RO/RO
Queen Soya	3,531	95.70	15.00	4-08	92-05	’00 Remodeled
Kanaya Maru	2,932	78.81	16.67	3-37	92-03	
Essa Maru	1,478	60.00	13.00	3-26	92-03	
Taiko	1,272	86.95	13.80	3-62	92-09	’00 Remodeled
Sakurajima Maru No-13	699	53.00	13.00	3-11	92-01	
Tamatake Maru No-87	699	71.83	13.16	2-78	92-09	
Orange Mercury	696	61.35	12.60	2-80	92-11	
Orange Jupiter	695	61.35	12.60	2-80	92-03	
Ferry Awashima	626	66.00	12.30	3-20	92-03	

Build on 1993

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Gusuku	616	66.00	12.80	3-20	92-06	
Ferry Azarea	20,558	195.46	29.40	6-76	93-07	'00 Remodeled
Ferry Shirakaba	20,555	195.46	29.40	6-76	93-10	
Hesuteia	13,539	192.00	27.00	6-70	93-10	
Okesa Maru	12,419	134.70	21.00	5-51	93-04	
Sun Flower Ohminato	11,782	186.00	25.50	6-60	93-12	
Sun Flower Mito	11,782	186.00	25.50	6-60	93-12	
Phoenix Express	11,582	170.00	25.00	6-50	93-06	'96 Remodeled
Hokuren Maru	7,096	153.62	21.40	6-99	93-06	Cargo RO/RO
Marine Rod No-2	5,550	129.00	20.40	6-30	93-03	Cargo RO/RO
Shiryu Maru	5,137	111.50	18.00	5-41	93-03	Cargo RO/RO
Queen Coral	4,924	140.01	20.50	6-20	93-09	
Ferry Yakushima-No-2	3,392	122.40	17.80	5-21	93-04	
Mikawa Maru	2,323	77.37	14.00	3-60	93-07	'00 Remodeled
Akatsuki No-2	2,052	99.01	15.80	4-30	93-06	
Misaki	999	89.50	13.50	4-65	93-09	Cargo RO/RO
Shin-Tanegashima	999	89.52	13.50	4-64	93-07	Cargo RO/RO
Iyo	699	59.63	12.80	2-96	93-11	
New Hoyo No-2	699	71.50	12.60	3-30	93-06	
Tencho Maru No-2	577	53.35	12.50	2-85	93-02	
Tencho Maru	171	38.60	9.90	2-03	93-05	

Build on 1994

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Orange No-7	9,917	163.57	26.60	5-50	94-03	
Horusu	7,192	136.60	21.00	5-70	94-06	
Ferry Namiue	6,586	145.61	22.00	6-26	94-06	
Ferry Tokyo	5,968	157.86	23.00	5-90	94-12	Cargo RO/RO
Yutoku Maru	5,929	134.66	22.40	6-60	94-09	Cargo RO/RO
Miyabi	5,592	149.57	23.00	6-71	94-08	Cargo RO/RO
Hayabusa	2,282	99.78	19.98	3-10	94-12	
Ferry Chikushi	1,926	97.37	14.60	4-16	94-03	
Ferry Osumi No-10	1,503	77.26	13.30	3-65	94-06	
Ferry Osumi No-8	1,498	77.26	13.30	3-65	94-04	
Shimanto	1,446	89.00	14.20	3-50	94-03	
Olive Maru No-8	998	65.00	14.40	4-09	94-06	'00 Remodeled
Liberty Bell	704	78.00	12.30	3-20	94-08	Cargo RO/RO
New Ferry Misaki	699	78.00	12.30	3-21	94-07	Cargo RO/RO
Flower Line	698	60.56	14.00	2-90	94-02	
Nakajima	679	49.90	11.08	2-70	94-07	

Build on 1995

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Ferry Settsu	15,188	189.00	27.00	6-65	95-12	
Cruise Ferry Hiryu	10,351	167.00	21.00	6-02	95-06	
Kogane Maru	9,504	121.50	19.80	5-27	95-03	
Ariake	7,910	166.86	22.80	6-21	95-08	
Venus	7,198	136.60	21.00	5-70	95-03	
Ferry Kairyu	6,801	155.00	19.00	5-87	95-10	Cargo RO/RO
Shunsei Maru	5,930	134.66	22.40	6-60	95-02	Cargo RO/RO
Yutoku Maru	5,929	134.66	22.40	6-60	95-02	Cargo RO/RO
Miyarabi	5,592	149.57	23.00	6-71	95-01	Cargo RO/RO
Shin-Kushiro Maru	5,310	139.72	21.50	6-30	95-10	Cargo RO/RO
Prince Soya	3,554	95.70	15.00	4-08	95-03	’00 Remodeled
Ferry Kikai	2,878	112.54	17.80	5-11	95-11	
Ferry Shirashima	2,343	99.35	16.00	4-31	95-02	’98 Remodeled
Hayabusa	1,777	93.02	15.60	4-45	95-05	’00 Remodeled
Ferry Tsubasa	1,585	96.52	14.50	5-30	95-02	Cargo RO/RO
Naoshima	694	73.90	15.00	2-73	95-10	
Ohshima No-12	693	58.45	14.00	2-87	95-01	’99 Remodeled
Ferry Fukuhiko	680	55.53	12.00	2-75	95-10	
Camellia No-2	639	47.90	12.00	2-50	95-07	

Build on 1996

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Ferry Suzuran	17,345	199.40	25.00	7-25	96-05	
Ferry Sisen	17,329	199.45	25.00	7-23	96-05	
Ferry Suoh	15,188	189.00	27.00	6-65	96-03	
Rainbow Bell	13,597	195.95	27.00	6-70	96-03	
Miyazaki Express	11,931	170.00	27.00	6-50	96-11	
Pacific Express	11,582	170.00	27.00	6-50	96-01	
Ocean North	11,114	166.00	25.00	6-36	96-11	
Ocean South	11,114	166.00	25.00	6-36	96-09	
Cruise Ferry Hiryu 21	9,225	167.00	22.00	5-90	96-03	
Ferry Kairyu	6,432	155.00	19.00	5-87	96-11	Cargo RO/RO
Ryokuryu Maru	5,199	115,02	18.00	5-07	96-07	Cargo RO/RO
Toba Maru	2,399	77.37	14.00	3-86	96-06	’00 Remodeled
Ryouzan Maru	1,658	98.52	15.00	5-58	96-04	Cargo RO/RO
Urizun	1,020	90.82	15.00	5-74	96-03	Cargo RO/RO
Ferry Kumamoto	848	56.45	13.50	2-90	96-07	
Orange Grace	694	73.90	12.60	2-80	96-02	
Kamigoto	499	67.51	12.80	3-01	96-07	

Build on 1997

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Rainbow Love	13,621	195.95	27.00	6-71	97-02	
Sun Flower Kirishima	12,418	186.00	25.50	6-60	97-08	
Sun Flower Satsuma	12,415	186.00	25.50	6-60	97-03	
Osaka Express	11,933	170.00	27.00	6-50	97-07	
Sun Flower Kuroshio	9,723	160.00	25.00	6-05	97-06	
Sun Flower Ivory	9,245	153.00	25.00	5-45	97-11	
Hokuto	8,581	167.72	24.00	7-01	97-02	Cargo RO/RO
Hokuto No-3	8,581	167.72	24.00	7-01	97-10	Cargo RO/RO
Miyako Maru	8,015	156.82	24.00	6-31	97-01	Cargo RO/RO
Hakata Maru	7,754	132.82	21.40	6-21	97-11	Cargo RO/RO
Hokuren Maru No-2	7,039	153.62	21.40	6-99	97-02	Cargo RO/RO
Musashi Maru	7,389	145.62	24.00	6-51	97-02	Cargo RO/RO
Niraikanai	5,613	149.57	23.00	6-72	97-01	Cargo RO/RO
Ferry Tsurugi	2,586	108.00	17.50	4-40	97-07	’99 Remodeled
Eins Soya	2,267	76.66	14.50	3-80	97-06	
Ferry Senshu	2,083	85.00	14.50	4-30	97-09	
Yuukon	1,498	100.56	14.90	2-60	97-05	
Unicorn	1,498	100.56	14.90	2-60	97-05	
Sea Bird	835	62.00	15.40	2-30	97-03	
Tamataka Maru No-81	795	71.85	14.50	2-70	97-10	
Aki	699	59.68	12.80	2-96	97-02	
Camellia No-3	653	47.50	12.00	2-80	97-01	
Nikkai Maru	497	61.20	12.40	3-91	97-01	Cargo RO/RO

Build on 1998

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Varuna	13,654	192.00	27.00	6-70	98-10	
Sun Flower Tsukuba	12,325	192.00	27.00	6-70	98-01	
Phoenix Express	11,578	170.00	25.00	6-50	98-01	
Ocean East	11,523	166.00	25.00	6-16	98-05	
Sun Flower Cobalt	9,245	153.00	25.00	5-45	98-03	
Hamayu	7,747	162.00	23.60	5-60	98-08	
Silver queen	7,005	134.00	21.00	5-70	98-03	’00 Remodeled
Kariyushi Okinawa	6,613	145.78	22.40	6-27	98-01	
Sakura	2,334	114.34	16.00	4-56	98-01	
Uwajima No-2	2,009	91.56	15.60	4-28	98-03	
Asakaze No-5	1,958	102.02	15.80	4-50	98-04	Cargo RO/RO
Ocean Allow	1,687	72.09	12.90	2-05	98-03	
Suruga	1,525	82.50	14.00	3-80	98-03	
Asahi	741	73.96	15.00	2-70	98-09	
New Izena	654	77.80	12.50	2-50	98-07	
Kamoshika	611	44.18	11.61	2-50	98-03	

Build on 1999

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Sun Flower Tomakomai	12,520	199.00	24.50	6-90	99-08	Cargo RO/RO
Hokkaido Maru	12,520	199.00	24.50	6-80	99-07	Cargo RO/RO
Shinoh Maru	10,980	160.52	24.00	7-00	99-11	Cargo RO/RO
Orange No-8	9,975	163.57	25.60	5-50	99-03	
Ohkoh Maru	9,925	167.72	24.00	7-21	99-11	Cargo RO/RO
Nanho Maru	9,932	167.72	24.00	7-21	99-11	Cargo RO/RO
Ro/Ro Saroma	8,349	167.72	24.00	7-20	99-06	Cargo RO/RO
Ro/Ro Marimo	8,348	167.72	24.00	7-20	99-05	Cargo RO/RO
Veniria	6,558	134.60	21.00	5-70	99-03	'00 Remodeled
Shuri	5,970	149.57	23.00	6-71	99-08	Cargo RO/RO
Shin-Hokuou Maru	5,873	136.21	21.40	6-90	99-07	Cargo RO/RO
Queen Coral No-8	4,945	140.81	20.50	6-21	99-09	
Urizun No-20	4,256	132.16	20.00	5-71	99-09	Cargo RO/RO
Shirahama	2,614	79.09	18.00	3-95	99-01	
Ferry Katsuragi	2,553	108.00	17.50	4-40	99-03	
Ferry Kunigami	2,375	99.50	16.00	4-50	99-03	
Avrora Okushiri	2,248	76.61	14.50	3-86	99-04	'00 Remodeled
Sakurajima Maru No-16	997	54.02	14.40	2-80	99-01	'00 Remodeled

Build on 2000

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
New Hamanasu	17,309	184.50	26.50	6-78	00-03	
Shinmei Maru	12,676	160.56	26.60	7-01	00-11	Cargo RO/RO
Ohyu Maru	9,841	167,72	24.00	7-20	00-02	Cargo RO/RO
Shuurei	6,562	149.57	23.00	6-71	00-01	Cargo RO/RO
Urizun No-21	4,552	132.16	20.00	5-71	00-05	Cargo RO/RO
Ferry Kochi	4,140	118.14	21.00	5-21	00-07	
Shin-Satsuma	2,557	121.02	16.50	5-21	00-05	Cargo RO/RO
Esan 2000	2,343	110.30	17.00	4-52	00-09	
Hayabusa No-3	2,107	101.62	15.80	4-51	00-09	
Ferry Toshima	1,389	85.76	14.60	4-01	00-02	
Shodoshima Maru No-1	999	71.85	14.30	3-69	00-09	

Build on 2001

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Shinzui Maru	12,684	160.56	26.60	6-81	01-05	Cargo RO/RO
Shinsen Maru	12,664	160.50	26.60	6-80	01-03	Cargo RO/RO
New Rainbow Bell	11,410	190.00	26.40	6-85	01-06	
Nichiryu Maru	10,329	158.03	26.00	7-31	01-05	Cargo RO/RO
Youu Maru	9,348	149.90	24.00	6-80	01-06	Cargo RO/RO
Himawari No-1	7,323	161.15	24.00	6-42	01-04	Cargo RO/RO
Himawari No-2	7,323	161.23	161.15	6-40	01-07	Cargo RO/RO
Feelease Soya	3,551	95.70	15.00	4-06	01-04	
Ehime	2,494	115.00	16.00	4-45	01-01	
Hakko No-21	2,187	121.12	16.70	4-96	01-08	Cargo RO/RO
Mishima	1,196	89.50	14.00	4-20	01-09	
New Blue Line	999	85.00	14.40	3-40	01-03	
Shodoshima Maru No-7	998	71.83	14.30	2-75	01-09	

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
New Hoyo No-3	699	71.50	12.60	3-30	01-01	
Kokusai Maru No-32	697	65.77	14.70	2-70	01-10	

Build on 2002

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Lilac	18,225	199.45	25.00	7-23	02-03	
Kamikawa Maru	12,560	161.84	26.60	6-81	02-10	Cargo RO/RO
Phoenix	10,050	160.03	25.50	7-71	02-10	Cargo RO/RO
Kariyushi	9,943	154.07	25.50	7-31	02-11	Cargo RO/RO
Tokachi	9,858	167.72	24.00	7-21	02-11	Cargo RO/RO
Shuri	9,813	167.72	24.00	7-18	02-07	Cargo RO/RO
Ferry Kyoto NO-2	9,730	167.00	25.60	6-00	02-08	
Ferry Fukuoka No-2	9,730	167.00	25.60	6-00	02-10	
Ferry New Koshiki	942	73.00	13.20	1-00	02-09	

Build on 2003 (End of July)

Name of Vessel	GRT	LOA	WIDTH	Max Draft	Build Year	Remarks
(Unit)	(ton)	(m)	(m)	(m)	Year-month	
Yuukari	18,225	199.90	26.50	6-80	03-01	
Yusho Maru	14,790	197.00	31.20	7-50	03-01	Cargo RO/RO
Tsukushi	13,539	195.00	27.00	6-70	03-06	
Yamato	13,353	195.00	26.40	6-85	03-03	
Ryukyu Express	6,266	145.62	22.00	6-19	03-01	
Toyo Maru	4,219	132.16	20.50	6-01	03-05	Cargo RO/RO
Boreas Soya	3,578	95.70	15.00	4-06	03-04	
Ryoiei Maru	2,053	104.01	16.00	5-11	03-01	Cargo RO/RO
Sakurajima Maru No-18	1,279	56.10	13.50	2-81	03-02	
Shodoshima Maru No-2	994	71.83	14.30	2-75	03-03	

Appendix 6.3.3 Main Dimensions of Standard RO/RO Ferry Vessels

(1) 340 GRT Type RO / RO Ferry Vessel Main Dimension

1. Length (LOA)	41.00 m
2. Length (LPP)	38.00 m
3. Breadth	9.50 m
4. Depth	1.90 m
5. Draft (Full Loaded)	1.00 m
6. Speed (Full Loaded)	10.00 Knots
7. Main Engine	500 PS / 2 sets

(2) 900 GRT Type RO / RO Ferry Vessel Main Dimension

1. Length (LOA)	44.20 m
2. Length (LPP)	38.80 m
3. Breadth	11.80 m
4. Depth	.45 m
5. Draft (Full Loaded)	2.50 m
6. Speed (Full Loaded)	13.80 Knots
7. Main Engine	750 PS x 2 sets

(3) 1,900 GRT Type RO / RO Ferry Vessel Main Dimension

1. Length (LOA)	66.50 m
2. Length (LPP)	60.00 m
3. Breadth	12.50 m
4. Depth	7.75 m
5. Draft (Full Loaded)	3.00 m
6. Speed (Full Loaded)	15.00 Knots
7. Main Engine	1,300 PS x 2 sets

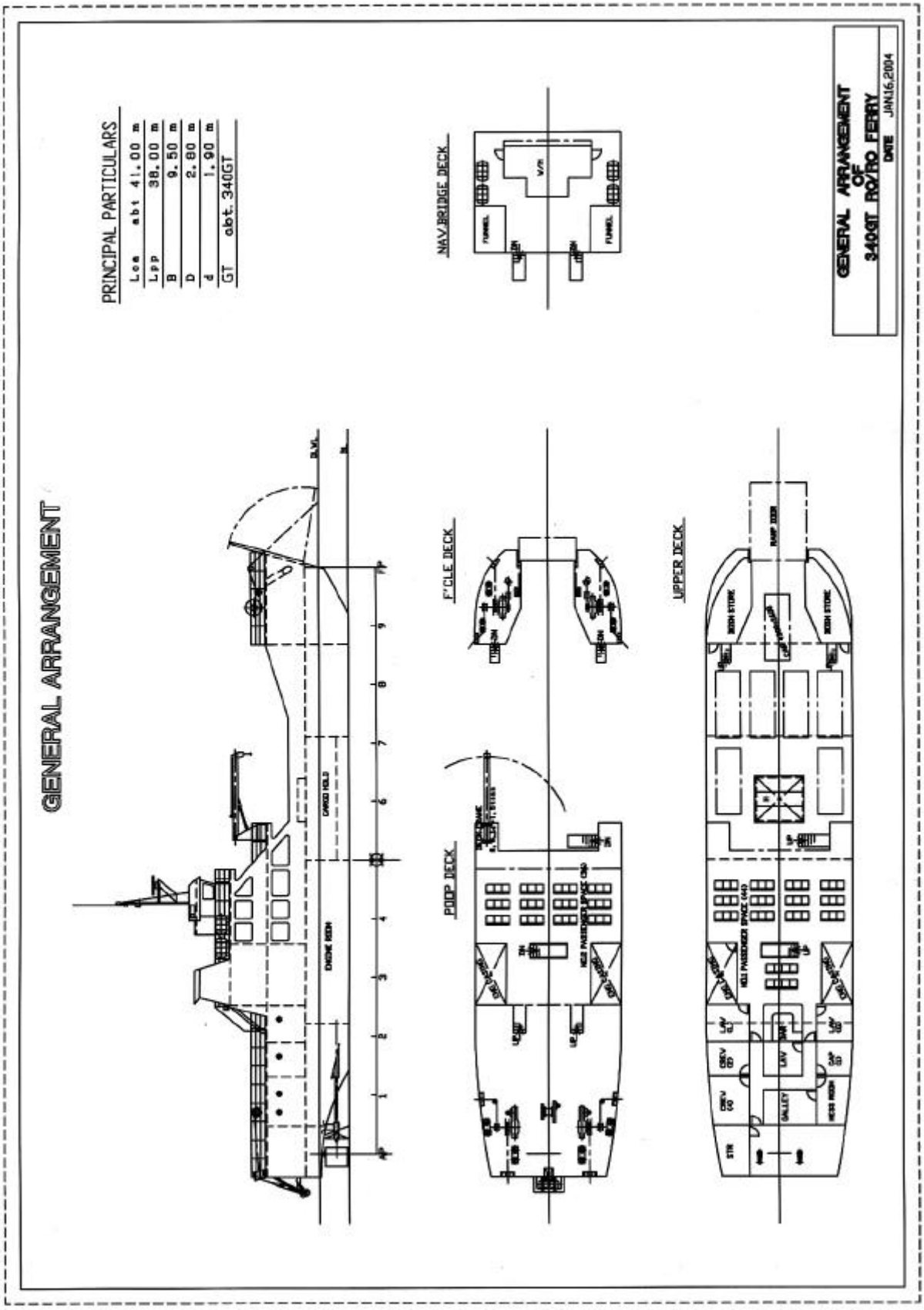


Figure A6.3.3.1 340 GRT Type RO/RO Ferry Vessel

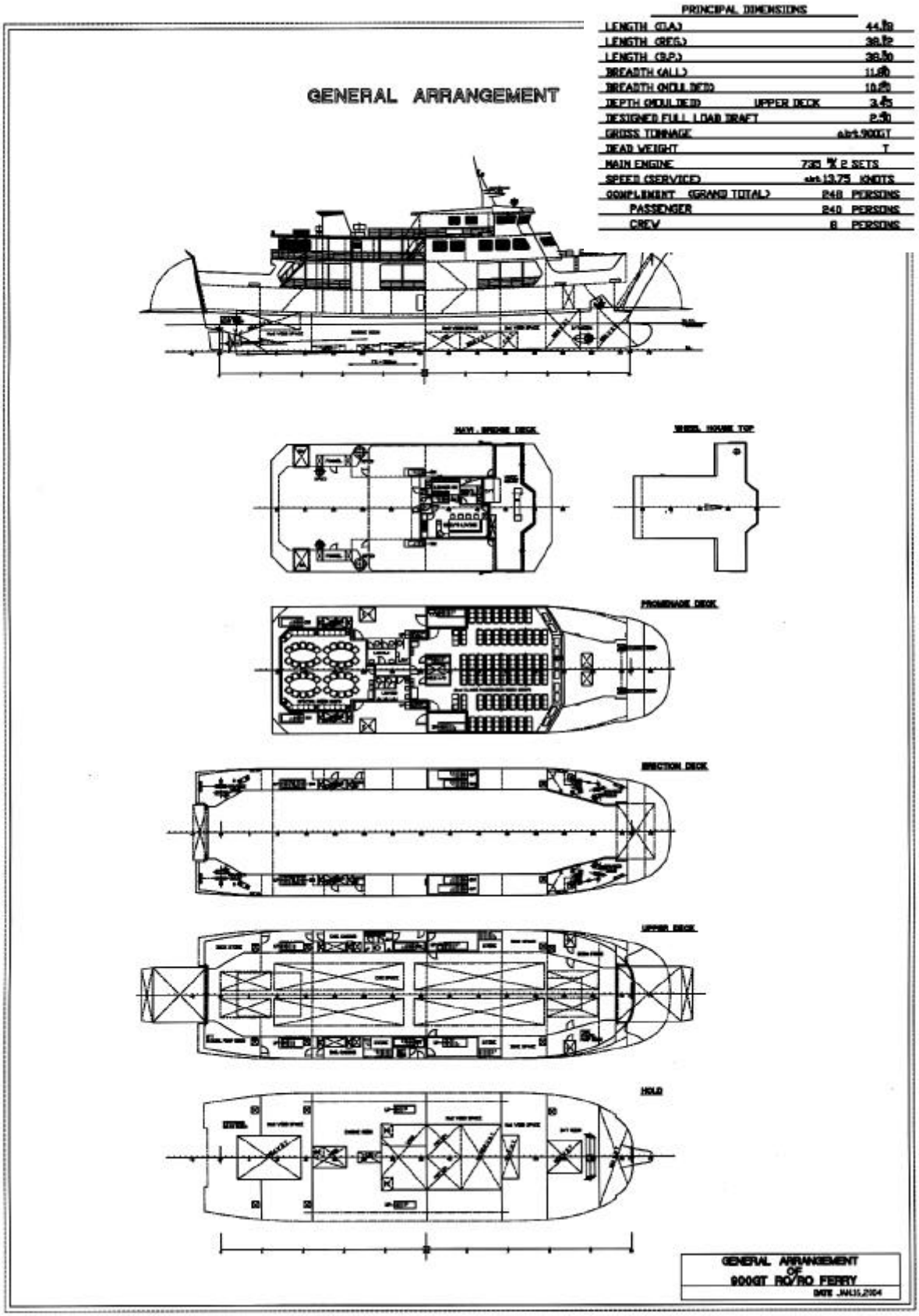


Figure A6.3.3.2 900 GRT Type RO/RO Ferry Vessel

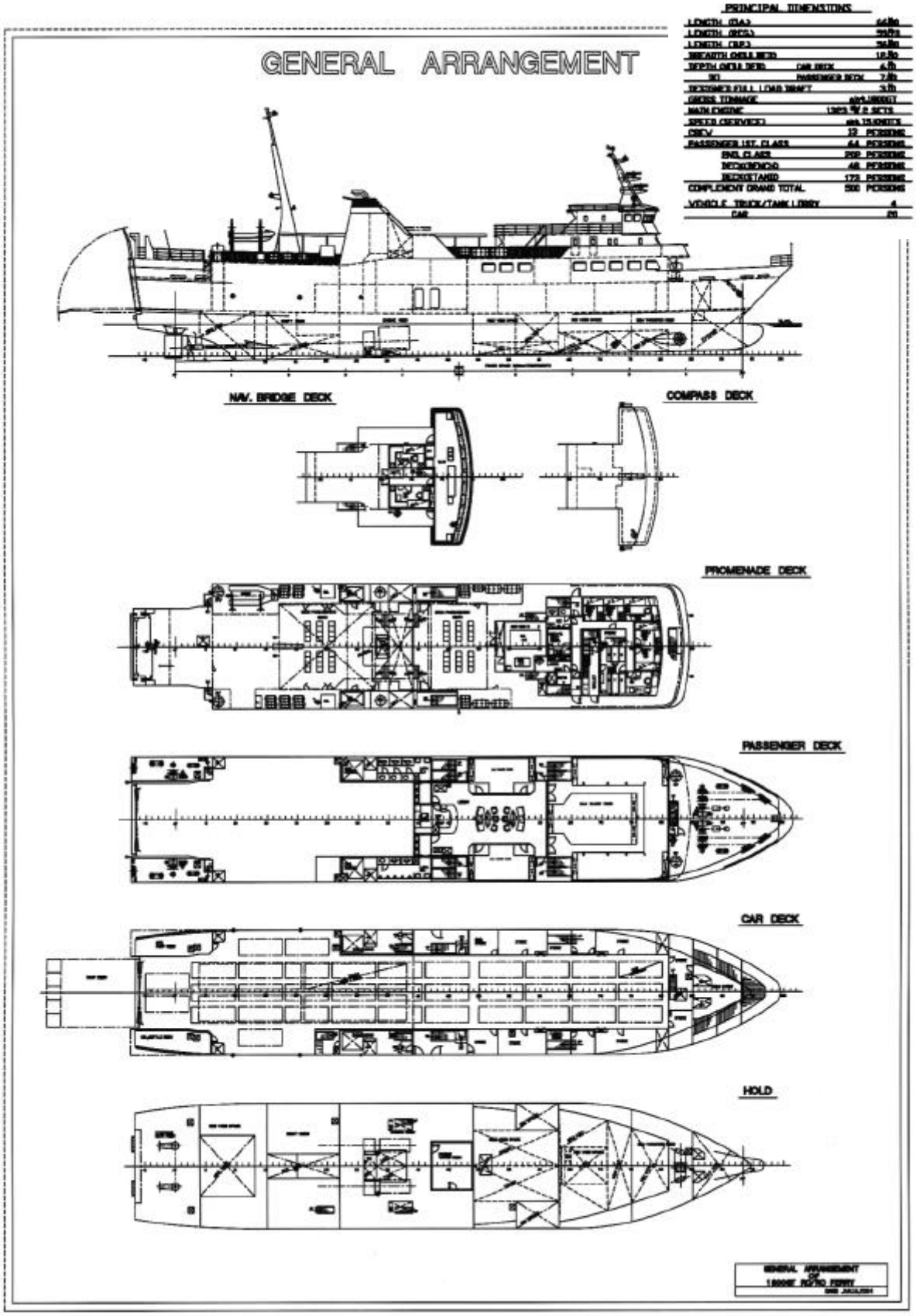


Figure A6.3.3.3 1900 GRT Type RO/RO Ferry Vessel

Appendix 6.3.4 Present Fast Craft Systems

(1) Mono-Hulls Type

Mono-hull type ferries are said to be the cheapest in terms of new building, operation and maintenance costs. Their design vary significantly and they have a wide variety of vessel types. Ferries for passenger and vehicles traveling under 20 nautical miles are used as shuttle ferries.

(2) Catamarans Type

Catamarans are now the largest vessel type in the fast ferry, and with rapid and massive deliveries in recent years they replace the place of hydrofoils as the leading fast ferry. A catamaran basically comprises two thin aluminum hulls bridged by a wide deck, offering larger passenger capacity than a similar length mono-hull ferry, and able to support multiple passenger decks. Transverse stability is also greater, although the vessels need to be fitted with activated fin stabilizers in the bows to overcome heavy pitching and rolling.

(3) Hydrofoils

There are two main type of hydrofoil - surface piercing foils and fully - submerged foils. In the former case, the first vessel was built in the 1950s in Italy, and vessels of this type are now utilized throughout the world. A lot of improvements on the vessel design have been conducted in Russia. Hull whose shape is a deep "V" is made from aluminum. The vessels are driven by two high performance diesel engines turning screw propellers.

(4) Surface Effect Vessels

Surface effect vessel design is based on a lightweight aluminum or fiberglass catamaran hull with a flexible skirt seal and stern. This utilizes air cushion, which is pressurized by diesel or gas turbine drive fans, and the vessel is propelled by diesel or gas turbine driven screw propellers. Water-jet propulsion is also used in some designs. Vessel cost tends to be relatively high in terms of new building, operating, and maintenance, although fuel costs are generally lower. The profile of the vessel is characterized by shallow draft, and sea keeping is generally better than catamarans.

(5) Hovercraft

Hovercrafts are driven by aircraft style propellers, and are fully skirted around the periphery of the hull. They ride on air cushion, and can be used over land and ice as well as over water, with speeds reaching 50 km/hr or more. The majority of vessels are made from aluminum, and propulsion power

is derived from aircraft derivative engines. Accordingly building cost is high, although their operational flexibility and maneuverability is important and positive market. Large vessels carry vehicles as well as passenger

Because of the above characteristics, many types of fast craft are used in different areas.

Appendix 7 Navigation Safety

Appendix 7.2.3 Relationship between Related Organizations

Table A7.2.1 Relationship between DOTC, MARINA, PCG and PPA in their business field (1/2)

Bodies	Vessel Inspection	Maritime Rules and Regulation	Development Project	Policy Formulation
DOTC		**DOTC** issues the general policies or guidelines on the delineation of maritime safety functions and maritime communication systems, to be enforced and complied with by MARINA and PCG, in close consultation with the concerned private sector/stakeholders.	**DOTC** plans and undertakes in-house studies and/or locally-funded development projects on coastal, inter-island, and inland waterways transport system. **DOTC** prepares the Department's Medium-Term Public Investment Program (MTPIP) **DOTC** participates in inter-agency and foreign-funded development projects, as part of the technical assistance program of donor countries or the foreign financial institutions. **DOTC** evaluates proposed development projects submitted by local proponents and LGUs for funding and implementation by the national government **DOTC** evaluates proposed foreign-assisted projects of related gov't. entities and if found feasible, endorses the same to the NEDA for further review and approval. **DOTC** undertakes the preparation and/or review of bid documents, implementation, and monitoring of development projects.	**DOTC** formulates relevant transport policies and/or sets the guidelines/general direction for the drafting of the specific policy by the relevant agencies. **DOTC Planning** reviews the policies emanating form related gov't. entities; the DOTC Secretary, being the Board Chairman of both MARINA and PPA, approves the domestic maritime national policies, as prepared and recommended by MARINA and PPA. **DOTC** undertakes the review, submits its official position/comments on, and participates in the crafting of the proposed maritime legislations, as it relate to the implementation of relevant IMO Conventions and the regulation and promotion of the Domestic Shipping Sector.

Table A7.2.1 Relationship between DOTC, MARINA, PCG and PPA in their business field (2/2)

Bodies	Vessel Inspection	Maritime Rules and Regulation	Development Project	Policy Formulation
MARINA	**MARINA** is the sole government entity responsible for vessel inspection. It inspects newly build, purchased, remodeled vessels before in service.	**MARINA** formulates specific policies, under the guidance of the DOTC, and issues rules & regulations on navigation safety. **MARINA** formulates specific policies, under the guidance of the DOTC, and issues vessel safety regulations.	**MARINA** undertakes its own project either in-house or through Foreign technical assistance, e.g., Project Study Grant for Vessel Inspection.	**MARINA** formulates specific policies on Maritime transport related matters.
PCG	**PCG** inspects vessels in service periodically under responsibility of MARINA.	**PCG** enforces rules & regulations on navigation safety. **PCG** is enforcing vessel safety regulations.	**PCG prepares** projects relative to the improvement of maritime safety and disaster-preparedness(search and rescue and marine pollution prevention/abatement, e.g., Acquisition of aircraft, vessels, aids to navigation by ODA	**PCG** formulates specific policies on the Maritime safety, search and Rescue operation, and marine pollution Prevention.
PPA			**PPA** plans and implements commercial port development projects using its own corporate funds or through ODA loan.	**PPA** formulates development policies for Ports under the PPA Port System, for approval by the PPA Board which is chaired by the DOTC Secretary.

Appendix 8 Technical Standards for Port Planning

Appendix 8.3.1 Tidal Levels

Table A8.3.1 List of Tides in the Philippines (1/3)

ITEM / PORT	HHWL	HWL	MHHW	MHW	MTL	MLW	LWL	DLT	LLWL
	Highest High Water Level	High Water Level	Mean Higher High Water	Mean High Water	Mean Tide Level	Mean Low Water	Low Water Level	Design Low Tide Level	Lowest Low Water Level
	A 1	A2	A 3	A 3	A 3	A 3	A2	A2	A4
	m	m	m	m	m	m	m	m	m
PORT DISTRICT OFFICE OF MANILA									
PMO South Harbor	+1.77	+1.26	+1.01	+0.85	+0.49	+0.10	-0.23	-0.35	-0.67
Pasig				+0.44		+0.09			
MICT		+1.26	+1.01	+0.75	+0.49	+0.09	-0.23	-0.35	-0.67
PMO North Harbor		+1.26	△ +1.01	+0.75	△ +0.49	+0.09	-0.23	-0.35	
Romblon			+1.68		+0.79	+0.21		-0.40	-0.61
PORT DISTRICT OFFICE OF LUZON									
PMO Batangas		+1.41	+1.10		+0.52		-0.32	-0.40	-0.58
Calapan		+1.60	+1.28		+0.62	+0.13	-0.25	-0.35	-0.61
Balanacan		+1.90	+1.49	+1.13	+0.70	+0.17	-0.25	-0.35	-0.64
Sta. Cruz		+1.80	+1.52	+1.17	+0.70	+0.14	-0.20	-0.30	-0.64
San Jose Mindord		+1.34	+1.13	+1.02	+0.55	+0.15	-0.19	-0.30	-0.58
PMO San Fernando		+0.87	+0.67		+0.34		-0.14	-0.30	-0.41
Currimao		+0.71					-0.17	-0.25	-0.38
Aparri			+1.07	+0.94	+0.52	+0.12		-0.20	-0.49
Irene, Casambalongan		+1.29	△ +1.10	+1.04	△ +0.58	+0.11	-0.18	-0.30	-0.55
PMO LEGASPI		+1.61	+1.40	+1.33	+0.75	+0.17	-0.25	-0.35	-0.70
Tabaco		+1.55	+1.34	+1.26	+0.71	+0.17	-0.25	-0.35	-0.70
Bulan		+1.00	△ +0.73	+1.05	△ +0.37	+0.15	-0.20	-0.25	-0.56
Matnog		+1.00	+0.73	+1.05	+0.37	+0.15	-0.20	-0.25	-0.46
Pasacao		+1.90	+1.59	+1.25	+0.37	+0.17	-0.25	-0.30	-0.64
Jose Panganiban		+1.55	△ +1.49		△ +0.79		-0.20	-0.35	-0.70
Virac		+1.57	+1.52	+1.25	+0.82	+0.15	-0.24	-0.30	-0.70
Masbate		+1.90	+1.61	+1.28	+0.76	+0.17	-0.25	-0.25	-0.64
PMO PUERTO PRINCESA		+1.70	+1.34	+1.20	+0.67	+0.10	-0.20	-0.30	-0.58
Brooke's Point		+1.65	+1.28	+1.13	+0.64	+0.10	-0.20	-0.30	-0.58
Cuyo		+1.70	+1.37	+1.23	+0.67	+0.10	-0.20	-0.25	-0.58
Coron		+1.70	△ +1.37	+1.23	△ +0.67	+0.10	-0.20	-0.30	-0.58
NON PPA PORT									
Catanaun		+1.82	+1.59		+0.73		-0.27	-0.30	-0.61
San Narciso		+1.99	△ +0.76		△ +0.37		-0.30	-0.35	-0.41
Solvec		+0.92	+0.70		+0.34		-0.11	-0.20	-0.46
Masinloc		+1.10	+0.85		+0.43		-0.20	-0.35	-0.49
Claveria, Cagayan		+0.87	△ +0.70		△ +0.37		-0.06	-0.20	-0.27
Basco, Batanes		+0.89	+0.76		+0.40		-0.14	-0.20	-0.37
San Vicente		+1.29	+1.10		+0.58	+0.11	-0.23	-0.30	-0.55
Palanan, Isabela		+1.59	△ +1.22		△ +0.64		-0.24	-0.25	-0.64
Baler		+1.62	+1.34		+0.70		-0.21	-0.25	-0.70
Real		+1.84	△ +1.49		△ +0.79		-0.30	-0.35	-0.70
Penascosa		+1.46	△ +1.22		△ +0.81		-0.05	-0.15	-0.75
Balabac		+1.48	+1.31		+0.67		-0.21	-0.30	-0.58
Siain		+1.90	△ +1.59	+1.54	△ +0.82	+0.17	-0.20	-0.35	-0.70
Limay		+1.26	△ +1.01		△ +0.49		-0.23	-0.35	-0.58
Subic		+1.20	△ +0.91		△ +0.46		-0.20	-0.35	-0.52

Table A8.3.1 List of Tides in the Philippines (2/3)

ITEM / PORT	HHWL	HWL	MHHW	MHW	MTL	MLW	LWL	DLT	LLWL
	Highest High Water Level	High Water Level	Mean Higher High Water	Mean High Water	Mean Tide Level	Mean Low Water	Low Water Level	Design Low Tide Level	Lowest Low Water Level
	A 1	A2	A 3	A 3	A 3	A 3	A2	A2	A4
	m	m	m	m	m	m	m	m	m
PORT DISTRICT OFFICE OF VISAYAS									
PMO TACLOBAN	:41 (1961)	+0.85	+0.69	+0.51	+0.27	+0.04	-0.10	-0.20	-0.44
Ormoc		+1.99	+1.74	+1.39	+0.84	+0.20	-0.27	-0.30	-0.60
Palompon		+1.95	+1.71	+1.34	+0.79	+0.17	-0.25	-0.30	-0.64
Maasin		+1.70	+1.40	+1.09	+0.64	+0.16	-0.25	-0.30	-0.58
Catbalogan		+1.80	+1.59	+1.25	+0.73	+0.11	-0.15	-0.20	-0.70
Calbayog		+1.55	+1.25	+0.98	+0.55	+0.14	-0.15	-0.20	-0.52
Borongan		+1.80	△ +1.50	+1.42	△ +0.79	+0.20	-0.25	-0.20	-0.67
San Jose, Caraingan			△ +0.88	+1.15	△ +0.43	+0.20		-0.20	-0.43
PMO ILOILO		+1.89	+1.65	+1.30	+0.79	+0.21	-0.24	-0.30	-0.61
San Jose, Antique		+1.70	+1.40	+1.05	+0.64	+0.15	-0.25	-0.30	-0.56
Pulupandan		+2.15	△ +1.95	+1.37	△ +0.91	+0.20	-0.30	-0.40	-0.58
Culasi		+2.00	△ +1.57	+1.22	△ +0.74	+0.19	-0.35	-0.40	-0.62
PMO CEBU		+1.90	+1.53	+1.19	+0.72	+0.17	-0.29	-0.35	-0.64
Toledo		+1.95	△ +1.68	+1.37	△ +0.79	+0.17	-0.30	-0.35	-0.64
Talibon		+1.70	△ +1.40	+1.23	△ +0.64	+0.17	-0.30	-0.35	-0.58
Tubigon			△ +1.55	+1.19	△ +0.70	+0.17	-0.16	-0.35	-0.64
Tagbilaran		+1.56		+1.03	+0.70	+0.14	-0.16	-0.25	-0.64
Jagna			△ +1.25	+0.94	△ +0.58	+0.14		-0.20	-0.52
Sta. Fe			△ +1.90	+1.46	△ +0.95	+0.17		-0.35	-0.61
PMO DUMAGUETE		+1.64	+1.30	+1.01	+0.59	+0.17	-0.22	-0.30	-0.63
San Carlos		+2.00	+1.77	+1.43	+0.82	+0.17	-0.25	-0.35	-0.64
Danao Escalante		+2.00	+1.77	+1.40	+0.82	+0.17	-0.25	-0.35	-0.61
Larena		+1.64	+1.28	+0.95	+0.55	+0.12	-0.22	-0.30	-0.52
NON PPA PORT									
Laoang		+1.75	+1.40		+0.73		-0.20	-0.25	-0.70
Batan		+2.03	△ +1.57		△ +0.74		-0.40	-0.45	-0.62
Banago		+2.42	△ +1.95		△ +0.91		-0.35	-0.40	-0.58
Isabel		+1.90	+1.71		+0.79		-0.25	-0.30	-0.64
Mandaue		+1.90	+1.53	+1.19	+0.72	+0.17	-0.29	-0.35	-0.65
PORT DISTRICT OFFICE OF NORTHERN MINDANAO									
PMO SURIGAO		+1.36	+1.04	+0.98	+0.52	+0.12	-0.21	-0.30	-0.75
Lipata		+1.36	△ +1.04	+0.98	△ +0.52	+0.12	-0.21	-0.30	-0.75
Dapa		+1.55	+1.25	+1.14	+0.67	+0.13	-0.13	-0.30	-0.64
PMO NASIPIT		+1.45	+1.11	+0.78	+0.49	+0.13	-0.20	-0.25	-0.68
Masao		+1.50	△ +1.16	+0.96	△ +0.49	+0.10	-0.20	-0.25	-0.36
Butuan		+1.50	△ +1.16	+0.86	△ +0.49	+0.10	-0.20	-0.25	-0.36
PMO CAGAYAN DE ORO		+1.54	+1.18	+0.90	+0.52	+0.14	-0.14	-0.20	-0.67
Benoni		+1.55	△ +1.25		△ +0.55		-0.15	-0.20	-0.51
PMO ILIGAN		+1.55	+1.24	+0.93	+0.56	+0.14	-0.26		
Ozamis		+1.47	+1.34	+1.01	+0.61	+0.15	-0.33		
Jimenez		+1.47	+1.25	+0.98	+0.55	+0.14	-0.33		
NON PPA PORT									
Bislig		+1.64	+1.40	+1.31	+0.73	+0.19	-0.25	-0.30	

Table A8.3.1 List of Tides in the Philippines (3/3)

ITEM / PORT	HHWL	HWL	MHHW	MHW	MTL	MLW	LWL	DLT	LLWL
	Highest High Water Level	High Water Level	Mean Higher High Water	Mean High Water	Mean Tide Level	Mean Low Water	Low Water Level	Design Low Tide Level	Lowest Low Water Level
	A 1	A2	A 3	A 3	A 3	A 3	A2	A2	A4
	m	m	m	m	m	m	m	m	m
PORT DISTRICT OFFICE OF SOUTHERN MINDANAO									
PMO DAVAO SASA		+1.94	+1.55	+1.41	+0.76	+0.10	-0.29	-0.35	-0.73
Davao, Sta. Ana		+1.94	+1.55	+1.41	+0.76	+0.10	-0.29	-0.35	-0.73
Mati		+1.94	+1.46	+1.39	+0.76	+0.17	-0.29	-0.35	-0.70
PMO ZAMBOANGA		+1.30	+1.01	+0.82	+0.49	+0.03	-0.15	-0.20	-0.49
Malangas		+1.90	△ +1.61	+1.47	△ +0.79	+0.07	-0.25	-0.30	-0.79
Pagadian		+1.95	+1.74	+1.59	+0.85	+0.10	-0.25	-0.30	-0.76
Pulauan		+1.65	+1.34	+0.94	+0.58	+0.14	-0.20	-0.30	-0.51
Basilan City		+0.96	+0.67		+0.34		-0.17	-0.20	-0.46
PMO POLLOC		+1.90	+1.71	+1.53	+0.79	+0.07	-0.25	-0.30	-0.76
Cotabato		+1.35	+1.07	+0.94	+0.49	+0.07	-0.25	-0.30	-0.49
Kalamansig		+1.95	+1.77	+1.54	+0.85	+0.17	-0.25	-0.30	-0.76
PMO GENERAL SANTOS		+1.90	+1.58	+1.39	+0.79	+0.17	-0.30	-0.35	-0.76
PMO JOLO		+1.12	+0.85	+0.67	+0.33	+0.03	-0.12	-0.20	-0.50
Siasi		+1.55	+1.25		+0.64	+0.10	-0.15	-0.20	-0.49
Silangkai		+1.45	△ +1.16	+0.99	△ +0.52	+0.15	-0.15	-0.20	-0.51

NOTE:

1) Heights are in meters and reckoned from MLLW

2) Source A1 PPA Port Inventory Project, 1990

A2 Calculated by JICA ADVISORY (Shogo Oba), HWL and LWL based on new method

A3 Chart or Predicted Tide Table by NAMRIA

A4 Chart

3) PORT Shows standard Port which has the Predicted tide table by NAMRIA

4) △ Location on NAMRIA Chart where figure was taken

Source: Design Manual for Port and Harbour Facilities in the Philippine Ports Authority

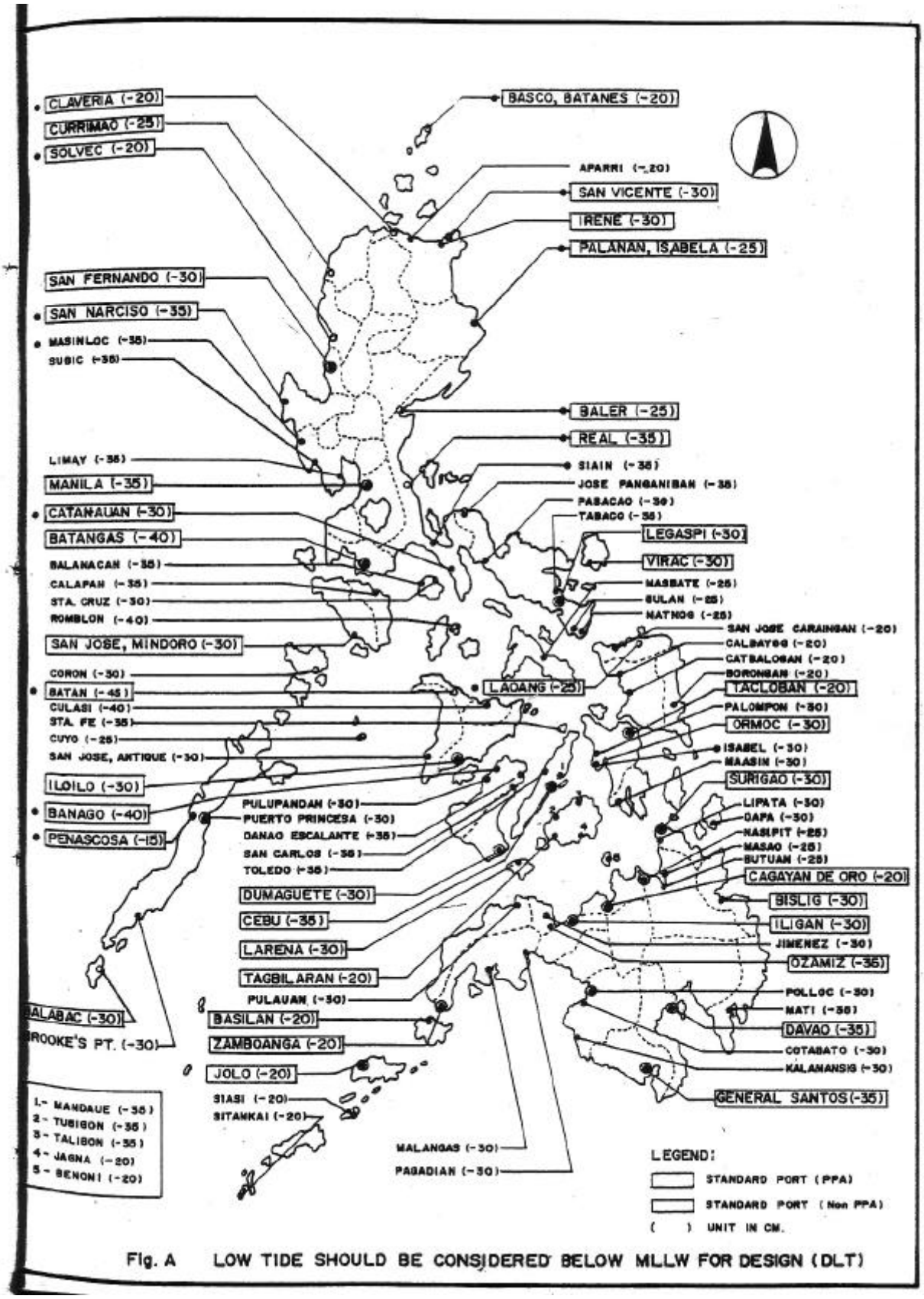
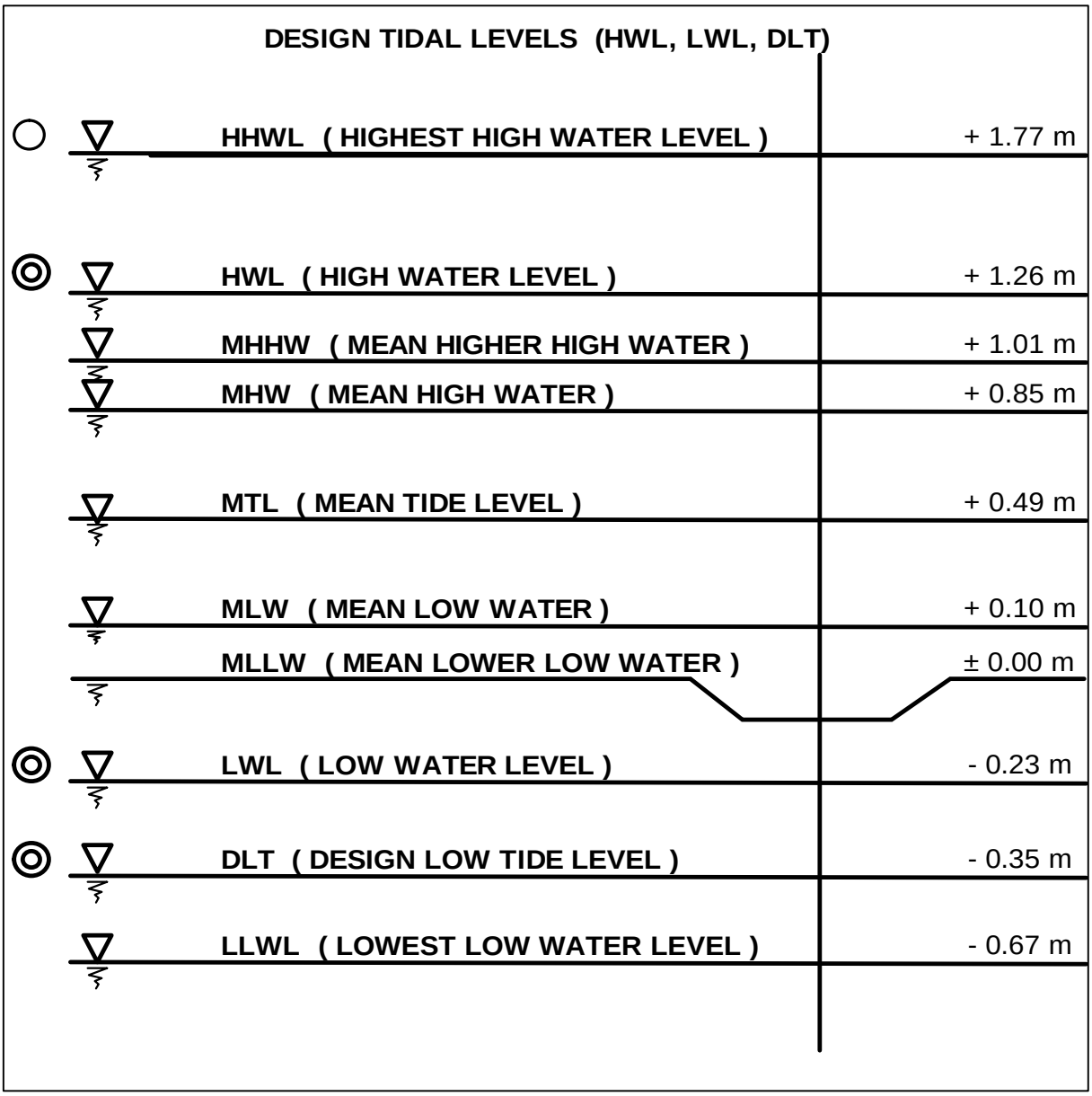


Fig. A LOW TIDE SHOULD BE CONSIDERED BELOW MLLW FOR DESIGN (DLT)

Source: Design Manual for Port and Harbour Facilities in the Philippine Ports Authority (Unit: cm)

Figure A8.3.1 Design low tide level in the Philippines



Source: Design Manual for Port and Harbour Facilities in the Philippine Ports Authority

Figure A8.3.2 Relationship between tide levels at Port of Manila

Appendix 8.3.2 Standard Main Dimensions of Berths in Japan

Table A8.3.2 Standard Main Dimensions of Berths

1. Cargo ship

Deadweight tons (DWT)	Length of berth	Water depth of berth
1,000	80 m	4.5 m
2,000	100 m	5.5 m
3,000	110 m	6.5 m
5,000	130 m	7.5 m
10,000	160 m	9.0 m
12,000	170 m	10.0 m
18,000	190 m	11.0 m
30,000	240 m	12.0 m
40,000	260 m	13.0 m
55,000	280 m	14.0 m
70,000	300 m	15.0 m
90,000	320 m	16.0 m
100,000	330 m	17.0 m
150,000	370 m	19.0 m

2. Container ship

Deadweight tons (DWT)	Length of berth	Water depth of berth
30,000	250 m	12.0 m
40,000	300 m	13.0 m
50,000	330 m	14.0 m
60,000	350 m	15.0 m

3. Ferries

3-A Short- and Medium-Distance Ferries (sailing distance less than 300 km)

Gross tons (GT)	Wharf for ferries with bow and/or stern ramps		
	Quay length of bow and stern side	Length of berth	Water depth of berth
400	20 m	60 m	3.5 m
700	20 m	80 m	4.0 m
1,000	25 m	90 m	4.5 m
2,500	25 m	130 m	5.5 m
5,000	30 m	160 m	6.5 m
10,000	30 m	180 m	7.0 m

3-B Long-Distance Ferries (sailing distance 300 km or more)

Gross tons (GT)	Wharf for ferries with side ramps	Wharf for ferries with bow and/or stern ramps		
	Length of berth	Quay length of bow and stern side	Length of berth	Water depth of berth
6,000	190 m	30 m	170 m	7.0 m
10,000	220 m	30 m	200 m	7.5 m
13,000	240 m	35 m	220 m	8.0 m
16,000	250 m	40 m	230 m	8.0 m
20,000	250 m	40 m	230 m	8.0 m
23,000	260 m	40 m	240 m	8.5 m

4. Roll-on Roll-off Ships

Deadweight tons (DWT)	Length of berth	Water depth of berth
700	100 m	4.5 m
1,500	130 m	5.5 m
2,500	150 m	6.5 m
4,000	180 m	7.5 m
6,000	200 m	8.0 m
10,000	230 m	8.5 m

5. Passenger Ships

5-A Passenger Ships that Belong to Japan (passenger ships with Japanese flag)

Gross tons (GT)	Length of berth	Water depth of berth
2,000	110 m	4.5 m
4,000	140 m	5.5 m
7,000	160 m	6.5 m
10,000	190 m	7.5 m
20,000	240 m	7.5 m
30,000	280 m	7.5 m

5-B Passenger Ships that Belong to Other Countries

Gross tons (GT)	Length of berth	Water depth of berth
20,000	220 m	9.0 m
30,000	260 m	9.0 m
50,000	310 m	9.0 m
70,000	340 m	9.0 m

6. Pure Car Carriers

Gross tons (GT)	Length of berth	Water depth of berth
500	90 m	4.5 m
1,500	120 m	5.5 m
3,000	150 m	6.5 m
5,000	170 m	7.5 m
12,000	210 m	9.0 m
18,000	240 m	10.0 m
25,000	260 m	11.0 m

7. Tankers

Deadweight tons (DWT)	Length of berth	Water depth of berth
1,000	80 m	4.5 m
2,000	100 m	5.5 m
3,000	110 m	6.5 m
5,000	130 m	7.5 m
10,000	170 m	9.0 m
15,000	190 m	10.0 m
20,000	210 m	11.0 m
30,000	230 m	12.0 m
50,000	270 m	14.0 m
70,000	300 m	16.0 m
90,000	300 m	17.0 m

8. Small Cargo Ships

Deadweight tons (DWT)	Length of berth	Water depth of berth
500	60 m	4.0 m
700	70 m	4.0 m

Source: TECHNICAL STANDARDS AND COMMENTARIES FOR PORT AND HARBOUR FACILITIES IN JAPAN (OCDI)

Appendix 8.3.3 Dimensions of Small Vessels in the Philippines

Table A8.3.3 Dimensions of Bancas

Vessel Name	Vessel Type	Hp	Dimensions				
			GRT(ton)	LOA(m)	Draft(m)	Hull Beam	Width
F/B Princess S.J	Fishing Vessel	165	9	22	1.2	1.7	12
F/B Princess Kt.	Fishing Vessel	196	14	-	-	-	12
F/B Ma.F	Fishing Vessel	105	5	-	-	-	12
F/B Estreila t-A	Fishing Vessel	245	11	15	-	-	12
F/B Princess Gel	Fishing Vessel	246	11	20	1.2	1.8	12
F/B Pretzel	Fishing Vessel	165	14	23	1.3	1.9	12
F/B Ovenie Mac	Fishing Vessel	105	9	19	1.2	1.7	12
MBCA J.IV	Fishing Vessel	145	13	22	1.3	1.9	12
MBCA S.IV	Fishing Vessel	215	35	31	2.3	2.5	12
MM S.V	Fishing Vessel	170	8	21	1.3	2.1	12
F/B ABC Ex	Fishing Vessel	80	7	15	1.3	1.4	12
F/B Jie-Jie	Fishing Vessel	160	15	15	1.4	3.0	12
Princess Kookie	Fishing Vessel	215	30	20	1.3	2.0	12
F/B Ron-Ron	Fishing Vessel	80	10	18	1.2	1.8	12
F/B King Ocean	Fishing Vessel	245	30	25	1.4	2.5	12
F/B Pilipinas	Fishing Vessel	165	18	18	1.2	1.8	12
F/B Eliagen	Fishing Vessel	105	15	15	1.2	1.6	12
F/B Elia jun	Fishing Vessel	170	20	18	1.3	1.4	12
F/B jun jun	Fishing Vessel	215	28	20	1.3	2.1	12
F/B King Warren	Fishing Vessel	160	18	18	1.2	2.0	12
F/B Tenitz	Fishing Vessel	215	30	2.5	2.0	1.7	12
F/B Buljack I	Fishing Vessel	170	15	18	1.5	1.7	12
F/B Buljack II	Fishing Vessel	245	30	28	2.1	2.1	12
F/B **lito	Fishing Vessel	105	15	15	1.2	1.4	12
F/B Honey Gin	Fishing Vessel	160	18	16	1.4	1.5	12
F/B Tony Mar	Fishing Vessel	215	30	20	1.8	1.8	12
F/B Michile	Fishing Vessel	80	10	18	1.2	1.6	12
F/B johnson	Fishing Vessel	120	15	16	1.3	1.6	12
F/B Renit	Fishing Vessel	245	45	24	2.1	2.8	12
F/B TSJ	Fishing Vessel	160	15	15	1.2	1.5	12
F/B Alas	Fishing Vessel	10	4	8	0.5	0.4	6
F/B Awin	Fishing Vessel	10	4	8	-	-	6
F/B Winston	Fishing Vessel	16	4	-	-	-	6
F/B Wen-Wen	Fishing Vessel	16	4	-	-	-	6
F/B Crisdan	Fishing Vessel	120	15	16	1.2	1.3	12
F/B Triple M	Fishing Vessel	120	15	16	1.2	1.3	12
F/B Jasriget	Fishing Vessel	16	4	8	0.5	0.9	6
F/B Double j	Fishing Vessel	120	14	16	1.2	1.3	12
F/B jel	Fishing Vessel	245	30	27	2.2	2.0	12
F/B Qian-Qian	Fishing Vessel	120	14	16	1.2	1.3	12
F/B DG- II	Fishing Vessel	245	32	28	2.3	2.1	12
F/B Lebert	Fishing Vessel	80	10	12	1.2	1.2	12
M/B Doring	Passenger/Cargo	10	4	7	0.5	0.9	6
M/B King	Passenger/Cargo	10	4	8	0.5	0.9	6
M/B Moonlight	Passenger/Cargo	10	4	12	0.5	0.5	6
M/B Noric	Passenger/Cargo	10	4	8	0.5	0.5	6
M/B Gesel	Passenger/Cargo	10	4	8	0.5	0.5	6
M/B jeohel	Passenger/Cargo	10	4	12	1.0	1.0	6
M/B Cedoc	Passenger/Cargo	16	4	10	0.5	1.0	6
M/B J.G.	Passenger/Cargo	16	4	10	0.5	0.5	6
M/B Sweet Love	Passenger/Cargo	16	4	8	0.5	0.5	6
M nnel	Passenger/Cargo	16	4	7	1.0	0.9	6
M/B Brian	Passenger/Cargo	16	4	8	0.5	0.5	6
M/B Ramy	Passenger/Cargo	10	4	8	0.5	0.5	6
M/B Unilc	Passenger/Cargo	10	4	12	0.5	0.9	6
M/B Chareljel	Passenger/Cargo	10	4	9	0.5	0.9	6
M/B Alss	Passenger/Cargo	16	4	7	1.0	0.9	6
M/B Witjun	Passenger/Cargo	16	4	7	0.5	0.5	6
M/B Toto	Passenger/Cargo	10	4	12	1.0	0.9	6
M/B Eivie	Passenger/Cargo	10	4	8	0.5	0.9	6
M/B Cristyl	Passenger/Cargo	16	4	8	1.0	0.9	6
M/B joolya	Passenger/Cargo	16	4	8	0.5	0.5	6
M/B jeln	Passenger/Cargo	10	4	8	0.5	0.5	6
M/B Lato	Passenger/Cargo	10	4	8	0.5	0.5	6
M/B jaybee	Passenger/Cargo	10	4	9	0.5	0.9	6
M/B **ll joy	Passenger/Cargo	16	4	8	0.5	0.5	6
M/B **zen	Passenger/Cargo	16	4	8	0.5	0.9	6
M/B Reyzen	Passenger/Cargo	10	4	8	-	-	6
M/B Bell jack Rex	Passenger/Cargo	16	4	8	0.5	0.5	6
M/B Aprit	Passenger/Cargo	16	4	10	0.5	1.0	6
M/B Loeme Jun	Passenger/Cargo	10	4	7	0.5	0.9	6
M/B joan	Passenger/Cargo	10	4	12	1.0	0.9	6

Appendix 8.3.4 Pontoon and Movable Bridge

Figure A8.3.3 Pontoon

Figure A8.3.4 Movable Bridge (1)

Figure A8.3.5 Movable Bridge (2)

Appendix 8.3.5 Design of Floating Pier (Pontoon)

1. Principle of design

Floating piers shall be so designed that they are stable and safe during the handling and loading / unloading of cargoes and the embarking / disembarking of passengers and vehicles and that they have sufficient durability. The mooring system including chains and anchors and the pile mooring system shall be designed to have sufficient strength against the anticipated forces.

2. Design of Pontoon

2.1 Dimensions of pontoon

A pontoon shall have a surface area and freeboard appropriate for its purpose of utilization. Dimensions of a pontoon shall be appropriate to make it stable against the external forces and loads acting on it.

2.2 External forces and loads acting on pontoon

The external forces and loads that shall be considered in the design of a pontoon are as follows:

1) Static load and live load
2) Reaction forces of gangways and access bridge
3) Hydraulic pressure
4) Deadweight
5) Counterweight

A live load of 5.0 kN/m^2 for passengers is commonly used for floating piers, which are mainly used for people boarding and unloading passenger ships.

2.3 Stability of pontoon

Pontoons shall be designed appropriately in such a way that the structural stability levels required for their purposes of utilization are secured.

In the examination of the stability of a pontoon, the following requirements should be satisfied:

(1) The pontoon must satisfy the stability condition of a floating body and have the required freeboard, even with actions of the reaction force from the access bridge and full surcharge on the deck and with presence of some water inside the pontoon owing to leakage.

(2) Even when the full surcharge on the deck is loaded on only one side of deck divided by the longitudinal symmetrical axis of the pontoon and the reaction force from an access bridge is applied on this side (if the bridge is attached there), the pontoon must satisfy the stability condition of a floating body and the inclination of the deck should be equal to or less than 1:10 with the smallest freeboard of 0 or more.

The height of the water accumulated inside the pontoon by leakage to be considered in the examination of pontoon stability is usually taken at 10% of the height of pontoon. The freeboard to be maintained in this case is mostly about 0.5m.

2.4 Design of individual parts of pontoon

Stress generated in the individual parts that comprise the pontoon shall be examined by using an appropriate method selected in consideration of the use of the pontoon, external forces and loads acting on the respective parts, and their structural characteristics.

(1) Floor slab

A floor slab is normally designed as a two-way slab fixed on four sides with supporting beams and side walls against the loads that yield the largest stress.

(2) Side walls

A side wall is normally designed as a two-way slab fixed on four sides with a floor slab, a bottom slab, and side walls or supporting beams, against hydrostatic pressure acting when the pontoon submerges by 0.5m above the deck.

(3) Bottom slab

A bottom slab is normally designed as a two-way slab fixed on four sides with side walls or supporting beams, against hydrostatic pressure acting when the pontoon submerges by 0.5m above the deck.

(4) Partition walls

A partition wall is designed as a slab fixed on four sides.

(5) Supporting beams and supports

The supporting beams of the floor slab, bottom slab and sidewalls and the center support are normally designed as a rigid frame box under the condition that the maxmum load is acting on the floor slab of the pontoon and the hydrostatic pressure for the draft of the pontoon being equal to its height is applied.

3. Design of mooring system

The method to moor the pontoons of a floating pier shall be selected appropriately in consideration of the natural conditions of the installation area so that the floating pier can serve its purpose adequately.

(1) Design external forces

The structure of mooring chains and mooring piles shall be examined by using an appropriate method in such a way that the chains can hold surely a pontoon in position under the action of the largest force.

(2) Setting of Chain

Each chain shall be set to one of the chain posts provided at the four corners of a pontoon through a chain hole, and fixed to the sea bottom by an anchor.

(3) Diameter of chain

The diameter of the chain shall be determined not to be broken during the high tide by the external forces.

(4) Pile

The dimension of the pile shall be determined not to be broken against the design external forces. The piles are connected through rollers attached to a pontoon.

4. Design of mooring anchor

In the design of mooring anchors, the maximum tension that acts on the mooring chain as calculated in “Design of mooring chain” shall be used as the design external force.

A mooring anchor shall be capable of providing the resistance forces required to keep the pontoon stable against the maximum tension that acts on the mooring chain and shall be designed with an appropriate factor of safety.

5. Design of access bridge and gangway

An access bridge and gangways of a floating pier shall have appropriate dimensions and inclinations which ensure that the floating pier provides the required handling performance for passengers, vehicles, and cargoes.

Inclination of access bridge and gangways that is used for passengers is usually 5 - 20% at L.W.L. Dimensions of access bridge and gangways are usually 2 - 6 meters in width, 10 - 30 meters in span of access bridge and 2 - 6 meters in span of gangway.

An adjusting tower shall be designed to be sufficiently safe against the reaction forces of the access bridge and seismic forces.

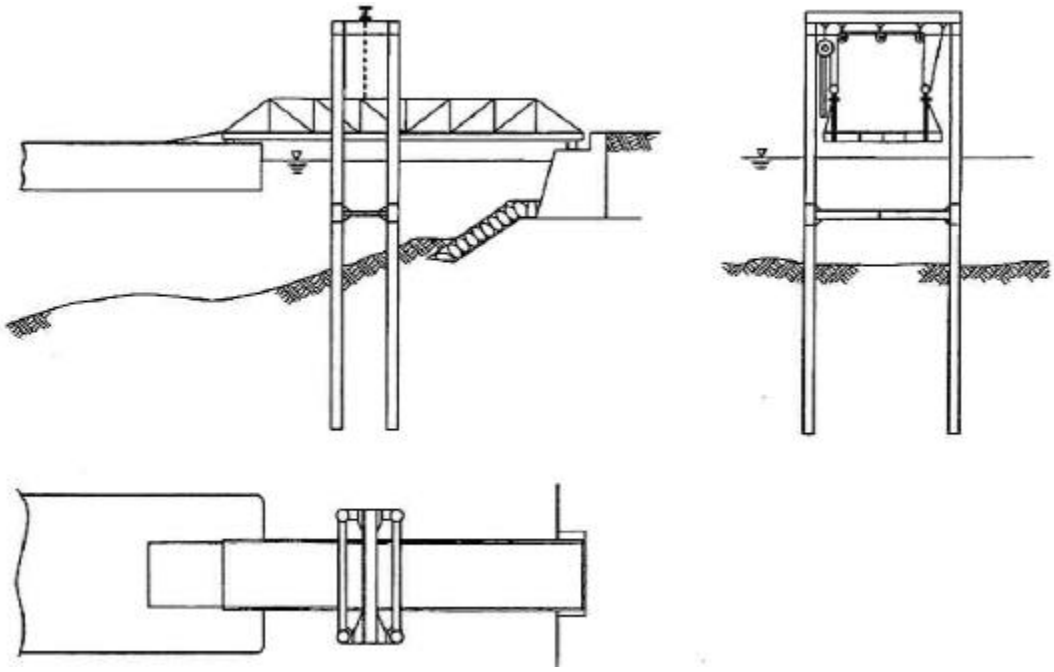


Figure A8.3.6 Adjusting tower

Appendix 9.1.1 List of berths by depth and Ro/Ro facilities of major ports

Name of region	Name of the port	Responsible entity for Management of the port	Controlling water depth (m)	Physical berth length (m)	Ro/Ro facilities (Exsisting)	Ro/Ro facilities (under construction)	Ro/Ro facilities (proposed)
NCR	PMO-North Harbor						
NCR	Manila-North, Pier 2	PPA	4m to less than 8m	539			
NCR	Manila-North, Pier 4	PPA	4m to less than 8m	653.31			
NCR	Manila-North, Pier 6	PPA	4m to less than 8m	652.23			
NCR	Manila-North, Pier 8	PPA	4m to less than 8m	661.60			
NCR	Manila-North, Pier 10	PPA	4m to less than 8m	660.52			
NCR	Manila-North, Pier 12	PPA	4m to less than 8m	661.40			
NCR	Manila-North, Pier 14	PPA	4m to less than 8m	623.30			
NCR	Manila-North, Pier 16	PPA	4m to less than 8m	646.80			
NCR	PMO-South Harbor				1	0	0
NCR	Manila-South, Pier 3	PPA	4m to less than 8m	513.94			
NCR	Manila-South, Pier 5	PPA	12m to less than 14m	1,331.20			
NCR	Manila-South, Pier 9	PPA	12m to less than 14m	823.34			
NCR	Manila-South, Pier 11	PPA					
NCR	Manila-South, Pier 13	PPA	10m to less than 12m	922.80			
NCR	Manila-South, Pier 15	PPA	12m to less than 14m	843.30			
NCR	MICT	PPA	12m to less than 14m	1,300.00	1	0	0
NCR	Pasig	PPA	4m to less than 8m	931.26			
Region 3	PMO-Limay (Lamao)	PPA	4m to less than 8m	160			
Region 3	Capinpin (Orion)	PPA	4m to less than 8m	110	0	0	1
Region 3	Dingalan	PPA					
Region 1	PMO-San Fernando	PPA					
Region 1	Currimao	PPA	4m to less than 8m	388			
Region 1	Sual	Other	4m to less than 8m	120			
Region 1	Sual	Other	less than 4m	60			
Region 2	Aparri	PPA	4m to less than 8m	348			
Region 3	Masinloc	Other	10m to less than 12m	90			
Region 4-A	PMO-Batangas	PPA	4m to less than 8m	827			
Region 4-A	PMO-Batangas	PPA	10m to less than 12m	415	6	0	0
Region 4-B	Balanacan	PPA	4m to less than 8m	36	1	0	0
Region 4-A	Bauan	PPA	less than 4m	156			
Region 4-A	Lopez	PPA					
Region 4-A	Lucena (Dalahican)	PPA	less than 4m	132	1	0	0
Region 4-A	Pagbilao	PPA					
Region 4-B	Poctoy (Odiongan)	PPA	4m to less than 8m	132	2	0	0
Region 4-A	Real	PPA	less than 4m	90	0	1	0
Region 4-B	Romblon	PPA	4m to less than 8m	131	1	0	0
Region 4-B	Sta. Cruz	PPA	less than 4m	70	1	0	0
Region 4-B	PMO-Calapan	PPA	4m to less than 8m	188	5	2	0
Region 4-B	Abra de Ilog	PPA	4m to less than 8m		1	0	0
Region 4-B	San Jose, Mindoro Occ.	PPA	4m to less than 8m		2	0	0
Region 5	PMO-Legazpi	PPA	4m to less than 8m	404			
Region 5	Bulan	PPA	4m to less than 8m	99	1	0	0
Region 5	Jose Panganiban	PPA	8m to less than 10m	115			
Region 5	Masbate	PPA	8m to less than 10m	317	2	0	1
Region 5	Matnog Ferry	PPA	4m to less than 8m	-	1	1	0
Region 5	Pantao	PPA	4m to less than 8m	For Construction	0	0	1
Region 5	Pasacao	PPA	4m to less than 8m	109	0	0	1
Region 5	Tabaco	PPA	8m to less than 10m	310	1	0	0
Region 5	Virac	PPA	4m to less than 8m	117	2	0	0

Appendix 9.1.1 List of berths by depth and Ro/Ro facilities of major ports

Name of region	Name of the port	Responsible entity for Management of the port	Controlling water depth (m)	Physical berth length (m)	Ro/Ro facilities (Exsisting)	Ro/Ro facilities (under construction)	Ro/Ro facilities (proposed)
Region 4-B	PMO-Puerto Princesa	PPA	10m to less than 12m	194.59	1	0	0
Region 4-B	Brooke's Polnt	PPA	4m to less than 8m	80	1	0	0
Region 4-B	Coron	PPA	8m to less than 10m	123	1	0	0
Region 4-B	Cuyo	PPA	4m to less than 8m	100			
Region 4-B	El Nido	PPA	4m to less than 8m	45			
Region 7	PMO-Dumaguete	PPA	8m to less than 10m	375	2	0	0
Region 7	Guihulngan	PPA	less than 4m	32	1		
Region 7	Larena	PPA	4m to less than 8m	95	1	0	0
Region 7	Tandayag	PPA	less than 4m	24	1	0	0
Region 6	PMO-Iloilo (RC-2)	PPA	4m to less than 8m	509			
Region 6	Iloilo River Wharf (RC-3)	PPA	4m to less than 8m	828			
Region 6	Iloilo - ICPC (RC-8/RC-4)	PPA	10m to less than 12m	392	1	0	0
Region 6	Iloilo-San Pedor Passenge	PPA	4m to less than 8m	111			
Region 6	Culasi (Roxas City)	PPA	4m to less than 8m	315	1	0	0
Region 6	Dumaguit	PPA	10m to less than 12m	110	0	0	1
Region 6	Dumangas	PPA	4m to less than 8m		1	0	0
Region 6	Estancia	PPA	4m to less than 8m	78			
Region 6	Jordan（Guimaras)	PPA	4m to less than 8m		1	0	0
Region 6	Lipata (Culasl, Antlque)	PPA	4m to less than 8m	315			
Region 6	San Jose Buenavista	PPA	4m to less than 8m	110			
Region 6	San Lorenzo（Guimaras)	PPA	4m to less than 8m		0	0	1
Region 6	PMO-Pulupandan	PPA	4m to less than 8m	110	0	0	1
Region 6	Danao (Escalante)	PPA	4m to less than 8m	48			
Region 6	San Carlos	PPA	4m to less than 8m	249	3	0	0
Region 8	PMO-Tacloban (baseport)	PPA	4m to less than 8m	622	1	0	0
Region 8	Baybay	PPA	4m to less than 8m	160	0	1	0
Region 8	Borongan	PPA	4m to less than 8m	166			
Region 8	Calbayog	PPA	4m to less than 8m	120	1	0	0
Region 8	Calubian	PPA	4m to less than 8m				
Region 8	Catbalogan	PPA	4m to less than 8m	260	2	0	0
Region 8	Guiuan	PPA	4m to less than 8m	30			
Region 8	Hilongos	PPA	4m to less than 8m	90	0	1	0
Region 8	Liloan Ferry	PPA	4m to less than 8m	70	1	0	0
Region 8	Maasin	PPA	4m to less than 8m	275	0	1	0
Region 8	Ormoc	PPA	4m to less than 8m	430	1	0	0
Region 8	Palompon	PPA	4m to less than 8m	138	1	0	0
Region 8	San Jose, Caraingan	PPA	4m to less than 8m	136			
Region 8	San Isidro Ferry	PPA	4m to less than 8m	75	1	0	0
Region 7	PMO-Tagbilaran	PPA	4m to less than 8m	266	1	0	0
Region 7	Catagbacan	PPA	4m to less than 8m	48	2	0	1
Region 7	Jagna	PPA	4m to less than 8m	116	1	0	1
Region 7	Jetafe	PPA	less than 4m		1	0	1
Region 7	Talibon	PPA	less than 4m	86	1	0	1
Region 7	Tubigon	PPA	4m to less than 8m	215	1	0	1
Region 7	Ubay	PPA	less than 4m	91	2	0	0
Region 10	PMO-Cagayan de Oro	PPA	10m to less than 12m	868.5	1	0	0
Region 10	Balingoan	PPA	4m to less than 8m	105	1	0	0
Region 10	Benoni	PPA	4m to less than 8m	166.5	1	0	2
Region 10	Guinsiliban	PPA	4m to less than 8m	21			
Region 10	Opol	PPA	less than 4m	20			

Appendix 9.1.1 List of berths by depth and Ro/Ro facilities of major ports

Name of region	Name of the port	Responsible entity for Management of the port	Controlling water depth (m)	Physical berth length (m)	Ro/Ro facilities (Exsisting)	Ro/Ro facilities (under construction)	Ro/Ro facilities (proposed)
Region 12	PMO-Iligan (baseport)	PPA	8m to less than 10m	620	3	0	0
Region 12	Kolambugan	PPA	less than 4m	200			
Region 12	Tubod	PPA	4m to less than 8m	210			
Region 13	PMO-Nasipit (baseport)	PPA	4m to less than 8m	185	3	0	0
Region 13	Butuan	PPA	4m to less than 8m	138	1	0	0
Region 13	Masao	PPA	4m to less than 8m	36.5			
Region 10	PMO-Ozamiz (baseport)	PPA	4m to less than 8m	410	2	0	0
Region 10	Jimenez	PPA	less than 4m	-			
Region 9	Dapitan (Pulauan)	PPA	4m to less than 8m	233	0	0	2
Region 10	Silanga	PPA	4m to less than 8m	-	1	0	0
Region 9	Sindangan	PPA	4m to less than 8m	125			
Region 13	PMO-Surigao (baseport)	PPA	8m to less than 10m	342	2	0	0
Region 13	Aras-asan	PPA	4m to less than 8m	171			
Region 13	Cantilan	PPA	8m to less than 10m	69			
Region 13	Dapa	PPA	8m to less than 10m	42	0	1	0
Region 13	Lipata Ferry	PPA	4m to less than 8m	110	2	0	0
Region 13	Mangagoy (Bislig)	PPA		For Construction			
Region 13	San Jose, Dinagat	PPA	4m to less than 8m	32.6			
Region 13	Socorro	PPA	8m to less than 10m	42			
Region 13	Tandag	PPA	4m to less than 8m	60			
Region 11	PMO-Davao (baseport)	PPA	10m to less than 12m	920			
Region 11	Mati	PPA	10m to less than 12m	81			
Region 11	PMO-General Santos	PPA	10m to less than 12m	588	1	0	0
Region 11	Glan	PPA	4m to less than 8m	144			
Region 12	PMO-Cotabato	PPA	4m to less than 8m	259			
Region 12	Kalamansig	PPA	4m to less than 8m	165			
Region 9	PMO-Zamboanga	PPA	8m to less than 10m	498	2	0	0
Region 9	PMO-Zamboanga	PPA	4m to less than 8m	400			
Region 9	Basilan (Isabela)	PPA	4m to less than 8m	244	1	0	0
Region 9	Ipil	PPA					
ARMM	Jolo	PPA	4m to less than 8m	364	1	0	0
Region 9	Malangas	PPA	8m to less than 10m	115			
Region 9	Pagadian	PPA	4m to less than 8m	158			
Region 1	San Fernando	BCDA	10m to less than 12m	500			
Region 1	San Fernando	BCDA	10m to less than 12m	300			
Region 1	San Fernando	BCDA	8m to less than 10m	200			
Region 1	San Fernando	BCDA	8m to less than 10m	135			
Region 2	Irene	CEZA	8m to less than 10m	189			
Region 3	Subic Bay Port	SBMA	4m to less than 8m	117			
Region 3	Subic Bay Port	SBMA	8m to less than 10m	411			
Region 3	Subic Bay Port	SBMA	12m to less than 14m	1323			
Region 7	Cebu	CPA	8m to less than 10m	131	2		
Region 7	Cebu	CPA	8m to less than 10m	631			
Region 7	Cebu	CPA	4m to less than 8m	3597			
Region 7	Toledo	CPA	4m to less than 8m	228	1		
Region 7	Balamban	CPA	4m to less than 8m		1		
Region 7	Sta. Fe	CPA	4m to less than 8m		1		
Region 7	Argo	CPA	less than 4m		1		
Region 7	Oslob	CPA	less than 4m		1		
Region 7	Danao	CPA	less than 4m				

Appendix 9.1.1 List of berths by depth and Ro/Ro facilities of major ports

Name of region	Name of the port	Responsible entity for Management of the port	Controlling water depth (m)	Physical berth length (m)	Ro/Ro facilities (Exsisting)	Ro/Ro facilities (under construction)	Ro/Ro facilities (proposed)
Region 7	Tuburan	CPA	4m to less than 8m		1		
Region 7	Tabuelan	CPA	4m to less than 8m		1		
Region 7	Poro	CPA	4m to less than 8m		1		
Region 7	Santander	CPA	less than 4m		1		
ARMM	Polloc	ARMM	10m to less than 12m	400			
ARMM	Bangao						
Region 10	indanao Container Termir	PIA	12m to less than 14m	300			
NCR	Harbour Centre	Private	10m to less than 12m	865			

*) Source: JICA Study Team

Appendix 9.1.2 Fairways of PPA ports with maintenance dredging

Name of region	Name of the port	Width of the fairway (m)	Controlling water depth of the fairway (m)	The necessity of maintenance dredging
NCR	North Harbor	250	10.0	yes
NCR	South Harbor	200	12.5	yes
NCR	MICT	250	12.5	yes
NCR	Pasig	50	6.0	yes
Region 3	PMO-Limay (Lamao)	no data	16.0	yes
Region 3	Capinpin (Orion)	no data	14.0	yes
Region 1	Currimao	300	7.0	yes
Region 1	Sual	300	10.0	yes
Region 2	Aparri	200	5.0	yes
Region 3	Masinloc	200	10.0	yes
Region 4-A	Lucena (Dalahican)	200	4.0	yes
Region 4-A	Poctoy (Odiongan)	100	5.0	yes
Region 4-A	Sta. Cruz	50	3.0	yes
Region 4-B	PMO-Calapan	320	5.0	yes
Region 4-B	Abra de Ilog	124	5.0	yes
Region 4-B	San Jose, Mindoro Occ.	31	5.0	yes
Region 4-B	PMO-Puerto Princesa	1500	20.0	no
Region 4-B	Brooke's Polnt	-	6.5	yes
Region 4-B	Coron	500	16.0	no
Region 4-B	Cuyo	200	7.0	yes
Region 4-B	El Nido	110	6.0	yes
Region 5	PMO-Legazpi	300	6.0	yes
Region 5	Bulan	400	4.5	yes
Region 5	Jose Panganiban	250	6.0	yes
Region 5	Masbate	320	7.0	yes
Region 5	Pasacao	450	4.5	yes
Region 7	Cebu	150	8.5	yes
Region 10	PMO-Cagayan de Oro	280	-	no
Region 10	Balingoan	250	-	no
Region 10	Benoni	185	-	no
Region 10	Guinsiliban	250	-	no
Region 10	Opol	175	-	no
Region 12	PMO-Nasipit	150	7.0	yes
Region 12	Butuan	100	5.0	yes
Region 10	PMO-Ozamiz	-	2.0	yes
Region 13	PMO-Surigao (baseport)	no data	8.0	yes
Region 13	Aras-asan	no data	8.0	no
Region 13	Cantilan	no data	8.0	yes
Region 13	Dapa	no data	4.0	yes
Region 13	Lipata Ferry	no data	8.0	yes
Region 13	San Jose, Dinagat	no data	6.0	yes
Region 13	Socorro	no data	8.0	no
Region 13	Tandag	no data	4.0	yes

Appendix 9.1.3 List of LGUs/private ports with Ro/Ro ramps (2001)

	Name of Port	Location	Whether the port has Ramp Yes or No	Whether the port has RO/RO calling the port Yes or No	Remarks
Region I, La Union					
1	PNOC Coal Pier	San Fernando	Yes		Private Port
Region III, Bataan					
2	PNOC Petrochemicals Dev. Corp.	Mariveles	Yes		Private Port
3	Asian Terminals Inc.	Mariveles	Yes		Private Port
4	LGU Bataan/Hema Shipyard Inc.	Mariveles	Yes		Private Port
Region IV, Quezon					
5	Polillo	Polillo, Polillo Is.	Yes	No	
6	Alabat	Alabat, Alabat Is.	Yes	Yes	
7	Atimonan	Atimonan	Yes	Yes	
8	Hopewell Power (Phils.) Corp.	Pagbilao Grande Island	Yes	No	Private Port
Region IV, Batangas					
9	PNOC Coal Corp.	San Miguel, Bauan	Yes	No	Private Port
Region IV, Mindoro Occidental					
10	Tayamaan	Tayamaan, Mamburao	Yes	Yes	
11	Sablayan	Old Poblacion, Sablayan	Yes	No	
Region IV, Mindoro Oriental					
12	Roxas (Mindoro Or.)	Roxas	Yes	Yes	
13	Pola	Pola	Yes	No	
14	Balatero	Balatero, Puerto Galera	Yes	Yes	
Region IV, Marinduque					
15	Cawit	Cawit, Boac	Yes	No	
Region IV, Romblon					
16	San Agustin	San Agustin, Tablas Is.	Yes	Yes	
17	Azarga	Azarga, San Fernando, Sibuyan Is.	Yes	Yes	
Region IV, Palawan					
18	Culion	Culion Is.	Yes	No	
19	Liminangcong	Liminangcong, Taytay	Yes	No	
Region V, Camarines Norte					
20	Primfina Oleochemicals Inc.	Jose Panganiban	Yes	No	Private Port
Region V, Camarines Sur					
21	Sagnay (Nato) Causeway	Nato, Sagnay	Yes	No	
22	NFH Fishing Enterprises	Camangui	Yes	No	Private Port
Region V, Catanduanes					
23	San Andres	San Andres	Yes	Yes	
Region VI, Aklan					
24	Caticlan	Caticlan, Malay	Yes	Yes	1-RO/RO Ramp proposed by PPA
Region VI, Capiz					
25	Juna Development Corp.	Banica, Roxas City	Yes	No	Private Port
Region VI, Iloilo					
26	Culasi	Culasi, Ajuy	Yes	No	
27	Muelle Loney Ferry Terminal	Muelle Loney-Montes, Iloilo City	Yes	Yes	
28	F.F. Cruz & Co. (River Wharf)	Iloilo City	Yes	Yes	Private Port
Region VI, Guimaras					
29	F.F. Cruz & Co. Inc.	San Lorenzo	Yes	Yes	Private Port
Region VI, Negros Occidental					
30	***Bacolod (PPA),*** BREDCO	Bacolod City	Yes	Yes	Private Port
31	Banago	Banago, Bacolod City	Yes	Yes	Private Port
32	Negros Navigation Company	Banago, Bacolod City	Yes	No	Private Port
33	Racahe Private Wharf	Bacolod City	Yes	No	Private Port
34	Aidsisa Sugar Central	Silay City	Yes	No	Private Port
35	Barcelona	Escalante City	Yes	No	Private Port
36	Barcelona Port Service Corp.	Escalante City	Yes	No	Private Port
37	Francisco Yap	Escalante City	Yes	No	Private Port
Region VII, Negros Oriental					
38	Amlan Causeway/Wharf	Amlan	Yes	Yes	Private Port
39	Tampi	Tampi, San Jose	Yes	Yes	
40	Dumaguete Coconut Mills (DUCOMI)	San Miguel, Bacong	Yes	No	Private Port
Region VII, Cebu					
41	Bato	Samboan	Yes	Yes	Private Port
42	Bogo (Polambato) Causeway/Landing	Polambato, Bogo	Yes	Yes	
43	Argao	Argao	Yes	Yes	Private Port
44	Santander	Talisay, Santander	Yes	Yes	Private Port
Region VII, Bohol					
45	Clarin	Clarin	Yes	No	Non-operational RO/RO Ramp
Region VIII, Northern Samar					
46	Allen (Mawo)	Allen	Yes	Yes	Private Port
47	Dapdap (PHILTRANCO)	Allen	Yes	Yes	Private Port
Region VIII, Leyte					
48	Isabel (Philphos)	Isabel	Yes	Yes	Private Port (dilapdated facilities)
Region X, Misamis Occidental					
49	Sta. Cruz	Baybay Sta. Cruz, Ozamis City	Yes	Yes	Private Port
50	Millenium Shipping Lines	Ozamis City	Yes	Yes	Private Port
Region XI, Davao del Norte					
51	Babak Causeway/Pier (Billalika Wharf)	Babak, Samal City, Samal Is.	Yes	Yes	Private Facilities

Appendix 10.4.1 Procedure of Calculation of Required Berth Length

1. International Container Berth

(1) The Allocation of International Container Cargo

- Cargo volume is estimated in Chapter 5. Cargo can be strategically allocated to the ports in GCR (i.e. port of Manila, Batangas and Subic) since these ports have similar hinterland (Metropolitan Manila and CALABARZON area).
- Thus, the cargo volume of the ports in GCR forecasted in Chapter 5 is assumed as the total demand in GCR, and the cargo will be allocated to the ports in GCR according to the preferable development scenario. The scenario is as follows,
    - Before expansion at the Port of Manila, two berths in phase-II development of the Port of Batangas will be developed since the traffic congestion in Manila is serious, and a part of the port development has already started.
    - Then, two berths will be developed at the Port of Manila. One berth will be developed at MICT and South Harbor respectively.
    - Port of Subic will basically handle the cargo volume which is forecasted in Chapter 5.
    - In the long term, further expansion of Port of Batangas will be carried out to handle cargo overflowing from the Port of Manila.

(2) Handling Capacity of the Berth

- The standard handling capacity per unit berth length is assumed as 1,000 TEU/m. This capacity will change depending on the number of quayside cranes, the berth assignment, etc.
- This capacity in terms of TEU can be converted to the capacity in terms of ton using the estimated weight of 1 TEU.

(3) Standard Berth Dimensions

- Berth length will be a minimum of 250m, while depth will be 12m.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Int'l Container Cargo (in ton)																					
Batangas	1,137,655	719,539	3,114,868	3,355,414	3,930,049	4,335,424	4,758,541	5,079,781	5,412,999	5,759,040	6,730,409	8,453,794	9,475,579	10,840,579	12,491,774	13,922,224	15,271,655	17,250,858	19,137,401	20,880,526	22,903,287
MICT	12,778,322	13,718,154	10,667,536	11,506,727	11,579,809	11,477,168	11,304,423	12,066,729	12,857,491	13,678,712	14,226,002	14,318,214	14,398,853	14,725,761	15,029,386	15,488,482	15,540,811	15,562,522	15,578,715	15,591,232	15,617,263
S Harbor	3,923,885	4,256,080	6,163,023	6,552,761	6,889,581	7,177,295	6,988,122	7,459,877	7,949,222	8,457,398	8,679,431	8,787,325	8,896,253	9,094,662	9,105,202	9,259,073	9,408,350	9,504,610	9,788,354	10,071,779	10,219,079
Subic	789,250	1,623,731	2,015,735	2,174,711	2,508,708	2,719,284	2,842,519	3,030,609	3,225,864	3,428,763	3,639,669	3,743,587	4,455,594	4,568,624	4,689,226	4,817,261	5,653,004	5,947,760	6,255,068	6,816,035	7,330,845
CDO (PPA/PIA)	834,500	902,716	975,789	1,054,047	1,137,817	1,227,415	1,323,144	1,425,285	1,534,094	1,649,796	1,772,588	1,902,635	2,040,077	2,185,030	2,337,595	2,497,867	2,665,939	2,841,915	3,025,913	3,218,075	3,418,569
Cebu	1,030,047	1,143,056	1,262,228	1,387,853	1,520,236	2,663,357	3,949,832	4,246,707	4,558,247	4,885,079	5,227,860	5,587,280	5,964,059	6,358,952	6,772,749	7,206,278	7,660,406	8,136,041	8,634,133	9,155,676	9,701,710
Davao	944,572	1,059,134	1,175,272	1,295,203	1,889,333	2,051,961	2,221,881	2,399,463	2,585,061	2,779,031	2,981,744	3,193,584	3,414,952	3,646,268	3,887,973	4,140,525	4,404,407	4,680,122	4,968,197	5,269,183	5,583,659
General Santos	101,009	110,807	121,840	134,181	147,893	163,028	715,445	769,104	825,913	885,946	949,266	1,015,938	1,086,022	1,159,579	1,236,675	1,317,382	1,401,779	1,489,955	1,582,009	1,678,054	1,778,216
Iloilo	0	0	0	219,181	234,682	250,916	267,909	285,691	304,291	323,742	344,075	365,326	387,532	410,730	434,961	460,269	486,697	514,294	543,109	573,196	604,608
Zamboanga	630	1,261	2,504	4,900	9,359	17,179	29,666	47,106	67,794	88,645	107,198	122,721	135,717	147,053	157,482	167,533	177,544	187,724	198,203	209,063	220,362
Cargo (in TEU)																					
Batangas	173,729	114,742	366,455	399,454	467,863	522,340	573,318	612,022	652,169	693,860	810,893	1,018,529	1,141,636	1,306,094	1,505,033	1,677,376	1,839,958	2,078,417	2,305,711	2,515,726	2,759,432
MICT	1,146,999	1,245,997	1,255,004	1,369,848	1,378,549	1,382,791	1,361,979	1,453,823	1,549,095	1,648,038	1,713,976	1,725,086	1,734,802	1,774,188	1,810,769	1,866,082	1,872,387	1,875,003	1,876,954	1,878,462	1,881,598
S Harbor	829,320	895,870	725,062	780,091	820,188	864,734	841,942	898,780	957,738	1,018,964	1,045,715	1,058,714	1,071,838	1,095,742	1,097,012	1,115,551	1,133,536	1,145,134	1,179,320	1,213,467	1,231,214
Subic	76,101	159,746	237,145	258,894	298,656	327,625	342,472	365,134	388,658	413,104	438,514	451,035	536,819	550,437	564,967	580,393	681,085	716,598	753,623	821,209	883,234
CDO (PPA/PIA)	71,868	79,524	87,884	97,008	106,958	117,793	129,576	142,366	156,220	171,195	187,341	204,708	223,341	243,283	264,576	287,260	311,378	336,973	363,623	386,715	410,808
Cebu	131,576	140,420	148,759	164,341	180,825	320,054	474,649	510,325	547,762	587,038	628,229	671,421	716,698	764,152	813,878	865,975	920,547	977,704	1,037,560	1,100,233	1,165,850
Davao	98,427	109,801	121,090	132,647	199,265	215,695	232,861	250,803	269,556	289,157	309,642	331,050	353,421	376,797	401,221	426,739	453,400	481,254	510,353	540,753	572,512
General Santos	7,557	9,028	10,706	12,609	14,752	17,149	75,258	80,902	86,878	93,193	99,853	106,866	114,239	121,976	130,086	138,575	147,453	156,728	166,411	176,514	187,050
Iloilo				25,436	27,317	29,290	31,274	33,349	35,521	37,791	40,165	42,645	45,237	47,945	50,774	53,728	56,813	60,035	63,398	66,910	70,577
Zamboanga	105	210	417	817	1,560	2,863	4,944	7,851	11,299	14,774	17,866	20,453	22,620	24,509	26,247	27,922	29,591	31,287	33,034	34,844	36,727
Weight per 1 TEU (ton/TEU)																					
Batangas	6.55	6.27	8.50	8.40	8.40	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30
MICT	11.14	11.01	8.50	8.40	8.40	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30
S Harbor	4.73	4.75	8.50	8.40	8.40	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30
Subic	10.37	10.16	8.50	8.40	8.40	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30
CDO (PPA/PIA)	11.61	11.35	11.10	10.87	10.64	10.42	10.21	10.01	9.82	9.64	9.46	9.29	9.13	8.98	8.84	8.70	8.56	8.43	8.32	8.32	8.32
Cebu	7.83	8.14	8.49	8.44	8.41	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32	8.32
Davao	9.60	9.65	9.71	9.76	9.48	9.51	9.54	9.57	9.59	9.61	9.63	9.65	9.66	9.68	9.69	9.70	9.71	9.72	9.73	9.74	9.75
General Santos	13.37	12.27	11.38	10.64	10.03	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51
Iloilo				8.62	8.59	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57	8.57
Zamboanga	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Capacity (Ton)																					
Batangas	1,550,000	1,550,000	5,950,000	5,880,000	5,880,000	5,810,000	5,810,000	5,810,000	5,810,000	5,810,000	8,300,000	8,300,000	10,956,000	10,956,000	13,446,000	16,351,000	16,351,000	19,256,000	19,256,000	22,161,000	25,066,000
MICT	16,594,500	16,594,500	12,707,500	12,558,000	12,558,000	12,408,500	12,408,500	12,408,500	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000	15,272,000
S Harbor	4,465,000	4,465,000	8,075,000	7,980,000	7,980,000	7,885,000	7,885,000	7,885,000	7,885,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000	9,960,000
Subic	1,800,000	1,800,000	2,380,000	2,352,000	2,352,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	4,648,000	6,972,000	6,972,000	6,972,000	6,972,000	6,972,000
CDO (PPA/PIA)	3,483,468	3,405,465	3,330,947	3,259,660	3,191,406	3,126,030	3,063,406	3,003,433	2,946,021	2,891,086	2,838,546	2,788,318	2,740,311	2,694,431	2,650,577	2,608,644	2,568,523	2,530,101	4,992,946	4,992,946	4,992,946
Cebu	2,348,558	2,442,086	2,545,513	2,533,483	2,522,164	2,496,473	4,992,946	4,992,946	4,992,946	4,992,946	4,992,946	7,489,419	7,489,419	7,489,419	7,489,419	7,489,419	7,489,419	9,985,893	9,985,893	9,985,893	9,985,893
Davao	863,704	1,205,739	1,213,222	1,220,536	2,370,379	2,378,309	2,385,412	2,391,784	3,596,278	3,604,056	3,611,119	3,617,560	3,623,459	3,628,881	3,633,884	4,851,353	4,857,087	4,862,426	5,840,894	5,846,495	5,851,748
General Santos	962,326	883,736	1,138,054	1,064,191	1,002,560	950,661	1,188,327	1,188,327	1,188,327	1,188,327	1,188,327	1,188,327	1,188,327	1,188,327	1,188,327	2,376,654	2,376,654	2,376,654	2,376,654	2,376,654	2,376,654
Iloilo	0	0	0	861,705	859,092	856,662	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827	1,070,827
Zamboanga	432,000	432,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	750,000	750,000	750,000	750,000
MICT Ton/m=(Ton/TEU)(TEU/m) [1,150 TEU/m]*	12,765	12,765	9,775	9,660	9,660	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545	9,545
S H Ton/m=(Ton/TEU)(TEU/m) [1,000 TEU/m]*	4,700	4,700	8,500	8,400	8,400	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300
Batangas Ton/m=(Ton/TEU)(TEU/m) [1,000 TEU/m]*	5,000	5,000	8,500	8,400	8,400	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300
Subic Ton/m=(Ton/TEU)(TEU/m) [1,000 TEU/m]*	10,000	10,000	8,500	8,400	8,400	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300
CDO Ton/m=(Ton/TEU)(TEU/m)*	11,612	11,352	11,103	10,866	10,638	10,420	10,211	10,011	9,820	9,637	9,462	9,294	9,134	8,981	8,835	8,695	8,562	8,434	8,322	8,322	8,322
Cebu Ton/m=(Ton/TEU)(TEU/m)*	7,829	8,140	8,485	8,445	8,407	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322	8,322
Davao Ton/m=(Ton/TEU)(TEU/m)*	3,455	4,823	4,853	4,882	4,741	4,757	4,771	4,784	7,193	7,208	7,222	7,235	7,247	7,258	7,268	9,703	9,714	9,725	9,735	9,744	9,753
Gen. Santos Ton/m=(Ton/TEU)(TEU/m)*	4,812	4,419	5,690	5,321	5,013	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	9,507	9,507	9,507	9,507	9,507	9,507
Iloilo Ton/m=(Ton/TEU)(TEU/m)*	0	0	0	4,309	4,295	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283	4,283
Zamboanga Ton/m=(Ton/TEU)(TEU/m)*	2,160	2,160	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
CDO TEU/m	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Cebu TEU/m	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Davao TEU/m	360	500	500	500	500	500	500	500	750	750	750	750	750	750	750	1,000	1,000	1,000	1,000	1,000	1,000
Gen. Santos TEU/m	360	360	500	500	500	500	500	500	500	500	500	500	500	500	500	500	1,000	1,000	1,000	1,000	1,000
Iloilo TEU/m	360	360		500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Zamboanga TEU/m	360	360	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
[Effective length (m)]																					
Batangas	310	310	700	700	700	700	700	700	700	700	1,000	1,000	1,320	1,320	1,620	1,970	1,970	2,320	2,320	2,670	3,020
(Batangas Berth No)			*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*3*	*3*	*4*	*4*	*5*	*6*	*6*	*7*	*7*	*8*	*9*
MICT	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
S Harbor	950	950	950	950	950	950	950	950	950	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Subic	180	180	280	280	280	560	560	560	560	560	560	560	560	560	560	560	840	840	840	840	840
CDO (PPA/PIA)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	600	600	600
Cebu	300	300	300	300	300	300	600	600	600	600	600	900	900	900	900	900	900	1,200	1,200	1,200	1,200
Davao	250	250	250	250	500	500	500	500	500	500	500	500	500	500	500	500	500	500	600	600	600
General Santos	200	200	200	200	200	200	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Iloilo				200	200	200	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Zamboanga	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	250	250	250	250

2. Domestic Container Cargo and Other Cargo

- Domestic container cargo will be transported by three kinds of vessels: container dedicated gearless vessels, RO/RO ferry vessels and conventional cargo vessels.
- At present, domestic container is predominating transported by RO/RO ferry vessel. It is assumed that 60% of container cargo is transported by this type of vessel currently in the Philippines. Since this type of vessel transports long distance passengers as well, it is assumed that the increment ratio of the cargo transported by this vessel be determined by that of the long distance passengers as follows.

Year	2009/2001	2024/2001
Increase ratio of passengers	1.4	1.9
Coefficient	1.1	1.2
Estimated increase ratio of containers transported by RO/RO ferry	1.5	2.3

- The increasing ratio is modified by multiplying coefficients, which represent the shipping lines' efforts to secure their markets.

- The rest is transported by conventional vessels which have self-gears to load/unload the cargo.

- It is assumed, however, that container dedicated gearless vessel will be introduced by 2009 since some major ports in the Philippines (i.e. Ports of Manila, Cebu, CDO/MCT, Davao, Iloilo, General Santos, Zamboanga and Batangas) have invested in quayside cranes.

- With regard to the dedicated container berth, the cargo handling capacity at a berth is 5,500 ton/m (=400 TEU/m * 14 ton/TEU) if one quayside crane is installed.

- It is assumed that the standard length of the domestic dedicated container berth is 200m, and depth is 10.5m.

- It is also assumed that the standard length of RO/RO ferry berth is 200m, and depth is 7.5m.

- The cargo handling capacities of various types of cargo at ports are indicated as follows.

Name of Port	Capacity of berth (ton/m)					
Type of cargo	RO/RO Container	Break Bulk		Bulk		LO/LO Container
		Foreign	Domestic	Foreign	Domestic	
Depth of berth (m)	-7.5	-10.5	-6.5	-10.5	-6.5	-6.5
North Harbor (2009, 2014)	4,500		1,500		3,500	
North Harbor (2019, 2024: After rehabilitation)	6,750		2,250		5,250	
South Harbor	4,500	3,500		5,000		
Subic		2,000	1,500	5,000	3,500	
Batangas	4,500	2,000	1,500	5,000	3,500	3,500
CDO/MCT	4,500	2,000	1,500	5,000	3,500	
Cebu	5,400	6,000	4,500	5,000	3,500	
ILOILO (2004, 2009, 2014)	4,500	1,000	1,000	2,000	2,000	
ILOILO (2024: After efficiency improvement)	4,500	2,000	1,500	5,000	3,500	
DAVAO	4,500	2,000	1,500	5,000	3,500	
Irene		1,500		4,000		
Ozamiz	2,000	1,500	1,000		2,500	
Gen. Santos	4,500	2,000	1,500	5,000	3,500	
Bay/River			1,500			
Zamboanga	4,500	1,500	1,000	4,000	2,500	
Nasipit	4,500		1,500		3,500	3,500
Tagbilaran	4,500		1,500		3,500	3,500
Tacloban	4,500	2,000	1,500	5,000	3,500	3,500
Dumaguete	2,000		1,000		2,500	2,500
Pto. Princesa	4,500	2,000	1,500	5,000	3,500	3,500
Calapan			1,000			
Legazpi		1,500	1,000	4,000	2,500	
Tabaco			1,000		2,500	
Lipata	2,000		1,000			
Liloan Ferry T (M)			1,000		2,500	
Pulauan (Dapitan)	2,000		1,000			2,500
Masbate	2,000		1,000			2,500
Culasi	2,000		1,000			2,500
Surigao	2,000		1,000		2,500	2,500
Palompon	2,000		1,000		2,500	2,500
Masao	4,500		1,500		3,500	3,500
San Fernando		1,500	1,000	4,000	2,500	

Appendix 10.4.2 Procedure for Cargo and Population Estimation in RO/RO Ports Development

(1) Cargo Estimation of RO/RO Ports for Mobility Enhancement

1) Regarding the ports of which the statistical data on port-related traffic activities can be obtained, RO/RO cargo volume in 2009/2024 is estimated by the procedure mentioned in Chapter 5 (see "5.4 Procedure for Estimation of Cargo and Passenger" in Main Report).
2) Although most of above-mentioned ports are under the jurisdiction of PPA, CPA,

SBMA and CEZA and are large and medium sized, most of RO/RO ports in the JICA Study are small sized and managed by municipalities. Since the municipalities do not collect the cargo volume data, another procedure should be adopted for the cargo estimation of small sized ports.

3) Since the statistical data of some ports can be obtained among the small sized ports, the averaged RO/RO cargo volume per capita can be obtained using RO/RO cargo volume of these ports estimated by above procedure and population of municipalities in which these ports are located. RO/RO cargo volume of other ports in 2009/2024 can be estimated by multiplying the population of municipalities in 2009/2024 and the averaged RO/RO cargo volume per capita respectively. The averaged RO/RO cargo volume per capita is shown in Appendix 10.4.8.

4) The procedure for population estimation of municipalities is as follows.
   - The population data of municipalities in 2000 is collected from the 2000 Census by NSO.
   - The population of each municipality in 2009 and 2024 is estimated by multiplying the population of each municipality in 2000 by the growth coefficient of region to which it belongs in 2009 and 2024 respectively (see Appendix 10.4.9 with regard to the growth coefficient of region).

(2) Population Estimation of Remote Islands

The procedure for population estimation of remote islands is as follows.

1) The population data of remote islands in 2000 is collected from the 2000 Census by NSO.
2) The population of each remote island in 2009 and 2024 is estimated by multiplying the population of each island in 2000 by the growth coefficient of region to which it belongs in 2009 and 2024 respectively (see Appendix 10.4.9 with regard to the growth coefficient of region).

Appendix 10.4.3 Averaged RO/RO Cargo Volume per Capita

	Name of Port	Region	(A) RO/RO Cargo Volume (ton) (2009)	(B) Population of Municipality (2009)	(A) / (B) RO/RO Cargo Volume per Capita
1	Pola	Region IV	61,569	39,954	1.541
2	Cawit	Region IV	20,458	60,679	0.337
3	***Coron (PPA)***	Region IV	47,854	40,336	1.186
4	Taytay	Region IV	47,854	67,125	0.713
5	Pilar	Region V	25,447	66,524	0.383
6	Aroroy	Region V	25,447	67,505	0.377
7	Cataingan	Region V	58,148	53,535	1.086
8	Mandaon	Region V	34,281	36,276	0.945
9	Concepcion	Region VI	18,124	39,581	0.458
10	Siaton	Region VII	91,092	74,925	1.216
11	Tapal (Ubay)	Region VII	78,699	69,758	1.128
12	Guindulman	Region VII	33,763	34,008	0.993
13	***Maasin (PPA)***	Region VIII	78,699	84,470	0.932
14	Padre Burgos	Region VIII	36,435	10,595	3.439
15	Nabilid	Region IX	91,092	40,660	2.240
			748,962	785,931	0.953
		Averaged RO/RO Cargo Volume per Capita			0.95

(2009)

	Name of Port	Region	(A) RO/RO Cargo Volume (ton) (2024)	(B) Population of Municipality (2024)	(A) / (B) RO/RO Cargo Volume per Capita
1	Pola	Region IV	93,249	56,562	1.649
2	Cawit	Region IV	30,985	85,901	0.361
3	***Coron (PPA)***	Region IV	72,477	57,102	1.269
4	Taytay	Region IV	72,477	95,027	0.763
5	Pilar	Region V	34,521	79,668	0.433
6	Aroroy	Region V	34,521	80,841	0.427
7	Cataingan	Region V	86,835	64,112	1.354
8	Mandaon	Region V	49,968	43,443	1.150
9	Concepcion	Region VI	29,029	47,696	0.609
10	Siaton	Region VII	148,970	91,439	1.629
11	Tapal (Ubay)	Region VII	125,521	85,134	1.474
12	Guindulman	Region VII	51,183	41,503	1.233
13	***Maasin (PPA)***	Region VIII	125,521	106,887	1.174
14	Padre Burgos	Region VIII	52,640	13,407	3.926
15	Nabilid	Region IX	148,970	52,003	2.865
			1,156,867	1,000,725	1.156
		Averaged RO/RO Cargo Volume per Capita			1.16

(2024)

Appendix 10.4.4 Population Projection by Region (Medium Case)

Region	2000	2010	2020	Growth rate (2000-2010)	Growth coefficient (2009) Pop.2009/ Pop.2000	Growth rate (2000-2020)	Growth coefficient (2024) Pop.2024/ Pop.2000
National	**76,348,114**	**91,868,309**	**105,507,209**	**1.87%**	**1.181**	**1.63%**	**1.474**
NCR	10,387,991	11,926,942	12,810,734	1.39%	1.132	1.05%	1.285
CAR	1,403,570	1,716,384	1,996,020	2.03%	1.198	1.78%	1.527
Region I	4,146,687	4,814,663	5,347,307	1.50%	1.143	1.28%	1.357
Region II	2,814,299	3,338,158	3,727,834	1.72%	1.166	1.42%	1.403
Region III	7,697,356	9,132,884	10,244,139	1.72%	1.166	1.44%	1.409
Region IV	11,324,634	14,524,674	18,225,345	2.52%	1.251	2.41%	1.771
Region V	4,755,076	5,551,343	6,207,492	1.56%	1.149	1.34%	1.376
Region VI	6,328,666	7,428,323	8,337,559	1.62%	1.156	1.39%	1.393
Region VII	5,544,211	6,578,025	7,431,317	1.72%	1.166	1.48%	1.423
Region VIII	3,746,241	4,528,908	5,253,779	1.92%	1.187	1.71%	1.502
Region IX	3,153,922	3,889,273	4,529,072	2.12%	1.208	1.83%	1.545
Region X	2,774,977	3,355,592	3,833,394	1.92%	1.187	1.63%	1.474
Region XI	5,238,014	6,562,492	7,757,576	2.28%	1.225	1.98%	1.601
Region XII	2,661,179	3,268,112	3,757,764	2.08%	1.204	1.74%	1.513
Region XIII	2,184,383	2,713,856	3,225,889	2.19%	1.215	1.97%	1.597
ARMM	2,186,943	2,538,718	2,822,017	1.50%	1.143	1.28%	1.357

Note) 'Growth rate' and 'Growth coefficient' are calculated by the JICA Study Team.
Source: NSO (1999), 1995 Census-based national regional and provincial population projections

Appendix 10.4.5 Procedure for Calculation of Outcome

(1) Outcome from RO/RO Ports Development for Mobility Enhancement

1) The number of people benefiting from mobility enhancement in 2009/2024 is estimated

based on the below table (Appendix 10.4.11). In the below table, the 'Rate' means the ratio of population benefiting from mobility enhancement and whole population in a province. The 'Rate' is set up in accordance with the extent to which intermodal network spread in a province.

Appendix 10.4.6 Population Benefiting from Mobility Enhancement in 2009/2024

Province/City	2000			2009			2024		
	Population	Rate	Population (Benefiting.)	Population	Rate	Population (Benefiting.)	Population	Rate	Population (Benefiting.)
Manila City	1,581,082	1	1,581,082	1,789,785	1	1,789,785	2,031,690	1	2,031,690
Navotas	230,403	0	0	260,816	0	0	296,068	1	296,068
Cagayan	993,580	0	0	1,158,514	1/10	115,851	1,393,993	1/4	348,498
Isabela	1,287,575	0	0	1,501,312	1/10	150,131	1,806,468	1/4	451,617
Quirino	148,575	0	0	173,238	1/10	17,324	208,451	1/3	69,483
Bataan	557,659	0	0	650,230	0	0	785,742	1	785,742
Nueva Ecija	1,659,883	0	0	1,935,424	1/10	193,542	2,338,775	1/3	779,591
Aurora	173,797	0	0	217,420	4/5	173,937	307,794	1	307,741
Cavite	2,063,161	0	0	2,581,014	0	0	3,653,858	1/3	1,217,952
Batangas	1,881,513	2/3	1,254,342	2,353,773	2/3	1,569,182	3,332,160	1	3,332,160
Mindoro Occi.	345,287	1	345,287	431,954	1	431,954	611,503	1	611,503
Oriental Mindoro	681,818	0	0	852,954	0	0	1,207,500	1/2	603,750
Quezon	1,572,307	0	524,102	1,966,956	1/3	655,652	2,784,556	1	2,784,556
Marinduque	213,277	1/2	106,639	266,810	1/2	133,405	377,714	1	377,714
Romblon (Pro. Cap.)	36,612	1	36,612	45,802	1	45,802	64,840	1	64,840
Palawan	644,794	1/3	214,931	806,637	1	806,637	1,141,930	1	1,141,930
Camarins Sur	1,551,549	0	0	1,782,730	0	0	2,134,931	1/3	711,644
Catanduanes	215,356	1	215,356	247,444	1	247,444	296,330	1	296,330
Albay	1,050,899	1/2	525,450	1,207,483	1/2	603,742	1,446,037	1/2	723,019
Sosogon	650,535	1/4	162,634	747,465	1/4	186,866	895,136	1/2	447,569
Masbate	559,954	1/4	139,989	643,387	2/5	257,355	770,497	1	770,497
Antique	464,687	0	0	537,178	1/3	179,060	647,309	1/2	323,655
Capiz	654,156	0	0	756,204	1/2	378,102	911,239	1/2	455,620
Iloilo	1,925,002	1/2	962,501	2,225,302	4/5	1,780,242	2,681,528	1	2,681,528
Guimaras	141,450	1/2	70,725	163,516	1/2	81,758	197,040	1	197,040
Negros Occi.	2,561,039	2/5	1,024,416	2,960,561	1/2	1,480,281	3,567,527	1/2	1,783,764
Negros Oriental	1,129,404	2/5	451,762	1,316,885	1/2	658,442	1,607,142	1	1,607,142
Cebu	3,150,715	3/5	1,890,429	3,673,734	2/3	2,449,156	4,483,467	1	4,483,467
Siquijor	81,598	1/2	40,799	95,143	1/2	47,572	116,114	1	116,114
Bohol	1,119,392	2/3	746,261	1,305,211	1	1,305,211	1,592,895	1	1,592,895
Northern Samar	475,361	0	0	564,254	0	0	713,992	1/5	142,798
Biliran	131,955	0	0	156,631	0	0	198,196	1	198,196
Leyte	1,592,336	2/5	636,934	1,890,103	1/2	945,051	2,391,689	1/2	1,195,844
Southern Leyte	355,003	1/3	118,334	421,389	1/2	210,695	533,215	1/2	266,608
Zamboanga del Norte	823,130	1/4	205,783	994,341	2/3	662,894	1,271,736	2/3	847,823
Zamboanga del Sur	1,935,250	1/5	387,050	2,337,782	1/3	779,260	2,989,961	1/3	996,653
Camiguin	74,232	1/2	37,116	88,113	1	88,113	109,418	1	109,418
Misamis Occi.	486,243	1/2	243,122	577,170	1/2	288,586	716,722	1	716,722
Misamis Oriental	1,126,215	1	1,126,215	1,336,817	1	1,336,817	1,660,041	1	1,660,041
Lanao del Norte	758,123	1/2	379,062	912,780	1/2	456,390	1,147,040	1/2	573,520
Agusan del Norte	552,849	1/3	184,283	671,712	1/3	223,904	882,900	1/3	294,300
Surigao del Norte	259,420	1/2	129,710	315,195	1/2	157,598	414,294	1/2	207,147
Basilan	325,563	1/2	162,782	372,119	1	372,119	441,789	1	441,789
Sulu	472,407	1	472,407	539,961	1	539,961	641,056	1	641,056
Tawi-Tawi	185,082	0	0	211,549	1	211,549	251,156	1	251,156
	38,880,228		14,376,115	46,044,798		22,011,370	58,053,439		39,938,190

The number of people benefiting from mobility enhancement in 2009/2024

14 million (2000) → 22 million (2009) → 40 million (2024)

(2) Outcome from RO/RO Ports Development for Remote Islands Development

1) Among 120 remote islands which have existing port facilities, the percentage of population that have safe and improved access to population centers is estimated based on Appendix 10.4.12 as below.

The population that has safe and improved access to population centers

534,774 (2000) → 1,362,304 (2009) → 2,541,621 (2024)

The population of 120 remote islands

1,778,184 (2000) → 2,117,151 (2009) → 2,746,780 (2024)

The percentage of population that have safe and improved access to population centers

30.1% (2000) → 64.3% (2009) → 92.5% (2024)

(3) Outcome from Development of RO/RO Ports for Remote Islands Development and Social Reform Support Ports

1) The percentage of remote islands and certain isolated areas/islands without sufficient port facilities (126 islands/areas in total) is obtained as below.

The number of remote islands as well as certain isolated areas/islands (*) with sufficient port facilities (see Appendix 10.4.12 and 10.4.13)

9 (2000) → 36 (2009) (Remote islands: 30, Isolated areas/islands: 6)
79 (2024) (Remote islands: 73, Isolated areas/islands: 6)

The total number of remote islands and certain isolated areas/islands: 126
The number of remote islands as well as certain isolated areas/islands (*) without sufficient port facilities

117 (2000) → 90 (2009) → 47 (2024)

The percentage of remote islands and certain isolated areas/islands without sufficient port facilities

92.9% (2000) → 71.4% (2009) → 37.3% (2024)

Appendix 10.4.7 List of Remote Islands with RO/RO Port Facilities

	Name of Remote Island	Name of Representative Port	Name of Province/ City	Name of Municipality	Population of Remote Is. (2000)	RO/RO Ramp (2001)	Population of Remote Is. w/ RO/RO (2001)	Population of Remote Is. (2009)	RO/RO Ramp (2009)	Population of Remote Is. w/ RO/RO (2009)	Population of Remote Is. (2024)	RO/RO Ramp (2024)	Population of Remote Is. w/ RO/RO (2024)
1	Siapar	Siapar (Anda)	Pangasinan	Anda	1,058			1,209			1,436		
2	Santiago	Lucero (Bolinao)	Pangasinan	Bolinao	13,156			15,037			17,853		
3	Dewey	Dewey (Bolinao)	Pangasinan	Bolinao	2,035			2,326			2,761		
4	Itbayat	Itbayat	Batanes	Itbayat	3,616			4,216			5,073	○	5,073
5	Batan	Basco	Batanes	Basco	11,173			13,028	○	13,028	15,676	○	15,676
6	Sabtang	Sabtang	Batanes	Sabtang	1,678			1,957			2,354		
7	Calayan	Calayan	Cagayan	Calayan	8,451			9,854			11,857	○	11,857
8	Camiguin	Camiguin	Cagayan	Calayan	3,936			4,589			5,522	○	5,522
9	Polillio	Polillo	Quezon	Polillo	50,620	○	50,620	63,362	○	63,362	89,648	○	89,648
10	Patnanungan	Patnanungan Sur	Quezon	Patnanungan	11,034			13,804			19,541	○	19,541
11	Jomalig	Sitio	Quezon	Jomalig	5,817			7,277			10,302	○	10,302
12	Alabat	Alabat	Quezon	Alabat	39,252	○	39,252	40,104	○	49,104	69,515	○	69,515
13	Maricaban	Tingloy	Batangas	Tingloy	17,028			21,302			30,157	○	30,157
14	Verde	San Agustin, Sampalocan	Batangas City	Batangas City	6,807			8,516			12,055		
15	Lubang	Tilik	Mindoro Occ.	Lubang	25,379			31,749			44,946	○	44,946
16	Ilin	Iling	Mindoro Occ.	San Jose	9,584			11,990			16,973		
17	Maniwaya	Maniwaya (Maniwaya Is.)	Marinduque	Sta. Cruz	1,690			2,114			2,993		
18	Mongpong	Mongpong (Mongpong Is.)	Marinduque	Sta. Cruz	1,465			1,833			2,595		
19	Polo	Polo Causeway, Polo Is.	Marinduque	Sta. Cruz	960			1,201			1,700		
20	Maestro de Campo	Concepcion	Romblon	Concepcion	4,683			5,858			8,294	○	8,294
21	Banton	Banton	Romblon	Banton	6,769			8,468			11,988	○	11,988
22	Simara	Corcuera	Romblon	Corcuera	10,972			13,726			19,431	○	19,431
23	Tablas	***Poctoy (Odiongan) (PPA)***	Romblon	Odiongan	144,480	○	144,480	180,744	○	180,744	255,874	○	255,874
24	Carabao	Said (San Jose)	Romblon	San Jose	8,226			10,291			14,568	○	14,568
25	Sibuyan	Azarga	Romblon	San Fernando	52,615	○	52,615	65,821	○	65,821	93,181	○	93,181
26	Agutaya	Agutaya	Palawan	Agutaya	2,429			3,039			4,302		
27	Cuyo	***Cuyo (PPA)***	Palawan	Cuyo	21,739	○	21,739	27,195	○	27,195	38,500	○	38,500
28	Canipo	Canipo	Palawan	Magsaysay	1,045			1,307			1,851		
29	Cocoro	Cocoro	Palawan	Magsaysay	850			1,063			1,505		
30	Cagayan	Cagayancillo	Palawan	Cagayancillo	4,791			5,994			8,485	○	8,485
31	Busuanga	***Coron (PPA)***	Palawan	Coron	38,074	○	38,074	47,631	○	47,631	67,429	○	67,429
32	Tara	Tara	Palawan	Coron	1,070			1,339			1,895		
33	Culion	Culion	Palawan	Culion	14,037	○	14,037	17,560	○	17,560	24,860	○	24,860
34	Linapacan	Linapacan	Palawan	Linapacan	4,907			6,139			8,690	○	8,690
35	Dumaran	Araceli	Palawan	Araceli	16,648			20,827	○	20,827	29,484	○	29,484
36	Bancalaan	Bancalaan	Palawan	Balabac	6,435			8,050			11,396	○	11,396
37	Balabac	Balabac	Palawan	Balabac	9,098			11,382	○	11,382	16,113	○	16,113
38	Mangsee	Mangsee	Palawan	Balabac	6,143			7,685			10,879	○	10,879
39	San Miguel	Visita	Tabaco City	Tabaco	11,454			13,161			15,761	○	15,761
40	Batan	Caracaran	Albay	Rapu-Rapu	18,799			21,600			25,867	○	25,867
41	Rapu-rapu	Rapu-rapu	Albay	Rapu-Rapu	9,755			11,208			13,423	○	13,423
42	Burias	Claveria	Masbate	Claveria	72,258			83,024			99,427	○	99,427
43	Ticao	San Jacinto	Masbate	San Jacinto	75,446			86,687			103,814	○	103,814
44	Caluya	Caluya	Antique	Caluya	6,401			7,400			8,917	○	8,917
45	Refugio	Ermita Calatrava	San Carlos City	San Carlos City	4,684			5,415			6,525		
46	Apo	Apo	Negros Or.	Dauin	684			791			973		
47	Bantayan	***Sta. Fe (CPA)***	Cebu	Sta. Fe	99,331	○	99,331	115,820	○	115,820	141,348	○	141,348
48	Olango	Sta. Rosa	Lapu-Lapu City	Lapu-Lapu City	21,740			25,349			30,936		
49	Camotes	***Poro (CPA)***	Cebu	Poro	73,125			85,264	○	85,264	104,057	○	104,057
50	Ponson	Pilar (Ponson Is.)	Cebu	Piler	11,226			13,090	○	13,090	15,975	○	15,975
51	Lapining	Aguining	Bohol	Pres. Carlos Garcia	17,876			20,843	○	20,843	25,438	○	25,438
52	Homonhon	Bitaugan	Eastern Samar	Guiuan	4,209			4,996			6,322	○	6,322
53	Manicani	Buenavista	Eastern Samar	Guiuan	1,717			2,038			2,579		
54	Tubabao	San Juan	Eastern Samar	Guiuan	1,839			2,183			2,762		
55	Destacado	San Vicente	Northern Samar	San Vicente	2,340			2,778			3,515		
56	Capul	Bobon (San Antonio)	Northern Samar	Capul	10,619			12,605			15,950	○	15,950
57	Dalupiri	San Antonio	Northern Samar	San Antonio	7,915			9,395			11,888	○	11,888
58	Biri	Biri	Northern Samar	Biri Is.	4,404			5,228			6,615	○	6,615
59	Almagro	Lunang I & II	Samar	Almagro	9,336			11,082			14,023	○	14,023
60	Sto. Niño	Sto. Niño	Samar	Sto. Niño	8,257			9,801			12,402	○	12,402
61	Camandog	Sevilla	Samar	Sto. Niño	4,288			5,090			6,441	○	6,441
62	Daram	Daram	Samar	Daram	32,533			38,617			48,865	○	48,865
63	Parasan	Rizal	Samar	Daram	2,999			3,560			4,504		
64	Zumarraga	Zumarraga	Samar	Zumarraga	15,423			18,307			23,165	○	23,165
65	Tagapura	Tagapul-an	Samar	Tagapul-an	8,370			9,935			12,572	○	12,572
66	Maripipi	Maripipi (Binalayan)	Biliran	Maripipi	8,319			9,875			12,495	○	12,495
67	Limasawa	Limasawa	Southern Leyte	Limasawa	5,157			6,121			7,746	○	7,746
68	Naburos	Naburos	Misamis Occ.	Baliangao	480			570			708		
69	Samal	Babak	Samal City	Samal City	74,626	○	74,626	91,417	○	91,417	119,476	○	119,476
70	Talicud	Sta. Cruz	Samal City	Samal City	7,983			9,779			12,781	○	12,781
71	Saranggani	Patuco, Saranggani	Davao del Sur	Sarangani	5,856			7,174			9,375	○	9,375
72	Balut	Batuganding, Balut (Balut Is.)	Davao del Sur	Sarangani	12,535			15,355	○	15,355	20,069	○	20,069
73	Pilas	Pilas	Basilan	Lantawan	4,237			4,843			5,750	○	5,750
74	Babuan	Babag	Basilan	Sumisip	3,028			3,461			4,109		
75	Bongo	Litayen	Maguindanao	Parang	11,511			13,157			15,620		
76	Bucutua	Dungon	Sulu	Tongkil	4,304			4,919			5,841	○	5,841
77	Tongkil	Tongkil	Sulu	Tongkil	4,132			4,723			5,607	○	5,607
78	Bulan	Kahikukuk	Sulu	Tongkil	2,920			3,338			3,962		
79	Balanguingui	South Paarol	Sulu	Tongkil	1,563			1,787			2,121		
80	Tattalan	Tattalan Timber	Sulu	Tongkil	1,210			1,383			1,642		
81	Capual	Capual	Sulu	Luuk	5,387			6,157			7,310	○	7,310
82	Pangutaran	Pangutaran (Simbahan)	Sulu	Pangutaran	20,840			23,820	○	23,820	28,280	○	28,280
83	Pata	Pata	Sulu	Pata	9,641			11,020	○	11,020	13,083	○	13,083
84	Tapul	Tapul	Sulu	Tapul	13,522			15,456	○	15,456	18,349	○	18,349
85	Lugus	Lugus	Sulu	Lugus	18,417			21,051	○	21,051	24,992	○	24,992
86	Siasi	Siasi	Sulu	Siasi	48,518			55,456	○	55,456	65,839	○	65,839
87	Pandami	Lapak	Sulu	Pandami	14,732			16,839	○	16,839	19,991	○	19,991
88	Bangas	Bangas	Sulu	Marunggas	2,075			2,372			2,816		
89	Belatan Halu	Belatan Halu	Tawi-tawi	Balimbing	2,261			2,584			3,068		
90	Bongao	Lamion	Tawi-tawi	Bongao	32,660			37,330	○	37,330	44,320	○	44,320
91	Bas-bas	Bas-Bas	Tawi-tawi	Languyan	3,461			3,956			4,697		
92	South Ubian	Tampakan	Tawi-tawi	South Ubian	10,930			12,493	○	12,493	14,832	○	14,832
93	Tabawan	Tabawan	Tawi-tawi	South Ubian	7,662			8,758			10,397	○	10,397
94	Simunul	Tubig Indangan	Tawi-tawi	Simunul	20,370			23,283	○	23,283	27,642	○	27,642
95	Sibutu	Sitangkai	Tawi-tawi	Sitangkai	52,772			60,318	○	60,318	71,612	○	71,612
96	Tandubas	Tandubas (Sapa-Sapa)	Tawi-tawi	Tandubas	16,290			18,619	○	18,619	22,106	○	22,106
97	Cagayan Sulu	Cagayan de Sulu (Tawi-Tawi)	Tawi-tawi	Cagayan de Tawi-Tawi	22,011			25,159	○	25,159	29,869	○	29,869
98	Hibson	Liberty (Hibson Is.)	Surigao del Norte	Loreto	1,485			1,804			2,372		
99	Dinagat	San Juan	Surigao del Norte	Loreto	99,836			121,301	○	121,301	159,438	○	159,438
100	Sibanoc	Poblacion	Surigao del Norte	Basilisa (Rizal)	2,093			2,543			3,343		
101	Unib	Coring (Unib Is.)	Surigao del Norte	Basilisa (Rizal)	765			929			1,222		
102	Capaguran	Catadman	Surigao del Norte	Basilisa (Rizal)	804			977			1,284		
103	Cab-ilan	Cabayawan (Cab-ilan Is.)	Surigao del Norte	Dinagat	581			706			928		
104	Hanigad	San Pedro	Surigao City	Surigao City	1,602			1,946			2,558		
105	Hikdop	Buenavista	Surigao City	Surigao City	4,561			5,542			7,284		
106	Nonoc	Nonoc	Surigao City	Surigao City	3,936			4,782			6,286		
107	Sibale	Lisondra	Surigao City	Surigao City	1,480			1,798			2,364		
108	Bayaganan	Cagutsan	Surigao City	Surigao City	1,999			2,429			3,192		
109	Hinatuan	San Jose	Surigao City	Surigao City	1,435			1,744			2,292		
110	Lood	Day-Asan	Surigao City	Surigao City	1,311			1,593			2,094		
111	Janosa	La Januza	Surigao del Norte	Gen. Luna	1,083			1,316			1,730		
112	Kangbangyo	Caub (Kangbangyo Is.)	Surigao del Norte	Del Carmen	1,076			1,307			1,718		
113	Tona	San Fernando	Surigao del Norte	Del Carmen	385			468			615		
114	Hailan	Halian (Halian Is.)	Surigao del Norte	Del Carmen	723			878			1,155		
115	Siargao	***Dapa (PPA)***	Surigao del Norte	Dapa	67,256			81,716	○	81,716	107,408	○	107,408
116	East Bucas	San Miguel	Surigao del Norte	Dapa	5,219			6,341			8,335	○	8,335
117	Bucas Grande	***Socorro (PPA)***	Surigao del Norte	Socorro	17,932			21,787			28,637	○	28,637
118	Masapelid	Patino	Surigao del Norte	Tagana-an	3,984			4,841			6,362	○	6,362
119	Opong	Opong	Surigao del Norte	Tagana-an	816			991			1,303		
120	Talavera	Taganaan	Surigao del Norte	Tagana-an	1,634			1,985			2,609		
					1,778,184	**9**	**534,774**	**2,117,151**	**30**	**1,362,304**	**2,746,780**	**73**	**2,541,621**

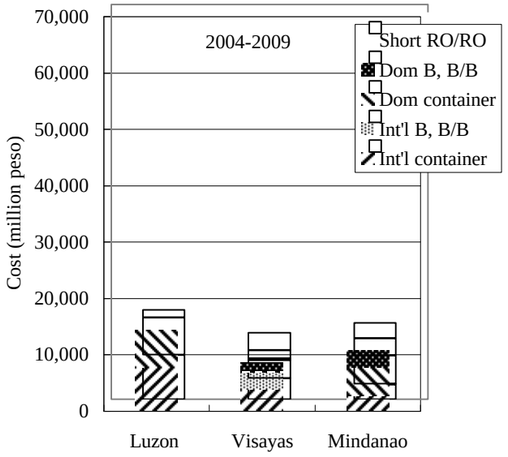
Appendix 10.4.8 List of Social Reform Support Port in Isolated Areas/Islands

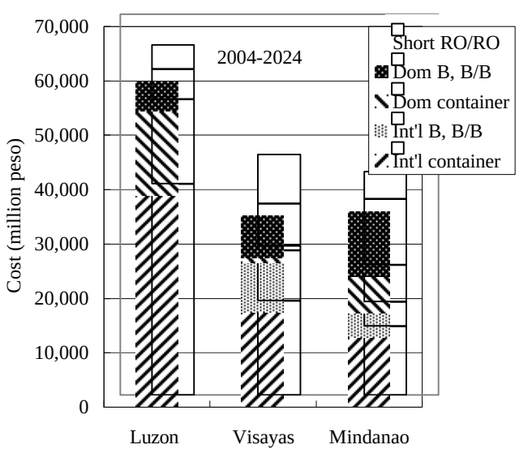
	Name of Port	Region	Name of Municipality	Income classification of Municipality	Population of Municipality (2000)	Name of Isolated Island	Population of Isolated Areas/Is. (2000)	Strategic Dev't Port (2009)	Remarks
1	Siruma	Region V	Siruma	5th	16,339		16,339	○	Isolated area
2	Calumpang	Region V	Balud	4th	30,068		30,068	○	Isolated area
3	Semirara	Region VI	Caluya	4th	20,049	Semirara	8,378	○	Isolated island
4	Malapascua	Region VII	Daanbantayan	3rd	69,336	Malapascua	3,278	○	Isolated island, New port development, High growth potential of tourism
5	Langub	Region VII	Sta. Fe	5th	22,956	Guintacan	6,436	○	Isolated island, New port development
6	Palimbang	Region XII	Palimbang	3rd	43,742		43,742	○	Isolated area in 2009
								6	

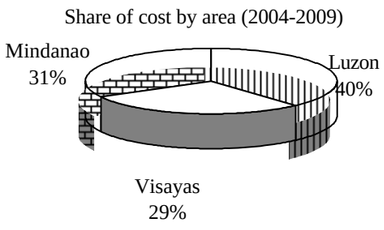
Appendix 10.4.9 The Development Phase Plan with Investment Cost

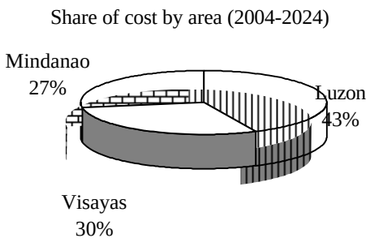
Name of port	2004 - 2009 Facilities to be developed		2010 -2014 Facilities to be developed		2015 - 2019 Facilities to be developed		2020 - 2024 Facilities to be developed		2004 - 2024 Facilities to be developed	The main purpose of the development and remarks	Planning options	Size of facilities	Unit cost (Mil. Peso/B)	No of berhts/facilities				Construction costs				
														004-200	010-201	015-201	020-202	2004-2009	2010-2014	2015-2019	2020-2024	Total cost
	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Length (m)													
Subic	560(2B)	-13					280(1B)	-13	840	For international container	Int'l container	280@13	3,400	2			1	6,800	0	0	3,400	10,200
Manila (MICT)			300(1B)	-14					300	For international container	Int'l container	300@13	3,700		1			0	3,700	0	0	3,700
Manila (South Harbor)			250(1B)	-12					250	For international container	Int'l container	250@12	3,100		1			0	3,100	0	0	3,100
Manila (North Harbor)	1,150	-10.5			1,650	-10.5			2,800	Terminal I, II and III project.	Dom container		5.3	1,150		1,650		6,095	0	8,745	0	14,840
					950	-10.5			950		Dom B, B/B		5.3			950		0	0	5,035	0	5,035
	4 QC				1QC		1QC				Dom container	QC	100	4		1	1	400	0	100	100	600
Batangas	700(2B)	-13	300(1B)	-13	970(3B)	-13	1,050(3B)	-13	3,020	For international container	Int'l container	300@13	--	2	1	3	3	1,020	765	8,165	11,840	21,790
	1 QC									For domestic dedicated container (with QC)	Dom container	QC	100	1				100	0	0	0	100
Cebu	300(1B)	-13	300(1B)	-13	300(1B)	-13	300(1B)	-13	1,200	For international container	Int'l container	300@13	3,700	1	1	1	1	3,700	3,700	3,700	3,700	14,800
							400	-10.5	400	For international B, B/B	Int'l B, B/B	200@10.5	1,500				2	0	0	0	3,000	3,000
					2QC		2QC			For domestic dedicated container (with QC)	Dom container	QC	100			2	2	0	0	200	200	400
	Dredging									For domestic dedicated container (with QC)	Dom container	Dredging	50	1				50	0	0	0	50
	Dredging									For international B, B/B	Int'l B, B/B	Dredging	50	1				50	0	0	0	50
					Dredging		Dredging			For domestic RO/RO ferry	Dom container	Dredging	50			1	1	0	0	50	50	100
	Dredging		Dredging							For domestic B, B/B	Dom B, B/B	Dredging	50	1	1			50	50	0	0	100
Davao	250	-12					100	-12	350	For international container	Int'l container	250@12	2,400	1			0.4	2,400	0	0	960	3,360
	2QC		1 QC		1QC					For international container	Int'l container	QC	100	2	1	1		200	100	100	0	400
							200	-10.5	200	For international B, B/B	Int'l B, B/B	200@10.5	1,500				1	0	0	0	1,500	1,500
			200	-10.5					200	For domestic dedicated container (with QC)	Dom container	200@10.5	1,500		1			0	1,500	0	0	1,500
	1QC									For domestic dedicated container (with QC)	Dom container	QC	100	1				100	0	0	0	100
							100	-6.5	100	For domestic B, B/B	Dom B, B/B	100@6.5	500				1	0	0	0	500	500
					100	-5			100	For remote island development	For remote island development	100@5	170			1		0	0	170	0	170
CDO / Mindanao Container T. (MCT)							300	-13	300	For international container	Int'l container	300@13	3,700				1	0	0	0	3,700	3,700
	200	-10.5							200	For domestic dedicated container (with QC)	Dom container	200@10.5	1,570	1				1,570	0	0	0	1,570
	1QC									For domestic dedicated container (with QC)	Dom container	QC	100	1				100	0	0	0	100
					200	-10.5			200	For international B, B/B	Int'l B, B/B	200@10.5	1,500			1		0	0	1,500	0	1,500
	100	-6.5	100	-6.5	100	-6.5	100	-6.5	400	For domestic B, B/B	Dom B, B/B	100@6.5	500	1	1	1	1	500	500	500	500	2,000
Iloilo			250	-12					250	For international container	Int'l container	250@12	2,400		1			0	2,400	0	0	2,400
			1 QC							For international container	Int'l container	QC	100		1			0	100	0	0	100
	1QC				1QC					For domestic dedicated container (with QC)	Dom container	QC	100	1		1		100	0	100	0	200
	400	-10.5							400	For mainly international B, B/B.	Int'l B, B/B	200@10.5	850	2				1,700	0	0	0	1,700
							Dredging			For domestic RO/RO ferry	Dom container	Dredging	50				1	0	0	0	50	50
General Santos	200	-10.5							200	For domestic dedicated container (with QC)	Dom container	200@10.5	1,570	1				1,570	0	0	0	1,570
	1QC						1QC			For domestic dedicated container (with QC)	Dom container	QC	100	1			1	100	0	0	100	200
			250	-12					250	For international container	Int'l container	250@12	2,400		1			0	2,400	0	0	2,400
			1QC		1 QC					For international container	Int'l container	QC	100		1	1		0	100	100	0	200
			100	-6.5	100	-6.5	100	-6.5	300	For domestic B, B/B	Dom B, B/B	100@6.5	500		1	1	1	0	500	500	500	1,500
Zamboanga							250	-12	250	For international container	Int'l container	250@12	2,400				1	0	0	0	2,400	2,400
							1QC			For international container	Int'l container	QC	100				1	0	0	0	100	100
	200	-10.5							200	For domestic dedicated container (with QC)	Dom container	200@10.5	1,570	1				1,570	0	0	0	1,570
	1QC		1QC							For domestic dedicated container (with QC)	Dom container	QC	100	1	1			100	100	0	0	200
					100	-6.5	100	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500			1	1	0	0	500	500	1,000
	Dredging									For domestic B, B/B	Dom B, B/B	Dredging	50	1				50	0	0	0	50
	Dredging									For international B, B/B	Int'l B, B/B	Dredging	50	1				50	0	0	0	50
							100	-5	100	For short dis. RO/RO with ramp	For mobility enhancement	100@5	170				1	0	0	0	170	170
Nasipit	200	-6.5			100	-6.5	100	-6.5	400	Domestic conventional cargo (The dev't will be done at Masao.)	Dom B, B/B	100@6.5	500	2		1	1	1,000	0	500	500	2,000
Pt. Princesa			200	-10.5					200	For international B, B/B	Int'l B, B/B	200@10.5	1,500		1			0	1,500	0	0	1,500
					100	-6.5	100	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500			1	1	0	0	500	500	1,000
Ozamiz					100	-6.5	200	-6.5	300	For domestic B, B/B	Dom B, B/B	100@6.5	500			1	2	0	0	500	1,000	1,500
			100	-5	100	-5	100	-5	300	For short dis. RO/RO with ramp	For mobility enhancement	100@5	170		1	1	1	0	170	170	170	510
	Ramp only									For short dis. RO/RO with ramp	For mobility enhancement	Ramp	50	1				50	0	0	0	50
			200	-10.5					200	For international B, B/B	Int'l B, B/B	200@10.5	1,500		1			0	1,500	0	0	1,500
Tagbilaran	200	-6.5			100	-6.5	100	-6.5	400	For domestic B, B/B	Dom B, B/B	100@6.5	500	2		1	1	1,000	0	500	500	2,000
Tacloban			200	-10.5					200	For international B, B/B	Int'l B, B/B	200@10.5	1,500		1			0	1,500	0	0	1,500
							200	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500				2	0	0	0	1,000	1,000

Name of port	2004 - 2009 Facilities to be developed		2010 -2014 Facilities to be developed		2015 - 2019 Facilities to be developed		2020 - 2024 Facilities to be developed		2004 - 2024 Facilities to be developed	The main purpose of the development and remarks	Planning options	Size of facilities	Unit cost (Mil. Peso/B)	No of berhts/facilities				Construction costs				
														004-200	010-201	015-201	020-202	2004-2009	2010-2014	2015-2019	2020-2024	Total cost
	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Lengths (m)	Depth (m)	Length (m)													
Dumaguete	100	-6.5					100	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500	1			1	500	0	0	500	1,000
					100	-5			100	For major corridors	For major corridors	100@5	170			1		0	0	170	0	170
Calapan					100	-5			100	For major corridors	For major corridors	100@5	170			1		0	0	170	0	170
Legazpi	200	-10.5							200	For international B, B/B. Due to the limitation of space, these development will be done at Tabaco or Pantao.	Int'l B, B/B	200@10.5	1,500	1				1,500	0	0	0	1,500
					100	-6.5	100	-6.5	200	For Domestic B, B/B. Due to the limitation of space, these development wail be done at Tabaco or Pantao.	Dom B, B/B	100@6.5	500			1	1	0	0	500	500	1,000
Tabaco					100	-5	100	-5	200	For short dis. RO/RO with ramp	For mobility enhancement	100@5	170			1	1	0	0	170	170	340
	Ramp									For short dis. RO/RO with ramp	For mobility enhancement	Ramp	50	1				50	0	0	0	50
					100	-6.5			100	For domestic B, B/B	Dom B, B/B	100@6.5	500			1		0	0	500	0	500
Lipata	100	-6.5					100	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500	1			1	500	0	0	500	1,000
	100	-5	100	-5	100	-5	100	-5	400	For major corridors	For major corridors	100@5	170	1	1	1	1	170	170	170	170	680
Dapitan	200	-6.5							200	For domestic B, B/B	Dom B, B/B	100@6.5	500	2				1,000	0	0	0	1,000
							100	-5	100	For major corridors	For major corridors	100@5	170				1	0	0	0	170	170
Masbate			100	-6.5			100	-6.5	200	For domestic B, B/B	Dom B, B/B	100@6.5	500		1		1	0	500	0	500	1,000
					100	-5	100	-5	200	For short dis. RO/RO with ramp	For mobility enhancement	100@5	170			1	1	0	0	170	170	340
Surigao			100	-6.5	100	-6.5	100	-6.5	300	For domestic B, B/B	Dom B, B/B	100@6.5	500		1	1	1	0	500	500	500	1,500
Palompon					100	-7.5			100	For dom B and B/B and domestic RO/RO ferry	Dom B, B/B	200@7.5	1,270			0.5		0	0	635	0	635
							100	-5	100	For short dis. RO/RO with ramp	For mobility enhancement	100@5	170				1	0	0	0	170	170
Culasi	Dredging									For domestic RO/RO ferry	Dom container	Dredging	50	1				50	0	0	0	50
							Dredging			For domestic B, B/B	Dom B, B/B	Dredging	50				1	0	0	0	50	50
Liloan	100	-5							100	For major corridors	For major corridors	100@5	170	1				170	0	0	0	170
Short distance RO/RO										For major corridors	For major corridors		170	3			9	510			1,530	2,040
										For mobility enhancement	For mobility enhancement		170	26			21	4,420			3,570	7,990
										For remote island development	For remote island development		55	31			60	1,705			3,300	5,005
										For social reform ports	For social reform ports		23	7			15	161			345	506
																	Total	**41,161**	**33,600**	**34,620**	**40,340**	**149,721**









(Unit: Mil peso)

	2004-2009	2010-2014	2015-2019	2020-2024	**Total**
Int'l container	14,120	16,365	12,065	26,100	**68,650**
Int'l B, B/B	3,300	4,500	1,500	4,500	**13,800**
Dom container	11,905	1,600	9,195	500	**23,200**
Dom B, B/B	4,600	2,050	10,670	8,050	**25,370**
Major corrdors	850	2,550			**3,400**
Mobility enhancement	4,520	5,100			**9,620**
Remote island dev't	1,705	3,470			**5,175**
Social reform	161	345			**506**
Total	**41,161**	**33,600**	**34,620**	**40,340**	**149,721**

	2004-2009	2010-2014	2015-2019	2020-2024	**Total**
Int'l container	14,120	16,365	12,065	26,100	**68,650**
Luzon	7,820	7,565	8,165	15,240	**38,790**
Visayas	3,700	6,200	3,700	3,700	**17,300**
Mindanao	2,600	2,600	200	7,160	**12,560**
Int'l B, B/B	3,300	4,500	1,500	4,500	**13,800**
Luzon					
Visayas	3,250	3,000	0	3,000	**9,250**
Mindanao	50	1,500	1,500	1,500	**4,550**
Dom container	11,905	1,600	9,195	500	**23,200**
Luzon	6,595	0	8,845	100	**15,540**
Visayas	200	0	350	300	**850**
Mindanao	5,110	1,600	0	100	**6,810**
Dom B, B/B	4,600	2,050	10,670	8,050	**25,370**
Luzon	0	0	5,535	0	**5,535**
Visayas	1,550	550	2,135	3,550	**7,785**
Mindanao	3,050	1,500	3,000	4,500	**12,050**
Short distance RO/RO	7,236	11,465			**18,701**
Luzon	1,396	3,127			**4,523**
Visayas	3,082	5,955			**9,037**
Mindanao	2,758	2,383			**5,141**

Appendix 10.4.10 The Development Phase Plan by Each Port

Name of port Subic

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	840		200		100	
	15-19	560		200		100	
	10-14	560		200		100	
	04-09	560		200		100	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			1,323		411		117

Name of port: M.I.C.T.

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	1,600					
	15-19	1,600					
	10-14	1,600					
	04-09	1,300					
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		1,300					

Name of port: South Harbor

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	1,200		1,800	400		
	15-19	1,200		1,600	400		
	10-14	1,200		1,600	400		
	04-09	950		1,400	400		
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		950	2,310				

Name of port North Harbor

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24		600+6QC		2,200	1,200	
	15-19		600+5QC		1,800	1,100	
	10-14		400+4QC		2,400	1,400	
	04-09		400+4QC		2,200	1,300	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			1,130 at 2009 (→3,748 at 2019)			3,828 at2009 (→0)	

Name of port Batangas

Required berth length (m)	Period (2004 - 2024)	Int'l Container (Dedicated)	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	3,020		200	200	300	700
	15-19	1,970		200	200	300	500
	10-14	1,000		200	200	200	400
	04-09	700	QC	200	200	200	400
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		0	731				827
					6 RO/RO ramps		

Name of port Cebu

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	1,200	600 +2GC+ 4QC	400	1,000	1,000	1,100
	15-19	900	400 + 2GC+2QC	200	800	1,000	900
	10-14	600	200 + 2GC	200	600	1,000	600
	04-09	300	200 + 2GC	200	600	900	400
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					762	390	2,601
					6 RO/RO ramps		

Name of port MCT / CDO

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	600+2GC	200+1 QC	400	400	700	
	15-19		200+1 QC	400	400	600	
	10-14		200+1 QC	200	400	500	
	04-09		200+1 QC	200	400	400**	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		300	869*				

* The undergoing extension project (149m) is not included.

** One hundred meter extention

Name of port Davao

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		250-300@12	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	600+4QC	200+QC	400	200	400	100
	15-19	500+4QC	200+QC	200	200	300	100
	10-14	500+3QC	200+QC	200	200	300	
	04-09	500+2QC	QC	200	200	200	
Existing facilities (m)		lore than 10.5r			7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		250	766				

Name of port: Iloilo

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		250@12	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	250+QC	200+2 QC	400	400	1,028	200
	15-19	250+QC	200+2 QC	400	200	1,328	100
	10-14	250+QC	200+QC	400	200	1,328	100
	04-09		200+QC	400	200	1,328	100
Existing facilities (m)		More than 10.5r			7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			400			1,367	111
					1 RO/RO ramp		

Name of port Irene

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		250@12	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			189			
	15-19			189			
	10-14			189			
	04-09			189			
Existing facilities (m)		More than 10.5r			7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			189				

Name of port Gen. Santos

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		250@12	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	250+2 QC	200+2QC	200	200	500	
	15-19	250+2 QC	200+1QC	200	200	400	
	10-14	250+1 QC	200+1QC	200	200	300	
	04-09	200+1QC		200	200	200	
Existing facilities (m)		More than 10.5m			7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
		588					
					1 RO/RO ramp		

Name of port Zamboanga

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		250@12	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24	250+1QC	200+2QC	200	200	700	200
	15-19	200+2QC		200	200	600	100
	10-14	200+2QC		200	200	500	100
	04-09	200+1QC		200	200	500	100
Existing facilities (m)		More than 10.5m			7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					498		500
*Until 2009, domestic conventional cargo will also handled at ferry bert					2 RO/RO ramps		

Name of port: Bay/River

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24					800	
	15-19					800	
	10-14					700	
	04-09					700	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						931	

Name of port: Nasipit

*The development will be carried out at Masao.

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				200	500	
	15-19				200	400	
	10-14				200	300	
	04-09				200	300	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					224	127	
					3 RO/RO ramps		

Name of port: Masao

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			150 (-10.5)			
	15-19			150 (-10.5)			
	10-14			150 (-10.5)			
	04-09			150 (-10.5)			
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			34+132 (under const.)				

*Additional development (Max 400m (-6.5)) will be required instead of the development of Nasipi

Name of port: Pto. Princesa

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			200 (-10.5)		400	100
	15-19			200 (-10.5)		300	100
	10-14			200 (-10.5)		200	
	04-09			200			
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			194				
					1 RO/RO ramp		

Name of port: Ozamiz (Total)

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			200 (-10.5)		600	600
	15-19			200 (-10.5)		400	500
	10-14			200 (-10.5)		300	400
	04-09			300 (-6.5)			300
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						610	
					2 RO/RO ramps		

Name of port: Matnog

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24						700
	15-19						500
	10-14						400
	04-09						300
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					3 RO/RO ramps		

Name of port: Tacloban

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			200 (-10.5)		800	
	15-19			200 (-10.5)		600	
	10-14			200 (-10.5)		500	
	04-09			500 (-6.5)			
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						622	
					1 RO/RO ramp		

Name of port: Tagbilaran

Required berth length (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24					600	
	15-19					500	
	10-14					400	
	04-09					400	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						266	
					1 RO/RO ramp		

Name of port: Dumaguete

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				200	400	100
	15-19				200	300	100
	10-14				200	300	
	04-09				200	300	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					375		
					2 RO/RO ramps		

Name of port: Legazpi

*The development will be carried out at Tabaco or Pantao.

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			200		600	
	15-19			200		500	
	10-14			200		400	
	04-09			200		400	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						404	

Name of port: Tabaco

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24					200	400
	15-19					200	300
	10-14					100	200
	04-09					100	200
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					310		
					1 RO/RO ramp		

Name of port: Lipata

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24					200	500
	15-19					100	400
	10-14					100	300
	04-09					100	200
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
							110
					2 RO/RO ramps		

Name of port: Pulauan (Dapitan)

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				200	200	100
	15-19				200	200	
	10-14				200	200	
	04-09				200	200	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						233	
					1 RO/RO ramp		

Name of port: Masbate

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				400 (-6.5)		300
	15-19				300 (-6.5)		200
	10-14				300 (-6.5)		100
	04-09				200 (-6.5)		100
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					317		
					2 RO/RO ramps		

Name of port: Surigao

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				600 (-6.5)		
	15-19				500 (-6.5)		
	10-14				400 (-6.5)		
	04-09				300 (-6.5)		
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						342	
					2 RO/RO ramps		

Name of port San Fernando

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24			600		300	
	15-19			600		300	
	10-14			400		300	
	04-09			400		300	
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
			800		335		

Name of port: Calapan

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24					100	300
	15-19					100	300
	10-14					100	200
	04-09					100	200
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						287	
					5 RO/RO ramps		

Name of port: Palompon

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				200 (-7.5)		200
	15-19				200 (-7.5)		100
	10-14				100 (-7.5)		100
	04-09				100 (-7.5)		100
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
					100		100
					1 RO/RO ramp		

Name of port: Culasi

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24				200 (-7.5)	100	100
	15-19				200 (-7.5)		100
	10-14				200 (-7.5)		100
	04-09				200 (-7.5)		100
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
						220	240
					1 RO/RO ramp		

Name of port: Liloan Ferry T (M)

Facilities to be developed during the period (m)	Period (2004 - 2024)	Int'l Container	Domestic cont (Dedicated)	Int'l conv.	Domestic long RO/RO ferry	Domestic conv.	Short RO/RO
		300@13	200@10.5	200@10.5	200@7.5	100@6.5	100@5
	20-24						200
	15-19						200
	10-14						200
	04-09						200
Existing facilities (m)		More than 13m	10.5 - 13m		7.5- 10.5m	6.5 - 7.5m	Less than 6.5m
							100
					1 RO/RO Ramp		

Appendix 10.4.11 List of Ro/Ro Ferry Service Routes for Mobility Enhancement (2024)

	RO/RO Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay (2000)	Name of Remote Is.	Population of Remote Is.	Existing RO/RO (2001)	Existing RO/RO Ferry Route (2001)	Distance of Route (km)	Road Access Condition	Remarks
1	San Vicente (Sta. Ana) - Maconacon - Palanan - Dilasag - Casiguran - Baler - Dingalan - Real	San Vicente (Sta. Ana)	Cagayan	Sta. Ana	21,612	4th	San Vicente (Fort)	3,009					145	○	
		Maconacon	Isabela	Maconacon	3,721	4th	Poblacion (3 Barangays)	1,277					50	○	
		Palanan	Isabela	Palanan	15,317	3rd	Maligaya	1,634					105	○	
		Dilasag	Aurora	Dilasag	14,676	4th	Poblacion (2 Barangays)	3,335					100	○	
		Casiguran	Aurora	Casiguran	21,459	3rd	Dibacong	2,186					80	○	
		Baler	Aurora	Baler	29,923	4th	Poblacion (5 Barangays)	3,707					70	○	
		Dingalan	Aurora	Dingalan	20,157	4th	Poblacion	1,112					115	○	
		Real (PPA)	Quezon	Real	30,684	3rd	Poblacion (2 Barangays)	7,851			○			○	
2	Mriveres - Cavite	Aplaya	Bataan	Mariveles	85,779	1st	Poblacion	8,305					35	◎	
		Bucana	Cavite City	Naic	72,683	2nd	Bukana (Malaki & Sasaha	4,763						◎	
3	Orion - Navotas	***Capinpin (Orion) (PPA)***	Bataan	Orion	44,067	4th	Poblacion (12 Barangays	17,234			○		40	◎	Fastcraft
		Navotas	NCR	Navotas	230,403	1st	North Bay Blvd., North	14,059						◎	
4	Manila - Coron - Taytay	***Manila-North Harbor (PPA)***	NCR	Tondo	590,307	1st	12 Barangays	72,159			○	○	380	◎	
		Coron (PPA)	Palawan	Coron	32,243	2nd	Poblacion (6 Barangays)	7,474	Busuanga	38,074	○	○	205	○	
		Taytay	Palawan	Taytay	53,657	1st	Poblacion	6,612						○	
5	Lucena City - Mogpog	***Lucena (PPA)***	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○	○	50	◎	
		Balanacan (PPA)	Marinduque	Mogpog	31,330	4th	Balanacan	3,039			○	○		○	
6	Lucena City - Pola	***Lucena (PPA)***	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○		85	◎	
		Pola	Mindoro Or.	Pola	31,938	4th	Poblacion (2 Barangays)	1,469						○	
7	Lucena City - Romblon	***Lucena (PPA)***	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○	○	185	◎	
		Romblon (PPA)	Romblon	Romblon	36,612	4th	Poblacion (4 Barangays)	4,841			○	○		○	
8	Lucena City - Masbate	***Lucena (PPA)***	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○	○	280	◎	
		Masbate (PPA)	Masbate	Masbate (Capital)	71,441	5th	Poblacion (4 Barangays)	9,864			○	○		○	
9	Catanauan - Sta.Cruz	Catanauan	Quezon	Catanauan	57,736	3rd	Poblacion (9 Barangays)	11,374					35	○	
		Sta. Cruz (PPA)	Marinduque	Sta. Cruz	60,055	2nd	Buyabod	2,563			○			○	
10	San Narciso - Pasacao	San Narciso	Quezon	San Narciso	38,474	4th	Poblacion (4 Barangays)	5,465					55	○	
		Pasacao (PPA)	Camarines Sur	Pasacao	38,423	4th	Poblacion (3 Barangays)	9,869						△	1-RO/RO Ramp on-going const.
11	Batangas - Puerto Galera	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	30	◎	
		Balatero	Mindoro Or.	Puerto Galera	21,925	3rd	Balatero	3,210			○	○		○	
12	Batangas - Abra de Ilog	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	45	◎	
		Abra de Ilog (PPA)	Mindoro Occ.	Abra de Ilog	22,212	4th	Poblacion	2,546			○	○		○	
13	Batangas - San Jose	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	265	◎	
		San Jose (PPA)	Mindoro Occ.	San Jose	111,009	1st	Caminawit	9,563			○	○		○	
14	Batangas - Coron	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	310	◎	
		Coron (PPA)	Palawan	Coron	32,243	2nd	Poblacion (6 Barangays)	7,474	Busuanga	38,074	○	○		○	
15	Batangas - Puerto Princesa	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	620	◎	
		Puerto Princesa (PPA)	Puerto Princesa City	Puerto Princesa City	161,912	1st	Poblacion (26 Barangays	40,848			○	○		○	
16	Calatagan - Abra de Ilog	Calatagan	Batangas	Calatagan	45,068	3rd	Poblacion (4Barangays)	7,216					45	△	
		Abra de Ilog (PPA)	Mindoro Occ.	Abra de Ilog	22,212	4th	Poblacion	2,546			○			○	
17	San Jose - Coron	***San Jose (PPA)***	Mindoro Occ.	San Jose	111,009	1st	Caminawit	9,563			○		105	○	
		Coron (PPA)	Palawan	Coron	32,243	2nd	Poblacion (6 Barangays)	7,474	Busuanga	38,074	○			○	
18	San Jose - El Nido	***San Jose (PPA)***	Mindoro Occ.	San Jose	111,009	1st	Caminawit	9,563			○		245	○	
		El Nido (PPA)	Palawan	El Nido (Bacuit)	27,029	2nd	Poblacion (4 Barangays)	4,329						△	
19	San Jose - Puerto Princesa	***San Jose (PPA)***	Mindoro Occ.	San Jose	111,009	1st	Caminawit	9,563			○		405	○	
		Puerto Princesa (PPA)	Puerto Princesa City	Puerto Princesa City	161,912	1st	Poblacion (26 Barangays	40,848			○			○	
20	Pola - Cawit	Pola	Mindoro Or.	Pola	31,938	4th	Poblacion (2 Barangays)	1,469					50	○	
		Cawit	Marinduque	Boac	48,504	2nd	Cawit	1,888			○			○	
21	Taytay - Cuyo - San Jose de Buenavista	Taytay	Palawan	Taytay	53,657	1st	Poblacion	6,612					165	○	
		Cuyo (PPA)	Palawan	Cuyo	18,257	4th	Poblacion (7 Barangays)	6,468	Cuyo	21,739	○	○	110	△	
		San Jose de Buenavista (PPA)	Antique	San Jose de Buenavista	48,261	3rd	Poblacion (8 Barangays)	15,065				○		○	
22	Virac - Tabaco	***Virac (PPA)***	Catanduanes	Virac	57,067	2nd	Poblacion (12 Barangays	11,252			○	○	80	○	
		Tabaco (PPA)	Tabaco City	Tabaco	107,166	5th	Poblacion (7 Barangays)	17,546			○	○		○	
23	San Andres - Tabaco	San Andres	Catanduanes	San Andres	31,463	4th	Poblacion (8 Barangays)	4,690				○	50	○	
		Tabaco (PPA)	Tabaco City	Tabaco	107,166	5th	Poblacion (7 Barangays)	17,546			○	○		○	
24	Pilar - Aroroy	Pilar	Sorsogon	Pilar	57,898	3rd	Poblacion (4 Barangays)	8,051					55	△	
		Aroroy	Masbate	Aroroy	58,751	2nd	Poblacion	3,292						○	
25	Bulan - Masbate	***Bulan (PPA)***	Sorsogon	Bulan	82,688	1st	Poblacion (8 Barangays)	16,645			○	○	75	○	
		Masbate (PPA)	Masbate	Masbate (Capital)	71,441	5th	Poblacion (4 Barangays)	9,864			○	○		○	
26	Mandaon - Roxas (Culasi)	Mandaon	Masbate	Mandaon	31,572	4th	Poblacion	3,317					90	○	
		Culasi (PPA)	Roxas City	Roxas City (Capital)	126,352	2nd	Culasi	6,779			○			◎	
27	Cataingan - Bogo (Polambato)	Cataingan	Masbate	Cataingan	46,593	3rd	Poblacion	7,318					110	○	
		Bogo	Cebu	Bogo	63,869	2nd	Polambato	2,559			○			○	
28	Placer - Daanbantayan	Placer	Masbate	Placer	44,418	4th	Poblacion	2,464					67	○	
		Mahayahay	Cebu	Daanbantayan	69,336	3rd	Maya	6,812						○	
29	Concepcion - Cadiz	Concepcion	Iloilo	Concepcion	34,240	4th	Poblacion	4,324					30	○	
		Cadiz	Cadiz City	Cadiz City	141,954	1st	Poblacion (6 Barangays)	36,389						◎	
30	Dumangas - Bacolod	***Dumangas (PPA)***	Iloilo	Dumangas	56,291	3rd	Poblacion (5 Barangays)	1,968			○		26	○	
		Bacolod (PPA)	Bacolod City	Bacolod City	429,076	1st	Poblacion (41 Barangays	88,983			○			◎	Private Port (BREDCO)
31	Iloilo - Jordan	***Iloilo (PPA)***	Iloilo City	Iloilo City	365,820	1st	Poblacion Molo	887			○	○	4	◎	
		Jordan (PPA)	Guimaras	Jordan	28,745	4th	Poblacion	2,928			○	○		△	

	RO/RO Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay (2000)	Name of Remote Is.	Population of Remote Is.	Existing RO/RO (2001)	Existing RO/RO Ferry Route (2001)	Distance of Route (km)	Road Access Condition	Remarks
32	Iloilo - Cebu	***Iloilo (PPA)***	Iloilo City	Iloilo City	365,820	1st	Poblacion Molo	887			○	○	340	◎	
		Cebu (CPA)	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○		◎	
33	San Lorenzo (Cabano) - Pulupandan	***San Lorenzo (PPA)***	Guimaras	San Lorenzo	20,168	5th	Cabano	3,271					12	△	1-RO/RO Ramp proposed
		Pulupandan (PPA)	Negros Occ.	Pulupandan	25,849	4th	Poblacion (7 Barangays)	13,675			○			◎	
34	Cadiz - Bantayan	Cadiz	Cadiz City	Cadiz City	141,954	1st	Poblacion (6 Barangays)	36,389				○	50	◎	
		Bantayan	Cebu	Bantayan	68,125	2nd	Poblacion (4 Barangays)	17,080	Bantayan	99,331		○		○	
35	Escalante (Danao) - Cebu	***Danao (PPA)***	Escalante City	Escalante	79,098	5th	?					○	220	◎	
		Cebu (CPA)	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○		◎	
36	Escalante (Danao) - Tuburan	***Danao (PPA)***	Escalante City	Escalante	79,098	5th	?					○	30	◎	
		Tuburan	Cebu	Tuburan	51,845	3rd	Poblacion (8 Barangays)	8,083			○	○		○	
37	San Carlos - Toledo	***San Carlos (PPA)***	San Carlos City	San Carlos City	118,259	1st	Poblacion (6 Barangays)	29,881			○	○	32	○	
		Toledo (CPA)	Toledo City	Toledo City	141,174	2nd	Poblacion	12,823			○	○		◎	
38	Guihulngan - Dumanjug	***Guihulngan (PPA)***	Negros Or.	Guihulngan	84,607	1st	Poblacion	10,273			○		17	○	
		Dalaguete	Cebu	Dumanjug	39,666	4th	Tangil	2,038			○			○	
39	Bais - Malabuyoc	Canibol (Okiot)	Bais City	Bais City	68,115	2nd	Okiot	3,032					20	◎	
		Malabuyoc	Cebu	Malabuyoc	17,015	5th	Poblacion (2 Barangays)	2,530						△	
40	Dumaguete - Santander	***Dumaguete (PPA)***	Dumaguete City	Dumaguete	102,265	2nd	Poblacion (8 Barangays)	9,594			○	○	15	◎	
		Santander	Sebu	Santander	13,842	5th	Talisay	1,833			○	○		○	Private Port
41	Dumaguete - Larena	***Dumaguete (PPA)***	Dumaguete City	Dumaguete	102,265	2nd	Poblacion (8 Barangays)	9,594			○	○	30	◎	
		Larena (PPA)	Siquijor	Larena	11,861	5th	Poblacion (2 Barangays)	1,732			○	○		○	
42	Siaton - Nabilid	Siaton	Negros Or.	Siaton	64,258	2nd	Poblacion (4 Barangays)	6,593					65	○	
		Nabilid	Zamboanga del Norte	Pres. Manuel A. Roxas	33,659	2nd	Nabilid	1,360						△	
43	Hagnaya - Sta.Fe	***Hagnaya (CPA)***	Cebu	San Remigio	44,028	4th	Hagnaya	3,051			○	○	15	○	
		Sta. Fe (CPA)	Cebu	Sta. Fe	22,956	5th	Poblacion	2,164	Bantayan	99,331	○	○		○	
44	Bogo - Palompon	Bogo	Cebu	Bogo	63,869	2nd	Polambato	2,559			○	○	42	○	
		Palompon (PPA)	Leyte	Palompon	50,754	3rd	Poblacion (9 Barangays)	11,413			○	○		○	
45	Carmen - Isabel (Philphos)	***Carmen (CPA)***	Cebu	Carmen	37,351	4th	Poblacion	2,924			○	○	60	○	
		Isabel (Philphos)	Leyte	Isabel	38,486	1st	Poblacion (2 Barangays)	8,117			○	○		○	Private Port
46	Cebu - Masbate	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	280	◎	
		Masbate (PPA)	Masbate	Masbate (Capital)	71,441	5th	Poblacion (4 Barangays)	9,864			○	○		○	
47	Cebu - Ormoc	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	145	◎	
		Ormoc (PPA)	Ormoc City	Ormoc City	154,297	1st	Poblacion (29 Barangays	12,089			○	○		○	
48	Cebu - Hilongos	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	105	◎	
		Hilongos (PPA)	Leyte	Hilongos	51,462	3rd	Poblacion (3 Barangays)	6,920			○	○		○	
49	Cebu - Tacloban	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	355	◎	
		Tacloban (PPA)	Tacloban City	Tacloban City	178,639	1st	Tacloban (Pob.)				○	○		◎	
50	Cebu - Maasin - Surigao	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	125	◎	
		Maasin (PPA)	Maasin City	Maasin	71,163	5th	Poblacion (5 Barangays)	12,929			○	○	85	○	
		Surigao (PPA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○	○		○	
51	Cebu - Surigao - Dapa	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	205	◎	
		Surigao (PPA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○	○	65	○	
		Dapa (PPA)	Surigao del Norte	Dapa	19,508	5th	Poblacion (13 Barangays	8,265	Siargao	67,256	○	○		△	1-RO/RO Ramp on-going const.
52	Cebu - Talibon	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	65	◎	
		Talibon (PPA)	Bohol	Talibon	54,147	2nd	Poblacion	4,477			○	○		○	
53	Cebu - Jetafe	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	35	◎	
		Jetafe (PPA)	Bohol	Jetafe	26,826	4th	Poblacion	2,092			○	○		○	Cargo Vessels
54	Cebu - Tubigon	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	40	◎	
		Tubigon (PPA)	Bohol	Tubigon	40,385	3rd	Poblacion (3 Barangays)	6,004			○	○		○	
55	Cebu - Tagbilaran	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	90	◎	
		Tagbilaran (PPA)	Tagbilaran City	Tagbilaran City	77,700	3rd	Poblacion (3 Barangays)	15,265			○	○		○	
56	Cebu - Guindulman - Nasipit	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○		180	◎	
		Guindulman	Bohol	Guindulman	29,166	4th	Poblacion (2 Barangays)	4,216					140	○	
		Nasipit (PPA)	Agusan del Norte	Nasipit	35,817	3rd	Poblacion (7 Barangays)	8,813			○			◎	
57	Cebu - Nasipit	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	295	◎	
		Nasipit (PPA)	Agusan del Norte	Nasipit	35,817	3rd	Poblacion (7 Barangays)	8,813			○	○		◎	
58	Cebu - Cagayan De Oro	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	255	◎	
		Cagayan De Oro (PPA)	Cagayan de Oro City	Cagayan de Oro City	461,877	1st	Macabalan	18,875			○	○		◎	
59	Cebu - Cagayan De Oro - Iligan	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	255	◎	
		Cagayan De Oro (PPA)	Cagayan de Oro City	Cagayan de Oro City	461,877	1st	Macabalan	18,875			○	○	100	◎	
		Iligan (PPA)	Iligan City	Iligan City	285,061	1st	Poblacion	5,184			○	○		◎	
60	Cebu - Iligan	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	250	◎	
		Iligan (PPA)	Iligan City	Iligan City	285,061	1st	Poblacion	5,184			○	○		◎	
61	Cebu - Dumaguete - Dapitan	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	130	◎	
		Dumaguete (PPA)	Dumaguete City	Dumaguete	102,265	2nd	Poblacion (8 Barangays)	9,594			○	○	90	◎	
		Dapitan (PPA)	Dapitan City	Dapitan City	68,178	2nd	Poblacion (8 Barangays)	13,525				○		○	
62	Cebu - Larena - Dumaguete	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays	174,783			○	○	125	◎	
		Larena (PPA)	Siquijor	Larena	11,861	5th	Poblacion (2 Barangays)	1,732			○	○	30	○	
		Dumaguete (PPA)	Dumaguete City	Dumaguete	102,265	2nd	Poblacion (8 Barangays)	9,594			○	○		◎	
63	Argao - Loon	***Argao (CPA)***	Cebu	Argao	61,010	3rd	Poblacion	5,495			○	○	22	○	
		Cataqbacan (PPA)	Bohol	Loon	45,215	3rd	Poblacion (3 Barangays)	3,036			○	○		○	Cargo Vessels
64	Oslob - Larena	Daanlungsod	Cebu	Oslob	22,472	4th	Daanlungsod	1,254					35	○	
		Larena (PPA)	Siquijor	Larena	11,861	5th	Poblacion (2 Barangays)	1,732			○			○	
65	Santander - Larena	Santander	Sebu	Santander	13,842	5th	Talisay	1,833			○	○	40	○	Private Port
		Larena (PPA)	Siquijor	Larena	11,861	5th	Poblacion (2 Barangays)	1,732			○	○		○	

	RO/RO Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay (2000)	Name of Remote Is.	Population of Remote Is.	Existing RO/RO (2001)	Existing RO/RO Ferry Route (2001)	Distance of Route (km)	Road Access Condition	Remarks
66	Lazi - Plaridel	Lazi	Siquijor	Lazi	18,314	5th	Poblacion	1,257					47	○	
		Plaridel	Misamis Occ.	Plaridel	29,279	4th	Looc Proper	1,510						○	
67	Tagbilaran - Cagayan De Oro	***Tagbilaran (PPA)***	Tagbilaran City	Tagbilaran City	77,700	3rd	Poblacion (3 Barangays)	15,265			○	○	155	○	
		Cagayan De Oro (PPA)	Cagayan de Oro City	Cagayan de Oro City	461,877	1st	Macabalan	18,875			○	○		◎	
68	Tubigon - Ozamis	***Tubigon (PPA)***	Bohol	Tubigon	40,385	3rd	Poblacion (3 Barangays)	6,004			○	○	255	○	
		Ozamis (PPA)	Ozamiz City	Ozamiz City	110,420	2nd	Poblacion (3 Barangays)	14,140			○	○		◎	
69	Ubay (Tapal) - Hilongos	Ubay (Tapal)	Bohol	Ubay	59,827	2nd	Tapal	1,136				○	45	○	
		Hilongos (PPA)	Leyte	Hilongos	51,462	3rd	Poblacion (3 Barangays)	6,920			○	○		○	
70	Ubay (Tapal) - Maasin	Ubay (Tapal)	Bohol	Ubay	59,827	2nd	Tapal	1,136					40	○	
		Maasin (PPA)	Maasin City	Maasin	71,163	5th	Poblacion (5 Barangays)	12,929			○			○	
71	Guindulman - Guinsliban	Guindulman	Bohol	Guindulman	29,166	4th	Poblacion (2 Barangays)	4,216					85	○	
		Guinsiliban (PPA)	Camiguin	Guinsiliban	5,092	6th	Poblacion (2 Barangays)	1,905						○	
72	Guindulman - Cagayan de Oro	Guindulman	Bohol	Guindulman	29,166	4th	Poblacion (2 Barangays)	4,216					140	○	
		Cagayan De Oro (PPA)	Cagayan de Oro City	Cagayan de Oro City	461,877	1st	Macabalan	18,875			○			◎	
73	Calbayog - Cataingan	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		70	○	
		Cataingan	Masbate	Cataingan	46,593	3rd	Poblacion	7,318						○	
74	Calbayog - Kawayan	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		47	○	
		Kawayan	Biliran	Kawayan	17,507	5th	Poblacion	977						△	
75	Padre Burgos - San Ricardo	Padre Burgos	Southern Leyte	Padre Burgos	8,926	5th	Poblacion	1,217					40	○	
		San Ricardo(Benit)	Southern Leyte	San Ricardo	8,964	5th	Poblacion	674						○	
76	Zamboanga - Sirawai - Siocon	***Zamboanga (PPA)***	Zamboanga City	Zamboanga City	601,794	1st	Poblacion (4 Barangays)	10,769			○		110	○	
		Sirawai	Zamboanga del Norte	Sirawai	16,534	3rd	Poblacion (5 Barangays)	3,811					25	○	New Port
		Siocon	Zamboanga del Norte	Siocon	32,699	2nd	Poblacion	4,684						○	
77	Zamboanga - Basilan	***Zamboanga (PPA)***	Zamboanga City	Zamboanga City	601,794	1st	Poblacion (4 Barangays)	10,769			○	○	35	○	
		Basilan (PPA)	Isabela City	Isabela	73,032	5th	Poblacion (8 Barangays)	16,083			○	○		○	
78	Zamboanga - Sumisip	***Zamboanga (PPA)***	Zamboanga City	Zamboanga City	601,794	1st	Poblacion (4 Barangays)	10,769			○		95	○	
		Sumisip	Basilan	Sumisip	51,712	3rd	Buli-Buli	1,459						-	
79	Zamboanga - Olutanga	***Zamboanga (PPA)***	Zamboanga City	Zamboanga City	601,794	1st	Poblacion (4 Barangays)	10,769			○		100	○	
		Solar	Zamboanga del Sur	Olutanga	22,624	5th	Solar (Pob.)	6,589						○	
80	Zamboanga - Jolo	***Zamboanga (PPA)***	Zamboanga City	Zamboanga City	601,794	1st	Poblacion (4 Barangays)	10,769			○	○	155	○	
		Jolo (PPA)	Sulu	Jolo	87,998	3rd	Walled City (Pob.)	6,550			○	○		○	
81	Guinsliban - Balingoan	***Guinsiliban (PPA)***	Camiguin	Guinsiliban	5,092	6th	Poblacion (2 Barangays)	1,905				○	10	○	
		Balingoan (PPA)	Misamis Or.	Balingoan	8,197	5th	Poblacion (2 Barangays)	3,734			○	○		○	
82	Ozamis - Kolambugan	***Ozamis (PPA)***	Ozamiz City	Ozamiz City	110,420	2nd	Poblacion (3 Barangays)	14,140			○	○	7	◎	
		Kolambugan (PPA)	Lanao del Norte	Kolambugan	24,180	4th	Poblacion	2,217				○		◎	
83	Jolo - Languyan	***Jolo (PPA)***	Sulu	Jolo	87,998	3rd	Walled City (Pob.)	6,550			○		185	○	
		Languyan	Tawi-tawi	Languyan	42,040	-	Languyan Proper (Pob)	5,145						-	

Appendix 10.4.12 List of Remote Islands with existing port facilities in the Philippine (2001)

	Name of Representative Port	Location	Name of Province/ City	Income classification of Province/City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay (2000)	Name of Remote Island	Population of Remote Is. (2000)	Population of Remote Is. (2009)	Population of Remote Is. (2024)	Existing RO/RO Ramp (2001)	Existing RO/RO vessels calling (2001)	Remarks
1	Siapar (Anda)	Siapar, Anda, Siapar Is.	Pangasinan	1st	Anda	32,833	4th	Siapar	1,058	Siapar	1,058	1,209	1,436			
2	Lucero (Bolinao)	Lucero, Bolinao, Santiago Is.	Pangasinan	1st	Bolinao	61,068	2nd	Lucero	2,767	Santiago	13,156	15,037	17,853			
3	Dewey (Bolinao)	Dewey, Bolinao, Dewey Is.	Pangasinan	1st	Bolinao	61,068	2nd	Dewey	2,035	Dewey	2,035	2,326	2,761			
4	Itbayat	Itbayat Is.	Batanes	4th	Itbayat	3,616	5th	?		Itbayat	3,616	4,216	5,073			
5	Basco	Basco, Batan Is.	Batanes	4th	Basco	6,717	5th	Ihubok II	1,729	Batan	11,173	13,028	15,676			
6	Sabtang	Sabtang Is.	Batanes	4th	Sabtang	1,678	6th	Poblacion (2 Barangays)	811	Sabtang	1,678	1,957	2,354			
7	Calayan	Calayan Is.	Cagayan	1st	Calayan	14,309	4th	Poblacion	1,000	Calayan	8,451	9,854	11,857			
8	Camiguin	Minabel, Camiguin Is.	Cagayan	1st	Calayan	14,309	4th	Minabel	1,332	Camiguin	3,936	4,589	5,522			
9	Polillo	Polillo, Polillo Is.	Quezon	1st	Polillo	24,105	4th	Poblacion	4,714	Polillio	50,620	63,362	89,648	○		
10	Patnanungan Sur	Patnanungan Sur, Patnanungan Is.	Quezon	1st	Patnanungan	11,034	4th	Patnanungan Sur	4,277	Patnanungan	11,034	13,804	19,541			
11	Sitio	Talisoy, Jomalig Is.	Quezon	1st	Jomalig	5,817	6th	Talisoy (Pob.)	1,945	Jomalig	5,817	7,277	10,302			
12	Alabat	Alabat, Alabat Is.	Quezon	1st	Alabat	14,204	5th	Poblacion (5 Barangays)	6,777	Alabat	39,252	40,104	69,515	○	○	
13	Tingloy	Maricaban, Tingloy, Maricaban Is.	Batangas	1st	Tingloy	17,028	5th	Marikaban	1,021	Maricaban	17,028	21,302	30,157			
14	San Agustin, Sampalocan	San Agustin Kanluran, Isla Verde Is.	Batangas City	1st	Batangas City	247,588	1st	San Agustin Kanluran, Isla Verd	935	Verde	6,807	8,516	12,055			
15	Tilik	Tilik, Lubang Is.	Mindoro Occ.	2nd	Lubang	22,896	5th	Tilik	2,014	Lubang	25,379	31,749	44,946			1-RO/RO Ramp proposed
16	Iling	San Jose, Ilin Is.	Mindoro Occ.	2nd	San Jose	111,009	1st	Iling Proper	1,716	Ilin	9,584	11,990	16,973			
17	Maniwaya (Maniwaya Is.)	Sta. Cruz, Maniwaya Is.	Marinduque	4th	Sta. Cruz	60,055	2nd	Maniwaya	1,690	Maniwaya	1,690	2,114	2993			
18	Mongpong (Mongpong Is.)	Sta. Cruz, Mongpong Is.	Marinduque	4th	Sta. Cruz	60,055	2nd	Mongpong	1,465	Mongpong	1,465	1,833	2595			
19	Polo Causeway, Polo Is.	Sta. Cruz, Polo Is.	Marinduque	4th	Sta. Cruz	60,055	2nd	Polo	960	Polo	960	1,201	1700			
20	Concepcion	Conception, Maestro de Campo Is.	Romblon	3rd	Concepcion	4,683	-	Poblacion	921	Maestro de Campo	4,683	5,858	8,294			
21	Banton	Banton Is.	Romblon	3rd	Banton	6,769	5th	Poblacion	1,163	Banton	6,769	8,468	11,988			
22	Corcuera	Alegria, Corcuera, Simara Is.	Romblon	3rd	Corcuera	10,972	5th	Alegria	1,595	Simara	10,972	13,726	19,431			
23	***Poctoy (Odiongan) (PPA)***	Poctoy, Odiongan, Tablas Is.	Romblon	3rd	Odiongan	39,069	3rd	Poctoy	1,891	Tablas	144,480	180,744	255,874	○	○	
24	Said (San Jose)	San Jose, Carabao Is.	Romblon	3rd	San Jose	8,226	-	?		Carabao	8,226	10,291	14,568			
25	Azarga	Azarga, San Fernando, Sibuyan Is.	Romblon	3rd	San Fernando	21,214	4th	Azarga	1,878	Sibuyan	52,615	65,821	93,181	○	○	
26	Agutaya	Agutaya Is.	Palawan	1st	Agutaya	10,422	5th	Poblacion (3 Barangays)	941	Agutaya	2,429	3,039	4,302			
27	***Cuyo (PPA)***	Cuyo Is.	Palawan	1st	Cuyo	18,257	4th	Poblacion (7 Barangays)	6,468	Cuyo	21,739	27,195	38,500	○	○	
28	Canipo	Magsaysay, Canipo Is.	Palawan	1st	Magsaysay	10,885	5th	Canipo	1,045	Canipo	1,045	1,307	1,851			
29	Cocoro	Magsaysay, Cocoro Is.	Palawan	1st	Magsaysay	10,885	5th	Cocoro	850	Cocoro	850	1,063	1505			
30	Cagayancillo	Cagayancillo, Cagayan Is.	Palawan	1st	Cagayancillo	6,348	6th	Poblacion (7 Barangays)	1,727	Cagayan	4,791	5,994	8,485			
31	***Coron (PPA)***	Coron, Busuanga Is.	Palawan	1st	Coron	32,243	2nd	Poblacion (6 Barangays)	7,474	Busuanga	38,074	47,631	67,429	○	○	
32	Tara	Tara, Coron, Tara Is.	Palawan	1st	Coron	32,243	2nd	Tara	1,070	Tara	1,070	1,339	1,895			
33	Culion	Culion Is.	Palawan	1st	Culion	14,302	4th	Poblacion		Culion	14,037	17,560	24,860	○		
34	Linapacan	Linapacan Is.	Palawan	1st	Linapacan	9,198	5th	San Miguel (Pob.)	2,546	Linapacan	4,907	6,139	8,690			
35	Araceli	Araceli, Dumaran Is.	Palawan	1st	Araceli	10,894	5th	Poblacion (Centro)	2,666	Dumaran	16,648	20,827	29,484			
36	Bancalaan	Balaac, Bancalaan Is.	Palawan	1st	Balabac	25,257	3rd	Bancalaan	6,435	Bancalaan	6,435	8,050	11,396			
37	Balabac	Balabac Is.	Palawan	1st	Balabac	25,257	3rd	Poblacion (6 Barangays)	2,323	Balabac	9,098	11,382	16,113			
38	Mangsee	Balabac, Mangsee Is.	Palawan	1st	Balabac	25,257	3rd	Mangsee	6,143	Mangsee	6,143	7,685	10,879			
39	Visita	Vista, Tabaco City, San Miguel Is.	Tabaco City	5th	Tabaco	107,166	5th	Visita	1,684	San Miguel	11,454	13,161	15,761			
40	Caracaran	Caracaran, Rapu-rapu, Batan Is.	Albay	1st	Rapu-Rapu	29,176	4th	Caracaran	1,115	Batan	18,799	21,600	25,867			
41	Rapu-rapu	Rapu-rapu Is.	Albay	1st	Rapu-Rapu	29,176	4th	Poblacion	4,355	Rapu-rapu	9,755	11,208	13,423			
42	Claveria	Claveria, Burias Is.	Masbate	2nd	Claveria	38,398	4th	Poblacion (2 Barangays)	6,857	Burias	72,258	83,024	99,427			
43	San Jacinto	San Jacinto, Ticao Is.	Masbate	2nd	San Jacinto	24,780	4th	Poblacion (4 Barangays)	7,157	Ticao	75,446	86,687	103,814			
44	Caluya	Caluya Is.	Antique	2nd	Caluya	20,049	4th	Poblacion	1,223	Caluya	6,401	7,400	8,917			
45	Ermita Calatrava	Ermita, Refugio Is.	San Carlos City	1st	San Carlos City	74,623	1st	Ermita	2,033	Refugio	4,684	5,415	6,525			
46	Apo	Dauin, Apo Is.	Negros Or.	1st	Dauin	21,077	4th	Apo Island	684	Apo	684	791	973			
47	***Sta. Fe (CPA)***	Sta. Fe, Bantayan Is.	Cebu	1st	Sta. Fe	22,956	5th	Poblacion	2,164	Bantayan	99,331	115,820	141,348	○	○	
48	Sta. Rosa	Sta. Rosa, Lapu-lapu City, Olango Is.	Lapu-Lapu City	1st	Lapu-Lapu City	217,019	1st	Sta. Rosa	3,153	Olango	21,740	25,349	30,936			
49	***Poro (CPA)***	Poro, Camotes Is.	Cebu	1st	Poro	21,397	5th	Poblacion (2 Barangays)	2,358	Camotes	73,125	85,264	104,057			
50	Pilar (Ponson Is.)	Pilar, Ponson Is.	Cebu	1st	Piler	11,226	5th	Poblacion (2 Barangays)	1,534	Ponson	11,226	13,090	15,975		○	
51	Aguining	Aguining, Pres. Carlos Garcia, Lapining Is	Bohol	1st	Pres. Carlos Garcia	20,744	5th	Aguining	2,238	Lapining	17,876	20,843	25,438			
52	Bitaugan	Bitaugan, Guiuan, Homonhon Is.	Eastern Samar	2nd	Guiuan	38,694	3rd	Bitaugan	433	Homonhon	4,209	4,996	6,322			
53	Buenavista	Buenavista, Guiuan, Manicani Is.	Eastern Samar	2nd	Guiuan	38,694	3rd	Buenavista	603	Manicani	1,717	2,038	2,579			
54	San Juan	San Juan, Guiuan, Tubabao Is.	Eastern Samar	2nd	Guiuan	38,694	3rd	San Juan	417	Tubabao	1,839	2,183	2,762			
55	San Vicente	San Vicente, Destacado Is.	Northern Samar	2nd	San Vicente	5,831	6th	Poblacion (3 Barangays)	2,340	Destacado	2,340	2,778	3,515			
56	Bobon (San Antonio)	Capul, Capul Is.	Northern Samar	2nd	Capul	10,619	5th	Poblacion (5 Barangays)	4,491	Capul	10,619	12,605	15,950			
57	San Antonio	San Antonio, Dalupiri Is.	Northern Samar	2nd	San Antonio	7,915	5th	Poblacion (3 Barangays)	2,543	Dalupiri	7,915	9,395	11,888			
58	Biri	Biri Is.	Northern Samar	2nd	Biri Is.	8,700	5th	Poblacion (Biri)	2,452	Biri	4,404	5,228	6,615			
59	Lunang I & II	Lunang, Almagro Is.	Samar	2nd	Almagro	10,619	5th	Lunang	1,036	Almagro	9,336	11,082	14,023			
60	Sto. Niño	Sto. Niño Is.	Samar	2nd	Sto. Niño	12,545	5th	Poblacion (2 Barangays)	2,704	Sto. Niño	8,257	9,801	12,402			
61	Sevilla	Sevilla, Camandog Is.	Samar	2nd	Sto. Niño	12,545	5th	Sevilla	924	Camandog	4,288	5,090	6,441			
62	Daram	Daram Is.	Samar	2nd	Daram	35,532	4th	Poblacion (3 Barangays)	2,898	Daram	32,533	38,617	48,865			
63	Rizal	Rizal, Parasan Is.	Samar	2nd	Daram	35,532	4th	Rizal	897	Parasan	2,999	3,560	4,504			
64	Zumarraga	Zumarraga Is.	Samar	2nd	Zumarraga	15,423	5th	Poblacion (2 Barangays)	1,285	Zumarraga	15,423	18,307	23,165		○	
65	Tagapul-an	Baguiw, Tagapul-an, Tagapura Is.	Samar	2nd	Tagapul-an	8,370	5th	Baguiw	1,340	Tagapura	8,370	9,935	12,572			
66	Maripipi (Binalayan)	Binalayan, Maripipi Is.	Biliran	4th	Maripipi	8,319	5th	Binalayan (2 Barangays)	1,244	Maripipi	8,319	9,875	12,495			
67	Limasawa	Triana, Limasawa Is.	Southern Leyte	3rd	Limasawa	5,157	6th	Triana	1,106	Limasawa	5,157	6,121	7,746			
68	Naburos	Naburos, Baliangao, Naburos Is.	Misamis Occ.	2nd	Baliangao	14,552	5th	Naburos	480	Naburos	480	570	708			
69	Babak	Babak, Island Garden City of Samal	Samal City	5th	Samal City	82,609	5th	San Isidro (Babak)	1,651	Samal	74,626	91,417	119,476	○	○	Private Facilities
70	Sta. Cruz	Sta. Cruz, Island Garden City of Samal	Samal City	5th	Samal City	82,609	5th	Sta. Cruz	928	Talicud	7,983	9,779	12,781			

	Name of Representative Port	Location	Name of Province/ City	Income classification of Province/City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay (2000)	Name of Remote Island	Population of Remote Is. (2000)	Population of Remote Is. (2009)	Population of Remote Is. (2024)	Existing RO/RO Ramp (2001)	Existing RO/RO vessels calling (2001)	Remarks
71	Patuco, Saranggani	Patuco, Sarangani, Sarangani Is.	Davao del Sur	1st	Sarangani	18,391	5th	Patuco (Sarangani Norte)	2,500	Saranggani	5,856	7,174	9,375			
72	Batuganding, Balut (Balut Is.)	Batuganding, Sarangani, Balut Is.	Davao del Sur	1st	Sarangani	18,391	5th	Batunganding	1,783	Balut	12,535	15,355	20,069			
73	Pilas	Luukbongsod, Lantawan, Pilas Is.	Basilan	3rd	Lantawan	27,487	4th	Luukbongsod	777	Pilas	4,237	4,843	5,750			
74	Babag	Babag, Sumisip, Babuan Is.	Basilan	3rd	Sumisip	51,712	3rd	Babag	1,759	Babuan	3,028	3,461	4,109			
75	Litayen	Litayen, Parang, Bongo Is.	Maguindanao	2nd	Parang	60,935	1st	Bongo Island (Litayen)	4,563	Bongo	11,511	13,157	15,620			
76	Dungon	Dungon, Tongkil, Bucutua Is.	Sulu	3rd	Tongkil	15,933	5th	Dungon	2,587	Bucutua	4,304	4,919	5,841			
77	Tongkil	Luuk, Tongkil, Tongkil Is.	Sulu	3rd	Tongkil	15,933	5th	Luuk (Pob)	1,238	Tongkil	4,132	4,723	5,607			
78	Kahikukuk	Kahikukuk, Tongkil, Bulan Is.	Sulu	3rd	Tongkil	15,933	5th	Kahikukuk	955	Bulan	2,920	3,338	3,962			
79	South Paarol	South Paarol, Tongkil, Balangungui Is.	Sulu	3rd	Tongkil	15,933	5th	South Paarol	999	Balanguingui	1,563	1,787	2,121			
80	Tattalan Timber	Tattalan, Tongkil, Tattalan Is.	Sulu	3rd	Tongkil	15,933	5th	Tattalan	1,210	Tattalan	1,210	1,383	1,642			
81	Capual	Luuk, Capual Is.	Sulu	3rd	Luuk	38,819	3rd	Capual Island	5,387	Capual	5,387	6,157	7,310			
82	Pangutaran (Simbahan)	Simbahan, Pangutaran, Pangutaran Is.	Sulu	3rd	Pangutaran	26,211	4th	Simbahan (Pob.)	4,061	Pangutaran	20,840	23,820	28,280			
83	Pata	Kayawan, Pata, Pata Is.	Sulu	3rd	Pata	11,791	5th	Kayawan (Pob)	751	Pata	9,641	11,020	13,083			
84	Tapul	Kalang, Tapul, Tapul Is.	Sulu	3rd	Tapul	14,881	4th	Kalang (Pob)	2,002	Tapul	13,522	15,456	18,349			
85	Lugus	Lugus, Lugus Is.	Sulu	3rd	Lugus	18,839	5th	Lugus Proper	597	Lugus	18,417	21,051	24,992			
86	Siasi	Siasi, Siasi Is.	Sulu	3rd	Siasi	59,069	4th	Poblacion (Campo Baro)	5,382	Siasi	48,518	55,456	65,839		○	
87	Lapak	Lapak, Pandami, Pandami Is.	Sulu	3rd	Pandami	19,964	5th	Lapak	1,055	Pandami	14,732	16,839	19,991			
88	Bangas	Bangas, Marunggas, Bangas Is.	Sulu	3rd	Marunggas	5,314	-	Bangas	2,075	Bangas	2,075	2,372	2,816			
89	Belatan Halu	Balimbing, Belatan Halu Is.	Tawi-tawi	4th	Balimbing	33,315	-	Belatan Halu	2,261	Belatan Halu	2,261	2,584	3,068			
90	Lamion	Lamion, Bongao, Bongao Is.	Tawi-tawi	4th	Bongao	58,174	-	Lamion	4,882	Bongao	32,660	37,330	44,320			
91	Bas-Bas	Bas-Bas, Languyan, Bas-Bas Is.	Tawi-tawi	4th	Languyan	42,040	-	Bas-Bas Proper	1,536	Bas-bas	3,461	3,956	4,697			
92	Tampakan	Tampakan, South Ubian, South Ubian Is.	Tawi-tawi	4th	South Ubian	27,301	-	Tampakan (Dambong & Tong)	2,141	South Ubian	10,930	12,493	14,832			
93	Tabawan	Likud Tabawan, South Ubian, Tabawan Is	Tawi-tawi	4th	South Ubian	27,301	-	Likud Tabawan	1,075	Tabawan	7,662	8,758	10,397			
94	Tubig Indangan	Tubig Indangan, Simunul, Simunul Is.	Tawi-tawi	4th	Simunul	31,962	-	Tubig Indangan	4,026	Simunul	20,370	23,283	27,642			
95	Sitangkai	Sibutu, Sitangkai, Sibutu Is.	Tawi-tawi	4th	Sitangkai	52,772	4th	Sibutu	1,144	Sibutu	52,772	60,318	71,612		○	
96	Tandubas (Sapa-Sapa)	Sapa, Tandubas, Tandubas Is.	Tawi-tawi	4th	Tandubas	24,900	-	Sapa	2,217	Tandubas	16,290	18,619	22,106			
97	Cagayan de Sulu (Tawi-Tawi)	Lupa-Pula, Cagayan Sulu Is.	Tawi-tawi	4th	Cagayan de Tawi-Tawi	22,011	4th	Lupa-Pula (Pob)	1,163	Cagayan Sulu	22,011	25,159	29,869			
98	Liberty (Hibson Is.)	Liberty, Loreto, Hibuson Is.	Surigao del Norte	2nd	Loreto	8,751	5th	Liberty	871	Hibson	1,485	1,804	2,372			
99	San Juan	San Juan, Loreto, Dinagat Is.	Surigao del Norte	2nd	Loreto	8,751	5th	San Juan	1,498	Dinagat	99,836	121,301	159,438			
100	Poblacion	Basilisa, Sibanoc Is.	Surigao del Norte	2nd	Basilisa (Rizal)	26,489	5th	Poblacion	600	Sibanoc	2,093	2,543	3,343			
101	Coring (Unib Is.)	Coring, Basilisa, Unib Is.	Surigao del Norte	2nd	Basilisa (Rizal)	26,489	5th	Coring	399	Unib	765	929	1,222			
102	Catadman	Catadman, Basilisa, Capaguran Is.	Surigao del Norte	2nd	Basilisa (Rizal)	26,489	5th	Catadman	804	Capaguran	804	977	1,284			
103	Cabayawan (Cab-ilan Is.)	Cabayawan, Dinagat, Cab-ilan Is.	Surigao del Norte	2nd	Dinagat	9,883	5th	Cabayawan	581	Cab-ilan	581	706	928			
104	San Pedro	San Pedro, Surigao City, Hanigad Is.	Surigao City	2nd	Surigao City	118,534	2nd	San Pedro (Hanigad)	802	Hanigad	1,602	1,946	2,558			
105	Buenavista	Buenavista, Surigao City, Hikdop Is.	Surigao City	2nd	Surigao City	118,534	2nd	Buenavista	1,101	Hikdop	4,561	5,542	7,284			
106	Nonoc	Nonoc, Surigao City, Nonoc Is.	Surigao City	2nd	Surigao City	118,534	2nd	Nonoc	1,040	Nonoc	3,936	4,782	6,286			
107	Lisondra	Lisondra, Surigao City, Sibale Is.	Surigao City	2nd	Surigao City	118,534	2nd	Lisondra	780	Sibale	1,480	1,798	2,364			
108	Cagutsan	Cagutsan, Surigao City, Bayaganan Is.	Surigao City	2nd	Surigao City	118,534	2nd	Cagutsan	358	Bayaganan	1,999	2,429	3,192			
109	San Jose	San Jose, Surigao City, Hinatuan Is.	Surigao City	2nd	Surigao City	118,534	2nd	San Jose	1,435	Hinatuan	1,435	1,744	2,292			
110	Day-Asan	Day-Asan, Surigao City, Lood Is.	Surigao City	2nd	Surigao City	118,534	2nd	Day-Asan	1,311	Lood	1,311	1,593	2,094			
111	La Januza	La Januza, Gen. Luna, Janosa Is.	Surigao del Norte	2nd	Gen. Luna	12,347	5th	La Januza	442	Janosa	1,083	1,316	1,730			
112	Caub (Kangbangyo Is.)	Caub, Del Carmen, Kangbangyo Is.	Surigao del Norte	2nd	Del Carmen	13,558	5th	Caub	1,076	Kangbangyo	1,076	1,307	1,718			
113	San Fernando	San Fernando, Del Carmen, Tona Is.	Surigao del Norte	2nd	Del Carmen	13,558	5th	San Fernando	386	Tona	385	468	615			
114	Halian (Halian Is.)	Hailan, Del Carmen, Hailan Is.	Surigao del Norte	2nd	Del Carmen	13,558	5th	Halian	723	Hailan	723	878	1,155			
115	***Dapa (PPA)***	Dapa, Siargao Is.	Surigao del Norte	2nd	Dapa	19,508	5th	Poblacion (13 Barangays)	8,265	Siargao	67,256	81,716	107,408		○	1-RO/RO Ramp on-going const.
116	San Miguel	San Miguel, Dapa, East Bucas Is.	Surigao del Norte	2nd	Dapa	19,508	5th	San Miguel	833	East Bucas	5,219	6,341	8,335			
117	***Socorro (PPA)***	Socorro, Bucas Grande Is.	Surigao del Norte	2nd	Socorro	17,932	5th	Poblacion (2 Barangays)	6,642	Bucas Grande	17,932	21,787	28,637			
118	Patino	Patino, Tagana-an, Masapelid Is.	Surigao del Norte	2nd	Tagana-an	12,844	5th	Patino	712	Masapelid	3,984	4,841	6,362			
119	Opong	Opong, Tagana-an, Opong Is.	Surigao del Norte	2nd	Tagana-an	12,844	5th	Opong	816	Opong	816	991	1,303			
120	Taganaan	Tagana-an, Talavera Is.	Surigao del Norte	2nd	Tagana-an	12,844	5th	Talavera	1,634	Talavera	1,634	1,985	2,609			
											1,778,184	2,117,151	2,746,780	9	12	

Appendix 10.4.13 List of Ro/Ro Ferry Service Routes for Remote Islands Development (2024)

	RO/R Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay	Name of Island	Population of Island	Existing RO/RO (2001)	Existing RO/RO vessels calling (2001)	Distance of Route (km)	Remarks
1	Currimao - Basco	Currimao	Ilocos Norte	Currimao	10,615	5th	Poblacion (2 Barangays)	1,314					320	
		Basco	Batanes	Basco	6,717	5th	Ihubok II	1,729	Batan	11,173				
2	Itbayato - Basco	Itbayat	Batanes	Itbayat	3,616	5th	?		Itbayat	3,616			35	
		Basco	Batanes	Basco	6,717	5th	Ihubok II	1,729	Batan	11,173				
3	Basco - Calayan	Basco	Batanes	Basco	6,717	5th	Ihubok II	1,729	Batan	11,173			150	
		Calayan	Cagayan	Calayan	14,309	4th	Poblacion	1,000	Calayan	8,451				
4	Calayan - Camiguin	Calayan	Cagayan	Calayan	14,309	4th	Poblacion	1,000	Calayan	8,451			55	
		Camiguin	Cagayan	Calayan	14,309	4th	Minabel	1,332	Camiguin	3,936				
5	Camiguin - Aparri	Camiguin	Cagayan	Calayan	14,309	4th	Minabel	1,332	Camiguin	3,936			85	
		Aparri (PPA)	Cagayan	Aparri	59,046	2nd	Poblacion (15 Barangays)	4,620						
6	Real - Polillo	***Real (PPA)*** , (PFDA, Proposed)	Quezon	Real	30,684	3rd	Poblacion (2 Barangays)	7,851			○		40	
		Polillo	Quezon	Polillo	24,105	4th	Poblacion	4,714	Polillio	50,620	○			
7	Mauban - Burdeos	Mauban	Quezon	Mauban	50,134	1st	Poblacion (6 Barangays)	16,485				○	90	
		San Rafael	Quezon	Burdeos	19,635	4th	San Rafael	1,183	Polillio	50,620		○		
8	Mauban - Jomalig	Mauban	Quezon	Mauban	50,134	1st	Poblacion (6 Barangays)	16,485					85	
		Sitio Landing Wharf	Quezon	Jomalig	5,817	6th	Talisoy (Pob.)	1,945	Jomalig	5,817				
9	Burdeos - Jomalig	San Rafael	Quezon	Burdeos	19,635	4th	San Rafael	1,183	Polillio	50,620			40	
		Sitio Landing Wharf	Quezon	Jomalig	5,817	6th	Talisoy (Pob.)	1,945	Jomalig	5,817				
10	Burdeos - Patonanungan	San Rafael	Quezon	Burdeos	19,635	4th	San Rafael	1,183	Polillio	50,620			30	
		Patnanungan Sur	Quezon	Patnanungan	11,034	4th	Patnanungan Sur	4,277	Patnanungan	11,034				
11	Atimonan - Alabat	Atimonan	Quezon	Atimonan	56,716	2nd	Poblacion (4 Barangays)	12,174			○	○	15	
		Alabat	Quezon	Alabat	14,204	5th	Poblacion (5 Barangays)	6,777	Alabat	39,252	○	○		
12	Lucena City - Magdiwang	***Lucena (PPA),*** Fish Port (PFDA)	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○	○	200	
		Magdiwang	Romblon	Magdiwang	12,032	5th	Poblacion	2,327	Sibuyan	52,615		○		
13	Lucena City - Azarga	***Lucena (PPA),*** Fish Port (PFDA)	Lucena City	Lucena City	196,075	1st	Dalahican	17,283			○	○	265	
		Azarga	Romblon	San Femando	21,214	4th	Azarga	1,878	Sibuyan	52,615	○	○		
14	Batangas - Tingloy	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○		25	
		Tingloy	Batangas	Tingloy	17,028	5th	Marikaban	1,021	Maricaban	17,028				
15	Batangas - Lubang	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○		90	
		Tilik	Mindoro Occ.	Lubang	22,896	5th	Tilik	2,014	Lubang	25,379				
16	Nasugbu - Lubang	Nasugbu	Batangas	Nasugbu	96,113	1st	Wawa	10,772					50	
		Tilik	Mindoro Occ.	Lubang	22,896	5th	Tilik	2,014	Lubang	25,379				
17	Batangas - Odiongan	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	200	
		Poctoy (Odiongan) (PPA)	Romblon	Odiongan	39,069	3rd	Poctoy	1,891	Tablas	144,480	○	○		
18	Batangas - San Agustin	***Batangas (PPA)***	Batangas City	Batangas City	247,588	1st	Sta. Clara	10,351			○	○	205	
		San Agustin	Romblon	San Agustin	21,643	4th	Poblacion	1,471	Tablas	144,480	○	○		
19	Abra de Ilog - Lubang	***Abra de Ilog (PPA)***	Mindoro Occ.	Abra de Ilog	22,212	4th	Poblacion	2,546			○		65	
		Tilik	Mindoro Occ.	Lubang	22,896	5th	Tilik	2,014	Lubang	25,379				
20	Roxas - Odiongan	Roxas	Mindoro Or.	Roxas	41,265	4th	Poblacion (2 Barangays)	9,509			○	○	55	
		Poctoy (Odiongan) (PPA)	Romblon	Odiongan	39,069	3rd	Poctoy	1,891	Tablas	144,480	○	○		
21	Romblon - Magdiwang	***Romblon (PPA)***	Romblon	Romblon	36,612	4th	Poblacion (4 Barangays)	4,841			○		40	
		Magdiwang	Romblon	Magdiwang	12,032	5th	Poblacion	2,327	Sibuyan	52,615				
22	San Agustin - Romblon - Azarga	San Agustin	Romblon	San Agustin	21,643	4th	Poblacion	1,471	Tablas	144,480	○		15	
		Romblon (PPA)	Romblon	Romblon	36,612	4th	Poblacion (4 Barangays)	4,841			○		55	
		Azarga	Romblon	San Femando	21,214	4th	Azarga	1,878	Sibuyan	52,615	○			
23	Coron - Culion - Linapacan - Taytay - Araceli	***Coron (PPA)***	Palawan	Coron	32,243	2nd	Poblacion (6 Barangays)	7,474	Busuanga	38,074	○		30	
		Culion	Palawan	Culion	14,302	4th	Poblacion		Culion	14,037	○		75	
		Linapacan	Palawan	Linapacan	9,198	5th	San Miguel (Pob.)	2,546	Linapacan	4,907			100	
		Taytay	Palawan	Taytay	53,657	1st	Poblacion	6,612					80	
		Araceli	Palawan	Araceli	10,894	5th	Poblacion (Centro)	2,666	Dumaran	16,648				
24	San Jose - Caluya - Caticlan	***San Jose (PPA)***	Mindoro Occ.	San Jose	111,009	1st	Caminawit	9,563			○		90	
		Caluya	Antique	Caluya	20,049	4th	Poblacion	1,223	Caluya	6,401			50	
		Caticlan	Aklan	Malay	24,519	4th	Caticlan	3,987						
25	Pinamalayan - Conception - Calatrava	Pinamalayan	Mindoro Or.	Pinamalayan	72,959	2nd	Pili	2,931					35	
		Concepcion	Romblon	Concepcion	4,683	-	Poblacion	921	Maestro de Campo	4,683			50	
		Calatrava	Romblon	Calatrava	8,878	5th	Poblacion	1,907	Tablas	144,480	○			
26	Roxas - Sta.Fe - San Jose - Caticlan	Roxas	Mindoro Or.	Roxas	41,265	4th	Poblacion (2 Barangays)	9,509			○		75	
		Sta. Fe	Romblon	Sta. Fe	14,140	-	?		Tablas	144,480			10	
		Said (San Jose)	Romblon	San Jose	8,226	-	?		Carabao	8,226			15	
		Caticlan	Aklan	Malay	24,519	4th	Caticlan	3,987			○			
27	Cawit - Banton - Corcuera - Calatrava	Cawit	Marinduque	Boac	48,504	2nd	Cawit	1,888			○		65	
		Banton	Romblon	Banton	6,769	5th	Poblacion	1,163	Banton	6,769			15	
		Corcuera	Romblon	Corcuera	10,972	5th	Alegria	1,595	Simara	10,972			25	
		Calatrava	Romblon	Calatrava	8,878	5th	Poblacion	1,907	Tablas	144,480	○			
28	Romblon - Banton	***Romblon (PPA)***	Romblon	Romblon	36,612	4th	Poblacion (4 Barangays)	4,841			○		45	
		Banton	Romblon	Banton	6,769	5th	Poblacion	1,163	Banton	6,769				

	RO/R Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay	Name of Island	Population of Island	Existing RO/RO (2001)	Existing RO/RO vessels calling (2001)	Distance of Route (km)	Remarks
29	Romblon - Corcuera	***Romblon (PPA)***	Romblon	Romblon	36,612	4th	Poblacion (4 Barangays)	4,841			○		35	
		Corcuera	Romblon	Corcuera	10,972	5th	Alegria	1,595	Simara	10,972				
30	Cuyo - Cagayancillo	***Cuyo (PPA)***	Palawan	Cuyo	18,257	4th	Poblacion (7 Barangays)	6,468	Cuyo	21,739	○		140	
		Cagayancillo	Palawan	Cagayancillo	6,348	6th	Poblacion (7 Barangays)	1,727	Cagayan	4,791				
31	Araceli - Puerto Princesa	Araceli	Palawan	Araceli	10,894	5th	Poblacion (Centro)	2,666	Dumaran	16,648			170	
		Puerto Princesa (PPA)	Puerto Princesa City	Puerto Princesa City	161,912	1st	Poblacion (26 Barangays)	40,848			○			
32	Bataraza - Balabac	Bataraza	Palawan	Bataraza	41,458	2nd	Marangas (Pob.)	5,286					100	New Port
		Balabac	Palawan	Balabac	25,257	3rd	Poblacion (6 Barangays)	2,323	Balabac	9,098				
33	Balabac - Bancalaan Is.	Balabac	Palawan	Balabac	25,257	3rd	Poblacion (6 Barangays)	2,323	Balabac	9,098			25	
		Bancalaan	Palawan	Balabac	25,257	3rd	Bancalaan	6,435	Bancalaan	6,435				
34	Balabac - Mangsee Is.	Balabac	Palawan	Balabac	25,257	3rd	Poblacion (6 Barangays)	2,323	Balabac	9,098			55	
		Mangsee	Palawan	Balabac	25,257	3rd	Mangsee	6,143	Mangsee	6,143				
35	Tabaco - San Miguel Is.	***Tabaco (PPA)***	Tabaco City	Tabaco	107,166	5th	Poblacion (7 Barangays)	17,546			○		5	
		Visita	Tabaco City	Tabaco	107,166	5th	Visita	1,684	San Miguel	11,454				
36	Legaspi - Batan Is. - Rapu-rapu Is. - Bacon	***Legaspi (PPA)***	Legazpi City	Legazpi City	157,010	1st	Poblacion (70 Barangays)	157,010			○		25	
		Caracaran	Albay	Rapu-Rapu	29,176	4th	Caracaran	1,115	Batan	18,799			20	
		Rapu-rapu	Albay	Rapu-Rapu	29,176	4th	Poblacion	4,355	Rapu-rapu	9,755			20	
		Bacon &Banao	Sorsogon	Bacon	42,166	4th	Poblacion	4,695						
37	San Pascual - Pasacao	San Pascual	Masbate	San Pascual	37,868	4th	Bolod (Pob.)	2,117	Burias	72,258			40	
		Pasacao (PPA)	Camarines Sur	Pasacao	38,423	4th	Poblacion (3 Barangays)	9,869			○			1-RO/RO Ramp on-going const.
38	Claveria - Libon (Pantao)	Claveria	Masbate	Claveria	38,398	4th	Poblacion (2 Barangays)	6,857	Burias	72,258			35	1-RO/RO Ramp on-going const.
		Pantao (PPA)	Albay	Libon	66,213	2nd	Pantao	6,433			○			
39	San Jacinto - Bulan	San Jacinto	Masbate	San Jacinto	24,780	4th	Poblacion (4 Barangays)	7,157	Ticao	75,446			20	
		Bulan (PPA)	Sorsogon	Bulan	82,688	1st	Poblacion (8 Barangays)	16,645			○			
40	Talisay - Masbate	Talisay (San Fernando)	Masbate	San Fernando	19,179	-	Talisay	693	Ticao	75,446			15	
		Masbate (PPA)	Masbate	Masbate (Capital)	71,441	5th	Poblacion (4 Barangays)	9,864			○			
41	Iloilo - Cuyo - Puerto Princesa	***Iloilo (PPA)***	Iloilo City	Iloilo City	365,820	1st	Poblacion Molo	887			○	○	200	
		Cuyo (PPA)	Palawan	Cuyo	18,257	4th	Poblacion (7 Barangays)	6,468	Cuyo	21,739	○	○	280	
		Puerto Princesa (PPA)	Puerto Princesa City	Puerto Princesa City	161,912	1st	Poblacion (26 Barangays)	40,848			○	○		
42	Daanbantayan - Ponson Is.	Mahayahay	Cebu	Daanbantayan	69,336	3rd	Maya	6,812				○	100	
		Pilar	Cebu	Piler	11,226	5th	Poblacion (2 Barangays)	1,534	Ponson	11,226		○		
43	Cebu - Camotes Is. - Ponson Is. - Ormoc	***Cebu (CPA)***	Cebu City	Cebu City	718,821	1st	Poblacion (19 Barangays)	174,783			○		85	
		Poro	Cebu	Poro	21,397	5th	Poblacion (2 Barangays)	2,358	Camotes	73,125			35	
		Pilar	Cebu	Piler	11,226	5th	Poblacion (2 Barangays)	1,534	Ponson	11,226			25	
		Ormoc (PPA)	Ormoc City	Ormoc City	154,297	1st	Poblacion (29 Barangays)	12,089			○			
44	Ubay - Lapining Is.	Tapal (Ubay)	Bohol	Ubay	59,827	2nd	Tapal	1,136					5	
		Pitogo	Bohol	Pres. Carlos Garcia	20,744	5th	Poblacion	2,162	Lapining	17,876				
45	Guiuan - Homonhon Is.	***Guiuan (PPA)***	Eastern Samar	Guiuan	38,694	3rd	Poblacion (13 Barangays)	9,628					30	
		Bitaugan	Eastern Samar	Guiuan	38,694	3rd	Bitaugan	433	Homonhon	4,209				
46	San Isidro - Capul Is.	***San Isidro (PPA)***	Northern Samar	San Isidro	22,847	4th	Poblacion (2 Barangays)	2,711			○		25	
		Bobon (San Antonio)	Northern Samar	Capul	10,619	5th	Poblacion (5 Barangays)	4,491	Capul	10,619				
47	San Isidro - Dlupuri Is.	***San Isidro (PPA)***	Northern Samar	San Isidro	22,847	4th	Poblacion (2 Barangays)	2,711			○		6	
		San Antonio	Northern Samar	San Antonio	7,915	5th	Poblacion (3 Barangays)	2,543	Dalupiri	7,915				
48	San Jose - Biri Is.	San Jose Carangian	Northern Samar	San Jose	13,564	5th	Poblacion (4 Barangays)	3,600					20	
		Biri	Northern Samar	Biri Is.	8,700	5th	Poblacion (Biri)	2,452	Biri	4,404				
49	Calbayog - Tagapula Is.	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		45	
		Tagapul-an	Samar	Tagapul-an	8,370	5th	Baguiw	1,340	Tagapula	8,370				
50	Calbayog - Almagro Is.	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		35	
		Lunang I & II	Samar	Almagro	10,619	5th	Lunang	1,036	Almagro	9,336				
51	Calbayog - Sto. Niño Is.	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		22	
		Sto. Niño	Samar	Sto. Niño	12,545	5th	Poblacion (2 Barangays)	2,704	Sto. Niño	8,257				
52	Calbayog - Camandog Is.	***Calbayog (PPA)***	Calbayog City	Calbayog City	147,187	1st	Poblacion (4 Barangays)	8,432			○		20	
		Sevulla	Samar	Sto. Niño	12,545	5th	Sevilla	924	Camandog	4,288				
53	Catbalogan - Zumarranga Is. - Daram Is.	***Catbalogan (PPA)***	Samar	Catbalogan	84,180	1st	Bagongon	1,091			○	○	20	
		Zumarraga	Samar	Zumarraga	15,423	5th	Poblacion (2 Barangays)	1,285	Zumarraga	15,423		○	7	
		Daram	Samar	Daram	35,532	4th	Poblacion (3 Barangays)	2,898	Daram	32,533				
54	Talalora - Daram Is.	Talalora	Samar	Talalora	6,580	5th	Poblacion (2 Barangays)	2,064				○	25	
		Daram	Samar	Daram	35,532	4th	Poblacion (3 Barangays)	2,898	Daram	32,533		○		
55	Kawayan - Maripipi Is.	Kawayan	Biliran	Kawayan	17,507	5th	Poblacion	977					10	
		Binalayan (Maripipi)	Biliran	Maripipi	8,319	5th	Binalayan (2 Barangays)	1,244	Maripipi	8,319				
56	Padre Burgos - Limasawa Is.	Padre Burgos	Southern Leyte	Padre Burgos	8,926	5th	Poblacion	1,217					12	
		Limasawa	Southern Leyte	Limasawa	5,157	6th	Triana	1,106	Limasawa	5,157				
57	Basilan (Isabera) - Pilas Is.	***Basilan (PPA)***	Isabera City	Isabera	73,032	5th	Poblacion (8 Barangays)	16,083			○		38	
		Pilas	Basilan	Lantawan	27,487	4th	Luukbongsod	777	Pilas	4,237				
58	Davao - Babak (Samal Is.)	***Davao (Sasa) (PPA)*** , (PFDA)	Davao City	Davao City	1,147,116	1st	Sasa	40,640				○	10	1-RO/RO Ramp proposed, Private
		Babak	Samal City	Samal City	82,609	5th	San Isidro (Babak)	1,651	Samal	74,626	○	○		Private Facility
59	Davao - Kaputian (Samal Is.) - Sta. Cruz (Talicud Is.) - Lupon	***Davao (Sasa) (PPA)*** , (PFDA)	Davao City	Davao City	1,147,116	1st	Sasa	40,640			○		15	1-RO/RO Ramp proposed
		Kaputian	Samal City	Samal City	82,609	5th	Kaputian	5,061	Samal	74,626			2	
		Sta. Cruz	Samal City	Samal City	82,609	5th	Sta. Cruz	928	Talicud	7,983			40	
		Lupon	Davao Oriental	Lupon	57,092	1st	Poblacion	15,798						

	RO/R Ferry Service Route	Name of Port	Name of Province/ City	Name of Municipality	Population of Municipality (2000)	Income classification of Municipality	Name of Barangay	Population of Barangay	Name of Island	Population of Island	Existing RO/RO (2001)	Existing RO/RO vessels calling (2001)	Distance of Route (km)	Remarks
60	Genaral Santos - Balut Is. - Sarangani I	***General Santos (PPA)*** , (PFDA)	Gen. Santos City	Gen. Santos City	411,822	1st	Tambler	4,080			○		100	
		Batuganding (Balut Is.)	Davao del Sur	Sarangani	18,391	5th	Batunganding	1,783	Balut	12,535			15	
		Patuco (Saranggani Is.)	Davao del Sur	Sarangani	18,391	5th	Patuco (Sarangani Norte)	2,500	Saranggani	5,856				
61	Sumisip - Bucutua Is. - Tongkil Is.	Sumisip	Basilan	Sumisip	51,712	3rd	Buli-Buli	1,459					35	
		Dungon	Sulu	Tongkil	15,933	5th	Dungon	2,587	Bucutua	4,304			18	
		Tongkil	Sulu	Tongkil	15,933	5th	Luuk (Pob)	1,238	Tongkil	4,132				
62	Luuk - Capual Is.	Lahing-Lahing	Sulu	Luuk	38,819	3rd	Lahing-Lahing	1,006					1	
		Capual	Sulu	Luuk	38,819	3rd	Capual Island	5,387	Capual	5,387				
63	New Panamao - Pata Is.	Punay	Sulu	New Panamao	21,443	5th	Punay (Pob)	5,257					10	
		Pata	Sulu	Pata	11,791	5th	Kayawan (Pob)	751	Pata	9,641				
64	Jolo - Pangutaran Is.	***Jolo (PPA)***	Sulu	Jolo	87,998	3rd	Walled City (Pob.)	6,550			○		55	
	- Cagayan Sulu Is.	Pangutaran (Simbahan)	Sulu	Pangutaran	26,211	4th	Simbahan (Pob.)	4,061	Pangutaran	20,840				
		Cagayan de Sulu (Tawi-Tawi)	Tawi-tawi	Cagayan de Tawi-Tawi	22,011	4th	Lupa-Pula (Pob)	1,163	Cagayan Sulu	22,011				
65	Jolo - Tapul Is. - Lugus Is.	***Jolo (PPA)***	Sulu	Jolo	87,998	3rd	Walled City (Pob.)	6,550			○		50	
	- Siasi Is. - Pandami Is.	Tapul	Sulu	Tapul	14,881	4th	Kalang (Pob)	2,002	Tapul	13,522			10	
		Lugus	Sulu	Lugus	18,839	5th	Lugus Proper	597	Lugus	18,417			18	
		Siasi	Sulu	Siasi	59,069	4th	Poblacion (Campo Baro)	5,382	Siasi	48,518			2	
		Lapak	Sulu	Pandami	19,964	5th	Lapak	1,055	Pandami	14,732				
66	Pandami Is. - Tabawan Is.	Lapak	Sulu	Pandami	19,964	5th	Lapak	1,055	Pandami	14,732			43	
	- South Ubian Is. - Tandubas Is.	Tabawan	Tawi-tawi	South Ubian	27,301	-	Likud Tabawan	1,075	Tabawan	7,662			12	
	- Simunul Is. - Bongao	Tampakan	Tawi-tawi	South Ubian	27,301	-	Tampakan (Dampong & Tong)	2,141	South Ubian	10,930			19	
		Tandubas (Sapa-Sapa)	Tawi-tawi	Tandubas	24,900	-	Sapa	2,217	Tandubas	16,290			70	
		Tubig Indangan	Tawi-tawi	Simunul	31,962	-	Tubig Indangan	4,026	Simunul	20,370			20	
		Bongao	Tawi-tawi	Bongao	58,174	-	Sanga-Sanga	2,550						
67	Bongao - Bongao Is.	Bongao	Tawi-tawi	Bongao	58,174	-	Sanga-Sanga	2,550					5	
		Lamion	Tawi-tawi	Bongao	58,174	-	Lamion	4,882	Bongao	32,660				
68	Bongao - Sibutu Is.	Bongao	Tawi-tawi	Bongao	58,174	-	Sanga-Sanga	2,550				○	65	
		Sibutu (Sitangkai)	Tawi-tawi	Sitangkai	52,772	4th	Sibutu	1,144	Sibutu	52,772		○		
69	Loreto - Surigao	San Juan	Surigao del Norte	Loreto	8,751	5th	San Juan	1,498	Dinagat	99,836			75	
		Surigao (PPA) , (Proposed PFDA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○			
70	San Jose - Surigao	***San Jose (PPA)***	Surigao del Norte	San Jose	25,532	5th	San Jose (Pob)	5,081	Dinagat	99,836			30	
		Surigao (PPA) , (Proposed PFDA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○			
71	Cagdianao - San Benito	Cagdianao	Surigao del Norte	Cagdianao	12,886	4th	Poblacion	2,507	Dinagat	99,836			35	
		San Benito	Surigao del Norte	San Benito	4,750	5th	Talisay (Pob.)	1,527	Siargao	67,256				
72	Surigao - San Benito (Siargao Is.)	***Surigao (PPA)*** , (Proposed PFDA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○		60	
		San Benito	Surigao del Norte	San Benito	4,750	5th	Talisay (Pob.)	1,527	Siargao	67,256				
73	Surigao - Socorro (Bucas Grande Is.)	***Surigao (PPA)*** , (Proposed PFDA)	Surigao City	Surigao City	118,534	2nd	Poblacion (2 Barangays)	40,479			○		75	
		Socorro (PPA)	Surigao del Norte	Socorro	17,932	5th	Poblacion (2 Barangays)	6,642	Bucas Grande	17,932				
74	Dapa - East Bucas Is.	***Dapa (PPA)***	Surigao del Norte	Dapa	19,508	5th	Poblacion (13 Barangays)	8,265	Siargao	67,256	○		4	1-RO/RO Ramp on-going const.
		San Miguel	Surigao del Norte	Dapa	19,508	5th	San Miguel	833	East Bucas	5,219				
75	Tagana-an - Masapelid Is.	Taganaan	Surigao del Norte	Tagana-an	12,844	5th	Poblacion (3 Barangays)	4,109					6	
		Patino	Surigao del Norte	Tagana-an	12,844	5th	Patino	712	Masapelid	3,984				

Appendix 10.4.14 International Container Cargo in GCR and Road Traffic

(A) Medium case: GDP growth rate = 4.5%

1) Options A-1: "To avoid the port development in Manila as much as possible"
< Steps of port development >
1st step: Batangas Phase II (4 berths)
2nd step: MICT and South Harbor expansion (one berth respectively)
3rd step: Batangas Phase III and IV (5 berths)

Total: 22 berths (Batangas: 9, MICT: 6, South Harbor: 4, Subic: 3)

2) Option A-2: "To avoid the port development in Batangas after Phase II as much as possible"
< Steps of port development >
1st step: Batangas Phase II (4 berths)
2nd step: MICT and South Harbor expansion (4 berths and 2 berths respectively)
3rd step:Batangas Phase III (1 berth)

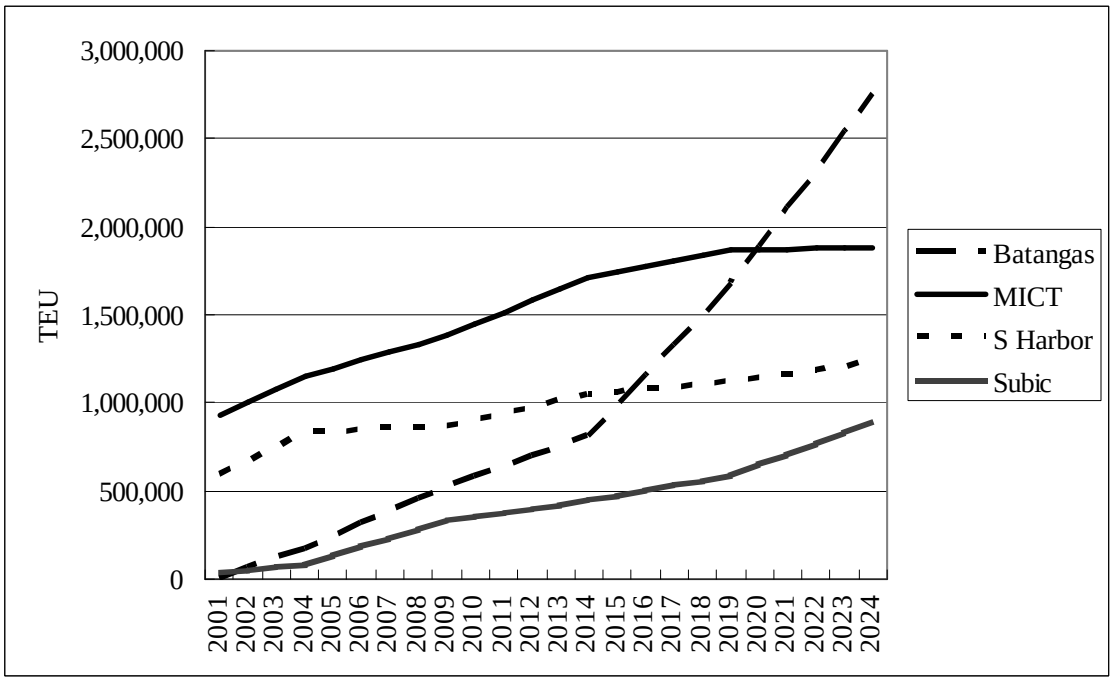
Total: 22 berth (Batangas: 5, MICT: 9, South Harbor: 5, Subic: 3)

(B) High case: GDP growth rate = 5.7%

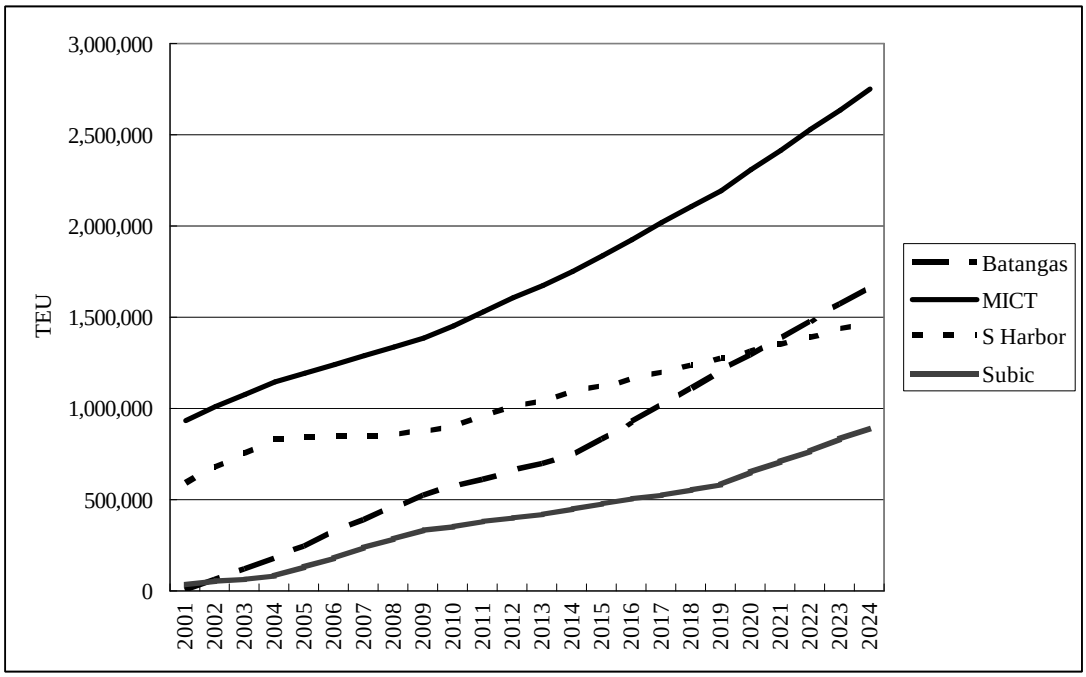
Batangas	11 berths (2 more berths than option **A-1**)
MICT	9 berths (1 more berth than option **A-2**)
South Harbor	6 berths (1 more berth than option **A-2**)
Subic	4 berth (1 more berth than option **A-1**)

Total: 30 berth
→ New port development in Manila bay (Cavite, Sanglay point, others)

International Container Cargo in Option A-1



International Container Cargo in Option A-2



Option A-1 (Decentralization to Batangas)

	Batangas			MICT		S Harbor		Subic	
	Legths (m)	Phase	No of berths	Legths (m)	No of berths	Legths (m)	No of berths	Legths (m)	No of berths
2004	310		-	1,300	5	950	3	180	-
2005	310		-	1,300	5	950	3	180	-
2006	700	II	2	1,300	5	950	3	280	1
2007	700	II	2	1,300	5	950	3	280	1
2008	700	II	2	1,300	5	950	3	280	1
2009	700	II	2	1,300	5	950	3	560	2
2010	700	II	2	1,300	5	950	3	560	2
2011	700	II	2	1,300	5	950	3	560	2
2012	700	II	2	1,600	6	950	3	560	2
2013	700	II	2	1,600	6	1,200	4	560	2
2014	1,000	II	3	1,600	6	1,200	4	560	2
2015	1,000	II	3	1,600	6	1,200	4	560	2
2016	1,320	II	4	1,600	6	1,200	4	560	2
2017	1,320	II	4	1,600	6	1,200	4	560	2
2018	1,620	III	5	1,600	6	1,200	4	560	2
2019	1,970	III	6	1,600	6	1,200	4	560	2
2020	1,970	III	6	1,600	6	1,200	4	840	3
2021	2,320	III	7	1,600	6	1,200	4	840	3
2022	2,320	III	7	1,600	6	1,200	4	840	3
2023	2,670	IV	8	1,600	6	1,200	4	840	3
2024	3,020	IV	9	1,600	6	1,200	4	840	3

Option A-2 (Concentration to Manila)

	Batangas			MICT		S Harbor		Subic	
	Legths (m)	Phase	No of berths	Legths (m)	No of berths	Legths (m)	No of berths	Legths (m)	No of berths
2004	310		-	1,300	5	950	3	180	-
2005	310		-	1,300	5	950	3	180	-
2006	700	II	2	1,300	5	950	3	280	1
2007	700	II	2	1,300	5	950	3	280	1
2008	700	II	2	1,300	5	950	3	280	1
2009	700	II	2	1,300	5	950	3	560	2
2010	700	II	2	1,300	5	950	3	560	2
2011	700	II	2	1,300	5	950	3	560	2
2012	700	II	2	1,600	6	950	3	560	2
2013	700	II	2	1,600	6	1,200	4	560	2
2014	700	II	2	1,600	6	1,200	4	560	2
2015	1,000	II	3	1,600	6	1,200	4	560	2
2016	1,000	II	3	1,600	6	1,200	4	560	2
2017	1,000	II	3	1,900	7	1,200	4	560	2
2018	1,320	II	4	1,900	7	1,200	4	560	2
2019	1,320	II	4	1,900	7	1,450	5	560	2
2020	1,320	II	4	2,200	8	1,450	5	840	3
2021	1,320	II	4	2,200	8	1,450	5	840	3
2022	1,620	III	5	2,200	8	1,450	5	840	3
2023	1,620	III	5	2,500	9	1,450	5	840	3
2024	1,620	III	5	2,500	9	1,450	5	840	3