

(2) RORO TRAFFIC COUNT

The traffic count was conducted on a 24-hour period and includes all vehicles embarking and disembarking upon arrival and departure at the ports. Moreover, passenger traffic is derived from the passenger manifest (interview of manifest secretary).

From Table 2.3.11 shows that private vehicles and trucks still comprise the majority of the RoRo users while buses on the other hand has a considerable number in the ports of Roxas and Matnog. Light cargo vehicles meanwhile are a significant portion of vehicles using RoRo in the port of Batangas.

Table 2.3.11. Classified 24-hour Count of RoRo Vehicles

VEHICLE TYPE	Batangas		Dumaguete		Dumangas		Iloilo		Liloan		Matnog		Roxas	
Private Vehicle	293	36%	2	33%	26	37%	32	31%	24	23%	93	22%	52	49%
Bus	36	4%	0	0%	0	0%	0	0%	15	15%	149	35%	31	29%
2-axle Truck	174	21%	1	17%	17	24%	29	28%	40	39%	83	19%	15	14%
3-axle Truck	34	4%	1	17%	26	37%	23	23%	6	6%	76	18%	4	4%
Articulated Truck and Truck Chassis	2	0%	1	17%	0	0%	0	0%	4	4%	6	1%	0	0%
Reefer Van	3	0%	0	0%	0	0%	2	2%	0	0%	0	0%	0	0%
Motorcycle/ Bicycle	22	3%	1	17%	1	1%	3	3%	14	14%	5	1%	0	0%
Tricycle / Pedicab	0	0%	0	0%	0	0%	2	2%	0	0%	2	0%	0	0%
Light Cargo Vehicle	253	31%	0	0%	0	0%	11	11%	0	0%	13	3%	4	4%
TOTAL	817		6		70		102		103		427		106	

Table 2.3.12. Passenger Arrival and Departure 24-hour Count

Survey Port	Arrivals	Departures	Total
Batangas	1,790	3,360	5,150
Dumaguete	1,115	705	1,820
Dumangas	96	86	182
Iloilo City	229	292	521
Liloan	750	811	1,561
Matnog	1327	2198	3,525
Roxas	656	728	1,384

(3) RORO PASSENGER INTERVIEW SURVEY

RoRo Passenger interviews were conducted on a 24-hour period last January 2005, at each of the passenger terminals and on-board vessels.

Sample size:

Port of Batangas:	234 respondents
Port of Dumaguete:	122 respondents
Port of Dumangas:	43 respondents
Port of Iloilo:	59 respondents
Port of Liloan:	106 respondents
Port of Matnog:	148 respondents
Port of Roxas:	120 respondents
TOTAL:	832 respondents

Table 2.3.13 Socio-Economic Profile of RoRo Passengers

	Batangas	Dumaguete	Dumangas	Iloilo	Liloan	Matnog	Roxas
Occupation	Service (16%)	Service (19%)	Construction (19%)	Service (20%)	Service (24%)	Housewife (22%)	Service (16%)
	Housewife (16%)	Housewife (15%)	Businessman (12%)	Businessman (20%)	Agri worker (11.3%)	Service (20%)	OFW (14%)
	Jobless (13%)	Businessman (8%)	The rest are varied	Construction (10%)	Housewife (19.8%)	Jobless (16%)	Jobless (13%)
		The rest are varied		Housewife (10%)		Professional (11%)	The rest are varied
Income (P/mo.)	< 5000 (20%)	< 5000 (55%)	< 5000 (44%)	< 5000 (34%)	< 5000 (36%)	< 5000 (22%)	< 5000 (41%)
	5~10000 (26%)	5~10000 (24%)	5~10000 (19%)	5~10000 (29%)	5~10000 (19%)	5~10000 (13%)	5~10000 (19%)
	10~15000 (9%)	10~15000 (11%)	20~30000 (9%)	> 30000 (9%)	> 30000 (0%)	10~15000 (8%)	No response (21%)
Age (yrs)	<30 (41%)	<30 (40%)	<30 (30%)	<30 (25%)	<30 (34%)	<30 (35%)	<30 (31%)
	31-40 (27%)	31-40 (25%)	31-40 (23%)	31-40 (30%)	31-40 (28%)	31-40 (24%)	31-40 (29%)
	41-50 (17%)	41-50 (20%)	41-50 (19%)	41-50 (25%)	41-50 (21%)	41-50 (21%)	41-50 (22%)
Residence - Region	MMAROPA (59%)	Zamboanga (34%)	W. Visayas (81%)	W. Visayas (78%)	E. Visayas (27%)	East. Visayas (43%)	W. Visayas (38%)
	NCR (16%)	C. Visayas (32%)	C. Visayas (7%)	N. Mindanao (17%)	CARAGA (34%)	NCR (30%)	Calabarzon (15%)
	Calabarzon (11%)	N. Mindanao (11%)	NCR (5%)		Davao (16%)	Bicol (11%)	NCR (34%)
	Ilocos (9%)	W. Visayas (7%)					
Car ownership	0 (91%)	0 (91%)	2 (91%)	0 (56%)	0 (76%)	0 (91%)	0 (73%)
	1 (7%)	1 (5%)	1 (7%)	1 (22%)		1 (5%)	1 (13%)
Gender	Male (54%)	Male (57%)	Male (58%)	Male (71%)	Male (46%)	Male (39%)	Male (65%)
	Female (46%)	Female (43%)	Female (42%)	Female (29%)	Female (54%)	Female (60%)	Female (35%)



Table 2.3.14. Trip Characteristics of RoRo Passengers

	Batangas	Dumaguete	Dumangas	Iloilo	Liloan	Matnog	Roxas
Main OD Pair (Region-wise)	NCR-MMARO PA (48%)	C. Vis-C. Vis (19%)	W. Vis-W. Vis (88%)	W. Vis-W. Vis (85%)	E. Vis-Caraga (46%)	NCR-E. Visayas (61%)	NCR-W. Vis (66%)
	Calabarzon-M MAROPA (39%)	C. Vis – Zamboanga (33%)	W. Vis-C. Vis (5%)	N. Mind.-W.Visyas (10%)	NCR-Caraga (25%)	CALABARZO N- E. Visayas (14%)	Calabarzon – W. Vis (20%)
		C. Vis – N. Mind. (13%)			E. Vis-Davao (23%)	Bicol- E. Visayas (11%)	
					E. Vis-N. Mind (18%)		
				NCR-Davao (16%)			
Trip Purpose	To Home (49%)	To home (15%)	To home (44%)	To Home (27%)	To Home (66%)	Tourist (57%)	To home (52%)
	Tourist (24%)	Tourist (25%)	Business (19%)	To work (19%)	Business (8%)	To Home (25%)	Tourist (20%)
	Business (11%)	To Work (10%)	Tourist (21%)	Business (19%)	Tourist (7%)	Business (8%)	Business (12%)
	To work (9%)			Tourist (14%)			
Origin to Port Mode	Bus (81%)	Bus (31%)	Pedicab/tricycle (44%)	PUJ (42%)	Bus (60%)	Bus (81%)	Bus (64%)
	Pick-up/van (9%)	Pedicab/ tricycle (18%)	Pick-up/van (14%)	Car (10%)	Pick-up/van (15%)	PUJ (6%)	Car (19%)
	Owner Jeep (5%)	Pick-up/van (13%)	PUJ (12%)	Pedicab/ tricycle (10%)	PUJ (10%)		
				Pick-up/van (9%)			
Port to Destination Mode	Bus (41%)	Bus (27%)	PUJ (30%)	PUJ (54%)	Bus (74%)	Bus (64%)	Bus (54%)
	PUJ (29%)	PUJ (22%)	Pedicab/tricycle (23%)	Bus (15%)	PUJ (8%)	PUJ (14%)	Car (16%)
	Pedicab/ tricycle (18%)	Pedicab/ tricycle (18%)		Car (9%)		Walk (7%)	
Accompanying vehicle	No (96%)	No (77%)	Yes (25%)	Yes (19%)	Yes (47%)	Yes (55%)	Yes (46%)
	Yes (4%) - Bus	No response (22%)	- MC, Pick-up/van	- Car, Pick- up/van, MC	- Bus	Bus	- Bus, Car
			No (75%)	No (81%)	No (53%)	No (45%)	No (54%)
Intermediate land mode	NA (98%)	Non-RoRo Bus (8%)	NA (88%)	NA (98%)	RoRo Bus (33%)	NA (92%)	RoRo Bus (31%)
		NA (92%)	Car (7%)		NA (62%)	RoRo Bus (3%)	PUB (30%)
					Car (5%)		Car (12%)
Frequency of making trip	1x/yr (30%)	1x/yr (47%)	1x/yr (21%)	1x/yr (15%)	1x/yr (67%)	1x/yr (42%)	First time (23%)
	2x/yr (21%)	2x/yr (16%)	1x/mo (14%)	1x/wk (15%)	2x/yr (11%)	2x/yr (21%)	1x/yr (22%)
	1x/mo (9%)	First time (12%)	2x/mo (14%)	Daily (14%)	1x/mo (9%)	3x/yr (12%)	2x/yr (23%)
			1x/wk (12%)				
Intermediate stopover	No (95%)	Yes (13%)	Yes (16%)	Yes (11%)	Yes (16%)	Yes (15%)	Yes (19%)
		No (87%)	No (84%)	No (72%)	No (90%)	No (83%)	No (81%)
Waiting place at RoRo Terminal	At terminal (97%)	At terminal (83%)	At terminal (63%)	At terminal (63%)	At terminal (95%)	Others (76%)	At terminal (84%)
			No response (16%)	No response (29%)	Hotel (0.9%)	At terminal (24%)	
Primary Reason for using RoRo	Only mode (30%)	Only mode (41%)	Cheap (53%)	Cheap (68%)	Only mode (51%)	Only mode (45%)	Cheap (33%)
	Convenient (23%)	Cheap (30%)	Convenient (28%)	Convenient (15%)	Cheap (22%)	Cheap (18%)	Convenient (32%)
	Fast (21%), Cheap (16%)	Convenient (19%)			Convenient (10%)	Fast (15%)	
Previous Mode	Wooden hull vessels (31%)	Sea Ferry (66%)	Sea ferry (65%)	Sea ferry (60%)	Sea Ferry (27%)	Sea ferry (39%)	Sea Ferry (85%)
	Sea ferry (30%)	others (16%)	Wooden hull vessel (14%)	Wooden hull vessels (19%)	Airplane (20%)	Airplane (28%)	
	Others (27%)				No response (37%)	Others (22%)	

Table 2.3.15. Service Assessment of RoRo Passengers

	Batangas	Dumaguete	Dumangas	Iloilo	Liloan	Matnog	Roxas
Overall assessment	Good (91%)	Good (98%)	Good (91%)	Good (90%)	Good (90%)	Good (92%)	Good (88%)
	Bad (7%)	Bad (1%)	Bad (0%)	Bad (2%)	Bad (3%)	Bad (1%)	Bad (8%)
Service route	Good (86%)	Good (98%)	Good (98%)	Good (83%)	Good (90%)	Good (91%)	Good (88%)
	Bad (7%)	Bad (2%)	Bad (2%)	Bad (3%)	Bad (5%)	Bad (5%)	Bad (11%)
Port accommodation	Good (80%)	Good (96%)	Good (93%)	Good (78%)	Good (90%)	Good (89%)	Good (82%)
	Bad (16%)	Bad (4%)	Bad (7%)	Bad (9%)	Bad (6%)	Bad (10%)	Bad (14%)
On-board accommodation	Good (78%)	Good (95%)	Good (98%)	Good (75%)	Good (87%)	Good (91%)	Good (81%)
	Bad (17%)	Bad (5%)	Bad (2%)	Bad (5%)	Bad (9%)	Bad (8%)	Bad (16%)
Frequency	Good (77%)	Good (95%)	Good (95%)	Good (76%)	Good (87%)	Good (91%)	Good (81%)
	Bad (14%)	Bad (5%)	Bad (4%)	Bad (3%)	Bad (9%)	Bad (8%)	Bad (16%)
Ship Fare	Good (72%)	Good (92%)	Good (100%)	Good (84%)	Good (75%)	Good (82%)	Good (71%)
	Bad (22%)	Bad (7%)	Bad (%)	Bad (5%)	Bad (21%)	Bad (18%)	Bad (27%)
Overall Trip Cost	Good (69%)	Good (92%)	Good (95%)	Good (83%)	Good (84%)	Good (83%)	Good (77%)
	Bad (18%)	Bad (7%)	Bad (2%)	Bad (3%)	Bad (11%)	Bad (12%)	Bad (23%)
Safety and Security	Good (85%)	Good (97%)	Good (93%)	Good (90%)	Good (89%)	Good (90%)	Good (87%)
	Bad (9%)	Bad (3%)	Bad (7%)	Bad (0%)	Bad (7%)	Bad (10%)	Bad (9%)
Availability and Ticketing	Good (77%)	Good (93%)	Good (98%)	Good (84%)	Good (82%)	Good (87%)	Good (72%)
	Bad (15%)	Bad (7%)	Bad (2%)	Bad (0%)	Bad (11%)	Bad (11%)	Bad (25%)
Travel Speed	Good (23%)	Good (90%)	Good (88%)	Good (70%)	Good (82%)	Good (89%)	Good (83%)
	Bad (6%)	Bad (9%)	Bad (12%)	Bad (17%)	Bad (11%)	Bad (9%)	Bad (14%)
Punctuality/ Reliability	Good (23%)	Good (93%)	Good (90%)	Good (71%)	Good (85%)	Good (93%)	Good (74%)
	Bad (3%)	Bad (7%)	Bad (9%)	Bad (12%)	Bad (9%)	Bad (5%)	Bad (23%)
Convenience of transfers	Good (25%)	Good (96%)	Good (98%)	Good (74%)	Good (85%)	Good (92%)	Good (68%)
	Bad (3%)	Bad (3%)	Bad (2%)	Bad (0%)	Bad (10%)	Bad (6%)	Bad (29%)

Highlights of the RoRo passenger survey are as follows:

- RoRo has shown that it can service long-distance travel such the NCR-Caraga trips along the Pan Philippine Highway corridor. However, via the Western Seaboard corridor, travel has been mostly within 400 nautical miles – such as NCR-Western Visayas trips.
- Users of RoRo are varied, depending on the route. RoRo caters to both once-a-year travelers and also caters to frequent trip makers.
- Tourism related trips have been promoted by the RoRo system. Moreover, RoRo has also promoted business trips.
- Most of the users have low salaries and generally do not have cars – as such many depend on public utility vehicles for transfers, access and egress.
- The primary attraction of RoRo is its cheap fares and convenient travel. There are instances wherein RoRo is the only mode available.
- User's assessment of RoRo service is very favorable across all aspects of its service.

(4) FREIGHT TRUCK DRIVER'S INTERVIEW

In addition to the passenger interview survey, interview was also conducted on the drivers of freight vehicles. The following illustrates the sample size of the freight interview survey.

Sample Size:

Port of Batangas	81 respondents
Port of Dumaguete	6 respondents
Port of Iloilo	18 respondents
Port of Liloan	13 respondents
Port of Matnog	45 respondents
Port of Roxas	13 respondents
Port of Dumangas	30 respondents

Table 2.3.16. Trip Information of Cargo Trucks

	Batangas	Dumaguete	Dumangas	Iloilo	Liloan	Matnog	Roxas
Origin - Destination	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:
	NCR-Oriental Mindoro (43%)	Negros Oriental-Cebu (17%)	Iloilo-Negros Occidental (77%)	Iloilo-Bohol (28%)	Leyte-South Cotabato (15%)	NCR-Leyte (11%)	NCR-Iloilo (83%)
	Batangas-Oriental Mindoro (30%)	Negros Oriental-Zamboanga del Sur (17%)	Negros Occidental-Iloilo (7%)	Iloilo-Iloilo (28%)	Davao del Norte-Albay (15%)	NCR-N. Samar (11%)	Rizal-Iloilo (8%)
		Negros Occidental-Misamis Oriental (17%)		Iloilo-Negros Occidental (22%)		NCR- W. Samar (9%)	Quezon-Iloilo (8%)
	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:
	Oriental Mindoro-Batangas (24%)	Cebu-Negros Oriental (33%)	Negros Occidental-Iloilo (40%)	Bohol-Iloilo (22%)	South Cotabato- Leyte (15%)	Leyte-NCR (9%)	NA (100%)
Oriental Mindoro-NCR (16%)	Zamboanga del Sur-Cebu (17%)		Negros Occidental-Iloilo (11%)	Albay- Davao del Norte (15%)	W. Samar- NCR (7%)		
Vehicle Type Used	3 Axle truck (54%)	3 Axle (50%)	3 Axle truck (46%)	2 Axle Truck (50%)	3 Axle truck (100%)	3 Axle (51%)	3 Axle (62%)
	owner jeep (25%)	Bus (17%)	2 Axle Truck (40%)	3 Axle truck (22%)		Articulated truck (47%)	Van (23%)
Frequency	2X a week (31%)	0-5 trips / year (50%)	0-5 trips / year (50%)	10-15 trips / year (56%)	Weekly (62%)	10-15 trips / year (37%)	Weekly (54%)
	Weekly (36%)	3x a year (33%)	6-9 trips / year (3%)	6-9 trips / year (22%)	10-15 trips / year (15%)	2X a week (18%)	10-15 trips / year (15%)
		Weekly (17%)	10-15 trips / year (47%)	0-5 trips / year (22%)		6X a year (9%)	
Mode Used Before RoRo	Sea ferry (69%)	Sea ferry (67%)	Sea ferry (67%)	Sea ferry (22%)	Sea ferry (15%)	Sea ferry (96%)	Sea ferry (85%)
	other (21%)		Other (30%)	Others (50%)	NA (85%)		NA (15%)
Cargo Carried Type of Commodity	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:	Fronthaul:
	Groceries, ice, milk products (22%)	Live animals, poultry (17%)	Foodstuffs for animals (30%)	Unprocessed Cereals (33%)	Empty trucks (38%)	Milled rice (11%)	Logs, Lumber (31%)
	Beer, wines, liquor, soft drinks (12%)	Fish and meat, dried, salted, smoked, frozen, canned (17%)	Unprocessed Cereals (13%)	Miscellaneous (28%)	Fish and other seafood (fresh, chilled) (23%)	Manufactured Producers Goods (13%)	Miscellaneous (23%)
		Sugar cane (17%)	Milled rice (13%)	Beer, wines, liquor, soft drinks (22%)	Fruit (fresh) (15%)	Empty trucks (9%)	Fish and other seafood (fresh, chilled) (15%)
	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:	Backhaul:
	Empty Trucks (81%)	Miscellaneous- (17%)	Unprocessed Cereals- (83%)	Unprocessed Cereals- (38%)	Fruit (fresh) (23%)	Empty trucks (69%)	Empty trucks (100%)
	Milled rice (5%)		Live animals, poultry- (3%)	Beer, wines, liquor, soft drinks (22%)	Fish and other seafood (fresh, chilled) (15%)	Copra, oil, meal and cake (16%)	
			Milled rice- (3%)	Miscellaneous- (22%)	Empty trucks (15%)	Fish and other seafood (fresh, chilled) (4%)	
Type of Packaging	Box/Crate (37%)	Box/Crate (50%)	Sack/ bale (40%)	Box Crate (39%)	Box/Crate (23%)	Box/Crate (38%)	Box/Crate (62%)
	Sack/bale (33%)	Sack/bale (33%)	Container (13%)	Container (6%)	Sack/bale (23%)	Sack/bale (22%)	Container (8%)
		Container (17%)		Sack (3%)			
The nature of business of shipper	Retailer/ Trader- (46%)	Retailer/ Trader- (83%)	Farm- (13%)	Retailer/ Trader- (28%)	Retailer/Trade (69%)	Forwarder (49%)	Retailer/Trade (23%)
	Forwarder (33%)	NA (17%)	Retailer/ Trader- (43%)	Industry/ Manufacturer – (22%)	No information (15%)	Retailer/Trade (36%)	Forwarder (15%)
	Industry/ Manufacturer- (12%)		Industry/ Manufacturer- (10%)		Industry/Manufacturer (8%)	Industry/Manufacturer (2%)	NA (31%)
Size of the business of the shipper	Small scale (60%)	Small scale (67%)	Small scale (63%)	Small scale (44%)	Small scale (38%)	Small scale (60%)	Small scale (46%)
	Medium (27%)	NA (33%)	Large Scale (23%)	Large Scale(44%)	NA(54%)	NA (27%)	Medium (46%)
Is the owner of the cargo and vehicle of the same company?	Yes (43%)	Yes (17%)	Yes (43%)	Yes (44%)	Yes (62%)	Yes (31%)	Yes (100%)
	No (48%)	No (67%)	No (37%)	No (33%)	No (15%)	No (24%)	

Table 2.3.17. Service Assessment of RoRo Freight Users

	Batangas	Dumaguete	Dumangas	Iloilo	Liloan	Matnog	Roxas
Permits/Official documents?	Good (51%) Bad (21%)	Good (50%) NA (50%)	Good (70%) Bad (3%)	Good (50%) NA (44%)	Good (23%) NA (69%)	Good (40%) NA (58%)	Good (100%)
Frequency of Service?	Good (27%) Bad (22%)	Good (50%) NA (50%)	Good (77%) Bad (3%)	Good (56%) NA (33%)	Good (23%) NA (77%)	Good (24%) NA (76%)	Good (100%)
Space availability?	Good (23%) Bad (30%)	Good (50%) NA (50%)	Good (73%) Bad (10%)	Good (44%) NA (39%)	Good (31%) NA (69%)	Good (9%) NA (89%)	Good (85%) Bad (15%)
Cost?	Good (10%) Bad (46%)	Good (33%) Bad (17%)	Good (73%)	Good (22%) Bad (33%)	Good (31%) NA (69%)	Bad (18%) NA (82%)	Good (77%) Bad (23%)
Reliability of Schedule?	Good (11%) Bad (16%)	Good (50%) NA (50%)	Good (63%) Bad (3%)	Good (44%) NA (44%)	Good (31%) NA (54%)	Good (9%) NA (58%)	Good (100%)
Safety of vehicle and cargo on-board?	Good (38%) NA (62%)	Good (50%) NA (50%)	Good (70%)	Good (67%) NA (33%)	Good (31%) NA (54%)	Good (7%) NA (93%)	Good (85%) Bad (15%)
Access and egress to/from port?	Good (31%) NA (69%)	Good (50%) NA (50%)	Good (70%)	Good (50%) NA (44%)	Good (31%) NA (62%)	Good (2%) Bad (98%)	Good (92%) Bad (8%)
Facilities at port?	Good (31%) NA (69%)	Good (50%) NA (50%)	Good (60%) Bad (10%)	Good (22%) Bad (44%)	Good (23%) NA (62%)	NA (100%)	Good (100%)
<p>Other comments:</p> <ul style="list-style-type: none"> • Some shipping companies have priority customers. • Too much document requirement. • Lack of facilities like comfort rooms, canteen, parking lots, waiting area. • Lack of lighting making people vulnerable to robbery. • Red tape and corruption. • Low platform/ berth. 							

Note: NA= No answer

Highlights of RoRo Freight Driver Interview:

- The primary market of RoRo is largely focused on cross-island traffic or at most two-island crossing (e.g. NCR-Iloilo).
- Many of the trips are regular trips, most of which are on a weekly basis.
- Commodities carried vary, but most are food stuffs, including perishable such as fish.
- Typically commodities are package in boxes or sacks
- Cargo owners are typically small-scale commodity brokers or retailers. It is usual for producers to be the cargo owners.
- About half of the trucks are owned by the cargo-owner, while the other half is leased/lived trucks.
- Unlike the interviewed RoRo passengers, freight users are not as satisfied with the RoRo service. Aspects in documentation, service frequency, space availability, cost service reliability safety, and port infrastructure all registered dissatisfactory assessment.

2.4 Domestic Fleet

2.4.1 Registered Domestic Fleet

(1) ALL VESSELS

A total of 29,518 vessels comprise the Philippine-registered merchant fleet wherein 23,307 are fishing vessels. In terms of total Gross Registered Tonnage (GRT), ships used to transport goods and passengers comprise 76.26% of the total. Table 2.4.1 shows the distribution of the merchant fleet as per kind of ships. The number of vessels, as well as the corresponding total GRT per kind is also shown. "Others" include vessels used for pleasure and personal use of the owner.

Table 2.4.1. Philippine Registered Merchant Fleet

Kind of ship	Units	%	GRT	%
Fishing	23,307	78.96	288,306.7	14.41
Goods and Passenger Transport	4183	14.17	1,525,908	76.26
Others	2028	6.87	186,677.4	9.33
Total	29,518	100.00	2,000,892	100.00

Source: 2003 updated MARINA database

/1 The latest complete inventory of MARINA dates year 2000, with 27,000+ records. In an effort to derive a more up-to-date database, succeeding years' partial inventory are utilized: (1) 2001 inventory with 17,000+ records; (2) 2002 inventory with 8,000+ records; and, (3) 2003 inventory with 5,000+ records. Vessels listed in these partial inventory, but are not in the 2000 inventory are added to the 2000. Assuming that the retired vessels are marginal, the ensuing inventory is utilized as the basis of the study.

(2) SHIPS FOR COMMERCIAL USE

Ships considered to be for commercial use are shown in Table 2.4.2. These ships comprise those under the classification of "Goods and Passenger Transport" in Table 2.4.1. The nature of service of the commercial ships is shown. The average age per type of service and size are also given. The last type of commercial vessels indicated in Table 2.4.2 are wooden hulled ships. Hence, all the other types shown are comprised of non-wooden-hulled vessels. There are a total of 4,183 commercially used vessels. 2,503 units of these have wooden hulls.



Table 2.4.2. Profile of Commercial Ships

TYPE	SIZE	UNITS	AVERAGE SIZE	AVERAGE AGE
Container	0-3000	12	2006	33.8
	3001-6000	13	5042	30.8
	Above 6000	3	7771	23.0
	All	28	4033	31.3
General Cargo	0-275	279	184	22.9
	281-550	346	428	22.5
	551-4100	215	1215	20.8
	Above 4100	14	5611	20.8
	All	854	631	22.2
Passenger Ferry	0-140	81	51	14.4
	141-800	66	325	17.8
	Above 800	3	2263	29.3
	All	150	216	16.2
Tanker	0-300	61	183	24.1
	301-800	78	487	17.2
	801-Above	66	2051	21.1
	All	205	900	20.5
Passenger Cargo	0-250	75	171	24.3
	250 - 500	31	423	28.9
	Above 500	10	910	27.4
	All	116	302	25.8
Ropax	0-400	37	239	27.9
	401-1000	29	661	29.6
	1001-5000	49	2524	30.9
	Above 5000	34	9782	27.9
	All	149	3250	29.2
Dry Bulk	0-350	64	195	25.2
	351-1600	107	619	19.7
	Above 1600	7	2565	19.0
	All	178	543	21.6
Wooden Hull	0-3	481	2	9.8
	4-35	1816	13	9.9
	36-100	139	68	13.7
	Above 100	67	293	18.1
	All	2503	21	10.4

Source: 2003 updated MARINA database

2.4.2 Fleet Analysis by Type, Size and Age

Table 2.4.3 shows the total Gross Registered Tonnage (GRT or GT) per type of ship. General Cargo ships account for 34.82% of the total GRT for all commercial vessels while Ropax ships account for 31.74%. Wooden hulled vessels, although comprising half of the commercial fleet, account for only 3.46% of total GRT.

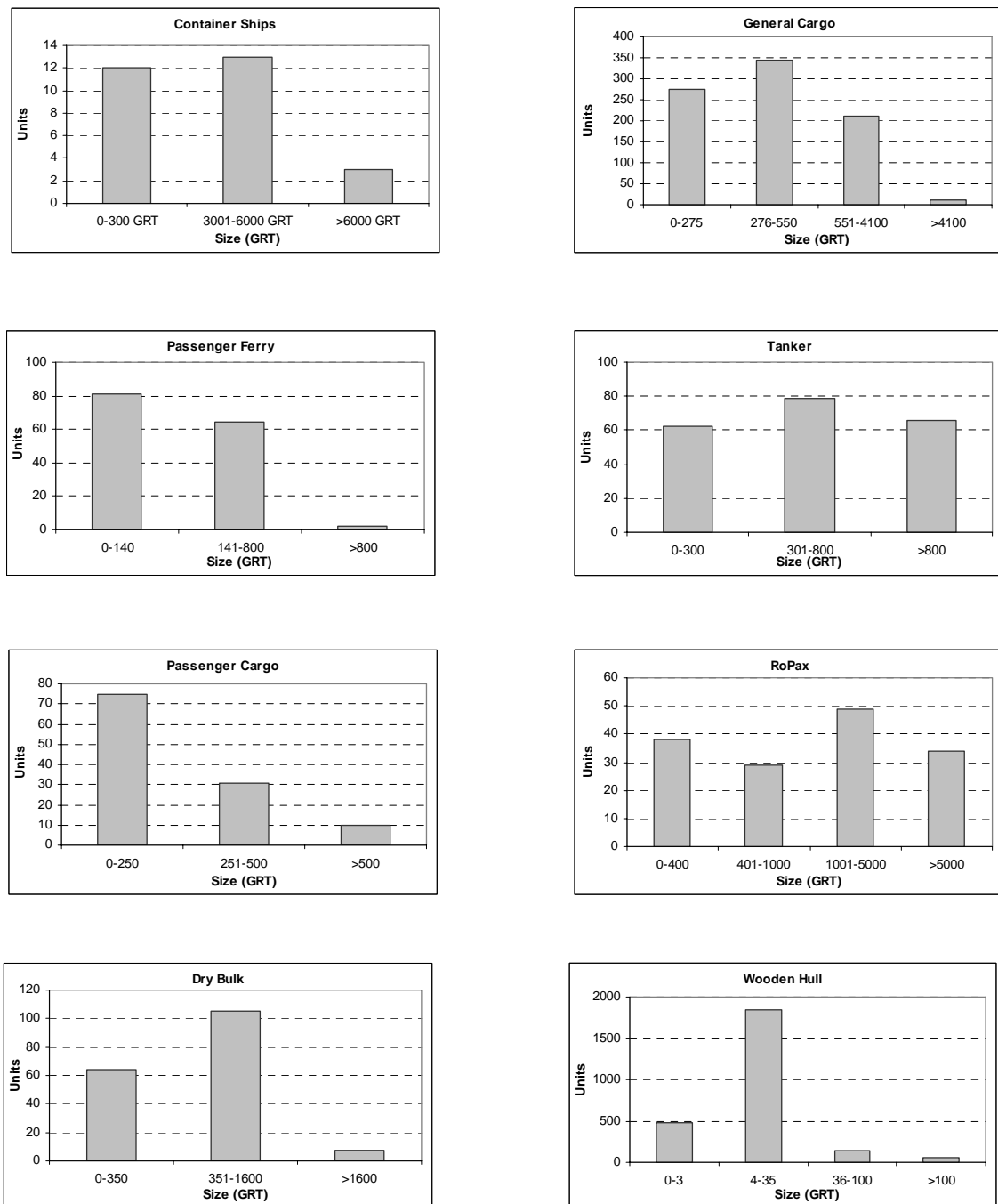
Table 2.4.3. Total GRT per Type of Ship

	GT	%
Container	108,974	7.14%
General Cargo	531,381	34.82%
Passenger Ferry	32,335	2.12%
Tanker	184,446	12.09%
Passenger Cargo	35,065	2.30%
Ropax	484,251	31.74%
Dry Bulk	96,715	6.34%
Wooden Hull	52,741	3.46%
Total	1,525,908	100.00%

Source: 2003 updated MARINA database

The breakdowns of the total GRT for each type are shown in Figure 2.4.1.

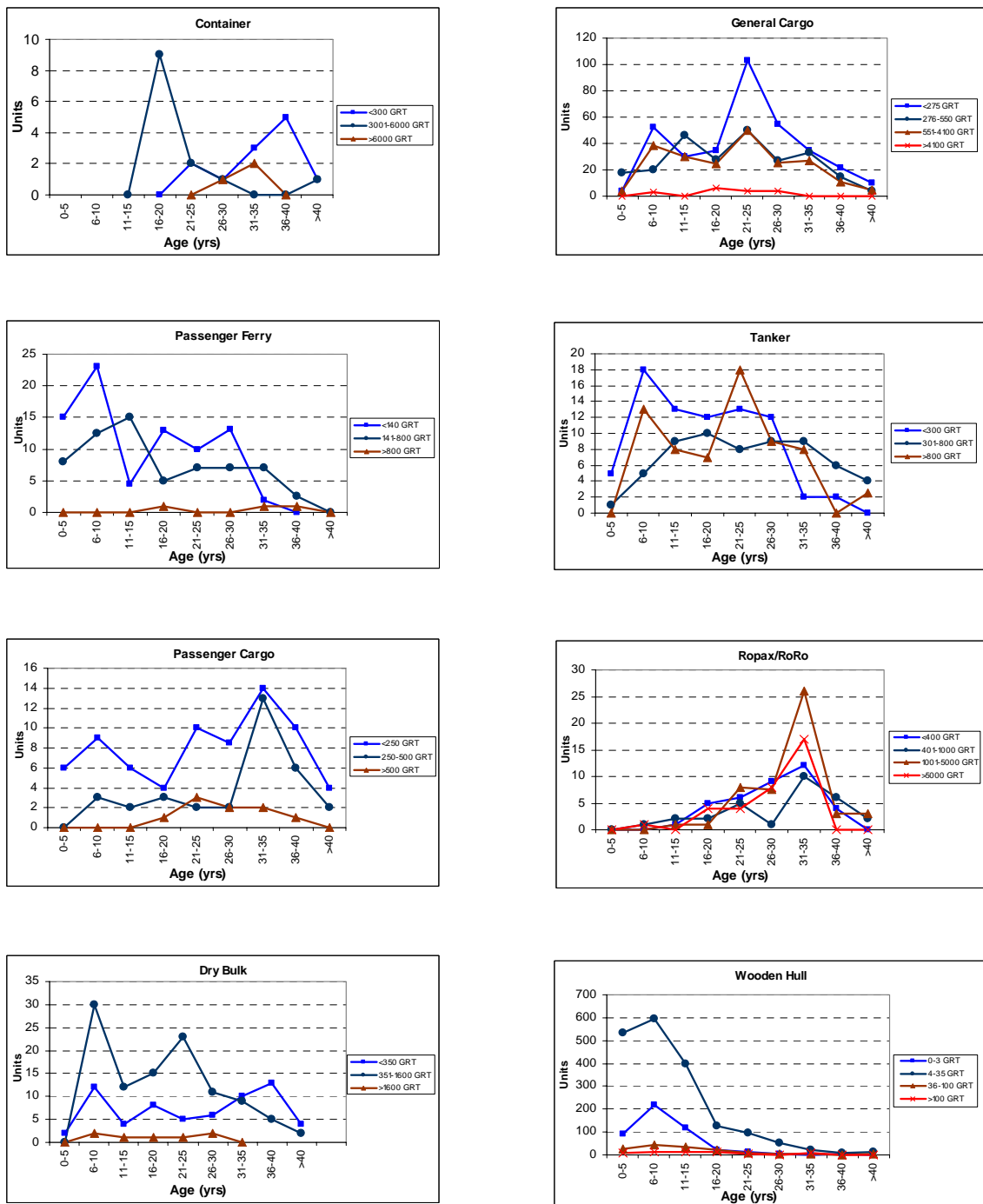
Figure 2.4.1. Size Profile of Vessels per Type



Source: 2003 updated MARINA database

Figure 2.4.2 shows the age distribution of commercial vessels per type. In each of the graphs, the vessels are further sub-divided per size in terms of GRT. Passenger Cargo, and Ropax/RoRo vessels are relatively older. Most of their units are at the 31 – 35 year old range. Wooden hulled vessels, on the other hand, are relatively the youngest type with majority of the units at the 6 – 10 year old range.

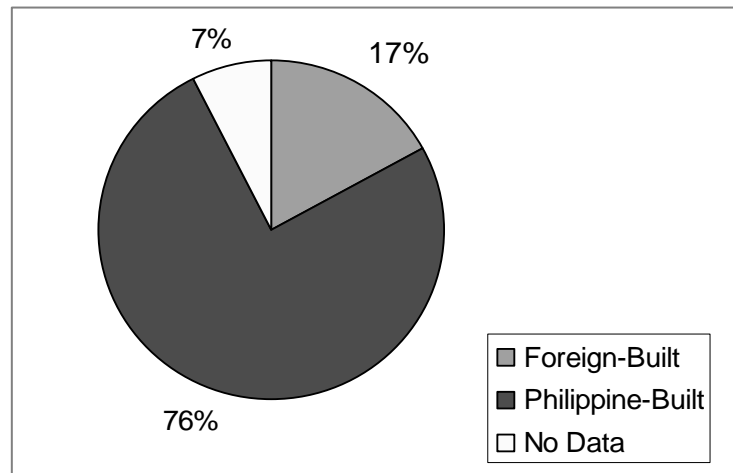
Figure 2.4.2. Age Profile of Vessels per Type



2.4.3 Shipyard Nationality of Commercial Vessels

Figure 2.4.3 shows the distribution of the commercial fleet as per the nationality of the shipyard from which they were built. Of the 4,183 commercially-utilized vessels, 76% per cent were built in Philippine shipyards. The 17% foreign-built vessels come from different countries including Japan, Australia, China, and Vietnam just to name a few.

Figure 2.4.3. Shipyard Nationality of the Commercial Fleet

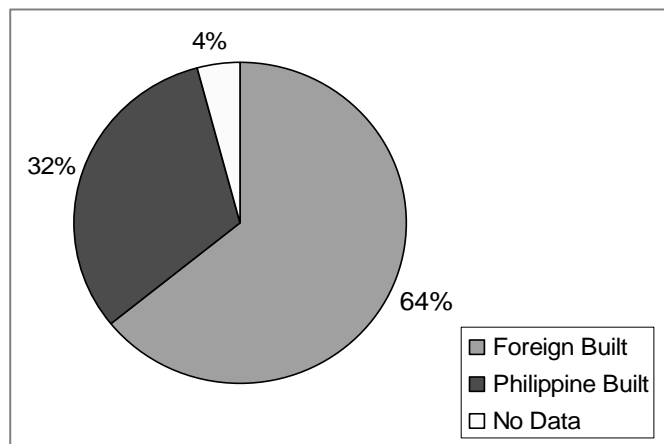


Source: 2003 updated MARINA database

In terms of Gross Tonnage, Philippine built vessels account for 32% of the total GRT of commercial fleet. Foreign-built vessels account for 64%. The graph below shows the distribution of the Gross Registered Tonnage of the commercial fleet as per the nationality of the shipyard from where they were built. (see Figure 2.4.4).

Japanese imported/secondhand vessels are predominant, accounting for 87% of tonnage of all foreign built vessels. This is especially significant for Ropax/RoRo, where Japanese vessels account for 96% of tonnage of imported/secondhand Ropax/RoRo.

Figure 2.4.4. GRT Distribution as to Shipyard Nationality

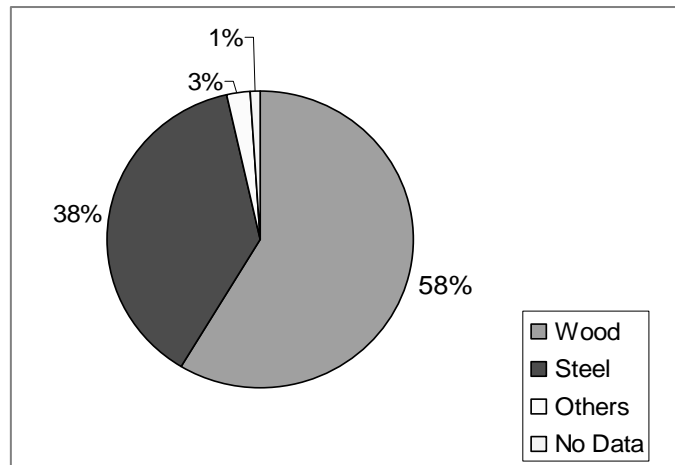


Source: 2003 updated MARINA database

2.4.4 Hull Material of Commercial Vessels

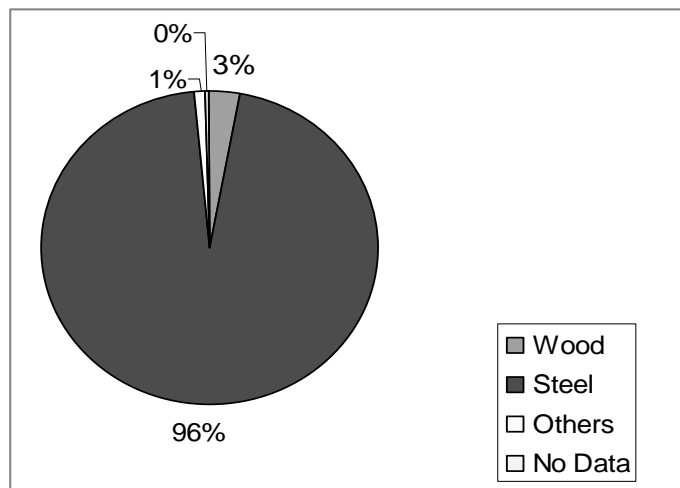
In terms of number of units, 58% of the commercial vessels are made of wood and 38% are made of steel. However, in terms of GRT, 96% is accounted for by steel-hulled vessels. The wooden hulled vessels account for only 3% of the total GRT of the commercial fleet. Figure 2.4.5 shows the distribution of vessels as to the type of material used. Figure 2.4.6, on the other hand, shows the distribution of the total GRT of the commercial fleet as to the type of material used.

Figure 2.4.5. Hull Material of Commercial Vessels



Source: 2003 updated MARINA database

Figure 2.4.6. GRT Distribution as to the Type of Material Used



Source: 2003 updated MARINA database

2.5 Ports

2.5.1 Philippine Port System

(1) OUTLINE OF THE PORT SYSTEM

The developments of ports in the Philippines before the year 1970 were carried out through a different port administrative system. At that time, ports were administered and operated by the Bureau of Customs. The Bureau of Public Works was responsible for the construction and maintenance of ports. The port development was usually initiated by local demands without a nationwide port development strategy although there were various kinds/scales of ports in the country. It was considered that the traditional main functions of port operation/administration were revenue collection, harbor maintenance and cargo handling, to the exclusion of the port's fuller utilization and development as a spur to regional growth.

After the recognition of the necessity of a nationwide port plan rationale, in particular,

from the long-term viewpoint, Philippine Ports Authority (PPA) was created in 1975 by Presidential Decree 505. Presidential Decree 857, which is called the PPA Charter, empowers PPA to formulate a comprehensive and practical port development plan for the State and to program its implementation, renew and update the same annually. As an administrative structure, PPA is attached to the Department of Transportation and Communications (DOTC) for policy and program coordination in 1987. Subsequently, by Executive Order No. 159, which was issued in 1987, PPA became financially autonomous.

In addition to PPA, the central government conducted port development projects which are in particular financially non-viable but socially needed. When PPA became an attached agency to DOTC in 1987, feeder port projects, fishing port projects and port development of LGUs were undertaken by the Department of Public Works and Highways (DPWH). In 1990, NEDA approved the delineation of institutional responsibility in port administration. In 1991, a Memorandum of Agreement by and between the DPWH and DOTC was signed. Hence, port-related projects were moved from DPWH to DOTC. Since then, DOTC has been budgeting for LGU ports development, and it can apply for foreign loans needed for development.

The creation of new port authorities/public port management bodies (PPMBs) has been observed. Cebu Port Authority (CPA) spun off from PPA in 1992 as part of the government's decentralization policy based on Republic Act No. 7621 (i.e. CPA Charter). The Subic Bay Metropolitan Authority (SBMA) and Poro Point Management Corporation under Bases Conversion and Development Authority (BCDA-PPMC), which are responsible for the administration/management of Subic port and San Fernando port respectively, were also created. Regional Ports Management Authority in Autonomous Region in Muslim Mindanao (ARMM-RPMA) was created to administer/manage the ports in the region (transferred from PPA). Furthermore, Irene Port in Northern Luzon was transferred to Cagayan Economic Zone Authority (CEZA), and PHIVIDEC (Philippine Veterans Investment Development Corporation) Industrial Authority (PIA) established 'Mindanao Container Terminal' near Cagayan de Oro. Aside from PPA and CPA, these PPMBs are outside of the administrative jurisdiction of DOTC. In short, as of February 2005, there is no nationwide coordination body for port developments and operations.



Table 2.5.1 shows the chronology of events related to port developments in the Philippines.

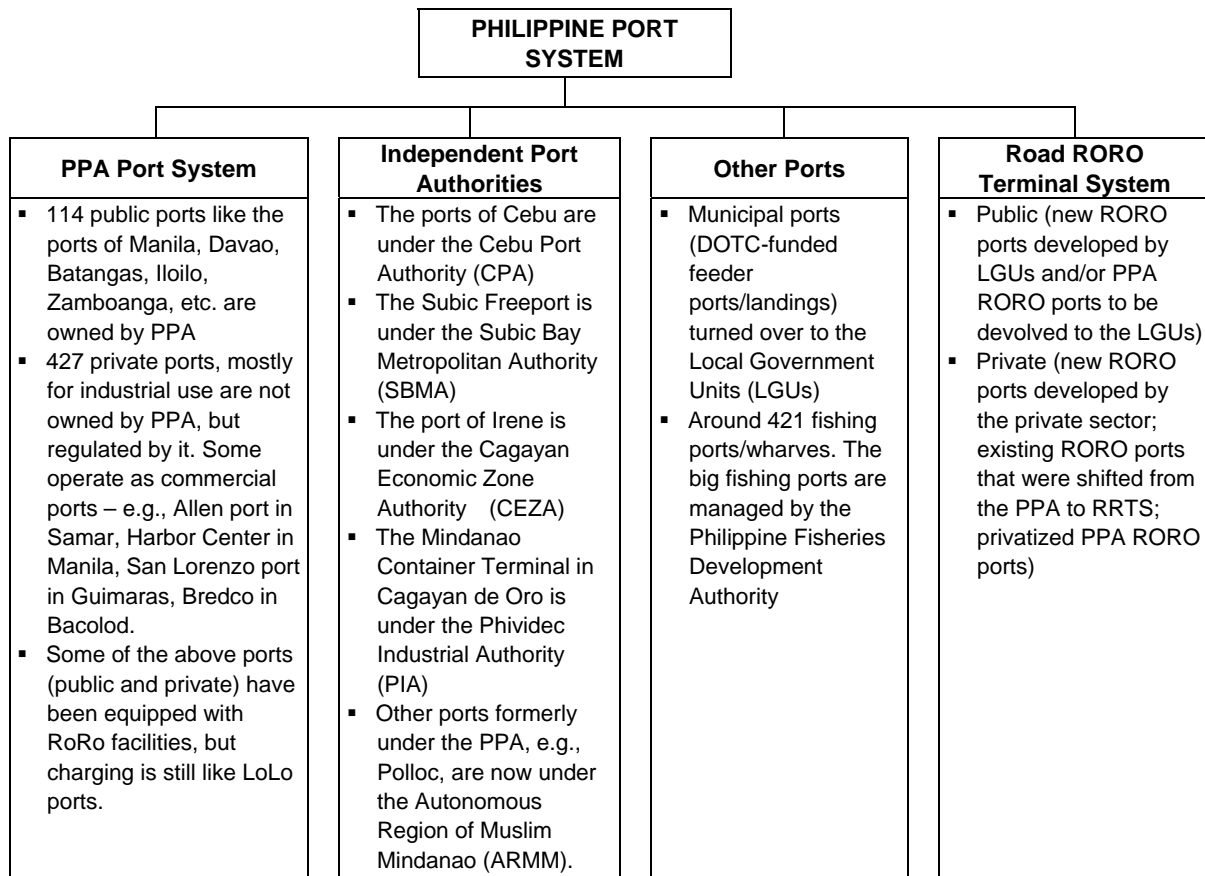
Table 2.5.1. Port Development in the Philippines

Year	Events, Institutional Changes and others
~74	<ul style="list-style-type: none"> ● Implementation of maintenance and repair of existing port facilities by Bureau of Public Works
1974	<ul style="list-style-type: none"> ● Philippine Ports Authority (PPA) is set up as an affiliate of the Ministry of Public Works, Transportation and Communications (MPWTC). ● Phividec Industrial Authority (hereinafter referred to as PIA) is created by Presidential Decree (hereinafter referred to as P.D.) No. 538
1975	<ul style="list-style-type: none"> ● PPA is legally created through P.D. No. 857. It is responsible for planning, developing, financing, operation and maintenance of ports facilities in the entire Philippines. However, design and construction works continue to be undertaken by MPWTC.
1979	<ul style="list-style-type: none"> ● MPWTC is split off into two ministries: the Ministry of Transportation and Communications (MOTC) and the Ministry of Public Works. PPA belongs to the Ministry of Public Works. ● Design and construction works continue to be undertaken by the Ministry of Public Works (MPW).
1980	<ul style="list-style-type: none"> ● Project Executive Committee and Project Management Office (PMO) are created in the MPW to undertake the detailed engineering design and construction/supervision of five (5) fishing ports. ● Fishing Ports Package is extended by OECF to the Government of the Philippines.
1981	<ul style="list-style-type: none"> ● MPW expands its functions to MPWH by absorbing the Ministry of Public Highways. ● PPA moves from MPWH to MOTC, however design and construction works continue to be undertaken by the MPWH.
1987	<ul style="list-style-type: none"> ● "Ministry" is replaced by "Department" ● PPA becomes an attached corporation of DOTC, responsible for planning, detailed engineering, construction, expansion, rehabilitation and capital dredging of all ports under its port system. ● However, other port development works including design and construction of feeder ports, fishing port and municipal ports continue to be undertaken by DPWH
1989	<ul style="list-style-type: none"> ● Autonomous Region in Muslim Mindanao is created by Republic Act No. 6734
1990	<ul style="list-style-type: none"> ● NEDA Board approves the delineation of institutional responsibilities in the administration of municipal/tertiary/feeder ports wherein DOTC shall take the programming and implementation of these projects.
1991	<ul style="list-style-type: none"> ● DPWH transfers all feeder ports and fishing ports project under DPWH to DOTC
1992	<ul style="list-style-type: none"> ● Cebu Port Authority is created by R.A. No. 7621 ● Bases Conversion and Development Authority (BCDA) and Subic Bay Metropolitan Authority (SBMA) are created by R.A. No. 7227
1993	<ul style="list-style-type: none"> ● Start of construction for the feeder port project under DOTC
1995	<ul style="list-style-type: none"> ● Cagayan Economic Zone Authority is created by R.A. No. 7922
1998	<ul style="list-style-type: none"> ● Interim Regional Ports Authority (IRPA), the predecessor of the RPMA, was organized through E.O. No. 11 Series of 1998. (ARMM)
2002	<ul style="list-style-type: none"> ● RPMA was organized by the E.O. No.2 Series of 2002. (ARMM)
2003	<ul style="list-style-type: none"> ● DOTC is designated as the lead government agency to oversee the implementation of the RRTS by EO170 and EO170-A.

Source: Collated by JICA Study Team including the Port Master Plan (JICA, 2004)

Today, the structure of the Philippine Port System can be divided into four major categories: (a) the PPA port system consisting of public and private ports; (b) ports under the jurisdiction of independent port authorities; (c) public ports devolved to the local government units (LGUs), including fishing ports/wharves; and (d) the recently-established Road RoRo Terminal System (RRTS). Figure 2.5.1 describes each category.

Figure 2.5.1. Classification of Philippine Port System



Source: Philippine Transport Sector Review (Interim Report), WB 2004

(2) NUMBER OF PORTS BY MANAGEMENT TYPE

Ports in the Philippines can be classified by port authorities/PPMBs; i.e. ports managed by PPA, CPA, ARMM-RPMA, LGUs/DOTC, PPMBs and the private sector.

There is no accurate statistical number of ports in the Philippines since there are various types of ports ranging from international container terminals to beach landing "port". The JICA Study on the Port Master Plan identified 2,451 ports in the country, of which 1,607 are public ports built and managed by the public sector, 423 private ports built and managed by the private sector, and 421 fishing ports (Tables 2.5.2 and 2.5.3). Private ports are classified into two: i.e. private non-commercial ports for exclusive private use and private commercial ports for public use.



Table 2.5.2. Number of Ports in the Philippines

Body Region	Base Port	Terminal Port ^{*1}	Local Port	PPDBs' Ports excluding Ports under RPMA	Private Port	Total	Fishing Port
	PPA / CPA / RPMA	PPA / CPA / RPMA	LGUs				
NCR	2	2			49	53	3
I	0	2	45	1 (PPMC)	11	59	17
II	0	1	38	1 (CEZA)	4	44	22
III	1	2	34	1 (SBMA)	17	55	16
IV-A	1	6	130	-	33	170	72
IV-B	2	10	134	-	19	165	
V	1	8	128	-	17	154	58
VI	2	12	114	-	41	169	49
VII	2	9	57	-	17	85	38
VII (CPA ¹)	1	41	23	-	71	136	
VIII	1	13	214	-	21	249	35
IX	1	5	64	-	16	86	21
X	3	8	59	1 (PIA)	33	104	16
XI	1	1	35	-	21	58	17
XII	1	2	19	-	13	35	8
XIII	2	10	201	-	29	242	31
ARMM ²	3	79	70	-	7	159	18
ARMM (PPA)	1	2	-	-	4	7	
Others ³	-	1	4	-	-	5	-
Total	25	214	1,369	4	423	2,035	421

Note: *1 indicates CPA Port. Terminal ports are called Outports in CPA.

*2 indicates port(s) under Regional Ports Management Authority in ARMM.

Terminal Ports are called Subports in RPMA. Some of the ports are still under PPA's jurisdiction.

*3: Others refer to ports which cannot be classified due to the lack of detailed data.

*4: PPA & CPA Ports are listed as of January 2003. LGUs Ports are as of March 2000.

Source: JICA Study on the Port Master Plan (PPA, CPA, DOTC and Public Port Development Bodies (PPDB: SBMA, PPMC, CEZA, PIA), 2000 Quinquennial Inventory of Ports in December 1999 (NSCB) [Number of Fishing Ports])



Table 2.5.3. Classification of Port Authority / PPBB and Number of Ports

(As of November 2003)

Public or Private	Classification (Port Authority / PPDB)		Number of Ports
	Port Authority / PPDB	Ports	
Public Ports	PPA	Base Port	21
		Terminal Port	93
		PPA-Total	114
	CPA	Base Port	1
		Outports	41
		CPA-Total	42
	Municipality (LGUs), PPA, CPA	LGUs Ports	1,365
	RPMA (ARMM)	Base Port	3
		Subports	79
		RPMA-Total	82
	Sub-Total (a)		1,603
	SBMA	Subic Port	1
	PPMC	San Fernando Port	1
	PIA	Mindanao Container Terminal (MCT)	1
CEZA	Irene Port	1	
Sub-Total (b)		4	
Total (1) = Sub total (a) + (b)		1,607	
Private Ports	Private company	Commercial (Public)	30
		Non-Commercial (Private)	393
	Total (2)		423
Others	* There are no detailed data		5
Total (3) = (1)+(2)+Others		2,035	
Fishing ports (Dec 1999)	PFDA	Major Fishing Ports	*8
	PFDA+LGU, LGU	Other Fishing Ports	413

Note: ARMM: Autonomous Region in Muslim Mindanao
 RPMA: Regional Ports Management Authority (ARMM)
 SBMA: Subic Bay Metropolitan Authority
 PPMC: Poro Point Management Corporation
 PIA: PHIVIDEC Industrial Authority
 CEZA: Cagayan Economic Zone Authority

Source: JICA Study on the Port Master Plan (PPA, CPA, DOTC and Public Port Development Bodies (PPDB: SBMA, PPMC, CEZA, PIA), 2000 Quinquennial Inventory of Ports in December 1999 (NSCB [Number of Fishing Ports])

(3) PORT CHARACTERISTICS BY MANAGEMENT TYPE

1) PPA Port System

PPA directly manages 114 ports, which consist of 21 "base ports" and 93 "terminal ports" as of February 2005. Ports directly managed by PPA (i.e. planned, invested, maintained, etc.) are called "PPA port system". It should be noted that, according to PPA officials, PPA port system does not mean the ports under PPA's jurisdiction but indicates the priority of the investment of PPA. PPA has collected port statistical data not only on ports under its port system but also LGU ports as well as private ports.

The PPA sets and collects its own revenues, and does not receive funding from the national government, and is required by fiat to declare 50% of its net income as dividends to the government. Its ports handle domestic and foreign cargo (containerized and bulk) and passengers; and some of its ports have been modified to cater to RoRo operations.

The private sector can develop its own port after getting clearance from the port authority as well as the Bureau of Lands. The private port developer will have a limited period contract with the port authority on the development/operation of a private port. Normally, the period is 25 years, after which the port will be transferred to the port authority.

There are two kinds of private ports: private non-commercial ports and private commercial ports. While the former is utilized solely by the owner of the port, the latter is utilized openly to the public. In other words, the cargo handled at the private commercial port is not limited to the usage of the private owner of the port.

2) Independent Port Authorities

CPA was established in 1992. Its territorial jurisdiction (CPA) includes all seas, lakes, rivers and all other navigable inland waterways within the Province of Cebu, including the City of Cebu and all highly urbanized cities which may hereafter be created therein. CPA serves to integrate and coordinate the planning, development, construction and operation of ports and port facilities within its territorial jurisdiction, consistent with the needs and requirements of the region. It enhances the flow of international and domestic commerce passing through or utilizing the regional ports. It promotes regional development by providing support service to sustain the growth of export and other priority industry in the region.

ARMM-RPMA was established in 2002 replacing the Interim Regional Ports Management Authority, which was created before the turn-over of all ports within the territorial jurisdiction of the ARMM to the Autonomous Regional Government (ARG) primarily aimed at strengthening its management and operational capability. Similar to the function of PPA, ARMM-RPMA is responsible for port administration in the Region.

In order to accelerate the conversion of military reservations into other productive uses, BCDA was created as a regional development authority through the Bases Conversion and Development Act in March 1992 or Republic Act No. 7227 (RA 7227). In Subic area, the Subic Bay Freeport and Special (Economic) Zone was created through the RA 7227. SBMA was designated as an operation and implementing agency to establish the Freeport and to ensure the promotion and development of various kinds of projects. In San Fernando area, the San Fernando Seaport was turned over from PPA to BCDA on February 1, 1997, and the Poro Point Management Corporation was created on October 3, 2002 as the implementing arm of the BCDA over the Poro Point Special Economic and Freeport Development Zone based on the Executive Order No. 132.

For the purpose of the operation/administration/management of the PHIVIDEC Industrial Area and other designated areas in northern Mindanao, the PHIVIDEC Industrial Authority (PIA), which is fully-owned and controlled by the government of the Republic of the Philippines, was established on August 13, 1974 by Presidential Decree No. 538, as amended by Presidential Decree No. 1491. The Authority develop the Mindanao Container Terminal in its area.

Furthermore, CEZA was created under Republic Act No. 7922 on February 24, 1995. CEZA is mandated to supervise and manage the development of the Cagayan Special Economic Zone and Freeport (Cagayan Freeport, or Irene port) which is located in northern Luzon and develops the area into a self-sustaining industrial, commercial, financial, and tourism/recreational center and Freeport with suitable retirement/residential areas, in order to create employment opportunities in and around the Cagayan Freeport, and to effectively encourage and attract legitimate and productive local and foreign investments.

3) Other Ports

LGUs are responsible for the management/operations of small scale public ports, which are not directly managed by PPA or CPA. The developments of these ports are funded by LGUs or central government through DOTC. The DOTC shall utilize not only local fund but also foreign loan for that purpose. While LGUs is the responsible body for the implementation of port construction as well as management/operation of the port in case of locally-funded project, DOTC is responsible for the construction of the development project in the case of foreign-assisted project. After the completion of a foreign-assisted project, the constructed port shall be turned over to the LGU, which will manage/operate the port.

Outside the main shipping lanes are about 421 fishing ports, many of which are simple landing stages built by LGUs. A few fishing ports with refrigeration facilities were built in the 1990s by the Department of Transportation and Communications (DOTC) and were handed to the Philippine Fisheries Development Authority upon completion. DOTC also funded the construction of several feeder ports that were eventually handed over to the LGUs.

4) RRTS Ports

Lastly, RRTS ports are yet to be realized and remains on paper but is nonetheless an area of great interest in the sector. Being a new paradigm, the Road-RORO Terminal System (RRTS) is still unclear, and the roles of the different players are still evolving along the lines listed in Table 2.5.4. In terms of infrastructure, the SRNH under the PPA umbrella is more extensive (i.e., current RoRo operation is being operated under the PPA Ports System). However, DOTC is designated as the lead government agency to oversee the successful implementation of the RRTS.

What distinguishes the RRTS from the PPA Ports System are the following:

- No cargo handling charges since the cargo is “rolling,”
- No wharfage dues (Specified under EO No.170),
- Toll fee consisting of 4 unbundled cost items: i) a terminal fee charged on the self-powered vehicle and passengers for the use of the terminal; (ii) berthing fee levied on the RoRo vessel by the terminal operator for mooring and berthing; (iii) freight or rolling cargo fee, based on the lane meter or the actual space occupied by the vehicle, charged to the rolling cargo by the carrier vessel operator; (iv) a passage fee levied to the passengers by the RoRo vessel operator,
- Simplified documentary requirements, and
- Waiver of port authorities' share in revenues, with PPA and MARINA receiving a fixed annual administrative supervision fee.



Table 2.5.4. Institutional and Policy Framework for RRTS

Port System	Port Authority & Legal Framework	Coverage
Road-RORO Terminal System (RRTS)	EO 170 and EO 170-A <ul style="list-style-type: none"> “Promoting Private Sector Investment in RRTS DOTC is tasked to lead the review of the Implementing Rules and Regulations (IRRs) every 6 months together with other government agencies (e.g., PPA, MARINA, etc.). PPA and MARINA only perform supervisory functions, especially in the area of port and vessel safety. PPA and MARINA only get fixed annual supervision fees. 	<ul style="list-style-type: none"> Unregulated, market-driven. Private and LGU investment in RoRo terminals (ports) and shipping. Privatized public RoRo ports; devolved PPA ports to LGU’s. Private ports under PPA system that will convert to pure RoRo operation Deregulated rates (Toll Fee). Freight is based on lane meter. Since the cargo is rolling and self-driven, no cargo handling charges are levied. RoRo terminals cannot charge wharfage dues. The Development Bank of the Philippines (DBP) identified some 48 RoRo links as high investment priority areas under its Sustainable Logistics Development Program (SLDP).

Source: DOTC

Aside from new RoRo ports, EO No.170 also envisages the privatization and devolution of existing public RoRo ports under PPA or CPA. Existing private port operators are encouraged to convert their operations to RRTS. To bankroll its development, the state-owned Development Bank of the Philippines has opened a lending window called Sustainable Logistics Development Program (SLDP). Eligible for funding are: RoRo vessel acquisition, RoRo port construction, investment in bulk-handling of agricultural commodities, and cold chain facilities.

In addition to the above-mentioned RRTS ports, the following (Table 2.5.5) is the schedule of government share in port tariffs categorized by type of port.

Table 2.5.5. Government Share of Various Port Tariffs

Kinds of Tariff	Kinds of ports	PPA (114 ports)	LGU	Private
Cargo handling charge	Domestic	Minimum 10% of revenue of the cargo handling operator		0% (*1)
	Foreign	Minimum 20% of revenue of the cargo handling operator		0% (*1)
Port Dues (Port entry fee)	Domestic	0%	0%	0%
	Foreign	100%	0%	0%
Dockage	Domestic	100%	0%	50%
	Foreign	100%	0%	50%
Wharfage	Domestic	100%	0%	50%
	Foreign	100%	0%	50%

Note: *1 The private port will pay to the government as follows.

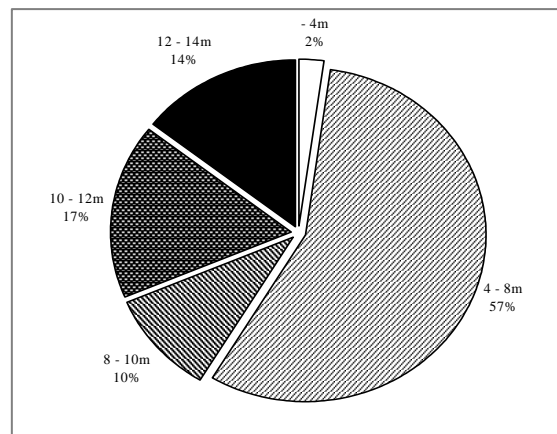
- Private non-commercial port: 10,000 pesos p.a.
- Private commercial port: 20,000 pesos p.a.

2.5.2 Port Facilities and Throughput

1) Berths and RoRo Facilities

The berth length is one of the basic information to know the scale of ports. Generally speaking, a berth whose depth is less than 8m is mainly used for domestic transportation while a berth whose depth is more than 8m can be used for international transportation. As Figure 2.5.2 shows, about 60% of berths at major public ports have less than 8m depth.

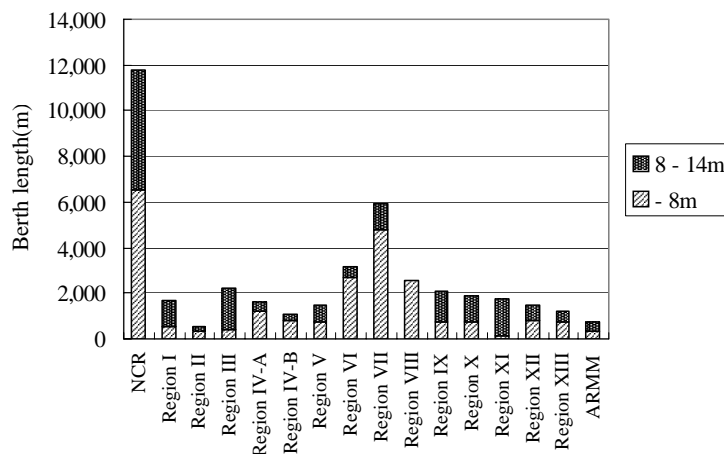
Figure 2.5.2. Nationwide Share of Berth Length by Depth



* Source: JICA Study on the Port Master Plan (2004)

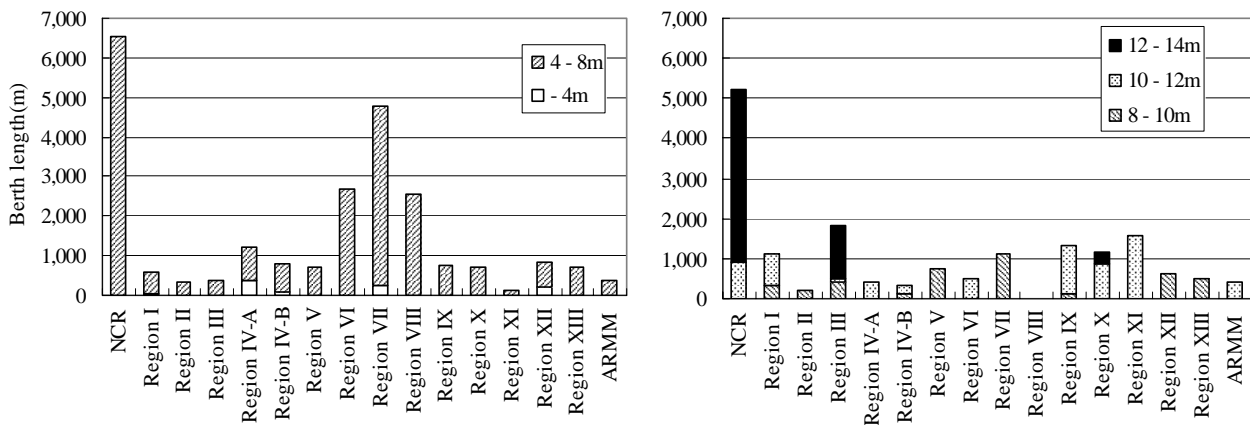
The distribution of berths is, of course, not homogenous within the country. The total berth length in NCR is the longest followed by that in Region VII (See Figure 2.5.3). Deeper berths (i.e. more than 8m depth) are located mainly in the Luzon area, in particular in NCR, as well as in the Mindanao area. Among the berths whose depth is less than 8m, the majority is found in NCR and Visayas areas (i.e. Region VI - VIII). NCR also has the largest portion of berths greater than 8m depth, including deep berths of 12m–14m (See Figure 2.5.4).

Figure 2.5.3. Berth Length of Public Ports by Region and Depth



* Source: JICA Study on the Port Master Plan (2004)

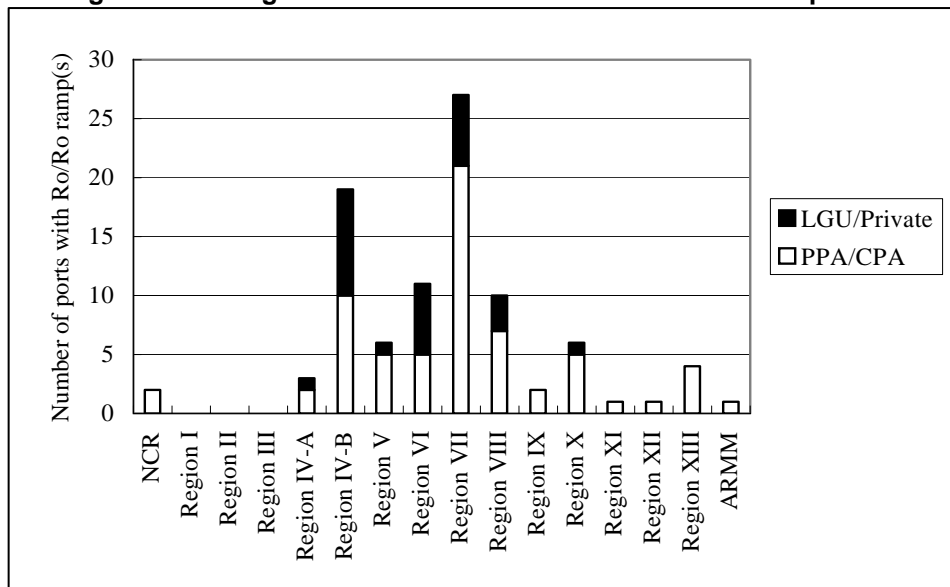
Figure 2.5.4. Berth Length of Public Ports by Region and Classification Depth



* Source: JICA Study on the Port Master Plan (2004)

Figure 2.5.5 shows the regional distribution of ports with RoRo ramps. Many ports with RoRo ramps have been developed in the Visayas area (especially Region VII).

Figure 2.5.5. Regional Distribution of Ports with RoRo Ramps

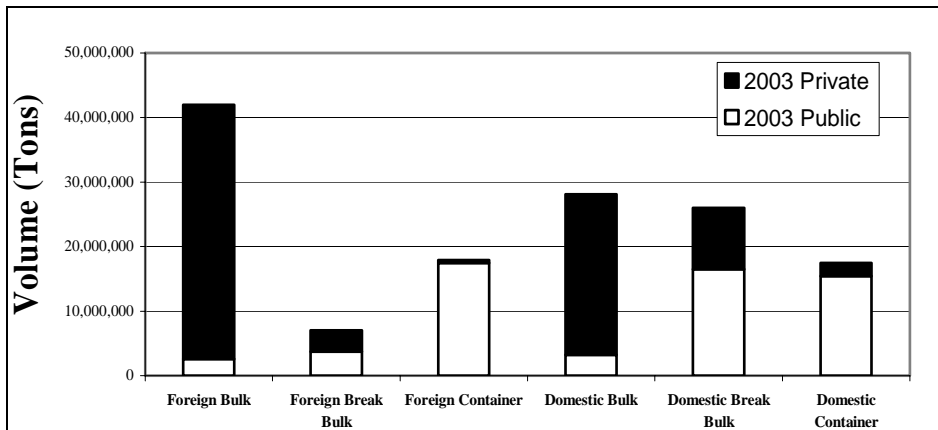


* Source: JICA Study on the Port Master Plan (2004)

2.5.3 Role of Public and Private Ports

As shown in Figure 2.5.6, which analyzes ports under PPA jurisdiction, almost all international/domestic bulk cargo are handled by private port while international/domestic container cargo are handled by public port.

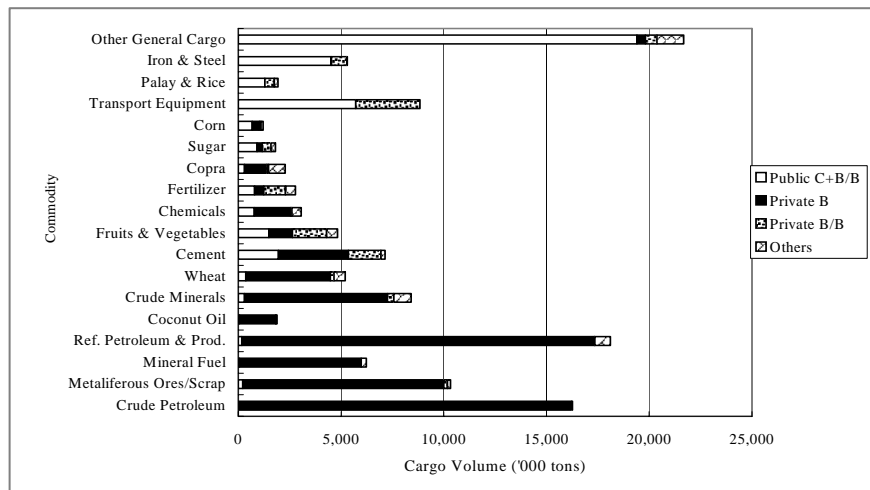
Figure 2.5.6. Cargo Volume Handled by Public or Private Port (2003)



Source: PPA (2003)

Figure 2.5.7 analyzes cargo type of each commodity in descending order of public port share. It is clear that the commodities transported as bulk cargo are mostly handled at private ports. Generally, specialized and dedicated facilities are indispensable to handle bulk cargo efficiently. Thus, private ports usually handle a large amount of bulk commodities directly related to commercial industries such as energy, foodstuffs, and chemicals mainly driven by the market demands of specific related industries. On the other hand, most container and break bulk cargo are handled at public ports.

Figure 2.5.7. Commodities Haul Led by Public and Private Ports



Source: JICA Study on the Port Master Plan (2004)

Table 2.5.6. Total Cargo Volume at Top 50 Ports in the Philippines (2003)

				(Unit: tons)
	Name of Port	Port Mgt. Body	Kind of Port	2003
1	Manila Ports	PPA	Base Ports	28,709,492
	MICT	PPA	Base Port	13,195,753
	Manila South Harbor	PPA	Base Port	8,170,796
	Manila North Harbor	PPA	Base Port	7,342,943
2	Cebu	CPA	Base Port	12,992,772
3	Cagayan de Oro	PPA	Base Port	3,179,739
4	Davao	PPA	Base Port	2,716,632
5	Iloilo	PPA	Base Port	2,701,350
6	Ozarniz	PPA	Base Port	1,935,594
7	Bredco	Bredco	Private Port	1,877,386
8	General Santos	PPA	Base Port	1,748,057
9	Matnog	PPA	Terminal Port	1,671,002
10	Tefasco	Tefasco	Private Port	1,627,745
11	San Fernando	BCDA	Other Govt. Port	1,497,080
12	Balwharteco	Balwharteco	Private Port	1,392,151
13	Subic	SBMA	Other Govt. Port	1,320,498
14	Zamboanga	PPA	Base Port	1,278,442
15	Batangas	PPA	Base Port	1,231,552
16	Bay River	PPA	Terminal Port	1,091,675
17	Nasipit	PPA	Base Port	961,888
18	Harbor Center	Harbor Center	Private Port	911,354
19	Tagbilaran	PPA	Base Port	700,403
20	Calapan	PPA	Base Port	615,351
21	Tadoban	PPA	Base Port	587,489
22	Dumaguete	PPA	Base Port	570,102
23	Pto. Princesa	PPA	Base Port	514,115
24	Tabaco	PPA	Terminal port	450,307
25	Lipata	PPA	Terminal Port	383,477
27	San Jose	PPA	Terminal port	379,447
28	Legazpi	PPA	Base Port	347,553
29	Iligan	PPA	Base Port	326,640
30	Pulauan Dapitan	PPA	Terminal Port	292,884
31	Masbate	PPA	Terminal Port	288,282
32	Culasi	PPA	Terminal Port	257,631
33	Ormoc	PPA	Terminal Port	216,243
34	Surigao	PPA	Base Port	211,890
35	Pasacao	PPA	Terminal port	149,196
36	Palompon	PPA	Terminal Port	137,083
37	Bauan	PPA	Terminal Port	123,738
38	Catagbacan	PPA	Terminal Port	118,133
39	Pulupandan	PPA	Base Port	104,278
40	Irene	CEZA	Other Govt. Port	98,923
41	Currimao	PPA	Terminal port	82,416
42	Maasin	PPA	Terminal port	82,059
43	Catbalogan	PPA	Terminal Port	79,398
44	Naval	LGU	Terminal Port	67,154

Source: PPA, CPA, SBMA, CESA and PPMC

2.5.4 Case Studies at Selected Ports

(1) MAJOR DOMESTIC PUBLIC PORTS

Domestic ports also have poor efficiency. Most of the major domestic public ports are old ports under the control of the PPA. They were not designed for modern cargo operations or for the kind of modern vessels that shipping companies may want to introduce. The result is unsafe and inefficient handling of cargo and passengers, leading to long turnaround times (see Table 2.5.7).

Productivity levels at ports handling domestic cargo are significantly low and most critically at the North Harbor which is the center of inter-island traffic. Although there are many RoRo ferry vessels in this country, many of which are second hand, it is very rare to see real Roll-in / Roll-out operation at ports. Sometimes the RoRo ramp is not suited to the vessel hatch mainly because the size of vessels varies. At least two fork-lifts are employed for the operation. One is located outside the vessel while the other is in the vessel. Outside fork-lift carries cargo at the hatch of the vessel, and then inside fork-lift will bring it into the vessel.

Another problem with domestic ports is the lack of sufficient depth to support larger sized vessels to achieve economy of scale. Though some ports have sufficient depths, it really wouldn't matter as the primary ports of origin or destination – North Harbor and Cebu Port have very limited depth.

Thus, the domestic shipping fleet operates small cargo vessels. The container vessels are only about 2000 GRT (less than 250 TEU capacity). Even general cargo vessels, many of which also carry containers, are even smaller at an average of less than 500 GRT. Given their small size, it is not surprising that inter-island shipping costs are relatively high.

Table 2.5.7. Turnaround Times at Selected Major Domestic Ports

Port	2000	2002	2003
North Harbor	47.4	51.9	55.6
Iloilo	51.2	49.8	35.4
CDO	27.2	24.3	26.7
Davao	69.2	29.2	41.5
Batangas	9.5	10.6	15.6

¹ Average Hours
Source: PPA Statistics

Table 2.5.8. Cargo Handling Productivity and Traffic Volume of Selected Ports

Port (Class)	Inter-island Containers handled (TEU/yr)	Inter-island Cargo Throughput (000 MT/yr)	Container Handling Productivity (bx/s/hour)	Break bulk Handling Productivity (T/hour)	Cargo Handling Equipment (units)
North Harbor (A)	763,823	15,631	8	28	Forklift (173) Crane (5) Toplifter (9)
Cebu (A)	300,172	13,720	11	60	Forklift (33) Crane (16) R. Stacker (1) Toplifter (1)
CDO (A)	140,016	2,193	16	25	Forklift (71) Crane (4) R. stacker (3) Toplifter (3)
Davao (B)	87,735	1,484	14~15	35	Forklift ((34) Crane (4) R.stacker (2) Toplifter (4)
Ozamiz (B)	25,835	1,594	n/d	30	Forklift (11)
General Santos (C)	110,810	1,385	18	41	Forklift (14) R. stacker (2)
Surigao (C)	4,828	213	10	20	Forklift (4) Crane (1)
Basilan (D)	n/d	n/d	n/d	19	Forklift (3)
Tubigon (D)	n/d	n/d	n/d	15	n/d

Source: JICA Study on Port Masterplan (2004)

Table 2.5.9. Berth Length and Alongside Water Depth of Selected Ports

Port (class)	Depth (m)		
	< 5	5 ~ 7	> 8
North Harbor (A)	884 m	5,046 m	-
Cebu (A)	1,025 m	2,806 m	761 m
CDO (A)	-	-	1,022 m
Davao (B)	-	-	920 m
Batangas (A)	-	827 m	415 m
Subic (A)	150	30m	5,025m

Source: JICA Study on Port Masterplan (2004)

(2) THE PORTS IN METRO MANILA

Majority of maritime cargo is transported from/to Greater Capital Region (i.e. NCR, Region 3 and Region 4A). Thus, for the detailed analysis of "hub ports", ports in Metro Manila are selected. Specifically, Manila port (North Harbor and South Harbor), which is one of the busiest ports among public ports, and Harbour Centre, which is a typical private commercial port.

North Harbor does not use gantry cranes despite having significant cargo throughput, due in large measure to the prevalence of "combination" carriers (actually modified RoRo vessels) calling at the port. Hence fork-lifts are used to load and unload containerized cargo. The finger pier configuration also precludes the use of gantry cranes. On the other hand, reconfiguring the North Harbor for gantry crane operation would invariably reduce berth space of an already congested port. Due to the high level of berth occupancy, shipping lines are allocated slots on specific berths. The lines can select their own stevedoring companies, but must use the wharf handling company (arrastre companies) assigned to that berth by the PPA through short-term operating leases. Due to lack of capital and the risks associated with short term contacts compounded with the lack of accountability of performance, cargo handling companies have not invested in modernizing their operation. Thus, major shipping lines have taken ownership positions in their companies and provide their own equipment and operators. Moreover, the lack of back-up area of North Harbor has forced major shipping lines to own and operate their own container yards outside the vicinity of the port – which invariably adds to the inefficiency of port operation.

While South Harbor only handled international cargo previously, some RoRo Ferry operations, which were formerly carried out at North Harbor, were transferred to Pier 15 in South Harbor in 2003. During the same year, the port handled about 90,000 TEU domestic containers. At Pier 15, the length of the berth is 355m berths at both side of the Pier with depth of more than 12m.

The operation of the South Harbor is quite different from that of the North Harbor. At Pier 15, the RoRo hatch of the vessels can fit to the berth, and containers on chassis can be loaded/unloaded smoothly.

Harbour Centre is a private commercial port, which can handle all kinds of cargo except foreign container cargo. Harbour Centre started to operate in 1997 and its first locator came to the Centre in the following year. It has 865m of length of linear berth with depth of 10.5m - 11.5m at the north side, while there is 280m of length of berth with the depth of 5m - 8.7m at the south side. One of the typical features of this Harbour Centre is relatively wide back up area. Active operations on break bulk and bulk cargo can be observed; while there is no liner, domestic ferry route has been operated since Harbour Centre does not allow using its berth dedicatedly. One of the

biggest silo company which deals mainly with sugar and corn operates here. Although Harbour Centre has one mobile crane, it has not been utilized yet since the strength of the berth structure is not sufficient according to the officials of Harbour Centre.

Since Harbour Centre has sufficient capacity to deal with domestic cargo, healthy competition with PPA port, which may lead to offer better services for the users, is expected.

(3) REGIONAL PORTS

The predicaments of North Harbor in Manila Port can be seen at regional ports. That is, insufficient infrastructure as well as the inefficient operations.

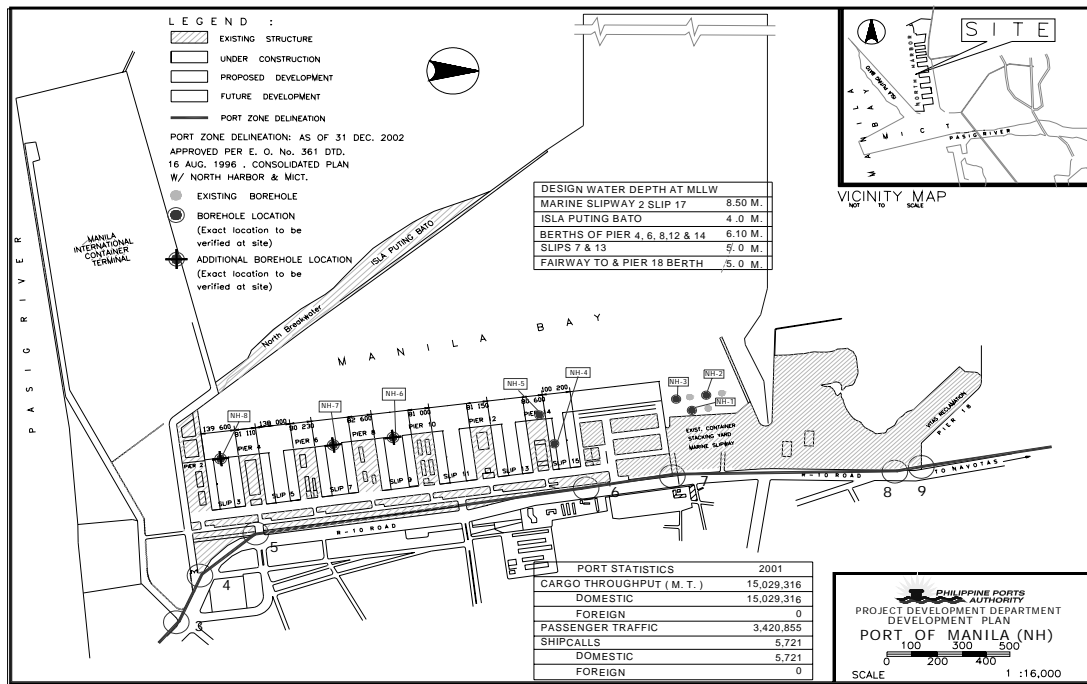
Culasi port in Roxas city in Panay Island accepts direct RoRo ferry link to Manila once a day. The layout of the port is shown in Figure 2.5.10. The empty container ratio in outbound trade is much higher than that in inbound trade. This means that this port's role is to accept the products from other area, i.e. Manila.

This port does not have any quayside crane. So, ships should be self-sustained, or RoRo vessels. Since the depth of the berth is 6m, large scale vessels cannot enter into this port. In addition, although fishery products are one of the main commodities in this port, there is no reefer container outlet.

Smaller ports usually have more problems. Typically back up area is really narrow. Typical small scale regional ports usually consist of one narrow "causeway", which leads to the berth and berth without cargo handling area behind it. Figure 2.5.14 shows the plan of port Dumangas. Originally, it has very small back-up area. The Municipal Government however, contributed to expand the back-up area, and the port now has a wide cargo handling area.

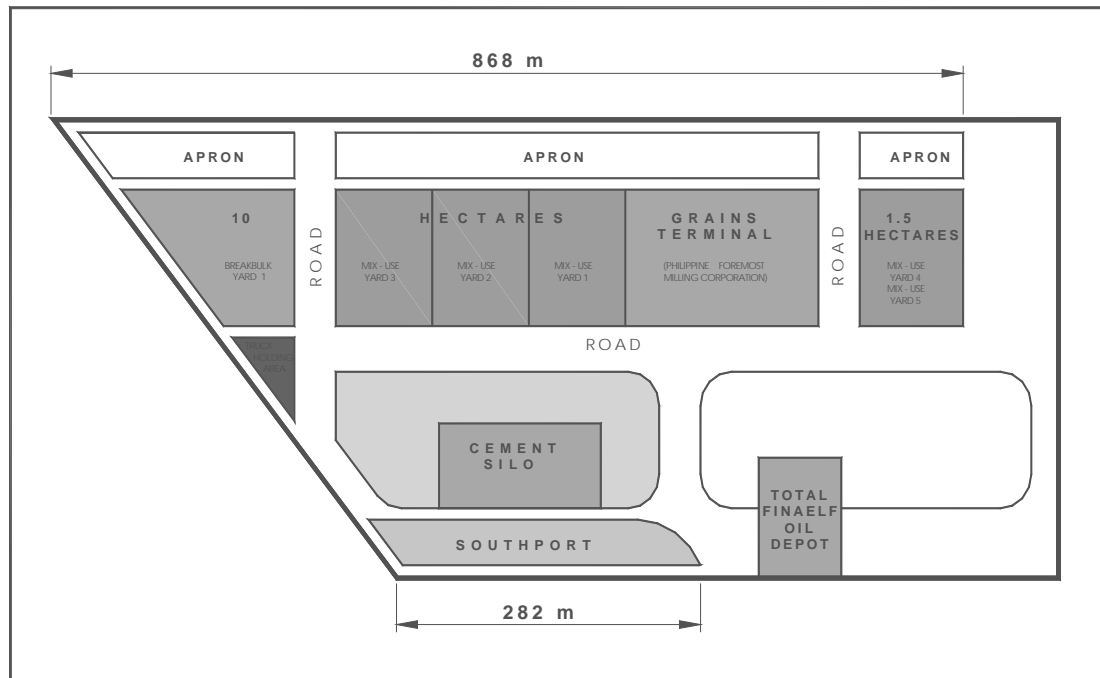


Figure 2.5.8. The Layout of North Harbor at Manila Port



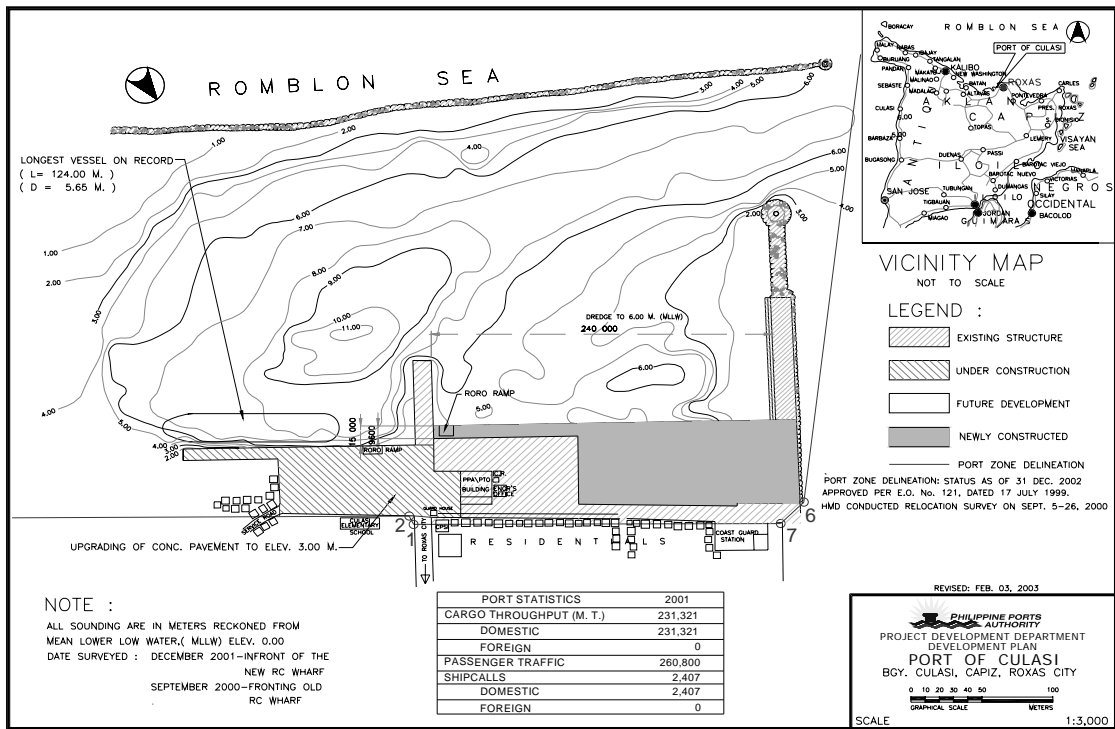
Source PPA

Figure 2.5.9. The Layout of Harbor Centre Port Terminal



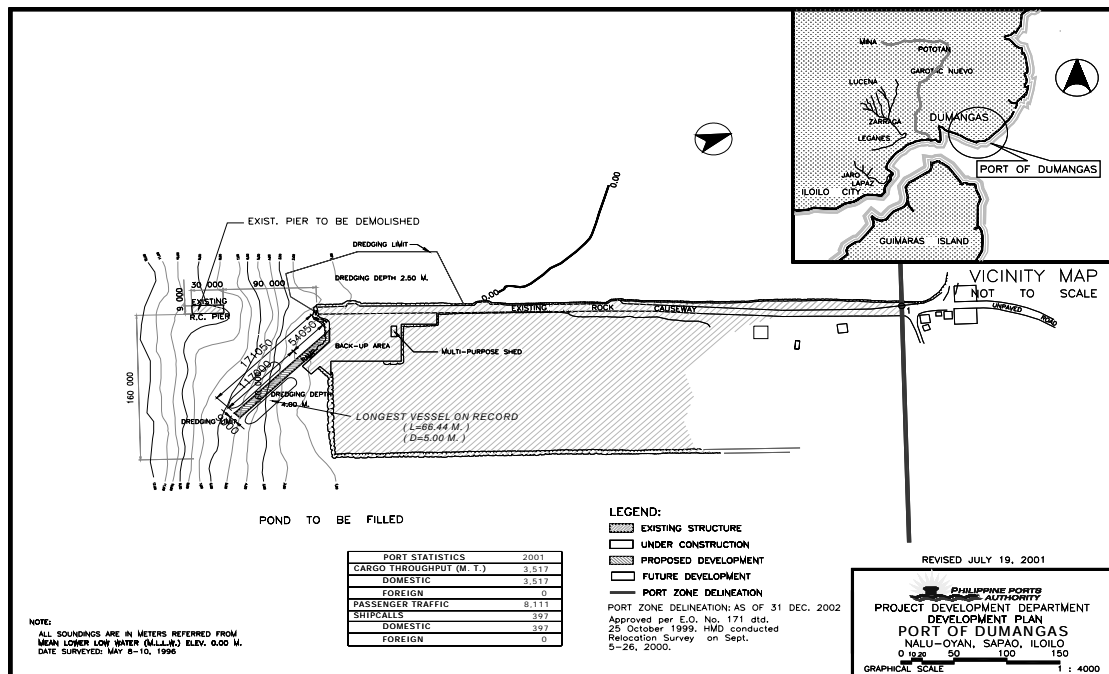
Source: JICA Study on the Port Master Plan (2004)

Figure 2.5.10. The Layout of Culasi Port, Roxas City



Source: PPA

Figure 2.5.11. The Layout of Dumangas Port



Source: PPA

2.6 Maritime Environment and Marine Safety

2.6.1 Oceanographic and Meteorological Features

The Philippines is an archipelago of more than 7,100 islands situated between 5° and 21° latitude and 116° and 127° longitude. Although, the Philippines has so many islands, the eleven largest islands make up 94% of the total land area. It is bounded in the North and East by the Philippine Sea and the Pacific Ocean, on the South by the Celebes Sea, on the Southwest by the Sulu Sea and in the West by the South China Sea.

The Philippine waters are characterized by varying tides and currents. Tides in the inland waters and the west coasts are tropic tides in nature, being mostly affected by the declination of the moon. The effects of tropic tides are less visible in the eastern coast and other points that are linked to the Pacific Ocean. The greatest range of tides can be observed in June and December and the least range can be observed in the months of May and September.

Several trading currents pass through the Philippines. The most prominent of these are the ones that come from the China Sea and pass through the west openings and from the Pacific Ocean that pass through the straits of San Bernardino and Surigao.

The Philippines is also situated in what is called the “Ring of Fire” and the “Typhoon Belt.” The famous volcanoes in the Philippines are Mount Pinatubo, Taal Volcano, Mayon Volcano, Mount Canlaon and Mount Ragang. The first three are in Luzon while the next two are found in Negros Island and Mindanao Island, respectively.

The Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA) is the main government entity mandated with keeping track of the weather. The Philippine Area of Responsibility (PAR) covers an area much larger than that of the Philippines, from 5° latitude, 115° longitude then north to 15° latitude, 115° longitude then north-easterly to 21° latitude, 120° longitude, then north to 25° latitude, 120° longitude then east to 25° latitude, 135° longitude, then south to 5° latitude, 135° longitude and then back to the original point. This covers parts of Sabah, most of Taiwan, and the islands of Guam and Yap. PAGASA classifies tropical cyclones into three categories:

- Tropical Depression (TD) for cyclones with winds up to 63 kilometers per hour;
- Tropical Storm (TS) for cyclones with winds from 64 to 117 kilometers per hour; and,
- Typhoon (TY) for cyclones packing winds of more than 117 kilometers per hour.

From 1948 to 2004, an average of nearly twenty tropical cyclones enters the PAR. However, not all of these tropical cyclones entering PAR actually cross the Philippines. An average of only nine tropical cyclones makes landfall for the period 1948-2004. The worst year was 1993 when 32 cyclones entered PAR and 19 made landfall. The quietest year was 1998, when only 11 cyclones entered PAR and the years of 1955, 1958, 1992, 1997 and 2002, when only four cyclones actually crossed the Philippines.

The average for the last ten years shows that the numbers have dropped to 17.2 cyclones entering PAR and 8.3 tropical cyclones crossing the Philippines per year, although the last two years (2003 and 2004) showed an uptrend of 25 cyclones in PAR and twelve and ten cyclones entering the Philippines, respectively. The figures for the last two years are more than twenty percent above the average.

Moreover, it is also alarming that the cyclones are becoming more and more severe. In 2003, two cyclones were declared super typhoons. Last year, 60% of the tropical

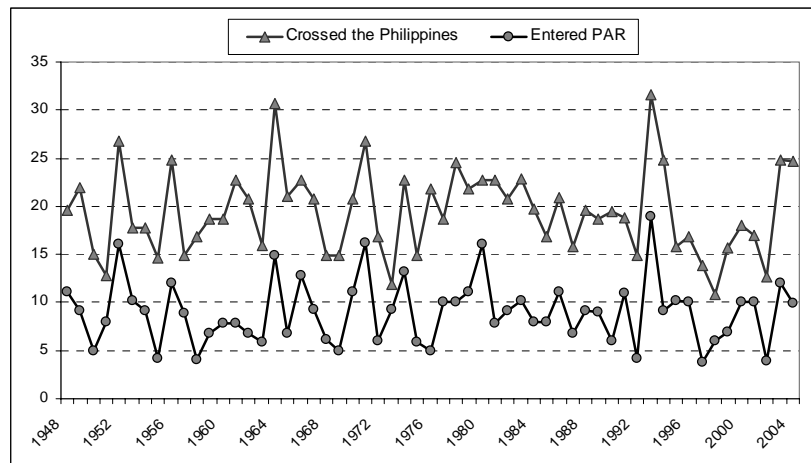
cyclones that entered the PAR are typhoons.

July is the month when most of the tropical cyclones come, with an average of nearly three cyclones per month for the last ten years. The months of August, September and October come closely behind. Sixty percent of the cyclones come during these four months.

Usually the tropical cyclones originate from the eastern part of the PAR and move in a north-westerly direction. However, a new phenomenon, although still quite rare (52 tropical cyclones in 50 years, of which only 13 made landfall in the Philippines), has been observed where tropical cyclones are originating from the South China Sea. For example, in September 1998, Tropical Storm Gading formed in the South China Sea and seriously affected Western Pangasinan.

Figures 2.6.1 and Figure 2.6.2 show the Annual Frequency of Tropical Cyclones in the Philippines for the periods 1948-2004 and 1995-2004, respectively. Figure 2.6.5 shows the Frequency Analysis for all Tropical Cyclones in the Philippines, from 1948 to 2000. Figures 2.6.6 show the tropical cyclone tracks for the years 1999, 2000, 2001, 2002, 2003 and 2004.

Figure 2.6.1. Annual Incidence of Tropical Cyclone in the Philippines, 1948-2004



Source: PAGASA

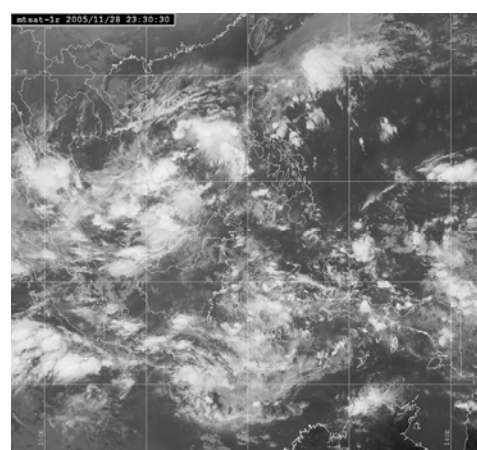
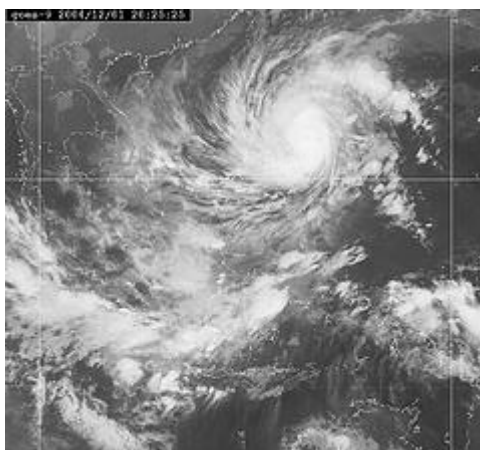
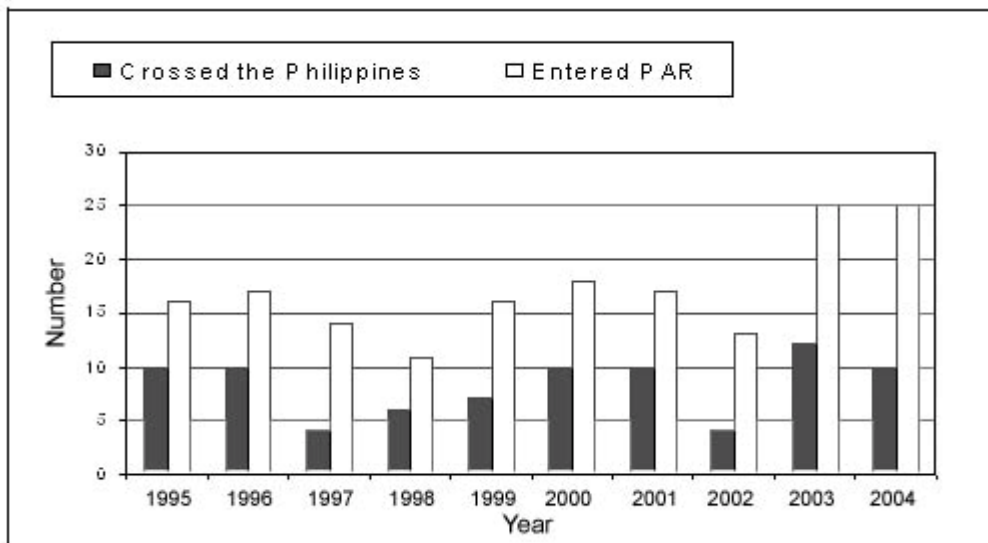
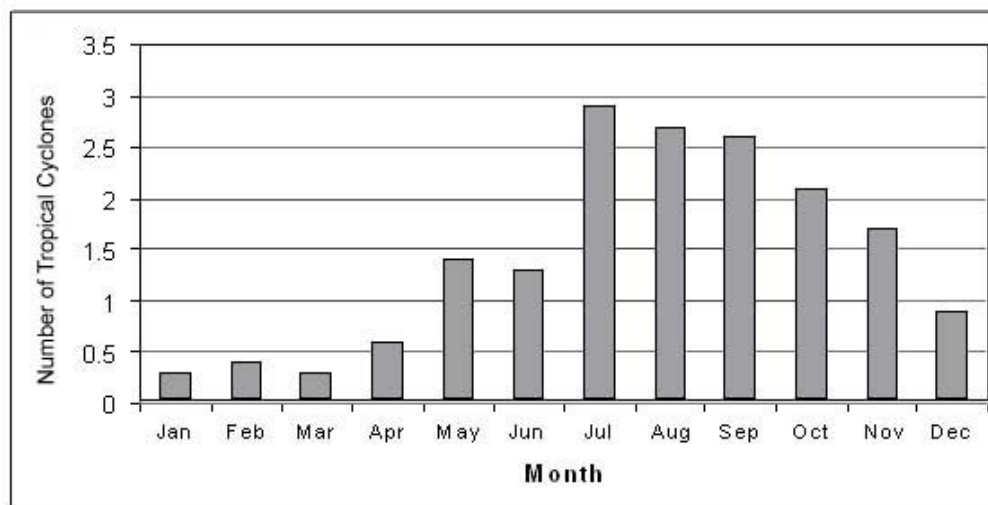


Figure 2.6.2. Annual Incidence of Tropical Cyclone in the Philippines, 1995-2004



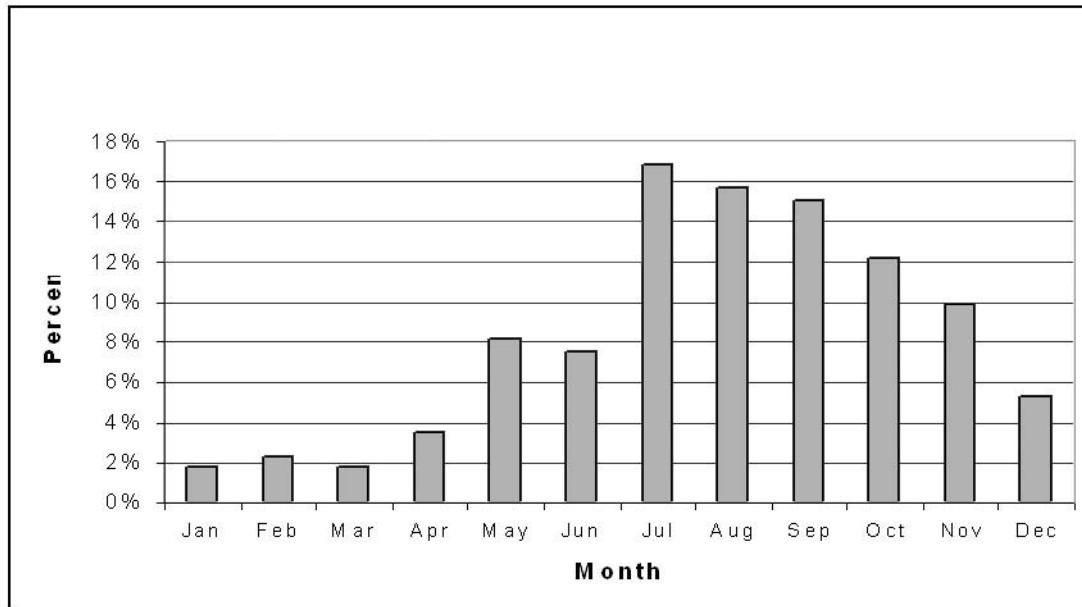
Source: PAGASA

Figure 2.6.3. Ten Year Average of Monthly Tropical Cyclone Incidence, 1995-2004



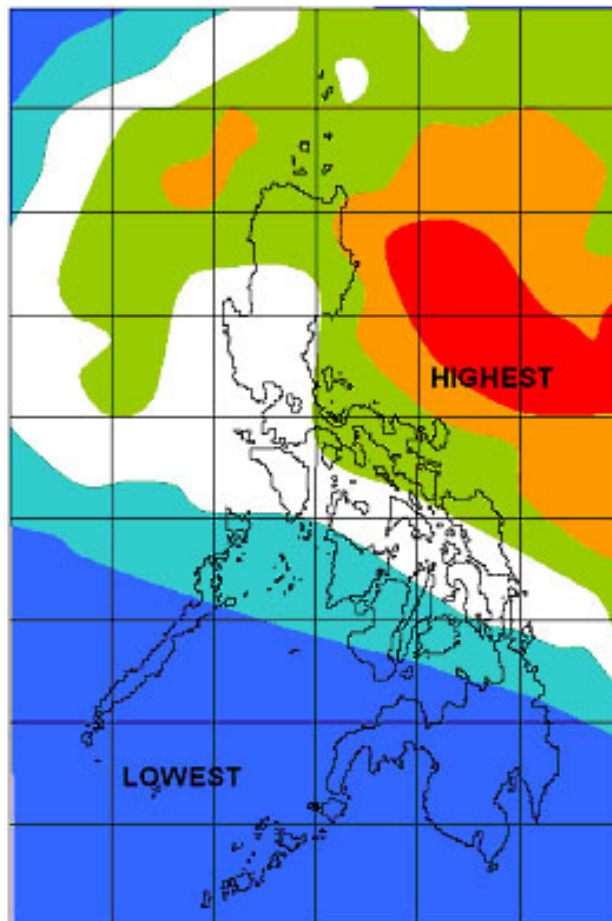
Source: PAGASA

Figure 2.6.4. Monthly Percentage Share of Tropical Cyclones in the Philippines, 1995-2004



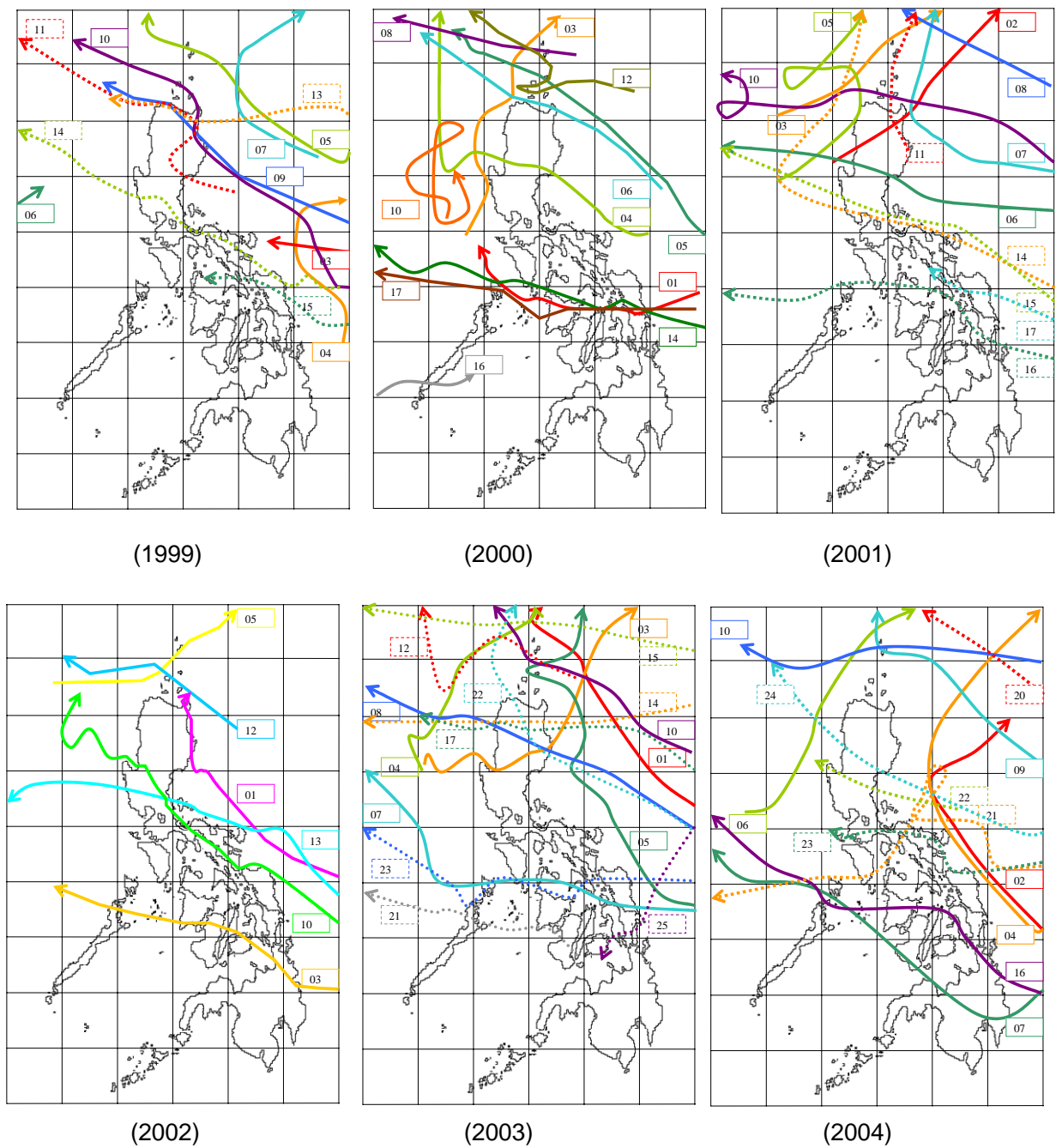
Source: PAGASA

Figure 2.6.5. Frequency Analysis for all Tropical Cyclones in the Philippines, from 1948 to 2000



Source: PAGASA

Figure 2.6.6. Tropical Cyclone Tracks



2.6.2 Maritime Incidents

The Philippine Coast Guard (PCG) is the primary government agency concerned with the reporting, evaluation and investigation of maritime incidents. The PCG classify maritime incidents into:

- Aground;
- Sunk;
- Collision;
- Caught Fire;

- Capsized;
- Missing;
- Drifted/Engine Trouble;
- Flooding;
- Rammed; and
- Others.

Considering that so many watercrafts of different types and sizes are moving over relatively narrow waterways, which is also regularly subjected to cyclones, it is inevitable that the country would be experiencing maritime accidents. However, this does not make an excuse for the country to be having the dubious distinction of owning the worst peacetime maritime accident, based in terms of lives lost.

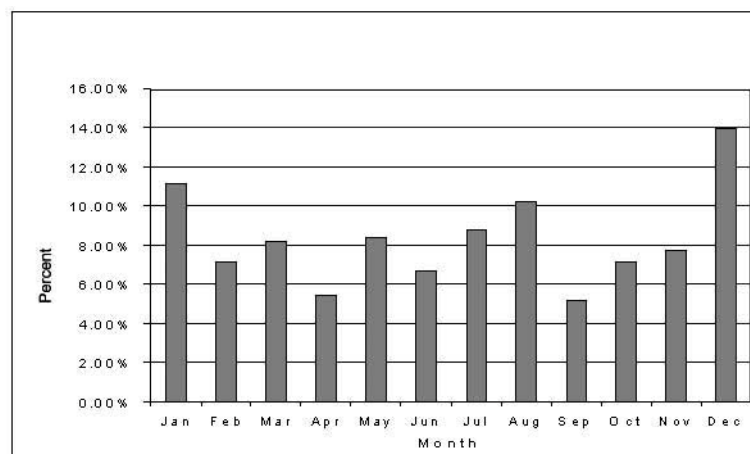
For the 1995-2004 period, 30.39% of all maritime incidents involved a vessel capsizing. The next two categories are running aground and sinking, with 16.49% and 16.04%, respectively. These three categories already account for nearly two-thirds of all the maritime incidents reported.

A cursory evaluation of the number of maritime incidents over the same period would show that the Philippines still has a high annual maritime incident rate of 177.7 per year and a casualty rate more than 116 deaths per year.

Approximately a quarter of all maritime incidents occur in the months of December and January, with 13.93% and 11.16% of all maritime incidents occurring in these months, respectively. One explanation for this is that the months of December and January are the months that many people travel home (in the provinces) for Christmas vacation and travel back to their usual work or domiciles in the cities. The high level of travel activities could explain this phenomenon.

The months of August and July come in third and fourth with 10.21% and 8.74%, respectively. The months of July and August are the months with the highest occurrences of tropical cyclones, which could also explain the high occurrence of maritime incidents during these months. (see Figure 2.6.7).

Figure 2.6.7. Monthly Distribution of Maritime Incidents in the Philippines, 1995-2004



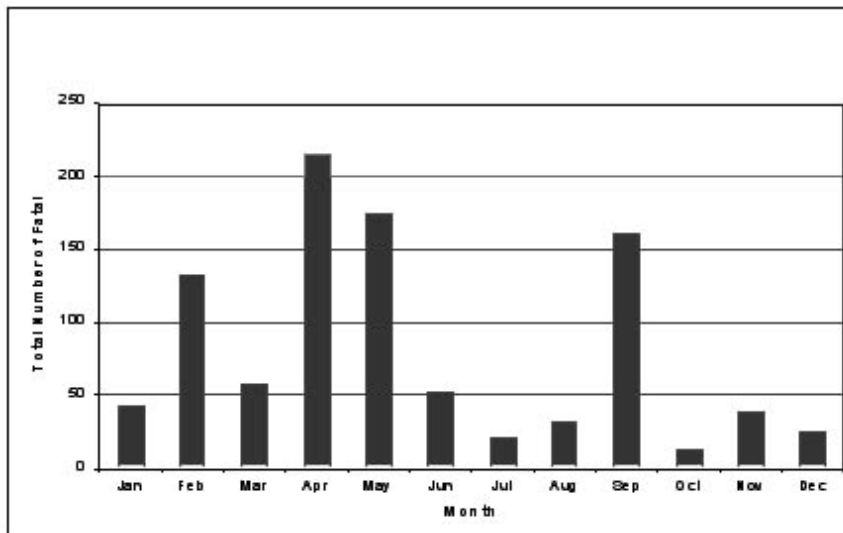
Source: Philippine Coast Guard

However, not all maritime incidents resulted in fatalities. For the ten-year period 1995-2004, the worst maritime incident recorded was the sinking of MV Princess of the Orient on 18 September 1998 off Fortune Island. This resulted in the untimely death of 150 people. Table 2.6.1 lists the maritime incidents during the period involving deaths of 10 persons or more and Figure 2.6.9 shows their locations. Figure 2.6.8 shows the monthly distribution of all fatalities from maritime incidents.

April has the highest number of total fatalities from maritime incidents (215 deaths) because it had three big maritime incidents with fatalities during this period. The incident in 2000 alone had 124 fatalities. Figure 2.6.9 shows the location of the Worst Accidents in the Philippines.

May comes in second with a total of 174 deaths. There were five disastrous incidents that occurred in this month during the ten-year period. September comes in third with 161 deaths, but only one incident accounts for the death of 150 people.

Figure 2.6.8. Monthly Distribution of Fatalities from Maritime Incidents in the Philippines, 1995-2004



Source: Philippine Coast Guard

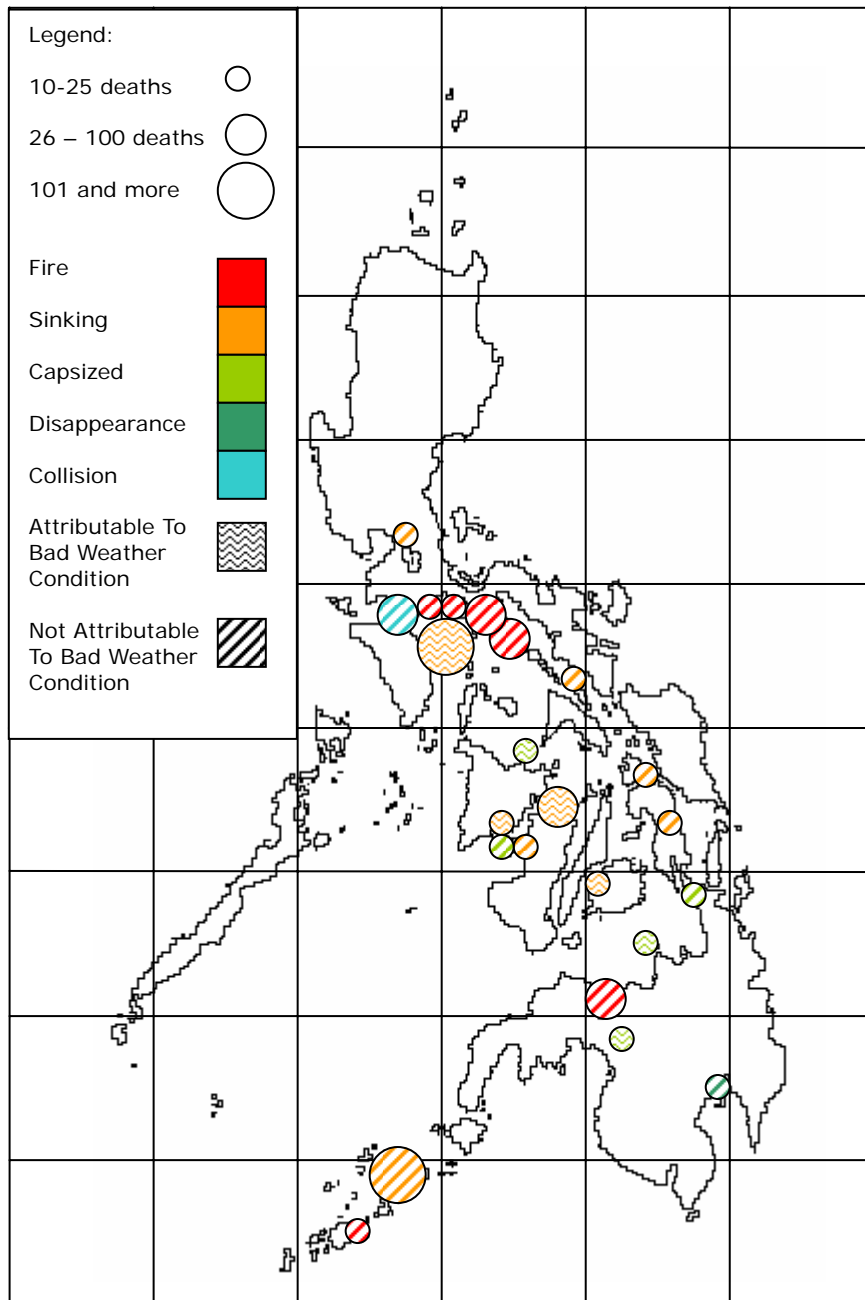
Table 2.6.1. Maritime Incidents Resulting into Deaths of Ten Persons or More, 1995-2004

Incident Particulars		Nature of Incident	Fatalities	Ship Name	Due to Weather
Date	Place				
16-May-95	2 miles off Dalahican Fishport, Lucena City	Fire	62	MV Viva Antipolo VII	
13-Dec-95	5 miles SE off Fortune Island, Nasugbu, Batangas	Fire	17	MV Kimelody Cristy	
18-Feb-96	Hitalon River, Cadiz City	Sinking	51	ML Gretchen	Yes
17-Jan-97	Vicinity of Capones Island	Capsized	25	MBCA Don Don	Yes
23-Feb-97	Between Iloilo & Buenavista Guimaras	Capsized	12	Mbca Fish Hunter	
4-Mar-97	3.8 miles off Malapascua Cebu	Sinking	13	FB Annie Pauline	Yes
4-Mar-97	Vicinity of Ticao Island, Sorsogon	Sinking	10	Mbca Baby Joy	
27-Mar-97	West of Negros	Sinking	15	FB Tapilon 1	
22-May-97	Biviagan Obando Bulacan	Sinking	12	Fbca Bay Robert	
27-Jun-97	0.5 mile off Farola, Iloilo City	Sinking	25	Mbca Leather Neck II	Yes
15-Aug-97	11°40 N & 124°18 E, Vicinity of Tincasan Point	Sinking	12	MV Kalibo Star	
4-Apr-98	Balut Island, Davao del Sur	Disappearance	22	MV Virgin Pearl	
7-May-98	15 miles off Marawi City	Capsized	20	ML Ranao-Ranao 5	Yes
18-Sep-98	7.5 miles off Fortune Island	Sinking	150	MV Princess of the Orient	Yes
25-Feb-00	Vicinity of Ozamis Pier	Fire	39	MV Our Lady of Mediatrix	
12-Apr-00	1.2 nautical miles off Jolo Pier, Jolo Sulu	Sinking	124	ML Annahada	
19-Feb-01	Sanga-Sanga, Tawi-Tawi	Sinking	10	Unregistered Mbca	
11-Apr-02	Lucena	Fire	13	MV Carmela	
11-Apr-02	Vicinity of Pagbilao, Quezon	Fire	39	MV Dona Marilyn	
11-May-02	Brgy Antipolo, Naval	Sinking	19	MB Nilode-A	
21-Nov-02	Vicinity of Camiguin Island	Capsized	15	MV Dona Casandra	Yes
25-May-03	14-14.9 N and 120-34.5 E	Collision	28	MV Superferry 12 MV Nicholas	
7-Mar-04	Placer, Surigao del Norte	Capsized	10	Unregistered Mbca	

Source: Philippine Coastguard

Of the twenty-three major maritime incidents, eleven involved the sinking of vessels resulting to 441 fatalities. This averages out to one major sinking incident resulting into forty-four fatalities per year. The next categories are fire and capsizing, with five incidents each and 170 and 82 fatalities, respectively. Collision and disappearance have one major incident each involving the loss of 28 and 22 lives, respectively.

Figure 2.6.9. Location of the Major Maritime Accidents in the Philippines, 1995-2004



Source: Philippine Coast Guard

2.6.3 Marine Environment Protection

The Philippine Coast Guard is the lead agency responsible for the prevention and control of pollution in Philippine territorial waters, up to and including the Philippine Exclusive Economic Zone (EEZ). The main command in the PCG given this task is the Marine Environment Protection Command (MEPCOM). The National Operation Center for Oil Pollution (NOCOP) is the focal unit of MEPCOM to handle the perils of oil pollution.

The PCG has prepared its National Oil Spill Contingency Plan to ensure a timely, measured and effective response to oil spill incidents in the country, and to protect the environment from the damaging effects of oil spills by providing a coordinated

response mechanism for combating oil spills using the combined, albeit limited, resources of the private sector and government.

The Plan adopted the “Tiered Response” concept to plan for a range of potential oil spill situations and to allow for efficient escalation of response efforts by calling on supplementary resources, as required. Tier 1 is for small local events for which response resources should exist locally. Tier 2 is for a larger oil spill (up to 1,000 cubic meters) that may occur in the vicinity of a response center or a small spill at a distant location that may require resources from different sources. Tier 3 is for the largest oil spills (more than 1,000 cubic meter), such as a large tanker accident or offshore blowout, that may require all the response resources of the country or even requiring international assistance and cooperation.

The Plan also mapped out the specific actions to be carried out throughout the oil spill response operation. This is divided into four stages:

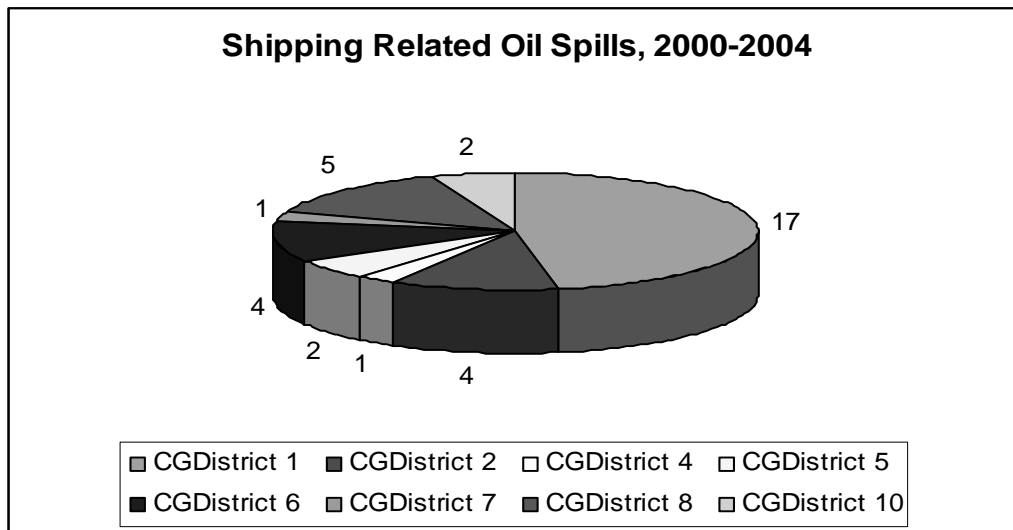
- Alerting or Initial Stage. This is from the spill is reported until the Incident Control Room is activated and a decision is made to effect the oil spill response efforts.
- Planning and Mobilization. This is from the time the decision is made to activate spill countermeasures until the same are ready for operation (equipment and people in place).
- Oil Spill Response Operation. This is the period during which the oil spill response measures are executed (skimming, dispersing, etc.).
- Demobilization or Termination. This covers all the actions after the decision has been made to demobilize and terminate the response measures.

Oil spills occur both inland and out in the sea. MEPCOM keeps records of both types of oil spills. From the records kept by MEPCOM, a total of seventy-one (71) oil spills involving more than 538,000 liters of pollutants were recorded for the 2000 – 2004 period. Of these 71 oil spills, thirty-seven, or a little more than half, were shipping related, i.e., caused by vessels. Volume-wise, shipping-related oil spills totaled more than 480,000 liters or nearly 90% of all the recorded oil spills.

The biggest oil spill incident was recorded on 10 January 2002 when M/T Trans Asia sunk off Bauan, Batangas, spilling around 400 metric tons (roughly 465,000 liters) of diesel fuel oil (DFO). The sinking of M/V Clara Joie off Bacolod City caused the spillage of 4,000 liters of DFO, which is the second worst recorded oil spill.

For the five-year period, 2000-2004, 18 oil spill incidents, or nearly half, occurred in the area of responsibility of the First Coast Guard District. It is quite understandable considering the fact that Metro Manila is the center of the oil distribution system of the country. The Eighth Coast Guard District comes second with five oil spill incidents. The Second and Sixth Coast Guard Districts are joint third with four oil spill incidents in the period. Figure 2.6.10 shows the occurrences of oil spill incidents for the past five years.

Figure 2.6.10. Occurrences of Oil Spill Incidents in the Philippines, 1995 – 2004



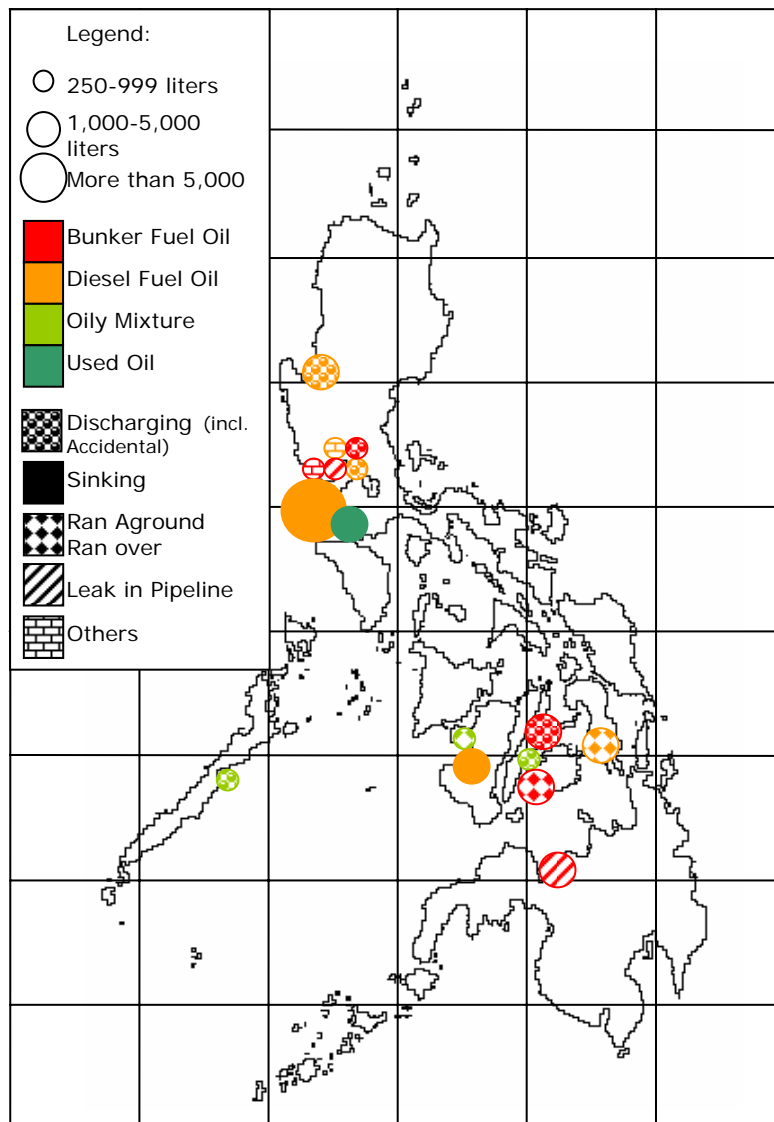
Source: Philippine Coast Guard

The most common reason for an oil spill incident is discharging (illegal, accidental and simple discharging) accounting for 16 incidents. Next comes sinking with five incidents. These five incidents, however, account for almost 98% of the volume of spillage. Three out of the four biggest oil spill incidents were caused by sinking vessels.

Category wise, nineteen incidents involved the spillage of bunker fuel, totaling 6,338 liters. Seven incidents spilled a total of 472,946 liters of DFO. It is worthwhile to note that the four largest oil spills involved DFO. Six incidents involved the spillage of oily mixture with a total volume of 1,480 liters. Two incidents involved the spillage of sludge totaling 180 liters. Other spillages involved hydraulic oil, LPG, and used oil, with one incident each with volumes of 15 liters, 200 liters and 1,600 liters, respectively.

Figure 2.6.11 shows the location of the worst maritime oil spills recorded during the 2000-2004 period.

Figure 2.6.11. Location of the Major Oil Spill Incidents in the Philippines, 1995-2004



Source: Philippine Coast Guard

2.6.4 Maritime Security

Maritime security used to be focused on piracy, which is defined as unlawful acts against the safety of navigation, threatening the safety of ships and the security of passengers, crew on board and even the cargo. Piracy has had a long history, almost as old as the shipping industry and the ASEAN region has been pointed at as the “hot spot” of piracy.

Notwithstanding this dubious distinction of the ASEAN waters, the Philippine territorial waters are relatively safe from piracy. From the records of the PCG Maritime Law Enforcement Command, there were only four records of apprehensions involving piracy during the five-year period 2000 - 2004. The major apprehensions were those involving maritime law violations and illegal fishing, as shown in Table 2.6.2.

Table 2.6.2. Major Maritime Apprehensions (2000-2004)

	2000	2001	2002*	2003	2004	Total
Piracy	-	2	-	1	1	4
Illegal Fishing	65	39	59	58	59	280
Smuggling	20	41	54	24	16	155
Illegal Logging	25	7	31	29	16	108
Gunrunning	10	17	8	10	22	67
Illegal Traffic of Explosives	4	8	4	8	14	38
Drug Trafficking	1	1	2	8	3	15
Maritime Law Violations	51	86	309	285	126	857
Others	13	6	27	57	49	152
Total	189	207	494	480	306	1676

* January to September figures only

Source: Philippine Coast Guard

The main reason for piracy has traditionally been “easy money.” But this has dramatically changed. The so-called “Freedom Fighters” and downright terrorists resort to piracy to attract attention to their cause.

Security has been in forefront of concerns since the September 11 incident. Air transport has tightened their security in airport terminals and in the aircraft itself. Air transport security authorities have been very strict in making sure that all security holes are plugged and that everyone concerned are always in heightened alert.

Maritime industry authorities have reasons to be concerned also with regard to security in the sector. A container could very well be transformed into a weapon, even carrying nuclear weapons. It could also be used as a hideout of terrorists to move in and out of a country. Then, there is also the possibility of blowing up a vessel to make a political statement. The reality of the last one was brought home when a renegade group claimed responsibility for the explosion and the fire that gutted Super Ferry 14, which eventually sank.

These potential risks are not lost to government authorities. To avert further security problems, President Arroyo issued Executive Order No. 277 on 30 January 2004 creating the Office for Transportation Security (OTS) under the DOTC. Originally, the primary responsibility of the OTS was to implement Annex 17 of the International Civil Aviation Organization (ICAO) on aviation security. On 26 April 2004, the President issued Executive Order No. 311, “Designating the Office for Transportation Security as the Single Authority Responsible for the Security of the Transportation Systems of the Country, Expanding Its Powers and for Other Purposes.”

On 31 May 2004, DOTC issued the National Maritime Transport Security Programme containing the Guidelines for Ship and Port Facility Security Assessment and Plans.

The DOTC issued the Department Order No. 2004-29, appointing OTS as the “Designated Authority” and “Administration” for the International Ship and Port Facility Security (ISPS) Code. As the “Designated Authority” and “Administration”, OTS issues the International Ship Security Certificates (ISSC) and the Statement of Compliance of a Port Facility (SCPF). As of 31 December 2004, OTS has issued 164 ISSCs to Philippine registered ships engaged in international voyages. This represents 97% of the 170 ships for compliance under the ISPS Code. As of 04 February 2005, OTS has issued 196 SCPFs to Philippine ports servicing ships engaged in international voyage.