THE REPUBLIC OF THE PHILIPPINES
MARITIME INDUSTRY AUTHORITY

THE STUDY ON MASTER PLAN
ON MARITIME SAFETY IN
THE REPUBLIC OF THE PHILIPPINES

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AUGUST 199[illegible]

THE REPUBLIC OF THE PHILIPPINES
MARITIME INDUSTRY AUTHORITY

THE STUDY ON MASTER PLAN ON MARITIME SAFETY IN THE REPUBLIC OF THE PHILIPPINES

FINAL REPORT (DATA BASE)

AUGUST 1992

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

Preface

In response to a request from the Government of the Republic of the Philippines, the Government of Japan decided to conduct a master plan study on Maritime Safety in the Republic of the Philippines and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines a study team headed by Mr.Kenji YANO, Excecutive Director, The Japan Association for Preventing Marine Accidents, three times between March 1991 and June 1992.

The team held discussions with the officials concerned of the Government of the Philippines, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of the friendly relations between our two countries.

I with to express my sincere appreciation to the officials concerned of the Government of the Republic of the Philippines for their close cooperation extended to the team.

August 1992

Kensuke Yanagiya

Kensuke Yanagiya
Presidet
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

Mr. Kensuke Yanagiya
President
Japan International Cooperation Agency

Dear Mr. Yanagiya:

We have the honor to submit to you our final report for the Study on Master Plan on Maritime Safety in the Republic of Philippines. It is with great pleasure that this Study has been completed under the close cooperation of the two governments of Japan and Philippines.

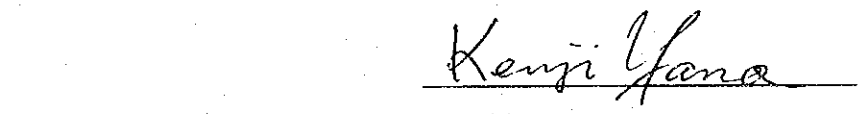
The final report has been prepared during the past 17 months by the Study Team organized by members of the Japan Association for Preventing Maritime Accidents in association with Yachiyo Engineering Co., Ltd., and headed by Mr. Kenji Yano. It comprises a Summary, Main Report, Technical Report, and Data Base.

In preparing this Report, our Team benefited a great deal of the cooperation of officials and experts of the Japan International Cooperation Agency and other authorities concerned of the Government of Japan.

On behalf of the Study Team, I would like to express my deepest appreciation to the officials concerned and to other related agencies of the Republic of Philippines for their enormous cooperation, assistance and warm hospitality extended to the Study Team members.

We sincerely hope that this Report will contribute to the further development of the Republic of Philippines.

Sincerely yours,



Kenji Yano
Team Leader
Study Team of the Study
on Master Plan on
Maritime Safety in the
Republic of Philippines

DATA REPORT
LIST OF CONTENTS

I. SUPPLEMENTAL SURVEYS

1. SHIPPING COMPANY SURVEY

1.1 Profile of the company

SQ1. What is the number of the employee in the Company?

ANSWER

	MANILA			CEBU			TOTAL				
EMPLOYEES	CISO	TANKER	NON - TANKER	CISO	TANKER	NON- TANKER	TOTAL	CISO	TANKER	NON- TANKER	TOTAL
H. Office Staff	1462	863	212	406	160	28	3131	1868	1023	240	3131
Seafarers	743	2286	797	1247	957	163	6193	1990	3243	960	6193
Total	2205	3149	1009	1653	1117	191	9324	3858	4266	1200	9324

Employees	No. ANS.	1-5 M.	1-5 C.	6-10 M.	6-10 C.	11-20 M.	11-20 C.	21-30 M.	21-30 C.	31-40 M.	31-40 C.	41-50 M.	41-50 C.	51-100 M.	51-100 C.	OVER 100 M.	OVER 100 C.	TOTAL Mla.	TOTAL Cebu
H.Office Staff	1	3	10	12	10	6	4	2	2	3	0	0	1	2	0	63	2	34	29
Seafarers	2	0	1	1	2	2	5	6	2	3	3	1	1	7	6	62	8	34	28

NOTE : M- MANILA
C- CEBU

COMMENTS/ANALYSIS

The Shipping Company respondents were grouped into three categories which are:

1. CISO Shipping Company Members
2. Non-tanker Shipping Company
3. Tanker Shipping Company

The Manila CISO Shipping Company respondents have the biggest number of head office staff which is 1,462. It seems that Aboitiz Manila comprised 71% of the total head office staff of the CISO respondents while the non-tanker shipping company respondents in Manila have the biggest number of the seafarers which is 2286. In Cebu, CISO Shipping Company members still have the largest number of head office staff of 406 and also the seafarers with a total number of 1,247 followed by non-tanker shipping company with 957 seafarers.

34% of the shipping company respondents have 6-10 numbers of head office staffs followed by 1-5 numbers of head office staff with a 20% share. 16% of the shipping company have 11-20 head office staffs and 13% of the company respondents have over 100

number of head office staffs.

It is apparent that 50% of the shipping company have more than 50 seafarers. 34% of this shipping company respondents have over 100 seafarers while 20% have 51-100 seafarers and 20% have 1 to 5 seafarers.

SQ2. What is the Classification of the Company

ANSWER

	MANILA			CEBU			TOTAL			
	CISO	TANKER	NON-TANKER	CISO	TANKER	NON-TANKER	CISO	TANKER	NON-TANKER	TOTAL
No. Answer	0	1	2	0	0	0	0	2	1	3
Passenger	0	0	1	0	0	0	0	1	0	1
Cargo	2	0	17	1	0	10	3	27	0	30
Pass & Cargo	1	0	4	6	0	9	7	13	0	20
Others	1	3	2	0	3	1	1	3	6	10
Total	4	4	26	7	3	20	11	46	7	64

COMMENT/ANALYSIS

The shipping passenger companies are classified into passenger, cargo, pass/cargo and others. 11% of the company respondent are CISO members, 72% are non-tanker companies and 11% are tanker companies. Out of the 17% of the CISO members, 64% are pass/cargo companies, 27% are cargo and 9% falls under others. For the non-tanker, 57% are cargo companies, 28% are pass/cargo and only 2% are passenger companies out of 72% of the non-tankers shipping company, while out of the 11% of the tanker companies, 86% have other classification while 14% percent did not give their company classification.

The other classification of company given are the following :

1. Tankering/Tanker
2. Overseas
3. Tramper
4. Tug barge operation
5. Lightrage

SQ3. Please list the operating routes of the vessels of the Company.

ANSWER

OPERATING ROUTE	MANILA	CEBU	TOTAL	OPERATING ROUTE	MANILA	CEBU	TOTAL
MANILA-AKLAN	1	0	1	MANILA-ILOILO	3	0	3
MANILA-ANTIQUE	3	0	3	CEBU-ILOILO	0	11	11
MANILA-BACOLOD	5	0	5	ILOILO-COTABATO	1	0	1
CEBU-BACOLOD	0	4	4	ISABELA-PORO	1	0	1
BACOLOD-BATANGAS	1	0	1	LAGUNA DE BAY-MLA	1	0	1
BACOLOD-CEBU	1	0	1	LAGUNA LAKE -PASIG	1	0	1
BACOLOD-CBU-DVO-ILOILO-TACLOBAN	1	0	1	MANILA-LEGASPI	1	0	1
BACOLOD-ILIGAN	1	1	2	CEBU-LEGASPI	0	2	2
MANILA-BACOLOD	2	0	2	MANILA-LEYTE	1	0	1
MANILA-BALOGO	2	0	2	CEBU-LEYTE	0	2	2
CEBU- BASILAN	0	2	2	LIBERTAD-SAN JOSE	1	0	1
BATAAN-PHILIPPINES	2	0	2	LIMINANLONG-TAYTAY	1	0	1
BATANGAS-BACOLOD-ILOILO		0	1	MANILA-MAMBULAO	1	0	1
BATANGAS-CABADBARAN-ILIGAN	1	0	1	MANILA-LUBANG-TILIK	7	0	7
BATANGAS-CHINA/HONGKONG	6	0	6	MANILA-SAN JOSE	2	0	2
BATANGAS-DAVAO-TUKURAN	1	0	1	MANILA-TAYTAY	2	0	2
BATANGAS-LEGASPI-PASACAO	1	0	1	MANILA BAY-PASIG R.	6	0	6
BATANGAS-MACTAN- TAGBILARAN	1	0	1	MANILA-NATIONWIDE	29	0	29
BATANGAS-PHILIPPINES	10	0	10	OCCIDENTAL MINDORO	2	0	2
BATANGAS-PORO	1	0	1	MANILA-OR. MINDORO	1	0	1
BATANGAS-PUERTA GALERA	1	0	1	ORMOC-SURIGAO	1	0	1
BATANGAS-SOUTHERN PHILIPPINES	11	0	11	MANILA-OZAMIS	1	0	1
BISLIG-BUTUAN	2	0	2	CEBU-OZAMIS	0	2	2
MANILA-CAGAYAN DE ORO	5	0	5	MANILA-PALAWAN	5	0	5
MANILA-CASIGURAN	2	0	2	CEBU-PALAWAN	0	1	1
MANILA-CEBU	6	0	6	MANILA-PANDACAN	4	0	4
CEBU-CEBU	0	6	6	PILILIA-SUCAT	5	0	5
CEBU-DADIANGAS-DAVAO	1	2	3	PUERTO PANACAN-ROXAS	1	0	1
CEBU-ILIGAN-TAGBILARAN	1	0	1	MANILA-QUEZON	1	0	1
CEBU-MACTAN	1	0	1	ROXAS-SIP	1	0	1
MANILA-COASTWISE	2	0	2	MANILA-SEMIRARA	1	0	1
CORON-CULLION-MANILA	3	0	3	MANILA-TAGOLOON	1	0	1
DUMAGUETE-ILIGAN	1	0	1	MANILA-TRAMPING	15	0	15
MANILA-EUROPE	2	0	2	CEBU-TRAMPING	0	30	30
ILIGAN-ILOILO	1	0	1	MANILA-VIRAC	1	0	1
ILIGAN-LEGASPI	1	0	1	MANILA-WORLDWIDE	6	0	6
ILIGAN-MANILA	1	3	4	MANILA-ZAMBALES	1	0	1
ILIGAN-ORMOC	1	0	1	MANILA-ZAMBOANGA	3	0	3
ILIGAN-TOBACCO	1	0	1	CEBU-ZAMBOANGA	0	3	3
ILIGAN-VIRAC	1	0	1	MANILA-PULUPANDAN	1	0	1
				CEBU-PULUPANDAN	0	1	1
				T O T A L .	194	70	264

Refer to Figures 1.1 and 1.2

Figure 1.1

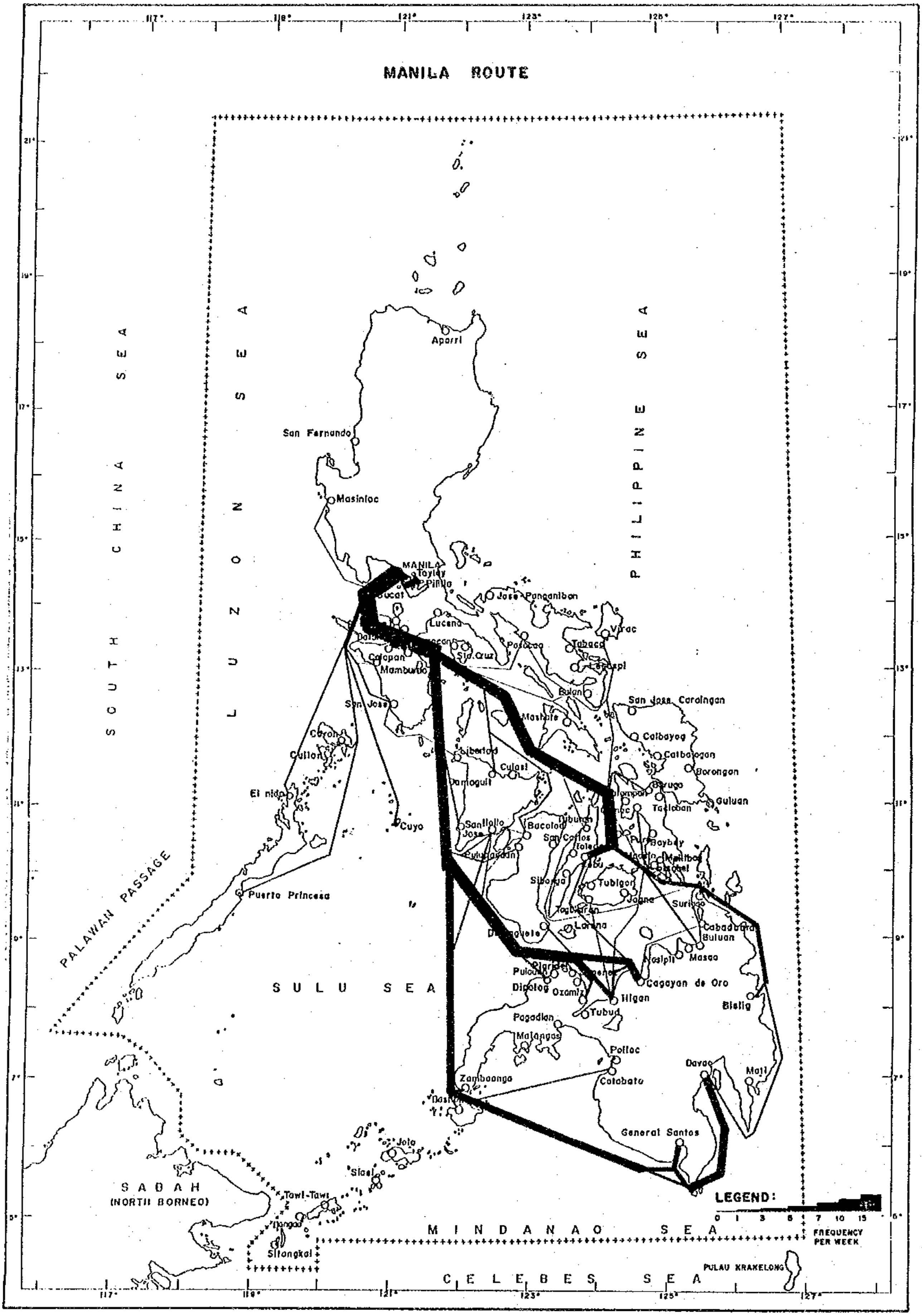
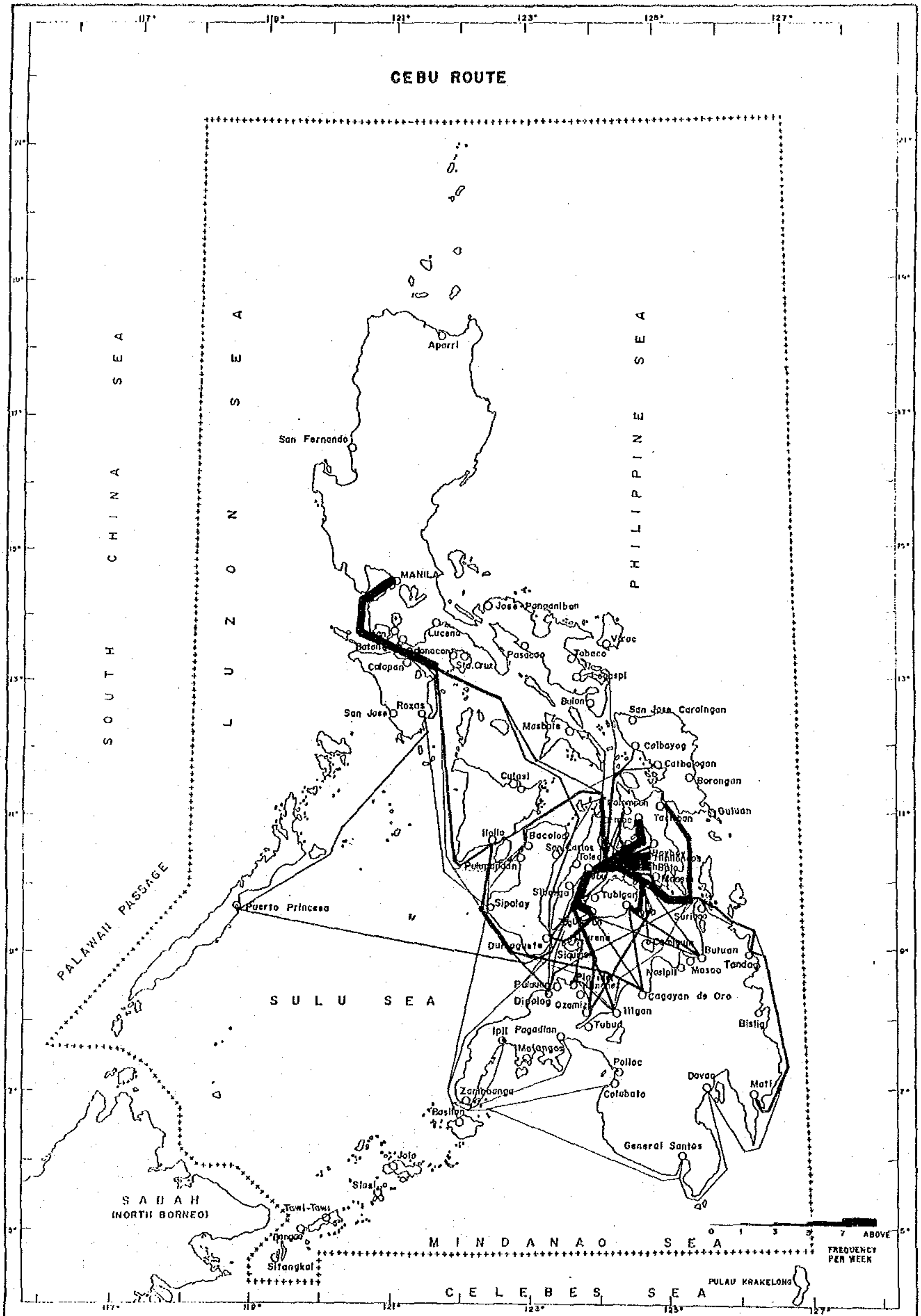

MANILA ROUTE
SOUTH CHINA SEA
LUZON SEA
PHILIPPINE SEA
SULU SEA
MINDANAO SEA
CELEBES SEA
PALAWAN PASSAGE
SABAH
(NORTH BORNEO)
Aparri
San Fernando
Masinloc
MANILA
Taytay
Pililla
Jose Panganiban
Lucena
Virac
Tabaco
Calapan
Mamburao
Sta. Cruz
Bulan
San Jose
Masbate
San Jose Carolngan
Coron
Culion
Calbayog
Catbalogan
Borongan
El nido
Culasi
Tacloban
Guiuan
Cuyo
Baybay
Bacolod
San Carlos
Sibonga
Tubigon
Jagna
Surigao
Loreno
Puerto Princesa
Dumaguete
Buluan
Masao
Cagayan de Oro
Dipolog
Ozamiz
Iligan
Tubud
Bislig
Pagadian
Malangas
Polloc
Cotabato
Davao
Mati
Zamboanga
General Santos
Jolo
Siasi
Tawi-Tawi
Sitangkai
PULAU KRAKELONG
LEGEND:
FREQUENCY PER WEEK
0 1 3 5 7 10 15

Figure 1.2


CEBU ROUTE
SOUTH CHINA SEA
LUZON SEA
PHILIPPINE SEA
PALAWAN PASSAGE
SULU SEA
MINDANAO SEA
CELEBES SEA
SABAH (NORTH BORNEO)
Aparri
San Fernando
MANILA
Jose Panganiban
Lucena
Batangas
Calapan
Sta. Cruz
Pasacao
Tabaco
Virac
Legaspi
Roxas
San Jose
Bulan
Masbate
San Jose Carolngan
Catbayog
Catbalogan
Borongan
Cuyasi
Guiuan
Tacloban
Iloilo
Bacolod
San Carlos
Toledo
Pulupandan
Sipolay
Sibonga
Tubigon
Puerto Princesa
Dumaguete
Siquijor
Surigao
Butuan
Tandag
Nasipit
Masao
Cagayan de Oro
Iligan
Ozamiz
Dipolog
Tubod
Bislig
Ipil
Pagadian
Polloc
Cotabato
Davao
Mati
Zamboanga
Basilan
General Santos
Jolo
Siasi
Tawi-Tawi
Bongao
Sitangkai
PULAU KRAKELONG
0 1 3 5 7 ABOVE
FREQUENCY PER WEEK

COMMENT/ANALYSIS

Operating Routes of Manila based shipping company samples mostly covered Visayas and Mindanao Islands and other parts of the world, while most of Cebu based sample shipping companies have tramping routes.

SQ4 . Please list the major clients of the company. (Cargo Vessels)

ANSWER

CLIENT OF CARGO VESSELS	MANILA	CEBU	TOTAL
ASC	2	0	2
CALTEX PHILS. INC.	7	1	8
CESAR YU	1	0	1
DAVAO UNION CORP.	1	1	2
DEL MONTE PHIL.	1	2	3
EAST ASIA	1	0	1
FILIPINAS CARBON	1	0	1
FIRST AQUA SUGAR TRADERS	1	0	1
FLORA UY	1	0	1
GRAFT HARVEST	1	0	1
ISAURO CAJAYIN	1	0	1
JULIANO V. LIM	1	0	1
MARINDUQUE MINING	1	0	1
LA TONDENA	1	2	3
NFA	4	4	8
NATIONAL MARIN CORP.	2	1	3
NESTLE	1	1	2
NORTH CAMARINES LUMBER	1	1	2
NORTHERN MINDANAO TRANS. CO .	2	0	2
PAGASA SALES CORP.	1	0	1
PEPSI COLA	1	1	2
PETRON	6	1	7
PHIL ACTIVATED CARBON	1	0	1
PILIPINAS SHELL	8	0	8
PLAO HIO	1	0	1
REWOOD CO.	1	0	1
ROXAS COMMERCIAL	1	0	1
SAN MIGUEL	3	14	17
SOUTHERN PLYWOOD	1	0	1
TANDUAY	1	2	3
VICTORIA MARKETING	2	0	2
T O T A L	58	31	89

COMMENT/ANALYSIS

COMMENT/ANALYSIS

Apparently,36% of the shipping companies surveyed services oil companies, 27% services San Miguel Corporation and around 8% services National Food Authority.

SQ5. What are the annual volume and the largest monthly volume of passenger and/or Cargo Transport on the major operating routes in the year 1990?

ANSWER

Annual Volume and Largest Monthly Volume of Passenger Transport

MANILA			
MAJOR OPERATING ROUTE	ANNUAL VOL. PASS	LARGEST MONTHLY VOL/PASS	MONTH
TILIK LUBANG	38000	N.A	DEC.
CORON,CULLION	19000	N.A	MAY
SAN JOSE EL NIDO	5000	N.A	JUNE
LIMINAUSONG	2000	N.A	APRIL
PUERTO PRINCESA,PALAWAN	3743	961	AUG.
PUERTO GALERA BATANGAS	42133	5185	DEC.
MLA/SAN JOSE ANTIQUE	48000	4000	APRIL
CUYO/PALAWAN	50000	4000	APRIL
ILOILO	6693	2400	APRIL
CAGAYAN DE ORO	29493	2000	APRIL
DAT	52205	900	APRIL
CEBU			
CEBU-BANTAYAN	1040	304	APRIL
MANDAWE-MACTAN	11000	9600	N.A.
MANDAWE-CAMOTES	3500	N.A.	MAY
CEBU-STA.FE	1044	87	APRIL

MANILA

MAJOR OPERATING ROUTE	ANNUAL VOLUME CARGO(TONS)	LARGEST MONTHLY VOLUME CARGO(TONS)	MONTH	MAJOR OPERATING ROUTE	ANNUAL VOLUME CARGO(TONS)	LARGEST MONTHLY VOLUME CARGO(TONS)	MONTH
BATAAN-CEBU	180000	5000	N.A.	HILONGOS-CEBU	106	N.A.	N.A.
BATAAN-PORO	180000	15000	N.A.	CEBU-ORMOC-CEBU	226500	28500	JAN
BATAAN-DAVAO	180000	15000	N.A	LEGASPI	60000	6000	N.A.
REFER TO PAGE ONE NO.3	157000	16000	APRIL	PALAWAN	40000	4000	N.A.
TILIK,LUBANG	3534	N.A.	APRIL	ILOILO	60000	6000	N.A.
SAN. JOSE OCC.	5402	N.A.	MAY	DUMAGUETE	287374	N.A.	N.A.
CORON,CULLION	11721	N.A.	DEC.	CEBU-BATO	40000	300	MARCH
EL NIDO	5355	N.A.	JUNE	MANILA	162676	17186	MAY
ROXAS	4316	N.A.	MAY	SURIGAO	38499	4387	DEC.
CEBU/ILIGAN/NAGA/TOLEDO	111317	N.A.	N.A.	TAGBILARAN	32732	3509	DEC.
LEGASPI/TACLOBAN/BACOLOD	28863	N.A.	N.A.	CEBU-LARENA-DUMAGUETE	N.A.	N.A.	MAY
TACLOBAN/DAVAO/ILOILO/BACOLOD	182000	N.A.	N.A.	CEBU-CALBAYOG	N.A.	N.A.	JUNE
LEGASPI/TACLOBAN/CEBU/BACOLOD	28863	N.A.	N.A.	BISLIG-CEBU	40000	4000	APR.
TACLOBAN/CBU/DVO/ILOILO/BACOLOD	82000	N.A.	N.A.	SURIGAO-ILOILO,ETC	20000	2000	MAY
CEBU/ILIGAN/NAGA/TOLEDO	111317	N.A.	N.A.	ILIGAN-TACLOBAN,ETC	30000	3000	DEC.
PANDACAN/PASIG RIVER N. HARBOR	109222	11640	OCT.	VISMIN & MANILA	N.A.	3600	N.A.
SUCAT-PILILIA	728	68	JULY	CBU-MAASIN-SURIGAO-SOGOD	90000	9000	NOV
PANDACAN-PILILIA-PANDACAN	37626	5035	MAY	CEBU-CATAINGAN	60000	6000	OCT.
MANILA-VISAYAS-MINDANAO	35004	6660	OCT.	ILIGAN-BATANGAS	N.A.	1800	N.A.
MACTAN-CEBU-HARBOR	32045	4434	FEB.	TACLOBAN	43200	4200	MAY-DEC
TAGOLOAN-MANILA	27000	22500	DEC.	BAYBAY	7200	840	MAY-DEC
MANILA-ILIGAN	21000	21000	FEB.	LILOAN-CABALIAN	9600	1000	MAY-DEC
BANGAGA,DVO-GINGOOG-MANILA	20000	N.A.	N.A.	BACOLOD-CEBU	244800	10200	MAY
SAN JOSE MINDORO	7856	1500	DEC.	CEBU-COTABATO	N.A.	2500	JULY
PUERTO PRINCESA,PALAWAN	20978	5751	DEC.	PUERTO PRINCESA-CEBU	12500	700	N.A.
TRAMPING	33600	N.A.	N.A.	CEBU-BACOLOD-MANILA	20000	1850	N.A.
VISAYAS MINDANAO	978000	97800	N.A.	CEBU-BANTAYAN	8892	934	NOV.
TRAMP	172800	19200	JAN.	TACLOBAN	57600	5760	MAY
TRAMP	283200	35400	DEC.	ORMOC	40000	4000	DEC.
MANILA-VISAYAS-MANILA	36000	3000	N.A.	MASBATE	50000	5000	DEC
GEN. SANTOS CITY	98172	15732	NOV.	PAGADIAN	10800	900	N.A.
CAGAYAN DE ORO CITY	39654	7812	NOV.	TACLOBAN	10500	438	N.A.
DAVAO CITY	98172	15732	DEC.	OZAMIS	9000	750	N.A.
MLA/SAN JOSE/CUYO/PALAWAN	14000	1200	MARCH	IPIL	7080	N.A.	N.A.
MANILA-CEBU	10000	2000	N.A.	BUTUAN	8400	700	N.A.
CALAPAN-BATANGAS	41589	N.A.	OCT-DEC	TUBOD	7080	590	N.A.
MANILA	28000	3830	OCT.	MANDAWE-CAMOTES	720	N.A.	MAY
BASLIG BATANGAS	65885	11285	SEPT	TRAMPING	82906	11333	JAN
BACOLOD	12000	2000	N.A.	CEBU-STA.FE	N.A.	239	OCT.
ARCHORAGE MANDALUYONG	112	12859	N.A.	TACLOBAN	N.A.	1000000	N.A.
TRAMPING	380	30	JULY	CATBALOGAN	N.A.	500000	N.A.
COTABATO-CEBU	N.A.	2000	JUNE	CEBU-BAGANGA	9800	800	N.A

COMMENT/ANALYSIS

It seems that April was the month where the surveyed shipping companies had transported their largest monthly passenger volume for 1990 with destination mostly within Panay Island, Mindoro and Palawan Area.

The survey shows that the largest monthly volume of cargos transported by the surveyed companies were dispersed throughout the year.

However, the above results are insufficient to show comprehensive traffic movement in domestic sea, because only 51 and 10 companies answered their traffic volume of passenger and cargo respectively.

1.2. Safety Evaluation and Measures

SQ1. Had any vessels of the Company been in danger, such as collision,stranding and others, due to such reasons as any defects in aid to navigation,and sea lane and others along the routes on which the company's vessels are operating? And if yes, why the incident(s) took place?

ANSWER

Company vessel that had been in danger....

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	1	1	2
Yes	8	13	21
No	25	16	41
Total	34	30	64

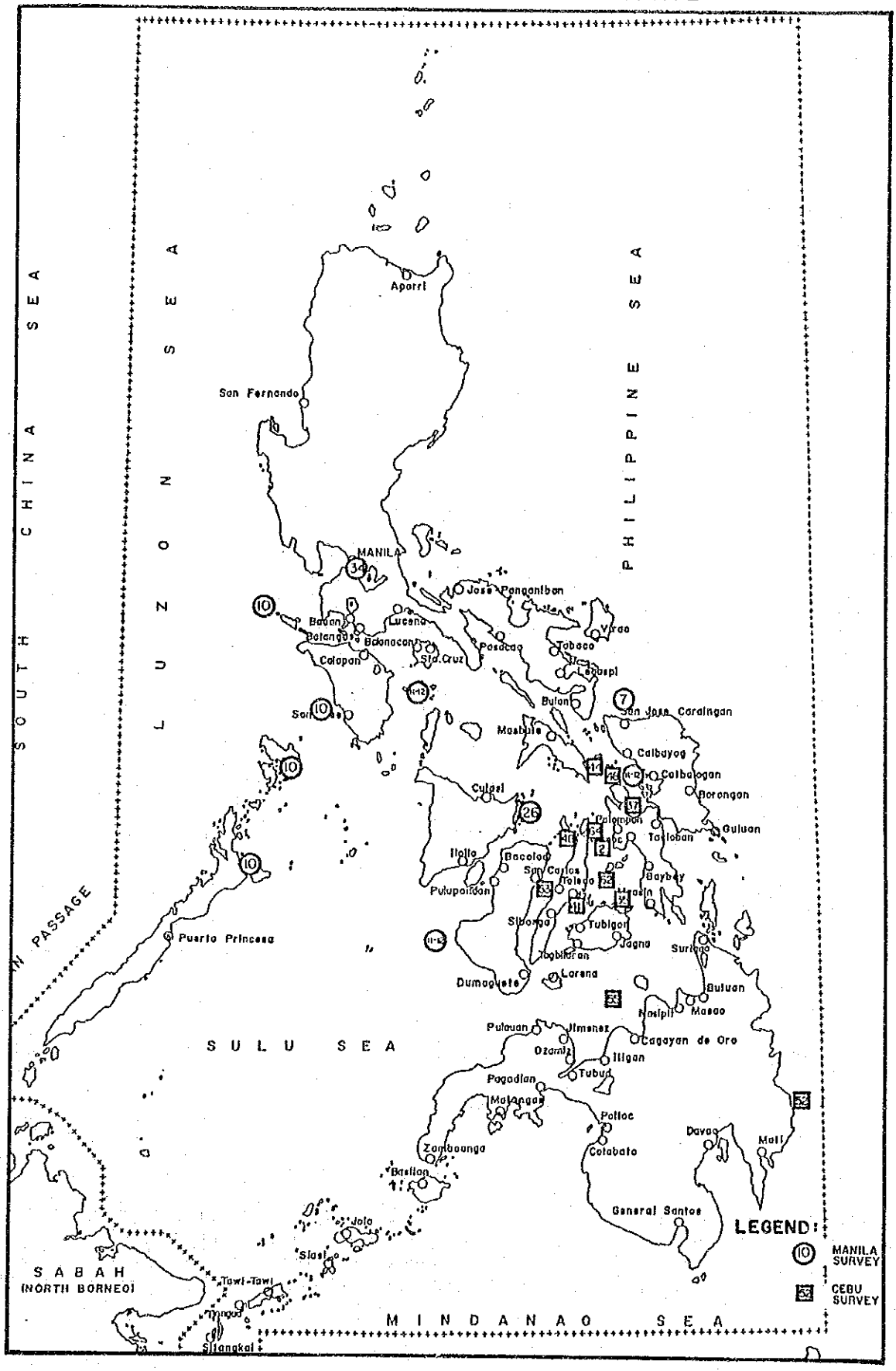
Seq. No.	INCIDENTS	LOCATION
1	There are lighthouses & lighted buoy that does not conforme the chart, mostly in all areas.	Not available
2	Stranding while at shelter at Biasong Pt. Ormoc City due to typhoon Ruping.	Ormoc City, Leyte

7	The only time we had a stranding occured in the port of Catarman wherein poor port facilities was the main cause.	Catarman, Northern Samar
10	Zero visibility; no navigational aid.	Lubang Island, San Jose; Mindoro Coron, Culasian Palawan
11	Improper operation of lighthouses/ beacons; delayed publications of notice to marines; officer, crew competence.	Sipalay, Negros Occ.; Catbalogan Samar; Banton Island, Romblon
12	Improper operation of Lighthouses/ beacons; delayed publication of notice to marines; officers, crew competence.	Sipalay, Negros Occ.; Catbalogan Samar; Bantron Island, Romblon
19	We rammed into a fish net with a cluster of bamboos without flag markers, broke one of our propellers.	No available data
26	Strong winds/waves, typhoons	Estancia, Iloilo
34	Presence of sunken derelicts without markings along the Pasig River.	Pasig River
42	Due to typhoon Ruping.	No available data
58	Ignorance of signal lights whether going right or left.	No available data
64	Due to typhoon Ruping.	Nailon Pt., Cebu
41	Our vessel bumped with other vessel at the night of typhoon Ruping while anchored at Cebu channel.	Cebu
37	Typhoon	Otod, Leyte
35	Failure to detect the deepness of the water.	Lapining Island, Bohol

COMMENT/ANALYSIS

Survey shows that 33% of the surveyed companies had been in danger due to inadequate or poor navigational aids and due to typhoons. Specific reasons of the surveyed companies who answered yes are shown with locations illustrated in figure on the following page.

AREAS WHERE VESSELS HAD BEEN IN DANGER



SQ2. Evaluate the safety of the existing operation of vessels in the Company.

ANSWER

	Manila	Cebu	Total
No. Answer	0	2	2
Very Safe	18	10	28
Favorable	13	16	29
Fair	3	2	5
Poor	0	0	0
Very Dangerous	0	0	0
Total	34	30	64

COMMENT/ANALYSIS

89% of the companies evaluated that their existing vessels' operation are safe and favorable while only 8% answered fair.

SQ3. Can it be agreed upon that the company has been taking sufficient maritime safety measures?

ANSWER

	No of Shipping Companies		
	Manila	Cebu	Total
No Answer	1	2	3
Yes	31	28	59
No	2	0	2

COMMENT/ANALYSIS

It seems that 92% agrees that their companies has been taking sufficient maritime safety measures while 3% had not been taking sufficient maritime safety measures and 5% has no answer. Most of the surveyed companies who answered yes, indicated that

training their crews with safety measures drills and hiring of qualified and competent seafarers are the number one maritime safety measures they had taken followed by good maintenance of their vessels and strict compliance of maritime safety rules and regulations. The following are the Maritime Safety measures the companies had taken:

1. Complete navigational and communication equipment.
2. Competent crew
3. Well maintained vessel, proper stowage & stability.
4. During NE Monsoon we avoid discharging unsheltered port in the east coast of Phil. Archipelago during SW Monsoon we avoid loading and discharging unsheltered port of the western port of Philippine Achipelago.
5. Compliance with oil industry safety checklist.
6. Compliance with all safety regulations.
7. Complete operating safety equipment on board.
8. Constant weather monitor.
9. Hiring of qualified seafarers.
10. The company has an in-house safety and training department accredited by MARINA.
11. Fire/abandonship/collision/heavy weather/pollution drills are imposed once a month.
12. All vessels have tankers handbook which is the "bible" of all seafarers.
13. Conducting fire & boat drills every month.
14. Refineries safety checklists.
15. Safety seminars for crew.
16. Requiring all seafarers to take SOLAS cause.
17. Compliance of the annual drydocking & check-up of vessels.
18. Complete life saving equipment and high lighting equipment.
19. Putting up a provisional entrance buoy to risky.
20. General Tanker Safety course/SOLAS training.
21. LPG tanker safety course/radar stimulator course.
22. Recruitment of competent marine officers.
23. Trained vessel personnel (SOLAS & watchkeeping).
24. Provided navigational & life saving equipment.
25. 24-hour radio monitoring; 2 hours reporting of status.
26. Oil dispersant, ring buoys, life jackets buckets, axes, saw dust, empty drums, rugs fire hose and fire extinguishers.
27. IMAO Survey.
28. Class Survey.
29. Good Maintenance.
30. Providing extra fire extinguishers.
31. Applied for a coastal radio for company office.
32. Survival life at sea.
33. Fire fighting, first aid & boat handling.
34. Vessels classed under NKK.
35. Weekly safety meeting on board.
36. Safety checklist conducted by superintendent.
37. Close monitoring of weather conditions.
38. Imposing the ROC (Radio Observation Course) on all officers of the vessels.
39. Complied sufficiently with all STCW requirements.

40. Complete safety equipment life boat, inflatable liferaft equipped with radar, pelorus, magnetic compass equipped with SSB radio, VHF & CW transmitter.
41. If during navigation and the weather condition became abnormal, the captain of our vessel are required to find good sheltering area.
42. Coordination with concerned government agencies.
43. More personnel in duty during its voyage.
44. Tagboard, port lighthouse long time collapsed, spent of on board search lights are used in passing the bower anchors are stand by in case of emergencies.
45. Every trip maintenance.
46. Daily routine inspection of pipelines & its leakages. Water hoses are always properly connected to water before departure, navigational equipments are provided.
47. Operational readiness evaluation.
48. We comply with all the requirements of the CG.
49. Radars should be in operation within 24 hours when vessel is in cruise, implement the preloading conference with master & chiefmate of the vessel.
50. Had observed PAGASA notice & warning.
51. C.I./radar/HF/charts & other necessary Navigational equipment.
52. Semi-annual seminar & review for crew.
53. Proper maintenance & cleanliness on board.
54. Remind crew never take liquor when vessel sails.
55. Maintenance of hull & Engine Periodic inspection.
56. The vessel travel for only 5 minutes.
57. We do not navigate within 200 miles if typhoon signal no. 1.
58. We get a weather forecast from some stations.
59. All crews and officers are familiar with place route.

SQ4. Indicate important measures the govenment should implement for improving the Philippine Maritime Safety.

ANSWER

Important Measures	Manila	Cebu	Total
1. Provision of accurate chart	22	22	44
2. Provision of aid to Navigation including lighthouse light beacon and other	31	25	56

3. Enforcement of traffic control such as traffic separation scheme (TSS) and others	19	24	33
4. Financial Support to Ship Building and replacement of the age vessel (fund & subsidy)	27	20	47
5. Improvement of Maritime transport policy such as deregulation of tariff, franchising system and other	21	15	36
6. Strict enforcement of regulation related to seaworthiness	25	21	45
7. Development of shelter for the vessel during storm weather including breakwater, mooring facilities and other	28	26	54
8. Improvement of seafarers education system	27	24	51

COMMENT/ANALYSIS

Based on the result, the companies had indicated that the government should implement the following important measures: (ranked according to the percentage of the companies' answers).

Rank	Important Measures	Percent
1	Provision aid to navigation	88%
2	Development of shelter for the vessel	84%
3	Improvement of seafarers education system	80%
4	Financial Support to ship building and replacement of the old vessels	73%
5	Strict enforcement of regulation related to sea worthiness	70%
6	Provision of accurate chart	69%
7	Improvement of maritime transport policy	56%
8	Enforcement of traffic control	52%

1.3 INFORMATION SYSTEM ON WEATHER

SQ1. Information on forecast of proceeding direction and speeds of typhoon are of great importance for the prevention of maritime accidents.

Does the company avail itself of such information as stated above?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	1	0	1
Yes	33	29	62
No	0	1	1
Total	34	30	64
If Yes, how			
Mass Media Newspaper/Radio/ and Television	13	15	28
PAGASA	26	27	53
Others	16	12	28

COMMENT/ANALYSIS

It seems that 97% of the surveyed companies are availing information on forecast of preceeding direction and speeds of typhoon thru PAGASA weather forecast, mass media (newspapers, radio and television) and others. For those who answered other media, many of those companies are relying on Japanese Weather Forecast. Other specific media where the surveyed companies are getting weather information are the following :

1. Japan Weather Corporation
2. Japan Marine Corporation
3. SSB Radio, (Japan)
4. International Broadcast (CW)
5. Actual observation of wind direction
6. Via Satellite
7. Radio Forecast

SQ2. Does the company send the information on typhoon and other related meteorological conditions to the operating vessels at sea?

ANSWER

	No of Shipping Co.		
	Manila	Cebu	Total
Yes	30	29	59
No	4	1	5
Total	34	30	64
If yes, how			
Telegram	4	5	9
Telephone	4	2	6
VHF	25	25	50
Telex	2	2	4
Others	12	12	24

COMMENT/ANALYSIS

92% of the surveyed companies send information on typhoon and other weather disturbances thru VHF and other private communication facilities such as 1) SSB Radio, 2)Ship Radio, 3) Marine Radio (CW) & 4) Telegraphy/Telephony. It could be noted that no public communication facility is available. Maybe that is the reason why those shipping companies had developed their own private communication system using the VHF.

SQ3. Is the company equipped with operation manuals indicating criteria for the departure of the vessels in the wake of storm and sea fog?

If yes what is the velocity of wind that can suspend the departure of vessels?_____ km/hr.

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No. Answer	4	5	9
Yes	14	15	29
No	16	10	26
Total	34	30	64

Wind velocity that can suspend vessel's departure (km/hr)	# of Co.
12	2
20	1
35	1
40	1
45	1
50	3
60	4
70	2
75	1
80	2
85	1
120	1
No Answer	9
Total	29

COMMENT/ANALYSIS

The surveyed shows that 45% of the shipping companies are equipped with operation manuals indicating criteria for the departure of the vessels in the wake of storm and sea fog while 41% have no such manuals. The wind velocity that can suspend the

departure of vessels, based on those who answered they have operation manuals, ranges from 12 km/hr (3.3 m/sec) to 120 km/hr (33.3 m/sec).

1.4 MARITIME SAFETY EDUCATION AND TRAINING

SQ1. How many are seamen graduates in the company ?

ANSWER

	No. of Graduates		
	Manila	Cebu	Total
Officer/Engineer			
Public School	64	117	181
Private School	729	482	1211
(Short period of training)			
Others	31	28	59
Rating			
Public School	90	37	127
Private School	422	217	639
Others	20	10	30
TOTAL	1356	891	2247

COMMENT/ANALYSIS

Only 14.3% of the private school graduates are public school graduates of their officer/engineer seamen, while 19% of the private school ratings came from public schools.

SQ2. Can the Company recruit enough number of qualified seamen of competence and discipline?

ANSWER

	No. of Shipping Company		
	Manila	Cebu	Total
No Answer	1	1	2
Yes	10	11	21
No	23	18	41
Total	34	30	64

Reasons, if no	Manila	Cebu
1. Seamen don't like to work in inter-island shipping due to unfavorable working environment and low salary	16	14
2. Qualified seamen are likely to work in an international shipping which offers favorable working conditions	20	18
3. Due to the limited capacity of public schools for seamen	2	3
4. Others	3	0

COMMENT/ANALYSIS

The survey shows that majority (64%) of the surveyed companies cannot recruit enought number of qualified seamen of competence and discipline while only 33% answered they can recruit qualified seamen. 83% of those who answered no said that qualified seamen preferred to work abroad because of high compensation. Other reasons why they can't hire enough qualified seamen are:

1. Low graduates of qualified seamen
2. Licensure deficiency

SQ3. Is there any training and/or seminars regarding maritime safety and technology available in the Company ?

ANSWER

Education & Training available in Company	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	1	3	4
Yes	14	11	25
No	19	16	35
Total	34	30	64

If no, why	Manila	Cebu
1. No need of education/traning	3	3
2. No education facilities in the company	16	9
3. Financial affordability	5	9
4. Others	1	1

COMMENT/ANALYSIS

37% of the companies conduct trainings and/or seminars regarding maritime safety and technology and 55% do not have any in-house training and/or seminars due to following reasons:

1. No need of education training.
2. No education facilities in the company.
3. Can't afford financially.
4. Company have such short distance trip.
5. They pass the PCG examination.

SQ4. Give suggestions, if any, over the existing maritime education policy of the Philippine Government.

ANSWER

1. Improve curriculum standard to the present technology to include management subjects.
2. The Gov't should monitor closely all private Maritime School and Training Center on the quality of instructors of training facilities.
3. Maritime schools give little time to practical/ actual conditions.
4. Constant checking of seaman's ability and knowledge.
5. Limit the number of nautical schools in the country but upgrading its training standard.
6. There should be a qualifying exam that has to be imposed before a cadet is admitted to screen their capability.
7. Present existing school have very little practical training and equipments.
8. Upgrade standard of teaching/training. Update curriculum of school.
9. On board training.
10. A lot of our maritime educational institutions have become diploma mills. Proper accreditation of these schools must be done. Also instructors must pass some licensure before teaching.

11. Upgrade safety rules and regulations as well as instruments.
12. The Phil. Coast Guard should impose at least a 2 years service requirements in the inter-island shipping for each category passed by officers.
13. Impose on the maritime schools simulators for traning purposes.
14. Gov't agency can come up with prepared media such as video tapes, books and manuals that can be used by local shipping company to make training program more uniform.
15. Such training and/or seminars as its educational policy should be given regularly.
    Establish a mobile training group to conduct maritime education on norad ship and to conduct actual drill especially on solos requirement.
16. Improve quality of instruction in maritime school.
17. Publications and news letters should be given for review purposes.
18. Eliminate other subjects in the school which are not necessary for seaman instead provides equipment in the laboratory for further knowledge of the student.
19. Government should conduct seminars to every shipping company for free.
20. Adopt modern maritime methods of teaching & equipments. Impose military discipline to maritime students. Have a clean and honest board exam. Add more units in English and Communication.
21. Strict implementation of all PCG rules & regulations of Maritime Laws.
22. Government should establish enough number of public schools with free or affordable tuition fee to generate more graduate for domestic and internationals supplies.
23. Marine officers should be given credit based on their ability and knowledge obtained not thru hokuspokus policy (financial ability).
24. Seminars or other equivalents prior to issuance of renewal of licenses.
25. Briefing of officers regarding maritime rules & regulations.

<u>COMMENT/ANALYSIS</u>

Based on all the given suggestions of the surveyed companies over the existing maritime education the following could be concluded:

1. Maritime education Institution needs to improve its curriculum.
2. Maritime education institution have low quality of teachers.
3. Maritime education institution have inefficient educational system.

4. Maritime education institution have poor facilities for education.

1.5 FLEET

SQ1. What is the number of vessels owned by the company and laid-up vessels if any ?

ANSWER

Vessel Type		No. of Vessels Owned by Co.		
		Manila	Cebu	Total
1. Passenger Vessel				
Passenger	No. of Vessel	39	3	42
	Tonnage (grt)	22149	270	22419
	Laid-up	0	0	0
Ro-ro Ferry	No. of Vessel	3	0	3
	Tonnage (grt)	1350	0	1350
	Laid-up	0	0	0
Cargo-Pass.	No. of Vessel	14	46	60
	Tonnage (grt)	20738	52639	73377
	Laid-up	1	5	6
2. Cargo Vessel				
Dry Cargo	No. of Vessel	90	36	126
	Tonnage (grt)	99620	18252	117871
	Laid-up	14	0	14
Tanker	No. of Vessel	47	7	54
	Tonnage (grt)	44706	2292	46998
	Laid-up	10	2	12
Container	No. of Vessel	13	10	23
	Tonnage (grt)	32694	39354	72048
	Laid-up	2	2	4

SQ2. Have you procured any second hand vessels in the oversea markets to be placed on the route of the country ?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	0	2	2
Yes	19	11	30
No	15	17	32
Total	34	30	64

SQ2. If yes, please answer the next two questions. Do the second hand vessels procured met the sea route conditions in terms of type, speed at carrying capacity?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
Yes	18	11	29
No	1	0	1
Total	19	11	30

SQ2. Have you made any structural changes and modification on the second hand vessels ?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
Yes	9	11	20
No	10	0	10
Total	19	11	30

SQ2. If yes, please indicate the works included.

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
1. Enlargement for cargo hold	4	6	10
2. Putting another deck	3	7	10
3. Others	5	3	8

COMMENT/ANALYSIS

50 % of the surveyed companies did not procured any second hand vessels in the oversea markets to be placed on the local route while 47% bought second hand vessels for their local route. Out of these 47% who bought second hand vessels from other countries, 99% had confirmed that these procured vessels met the sea route conditions in terms of type and speed at carrying capacity. 67% had made structural changes and modification on these second hand vessels while 10% did not made any structural changes. 33% had made the vessel larger for more cargo hold while the other 33% had placed another decks and 27% had the following changes made:

1. Conversion to container vessel and passenger vessel
2. Remodelling
3. Improve deck area
4. Engine replacement
5. Replating & putting down of other heavy plates
6. Removal of unnecessary cabin
7. Conversion only (cargo hold to passenger deck)

SQ3. Show the age profile of the operating vessels of the company.

ANSWER

Age Profile of Vessels			
Vessel Age	Manila	Cebu	Total
0 - 5 years	19	11	30
6 - 10	39	27	66
11 - 15	63	16	79
16 - 20	38	41	79
21 - 25	42	15	57
26 - 30	5	3	8
31 - 35	2	6	8
36 & over	6	0	6
TOTAL	214	119	333

COMMENT/ANALYSIS

52% of the operating vessels of the surveyed companies are considered new and 47% of their operating vessels are quite old.

SQ4. Had the company made some replacement works on the shell plate, bulkhead and deckplate of the company's vessels ?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	2	1	3
Yes	27	25	52
No	5	4	9
Total	34	30	64

SQ4. If yes, what is the number of vessels on which replacement works were done on the following rust-corroded parts of the vessels ?

ANSWER

VESSEL PART	No. of Vessels		
	Manila	Cebu	Total
1. Shellplate	91	88	179
2. Bulkhead	72	52	124
3. Deckplate	92	81	173

COMMENT/ANALYSIS

It seems that 81% of the surveyed companies had made some replacement works in the shell plate, bulkhead and deckplate of their operating vessels. 54% of the operating vessels had their shellplate replaced, 37% had their bulkhead replaced and 52% had their deckplate replaced.

SQ5. Present condition of navigational instrument and telecommunication equipment installed on the vessels of the Company.

ANSWER

1. Navigational Instrument	Radar		Gyro/ Compass		Magnetic Compass		Echo Sounder		Speed Log	
	Mla	Cebu	Mla	Cebu	Mla	Cebu	Mla	Cebu	Mla	Cebu
Operational	125	50	68	18	156	84	31	8	65	11
Non-Operational	1	2	10	0	13	4	9	1	0	0

2. Telecomm. Equipment	MHF/ Telephony		MHF/ Telephony		HF/Telegraphy Telephony		VHF	
	Mla	Cebu	Mla	Cebu	Mla	Cebu	Mla	Cebu
Operational	30	37	26	13	110	35	158	110
Non-operational	0	0	0	0	18	0	0	1

COMMENT/ANALYSIS

Suprisingly, only 77% of the operating vessels have magnetic compass and only 81% have VHF installed while 53% have installed radar. These are only indications that the surveyed companies operating vessels have inadequate navigational instrument and telecommunication equipment.

1.6 SEARCH AND RESCUE

SQ1. Did the company's vessels encounter maritime accidents before ?

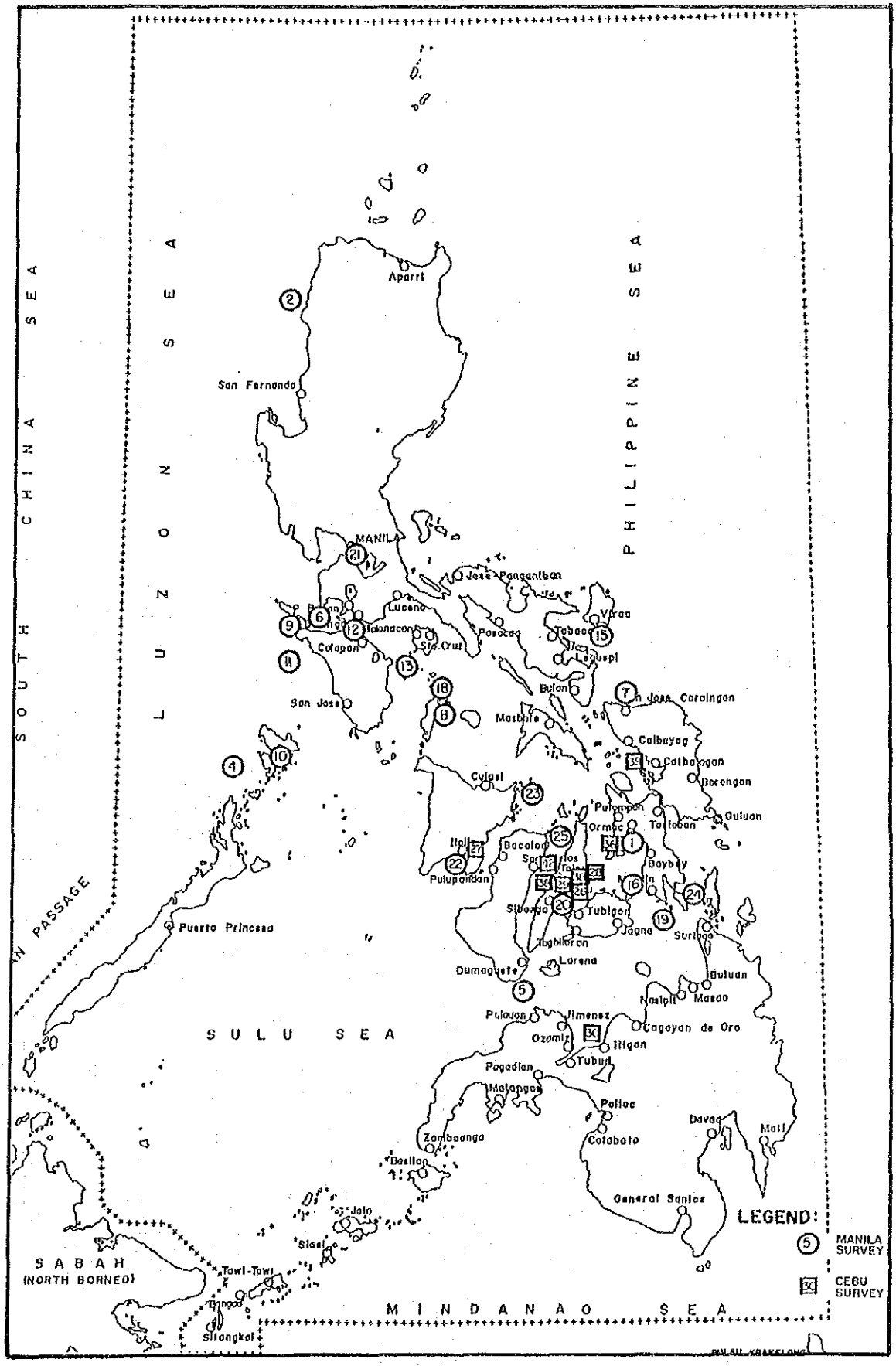
ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	3	1	4
Yes	15	14	29
No	16	15	31
Total	34	30	64

COMMENT/ANALYSIS

The survey shows that almost 50% of the companies had encounterd maritime accidents among their operating vessels. Location and type of these accidents are shown in a figure on the following page and Annex 1.1 respectively.

AREAS WHERE ACCIDENT TOOK PLACE



SQ2. How do the seamen on the vessels get in touch with the office of Company in case of vessel accidents at sea ?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
Telegram	6	12	18
VHF	26	21	47
Telephone	8	6	14
Others	13	11	24

COMMENT/ANALYSIS

73% of the surveyed companies operating vessels get in touch with their office thru VHF and 38% get in touch with their office thru other media such as the following:

1. SSB Radio
2. Coastal Radio
3. Via Local Radio
4. Fax/Telex
5. Local Telecommunication
6. Word of Mouth

SQ3. What kind of measures do the company take when its office receives the request of the vessel for rescue ?

ANSWER

COMPANY MEASURES	No. of Shipping Co.		
	Manila	Cebu	Total
1. Request the government agency for rescue	21	19	40
2. Request the private salvage company	18	7	25
3. Dispatch the company's vessel(s) for rescue	20	26	46

COMMMENT/ANALYSIS

When these surveyed companies receives request for vessel rescue, 72% dispatch their own vessel for rescue, 63% request gov't agency for rescue and 39% also request private salvage company for rescue.

SQ4. What are the insurances for the vessels of the company ?

ANSWER

Type of Insurance	No. of Shipping Co.		
	Manila	Cebu	Total
1. Hull insurance	27	21	48
2. Cargo insurance	11	6	17
3. Protection and indemnity insurance	20	7	27
4. Others	5	3	8
5. None	3	4	7

COMMENT/ANALYSIS

Only 75% of the surveyed companies have Hull Insurance, 42% have protection and indemnity insurance, 27% have cargo insurance while 11% have no insurance at all. 13% of the companies have the following insurances:

1. Liability to crew
2. Machinery
3. Connected accident insurance
4. General Coverage
5. Passenger Insurance
6. Group Insurance

SQ5. Can it be agreed that the Philippines search and rescue (SAR) system is sufficient ?

ANSWER

	No. of Shipping Co.		
	Manila	Cebu	Total
No Answer	1	4	5
Yes	6	7	13
No	27	19	46
Total	34	30	64

SQ5. If no, please point out what is defective in the Philippine SAR system.

ANSWER

Respect with defect in Philippine SAR	No. of Shipping Co.		
	Manila	Cebu	Total
1. Communication system in emergency	25	10	35
2. Search and Rescue vessel	25	13	38
3. Others	4	6	10

COMMENT/ANALYSIS

Apparently, 72% of the companies do not agree that the Phil. Search and Rescue (SAR) system is sufficient. 55% of the 72% indicated that there is a defect in Phil. SAR's communication system in case of emergency and 59% said that Philippine Search and Rescue Agency have no search and rescue vessel.

Annex 1.1

If yes, please describe the major characteristics of the accident below.

MANILA

Please indicate the points of accidents on the attached map. (Please mark with circle and sub-number (e.g. 01,02,03..)). If the Company keeps track of the accidents please provide the surveyor with maritime accident records.

ACCIDENTS

1 Name of vessels : M/V VICTORIA I
Location of accidents : BIASONG PT.ORMOCCITY
Classification of acc.: GROUNDING
Route : ILIGAN/ORMOC
Date / Time : NOV 13,1990
Causes (1st cause) : DUE TO TYPHOON RUPPING
Damages : DENTED BOTTON PLANTING
Vessel subject of SAR :

ACCIDENTS

2 Name of vessels : KALIKASAN
Location of accidents : CABUYAO,ILOCOS
Classification of acc.:
Route : TAMPER
Date / Time : 1989
Causes (1st cause) : TYPHOON
Damages : 5 MILLION
Vessel subject of SAR :

ACCIDENTS

3 Name of vessels : BIYAYANG GINTO
Location of accidents : KASINGURAS
Classification of acc.:
Route : TAMPER
Date / Time : 1989
Causes (1st cause) : TYPHOON
Damages : 2 MILLION
Vessel subject of SAR :

ACCIDENTS

4 Name of vessels : CENTRAL BOHOL
Location of accidents : PALAWAN
Classification of acc.: TOTAL LOSS
Route : MLA
Date / Time :
Causes (1st cause) : WEATHER
Damages : LOST WHOLE VLS
Vessel subject of SAR : YES

ACCIDENTS

5 Name of vessels : DAGOHOY
Location of accidents : NEGROS ORIENTAL
Classification of acc.: TOTAL LOSS
Route : ILIGAN-MALAYSIA
Date / Time :
Causes (1st cause) : WEATHER
Damages : AGROUND/CONSTRUCTIVE TOTALLOSS
Vessel subject of SAR : NO

ACCIDENTS

6 Name of vessels : M/T TABANGAO
Location of accidents : BATANGAS
Classification of acc.: SEAJACT
Route : DADIANGAS/PARANG BASILAN
Date / Time : 1445H MARCH 2/91
Causes (1st cause) :
Damages :
Vessel subject of SAR : MT PETRON 1

ACCIDENTS

7 Name of vessels : COTTON HORSE
Location of accidents : CATARMAN
Classification of acc.: GROUNDING
Route : BATANGAS
Date / Time : 1987
Causes (1st cause) : POOR PORT FACILITIES
Damages : PROPELER/RADAR
Vessel subject of SAR : NO

ACCIDENTS

8 Name of vessels : ASUNCION IX
Location of accidents : COR.SN.AGUS. ROMBLON
Classification of acc.: TOTAL LOSS
Route . : MANILA-SA-ROMBLON
Date / Time : NOV.5 1984
Causes (1st cause) : TYPHOON
Damages :
Vessel subject of SAR :

ACCIDENTS

9 Name of vessels : ASUNCION V
Location of accidents : CALAVITE PT.25M.AWAY
Classification of acc.: TOTAL LOSS
Route : MLA.-TAYTAY-PALAWAN
Date / Time : DEC.18,1985
Causes (1st cause) : BIG WAVES
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

10 Name of vessels : ASUNCION X
Location of accidents : COLON CHANNEL
Classification of acc.: AGROUND
Route : MANILA-CULLION
Date / Time : DEC.22'88 NOV.14'90
Causes (1st cause) : ZERO VISIBILITY BIG WAVES
Damages : UNDERWATER HULL PORTION
Vessel subject of SAR :

ACCIDENTS

11 Name of vessels : SUNRISE
Location of accidents : MINDORO
Classification of acc.: AGROUND
Route : BATANGAS-DAVAO
Date / Time : AUG.16,1990
Causes (1st cause) : DUE TO TYPHOON GADING
Damages : HULL LEAKAGE
Vessel subject of SAR :

ACCIDENTS

12 Name of vessels : DELSAN GLORY
Location of accidents : BATANGAS
Classification of acc.: COLLISION
Route : BATANGAS-MARINDUQUE
Date / Time : AUG.23, 1990
Causes (1st cause) : POOR VISIBILITY
Damages : DENTED 3FT. LONG 3 IN. DEPTH
Vessel subject of SAR :

ACCIDENTS

13 Name of vessels : SUNRISE
Location of accidents : MINDORO
Classification of acc.: AGROUND
Route : BATANGAS-DAVAO
Date / Time : AUG.16,1990
Causes (1st cause) : DUE TO TYPHOON GADING
Damages : HULL LEAKAGE
Vessel subject of SAR.:

ACCIDENTS

14 Name of vessels : DELSAN GLORY
Location of accidents : BATANGAS
Classification of acc.: COLLISION
Route : BATANGAS-MARINDUQUE
Date / Time : AUGUST 23,1990
Causes (1st cause) : POOR VISIBILITY
Damages : DENTED 60M 3 FT.LONG 3IN.DEPTH
Vessel subject of SAR :

ACCIDENTS

15 Name of vessels : MONTE BLANCO
Location of accidents : VIRAC, CATANDUANES
Classification of acc.: AGROUND
Route : MLA. VIRAC
Date / Time : MARCH 87
Causes (1st cause) : STRONG WINDS & CURRENT
Damages :
Vessel subject of SAR :

ACCIDENTS

16 Name of vessels : MT NAGA CITY
Location of accidents : MAASIN, LEYTE
Classification of acc.:
Route : UNDERWAY TO BATANGAS
Date / Time : AUG. 21,1990 0200H
Causes (1st cause) : HIT A SUNKEN WRECK
Damages : BOTTOM/HULL
Vessel subject of SAR :

ACCIDENTS

17 Name of vessels : LCT BATASAN
Location of accidents : ARAS-ASAN VIC S.NORT
Classification of acc.: CAPSIZE
Route : DAVAO-CAGAYAN DE ORO
Date / Time : 09-1-84 - 23HRS.
Causes (1st cause) : TYPHOON NITANG
Damages : SUPERSTRUCTURE PARTLY HULL
Vessel subject of SAR :

ACCIDENTS

18 Name of vessels : CCI-555
Location of accidents : TABLAS STRAIT
Classification of acc.: SINKING
Route : VMC/MLA
Date / Time : AUG.14,1986
Causes (1st cause) : TYPHOON
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

19 Name of vessels : JOAN MARIE
Location of accidents : LIMASAWA
Classification of acc.: FULLY SUBMERGE P.D
Route : BISLIG CEBU
Date / Time : OCT 8,1988
Causes (1st cause) : ROUGH SEAS
Damages : UNSALVAGABLE
Vessel subject of SAR :

ACCIDENTS

20 Name of vessels : LCT TOBI
Location of accidents : CEBU
Classification of acc.: CAPSIZED AFLOAT
Route : ORMOC-CEBU
Date / Time : JAN.14,1991
Causes (1st cause) : ROUGH SEAS
Damages : PILOT HOUSE
Vessel subject of SAR :

ACCIDENTS

21 Name of vessels :
Location of accidents : PASIG RIVER
Classification of acc.:
Route :
Date / Time :
Causes (1st cause) : SUNKEN DERELICTS
Damages : HULL/CARGO
Vessel subject of SAR :

ACCIDENTS

22 Name of vessels : LORCON V
Location of accidents : PANAY ISLAND
Classification of acc.: FORTUITOUS EVENT
Route : MLA./ILIGAN.CDO/MLA.
Date / Time : MAR.09,1989 1:00PM
Causes (1st cause) : ROUGH WINDS AND BIG WAVES
Damages : TOTAL LOSS
Vessel subject of SAR : YES

ACCIDENTS

23 Name of vessels : SOLID UNO
Location of accidents : CALAGNAAN ISL.ILOILO
Classification of acc.: GROUNDED
Route : CANTILLAN-MLA.
Date / Time : 004HRS. 11 OCT.1989
Causes (1st cause) : TYPHOON SALING
Damages : EXTENSIVE HULL DAMAGE
Vessel subject of SAR : NO

ACCIDENTS

24 Name of vessels : SOLID DOS
Location of accidents : SURIGAO STRAIT ISL.
Classification of acc.: GROUNDED
Route : BISLIG-MLA.
Date / Time : 224-HRS 27 APR.1990
Causes (1st cause) : POOR VISIBILITY,RAZA LIGHTHOUS
Damages : HILL DAMAGE
Vessel subject of SAR : NO

ACCIDENTS

25 Name of vessels : KANLAON FERRY
Location of accidents : NR.ESCALANTE NEGROS
Classification of acc : SINKING
Route : TABUGON CEBU ESCALANTE NEGROS
Date / Time : ?/1/90
Causes (1st cause) : TYPHOON
Damages : TOTAL LOSS
Vessel subject of SAR :

CEBU

ACCIDENTS

26 Name of vessels : ELCANO
Location of accidents : M.CHANNEL NEAR MACTN
Classification of acc.: COLLISION
Route : ORMOC-CEBU
Date / Time : 04-14-91 4:09 A.M
Causes (1st cause) :
Damages : STARBOARD BOW
Vessel subject of SAR : CONT.TO NAV. UNTIL REACH PIER4

ACCIDENTS

27 Name of vessels : PTS 1002
Location of accidents : ILOILO
Classification of acc.: GROUNDING
Route : ILIGAN
Date / Time : OCT.1989
Causes (1st cause) : UNFAMILIAR ROUTE
Damages : HOLE IN BOTTOM HULL
Vessel subject of SAR :

ACCIDENTS

28 Name of vessels : JHUPEL
Location of accidents : CEBU INT. PORT
Classification of acc.:
Route : CEBU-DUMAGUETE-ZAMBOANGA
Date / Time : NOV.13,1990 0535 HR
Causes (1st cause) : TYPHOON RUPING
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

29 Name of vessels : SWEET HOME
Location of accidents : RB-5 CEBU PORT
Classification of acc.: FORCE MAJEUR
Route :
Date / Time : 11-13-90
Causes (1st cause) :
Damages : SANK
Vessel subject of SAR :

ACCIDENTS

30 Name of vessels : BARGE LYNDON
Location of accidents : ILIGAN
Classification of acc.: SUNK
Route : ILIGAN-TAGBILARAN
Date / Time :
Causes (1st cause) :
Damages :
Vessel subject of SAR :

ACCIDENTS

31 Name of vessels : BARGE OLONGAPO
Location of accidents : DINAGAT ISLAND
Classification of acc.: AGROUND
Route : ILIGAN-TACLOBAN
Date / Time :
Causes (1st cause) :
Damages :
Vessel subject of SAR :

ACCIDENTS

32 Name of vessels : M/V LUZILLE
Location of accidents : NORTHERN CEBU
Classification of acc.: COLLISION
Route : CEBU-CALAMIGAN-MASBATE
Date / Time :
Causes (1st cause) : NEGLIGENCE
Damages : MID SECTION OF THE STBD. PLATE
Vessel subject of SAR :

ACCIDENTS

33 Name of vessels : M/V EVELY
Location of accidents : TAPILON,BATAGAN,CEBU
Classification of acc.: BAD WEATHER
Route : CEBU TACLOBAN
Date / Time : JUNE 6, 1980
Causes (1st cause) :
Damages : SALVAGED
Vessel subject of SAR : NO

ACCIDENTS

34 Name of vessels : ALLYSA
Location of accidents : TOLEDO
Classification of acc.: AGROUND
Route :
Date / Time : 2-28-91 1830 HRS.
Causes (1st cause) :
Damages : PROPELLER MIS ALIGN
Vessel subject of SAR :

ACCIDENTS

35 Name of vessels : MV ROBERTA
Location of accidents : SULAMAN PT.
Classification of acc.: FLOODED W/ WATER
Route : CEBU-CAGAYAN
Date / Time : 11-13-90 0330HRS.
Causes (1st cause) : TYPHOON
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

36 Name of vessels : CHARLIE HORSE
Location of accidents : ISABEL,LEYTE
Classification of acc.: CAPSIZED
Route : TRAMPING
Date / Time : 2-11-91
Causes (1st cause) : OVERLOADING
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

37 Name of vessels : MV LUJAN
Location of accidents : KAWIT,SURIGAO SUR
Classification of acc.: AGROUND
Route : BISLIG
Date / Time : 9:00 A.M
Causes (1st cause) : POOR VICINITY
Damages : TOTAL LOSS
Vessel subject of SAR :

ACCIDENTS

38 Name of vessels : SAN VICENTE II
Location of accidents : PIER II
Classification of acc.:
Route : CEBU-MASBATE
Date / Time : 11-13-90
Causes (1st cause) : DUE TO TYPHOON RUPING
Damages :
Vessel subject of SAR :

ACCIDENTS

39 Name of vessels : M/V HELEN
Location of accidents : CATUALOGAN
Classification of acc.: GROUNDED
Route : CEBU-CATUALOGAN
Date / Time : FEB.8,1982
Causes (1st cause) :
Damages : TOTAL LOSS
Vessel subject of SAR : NO

ACCIDENTS

40 Name of vessels : M/VDONACASANDRA
Location of accidents :
Classification of acc.:
Route : CEBU-BUTUAN
Date / Time : NOV.21,1983 12:20 NO
Causes (1st cause) : TYPHOON
Damages : VESSEL & CARGO
Vessel subject of SAR :

ACCIDENTS

42 Name of vessels : M/VDONAJOSEFINA
Location of accidents :
Classification of acc.:
Route : MLA-ROXAS-PAL-PASAR-CEBU
Date / Time : APR.24,1966 5:00 A.M
Causes (1st cause) :
Damages : VESSEL & CARGO
Vessel subject of SAR :

ACCIDENTS

41 Name of vessels : TERUEL
Location of accidents : SAN CARLOS CITY
Classification of acc.: AGROUND
Route : TRAMPING
Date / Time : 11-13-90
Causes (1st cause) : TYPHOON RUPING
Damages : NONE
Vessel subject of SAR :

Annex 1.2
Questionnaire of Shipping Company Survey

I. Profile of the Company.

1. What is the number of Company's employee? Please fill in the blanks.

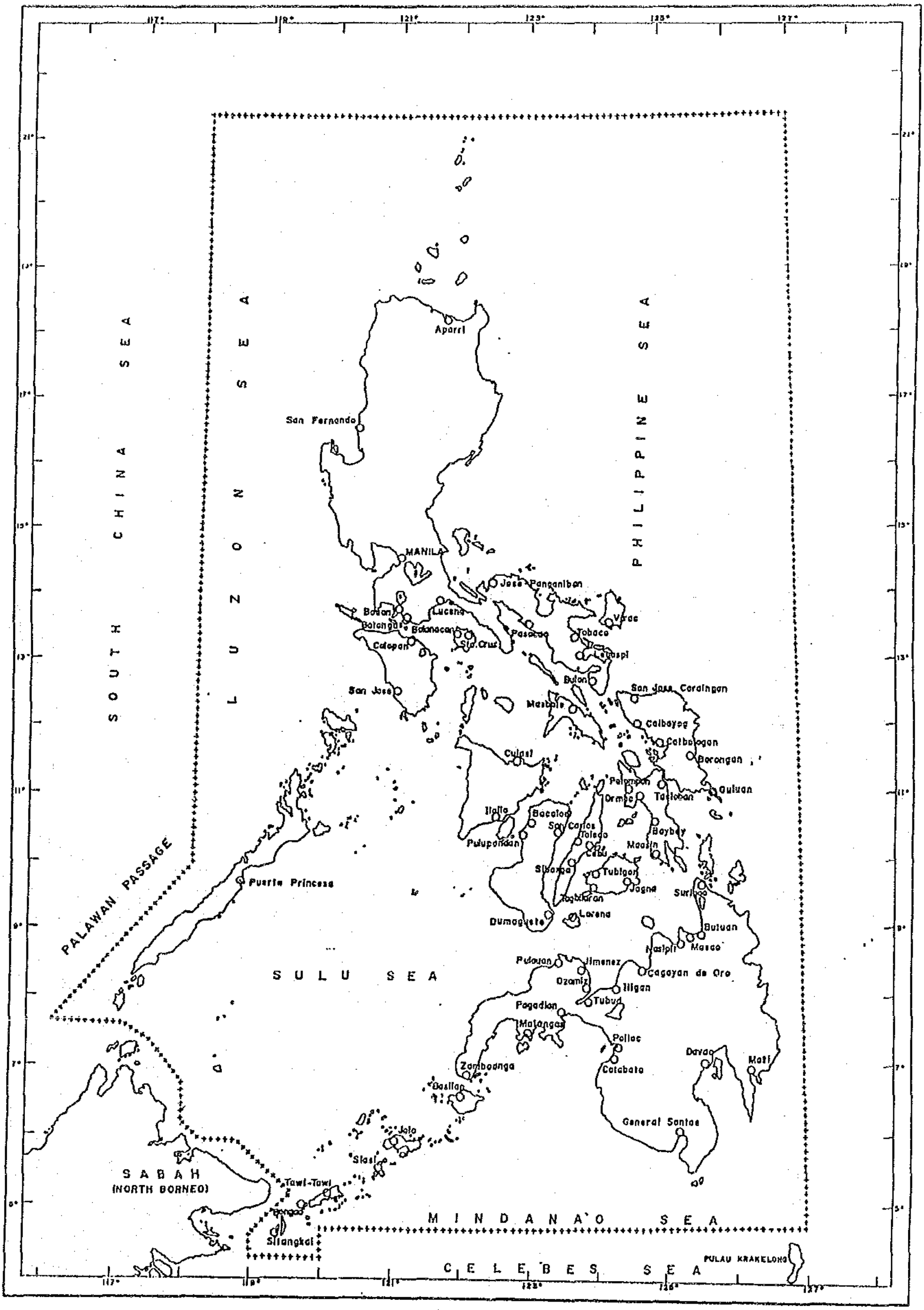
a) No. of head office staffs: _____
b) No. of seafarers : _____

2. What is the classification of the Company? (Please check.)

____ 1. Passenger Transport Service
____ 2. Cargo Transport Service
____ 3. Passenger and Cargo Transport Service
____ 4. Others (Please specify): _____

3. Please list the operating routes of the vessels of the Company below and indicate them on the attached Map. (Please use another sheet if space provided below is not enough.)

Route Name	No. of Vessels Operating	Ship's Name	Capacity		Frequency /week	Average Occupancy(%)	
			Pass. (No.)	Cargo (Tons)		Pass.	Cargo
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							


SOUTH CHINA SEA
LUZON SEA
PHILIPPINE SEA
PALAWAN PASSAGE
SULU SEA
MINDANAO SEA
CELEBES SEA
SABAH
(NORTH BORNEO)
PULAU KRAKELONG
Aparri
San Fernando
MANILA
Jose Panganiban
Virac
Tabaco
Legaspi
Pasacao
Lucena
Balanacan
Sta. Cruz
Batangas
Calapan
San Jose
Bulan
Masbate
San Jose Cardingan
Calbayog
Catbalogan
Borongan
Guiuan
Culasi
Palompon
Ormoc
Tacloban
Iloilo
Bacolod
San Carlos
Toledo
Cebu
Pulupandan
Baybay
Maasin
Sibonga
Tubigon
Tagbilaran
Jagna
Surigao
Dumaguete
Larena
Butuan
Nasipit
Masao
Puerto Princesa
Plaridel
Jimenez
Ozamiz
Cagayan de Oro
Iligan
Tubud
Pagadian
Malangas
Polloc
Cotabato
Davao
Mati
Zamboanga
Basilan
Jolo
Siasi
General Santos
Tawi-Tawi
Bongao
Sitangkai

4. Please list the major clients of the company below. (Cargo vessels only).

Client Name	Service provided or major cargo transported
1.	
2.	
3.	
4.	

5. What are the annual volume and the largest monthly volume of Passenger or/and Cargo Transport on the major operating routes in the year 1990?

Passenger

1990

Name of the major operating routes	Annual volume of passenger	The largest monthly volume of passenger (month)
		( )
		( )
		( )

Cargo

1990

Name of the major operating routes	Annual volume of Cargo(tons)	The largest monthly volume of cargo (tons) (month)
		( )
		( )
		( )

II. Safety Evaluation and Measures

1. Had any vessels of the Company been in danger, such as collision, stranding and others, due to such reasons as any defects in aid to navigation, and sea lane and others along the routes on which the company's vessels are operating? (Please check.)

____ 1. Yes
____ 2. No

If yes, a) Why the incident(s) took place?

_____

_____

b) Please indicate on the attached map the sea areas where it happened. (Please mark with X).

2. Evaluate the safety of the existing operation of vessels in the Company. (Please check.)

____ 1. Very safe
____ 2. Favorable
____ 3. Fair
____ 4. Poor
____ 5. Very dangerous

3. Can it be agreed upon that the company has been taking sufficient maritime safety measures. (Please check.)

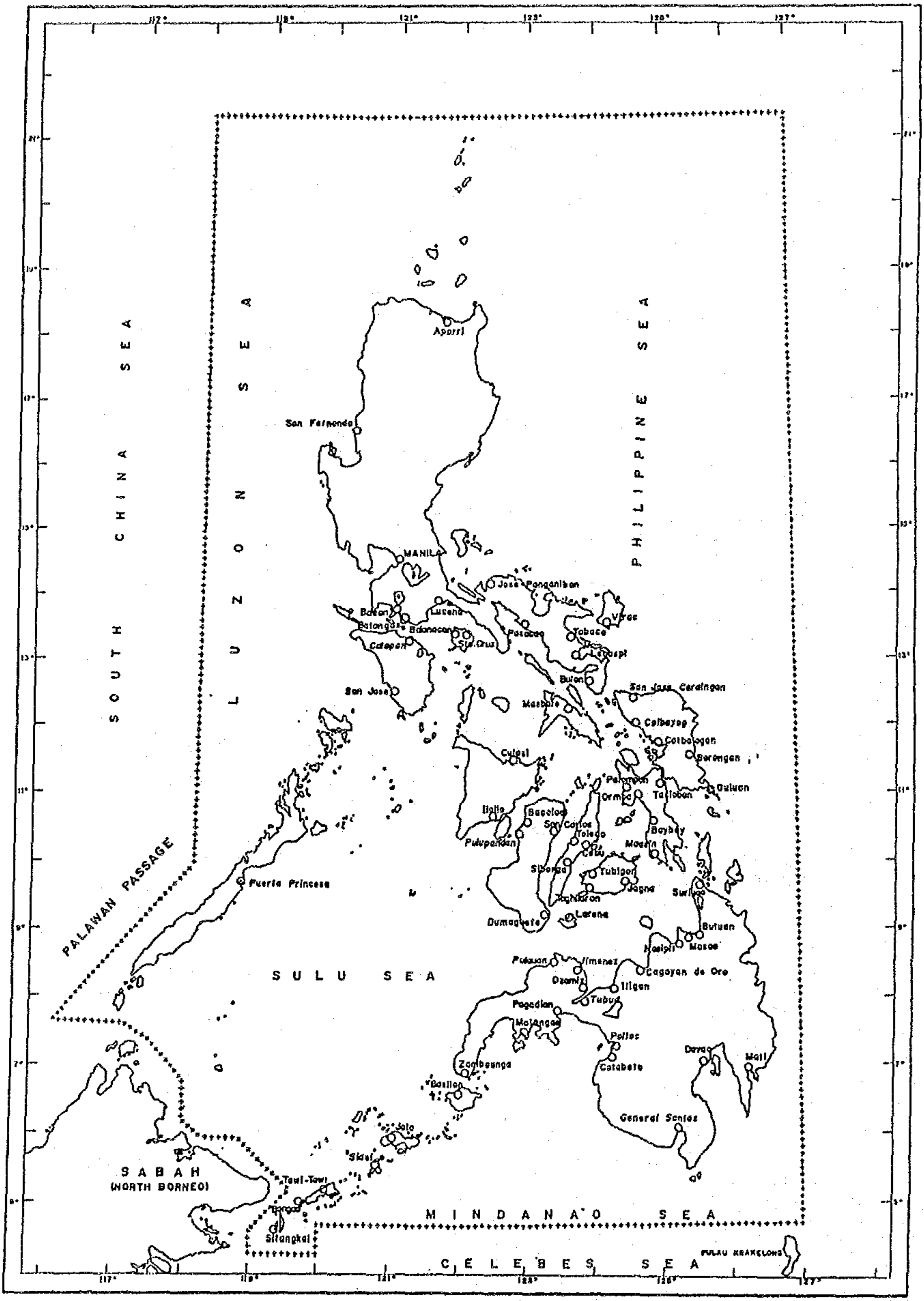
____ 1. Yes
____ 2. No

If yes, please specify the maritime safety measures the Company has taken.

1. _____

2. _____

3. _____


SOUTH CHINA SEA
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Calapan
San Jose
Legaspi
Tabaco
Virac
Masbate
Calbayog
Catbalogan
Borongan
Guiuan
Tacloban
Ormoc
Iloilo
Bacolod
Pulupandan
San Carlos
Toledo
Cebu
Tubigon
Dumaguete
Baybay
Maasin
Surigao
Butuan
Masao
Puerto Princesa
Cagayan de Oro
Iligan
Ozamiz
Pagadian
Zamboanga
Basilan
Jolo
Siasi
Tawi-Tawi
Bongao
Sitangkai
Cotabato
Davao
Mati
General Santos
Polloc
PULAU KEAKELONG

4. Indicate important measures the government should implement for improving the Philippine Maritime Safety. (You may check several numbers).

____ 1. Provision of accurate charts.

____ 2. Provision of aid to navigation including lighthouse, light beacon and others.

____ 3. Enforcement of traffic control such as traffic separation scheme (TSS) and others.

____ 4. Financial support to ship building and replacement of the aged vessels. (Fund and Subsidy)

____ 5. Improvement of maritime transport policy such as deregulation of tariff, franchising system and others.

____ 6. Strict enforcement of regulations related to seaworthiness.

____ 7. Development of shelter for the vessels during the storm weather including breakwater, mooring facilities and others.

____ 8. Improvement of Seafarers Education System.

III. Information System on Weather

1. Information on forecast of proceeding direction and speeds of typhoon are of great importance for the prevention of maritime accident.

Does the company avail itself of such information as stated above? (Please check).

____ 1. Yes
____ 2. No

If yes, please show how it is made available. (Please check.)

Through:

____ 1. Mass Media such as Newspaper, Radio and Television
____ 2. PAGASA directly
____ 3. Others (specify):_____

2. Does the Company send the information on typhoon and other related meteorological conditions to the operating vessels at sea? (Please check.)

____ 1. Yes
____ 2. No (Leaving the responsibility to the Captain on the vessels.)

If yes, how? (Please check.)

____ 1. Telegram
____ 2. Telephone
____ 3. VHF
____ 4. Telex
____ 5. Others (specify): _____

3. Is the Company equipped with operation manuals indicating criteria for the departure of the vessels in the wake of storm and sea fog? (Please check.)

____ 1. Yes
____ 2. No

If yes, what is the velocity of wind that can suspend the departure of vessels? _____ km/hr.

IV. Maritime Safety Education and Training

1. How many are seamen graduates in the company?

	No. of Graduates
Officer/Engineer	
a. Public School for Seamen	
b. Private School for Seamen	
c. Others	
Rating	
a. Public School for Seamen	
b. Private School for Seamen	
c. Others	

2. Can the Company recruit enough number of qualified seamen of competence and discipline? (Please check.)

____ 1. Yes
____ 2. No

If no, please specify the reasons. (Please check)

____ 1. Seamen don't like to work in inter-island shipping due to unfavorable working environment and low salary.
____ 2. Qualified seamen are likely to work in an International Shipping which offers favorable working conditions.
____ 3. Due to the limited capacity of Public School for seamen.
____ 4. Others (specify): _____

3. Is there any training and/or seminars regarding maritime safety and technology available in the Company? (Please check.)

____ 1. Yes
____ 2. No

If no, why? (Please check.)

____ 1. No need of education/training
____ 2. No educational facilities in the Company
____ 3. No financial affordability
____ 4. Others (specify _____)

4. Give suggestions, if any, over the existing maritime education policy of the Philippine Government.

_____
_____
_____
_____

V. Fleet

1. What is the number of vessels owned by the company and laid-up vessels if any?

	No. of Vessels	Total Gross Tonnage	No. of Vessels Laid-up
1. Passenger vessel			
a. Passenger vessel	_____	_____	_____
b. Ro-Ro Ferry	_____	_____	_____
c. Cargo-Passenger	_____	_____	_____
2. Cargo vessel			
a. Dry cargo	_____	_____	_____
b. Tanker	_____	_____	_____
c. Container	_____	_____	_____

2. Have you procured any second hand vessels in the oversea markets to be placed on the route of the company? (Please check.)

____ 1. Yes
____ 2. No

If yes, please answer the next two questions.
Do the second hand vessels procured met the sea route conditions in terms of type, speed at carrying capacity? (Please check.)

____ 1. Yes
____ 2. No

Have you made any structural changes and modification on the second hand vessels? (Please check.)

____ 1. Yes
____ 2. No

If yes, please indicate the works included. (Please check.)

___ 1. Enlargement for cargo hold
___ 2. Putting another deck
___ 3, Others (specify _____)

3. Show the age profile of the operating vessels of the Company.

Age profile	No. of vessels
0 - 5 years	_____
6 - 10	_____
11 - 15	_____
16 - 20	_____
21 - 25	_____
26 - 30	_____
31 - 35	_____
36 & over	_____

4. Had the company made some replacement works on the shell plate, bulkhead and deckplate of the company's vessels? (Please check.)

____ 1. Yes
____ 2. No

If yes, what is the number of vessels on which replacement works were done on the following rust-corroded parts of the vessels?

	No. of vessels
1. Shellplate	_____
2. Bulkhead	_____
3 Deckplate	_____

5. Present condition of navigational instrument and telecommunication equipment installed on the vessels of the Company.

1. Navigational Instrument

Please indicate the number of vessels on which the following navigational instruments are installed.

	Radar	Gyro Compass	Magnetic Compass	Echo Sounder	Speed Log
Operational					
Non-operational					

2. Telecommunication Equipment

Please indicate the number of vessels on which the following telecommunciation equipments are installed.

	MHF/ Telegraphy	MHF/ Telephony	HF/Telegraphy Telephony	VHF
Operational				
Non-operational				

VI. Search and Rescue

1. Did the company's vessels encounter maritime accidents before? (Please check.)

_____ 1. Yes
_____ 2. No

If yes, please describe the major characteristics of the accident below.

Please indicate the points of accidents on the attached map. (Please mark with circle and sub-number (e.g. 01,02,03..)). If the Company keeps track of the accidents please provide the surveyor with maritime accident records.

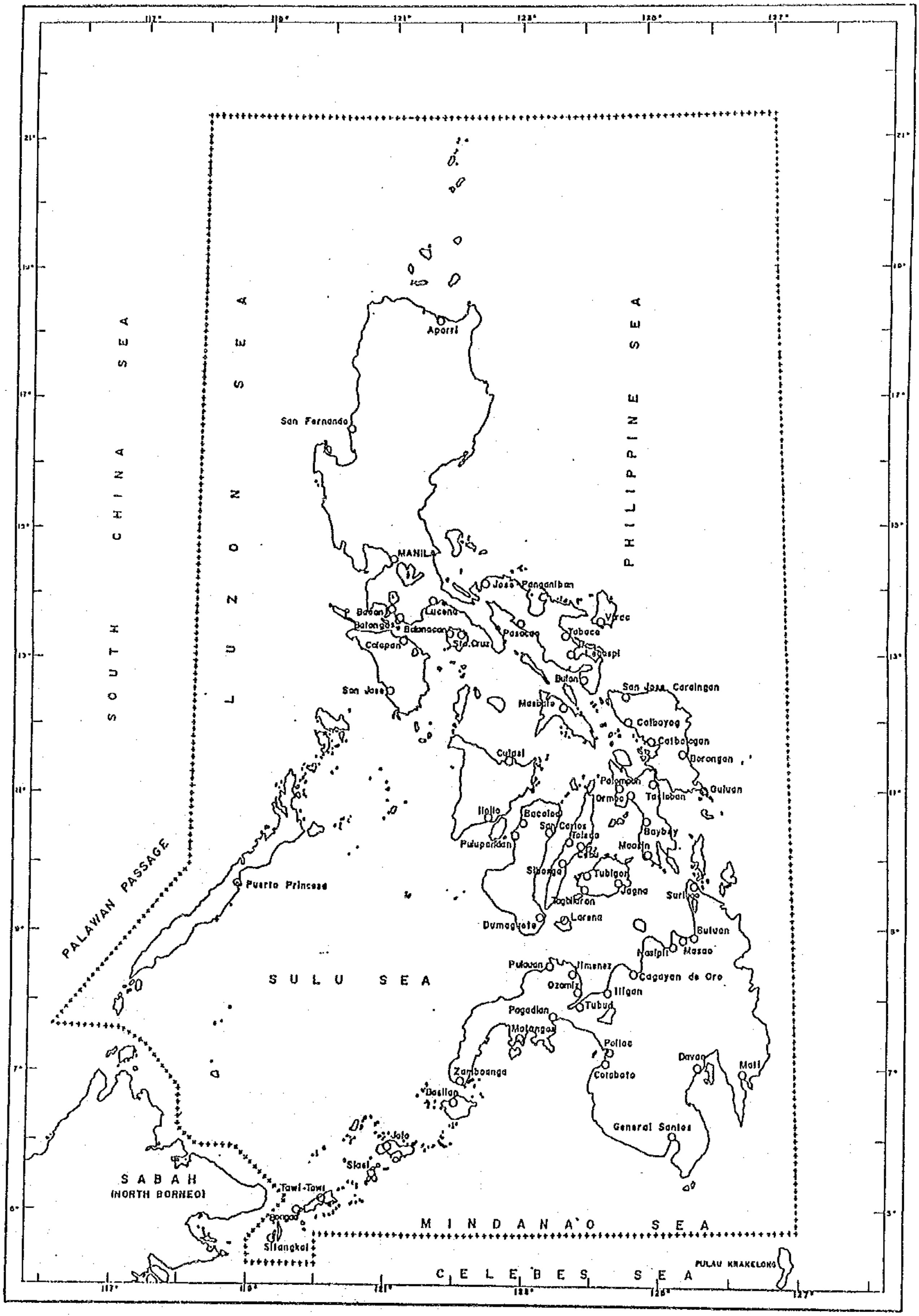
	Accidents		
	1	2	3
Name of the vessels			
Location of accidents			
Classification of accidents			
Route			
Date/Time			
Causes (1st cause)			
Damages			
Vessel subject of SAR			

2. How do the seamen on the vessels get in touch with the office of Company in case of vessel accidents at sea? (Please check.)

_____ 1. Telegram
_____ 2. VHF
_____ 3. Telephone
_____ 4. Others (specify: _____)

3. What kind of measures do the company take when its office receives the request of the vessel for rescue? (Please check.)

_____ 1. request the government agency for rescue
_____ 2. request the private salvage company
_____ 3. Dispatch the company's vessel(s) for rescue.


SOUTH CHINA SEA
LUZON SEA
PHILIPPINE SEA
PALAWAN PASSAGE
SULU SEA
MINDANAO SEA
CELEBES SEA
SABAH
(NORTH BORNEO)
Aparri
San Fernando
MANILA
Jose Panganiban
Virac
Tabaco
Legaspi
Lucena
Batangas
Calapan
Sta. Cruz
Pasacao
San Jose
Bulan
Masbate
Calbayog
Catbalogan
Borongan
Guiuan
Tacloban
Ormoc
Palompon
Iloilo
Bacolod
Pulupandan
San Carlos
Toledo
Cebu
Sibonga
Tubigon
Tagbilaran
Jagna
Baybay
Maasin
Surigao
Dumaguete
Larena
Butuan
Masao
Nasipit
Puerto Princesa
Jimenez
Ozamiz
Iligan
Cagayan de Oro
Tubod
Pagadian
Malangas
Polloc
Cotabato
Davao
Mati
Zamboanga
Basilan
Jolo
Siasi
Tawi-Tawi
Bongao
Sitangkai
General Santos

4. What are the insurance for the vessels of the company? (Please check.)

_____ 1. Hull insurance
_____ 2. Cargo insurance
_____ 3. Protect and indemnity insurance
_____ 4. Others (specify _____)
_____ 5. None

5. Can it be agreed that the Philippine search and rescue (SAR) system is sufficient? (Please check.)

_____ 1. Yes
_____ 2. No

If No, please point out what is defective in the Philippine SAR system. (Please check.)

_____ 1. Communication system in emergency
_____ 2. Search and Rescue vessels
_____ 3. Others (specify _____)

2. Port Traffic Survey

2.1 Outline of this Survey

(Objective)

The objective of this survey is to capture traffic movement at sea and to obtain sea traffic data to supplement existing port statistical data.

(Methodology)

Visual observation was the methodology used for port traffic survey. Surveyors were assigned to monitor and record sea traffic movement at the survey ports from 6 am to 6 pm for seven days.

(Survey Items)

The following items were covered in the survey :

1. Transit time of the gateline
2. Type of Ship
3. Size of Ship
4. Ship's Track
5. Situation of fishing operation at every hour

(Survey Area and Period)

Table 2.1 shows the ports covered and survey period.

Table 2.1
Survey Area and Survey Period

Survey Area	Period
1. Manila North Harbor	from April 22 to May 21
2. Cebu City Port	from May 13 to May 27
3. Cagayan de Oro Port	from May 27 to June 10

2.2 Results

(1) Manila North Harbor

(Summary)

Table 2.2
Traffic Volume in Manila North Harbor
(April 22 - May 21, 1991)

VESSEL CATEGORY / SURVEY TIME	No.OF VESSELS	TYPE							SIZE (Tons)					
		PC	GC	MT	ML	MB	B	LCT	Below 100	100 - 500	501 - 1,000	1,001 - 2,000	2,001 - 5,000	Over 5,000
6- 8	35	14	20	-	-	1	-	-	1	-	6	11	13	4
	85	51	27	-	1	3	2	1	9	11	10	17	22	16
8 - 10	32	22	9	-	-	-	-	1	-	4	2	7	11	8
	35	13	20	-	-	1	-	1	1	8	4	4	14	4
10 - 12	36	24	9	-	-	1	2	-	-	4	2	8	17	5
	47	18	25	-	-	2	2	-	1	3	6	11	26	-
12 - 14	49	30	13	2	-	2	1	1	2	4	6	4	27	6
	30	13	12	3	-	1	1	-	1	3	5	5	16	-
14 - 16	39	23	15	-	-	-	-	1	2	2	11	11	8	5
	49	24	24	-	-	1	-	-	9	11	5	4	17	3
16 - 18	28	8	17	-	-	-	2	1	3	5	3	3	11	3
	57	32	24	-	-	-	-	1	6	10	5	3	16	17
TOTAL	219	121	83	2	-	4	5	4	8	19	30	44	87	31
	303	151	132	3	1	8	5	3	27	46	35	44	111	40

NOTE : outgoing / incoming

LEGEND :

PF - Passenger Ferry
PC - Passenger Cargo
GC - General Cargo
MT - Motor Tanker
ML - Motor Launch
MB - Motor Boat
B - Barge
LCT - Light Cargo Transport
TB - Tug Boat
FB - Fishing Boat

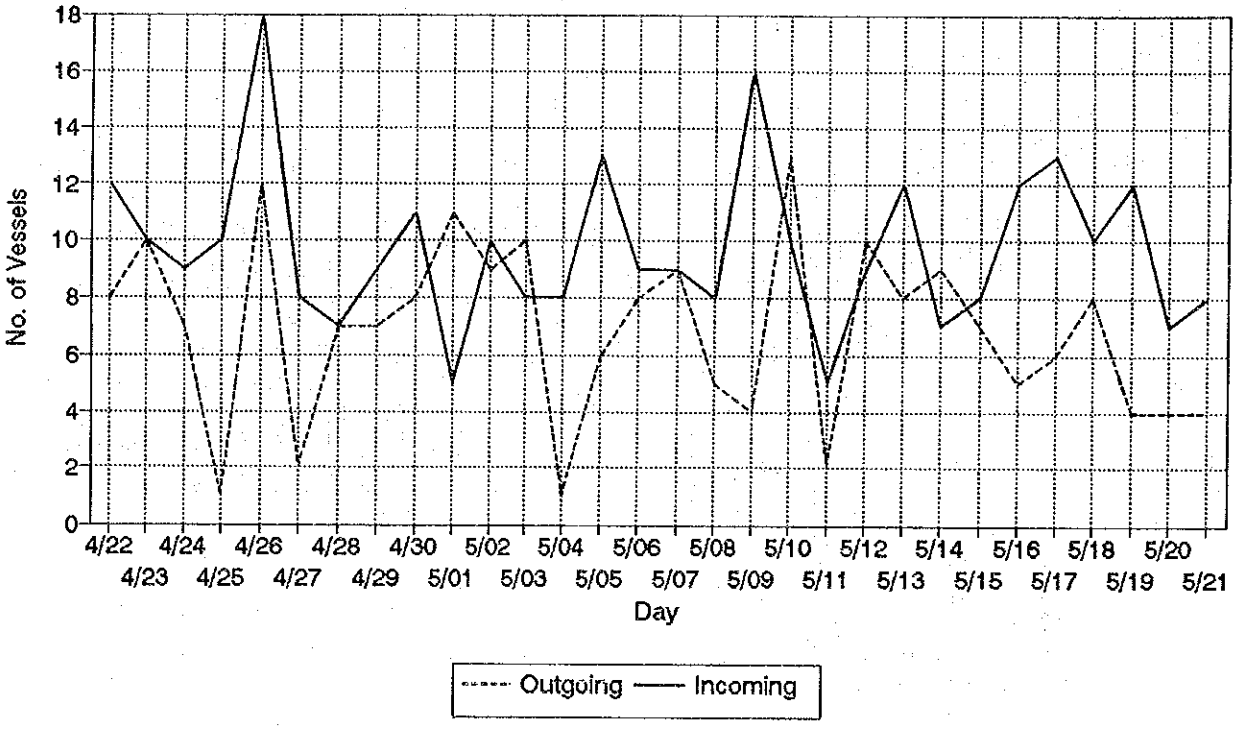
Table 2.3
Service Time in Manila North Harbor
(April 22 - May 21, 1991)

Vessel Category / Service Time	No. of Vessels	TYPE							SIZE (TON)					
		PC	GC	MT	ML	MB	B	LCT	BELOW 100	100-500	501-1,000	1001-2,000	2,001-5,000	Over 5,000
BELOW 12 Hours	30	24	6	-	-	-	-	-	-	-	-	11	11	8
12 - 24 Hrs.	57	45	11	1	-	-	-	-	-	4	3	11	30	9
24 - 48 Hrs.	59	42	16	-	-	-	-	1	3	2	8	12	24	10
48 - 96 Hrs.	36	7	25	1	-	-	2	1	2	3	10	5	15	1
96 - 168 Hrs.	15	1	10	-	-	1	2	1	-	4	4	3	4	-
Over 168 Hrs. (over 1 week)	22	2	15	-	-	3	1	1	3	6	5	2	3	3
T O T A L	219	121	83	2	-	4	5	4	8	19	30	44	87	31

LEGEND :

PC - Passenger Cargo
GC - General Cargo
MT - Motor Tanker
ML - Motor Launch
MB - Motor Boat
B - Barge
LCT- Light Cargo Transport

Figure 2.1
Daily Traffic Volume
Manila North Harbor

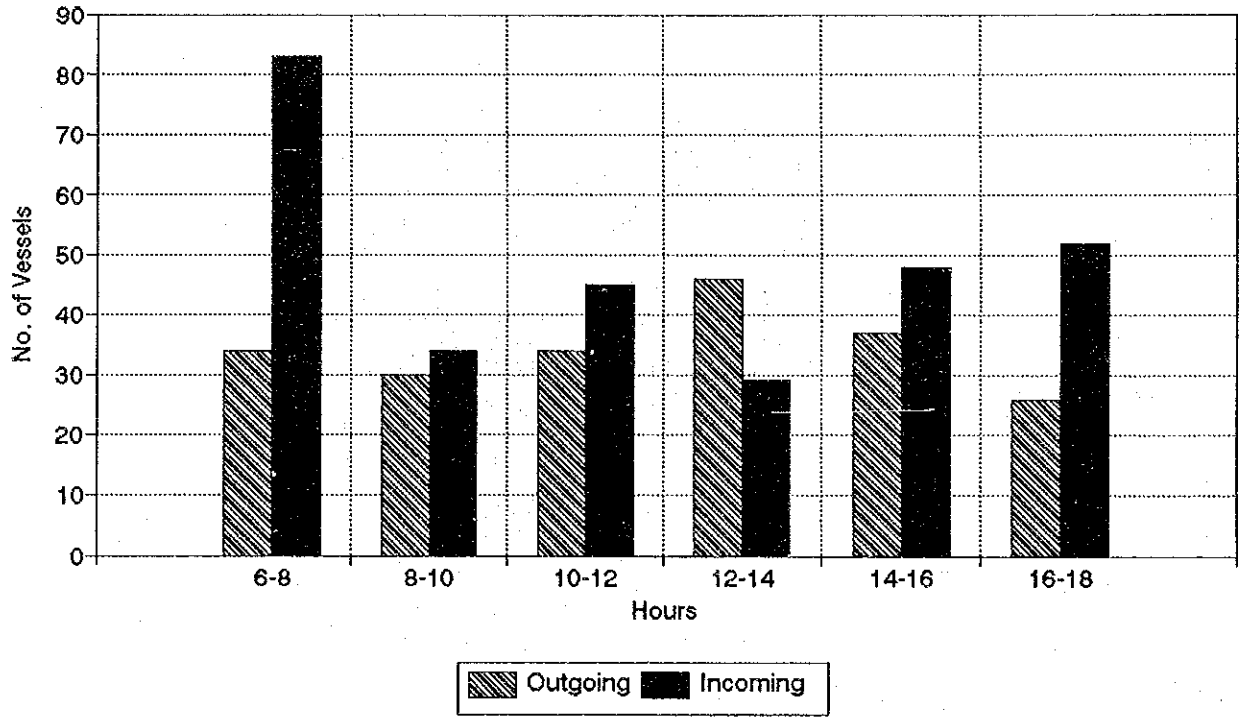


Comment/Analysis

Figure shows that arrival and departure of sea vessels in Manila North Harbor has no stable pattern. The maximum daily incoming traffic volume is recorded at 18 vessels which occured on the 26th of April and the minimum incoming traffic volume of 5 vessels, while 13 and 1 vessel are recorded as the maximum and minimum outgoing traffic daily volume respectively.

(Hourly Traffic Volume)

Figure 2.2
Traffic Volume Every Two Hours
Manila North Harbor

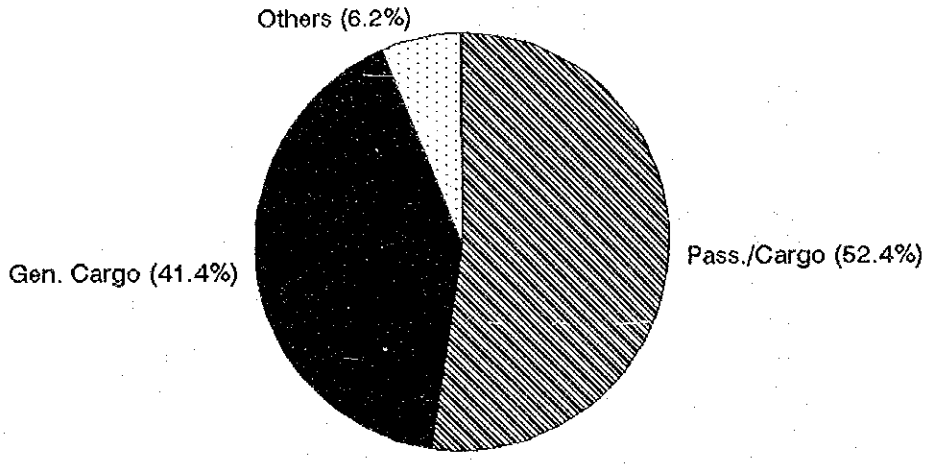


Comment/Analysis

Incoming traffic volume is relatively higher than the outgoing traffic volume. This maybe attributed to the fact that departure mostly occur after 6:00 p.m. which is beyond the survey coverage.

(Vessels by Size)

Figure 2.3
Vessel Characteristics by Size (Tons)
Manila North Harbor

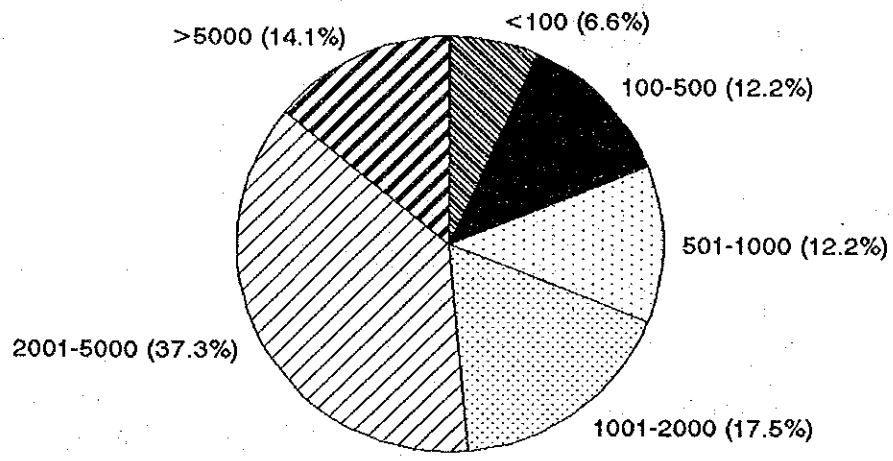


Comment/Analysis

Large vessels with a gross tonnage ranging from 2001-500 tons has the highest share among the vessels that are being served by the Manila North Harbor at 37.3% . Vessels with GRT of 1001-2000 tons is next at 17.75% and vessels with GRT above 5000 tons at 14.1% .

(Vessels by Type)

Figure 2.4
Vessel Characteristics by Type
Manila North Harbor

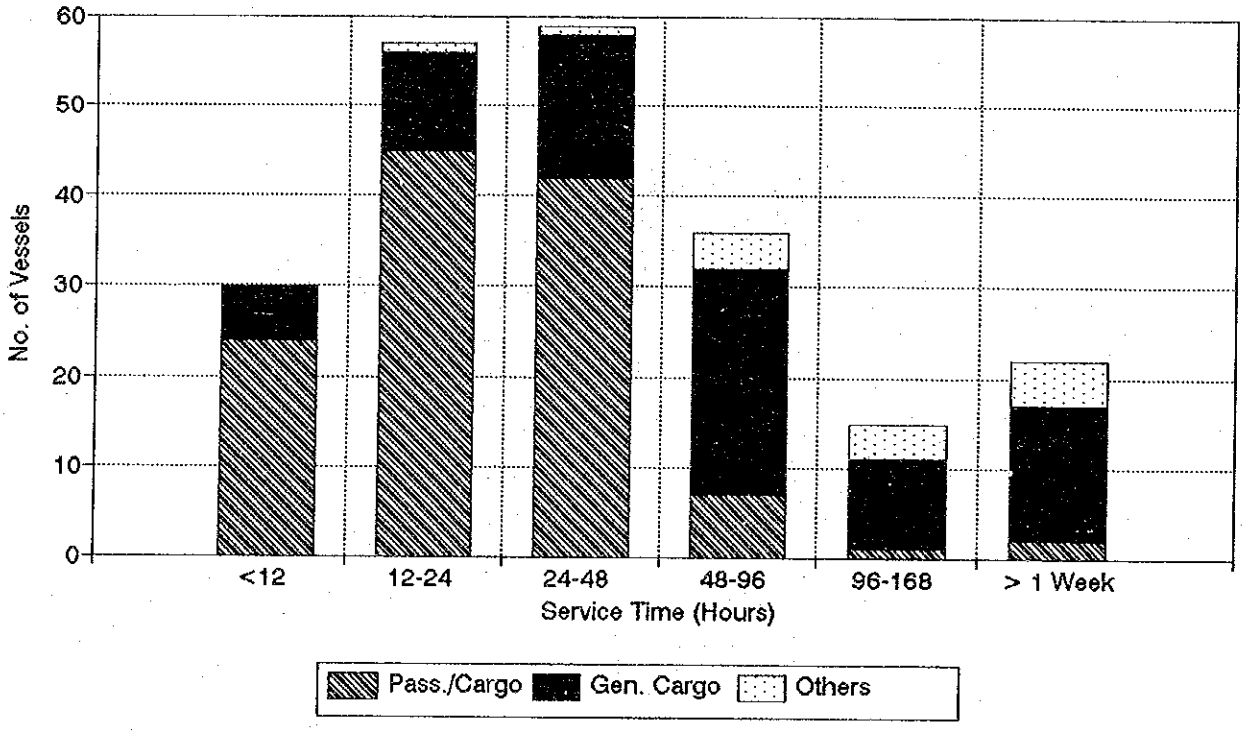


Comment/Analysis

The type of vessel that anchors or uses the Manila North Harbor comprises of Passenger/Cargo, General Cargo and others which include: (Motor Tanker, Motor Launch, Motor Boat and Barge). Among these three type, Passenger/Cargo has the highest share at 52.4% followed by General Cargo at 41.4% and the rest at 62%.

(Service Time)

Figure 2.5
Service Time by Vessel Type
Manila North Harbor



Comment/Analysis

Figure 2.5 shows tht the service time of passenger cargos is comparatively shorter than that of general cargos. Average service time of Passenger/Cargo and General Cargo are 62 hours and 85 hours respectively.

Figure 2.6
Record of Ship's Trades
Manila North Harbor, May 8, 1991

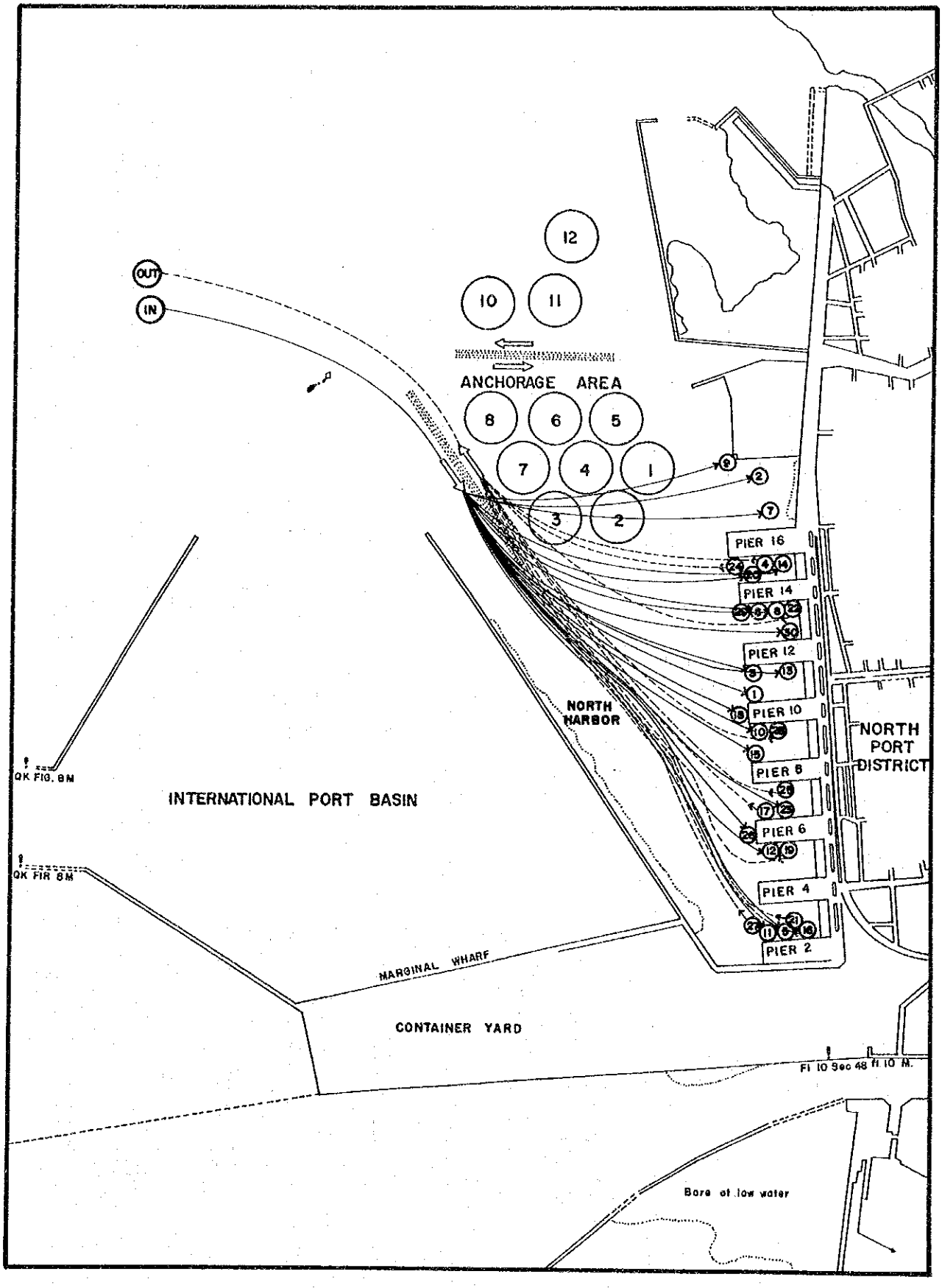


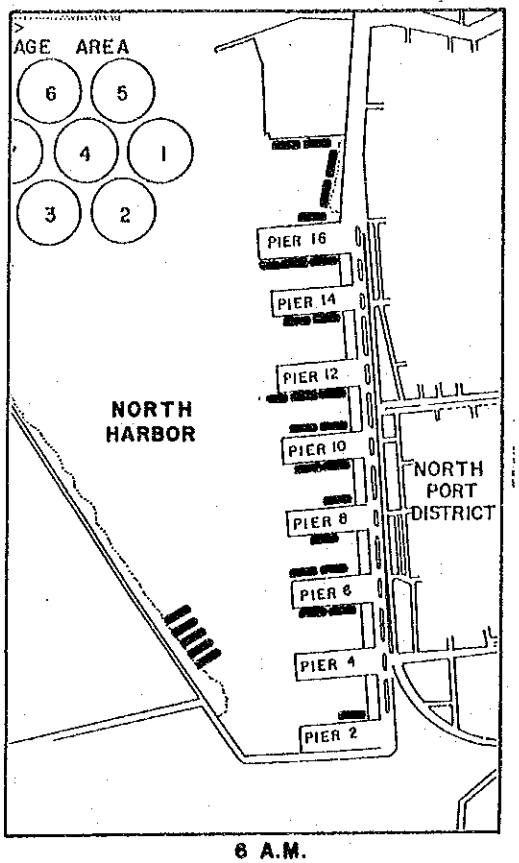
Figure 2.7

RECORD OF ANCHORAGE POSITIONS
MANILA NORTH HARBOR, MAY 9,1991.

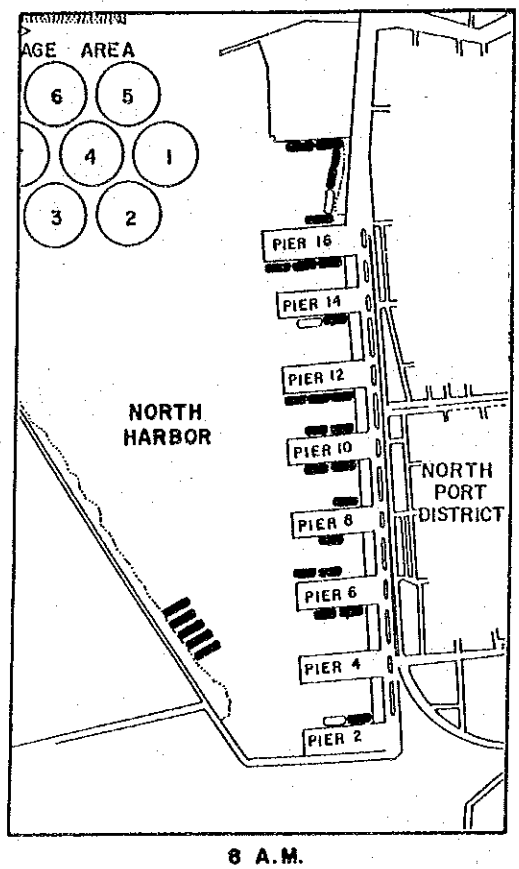
LEGEND :

NEWLY BERTHED VESSEL

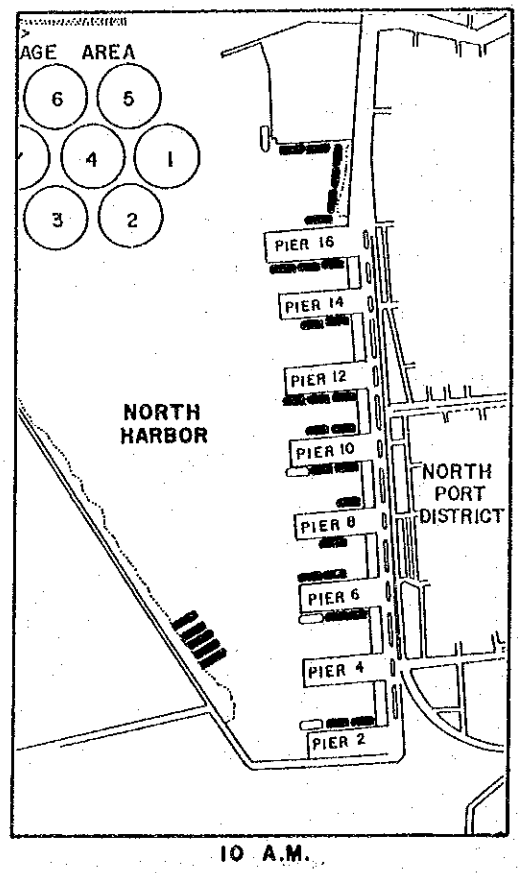
VESSEL AT BERTH



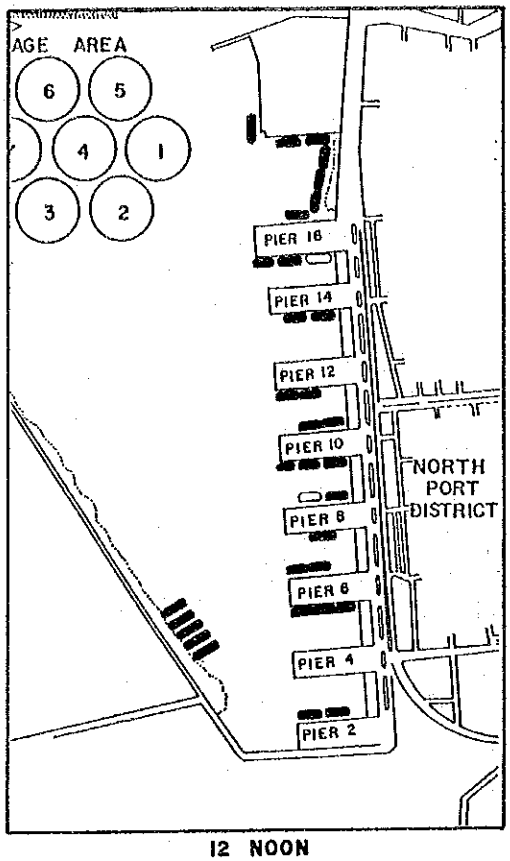
6 A.M.



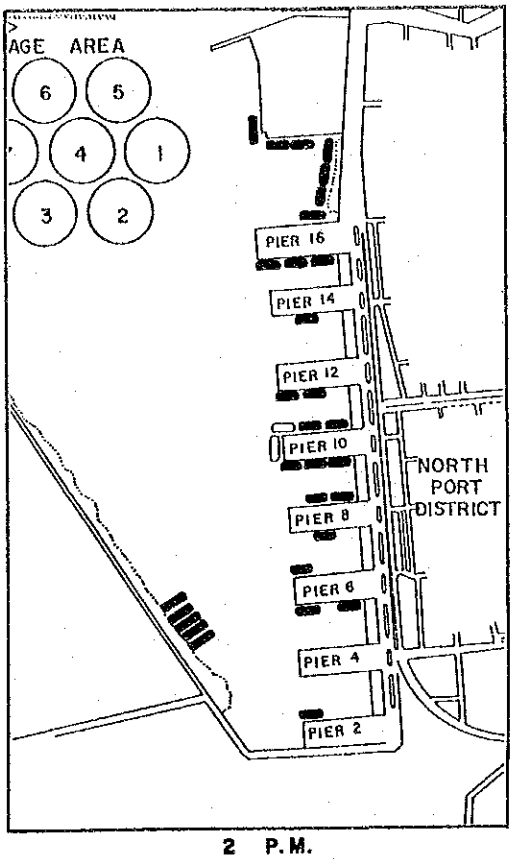
8 A.M.



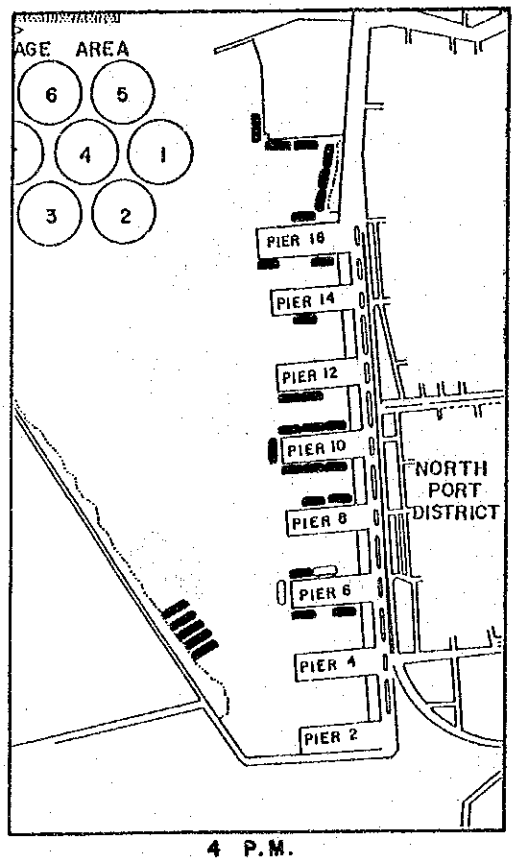
10 A.M.



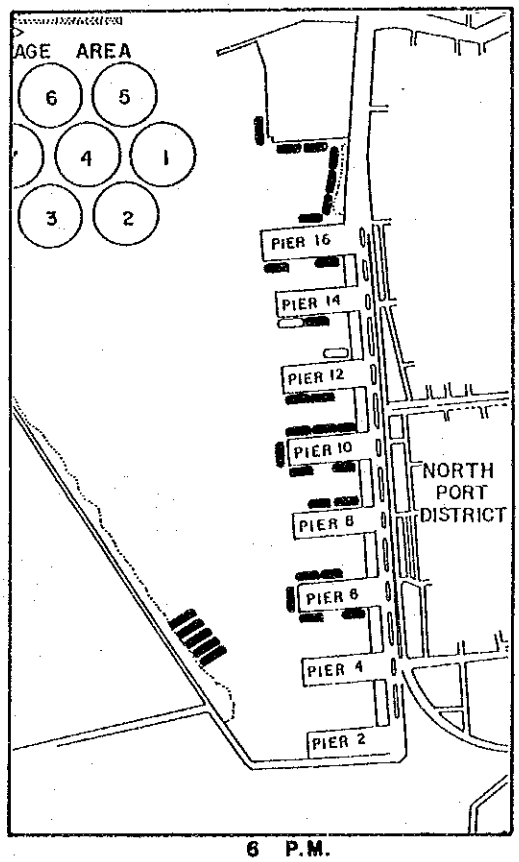
12 NOON



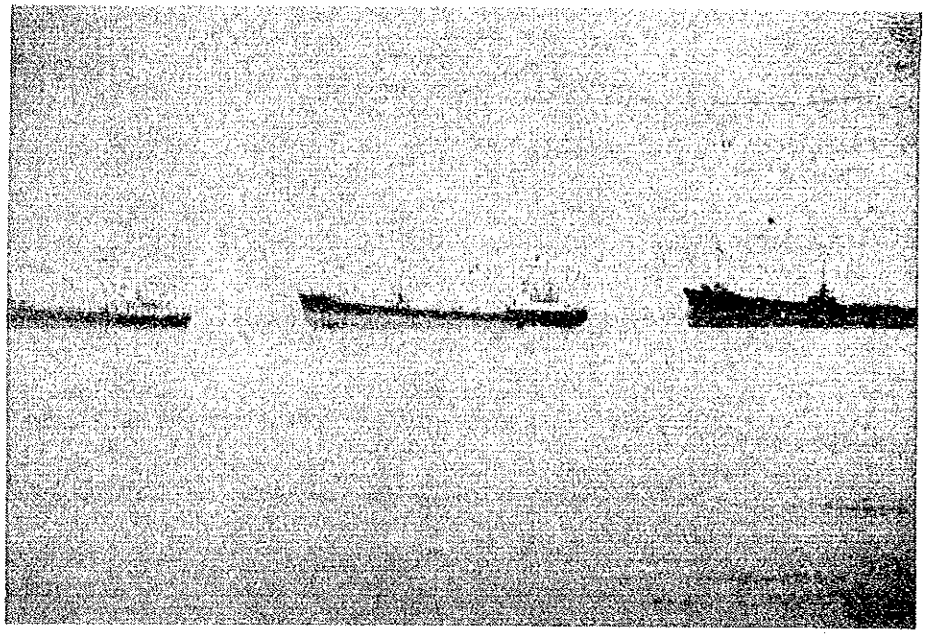
2 P.M.



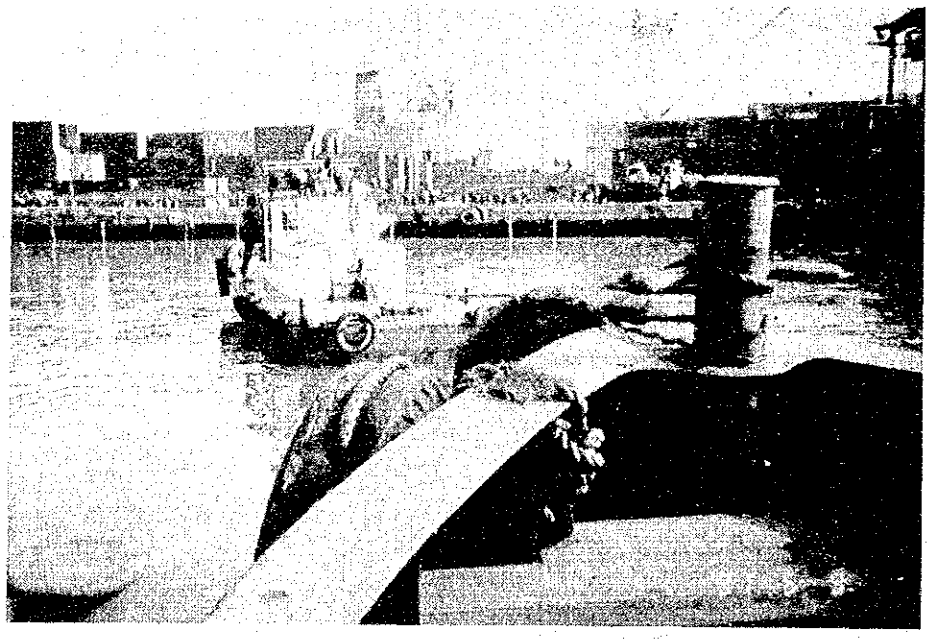
4 P.M.



6 P.M.

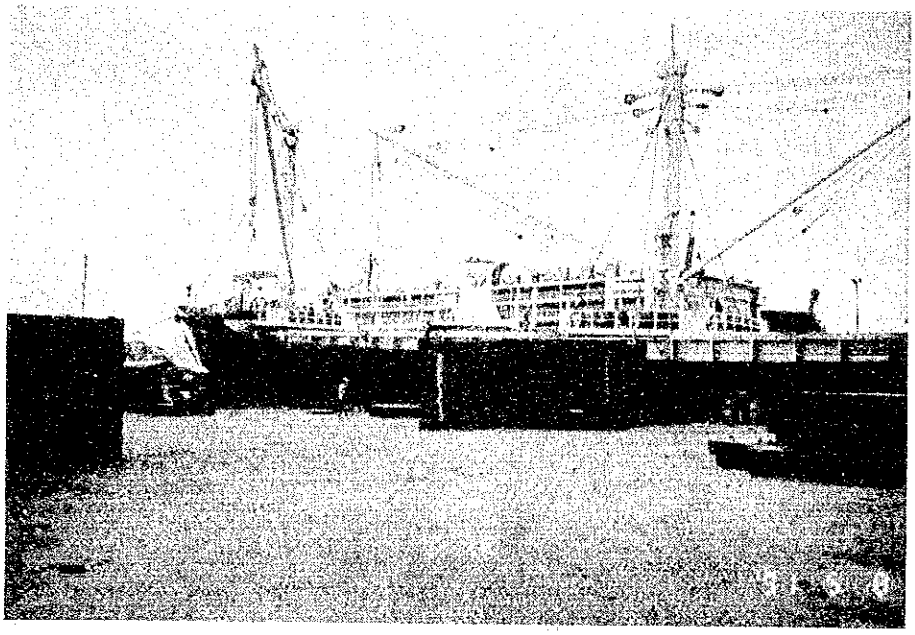


Picture MNH-1
Anchoraging Vessels



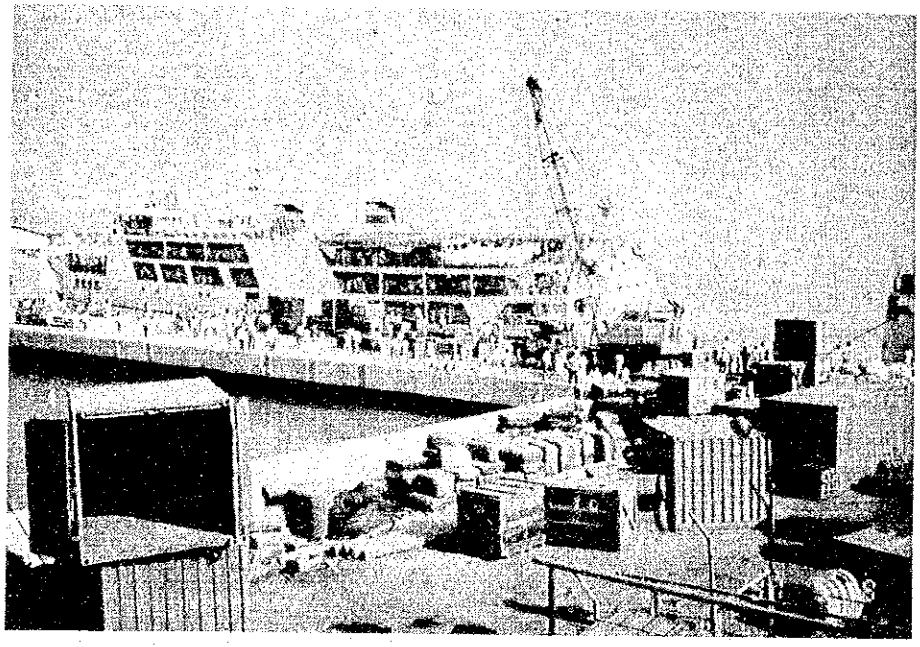
Picture MNH-2

Barge



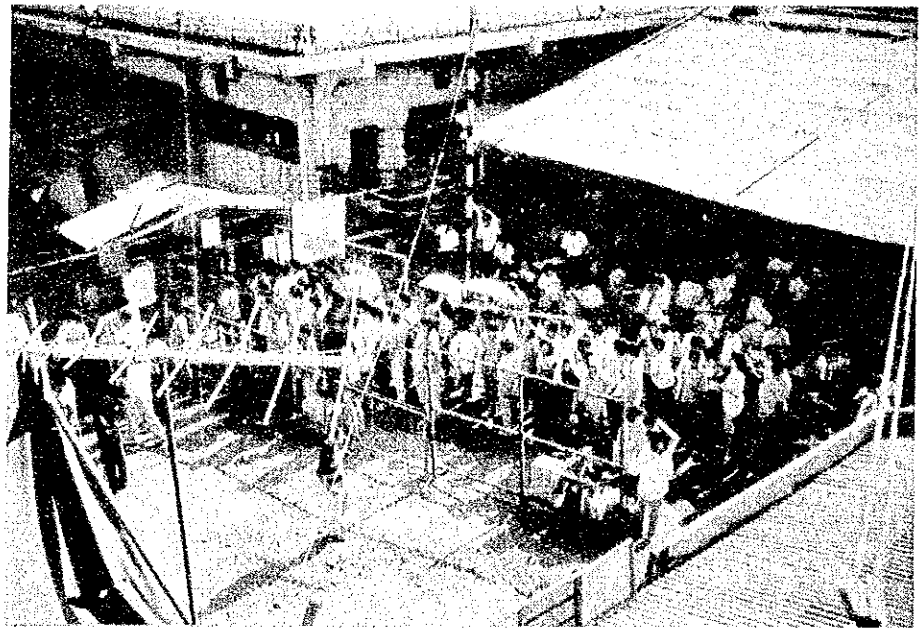
Picture MNH-3

Vessel Equipped
with Big Cranes



Picture MNH-4

Vessel Stopped at Pier 2



Picture MNH-5

Passengers waiting in rows

Picture MNH-6

Heavily congested road in the port

(2) Cebu City Port

(Summary)

Table 2.4
Traffic Volume in Cebu City Port
(May 13 - 27, 1991)

VESSEL CATEGORY / SURVEY TIME	No.OF VESSEL	TYPE PC	GC	TB	MT	LCT	SIZE (Tons) Below 100	100 - 500	501 - 1,000	1,001 - 2,000	2,001 - 5,000	Over 5,000
6- 8	2	2	-	-	-	-	-	-	1	-	1	-
	107	82	22	-	2	1	24	30	35	6	10	2
8 - 10	29	27	2	-	-	-	15	14	-	-	-	-
	50	38	11	-	1	-	23	9	9	8	1	-
10 - 12	32	28	4	-	-	-	14	10	3	1	4	-
	60	51	8	1	-	-	44	11	2	1	2	-
12 - 14	53	49	4	-	-	-	20	19	12	-	2	-
	91	80	9	1	1	-	38	33	16	1	3	-
14 - 16	45	37	7	-	1	-	36	8	-	1	-	-
	19	5	12	-	2	-	8	11	-	-	-	-
16 - 18	49	32	16	-	1	-	25	14	7	1	2	-
	41	28	12	1	-	-	15	15	5	3	3	-
TOTAL	210	175	33	0	2	0	110	65	23	3	9	0
	368	284	74	3	6	1	152	109	67	19	19	2

NOTE : outgoing / incoming

Table 2.5
Service Time in Cebu City Port
(May 13 - 27, 1991)

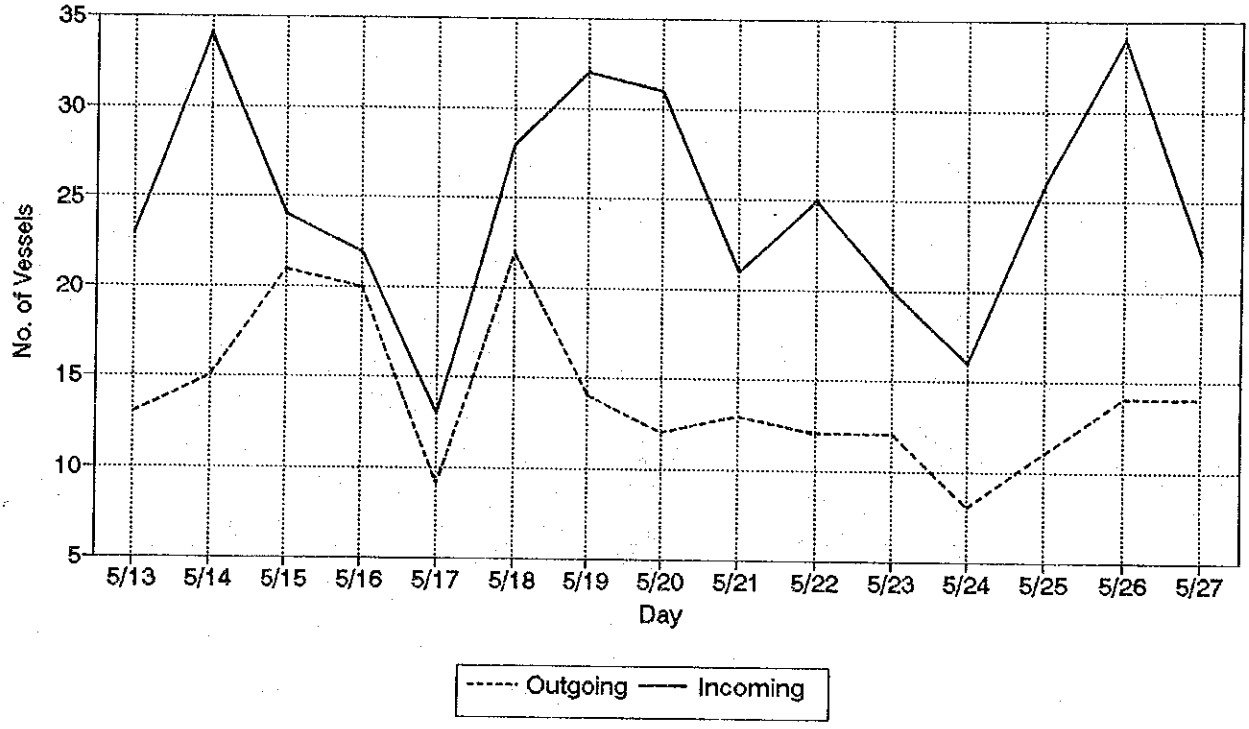
Vessel Category / Service Time	No. of Vessels	TYPE					SIZE (TON)				
		PC	GC	TB	MT	LCT	BELOW 100	100-500	501-1,000	1001-2,000	2,001-5,000	Over 5,000
BELOW 12 Hours	142	137	5	-	-	-	85	35	14	-	8	-
12 - 24 Hrs.	37	31	6	-	-	-	17	16	2	1	1	-
24 - 48 Hrs.	15	6	8	-	1	-	4	6	4	1	-	-
48 - 96 Hrs.	10	1	9	-	-	-	3	5	2	-	-	-
96 - 168 Hrs.	5	-	4	-	1	-	1	3	-	1	-	-
Over 168 Hrs. (over 1 week)	1	-	1	-	-	-	-	-	1	-	-	-
T O T A L	210	175	33	0	2	0	110	65	23	3	9	-

LEGEND :

PC - Passenger Cargo
GC - General Cargo
TB - Tug Boat
MT - Motor Tanker
LCT- Light Cargo Transport

(Daily Traffic Volume)

Figure 2.8
Daily Traffic Volume
Cebu City Port

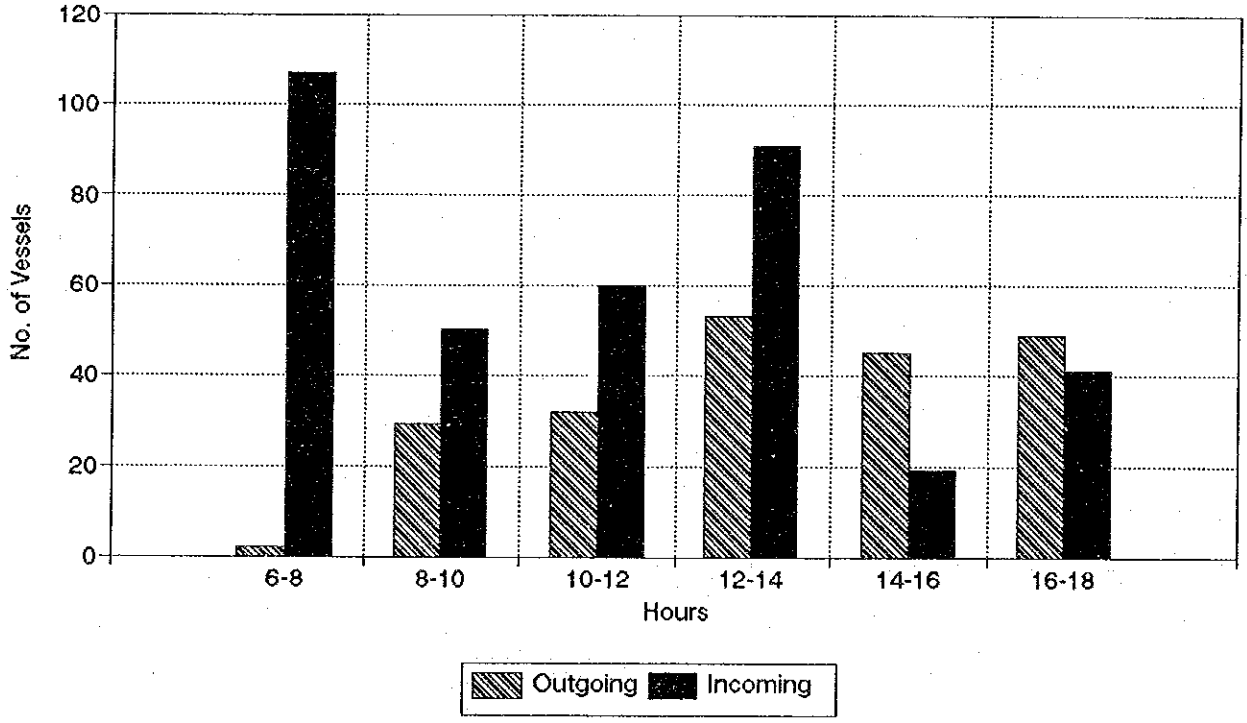


Comment/Analysis

Among the three ports where the traffic surveys were conducted, Cebu City Port turned out to be the most busiest. The maximum daily incoming volume of 34 vessels were observed twice during the survey and a maximum of 22 outgoing vessels. While 17 and 8 vessels were recorded for minimum incoming and outgoing frequency respectively.

(Hourly Traffic Volume)

Figure 2.9
Traffic Volume Every Two Hours
Cebu City Port



Comment/Analysis

The peak period for incoming sea vessels occur between the hours of 6 and 8 in the morning. However, the same period recorded the lowest number of outgoing traffic as reflected in the figure.