



**REPUBLIC OF INDONESIA**  
**SURVEY REPORT**  
**ON**  
**INTER-ISLAND VESSELS**  
**IN**  
**INDONESIA**

**MARCH 1972**

**OVERSEAS TECHNICAL COOPERATION AGENCY**  
**GOVERNMENT OF JAPAN**

**REPUBLIC OF INDONESIA**

**SURVEY REPORT**  
**ON**  
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MARCH 1972

OVERSEAS TECHNICAL COOPERATION AGENCY  
GOVERNMENT OF JAPAN

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## P R E F A C E

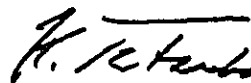
The Government of Japan, in response to the request of the Republic of Indonesia undertook to conduct a survey to collect basic data for the establishment of plans for rehabilitating and newly building inter-island vessels and for fully equipping dockyards in the Republic, and entrusted the execution of the survey to the Overseas Technical Cooperation Agency.

Being cognizant of the vital role played by the inter-island fleet in the Indonesian economy, the Agency organized the Survey Team comprising 12 members headed by Akira Kawai and sent it to Indonesia from August 25th to November 20th, 1971. Though the schedule of survey prepared before their departure was required to alter to some extent in order to adjust it to the actual incoming and outgoing of vessels at the various ports, the survey was generally carried out smoothly thanks to the cooperation of the Indonesian Government enabling the team to investigate 51 vessels in detail as shown in this report and in the annexed Standard Survey Report.

I shall be very happy if this report be fully utilized by the Indonesian Government and be conducive to the future development of shipping industry in the country.

I thank all the members of the team for their efforts and express my sincere gratitude to the Ministries of Transportation and Foreign Affairs, the shipbuilders and the Japanese Embassy in Indonesia who rendered their generous cooperation to the Survey Team in its carrying out of the present investigation.

February, 1972



Keiichi Tatsuke  
Director General

Overseas Technical Cooperation Agency

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## I. Purpose of Sending Fleet Survey Team to Indonesia

In response to the request of the Government of the Republic of Indonesia, the Ministry of Transport, the Ministry of Foreign Affairs and the Overseas Technical Cooperation Agency sent a survey team for three months from August 25th, 1971, to investigate the operation of inter-island vessels in that country chiefly from the viewpoint of its economic payability. The objective was to collect such basic data on the vessels that will serve for establishing the future policy for shipping and shipbuilding of Indonesia.

## II. Composition of Survey Team

### Head of Survey Team:

Akira Kawai                      Chief of Shipbuilding Section, Ship Division, Kobe Maritime Transportation Bureau (appointed to serve concurrently for the Ship Bureau as of August 3rd)

### Members:

Eitoshi Naka                      Chief of Related Industry Section, Ship Division, Kyushu Maritime Transportation Bureau ( " )

Jiro Miyagawa                      Chief of Inspection Section, Ship Division, Niigata Maritime Transportation Bureau ( " )

Keizo Kimura                      Chief of Inspection Section, Ship Division, Tokai Maritime Transportation Bureau ( " )

Yoshitake Kuroda                      Engine Section, Repair Dept, Repair Operation Division, Ship Operation Main Division, Kawasaki Dockyard Co., Ltd.

Hichisaburo Aoki                      Control Section, Repair Division, Ship Main Division, Sumitomo Heavy Industry Co., Ltd.

Shigenobu Osada                      Hull Shop Section, Repair Division, Tokyo Second Dockyard, Ishikawajima Harima Heavy Industries Co., Ltd.

Yoshio Kurihara                      Chief of Electric Inspection, Inspection Section, Shipbuilding Engineering Division, Yokohama Dockyard, Mitsubishi Heavy Industries, Ltd.

Toru Naya                      Hull-Fitting Section, Shipbuilding Engineering Division,  
Kobe Dockyard, Mitsubishi Heavy Industries, Ltd.

Osamu Nakayama              Junior Chief of Engine Works Section, Asano Dock, Nippon  
Kokan K.K.

Kikumoto Tokuno              Assistant Secretary, Engine Section, Repair Department,  
Mukojima Workshop, Hitachi Shipbuilding & Engineering  
Co., Ltd.

Yoshio Eguchi                 Chief of Electrical and Armor Fitting, Inspection Division,  
Tamano Shipbuilding Yard, Mitsui Shipbuilding & Engineering  
Co., Ltd.

For Reference:    Division of Survey Team

	A s s i g n m e n t				
	Control	Hull	Engine	Electric apparatus	Planned station
Team No. 1	o Kawai	Osada	Nakayama	Eguchi	Djakarta
" No. 2		Naya	o Naka	Kurihara	Surabaya
" No. 3		Aoki	o Miyagawa	Kuroda	Macassar
" No. 4		o Kimura	Tokuno		Berawan

o . . . . . Leader

### III.    Background of Sending Survey Team

Though the inter-island shipping plays an important part in the economic flow of Indonesia, the ship owners in general are not operating profitably with a few exceptions. They are faced with many problems such as a large number of old ships, difficulty in securing the fund for maintenance and repair, poor dockyard facilities, low level of technical knowledge and skill, long time spent for repair works, and difficulty in acquiring the needed parts for the foreign made equipment installed in ships and therefore the most of the vessels are barely operating under an insufficient maintenance with their seaworthiness deteriorated significantly.

In this connection, the Japan Shipping and Shipbuilding Advisory Group previously

sent to the Republic of Indonesia took up the problem of improving the seaworthiness of vessels as a part of the reshaping plan of inter-island shipping in that country and proposed to conduct an investigation of the present state of inter-island vessels. The Government of the Republic of Indonesia who accepted the proposal requested by the Government of Japan to carry out the survey.

#### IV. Object and Items of Survey

The survey was conducted on the Indonesian vessels ranging from 500 gross tons to 3,000 gross tons in the inter-island operation, with itemized investigation as follows for each ship.

1. Checking whether a vessel is to be subjected to "scrap and build" as one not deserving to any rehabilitation.
2. Grading of the degree of repair where the rehabilitation is feasible (including the division of repairs to be conducted in the country and abroad).
3. Approximate figures and prices by item and quantity of rehabilitation materials and equipment parts.
4. Items among the above-mentioned which can be supplied from Japan and the number of days required for their supply and rehabilitation.

#### V. Outline of Activities of Survey Team

##### 1. Daily Report of Survey Team

The daily schedules were so tight that the survey was carried out at the standard pace of one vessel per three days and the object vessels were grasped satisfactorily in general by the middle of October.

After completing the field survey, the works were continued until early November on the preparation of Standard Survey Report - a detailed investigation report by each vessel - followed by the compilation of Interim Report for presenting the summary of survey results and the draft of Final Report to the Indonesian Government. On 16th of November, the explanation on the Interim Report and the draft of Final Report was made for the Japanese Embassy and Japan Shipping and Shipbuilding Advisory Group and the



Interim Report was submitted to the Working Committee (a joint working group of Japan and Netherlands which has been set up within the Indonesian Government for the Indonesian Fleet Survey).

The itinerary of the Survey Team was as follows.

Date			Djakarta	Surabaja	Singapore
Aug.	23	Mon.	Inaugural meeting of Fleet Survey Team was held.		
	24	Tue.			
	25	Wed.	Left Tokyo, arrived at Djakarta		
	26	Thu.	Paid a courtesy call to the agencies concerned and the preliminary arrangement was made.		
	27	Fri.	Preliminary arrangement was made.		
	28	Sat.	"		
	29	Sun.			
	30	Mon.	Joint survey was made at Djakarta.		
	31	Tue.	"		
Sept.	1	Wed.	Preliminary arrangement was made within each of 4 teams; Team No. 2 moved to Surabaja; Team No. 1, 3 and 4 started survey at Djakarta.		
	2	Thu.			
	7	Tue.	Team No. 4 moved to Singapore.		
	18	Sat.	Team No. 1 moved to Surabaja.		
Oct.	1	Fri.	Team No. 3 moved to Surabaja.		
	5	Tue.	Team No. 2 moved to Djakarta.		
	8	Fri.	Head of the team moved to Singapore.		

Date			Djakarta	Surabaja	Singapore
Oct.	15	Fri.	Head of the team moved to Djakarta.		
	19	Tue.	Team No. 1 moved to Djakarta.		
	22	Fri.	Head of the team moved to Surabaja; Team No. 4 moved to Djakarta.		
	27	Wed.	Head of the team moved to Djakarta.		
	30	Sat.	Fleet Survey was completed.		
Nov.	2	Tue.	Team No. 3 moved to Djakarta.		
	5	Fri.	SSR was submitted to Working Committee.		
	6	Sat.	4,000 t. passenger steamer was surveyed for PENLI Co.		
			4,000 t. passenger steamer was surveyed for PELNI Co.		
	8	Mon.	Visited shipyard for infor- mation.		
	16	Tue.	Draft of report was submitted to the Embassy and greeting made for returning to Japan. Interim report was submitted to Working Group and greeting made for returning to Japan.		
18	Thu.	Left Djakarta and arrived at Singapore.			Arrange- ment was made with the Indo- nesian Embassy at Singapore.
20	Sat.	Left Singapore for Japan.			

## 2. Background of Survey Activities and Alteration of Original Working Schedule

Since the circumstances of the field changed substantially from those prevailing at the time when the dispatch of Survey Team was planned, the original plan (see annexed Data 1) was revised to some extent taking into consideration the purpose of sending that team and the situation at the field. Thus:

(1) According to the working plan shown in the annexed Data 2 - "Working Time Schedule of Working Group Fleet Survey", the Government of the Republic of Indonesia had decided to submit its Plan for Reshaping of Inter-island Shipping to the World Bank by the end of November. Therefore the Government expected to receive and utilize the survey results from this Survey Team as early as possible as the premises for the plan.

In this connection, the Dutch Shipping Advisory Group (which had been sent to Indonesian Government from Netherlands) repealed the original arrangement to cooperate with Japanese team by offering the Indonesian counterparts by their own fund, thus facilitating the smooth survey. Instead they organized seven survey teams each consisting of Indonesian experts and had started the survey since early August.

The situation being as such, the Japan Shipping and Shipbuilding Advisory Group demanded this Survey Team to undertake the survey immediately. Taking into consideration the above circumstances this Survey Team decided to commence the investigation promptly to meet the demand, though this team itself felt needed to coordinate among the team members before and after the carrying out of survey in view of the make-up of this team.

Though no Indonesian specialist was sent to cooperate with this Survey Team, the officials of the Indonesian Government were assigned, one for each of four teams, to take charge of the seizure of and communication with the vessels to be surveyed and to serve as interpreters.

(2) The number of vessels initially estimated for surveying ranged from 150 to 200 ships, from which those having ages over 20 years were excluded as being to be scrapped and those owned by the national corporation, PELNI, as being grasped of their present conditions through the investigation by the Dutch survey teams; thus, the ultimate number of vessels to be surveyed was 101 ships. And the arrangement was

made to allocate 30 vessels to the Indonesian team and 71 vessels to the Japanese Survey Team.

The period of survey was decided to be for about two months from August to October and the team thought it could manage to fulfil the assignment within this schedule if two vessels per week per team could be surveyed.

(3) The original plan was to station each of four teams respectively at four ports including Dhakarta, Surabaya, Macassar and Berawan. But the examination made by the Working Group and the Japan Shipping and Shipbuilding Advisory Group suggested that stationing the four teams, for the time being, at three ports of Djakarta, Surabaya and Singapore and thereafter sending the teams to other ports such as Macassar, Berawan, Andon, Palembang, Dajapura and Menado to correspond to the movements of vessels were preferable for carrying out the survey effectively. Therefore, it was decided to station two teams at Djakarta and each one team respectively at Surabaya and Singapore, and to send any one team later to correspond to the movements of vessels.

## VI. Results of Survey

### 1. Results of Survey

Before November 11, the Survey Team completed the survey of 51 vessels and the Indonesian Teams 41 vessels, i. e. 95% of the 101 vessels included in the present survey plan, achieving the expected targets.



Date	Djakarta	Surabaya	Singapore
Sept. 19 Sun.			
20 Mon.		SBJ-6 2-6 82 SELATBALI (591)	SPR5 4-6 95 TIRTADAJA (950)
21 Tue.		SBJ-7 1-6 57 MISCOOL (1301)	
22 Wed.	DJK13 3-7 98 TALUSI (734)	SBJ-6 2-6 82 SELAT BALI (591)	SPR6 4-7 64 PISANG (940)
23 Thu.		SBJ8 2-7 15 BIDARA (950)	
24 Fri.		SBJ9 1-7 81 SAWU (1301)	
25 Sat.	DJK-14 3-8 11 BOTOLEMPANGAN (1065)	SBJ8 2-7 15 BIDARA (950)	
26 Sun.			
27 Mon.	DJK-15 3-9 50 KUMAMBA (1300)	SBJ11 1-8 62 ODITYA 26 (584)	SPR7 4-8 90 TANDJUNG II (510)
28 Tue.		SBJ10 2-8 29 GILIGENTENG (721)	
29 Wed.		SBJ12 1-9 74 PALIAT (618)	SPR8 4-9 70 PARIJA MAN (658)
Oct. 1 Fri.	Team No. 3 moved to Surabaya.		
2 Sat.			SPR9 4-10 72 PELITA (500)
3 Sun.			
4 Mon.		SBJ14 3-10 53 LOKLOWA (431) not finished.	
5 Tue.	Team No. 2 moved to Djakarta	SBJ13 1-10 84 SELAT MADURA (584)	SPR10 4-11 65 PISANG SUASA (912)
6 Wed.		SBJ15 3-11 47 KARANGARYA (2507)	
7 Thu.		SBJ15 3-11 47 KARANG RAYA (2507)	SPR11 4-12 99 WARU (600)
8 Fri.	Head of the team moved to Singapore.	SBJ18 1-11 24 DJERUK (960)	
9 Sat.			
10 Sun.			
11 Mon.			SPR12 4-13 8 AITUMEIRI (1063)
12 Tue.			
13 Wed.			
14 Thu.		SBJ14 3-10 53 LOKLOWA (431)	
15 Fri.	Head of the team moved to Djakarta.	SBJ17 3-12 21 BANABUNGI (734)	
16 Sat.			
17 Sun.			
18 Mon.		SBJ18 3-13 27 FADJAR II (600)	
19 Tue.	Team No. 1 moved to Djakarta.		

Date	Djakarta	Surabaya	Singapore
Oct. 20 Wed.			
21 Thu.			
22 Fri.	Head of the team moved to Surabaya. Team No. 4 moved to Djakarta.	SBJ19 3-14 87 SANDANGAN (660)	
23 Sat.			
24 Sun.			
25 Mon.			
26 Tue.			
27 Wed.	Head of the team moved to Djakarta.	DJK18 2-11 (26) ENIM (1833)	
28 Thu.			
29 Fri.			
30 Sat.	Fleet Survey was completed.	SBJ20 3-15 28 GILIANG (1720)	
31 Sun.			
Nov. 1 Mon.			
2 Tue.	Team No. 3 moved to Djakarta.	SBJ21 3-16 77 RAINY (600)	
3 Wed.			
4 Thu.			
5 Fri.	SSR was submitted to Working Committee.		
6 Sat.			
7 Sun.			
8 Mon.			
9 Tue.			
10 Wed.			
11 Thu.			
12 Fri.			
13 Sat.			
14 Sun.			
15 Mon.			
16 Tue.	Draft of report was submitted to the Embassy and greeting made for returning to Japan. Interim report was submitted to Working Group and greeting made for returning to Japan.		
17 Wed.			
18 Thu.	Left Djakarta and arrived at Singapore		
19 Fri.			
20 Sat.	Left Singapore for Japan.		

4,000 t. passenger steamer was surveyed for PELNI Co.

Visited shipyard for information.

Arrangement was made with the Indonesian Embassy at Singapore.

Vessel No. team/place Name of Vessel	1-1 (88)	Djakarta 1 SANDRA MARIA	1-2 (48)	KAMARA	Djakarta 3 KAMARA	1-3 (25)	Djakarta 6 DUWET	1-4 (75)	PAINAN	Djakarta 9 PAHEPA	1-5 (73)	Djakarta 11 PAHEPA	1-6 (59)	Surabaya 7 MISOOL	1-7 (81)	Surabaya 9 SAWU
Date of Survey	Aug 30, 31, 1971	Sep. 2, 3, 1971	Sep. 6, 1971	Sep. 9, Oct 25, 1971	Sep. 9, 1971	Sep. 9, Oct 25, 1971	Sep. 15, 1971	Sep. 21, 1971	Sep. 24, 1971							
Condition of Survey	Afloat (Under Survey at shipyard pier)	Afloat (in operation at Buoy)	Afloat (in operation at loading pier)	Afloat (under survey, at shipyard pier)	Afloat (in operation at mooring year at shipyard pier)	Afloat (under survey, at shipyard pier)	Afloat (mooring year at shipyard pier)	Afloat (in operation at buoy)	Afloat (in operation at buoy)							
Surveyor	Osada, Nakayama, Kuroda	O Nm. Eguchi	O Nm. Eguchi	O Nm. Kuroda	O Nm. Eguchi	O Nm. Kuroda	O Nm. Eguchi	O Nm. Kurthara	O Nm Kh							
Use of Vessel	Cargo & Passenger	Cargo	Cargo & Passenger	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo							
Type of Vessel	Open Shelter	Well Decker	Open Shelter	Closed Shelter	3 Islander	Closed Shelter	3 Islander	Well decker (long poop)	Well decker (long poop)							
Classification Society	B V.	BKI	BKI	BKI	BKI	BKI	BKI	R. I.	R. I. Ex(pe)							
DW-GT-NT	1395-870.25-514.83	2397.6 - 1635.78-857.83	872.03-671.38-279.91	1131.59-1050-466.70	618-544-310	1131.59-1050-466.70	618-544-310	1301.1253-43-638.16	1301-1117.27-613.43							
LOA Lpp	67.25-60.40	77.50	65.80-59.00	66.58	57.30-50.00	66.58	57.30-50.00	68.12	74.53-67.50							
B-D-d	11.10-6.90	12.00-6.00-	10.50-3.75-	10.05-4.70-	9.00-3.70-3.10	10.05-4.70-	9.00-3.70-3.10	11.35 4.62 3.31	11.30-5.30-4.00							
Vs Vmax	8.5-12	7-12	11-12	8-9	7-9	8-9	7-9	7-9	11.2-13							
No. of Passenger/Crew	Deck P 12/26	0/36	Cabin 7, Deck 143/34	0/25	0/26	0/25	0/26	0/24	0/27							
Main Engine	DX1 (BACYAHO, GERMANY)	DX1	B & W DX1 (COPENHAGEN)	DX2 GANZ(BUDAPEST)	ENTERPRIZE (BELGIE)	DX1	ENTERPRIZE (BELGIE)	DX1 LANG(BUDAPEST)	DX1 LANG(BUDAPEST)							
HP-RPM-Shaft RPM	1000-- 300 - 300	1100 - 250 - 250	960 - 320 - 320	400 x 2 - 800 - 267	350 - 450 - 450	400 x 2 - 800 - 267	350 - 450 - 450	1000 - 400 - 160	1000 - 400 - 160							
Owner	PT. PELAJARAN RAKJAT	PT SAMBERA DJAYA	PT. MAHAKAM	PT. Pevs Peji "NUSANTARA PRINTIS"	RAHASIA	PT. Pevs Peji "NUSANTARA PRINTIS"	RAHASIA	PT BAHARI	PT PELAJARAN BAHARI							
When Built	1952	1955	1960	1952	1952	1952	1952	1963	1962							
Builder	MUGIA ITALY	SASEBO DOCKYARD JAPAN	Guinya Shipyard Poland	BUDAPEST, HUNGARIA	JOB BOEL EN ZONEN BELGIE	BUDAPEST, HUNGARIA	JOB BOEL EN ZONEN BELGIE	HUNARIAN SHIPYARD CO. HUNGARI	HUNARIAN SHIPYARD HUNGARIA							
Repair cost 1. Hull	4,556,500	24,863,300	10,442,000	3,116,000	24,008,800	3,116,000	24,008,800	5,643,600	4,030,000							
2. Mach.	7,716,000	9,730,600	7,287,000	7,220,400	7,797,800	7,220,400	7,797,800	13,614,800	8,353,000							
3. Radio	190,000	125,000	0	200,000	6,616,400	200,000	6,616,400	375,000	475,000							
4. Safety Eq.	120,000	515,000	168,000	4,600,000	1,895,000	4,600,000	1,895,000	2,195,500	2,659,000							
5. Nav Aid	95,000	123,000	0	290,000	280,000	290,000	280,000	300,000	360,000							
Total	17,677,500	35,356,900	17,897,000	15,426,400	40,598,000	15,426,400	40,598,000	22,128,900	15,877,100							
Repair cost/D.W.	12.672	14.747	20,523	13.633	65,692	13.633	65,692	17,009	12.204							
Hull	4,556,500	24,863,300	10,442,000	3,116,000	24,008,800	3,116,000	24,008,800	5,643,400	4,030,100							
1 Tank	B 129,500	C 2,200,400	D 108,000	B 0	D 21,800	B 0	D 21,800	B 128,000	B 126,600							
2. Hull	B 1,703,000	D 15,234,000	D 2,046,000	B 0	D 16,905,000	B 0	D 16,905,000	B 700,000	B 0							
3. Deck	B. 620,000	D 3,590,000	B 3,679,000	C 995,000	D 830,000	C 995,000	D 830,000	D 1,040,000	D 1,130,000							
4. Cargo Hold & Closing Appliance	B 656 000	B 2,026,000	D 3,980,000	C 1,581,000	D 3,743,000	C 1,581,000	D 3,743,000	D 2,610,400	C 2,168,500							
5. Cargo Gear & Loading equipment	B 1,033,000	C 1,547,900	C 414,000	B 280,000	D 2,122,000	B 280,000	D 2,122,000	B 930,000	A 370,000							
6. Deck Equipment	B 415,000	B 265,000	B 215,000	C 260,000	B 387,000	C 260,000	B 387,000	B 235,000	A 235,000							



Vessel No. team/place Name of Vessel	1-1 (88)	Djakarta SANDRA MARIA	1-2 (48)	Djakarta KAMARA	1-3 (25)	Djakarta 6 DUET	1-4 (75)	Djakarta 9 PAINAN	1-5 (73)	Djakarta 11 PAHEPA	1-6 (59)	Surabaya 7 MISOOL	1-7 (81)	Surabaya 9 SAWU
Mathinery	7,716,000		9,730,600	2,181,000	7,287,000	1,853,000	7,220,400	1,600,000	7,797,800	1,195,600	13,614,800	2,128,200	8,353,000	
1. Main Engine	C	1,701,000	C	2,181,000	C	1,853,000	C	1,600,000	C	1,195,600	D	2,128,200	C	1,768,200
2. Aux. Eng. Generator														
Main Switch Board	C	2,205,000	C	3,177,600	C	3,121,000	D	2,298,000	D	3,980,600	B	3,190,200	D	2,900,000
etc.														
3. Miscel. Aux. Mach.	B	2,261,000	C	2,212,000	B	939,000	C	1,521,000	C	968,000	D	5,360,000	C	1,860,000
4. Miscel. Equipment	C	68,000	B	185,000	B	140,000	B	70,000	B	70,000	B	77,000	B	77,000
5. Pumps & Piping	B	727,000	C	1,078,000	B	1,018,000	C	840,000	C	885,000	C	1,242,000	C	1,242,000
6. Spare parts	D	754,000	E	897,000	C	216,000	D	891,400	E	698,600	E	1,617,400	C	505,600
Radio Equipment		190,000		125,000		0		200,000		6,616,400		375,000		475,000
	D		B		B		C		F		C		C	
Safety Equipment		120,000		515,000		168,000		4,600,000		1,895,000		2,195,500		2,659,000
1. Life Saving App.	B	72,000	B	400,000	A	0	E	4,600,000	D	1,649,000	D	1,746,000	D	1,996,000
2. Fire Fighting Equip.	B	48,000	A	115,000	B	168,000	B	0	C	246,000	C	449,500	D	663,000
Navigation Aid		95,000		123,000		0		290,000		280,000		300,000		360,000
	D		B		B		C		B		C		C	
General Aspect		Fair	Fair	Shell Desk poor	Poor	Tank, Shell, Cargo H. poor	Fair	Aux. eng. spare parts poor	Very Bad	Fair	Fair	Cargo Hold, Miscel. Mach. poor	Fair	Cargo Hold
Spare parts		Redio												Aux. engine
Nav. Aid		- poor												Safety equip poor.

Vessel No. Team/place Name of Vessel	1-8 (62)	Surabaya 11 ODITYA 26	1-9 (71)	Surabaya 12 PALIAT	1-10 (84)	Surabaya 13 SELAT MADURA	1-11 (24)	Surabaya 16 DJEROK
Date of Survey	Sep. 28, 1971	Sep. 29, 1971	Oct. 4, 5, 1971	Oct. 8, 1971				
Condition of Survey	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (under special S in Shipyard)	Afloat (in operation at loading pier)			
Surveyor	Osada, Nakayama, Kurihara	Osada, Nakamura, Kurihara	Osada, Nakamura, Eguchi	Osada, Nakamura, Eguchi	Osada, Nakayama, Eguchi			
Use of Vessel	Cargo	Cargo	Cargo	Cargo	Cargo & Passenger			
Type of Vessel	Closed shelter	Closed shelter	Open shelter	Closed shelter	Closed shelter			
Classification Society	B K I	B K I	B K I	B K I	B K I			
D. W - GT - NT	591.81-546.20-191.68	618 - 579.58-346.49	584.07-543.08-179.64	960 - 677.38-279.91				
LOA - Lpp	56.00 - 50.00	57.27 - 50.00	57.96 - 55.53	65.80 -				
B - D - d	9.80 - 3.05 -	9.00 - 3.70 - 3.17	9.80 - 5.15 -	10.50 - 5.90 -				
Vs Vmax	10-11	9-10	7-11.318	9-12				
No. of Passenger/crew	0/29	0/26	0/16	Cabin 6, Deck 150/36				
Main Engine	YOKOHAMA-MAN (JAPAN) Dx1	ENTERPRISE (U.S.A.) Dx1	YOKOHAMA-MAN (JAPAN) Dx1	YOKOHAMA-MAN (JAPAN) Dx1	B & W Dx1			
HP-RPM-Shaft RPM	600 - 530 - 530	350 - 350 - 350	600 - 530 - 530	600 - 530 - 310	960 - 310 - 310			
Owner	TAAT SHIPPING CO	PT. PELAJARAN MERATUS	PT. PIBHA LINES	PT. PELSUTRA MANADO				
When built	1961	1954	1961	1960				
Builder	USUKI TEKKO SAIKI JAPAN	JOS BOEL EN ZONEN BLGIE	TAIYO ZOSEN JAPAN	GOANSEK POLAND				
Repair cost								
1. Hull	4,395,100	8,967,900	9,398,200	3,472,600				
2. Mach.	9,424,900	4,370,000	9,340,500	10,344,700				
3. Radio	370,000	450,000	125,000	0				
4. Safety Eq	1,368,000	95,000	3,451,000	2,370,000				
5. Nav. Aid	84,000	20,000	150,000	0				
Total	15,642,000	13,902,900	22,464,000	16,187,300				
Repair cost/D. W.	26.431	22.497	38.460	16.862				
Hull								
1. Tank	4,395,100	8,967,900	9,398,200	3,472,600				
2. Hull	B 96,600	A 22,400	B 35,200	B 73,600				
3. Deck	C 1,242,000	D 7,054,000	D 4,644,000	B 102,500				
4. Cargo Hold & closing appliance	B 830,000	C 335,000	C 870,000	B 325,000				
5. Cargo gear & Loading equipment	B 853,000	D 1,086,500	C 1,911,000	D 1,611,500				
6. Desk Equipment	A 410,000	A 330,000	B 370,000	A 210,000				
	C 963,500	B 140,000	B 1,568,000	B 1,150,000				

Vessel No. Team/place Name of Vessel	1-8 (62)	Surabaya 11 ODITYA 26	1-9 (71)	Surabaya 12 PALJAT	1-10 (84) SELAT MADURA	1-11 (24)	Surabaya 13 MADURA	1-11 (24)	Surabaya 16 DJEROK
<b>Machinery</b>									
1. Main Engine	9,424,900	1,554,000	4,370,000	1,137,000	9,340,500	10,344,700	1,504,000	C	1,478,200
2. Aux. Eng. Generator									
Main switch board	C	C	C	C	D	C	4,605,800	C	5,741,000
3. Miscel. Aux. Mach	3,726,600	1,980,500	C	1,236,000	C	C	1,184,800	C	932,500
4. Miscel. Equipment	B	B	B	649,000	C	B	90,000	B	110,000
5. Pump & piping	100,000	731,000	C	77,000	C	C	821,000	C	1,220,000
6. Spare parts	E	1,332,800	C	841,000	D	E	1,134,900	E	863,000
				430,000					
<b>Radio Equipment</b>									
	370,000		450,000		125,000	0			
	B		B		C	B			
<b>Safety Equipment</b>									
1. Life Saving App	1,368,000		95,000		3,541,000	2,370,000			
2. Fire fighting Equip.	D	1,118,000	A	30,000	F	C	3,386,000	C	2,305,000
	B	250,000	B	65,000	C	C	155,000	C	65,000
<b>Navigation Aid</b>									
	84,000		20,000		150,000	0			
	B		B		C	B			
<b>General Aspect</b>									
	Poor		Poor		Good	Fair			
	Spare parts rather bad.		Shell, cargo hold poor		Aux. eng. spare parts poor	Cargo hold spare parts rather bad			
					life boat very bad				

Vessel No. team/place Name of Vessel	2-1 (9)	Surabaja 1 ANTASARI	2-2 (17)	Surabaja 2 BINAMARGA I	2-3 (22)	Surabaja 3 BUTON	2-4 (20)	Surabaja 4 BIMA	2-5 (68)	Surabaja 5 PASOSO	2-6 (82)	Surabaja 6 SELAT BALI	2-7 (15)	Surabaja 8 BIDARA
Date of Survey	Sep 4, 6, 1971	Sep 8, 9, 1971	Sep 11, 1971	Sep 13, 14, 1971	Sep 16, 18, 1971	Sep 21, 22, 1971	Sep 24, 25, 1971							
Condition of Survey	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (under survey, at Navy dock pier)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (under survey, at pier)	Afloat (in operation at loading pier)	Afloat (under survey at Shipyard pier)						
Survey	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara						
Use of Vessel	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo						
Type of Vessel	Closed shelter	Closed shelter	Closed shelter	Well Decker	Well Decker	Well Decker	Well Decker	Well Decker						
Classification	B K I	B K I	B K I	B K I	B K I	B K I	B V	B K I						
Society														
DW-6T. NT	693 - 496.48 - 252.80	737.86-788.08-477.23	734 - 1719.52-606.99	575-551.59-235.44	600, 571.36 246.45	600, 571.36 246.45	590.60-538.99-178.40	1110-1086.37-735.05						
LOA Lpp	53.10-48.00	58.72-54.00	54.90-50.00	58.70-51.00	57.27-50.00	57.27-50.00	57.95-53.50	65.80-59.00						
B-D-d	8.60-3.45/4.45-3.37	9.80-5.15-3.14	8.93-4.30-3.80	9.10-3.70-3.44	9.00-3.70-3.10	9.00-3.70-3.10	9.80-3.05/5.10-3.03	10.50-5.95-4.50						
Vs-Vmax	10-11	9-10	6-7	8-8.5	8-9	8-9	7-11	9-10						
No. of Passenger/Crew	70/21	Cabin 10, Deck 40/27	Deck 200/26	0/32	0/20	0/20	0/20	Cabin 6, Deck 80/25						
Main Engine	DxI (HOLLAND)	MITSUBISHI-DxI YOKOHAMA (JAPAN)	DxI	KLOCKNER, HUMBO LTD. DxI -DEUTZAG-KOLN (HAMBURG)	ENTERPRISE DxI (SAN FRANCISCO)	ENTERPRISE DxI (SAN FRANCISCO)	MITSUBISHI-DxI YOKOHAMA (JAPAN) DxI (COPENHAGEN)	BOW						
HP-RPM-shaft RPM	600-350-350	765-608-400	420-375-375	465-600-600	350-350-350	350-350-350	600-530-530	960-310-310						
Owner	PD WASAKA	PT. BINTAN MALUKU	PT BINTAN MALUKU	PT. PNN NUSATENGGARA	PT. PELAJARAN RAKJAT TND	PT. PELAJARAN RAKJAT TND	PT. PELAJARAN, NUSANTARA IRIAN BHAKTI (PT. PIBHA)	PT. PPN "NUSA TENGGARA"						
When Built	1961	1965	1953	1953	1953	1953	1961	1960						
Builder	KERSTHOL HOLLAND	FUKUOKA SHIPBUILDING CO., LTD. JAPAN	RUJEKA, JUGOSLAVIA	BREMEN, GERMANY	OTTENSNER EISEN WERK A. G. HAMBURG GERMANY	OTTENSNER EISEN WERK A. G. HAMBURG GERMANY	TAIYO SHIPBUILDING CO. USUKI IRON WORKS, JAPAN	STOCZNA Im KOMUNY PARYSKIEJ w GDYNIA POLAND						
Repair cost														
1. Hull	10,350,000	7,249,000	13,352,000	5,831,000	12,897,000	12,897,000	13,239,000	3,497,000						
2. Mach	3,993,000	3,303,000	8,314,300	2,743,500	4,362,500	4,362,500	4,619,000	6,645,000						
3. Radio	565,000	297,000	1,900,000	70,000	264,000	264,000	470,000	315,000						
4. Safety Eq.	445,000	125,000	3,065,000	116,000	331,000	331,000	4,067,000	511,000						
5. Nav. Aid	409,000	140,000	150,000	84,000	152,000	152,000	74,000	189,000						
Total	15,762,000	11,114,000	26,781,300	8,844,500	18,006,500	18,006,500	22,469,000	11,157,000						
Repair cost/DW	22,745	15,062	36,486	15,382	30,011	30,011	38,044	10,051						

Vessel No team/place Name of Vessel	2-1 (9)	Surabaya 1 ANTASARI	2-2 (17)	Surabaya 2 BINAMARGA I	2-3 (22)	Surabaya 3 BUTON	2-4 (20)	Surabaya 4 BIMA	2-5 (68)	Surabaya 5 PASOSO	2-6 (82)	Surabaya 6 SELAT BALI	2-7 (15)	Surabaya 8 BIDARA
Hull														
1. Tank	10,350,000	29,000	7,249,000	41,000	13,352,000	52,000	5,831,000	36,000	12,897,000	111,000	13,239,000	104,000	3,497,000	168,000
2. Hull	B	5,353,000	B	4,368,000	C	5,603,000	B	3,038,000	C	7,503,000	C	6,613,000	B	1,489,000
3. Deck	B	1,936,000	B	640,000	B	2,195,000	B	1,185,000	B	1,330,000	C	3,780,000	B	360,000
4. Cargo Hold & closing appliance	C	1,869,000	C	1,576,000	C	2,272,000	B	1,162,000	C	2,267,000	C	2,218,000	B	1,148,000
5. Cargo gear & loading equip	B	328,000	C	455,000	C	490,000	B	150,000	B	906,000	B	280,000	B	152,000
6. Deck equip.	C	835,000	B	169,000	E	2,740,000	B	260,000	B	780,000	C	694,000	B	180,000
Machinery														
1. Main Engine	3,993,000	1,617,000	3,303,000	880,000	8,314,300	3,314,300	2,743,500	450,000	4,362,500	909,000	4,619,000	1,082,000	6,645,000	2,500,000
2. Aux. Eng. generator main switch board	B	1,284,800	B	1,067,000	D	4,001,000	B	1,024,000	B	1,938,000	C	1,728,000	C	2,633,000
etc.														
3. Miscel. aux. mach.	C	399,000	B	749,000	C	1,079,000	B	292,000	B	450,000	B	406,000	B	520,000
4. Miscel. equip	C	30,000	B	125,000	B	140,000	B	30,000	B	40,000	B	130,000	B	178,000
5. Pump & piping	B	235,000	C	482,000	C	583,000	B	346,000	B	540,000	C	758,000	C	452,000
6. Spare parts	B	367,600	B	0	F	742,300	F	601,500	F	485,500	E	515,000	D]	262,000
Radio Equipment	565,000	297,000	1,900,000	70,000	1,900,000	1,900,000	70,000	264,000	264,000	470,000	470,000	315,000	B	
Safety Equipment	445,000	125,000	3,065,000	116,000	3,065,000	3,065,000	116,000	331,000	331,000	4,067,000	4,067,000	511,000	B	
1. Life Saving app.	B	300,000	B	0	E	3,000,000	B	16,000	B	256,000	F	3,956,000	B	496,000
2. Fire fighting equip.	B	145,000	B	125,000	B	65,000	C	100,000	B	75,000	C	111,000	B	15,000
Navigation Aid	409,000	140,000	150,000	84,000	150,000	150,000	84,000	152,000	152,000	74,000	74,000	189,000	B	
General Aspect	Poor	shell damage	Fair	shell damage	Rather bad	shell, main eng. poor deck equip.	Fair	spare parts very bad	Poor	shell, generator poor spare parts very bad	Rather bad	shell, deck, cargo hold, aux. eng. generator, spare parts rather bad life boat very bad	Good	generator & miscel. electric eq. spare parts poor

Vessel No. team/place Name of Vessel	2-8 (29)	Surabaya 10 GILIGENTENG (35)	2-9 (35)	Djakarta 16 KAPOPOSANG	2-10 (67)	Djakarta 17 PASUDU	2-11 (26)	Djakarta 18 ENIM
Date of Survey	Sep. 28, 1971	Oct. 7, 1971	Oct. 11, 1971	Oct. 11, 1971	Oct. 11, 1971	Oct. 25, 1971		
Condition of Survey	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)		
Surveyor	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara	Nakayama, Nakamura, Kurihara		
Use of Vessel	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo		
Type of Vessel	Open shelter	Well Decker	Well Decker	Well Decker	Well Decker	Open shelter		
Classification Society	B K I	B K I	B K I	B K I	B K I	B K I		
D.W.-G.T.-N.T.	1755.64-1012.30-450.13	2402.90-1690.52-870.06	2402.90-1690.52-870.06	618-578-238	1833, 1328, 77-905.47	12.70-5.46-4.82		
B-D-d	11.20-6.90-4.75	12.00-6.00-5.17	12.00-6.00-5.17	9.00-3.70-3.17	12.70-5.46-4.82	7-9		
Vs Vmax.	11-12.5	8-10	8-10	5-7	5-7	7-9		
No. of Passenger/Crew	0/37	0/42	0/42	0/26	0/26	Cabin 12, Deck 50/35		
Main Engine	WERKS POOR, N. V Dx1 (AMSTERDAM)	URAGA-SULZER Dx1 (JAPAN)	URAGA-SULZER Dx1 (JAPAN)	ENTERPRISE Dx1 (SAN FRANCISCO)	ENTERPRISE Dx1 (SAN FRANCISCO)	NOHAB POLAR Dx1 (TROLLHATTAN, SWEDEN)		
HP-RPM-Shft RPM	1380-275-275	1400-300-300	1400-300-300	350-350-350	350-350-350	850-235-235		
Owner	PN. GARAM	PN. PELAJARAN BAHTERAGUNA ADHI	PN. PELAJARAN BAHTERAGUNA ADHI	PT. PERUSAHAAN PELAJARAN, SUL-SEL	PT. PERUSAHAAN PELAJARAN, SUL-SEL	PT. SRIWIPIAJA RAJA LINES		
When Built	1955	1955	1955	1954	1954	1950		
Builder	SCHEEF WERF DE WAAL NV. ZAAL BOMMEL HOLLAND	SANOYASU DOCK CO. OSAKA, JAPAN	SANOYASU DOCK CO. OSAKA, JAPAN	CHANTIERS NAVALS de RUPEL MONDE BELGIE	CHANTIERS NAVALS de RUPEL MONDE BELGIE	NV. BOELE'S SCHEEP- WERVEN & MACHINEFABRIK BOLNES, NETHERLANDS		
Repair cost								
1. Hull	15,390,000	16,875,000	16,875,000	12,978,000	12,978,000	9,151,000		
2. Mach.	9,866,000	8,295,000	8,295,000	5,041,000	5,041,000	5,735,000		
3. Radio	0	1,340,000	1,340,000	137,000	137,000	170,000		
4. Safety Eq.	152,000	74,000	74,000	3,343,000	3,343,000	305,000		
5. Nav. Aid	0	12,000	12,000	34,000	34,000	65,000		
Total	25,408,000	26,596,000	26,596,000	21,533,000	21,533,000	15,426,000		
Repair cost/D. W.	14,472	11,068	11,068	34,843	34,843	8,416		

Vessel No. team place Name of Vessel	2-8 (29)	Surabaya 10 GILISENTENG	2-9 (35)	Djakarta 16 KAPOPOSANG	2-10 (67)	Djakarta 17 PASUDU	2-11 (26)	Djakarta 18 ENIM
Hull	15,390,000	16,75,000	12,978,000	9,151,000				
1. Tank	B 157,000	B 253,000	B 136,000	B 109,000				
2. Hull	C 8,718,000	C 12,182,000	C 5,833,000	C 6,332,000				
3. Deck	B 1,835,000	B 1,580,000	C 810,000	B 648,000				
4. Cargo hold & closing app.	B 1,579,000	B 1,913,000	C 3,999,000	C 1,788,000				
5. Cargo gear & loading equip.	C 2,446,000	C 574,000	B 800,000	B 46,000				
6. Deck Equip.	665,000	B 373,000	C 1,400,000	B 192,000				
Machinery	9,866,000	8,295,000	5,041,000	5,735,000				
1. Main engine	B 2,370,000	C 2,500,000	C 1,337,000	C 704,500				
2. Aux. eng. generator								
Main switch board	C 5,086,000	B 2,139,000	C 1,256,000	D 2,952,000				
etc.								
3. Miscel. aux. mach.	B 1,135,000	B 1,684,000	C 644,000	B 927,000				
4. Miscel. equip	B 218,000	B 148,000	C 140,000	B] 136,000				
5. Pump & piping	C 837,000	C 1,150,000	C 1,255,000	C 464,500				
6. Spare parts	D 220,000	D 674,000	F 409,000	C 551,000				
Radio Equipment	B	0	1,340,000	170,000				
Safety Equipment	152,000	74,000	3,343,000	305,000				
1. Life Saving App.	B 52,000	B 8,000	E 3,250,000	B 290,000				
2. Fire fighting equip.	B 100,000	B 66,000	C 93,000	B 15,000				
Navigation Aid	B	0	12,000	65,000				
General Aspect	Fair	Fair	Rather bad	Good				
shell, generator	shell, generator	shell poor	shell, cargo hold	generator, miscel.				
spare parts	poor	radar replace	deck, eq. generator	electric eq. radio				
			miscel. elect. eq. poor	navi. aid. poor				
			lifeboat, spare parts	very bad				

Vessel No. team/place Name of Vessel	3-1 Djakarta 2 (97) TELUK WEDA	3-2 Djakarta 5 (7) ARNOLD HONONUTU	3-3 Djakarta 7 TANIMBAR	3-4 Djakarta 8 KARATA	3-5 Djakarta 10 PAPAJA	3-6 Djakarta 12 AVANTI	3-7 Djakarta 13 TALUSI
Date of Survey	Aug. 30, 31, 1971	Sep. 3, 4, 1971	Sep. 6, 7, 1971	Sep. 7, 8, 1971	Sep. 13, 1971	Sep. 18, 1971	Sep. 22, 1971
Condition of Survey	Afloat (under survey at shipyard pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)
Surveyor	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi
Use of Vessel	Cargo & Passenger	Cargo (Sometimes Passenger)	Cargo	Cargo	Cargo & Passenger	Cargo	Cargo & Passenger
Type of Vessel	Well Decker	Flush Decker with F'cle	Well Decker	Open shelter	R. Q. Decker with F'cle	Well Decker	Well Decker
Classification Society	B K I	B K I	B K I	B K I	B K I	B. V.	B K I
D.W. -G, T-N, T.	1200-1110, 20-690, 04	1063, 48-813, 48-571, 47	2177-1300-977	2455, 42-1723, 62-830, 93	940-1174, 82-823, 73	630-450, 91-247, 53	734-601, 07-335, 78
LOA - Lpp	70, 185 -	58, 625 - 52, 77	74, 54 - 67, 00	83, 12-77, 50	68, 60-60, 20	50, 88-46, 00	54, 96-50, 00
B-D-d	10, 05-5, 30-4, 20	9, 30-4, 78 -	11, 30-5, 30-4, 00	12, 00-6, 00-5, 22	10, 00-6, 10-4, 13	8, 25-3, 50-3, 15	8, 93-4, 30-3, 85
Vs - Ymax	8-9	9-12	9-12	9-13, 6	10-12	10-12	7, 5-9
No. of Passenger/Crew	Deck P. 85/35	0/35	0/27	0/31	59/25	0/13	100/25
Main Engine	Dx2 GUNZ(BUDAPEST)	DEUTZ GERMANY	Dx1 LANG (BUDAPEST)	KOBE HATSUDOKI (JAPAN)	Dx1 WERKS POOR N. V. (HOLLAND)	Dx1 MAK(GERMANY)	Dx1 (FABBRICA, ITALY)
HP-RPM-Shaft RPM	400x2- 800 - 300	660 - 380 - 380	1000 - 400 - 330	1400 - 260 - 260	940 - 325 - 325	390 - 370 - 370	630 - 320 - 320
Owner	PT. PPN, NUSA TENGGARA	PT. P. P. S. S.	PT. BAHARI	PT. PEPANA	PT. P. H. D. M.	PT. NURUDA LINE	PT. TANGJUNG SELATAN
When Built	1952	1959	1962	Nov. 30, 1958	1962	1958	1954
Builder	GHEORHIU DEJ WERKS BUDAPEST, HUNGARIA	NIESTERN SCHEEFSBAU HOLLAND	BUDAPEST, HUNGARIA	TAIYO SHIPBUILDING CO, NAGASAKI, JAPAN	BENNETTI VIAREGGIO ITALY	REPAATI HARLENGEN HOLLAND	BRODOG MAIRJEKA JUGOSLAVIA
Repair cost							
1. Hull	3, 872, 700	11, 225, 400	3, 070, 500	26, 689, 700	11, 611, 800	6, 872, 000	9, 557, 800
2. Mach.	10, 331, 500	7, 946, 900	7, 462, 300	8, 514, 200	5, 714, 000	3, 907, 000	12, 202, 500
3. Radio	175, 000	120, 000	0	956, 600	0	353, 000	260, 000
4. Safety Eq.	4, 500, 000	734, 000	147, 000	5, 312, 000	5, 390, 000	35, 000	588, 000
5. Nav. Aid	0	0	0	0	0	0	0
Total	18, 879, 200	20, 026, 300	10, 679, 800	41, 472, 500	22, 765, 800	11, 167, 000	22, 668, 300
Repair cost/D. W.	15, 733	18, 831	4, 906	16, 878	24, 219	19, 313	30, 801



Vessel No. team/place Name of Vessel	3-1 (97)	Djakarta 2 TELUK WEDA	3-2 (7)	Djakarta 5 ARNOLD MONONUTU	3-3 (90)	Djakarta 7 TANIMBAR	3-4 (43)	Djakarta 8 KARATA	3-5 (69)	Djakarta 10 PAPAJA	3-6 (4)	Djakarta 12 AVANTI	3-7 (98)	Djakarta 13 TALUSI
Hull														
1. Tanks	3,892,700	11,225,400	3,070,500	26,689,700	11,611,800	6,872,000	9,557,800							
2. Hull	B 112,650	B 134,420	B 45,500	B 187,700	B 102,830	B 50,000	B 81,800							
3. Deck	B 2,510,000	B 6,130,000	B 1,119,000	C 11,261,000	B 4,260,000	C 5,610,000	B 3,330,000							
4. Cargo holds & closing appliances	C 1,088,000	C 1,361,000	B 393,000	C 3,546,000	B 3,078,000	B 740,000	C 744,000							
5. Cargo generat loading equipments	B 0	B 720,000	B 320,000	B 250,000	B 155,000	B 354,000	C 2,580,000							
6. Deck equipments	B 162,000	B 2,500,000	B 2,500,000	B 0	B 486,000	B 2,550,000								
Machain														
1. Main engine	D 10,331,500	C 7,946,900	C 7,462,300	C 8,514,200	C 5,714,000	C 3,907,000	D 12,202,500							
2. Aux. engine generator Main switch board etc.	D 3,598,000	C 1,756,000	C 2,276,000	C 2,528,000	C 1,539,000	D 2,039,000	F 5,796,000							
3. Miscel. aux. mach. C	C 3,369,000	C 1,377,400	C 2,676,800	D 2,768,000	C 2,099,000	D 1,132,000	D 5,335,000							
4. Miscel. equipment C	C 1,150,000	C 5,026,000	C 688,000	C 1,203,000	C 557,000	C 263,000	C 433,000							
5. Pumps & piping C	C 40,000	C 20,000	C 20,000	C 50,000	C 0	C 20,000	C 0							
6. Spare parts F	F 331,000	D 576,000	C 265,500	C 852,000	C 373,000	D 178,000	C 280,000							
	F 1,123,500	E 541,500	C 1,536,000	F 1,113,000	E 1,146,000	D 275,800	F 358,000							
Radio Equipment	B 175,000	B 120,000	B 0	956,600	B 0	D 353,000	B 260,000							
Safety Equipment	4,500,000	734,000	147,000	5,312,000	5,390,000	35,000	588,000							
1. Life saving app. C	C 4,500,000	C 734,000	B 15,000	D 5,192,000	D 5,140,000	B 0	C 508,000							
2. Fire fighting equip. B	B 0	B 0	B 132,000	B 120,000	C 250,000	B 35,000	C 80,000							
Navigation aid	B 0	B 0	B 0	0	B 0	B 0	0							
General aspect	Fair	Fair	Good	Fair	Poor	Fair	Rather bad							
	Main engine, aux. engine, miscel. electric equip. - poor. Spare parts, lifeboat - very bad	Shell plate, miscel. aux. mach. - poor. Spare parts - rather bad	Good	Shell, deck, aux. eng. - poor. Spare parts, lifeboat - very bad	Miscel. electric equip. - poor. Spare parts, lifeboat - very bad	Shell, main eng. aux. eng. spare parts - poor	Deck equip. main eng. aux. eng. - poor. Spare parts - very bad							

Vessel No. team/place Name of Vessel	3-8 (11) BOTOLEMPANGAN	Djakarta 14 (50)	3-9 KUMAMBA	3-10 (53) LOKLOWA	3-11 (47) KARANGRAYA	3-12 (21) BANA BUNGI	Surabaya 16 (16) SURABAJA 16 (KALIANCE, MADUR) (87) SANDANGAN	3-13 (27) FADJAR II	Surabaya 17	3-14 (14) SURABAJA 14 (KALIANCE, MADUR) (87) SANDANGAN
Date of Survey	Sep. 25, 1971	Sep. 27, 1971	Oct. 4, 14, 1971	Oct. 5, 6, 1971	Oct. 15, 16, 1971	Oct. 18, 19, 1971	Oct. 21, 22, 1971			
Condition of Survey	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)	Afloat mooring for 2 years at buoy	Afloat (in operation at loading pier)	Afloat (in operation at buoy)	Afloat (in operation at loading pier)	Afloat (in operation at loading pier)			
Surveyor	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi			
Use of Vessel	Cargo & Passenger	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo			
Type of Vessel	Flush decker with f'cle	Flush decker with f'cle	Raised quarter decker	Open shelter	Well decker	Well decker	Closed shelter decker			
Classification Society	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	R. I.	B. K. I.			
D. W. -G. T. -N. T.	1063.40-816.46-471.69	1200-846.84-551.70	671-458.4-	2507.44-1739.17-1063.65	734-595.79-280.73	600-568-305.29	650-434.66-195.25			
LOA - Lpp	58.625-52.770	61.38 -	50.92-	82.96-77.50	54.96-50.00	57.27-50.00	55.42-51.77			
B D d	9.20-4.78-3.51	9.90-5.76-5.00	7.85-	12.00-6.00-5.235	8.96-4.30-3.75	9.00-3.70-3.10	9.20-5.05-3.00			
Vs - V max	8-10	12-14	0/	7-12.3	8-10	7-8	8-10			
No. of Passenger/Crew	Cabin 2, Deck P. 50/32	0/26	0/	0/39	0/24	0/24	0/20			
Main Engine	DEUTZ Dx1 (AMSTERDAM)	Dx1 SULZER	Dx1	KOBE HATSUDOKI (JAPAN) Dx1	RIJOKA (JUGOSLAVIA) Dx1	ENTERPRISE (HAMBURG) Dx1	WERKSPOR (HOLLAND) Dx1			
HP-RPM-shaft RPM	660-380-380	1080-240-240	500-	1400-250-250	630-325-325	350-350-350	430-375-375			
Owner	PT. P. P. S. S.	PT. PHDM	PT. GARINA LINE	PT. SAMUDRA JAJA LINES	PT. BINTANG MALUKU	PT. PELAJARAN SURYA PN. GARAN				
When built	1957	1950	1953	1958	1953	1952	1955			
Builder	FIRMA MIESTENS SCHEEPS WERKEN GRONINGEN, HOLLAND	CANTIERI RIUNITI DELL ADRIATICO, TRIESTE, ITALY	PT. GARINA LINE	USUKI IRON WORKS LTD. SAEKI, JAPAN	RJJEKA JUGOSLAVIA	JOS BOELEN ZONEN N. V. BELGIUM	PAKIN SHIPYARD DJAKARTA INDONESIA			
Repair cost										
1. Hull	8,390,600	6,998,400		12,631,200	10,349,300	14,945,300	7,783,600			
2. Mach.	5,524,500	13,958,000		12,280,000	8,810,000	5,811,000	4,757,000			
3. Radio	0	0		320,000	0	360,000	0			
4. Safety Eq.	946,000	438,000		4,912,000	4,476,000	2,450,000	663,000			
5. Nav. aid	0	0		192,000	185,000	0	0			
Total	14,861,100	21,394,400		30,335,200	23,820,300	23,566,300	13,203,600			

Vessel No. team/place Name of Vessel	3-8 (11) BOTOLEMPANGAN	3-9 Djakarta 14 (50) KUMAMBA	3-10 (53) LOKLOWA	3-11 (47) KARANGRAYA	3-12 (21) BANABUNGI	3-13 (27) FADTAR II	3-14 (89) SANDANGAN	Surabaja 19 (KALIANGE, MADUR)
Repair cost/D. W.	13, 975	17, 829	12, 098	32, 453	39, 277	20, 313		
Hull	8, 390, 600	6, 998, 400	12, 631, 000	10, 349, 300	14, 945, 300	7, 783, 600		
1. Tanks	B 82, 500	B 76, 900	B 282, 000	C 81, 300	C 80, 800	B 50, 600		
2. Hull	C 5, 255, 000	C 3, 363, 000	C 3, 480, 000	C 4, 282, 000	C 6, 565, 000	C 2, 695, 000		
3. Deck	B 970, 000	C 1, 095, 000	C 5, 560, 000	C 2, 530, 000	C 3, 217, 000	B 850, 000		
4. Cargo hold & closing appliances	C 1, 029, 500	C 3, 661, 000	B 2, 601, 000	C 3, 023, 000	C 2, 381, 500	B 1, 611, 000		
5. Cargo gear & loading equipment	C 194, 000	B 333, 000	B 568, 000	B 172, 000	B 515, 000	C 1, 034, 000		
6. Deck equipment	D 857, 600	C 469, 500	B 140, 000	B 261, 000	C 2, 186, 000	C 1, 543, 000		
Machinery	5, 524, 500	13, 958, 000	12, 280, 000	8, 810, 000	5, 811, 000	4, 757, 000		
1. Main engine	C 2, 810, 000	D 6, 360, 000	C 5, 195, 000	D 4, 035, 000	C 2, 192, 000	C 1, 702, 000		
2. Aux. eng. generator Main switch board etc.	C 1, 528, 000	C 4, 290, 000	D 2, 889, 000	C 3, 486, 000	C 2, 115, 000	C 1, 711, 000		
3. Miscel. aux. mach.	C 712, 000	C 2, 005, 000	C 1, 121, 000	C 666, 000	C 916, 000	C 623, 000		
4. Miscel. equipment	C 20, 000	C 0	C 115, 000	C 0	C 70, 000	C 30, 000		
5. Pumps & piping	C 247, 000	C 752, 000	C 939, 000	C 314, 000	C 301, 000	C 381, 000		
6. Spare parts	C 207, 500	E 551, 000	C 2, 021, 000	D 309, 000	C 217, 000	D 310, 000		
Radio equipment	B 0	B 0	320, 000	0	360, 000	0		
Safety equipment	446, 000	438, 000	4, 912, 000	4, 476, 000	2, 450, 000	663, 000		
1. Life saving app.	C 832, 000	C 368, 000	D 4, 812, 000	D 4, 365, 000	D 2, 381, 000	C 540, 000		
2. Fire fighting equip.	C 114, 000	C 70, 000	C 100, 000	C 111, 000	C 69, 000	C 123, 000		
Navigation aid	B 0	B 0	192, 000	185, 000	0	0		
General aspect	Fair Shell plate poor	Fair Main eng., miscel. elec. equip. - poor	Fair Shell, deck, main eng. miscel. electric eq. - poor	Rather bad Shell, main eng, aux eng. spare parts - poor Lifeboat - very bad	Rather bad Shell, deck, deck eq. main eng. miscel elec. equip. - poor	Rather bad Shell, deck, deck eq. miscel. electric equip. - poor	Poor Shell, deck equip. miscel. electric equip. - poor	

Vessel No Name of Vessel	Team/place (28)	Surabaja 20 GILJANG	3-16 (77)	Surabaja 19 RAINY	3-16 (77)	Surabaja 20 RAINY
Hull		3,201,700	C	5,571,800	C	68,800
1. Tank		114,700	B	1,002,000	C	1,339,000
2. Hull		2,195,000	C	1,087,000	C	1,087,000
3. Deck		1,375,000	C	2,228,000	C	2,228,000
4. Cargo hold 7 closing app.		380,000	C	328,000	C	328,000
5. Cargo gear & loading equip.		135,000	B	521,000	C	521,000
6. Deck equip.						
Machinery		8,453,000	C	3,917,000	C	3,917,000
1. Main engine		3,020,000	C	1,542,000	C	1,542,000
2. Aux. eng. generator main switchboard etc.		3,541,000	C	1,265,000	C	1,265,000
3. Miscel. aux. mach.		1,050,000	C	432,000	C	432,000
4. Miscel. equip.		150,000	C	0	C	0
5. Pump & piping		393,000	C	175,000	C	175,000
6. Spare parts		299,000	E	503,000	C	503,000
Radio Equipment		0	B	0	B	0
Safety Equipment		863,000	C	592,000	C	592,000
1. Life saving app.		713,000	C	542,000	C	542,000
2. Fire fighting equip.		150,000	C	50,000	C	50,000
Navigation Aid.		0	B	0	B	0
General Aspect		Good		Fair		Fair

Vessel No. team/place Name of Vessel	3-15 (28)	Surabaja 20 GILJANG	3-16 (77)	Surabaja 21 RAINY	Date of Survey	Oct. 26, 27, 1971	Oct. 30, 1971
Condition of Survey		Afloat (in operation at loading pier)	Afloat (in operation at loading pier)				
Surveyor		Aoki, Miyagawa, Eguchi	Aoki, Miyagawa, Eguchi				
Use of Vessel		Cargo	Cargo				
Type of Vessel		Open shelter	Closed shelter				
Classification Society		B. K. I.	B. K. I.				
D. W - CT - NT		1750-780.42/977.69 -454.35	600-407.65-248.89				
LOA - Lpp		76.30-70.00	55.40-51.70				
B-D-d		11.20-4.75/6.90-4.70	9.23-4.47-2.42				
Vs - Vmax		9-10	8-12				
No. of Passenger/Crew		0/30	0/21				
Main Engine		WERKSPOR Dx1 (AMSTERDAM)	CATERPILLAR Dx1 (U.S.A.)				
HP RPM Shaft RPM		1380-275-275	450-1200-400				
Owner		PN. GARAM	TANDJUNG-BUNGA				
When Built		1954	1956				
Builder		SCHEEFSWERF " "DE WAAL" N.V. ZALZBOMMEL HOLLAND	VPV DJAKARTA, INDONESIA				
Repair cost							
1. Hull		5,201,700	5,571,800				
2. Mach.		8,453,000	3,917,000				
3. Radio		0	0				
4. Safety eq.		863,000	592,000				
5. Nav. aid		0	0				
Total		14,517,700	10,080,800				
Repair Cost/D. W.		8,296	16,801				

Vessel No. team/place Name of Vessel	4-1 (18)	Djakarta 4 BANTEN	4-2 (80)	Sungapore 1 SELAJAR	4-3 (33)	Sungapore 2 JOKA	4-4 (12) BINTANG SAMODERA (13)	Sungapore 3 4-5 BINTANG SAMODERA (13)	Sungapore 4 4-6 TIRTADAJA	Sungapore 5 4-7 (64)	Sungapore 6 PISANG
Date of Survey	Sep. 23, 1971	Sep. 8, 1971	Sep. 10, 1971	Sep. 14, 1971	Sep. 17, 1971	Sep. 17, 1971	Sep. 17, 1971	Sep. 20, 1971	Sep. 22, 1971		
Condition of Survey	Afloat (mooring 1 year for repair at buoy)	Afloat (under survey at shipyard pier)	Afloat (in operation at buoy)	In dock (under survey)	Afloat (in operation at buoy, full load)	Afloat (mooring 4 months after survey at buoy)	Afloat (in operation at buoy)				
Surveyor	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda		
Use of Vessel	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo		
Type of Vessel	Well decker	Well decker	Well decker	Well decker	Well decker	Well decker	Well decker	Well decker	Closed shelter, decker	Raised quarter decker	
Classification Society	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. V.	B. K. I.	B. K. I.	B. K. I.	
D. W. -G. T. -N. T.	910-499.98-322.37	1301-1117.27-613.43	650-483.89-222.98	582.19-778.75-385.20	667-663.31-340.14	940-1528.99-694.17	940-1158.99-694.17				
LOA - Lpp	58.83-	74.54-67.00	51.20-47.00	57.96-53.50	55.05-51.90	64.70-60.20	64.70-60.20				
B-D-d	7.75-4.50-3.90	11.30-4.62-4.00	8.20-4.10-3.60	9.82-4.40-3.03	8.50-3.86-3.32	10.03-5.25-4.20	10.00-6.10-4.20				
Vs - Vmax	9.0-12.0	11.5-11.5	6.0-9.5	10.0-11.0	10.0-11.0	10.0-11.0	11.5-				
No. of Passenger/Crew	0/15	0/23	0/23	0/24	0/23	0/24	0/37				
Main Engine	Dx1 DEUTZ(GERMANY)	Dx1 LANG (BUDAPEST)	Dx1 HANSHIN (JAPAN)	MTSUBISHI Dx1 YOKOHAMA (JAPAN)	Dx1 MAK(GERMANY)	WERKSPHOOR Dx1 (AMSTERDAM)	WERKSPHOOR Dx1 (AMSTERDAM)				
HP-RPM-Shaft RPM	750-380-380	1000-400-158	450-350-350	600-530-530	725-340-340	940-325-325	940-325-325				
Owner	PT BAHARI	PT BAHARI	PT. PELAJARAN "WAPOGA"	PT PELAJARAN PUTRA SAMUDRA	PT PELAJARAN PUTRA SAMUDRA	PT PELAJARAN PUTRA SAMUDRA	PT PEDJAKA	PT. ASTRILINE			
When built	1958	1964	1961	1961	1958	1961	1961	1961			
Builder	WEST GERMANY	HUNGARIA SHIPYARD HUNGARIA	KIUSHU SHIPBUILDING CO. JAPAN	TAIYO SHIPBUILDING CO. USUKI IRON WORKS & CO. JAPAN	FA. GEBR. NIESTERN HOLLAND	PT. PELAJARAN PUTRA SAMUDRA	PT. PELAJARAN PUTRA SAMUDRA	PT. PELAJARAN PUTRA SAMUDRA	PT. PELAJARAN PUTRA SAMUDRA	PT. PELAJARAN PUTRA SAMUDRA	MASINA DICASAR ITALY
Repair cost											
1. Hull	14,338,000	3,332,800	10,858,600	2,850,100	104,000	17,121,000	3,480,500				
2. Mach.	7,017,500	5,267,000	4,539,400	4,075,800	4,365,000	5,964,200	5,205,900				
3. Radio	840,000	0	220,000	0	0	750,000	200,000				
4. Safety eq.	2,206,000	0	0	0	34,000	4,521,000	80,000				
5. Nav. aid	310,000	570,000	150,000	150,000	70,000	28,426,200	0				
Total	24,711,500	9,169,800	15,968,000	6,925,900	4,653,000	28,426,200	8,966,400				
Repair Cost/D. W.	27,155	7,048	24,566	11,896	6,976	30,241	9,539				

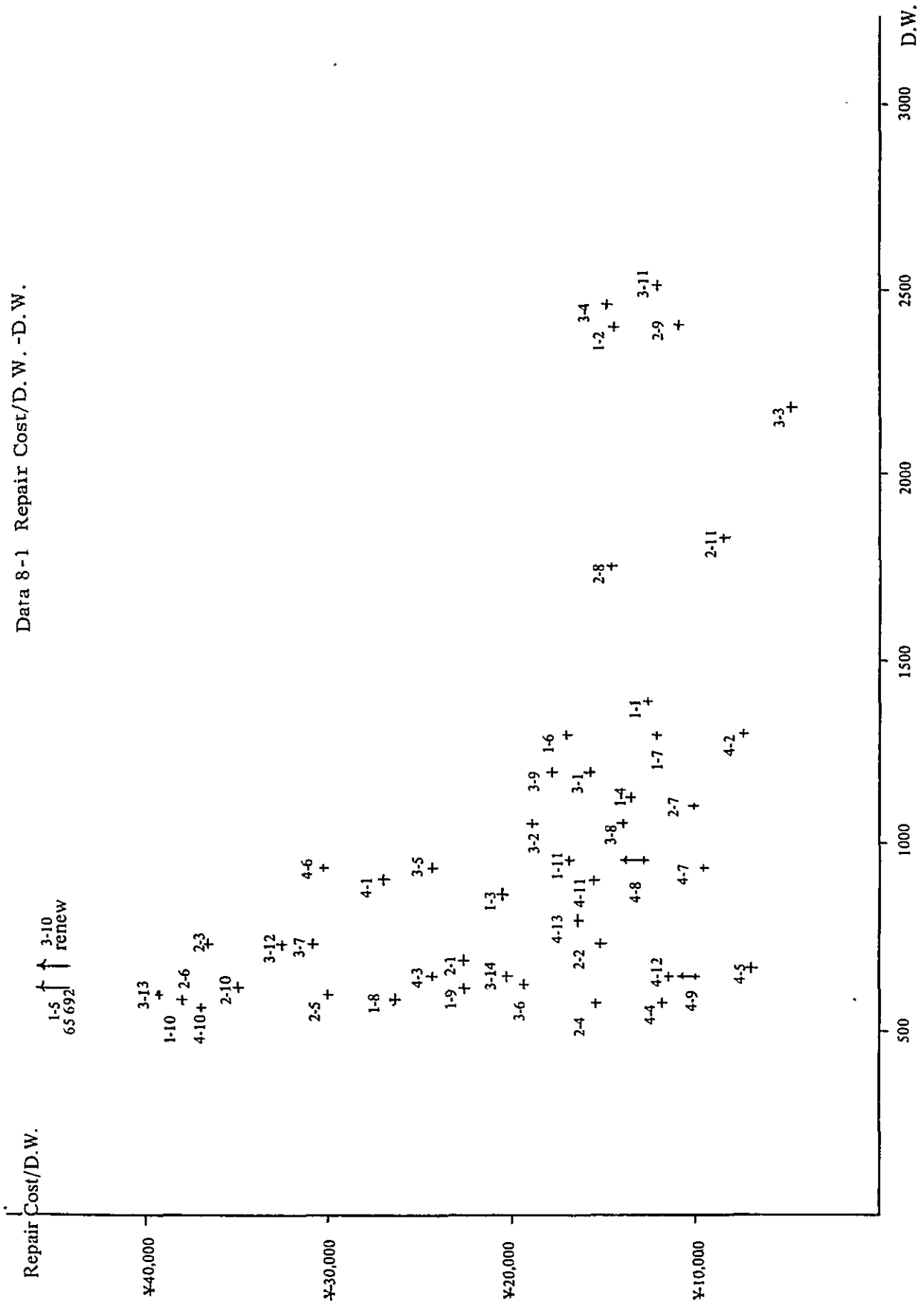
Vessel No. team/place Name of Vessel	4-1 (18)	Djakarta 4 BANTEN	4-2 (80)	Singapore 1 SEL-AJAR	4-3 (33)	Singapore 2 JOKA	4-4 (12) BINTANG SAMODERA (13)	Singapore 3 BINTANG SAMODERA (13)	4-5 BINTANG SAMODERA (95)	Singapore 4 TIRTADJAJA	4-6 (64)	Singapore 5 PISANG	6
Hull	14,338,000		3,332,800	10,858,600	3,100,100	104,000 (ex. cargo hold)	17,121,000			3,480,500			
1. Tanks	D 4,100,000	B 32,800	B 19,600	B 50,100	C 100,000	C 85,500							
2. Hull	D 5,146,000	C 2,145,000	D 3,970,000	C 1,270,000	D 4,760,000	B 0							
3. Deck	D 392,000	B 1,080,000	D 3,670,000	C 795,000	D 7,478,000	B 0							
4. Cargo hold & closing appliance	C 2,749,000	A 15,000	D 2,709,000	C 865,000	D 4,615,000	B 50,000 (ex. cargo hold)							
5. Cargo gear & loading equipment	C 601,000	B 60,000	E 450,000	C 60,000	C 130,000	B 36,000							
6. Deck equipment	B 1,350,000	B 0	C 40,000	C 60,000	C 38,000	B 18,000							
Machinery	7,017,500		5,267,000	4,539,400	4,075,800	4,365,000	5,964,200						
1. Main engine	D 1,549,500	C 1,194,000	D 1,066,000	D 932,000	D 1,401,000	C 1,093,000	E 1,401,000						
2. Aux. engine generator, main switch board, etc.	D 1,437,000	D 2,407,000	D 1,166,000	D 1,127,000	D 786,000	C 786,000	E 1,013,000						
3. Miscel. aux. mach.	B 660,600	C 546,400	C 751,200	C 942,000	C 666,000	C 666,000	C 826,000						
4. Miscel. equipment	C 250,000	C 100,000	D 90,000	C 106,000	C 104,000	C 104,000	C 120,000						
5. Pump & piping	D 1,447,500	C] 214,000	C 283,000	C 346,000	C 433,000	C 433,000	C 517,300						
6. Spare parts	F 1,672,900	D 805,600	F 1,182,200	F 622,800	F 1,322,400	D 1,322,400	F 2,087,200						
Radio Equipment	840,000	D 840,000	B 0	B 220,000	B 0	B 750,000	C 200,000						
Safety Equipment	2,206,000		B 0	B 0	B 0	B 34,000	D 4,521,000						
1. Life saving app.	D 2,206,000	B 0	B 0	B 0	B 0	B 0	D 4,521,000						
2. Fire fighting equip.	C 0	B 0	B 0	B 0	B 34,000	B 34,000	C 80,000						
Navigation Aid	310,000	D 310,000	D 570,000	D 150,000	B 0	B 150,000	B 70,000						
General Aspect	Poor	Poor	Good	Poor	Fair	Good	Rather bad	Good	Rather bad	Good	Good	Good	Good
	All parts poor or rather bad	All parts poor or rather bad	Spare parts, nav. aid - poor	All parts poor or rather bad	Main eng. aux. eng. poor	Main eng. aux. eng. poor	Spare parts - poor	Spare parts - poor	All parts poor or rather bad	Aux. eng. spare parts - poor	Aux. eng. spare parts - poor	Aux. eng. spare parts - poor	Aux. eng. spare parts - poor

Vessel No. team/place Name of Vessel	4-8 (90)	Singapore 7 TANDJUNG II	4-9 (70)	Singapore 8 PARIAMAN	4-10 (72)	Singapore 9 PELITA	4-11 (65)	Singapore 10 PISANG SUASA	4-12 (99)	Singapore 11 WARU	4-13 (8)	Singapore 12 AITUMEIRI
Date of Survey	Sep. 27, 1971	Sep. 27, 1971	Sep. 29, 1971	Oct. 2, 1971	Oct. 2, 1971	Oct. 5, 1971	Oct. 5, 1971	Oct. 7, 1971	Oct. 7, 1971	Oct. 12, 1971	Oct. 12, 1971	Oct. 12, 1971
Condition of Survey	Afloat (under survey at shipyard pier)	Afloat (in operation at buoy Full load)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	In Dock (under survey)	In Dock (under survey)	Afloat (in operation at buoy)	Afloat (in operation at buoy)	Afloat (in operation at buoy)
Surveyor	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda	Kimura, Tokuno, Kuroda
Use of Vessel	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo	Cargo
Type of Vessel	Well decker	Well decker	Well decker	Well decker	Closed shelter	Well decker	Well decker	Well decker	Flush decker	Well decker	Well decker	Well decker
Classification Society		B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. K. I.	B. V.
D. W. -G. T. -N. T.	960-	658.0-497.45-246.76	49.45	567.8-2120.99-1182.42	912-499.96-316.33	912-499.96-316.33	912-499.96-316.33	650-600-	650-600-	801.1-1-559.60-271.33	801.1-1-559.60-271.33	801.1-1-559.60-271.33
LOA - Lpp				58.45-52.30	52.04-47.00	52.04-47.00	52.04-47.00	55.42-51.77	55.42-51.77	54.81-50.50	54.81-50.50	54.81-50.50
B-D-d		8.43-3.24-3.06	9.5-	9.0-9.5	8.0-	8.0-	8.0-	8.0-10.0	8.0-10.0	8.50-4.20-3.70	8.50-4.20-3.70	8.50-4.20-3.70
Vs - Vmax		0/17	0/17	0/24	0/24	0/19	0/19	0/22	0/22	0/24	0/24	0/24
No. of Passenger/Crew												
Main Engine	NATIONAL GAS & OIL Dxl (ENGLAND)	BRONS-VIERTACT Dxl (HOLLAND)	WERKSPOR Dxl (AMSTERDAM)	WERKSPOR Dxl (AMSTERDAM)	Dxl DEUTZ (KOLN)	Dxl DEUTZ (KOLN)	Dxl DEUTZ (KOLN)	WERKSPOR Dxl (AMSTERDAM)	WERKSPOR Dxl (AMSTERDAM)	Dxl HANSHIN (JAPAN)	Dxl HANSHIN (JAPAN)	Dxl HANSHIN (JAPAN)
HP-RPM-sh ft-RPM	634-550-	395-350 350	500-325-325	500-325-325	500-375-375	500-375-375	500-375-375	430-325-325	430-325-325	650-350-350	650-350-350	650-350-350
Owner	PT. TANDJUNG	PT. PELUMIN	PT. PELAJARA RENT JOWE SEGARA	PT. PELAJARA RENT JOWE SEGARA	PT "ASTRI LINE" MEDAN	PT "ASTRI LINE" MEDAN	PT "ASTRI LINE" MEDAN	PN GARAM	PN GARAM	PT. PELAJARAN "WAPOGA"	PT. PELAJARAN "WAPOGA"	PT. PELAJARAN "WAPOGA"
When Built	1958	1957	1953	1953	1955	1955	1955	1957	1957	1961	1961	1961
Builder	JAPAN	N. V. HAARLEMSCHE SCHEEPSBOUW MD HAARLEM, HOLLAND	HOLLAND	HOLLAND	J. J. SIETA, S. SCHIFFS. HAMBURG, GERMANY	J. J. SIETA, S. SCHIFFS. HAMBURG, GERMANY	J. J. SIETA, S. SCHIFFS. HAMBURG, GERMANY	V. P. N. (PN. PAKIN) DJAKARTA, INDONESIA	V. P. N. (PN. PAKIN) DJAKARTA, INDONESIA	KYUSHU SHIPBUILDING CO. WAKAMATSU, JAPAN	KYUSHU SHIPBUILDING CO. WAKAMATSU, JAPAN	KYUSHU SHIPBUILDING CO. WAKAMATSU, JAPAN
Repair Cost												
1. Hull	2,129,000	363,000	9,746,400	9,746,400	8,655,000	8,655,000	8,655,000	2,286,000	2,286,000	2,562,000	2,562,000	2,562,000
2. Mach.	5,836,000	(ex. Tank & cargo hold) 2,502,100	4,537,400	4,537,400	5,244,000	5,244,000	5,244,000	4,300,000	4,300,000	5,586,400	5,586,400	5,586,400
3. Radio	Impossible to estimate	560,000	600,000	600,000	100,000	100,000	100,000	0	0	697,500	697,500	697,500
4. Safety eq.	4,090,000	3,200,000	6,100,000	6,100,000	84,000	84,000	84,000	600,000	600,000	4,034,000	4,034,000	4,034,000
5. Nav. afd.	70,000	0	0	0	150,000	150,000	150,000	210,000	210,000	210,000	210,000	210,000
Total	12,125,000	6,625,100	20,983,800	20,983,800	14,234,000	14,234,000	14,234,000	7,396,000	7,396,000	13,089,900	13,089,900	13,089,900
R. Port Cost/D. W.	12.630	10,069	36,956	36,956	15,607	15,607	15,607	11.398	11.398	16.340	16.340	16.340

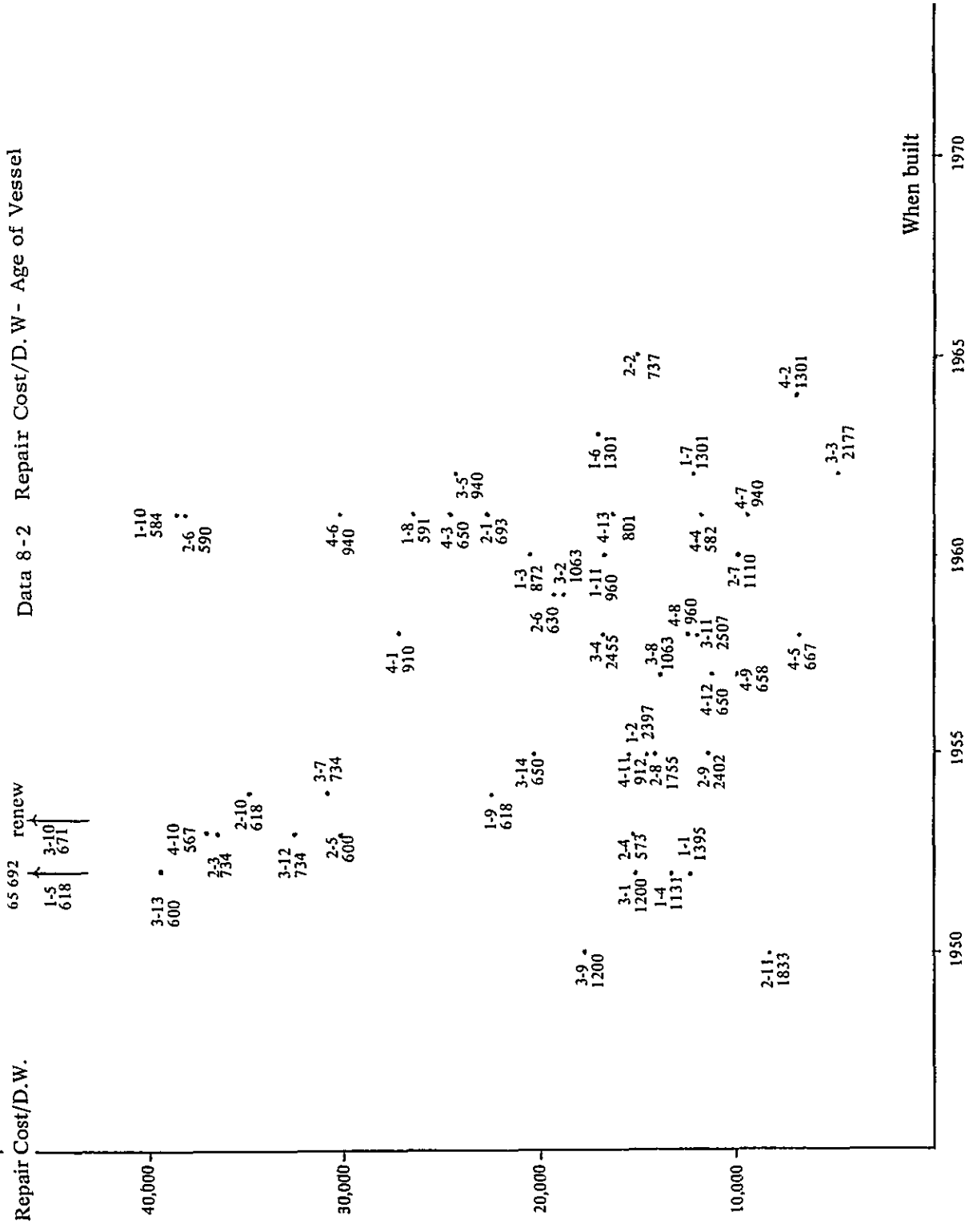
Vessel No	team/place	4-8	Singapore 7	4-9	Singapore 8	4-10	Singapore 9	4-11	Singapore 10	4-12	Singapore 11	4-13	Singapore 12
Name of Vessel	(90)	TANDJUNG II	(70)	PARIAMAN	(72)	PELITA	(65)	PISANG SUJASA	(99)	WARU	(8)	AITUMEIRI	
Hull													
1. Tank	2, 129, 000	363, 000	9, 746, 400	8, 655, 000	2, 286, 000	2, 562, 600							
2. Hull	impossible to estimate	impossible to estimate	C	B	144, 400	B	59, 000	C	101, 000	B	59, 600		
3. Deck	C 1, 700, 000	B 0	D 7, 680, 000	D 0	C 7, 680, 000	D 2, 416, 000	D 0	C 0	C 0	C 0	0		
4. Cargo hold & closing	C 0	Cargo hold impossible only closing	C										
5. Cargo gear & appliance	C 315, 000	B 168, 000	D 619, 000	D 4, 369, 000	D 1, 779, 000	C 1, 190, 000							
6. Deck equipment	C 72, 000	C 90, 000	C 280, 000	D 1, 166, 000	B 280, 000	C 440, 000							
	C 42, 000	C 105, 000	C 393, 000	D 645, 000	C 126, 000	C 873, 000							
Machinery													
1. Main engine	5, 836, 000	2, 502, 100	4, 537, 400	5, 244, 000	4, 300, 200	5, 586, 400							
2. Aux. eng. generator	E 1, 454, 000	C 804, 000	C 925, 000	D 1, 458, 000	D 1, 020, 000	E 1, 772, 000							
main switchboard etc.													
3. Miscel. aux. mach.	E 994, 000	C 421, 000	C 1, 827, 000	C 1, 206, 500	C 1, 268, 000	D 677, 000							
4. Miscel. equipment	C 694, 000	C 631, 600	C 821, 000	C 1, 109, 500	C 617, 000	C 881, 200							
5. Pumps & piping	C 120, 000	C 104, 000	D 124, 000	C 137, 000	C 154, 000	C 20, 000							
6. Spare parts	C 353, 000	C 326, 500	D 563, 000	C 568, 000	C 443, 000	C 489, 500							
	F 2, 221, 000	D 215, 000	D 277, 400	D 765, 000	F 798, 200	F 1, 746, 700							
Radio Equipment													
	impossible to estimate	B 0	600, 000	100, 000	0	697, 500							
Safety Equipment													
1. Life waving app.	4, 090, 000	3, 200, 000	6, 100, 000	85, 000	600, 000	4, 034, 000							
2. Fire fighting equip.	F 4, 000, 000	E 3, 200, 000	F 6, 100, 000	B 85, 000	D 600, 000	F 4, 000, 000							
Navigation Aid													
	B 70, 000	B 0	B 0	D 150, 000	C 210, 000	D 210, 000							
General Aspect													
	Fair	Fair	Rather bad	Fair	Fair	Fair							
	Main eng., aux. eng. rather bad.	Spare parts poor	All parts poor or rather bad	Shell plate, cargo hold Main eng. spare parts, nav. aid poor	Main engine, lifeboat	Main engine, radio rather bad							
	Spare parts, lifeboat very bad	Lifeboat rather bad			Spare parts very bad	Aux. eng., nav. aid poor							



Data 8-1 Repair Cost/D.W. -D.W.



Data 8-2 Repair Cost/D.W. - Age of Vessel



## 2. Impressions .

### (1) General Matters

a. As far as our survey is concerned, the conditions of vessels seem to be more affected by the poor maintenance than by the age of a ship, and the annex Table 8 indicates that 500 - 1,000 d.w. tonners show higher ratio of inferiority than 1,000 d.w. tonners or over.

b. Because the greater part of the surveyed vessels are those imported from West or East Europe and Japan, difficulties are encountered in obtaining the parts of various machines and appliances as a result of which troubles are in many cases left untreated. As even the parts of minimum machines and appliances needed for navigation are not secured, there are many cases where a small trouble will unable navigation of ships and a vessl is compelled to stay at anchor for an unnecessarily long time due to difficulty in obtaining the spare parts.

c. Only few vessels have necessary drawings and measurement records and this had an unfavorable effect on the efficiency and accuracy of the current survey. The importance of these materials which has been emphasized in respect of repair and maintenance should be made known thoroughly.

d. Both the shipowners and the crew have little knowledge on the maintenance. Parts where easily catch the eye and can be taken care of by crew hands without cost are kept relatively in good condition, otherwise many places are left in poor condition without any maintenance.

e. The dockyards should be improved in respect of the level of facilities, technical knowledge, and repair cost and period so that they may compete favorably with the dockyard at Singapore.

f. It is necessary to devise an effective method for securing the supply of repair and spare parts; for example, the establishment of parts center or of import agency of parts is conceivable to facilitate the obtaining of needed parts.

g. As regards the rules prescribed by the government and BKI, in view of the marine climate in the sailing area of inter-island vessels and of the situation where the rules are not practically complied with, it seems rather advisable to limit the requirements of the rules to the minimum extent of necessity in that sailing area to insure the compliance.

h. When supplementing the bottoms, taking into consideration such factors as the navigation route to be used, kinds of cargoes, operation schedule and profitability, only those ships which can meet the requirements of shipowners should be repaired. As for equipments also, those which are easy to maintain and to handle for the crew are to be used, since it will be practically nothing unless the technical knowledge can cover.

(2) Vessel

a. Hull Part

The interiors of cargo holds are comparatively in good condition except bilge ways, because of low humidity or good maintenance by the crew.

The rule of BKI asks to conduct a bottom inspection every two years, but many of vessels surveyed by us seem to have been inspected only once four years. In general, rusting is remarkable on the boot top shell plating with pittings distinguished; protection should be arranged by applying rust resisting paint.

Exposed parts such as steel deck, hatch and bull work, even though maintenance of which is capable by the crew hands, are not properly painted perhaps due to high cost of paint with wear being noticeable.

Wood deck is kept generally in good condition.

Cargo handling gears are also maintained well in general.

Though in many instances anchors, chain and rigging are worn or smaller in size than those specified, they will not cause any practical problem in spite of the violation of the rules as the marine climate seems not to be so severe on the sea around there.

The number of life saving appliances fitted is in accordance with the regulation; however, the fixtures of life boat and signals are not complete in many cases and in particular many of life boats cannot be good for use.

b. Machinery Part

No periodical inspection and adjustment are not carried out for main and auxiliary engines and miscellaneous machines.

Various measurement records are scarcely kept.

As main engines are operated at 60% - 70% of rated output, they are generally worn away, necessitating substantial repair.

Auxiliary engines have been used without any maintenance; a half of two or three such engines in a ship are not operating satisfactorily and another half are worn away considerably.

Miscellaneous machines and piping are also in poor condition.

Deck machines, though they are in a serviceable condition, barely work.

The stock of spare parts is extremely deficient as those obtained at the time when the vessels were imported have been almost exhausted without any replenishment. It may be said that no ship is provided for with a complete set of spare parts for engines as required by the regulation. Due to the difficulty in obtaining parts for repair, a slight trouble can stop the operation of a vessel and longer period is needed for repairing.

The maintenance of machinery part is not so inferior when compared with that of small vessels in Japan.

#### c. Electric Part

The maintenance of electric installations are poor; it seems that electric installations are used as far as they can be used without any planned maintenance.

In many vessels, the protection devices of generators, motors and various circuits are out of order and very dangerous.

Electric appliances and wires which are not permitted to use for vessels by the regulation are often used, causing much danger.

Among 51 vessels which we have surveyed only few ships are provided with insulation resistance tester; this fact indicates the level of maintenance for electric part. The present electric installations are in the worst condition; however, thanks to the low humidity the average values of insulation resistance for rotary machines and switchboards are 0.1~0.5 M $\Omega$  (the minimum required value is 3 M $\Omega$ ), being rather good in view of the age of ship, and they are useable if properly repaired.

The above case applies similarly to the cables which can be well used if their end treatment is done perfectly.

The lighting appliances are not repaired or replenished when damaged and in most cases their spare parts are not reserved on board.

d. Radio Equipment and Navigation Aid

The maintenance of radio equipments is generally not good. There are some cases where no radio operator is assigned to the ship, and the radio equipments themselves are out of working order.

The minimum navigation aids are generally kept in good condition, but many of radars and echo-sounders are out of working order.

## VII. Conclusion

After having carried out the investigation, this Survey Team submitted to the Indonesian Government the Standard Survey Reports on each of 51 Indonesian inter-island vessels and the Interim Report of Inter Island Fleet Survey in Indonesia which contained the results of survey described in the above Section VI (see Data-3). Based on these results, it may be concluded as follows in accordance with the items described in the above Section IV.

1. Out of 51 vessels surveyed by this Survey Team 20 vessels should be scrapped from the standpoint of operational economy in Indonesia and replaced with new ships (vessels scrapped include 9 in poor condition, 9 in rather bad condition and 2 in very bad condition respectively shown in the above Interim Report).
2. Though the other 31 vessels are fairly in good condition, all of them will need some repairs more or less, and except for the supply of some parts it seems that these repairs can be carried out in Japan. However, if the supply of needed parts can be secured these vessels can be repaired at the dockyards in Indonesia with our technical assistance and therefore it will not be advisable to repair them at the dockyards in Japan if the expense such as transportation cost is taken into consideration.
3. The total cost for repairing 49 vessels (including those designated to scrap in the above paragraph 1 except 2 vessels in very bad condition) is estimated at ¥868,000,000 and if all of the 20 vessels to be scrapped are excluded it will cost ¥498,000,000. The repair costs for each of 49 vessels are shown in the Standard Survey Report and the Results of Survey, Section VI.

4. As mentioned in paragraph 2 above, with some exception all other parts needed for repair can be supplied from Japan.

Needless to say, the above conclusion is based on the impressions of 51 vessels which has been surveyed by this Survey Team and not of all inter-island vessels of Indonesia (about 130 vessels of 500~3,000 gross tons and 160 thousand d.w. tons in total) nevertheless, we believe that it represents a tendency that can be applied generally to all other vessels.

Data 1

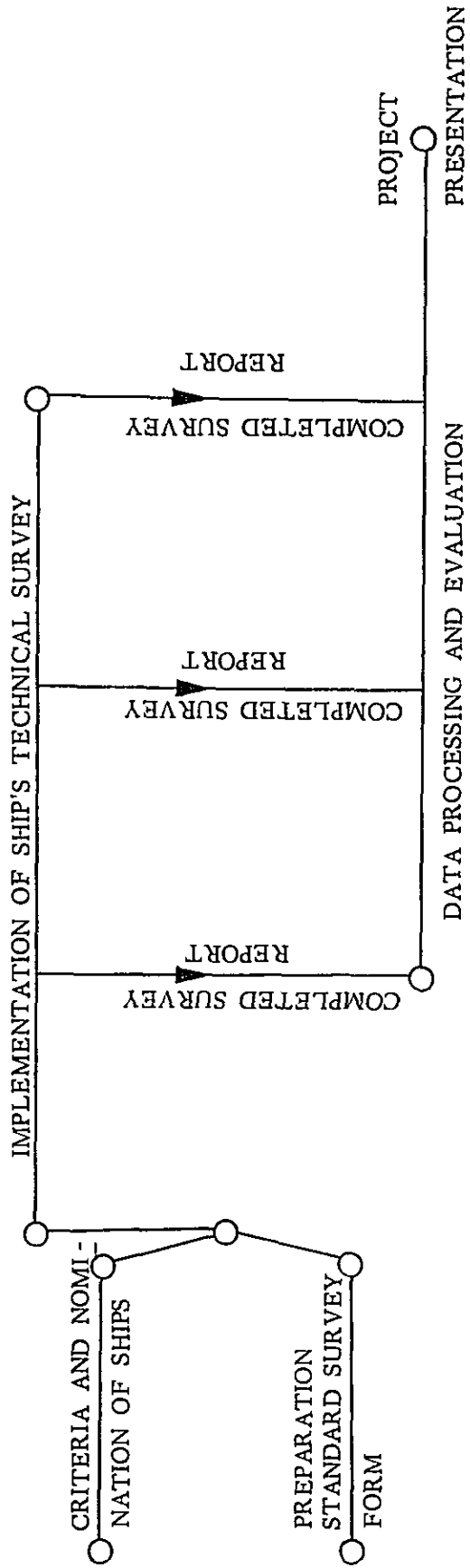
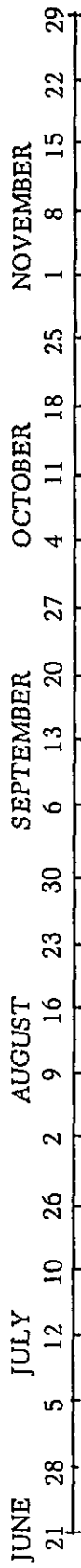
Original Working Schedule

Date		
Aug.	25	Wed. Leave Tokyo, arrive at Djakarta
	26	Thu. } Pay visits of courtesy to agencies concerned; make preliminary
Sep.	1	Wed. } arrangement at office.
	2	Thu. } 4 teams conduct joint survey; adjust method of survey and
	8	Wed. } estimation.
	9	Thu. 3 teams move to Surabaya, Macassar and Berawan; conduct survey at each place.
Nov.	12	Fri. 3 teams meet at Djakarta.
	13	Sat. } Arrange and coordinate the results of survey; prepare the draft
	25	Thu. } of report.
	26	Fri. Leave Djakarta, arrive at Tokyo



Data 2

WORKING TIME SCHEDULE OF WORKING GROUP FLEET SURVEY



Data 3

INTERIM REPORT  
OF  
INTERISLAND FLEET SURVEY IN INDONESIA

NOV. 16th, 1971

JAPANESE FLEET SURVEY TEAM FOR INDONESIA

We, JAPANESE FLEET SURVEY TEAM for INDONESIA, arrived at August 25th 1971, started to survey the vessels allocated to us from August 30th, and ended October 30th. Within these two months we have completed survey on fifty one (51) vessels.

We are pleased to inform you that we have performed our duty within a short period and submitted to the WORKING GROUP, relevant Standard Survey Reports in time for the Group requirement.

Before coming back to Japan, we will not fail to send Summary of SSR and record of impression on Interisland Fleet Survey.

We hope our efforts on Fleet Survey will contribute to your upgrading and continuing of survey system in the future.

#### Summary of Survey and Estimation

Number of survey vessels 51 (including 2 vessels supposed to be scrapped).

Total dead weight of surveyed vessels

52,935 T (including 2 vessels aforementioned).

51,646 T (excluding 2 vessels aforementioned).

Total estimate cost of surveyed vessels

¥868,310,950 (excluding 2 vessels aforementioned).

Mean repair cost per 1 dead weight

¥16,750 (excluding 2 vessels aforementioned).

<u>Detail</u>	<u>No. of vessels</u>	<u>Total D. W.</u>	<u>Total repair cost</u>	<u>Repair cost/D.</u>
Vessel in Good Condition	6	8,477	¥ 65,399,900	¥ 7,720
Vessel in Fair Condition	25	30,542	¥432,398,850	¥14,300
Vessel in Poor Condition	9	6,225	¥157,859,300	¥24,200
Vessel in Rather Bad Condition	9	6,103	¥212,652,900	¥35,000
(presumably worthless to rehabilitation program.)				
Vessel in Very Bad Condition	2	1,289	¥ -	¥ -

(Supposed to be scrapped.)

APPENDIX

1. Summary of Standard Survey Reports
2. Graph of Repair Cost/D. W. --Dead Weight
3. Graph of Repair Cost/D. W. --Age of Vessel

Note to Summary of S. S. R.

1. Total amount of the estimate cost involved to rehabilitate the vessel to a seaworthy condition is in accord to Special Survey requirement of Biro Klasifikasi Indonesia (B. K. I. ), and on the assumption, that there is no major and no lacks of spare-parts within the following four (4) years operation.
2. The estimate cost to rehabilitate vessel is based on Japanese Dockyard repair prices, stated in YEN.
3. This estimate cost do not include charges of Docking and Painting.
4. Classification of Vessels Condition

	<u>Grade</u>	
A. Excellent	90-100	almost no repair
B. Good	80- 89	little repair
C. Fair	60- 79	some repair
D. Poor	50- 59	much repair
E. Rather Bad	40- 49	worthless to be rehabilitated, might need re- placement in near future.
F. Very Bad	0- 39	suppose to be scrapped and replaced.

5. Estimate condition are as follows:
  - a. Most of vessels were surveyed afloat when loading or unloading.
  - b. There are small differences on estimate between each of our teams, because we had little time to adjust the method of survey and estimation before starting our survey, and no time to adjust when all surveys were finished because S. S. R. were requested to present one by one as soon as possible the Working Group.
  - c. We were unable to get accurate particulars, because of lack of general plan and various records on board.
6. This estimation costs are not final, then will be adjusted in Japan.

Impressions on the vessels after survey;

1) It seems that condition of vessels mainly depends on maintenance, regardless of vessels age.

2) Operation of vessels were often disturbed by difficulty of obtaining spare-parts for machineries and appliances, which derived from various foreign countries and route of their supply are long and narrow.

3) Most of vessels should have necessary plan and record.

4) Hull part;

Interior of cargo hold are generally in good condition because of low humidity except bilge way.

Protection of bottom and boot-top shell plating by painting are very bad.

Interval of docking, bottom cleaning and painting seems longer.

Place able to care easily by crew hands are in good condition except expensive case.

Life saving appliances are fitted in accord to the regulation but their quality are very bad and hard to use in many cases.

5) Machinery part;

Periodical repairs and adjustment and relevant records are not sufficient.

Spare-parts by rule are scarecely completed.

There are many case where vessels are out of operation because of lack of spare-parts.

Most of main engines are working in 60-70 percent status, thus deriving wear in general necessary to be repaired considerably.

Almost half of auxiliary engines are out of order.

Pumps and pipings are also in bad condition.

Deck machineries hardly workable.

Spare-parts are not reserved on board.

6) Electric part;

The condition of electric equipment are very bad. Periodical repairs and adjust-

ments are not sufficient. In many vessels, protection devices of generators and motors are out of working condition and very dangerous.

It is because of the fact that only few vessels have a mega-tester.

Result of mega-test for generator and motor were 0.1--0.5 ohm, required value are 3 M-ohm at least.

Cables were similarly bad as above.

7) Radio equipment and navigation aid;

Maintenance of radio equipment are generally bad.

Least necessary navigation aid are good.

8) In parallel with to rehabilitation of vessels, rehabilitation of shipyard have to be carried out to the level of shipyard in Singapore on installation, technics, repairing cost and period.

9) Concerning supply of repair- and spare-parts of machineries, effective devices are to be carried out, for example, to establish Pooling Body, to find easy route for their procurement.

10) Rule of B. K. I. and Indonesian marine safety regulation are applied to all Indonesian vessels but these rule and regulation are enforced imperfectly in practice.

Wave and wind in interisland area of Indonesia seem less severe than those of Japan coasting area.

Therefore, in regard to safety of vessels, it seems better to soften requirements of rule and regulation to necessary limits, thereby forcing vessels abide by rules and regulations strictly.

11) Concerning purchase of vessels, navigation area, kind of cargo, operation plan planning, economical prospect, to be considered.

