SURVEY REPORT ON RATING SCHOOLS PLAN IN THE REPUBLIC OF INDONESIA

(PRELIMINARY SURVEY)

August 1975

JAPAN INTERNATIONAL COOPERATION AGENCY

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Preface

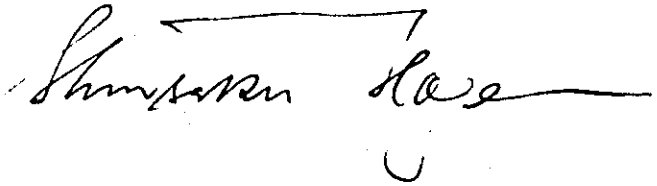
At the request of the Government of the Republic of Indonesia, the Government of Japan decided to conduct a preliminary study for the plan of the Training Center of Ratings as part of Japan's overseas technical cooperation programs. Japan International Cooperation Agency (JICA) sent the survey team of five members, headed by Mr. Fumio Shintani, Professor of the Institute for Sea-Training, Ministry of Transport, to Indonesia and carried out the preliminary study on the project from May 25 to June 18 1975.

During its stay in Indonesia, the team prepared and submitted an interim report to the Government of the Republic of Indonesia. After its return to Japan, the team continued to devote its efforts to complete the final report by studying the project carefully and reviewing the collected data.

It gives me a great pleasure if this report, which I am submitting herewith to the Government of the Republic of Indonesia, contributes to the progress of the project and, at the same time, serves to enhance the shipping development of Indonesia and the friendly relations now existing between Indonesia and Japan.

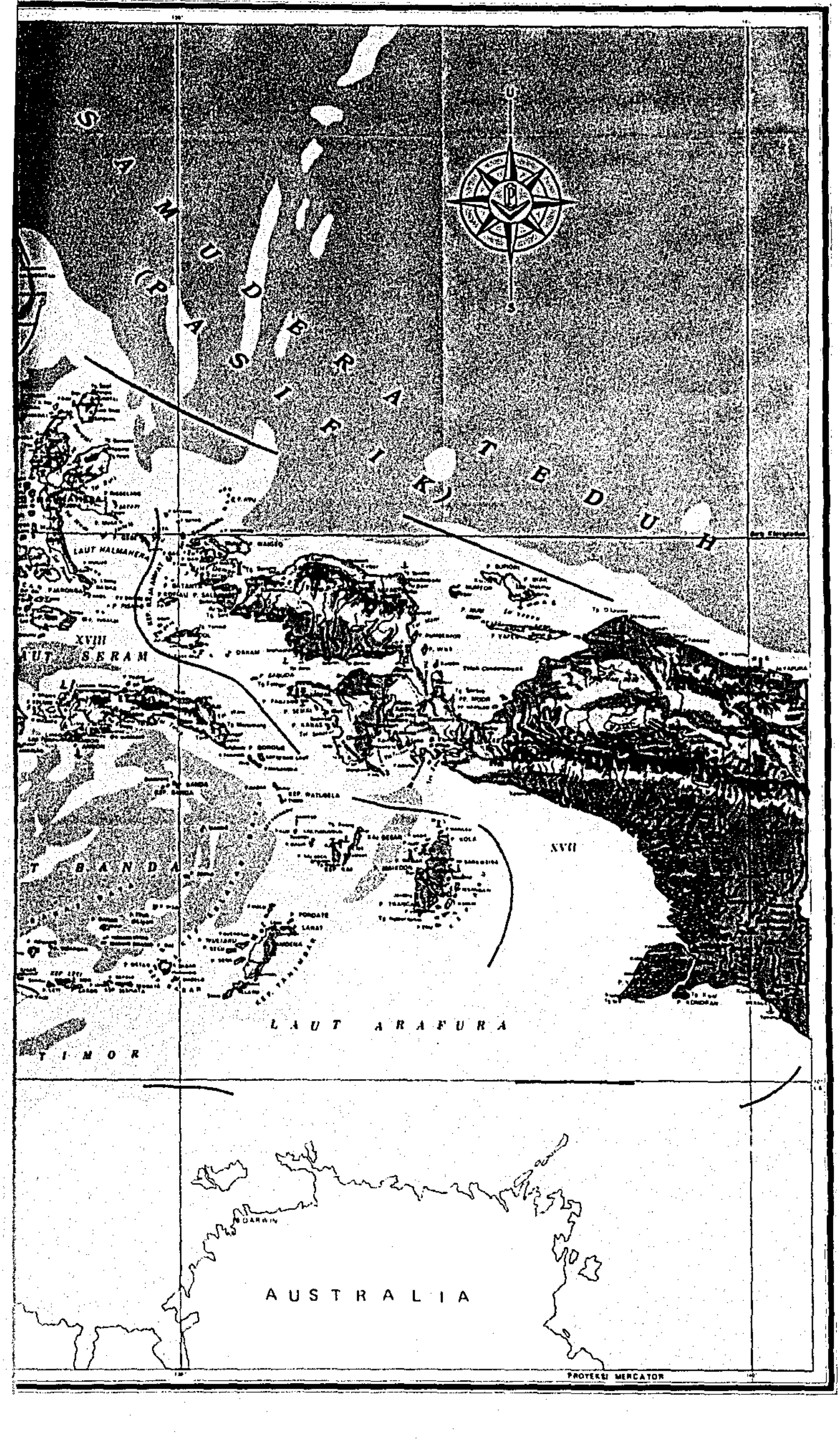
I take this opportunity to express my heartfelt gratitude to the Government of the Republic of Indonesia and staffs of the Indonesian authorities concerned for the helpful cooperation extended to the team.

Shinsaku Hogen
President



August, 1975

Japan International
Cooperation Agency



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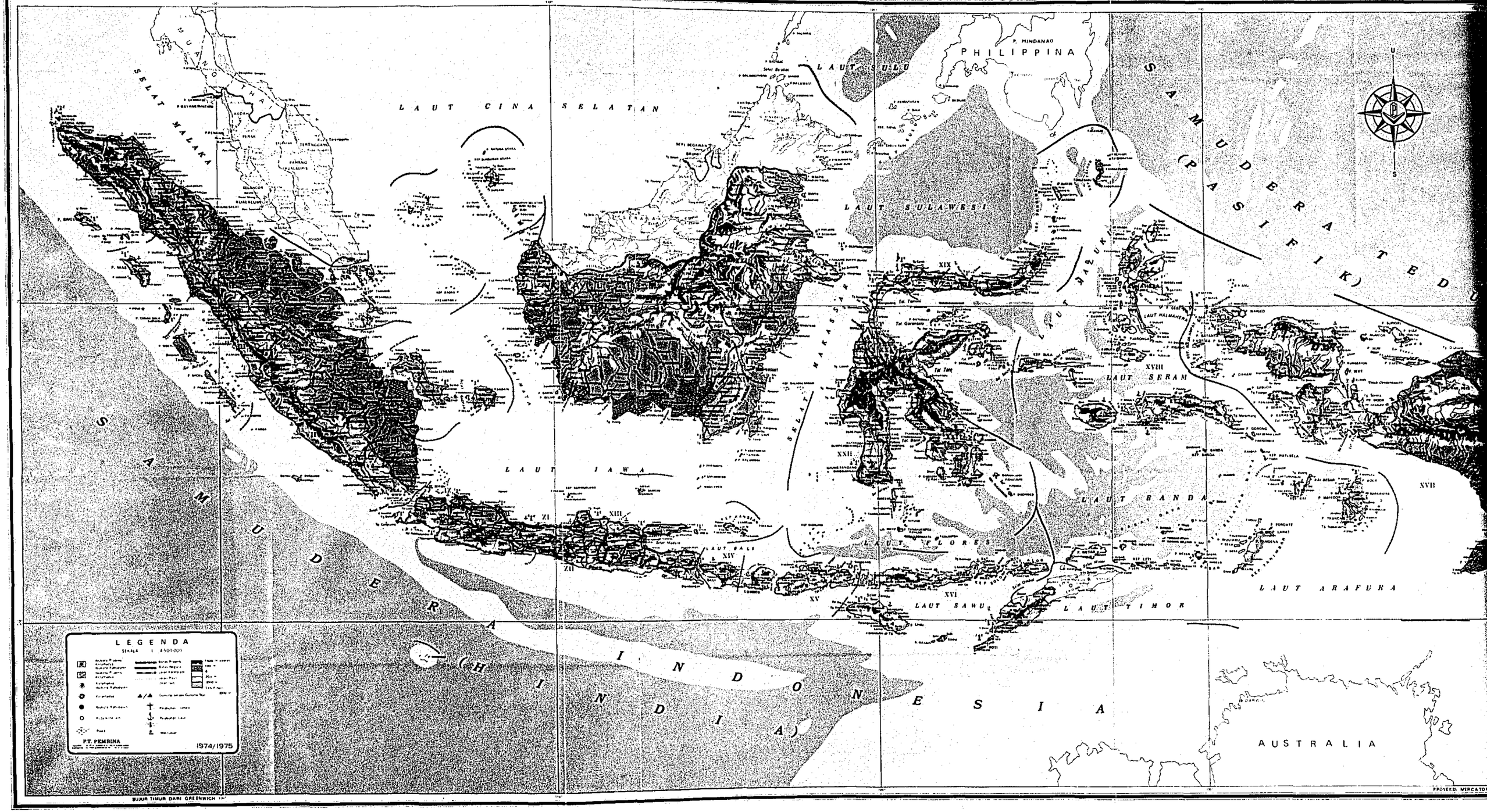
PROYEKSI MERCATOR

INDONESIA



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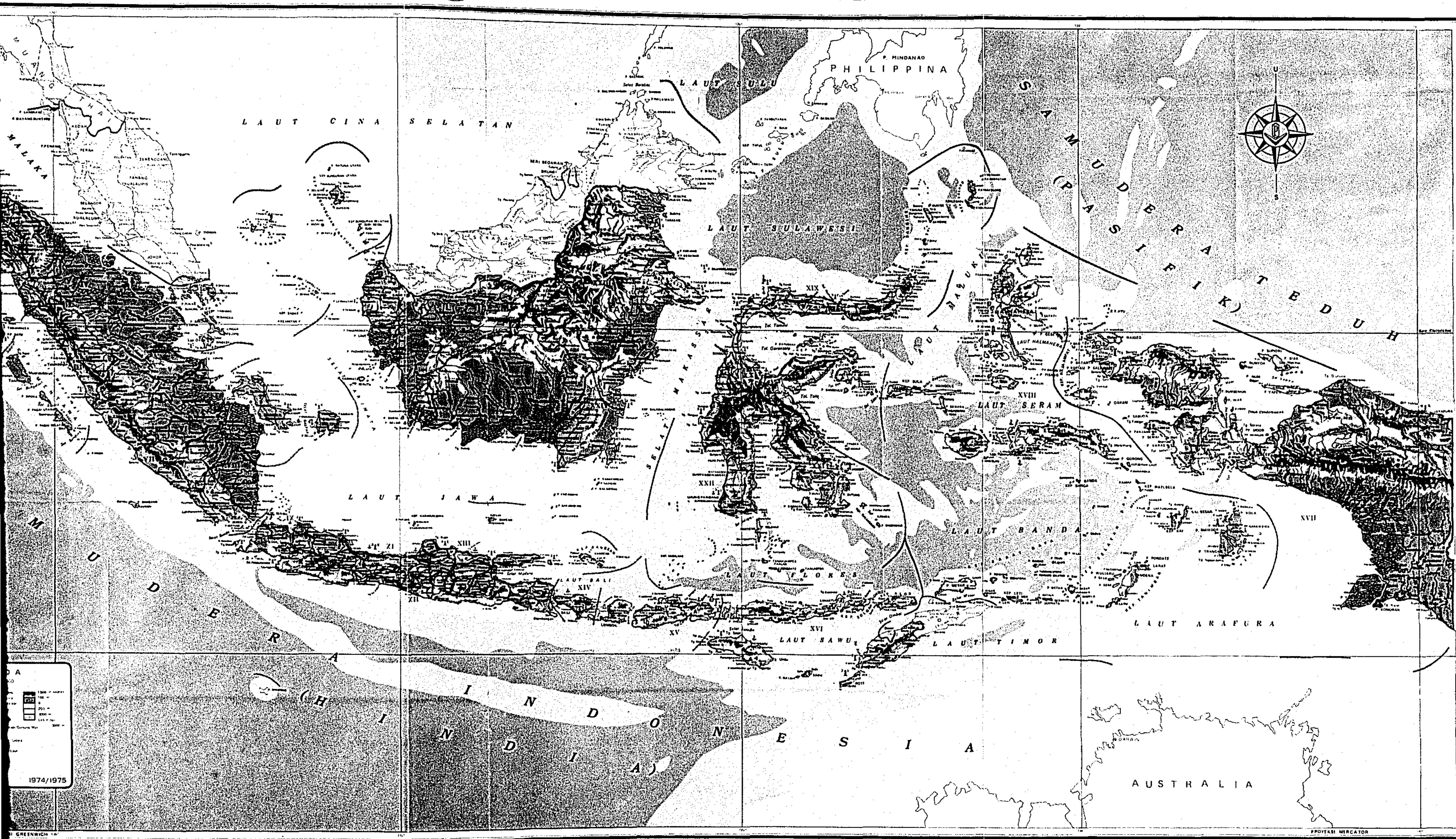

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LAUT SULU
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P. MINDANAO
LAUT SULAWESI
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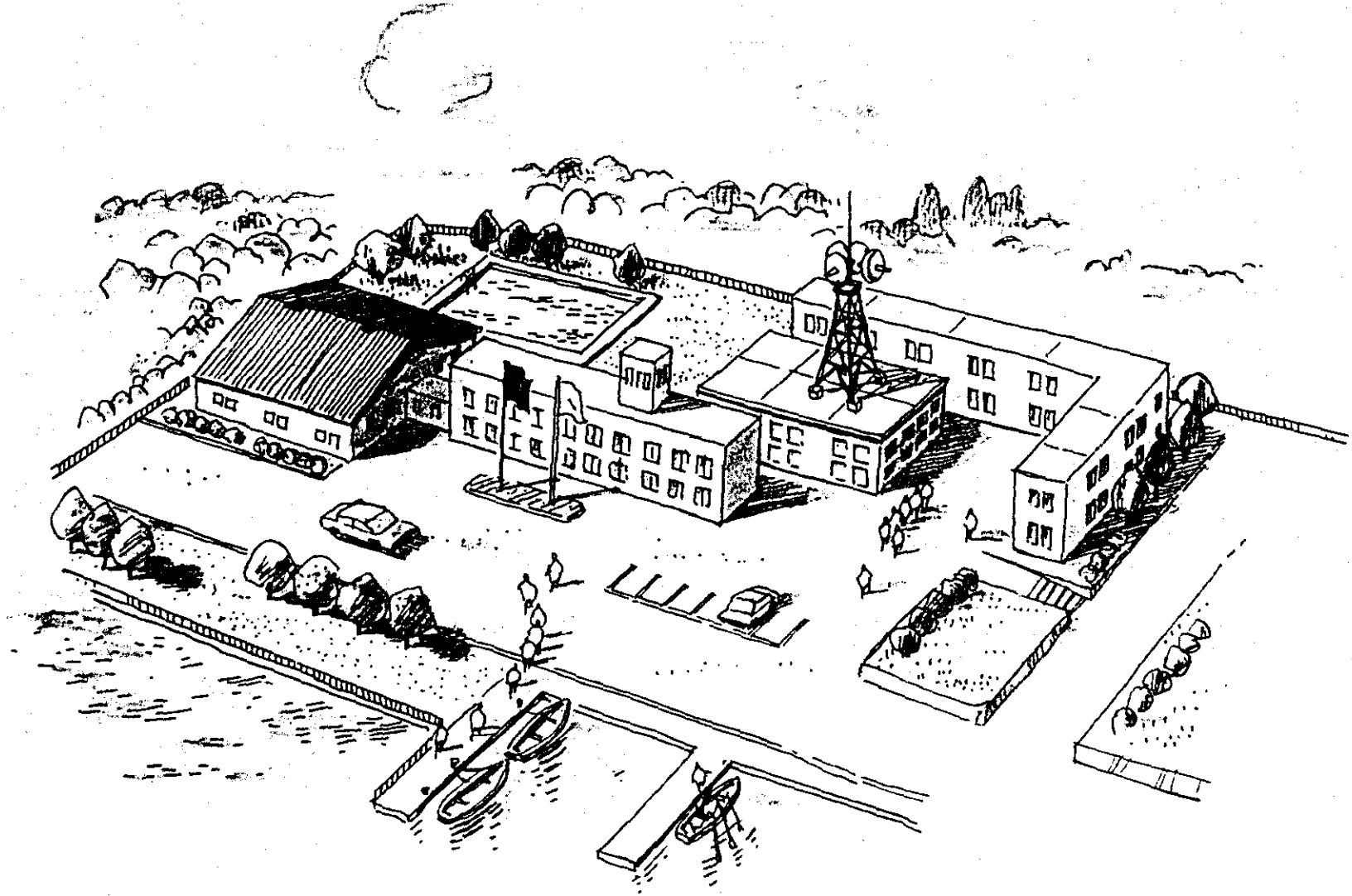
LAUT MALUKU
LAUT HALMAHERA
LAUT SERAM
SELAT MAKASSAR
LAUT JAWA
LAUT BALI
LAUT FLORES
LAUT BANDA
LAUT SAWU
LAUT TIMOR
LAUT ARAFURA
MALAKA
SAMUDERA INDONESIA (HINDIA)
AUSTRALIA
1974/1975
PROYEKSI MERCATOR



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List

Chapter 1 Summary

The Republic of Indonesia and Japan have close relationship both historically and economicly. Indonesia's export to Japan accounts for approximately 70% of her total export (in value) and her import from Japan accounts for more than 30% of her total import (in value). Indonesia's international trading has increased at an annual rate of nearly 10% for more than twenty years. Her trading with Japan increased by 300% during the five years between 1968 and 1972.

However, Indonesia's marine transport augumentation plan has not necessarily made a steady progress in spite of such a rapid expansion in international trading. It is natural that the Indonesian Government should make more efforts in her marine transport augumentation plan. The governmental decision to reinforce seamen is extremely timely.

Indonesia has complete facilities for officer training, but no system for rating education. Indonesia's seamen reinforcement plan means nothing but the foundation of facilities for ratings' education.

In the fall of the last year, the Department of Communication of the Republic of Indonesia requested the

Japanese Government to dispatch a survey team for the foundation of rating schools. A survey team for Indonesian rating schools was dispatched to Indonesia for a 25 day visit on May 25, 1975. The Survey Team consisted of five members, namely, a coordinator, two captains(class A) and two chief engineers(class A). They either have been or are engaged in ratings education. In Jarkarta, the Survey Team asked for the Indonesian Government's opinion on the foundation of rating schools and made arrangements for this investigation. Subsequently, the team was divided into two groups. Each group consisted of four members, namely, an expert of the deck department and an expert of the engine department and Indonesia's governmental counterparts. The two groups made a 10 day field survey in Belawan, Ujung Pandang, Ambon and Surabaya. In Jarkarta, the members visited the Third Shipping Region and made arrangements on the rating schools foundation plan. The Survey Team was told that Jarkarta is one of the world's most crowded cities and that the price of land is extremely high. The Team searched for an adequate vessel at her moorings with an idea of a rating school floating on a sea. However, no adequate vessel was found.

All of the four surveyed regions (Belawan, Ujung

Pandang, Ambon, Surabaya) have good conditions for the construction of a rating school. All of them have a need for a new rating school. Rating schools must be constructed simultaneously in these for regions for improving the quality of Indonesian crew. If simultaneous construction is impossible, a school should be constructed gradually in Ujung Padang, Belawan, Ambon and Surabaya in this order.

The number of rating schools should be determined on the basis of the annual number of trainees. The annual number of trainees was determined as 800 in consideration of the reeducation of experienced ratings. The deck department, the engine department and the catering department require ratings. However, the emphasis was tentatively laid on the quick education of ratings of the deck department and the engine department to be directly engaged in navigation. Therefore, it was determined to start the education of ratings of the pursers department after the completion of the first state of the above education.

This was pointed out by Indonesian representatives at the interim report meeting on June 16. The education of cooks may be postponed in view of its smaller urgency.

At rating schools, six-month training is to be given to graduates of junior high schools. Applicants should be between 15 years and 20 years in age. Trainees are to be selected among applicants on the basis of paper tests and a physical examination. Their age width should be decreased in the future.

Since the period of training is only six months, practical training is of course desirable at rating schools. Therefore, training on training ships it most desirable. However, training with land facilities is recommended in consideration of the education for ratings of the pursers department and the education of experienced ratings. Other possibilities include the combination of training with land facilities and training on training ships as well as training on a moored training ship remodelled from a used ship.

Both the education of experienced ratings and the education of new ratings are essential for the rating education in Indonesia. The number of ratings in Indonesia is estimated to be 16,000. We assume that the ratings of the deck department and the engine department account for 4/5 of all the ratings on the basis of the ratio of the Japanese ratings. Then, the number of the ratings belonging to the two departments will be 12,800, (16,000 x 4/5

= 12,800). If school-educated ratings are to account for approximately 70% of the deck and the engine department ratings in five years, 1,200 prospective ratings must be trained yearly. In other words, 6000 prospective ratings must be trained during five years. If 1,200 ratings are to be re-educated at the institutions established as an annex to four rating schools, each institution must take 300 ratings. Since experienced ratings already have sea experience, their training period is to be three months. They are to take mainly theoretical subjects during this period. If 50 deck department ratings and 50 engine department ratings are trained for each term, 300 ratings will be reeducated yearly at each school under a 3-term system.

Since 800 trainees are to graducate from rating schools every year during five years, the target can be nearly accomplished.

With regard to the reeducation of experienced ratings, they are highly interested in their salary during their education period. In principle, ship owners should bear their salary during their education period. Otherwise, the Government must take some measures.

A scholarship system or some governmental assistances must be given to students of rating schools. Graduates must be given some special advantages in consideration of the lowest employment age.

Chapter 2 Conclusions and Recommendations

2-1 Method and Content of Education at Rating Schools

The following methods can be used for giving useful education within the period of six months.

(1) Education with land facilities alone

(2) Education with land facilities and training ship

(3) Education on training ship alone

(4) Education on stationed training ship.

Method (1):

Each school requires 4 ha ∿ 6 ha of land in consideration of future plans and the establishment of a refreshing school. It must accommodate classrooms, dormitories and a boat house etc. Additionally, it must face a sea. Students must be able to get acquainted with sea freely on boats. Sea is like a mother for prospective seamen. Most of the rating training institutions we visited in Indonesia were located in the midst of a town. They were far from the smell of the sea. However, the Indonesian rating training institutions lay emphasis on onboard training. The national

Maritime Academy requires one-year onboard training (in the third year) for their four-year course. The national merchant marine high schools require one-year onboard training (in the third year) for their three-year course. The teachers of specialized subjects at these rating training institutions work on a ship for one year in every third year. They always make efforts to obtain the latest knowledge and experience. This seems to account for the freshness of rating education in Indonesia. This seems to guarantee bright future for the rating education in Indonesia. The Survey Team felt that Japan should learn from this system.

Method (2):

A six-month training period consists of four-month long ground training in basic knowledge and skills and two-month long effective training on a training ship. Trainees are to experience both cruising and anchoring. This method requires large expenses since the land and the buildings given under Method (1) are

also required. A training ship should be of the gross tonnage of about 1,500 to accommodate 100 students and 50 crewmen. One training ship must be built for every two schools.

Method (3):

Two training ships of the gross tonnage of at least 3,000 must be build. Each training ship is to accommodate 200 students of the deck and the engine departments and about 70 crewmen. They are to be under the administration of The Institution of Marine Education. They are to cruise to Sumatra and Celebes etc. to take students from these islands. Of course, they are to make a cruise of proper length during each six-month training period. This method is very effective since practical training can be given on a cruising ship. It is also efficient since it can move freely according to demands. Although training ships require higher construction cost and maintenance cost than land establishments, but they have large educational merits. In case of school facilities on the ground, the relation with marine transport and the number of graduates must be considered.

Some of the schools constructed on a sea shore have become far from sea due to land reclamation etc. As a result, the ideals that were held at the time of foundation have been lost. Cruising training ships are free from such worries. Since marine transport is an international enterprise, ratings themselves must acquire international character. Therefore, students should be registered as widely as possible and they should experience ocean navigation before their graduation. In Japan, seafarer training institutes used to give practical training on affiliated training ships. In 1943, the training ships affiliated to merchant marine schools came under the unified control of Institute for Sea Training belonging to the Ministry of Transport.

Method (4):

A used ship of the gross tonnage of about 1,500 is to be remodelled for accommodating about twenty teachers and about one hundred students. It is to be moored in a port or a harbour for training students. This method

is extremely useful since students can receive both tangible and intangible practical education. This method is worth a consideration at those districts where the land for school is difficult to obtain, at Jarkarta, for example. However, it goes without saying that land for an exercise ground, a gymnasium and a warehouse should also be secured on the land.

Various training methods have been discussed. Training ship education has not be adopted in Indonesia even at officer training institutions. Therefore, we should start with education with land facilities alone and study the diversification of training methods at the completion of the reeducation of ratings. This is discussed in 4-2-3 Seafarer Reinforcement Plan. A plan for land and land facilities should be made on the basis of a long-range outlook. The extension of training periods and the diversion of facilities at the completion of reeducation etc. are possible.

Ratings are asked to acquire the following characters.

(1) Readily usable specialized knowledge and skills
(2) Continuous attentiveness to dangers and ability

to cope with dangers

(3) Trained spiritual strength, physical strength and strength for practice

(4) Sense of responsibility, habit of observing time, moderate living

(5) Sense of group hygiene, habit of cleanness, orderliness and good maintenance

(6) Experience with international etiquette and manners and accomplishments

Students should acquire these characters not through classroom teaching as done for ordinary school education, but through daily life. A boarding system should be adopted by all means at rating schools using land facilities alone. This is one of the reasons for recommending training on training ships. In Japan, a boarding system is adopted at the maritime academy and rating schools.

It is easy to construct buildings for a rating school, but it takes some period to train teachers. It is quite difficult to gather those who have marine experiences and have good characters as teachers. This is a big problem both in Japan and in Indonesia. We felt encouraged to hear that about 40% of the staff of the Directorate General of Sea Communication in Indonesia are previous seamen. Tentatively, it seems the best to obtain teachers from the previous

seamen of the Shipping Regions. Mutual transfer between employees of the shipping regions and teachers of rating schools will be desirable in the future. Officers of training ships should be given a post of a teacher to be engaged in both teaching and navigation. Therefore, the number of mates and engineers on a training ship should be twice as large as that on an ordinary merchant ship. The system of regularly giving experience in marine practice to teachers should be continued in the future.

2-1-1 Qualifications and Training Period

Those who enter rating schools must have ability to understand subjects and physical fitness to endure training (physical fitness for sea service). In consideration of the current education system and the rating education system in Indonesia, we studied the possibility of ranking rating schools at the level of junior high schools by giving three-year junior high school level education to primary school graduates. However, we gave up this idea after discussion with the Indonesian officials concerned for the following reason. Since

rating schools require larger cost than junior high schools or junior technical high schools because of differences in educational methods, the number of applicants to rating schools is small and some students drop out. We also had a doubt on the wiseness of giving vocational training during the period of compulsory education. We also studied the possibility of extending a training period in response to technological revolution in the future. Since Indonesia has an urgent need for improving rating education, it is wise to adopt six-month long training period for quick and mass education. The need for improving rating school education will increase further with the increasing dominance of larger and higher-performance ships when the 5-Year Ratings Reinforcement Plan is completed. It will become necessary to extend the training period to one year and even to two years.

Applicants should qualify in age, scholastic ability and physical fitness. It seems desirable to limit applicants' age to 15 ∿ 17. However, it is to be limited to 15 ∿ 20 during the initial period since some of experienced ratings may wish

to enter a rating school. The age limit should be narrowed to 15 ∿ 17 when the Seafarer Reinforcement plan is completed. With regard to scholastic ability, our original idea was to give an examination to junior high school graduates. However, the percentage of junior high school attendance is extremely low (12.1%) is Indonesia. Therefore, we determined to select those whose scholastic ability is equivalent to junior high school graduates. This requirement should also be studied again in five years. Applicants should also meet certain physical requirements. Especially, applicants to the deck department must be given a careful eyesight test.

2-1-2 Number of Trainees

Eight hundred trainees (400 trainees in the deck department and 400 trainees in the engine department) are to receive education yearly at four schools. This was determined in consideration of the natural attrition rate, the rate of reserves, the increase of ratings under the Marine Transport Augumentation Plan and The 5-Year Seafarer Reinforcement Plan. This will be discussed in details in

4-2-3 Seafarer Reinforcement Plan. The education of the catering department may be started when the rating school education makes a smooth start. The number of trainees in the catering department is 1/3 ∿ 1/2 of that of the deck department and the engine department. The training period may be only one half. A similar system is used also in Japan. The demand for the deck department and the engine department tends to decrease. However, there are many offers for trainees of the catering department, including some from the ground.

2-2 Aids for Rating Schools and Advantages for Graduates

The lowest employment age is eighteen in Indonesia. Ratings of governmental ships (public employees) must be at least twenty years old. Japan also has regulations for restricting employment for protecting minor ratings and female ratings.

However, the Japanese regulations do not prohibit to employ fifteen-year old or older persons as ratings. If the lowest employment age cannot be lowered to the international standard in Indonesia, some measures must be taken to allow to employ rating schools graduates immediately after their

graduation. Otherwise, the value of rating schools will be reduced to a half. To foster rating school education, their graduates must receive high social evaluation. To ensure good pay for new graduates (post and salary in enterprise), the Government must employ them before private enterprises and give them a due pay. Graduates of rating schools must be able to become public employees, but the lowest employment age (20 years) inhibits this.

Since graduates of rating schools become ratings, there is no need for considering officers' licences. However, it is desirable to issue a harbour master's certificate (certifying the graduation from a ratings school) to graduates. This certificate will become unnecessary if rating school education takes root in Indonesia.

Those rating school graduates who want to become officers can go to a refreshing school.

Since a boarding system is to be adopted not only on a training ship, but also at ground institutions, cadets must be provided with sufficient nourishment. It is desirable that the Government should pay for cadets food during training on a

training ship. The Government should also consider renting of bedclothes and clothes. Both governmental aids and a scholarship system should be considered for rating school education in view of its difference from ordinary school education.

In Japan, various scholarship systems are applied to students of seafarer training institutes. They include the scholarship system of the Japan Scholarship Foundation and similar system of local governments and enterprises. The Japan Ratings Maritime Student Scholarship Foundation allows a loan of 150 thousand yen per year (about 500 U.S. $) to graduate students of Universities of Mercantile Marine a loan of 90 thousand yen per year (about 300 U.S. $) to undergraduate students of the Universities of Mercantile Marine, a loan of 80 thousand yen per year (about 270 U.S. $) to students of mercantile marine colleges and a loan of 70 thousand yen per year (about 230 U.S. $) to students of rating schools. Their repayment period is twice as long as the period of loan. Repayments are to be made in monthly, bi-annual or annual installments. Japan Ratings Maritime Student Scholarship Foundation's scholarships are given to most applicants at the

rating education establishments listed before. They are given also to prospective radio officers.

2-3 Re-education of Experienced Ratings

A rating education system must be established for improving the crew of Indonesian mercantile marine. Rating education include not only the education of new ratings, but also the education of experienced ratings. The latter tends to be overlooked. Since rating education is just making a start in Indonesia, the expression of "re-education of experienced ratings" may not be correct. However, it is highly important to educate about 16 thousand ratings without rating school education. Theoretical and basic subjects are to be taught to experienced ratings within a three month training period. If approximately six thousand ratings are given such education during five years, about 70% of the ratings will have received some school education. Subsequently, a study should be made on the reeducation of rating school graduates in consideration of the accomplishment of the five years. Ratings' salary during their reeducation period should be paid either by ship owners or by the Government's

insurance system. Many ratings have dependents. They must be most interested in their salary during their training period.

It is desirable to establish reeducation institute with rating schools. Their separation from ratings schools should be studied after the Seafarer Reinforcement Plan.

2-4 Field Survey

Belawan is the outer harbour of Medan City. It is the largest international port of Sumatra. It is ideal for the construction of a rating school. We surveyed four proposed sites. The third proposed site, namely, Lama, was the best. However, a part of this site belongs to the Navy and the Ministry of Agriculture. Negociations must be made with the two departments and the existing lodgings for fishing boat crew must be moved. The first and the second sites proposed by the First Shipping Region of Belawan were on an island densely covered with mangroves Considerable expenses and time will be required for development. Electricity and service water must be drawn from the opposite shore. The fourth proposed site was better than the first and

the second in space and site conditions. However, it was also covered densely with mangroves.

Ujung Pandang in the largest international port of Surawesh. It is the center of marine transport administration. It has a national merchant marine high school and is ideal for the construction of a ratings school. Especially, Ujung Pandang is an old port and a traditional town where many seamen were born. In Japan, some seaman training institutes have been established at old port towns with seamen's tradition.

Among the proposed sites in Ujung Pandang, the first and the second sites are not ideal. This is because a new rating school will be constructed side by side with a merchant marine high school. The third site (Tello) is flat land of more than 4 ha. It is close to the town center and very convenient. However, the ground is low and faces a river. It can be flooded during a rainy season.

The fourth site (Barom Bong) is vast and fronts a sea. It is an ideal site for a rating school. In consideration of the present conditions of the two private merchant marine academies in

Ujung Pandang, Barom Bong is ideal for constructing a model school for all the rating training institutes in Ujung Pandang or rather in entire Indonesia. The only problems is the need for improving the 3 km long farm road leading to the site. It also has electricity and service water problems. The team was told that the second problem can be easily solved by drilling wells.

The Eight Shipping Region exists in Ambon. It is ideal for the construction of a rating school. Since national land fronting a sea is amply distributed, a site for a school can be obtained easily. A fishery training center (6 month long training period) has been constructed here with assistances from Japan. It is a pioneer for seamen school education.

Surabaja is the seat of the Fourth Shipping Region. It is a large international port, ranking next to Tanjung Priok alone in Indonesia. Since three private merchant marine academies and one marine school exist, Surabaja is ideal for the construction of a rating school. The first proposed site is vast governmental land. Land of 10 ha can be easily secured for a rating school here. It is

surrounded by good environment and requires only small development cost. The Sea in front of this site was like the Seto Inland Waters in Japan. The second proposed site is large enough and faced with a sea. However, the 3 km long farm road leading to this site is not good enough for travelling in cars. This road must be improved before the construction of a rating school.

As a result of the survey of these four regions, the Team concluded that Barom Bong and Tells in Ujung Pandang, Kenjeran in Surabaja, Lama in Belawan and Ambon are suitable for rating school construction in view of educational environment and site conditions.

The team originally planned to survey Jakarta and Jayapura in addition to the four regions. However, it was given up due to flight services and other reasons. A need for constructing a rating school in these two regions may arise in the future. Four rating schools will become insufficient in the near future in consideration of the demand for marine transport in Indonesia.

Chapter 3 Introduction

3-1 Request for Survey related to Rating School Construction

3-1-1 Circumstances

It goes without saying that the development of marine transport is essential in Indonesia. It is not sufficient to improve and increase ships. It is urgently important to improve and increase seamen, especially, ratings.

President Suharto made a request on seamen training to the ex-Prime Minister Tanaka during his visit to Indonesia in January, 1974. The ex-Prime Minister Tanaka promised Japan's assistance.

The shortage of seamen is a common problem among the developing countries. Recently, some of these countries have requested Japan to assist their seamen education. On the basis of the agreement between the ex-Prime Minister Tanaka and President Suharto, the Directorate General of Sea Communication in the Department of Communications of the Republic of Indonesia made a request to the Japanese Embassy in Indonesia. The request is summarized below.

"Well-trained and able ratings are essential for securing the safety and efficiency of the mercantile marine of Indonesia. As you know, the Republic of Indonesia has no system for rating training and education. We request you to dispatch exparts to study various problems related to rating school construction, including, sites, curriculumn, class hours. We intend to have Indonesian officials attend Japanese experts during their survey and operation with regard to this matter, we requested the Department of Communication of the Republic of Indonesia to take adequate measures and make a contact with the Japanese Embassy. We enclose the materials on this subject. We ask for your special assistances. We appreciate for your prompt actions."

In response to this request, the Japanese Ambassador Extraordinary and Plenipotentiary in Indonesia made the following request to the Foreign Minister of Japan on October 31, 1974.

"The training of seamen is an urgent problem in Indonesia. The governmental offices concerned have agreed to the request for a survey. They have completed an arrangement for securing

Rupee funds. (Approximately 1.5 million Rupees mainly for travelling expenses of Indonesian companions.) The Indonesian Government has repeatedly asked to conduct this survey as soon as possible.

The shortage of seamen in Indonesia has been pointed out many times. Indonesian marine transport enterprises have repeatedly asked the Government to improve this situation. Furthermore, Indonesia's New 5-Year Plan includes large improvement and increase of coasters and foreign going vessels. To realize this plan, ratings must be trained urgently.

3-1-2 Content of Term of Reference

The Indonesian Government prepared the Term of Reference concerning the survey related to rating school construction. It is summarized below.

(1) Introduction

In an archipelago country like Indonesia, marine transport is the most important means of transportation for supporting the national economy.

According to the data obtained by the Department of Communication in June, 1974, the number of Indonesian seamen is as given below:

Officers of foreign going vessels	3,210	(deck department and engine department)
Officers of coasters	2,219	(deck department and engine department)
Ratings	About 16,290	(unregistered)
Total:	21,719	

Additionally, approximately 11,000 Indonesians work on foreign vessels as ratings.

The demand for ratings is expected to increase in the future. Sufficient ratings schools must be established to meet this increasing demand with well-trained and well-educated ratings.

(2) Existing Situation of Seamen Education

The current status of seamen education in Indonesia is summarized below:

1) Maritime Academy with two departments (Nautical Department and Engine Department) exists in Jarkarta. It used to have Radio Department and Marine Transport Economics Department in addition to the two current departments.

2) A national seamen college with two departments (Nautical Department and Engine Department) exists in Jarkarta. Seamen with certain marine experience study at this college for a short period to obtain officer's licenses.

3) A mercantile marine high school for training coaster officials exists at Semarang and Ujung Pandang. It has Nautical Department and Engine Department.

Well-trained and well-educated ratings are essential for helping officers. Ratings must have basic knowledge on navigation and engine operation, whether engaged in domestic routes or in ocean routes.

(3) Objectives

A rating training center must be established to raise well-trained and well-educated ratings. This training center has the following objectives:

1) To give training and education on routine works, safety regulations, seamanship and onboard life etc.

2) To re-educate experienced seamen to teach new skills.

3) To secure able reserve seamen

4) To teach a habit of strictly observing inboard rules and cooperative spirit.

5) To give adequate post according to types of officer's licenses.

6) To give ratings chances to assume high posts.

(4) Scope of Work

A survey by a survey team consisting of four experts must be made. The objectives of the survey are listed below:

1) To prepare a master plan, including

training ships

2) To draw an idea for a rating training center

3) To determine the sites for a rating training center in consultation with Indonesian marine transport representatives

4) To determine the equipments, facilities etc. for a training center

5) To prepare training curriculum

(Note) Two different expressions (Rating School and Rating Training Center) are used in the Indonesian documents. We initially distinguished them. However, the Indonesian Government informed us that the two expressions are used synonymously.

3-1-3 Standpoints of Survey

The proposed sites were evaluated from the following standpoints during the field survey.

(1) Site conditions for land facilities

1) Land owners

The Survey Team investigated whether the proposed sites belong to the Government, a local government or a

private owner. It is most desirable that a site should belong to the Directorate General of Sea Communication of the Republic of Indonesia. It was proposed to purchase private land for rating school construction in Ujung Pandang. It does not seem very difficult to obtain land and move houses as long as sufficient funds are available.

2) Lot size

The Survey Team intended to secure a lot of 4 ha ∿ 6 ha. A sufficiently large lot is available in all the cities, except Jakarta.

3) Difficulty of land purchase

It partly depends on owners of land. As long as a lot has no building on it, the only question will be that of cost.

4) Distance to coast

It is desirable that a seamen education institute should be located on the coast. Some schools in Japan have moved

away from sea due to land reclamation etc. It must be possible to ride boats from the campus. Ideally, ordinary ships should be able to anchor at the sea in front of a school. Most of the proposed sites we surveyed were on the coast.

5) Difficulties of development

School lots should be easy to develop. One of the sites we proposed could be flooded during a rany season. Good ground conditions are essential for the construction of multi-storied buildings. Since the sites we surveyed were sufficiently spacy, two-storied buildings seem to be sufficient.

6) Development cost

Development cost depends partly on site conditions. Some sites require road constructions, electricity and service water works or a electric generator and an evaporator (used also as education aids), and environmental improvements. A site under a flight route requires

soundproofing equipments.

7) Meteorological conditions

Wind and rain conditions must also be considered. The Survey Team investigated the frequency of storms and the protection of each site from strong winds. Since the Republic of Indonesia consists of islands scattered on the both sides of the equator, she is not frequently hit by typhoons and depressions. Since she does not seem to receive heavy damages from them, this problem does not seem to require as serious consideration as in Japan.

8) Oceanographic conditions

Tidal conditions and tidal currents etc. must also be considered since many operations, including boat training, are performed in a sea. Small high-water and low-water difference and weak tidal currents are recommended.

(2) Relation with marine transport industry

Ideally, a rating school should be at an

international port town where marine transport industry and shipbuilding industry have active business. At such a town, students of a rating school can visit ships and a dockyard. In such an environment, they will learn a lot outside their school.

In view of the shortage of rating school teacheres in Indonesia, it will be relatively easy to obtain lecturers at such a port town.

(3) Hinterland

There should be sufficient applicants to new rating schools. Since ratings schools are to accept junior high school graduates, it must be easy to obtain junior high school graduates. Therefore, the Survey Team investigated the extension of education and the state of education establishments in the hinter lander.

(4) Local enthusiasm

The construction of a school requires local cooperation. Since no rating school

has been constructed before in Indonesia, local assistances are essential. Fortunately, all the proposed regions are seats of Shipping Regions. Therefore, local enthusiasm will be substituted by the enthusiasm of Shipping Regions to some extent.

3-1-4 Comments on Interim Report and Opinion on Indonesian Comments

(1) *Indonesian Government's comments on interim report*

The explanation on the interim report was given to the Indonesian Government on June 16, 1975. Subsequently, the Indonesian Government presented the following comments:

1) In principle, the Secretary of the Directorate General of Sea Communication approved of the construction of rating schools in Indonesia.

2) Barom Bong of Ujung Pandang is an ideal place for the construction of a rating school. It should be given the first

priority. If a rating school is to be constructed at two or more places, the priority order should be Ujung Pandang, Belawan, Ambon and Surabaya.

3) At the first stage, Indonesian teachers will receive training in Japan.

4) The Government did not approve of the proposal by the Secretary of the Directorate of Navigation to use Mayan and Mizan as moored training ships.

5) The Secretary requested the leader of the Survey Team to send a manning list in compliance with the related Japanese regulations.

6) Indonesia will prepare an estimate of a required budget.

7) Directorate General of Sea Communication must make arrangements with local officers for land in Ujung Pandang and Ambon etc.

(2) Opinion on Indonesian Comments

1) The priority order among the regions is as pointed out by the Indonesian

Government. However, lot selections should be made on the basis of consultation with specialists in construction. Sufficient studies must be made on geological survey, electricity and service water works, the transportation of building machineries and materials and the inspection of well water.

2) The shortage of teachers has been seriously complained of. Various views were exchanged on this problem during the survey. The following three proposals were made.

   a) Teachers for rating schools are sent from Japan.

   b) If a) is impossible, teachers for training rating school teachers are sent from Japan.

   c) Indonesian teachers are sent to Japan for training.

   If four rating schools are built simultaneously, there will be a shortage of forty teachers. The Indonesian

Government asked the possibility of sending forty teachers from Japan. However, it seems almost impossible to send forty teachers from Japan. If Japanese teachers are to teach Indonesian students directly, they must master the Indonesian language at first. This will be extremely difficult.

It will be easier to send teachers for training rating school teachers. If one teacher of the deck department and one teacher of the engine department are to be send to each of the four schools, eight teachers will be sufficient. However, this assumes that Indonesian teachers understand English. If English is used as a common language, teaching will be relatively easy. The Indonesian people with whom we had a contact during the survey were proficient in English.

Another method is to send about two groups of teachers (each group consisting of a teacher of the nautical department

and a teacher of the engine department). They are to go around the schools to assist teachers.

If Indonesian teachers are to be trained in Japan, they should be divided into groups of several teachers. Each group should be sent to a seaman education institute for training. Since Indonesian teachers must be accompanied by Japanese counterparts, a considerable number of staff will be required.

In any event, the Survey Team asked The Indonesian Government to make requests on these problems through the Japanese Embassy.

3) Mayan and Mizan must be remodelled to be used as training ships. Since they are small, they are not suitable for moored training ships. They are still young to be moored. They are still fit for cruising. They seem to be obliged to moor for various reasons. The major reasons seem to be poor routine maintenance and poor machinery handling.

This seems to be attributable partly to the lack of crew training. The need for reeducating experienced seamen is reflected here.

4) The manning of Japanese ships is regulated by the Ships Officers Act and the Seamen's Law. The materials on these regulations have been handed to the Indonesian Government. The team sent the materials on the current Japanese practice after the return.

With regard to the complement of ratings, a regulation is provided only on the complement of ratings of the deck department. A ship above 700 in the gross tonnage requires at least six rating of the deck department with a duty of watches at sea. Since they must have certain ability, they should have at least one year experience in deck duties. More than half of them must be at least 18 years old and have at least 3 year experience in deck duties or have been officially certified

to have equivalent ability. Because of the diversity in the types and the number of engines, it is undesirable to give a uniform regulation on the complement of the engine department ratings. Sufficient ratings of the engine department are employed to allow to observe the regulations related to working hours. The International Convention for Marine Labor does not regulate the manning of the engine department.

No Japanese regulation provides for the manning of the ratings of the pursers department. However, the Seamen's Law regulates the labor conditions for the ratings of the engine department and the purser department. For example, the ratings of the purser department on a ship for twelve passengers or more must be allowed to rest for at least twelve hours (including 8 hour uninterrupted rest) per day during cruising. Ratings of the purser department on other ships should not work more than

eight hours per day during cruising and on the days of port entry and departure. However, their working hours can be increased upto ten hours per day when a captain admit such a need.

The ratings of the purser department should not work more than eight hours per day during anchorage. A captain can extend crew's working hours, but a ship owner must pay lawful hourly allowances.

3-2 Members and Schedule of Survey Team

3-2-1 Members of Survey Team

The members of the Survey Team are listed below:

Leader	Fumio Shintani	General Management	Professor Institute for Sea Training, Ministry of Transport
Member	Akira Ichikawa	Facility	Director Student Department Tateyama Seamen Training School, Ministry of Transport
Member	Mutsuhiko Kitahara	Planning	License Examiner Kanto District Maritime Bureau, Ministry of Transport
Member	Ohyo Shibata	Education	Special Assistant to Competence Certificate System, Officers Division, Seafarers Bureau Ministry of Transport
Member	Minoru Takase	Coordination	Social Development Cooperation Department, Japan International Cooperation Agency

3-2-2 Schedule

Day	Date	Day of week	Schedule	Operation
1st	May 25	Sun.	Departure from Tokyo at 9:10 and arrival at Jakarta at 18:45 (JL 711)	Meeting at hotel after arrival (including Special Assistant Hanyu, Maritime Advisory Team and Mr. Igarashi of JICA.
2nd	May 26	Mon.	Japanese Embassy, JICA Office, Maritime Advisory Team, Indonesian Government (Directorate General of Sea Communication)	Presentation of Questionnaire
3rd	May 27	Tue.	Directorate General of Sea Communication, National Merchant Marine Academy, Third Shipping Region	Collection of information, materials and inspection
4th	May 28	Wed.	(Group A) Directorate General of Sea Communication	Discussion with Secretary of Directorate, Collection of materials
			(Group B) From Jakarta to Ambon	Move to Seventh Shipping Region Group consisting of two Survey Team members, one expert and one Indonesian counterpart
5th	May 29	Thur.	(A) Jarkarta ↷ Medan ⇄ Belawan (including proposed sites)	Collection of information and materials at First Shipping Region in Belawan (Group of five members)
			(B) Seventh Shipping Region	Collection of information and materials
6th	May 30	Fri.	(A) First Shipping Region, Toba Training Center	Collection of information and materials and field inspection
			(B) Seventh Shipping Region, Proposed sites	Collection of information and materials and field inspection
7th	May 31	Sat.	(A) First Shipping Region, from Medan to Jakarta	Collection of information and materials and travelling
			(B) From Ambon to Surabaya	Trip (Fourth Shipping Region)
8th	June 1	Sun.	(A) From Jakarta to Ujung Pandan	" (Sixth Shipping Region)
			(B) Surabaya	Study of materials, collection of maps
9th	June 2	Mon.	(A) Sixth Shipping Region, National Merchant Marine High School	Collection of information and mateials, inspection of high school, field survey
			(B) Consulate, Fourth Shipping Region	Greeting to Consulate, Collection of materials

Day	Date	Day of week	Schedule	Operation	
10th	June 3	Tue.	(A) Sixth Shipping Region, Special School	Joint meeting with Shipping Region, field survey	
			(B) Fourth Shipping Region	Collection of materilas	
11th	June 4	Wed.	(A) Sixth Shipping Region, from Ujun Pandang to Surabaya	Confirmation of submitted materials and travelling	Joining of *two groups*
			(B) Fourth shipping Region	Collection of materials, air port	
12th	June 5	Thur.	Consulate, Fourth Shipping Region, dockyard, proposed sites	Greetings, collection of information and materials, inspection of Indonesian Marines' Dock, field survey of 1st proposed site, Mr. Igarashi of Group B returns to Jakarta	
13th	June 6	Fri.	Fourth Shipping Region, dockyard, proposed sites	Joint meeting with Shipping Region and Dockyard, inspection of 2nd proposed site	
14th	June 7	Sat.	From Surabaya to Jakarta	Trip	
15th	June 8	Sun.	Jakarta	Study of materials	
16th	June 9	Mon.	Directorate General of Sea Communication, Ambassador's Official Residence	Joint meeting, invitation to Ambassador's Official Residence	
17th	June 10	Tue.	Directorate General of Sea Communication	Joint meeting, meeting of Leader and Secretary of Directorate of Navigation (afternoon)	
18th	June 11	Wed.	Directorate General of Sea Communication, Central Statistics	Joint meeting, collection of information and materials	
19th	June 12	Turs.	Directorate General of Sea Communication, Embassy	Joint meeting, check of materials, preparation of interim report (Japanese)	
20th	June 13	Fri.	Directorate General of Sea Communication, Embassy, Third Shipping Region	Visit to Directorate General of Sea Communication, inspection of training ship at Tanjun Priok, translation of interim report	
21st	June 14	Sat.	Embassy, Directorate General of Sea Communication	Distribution of interim report, explanation at Embassy	
22nd	June 15	Sun.	Jakarta	Holiday	
23rd	June 16	Mon.	Directorate General of Sea Communication, Marine Transport Team, Embassy	Explanation and presentation of interim report to Indonesian Government, agreement, greeting, party by JICA	
24th	June 17	Tue.	Jakarta	Preparation for return	
25th	June 18	Wed.	Departure from Jakarta at 8:00 and arrival at Tokyo at 21:35 (JL 712)	Trip	

Chapter 4 Current State and Future of Seamen Education in Indonesia

4-1 Seamen Education and License System

4-1-1 General Education System

The population of the Republic of Indonesia has increased at the rate of more than 2 million per year during the past ten years.

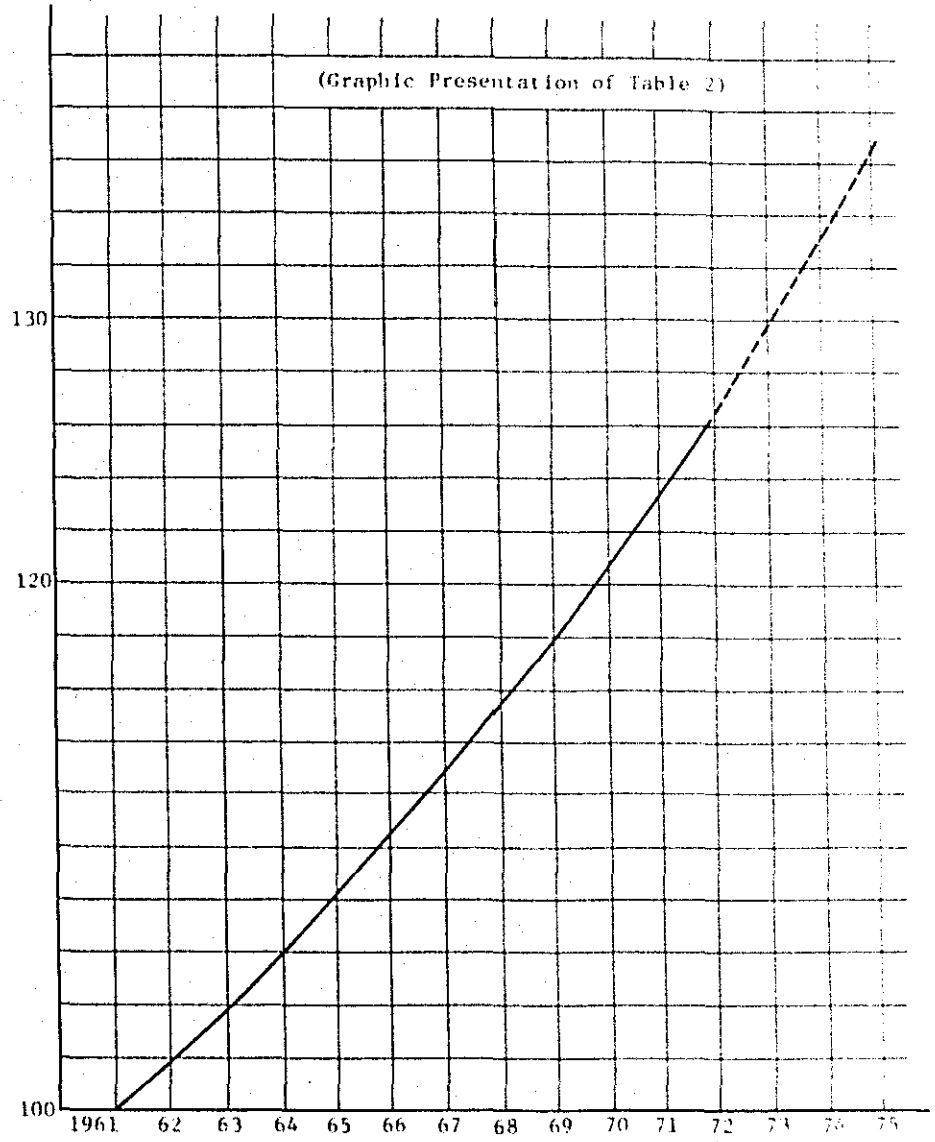
Table 1 Number of the population

(× 1000)

	Java		Others		Indonesia	
	Persons	Index (1961 as 100)	Persons	Index (1961 as 100)	Persons	Index (1961 as 100)
1961	63226	100	34161	100	97387	100
62	64357	101.8	34900	102.2	99259	101.9
63	65534	103.7	35687	104.5	101221	103.9
64	66757	105.6	36514	106.9	103271	106.0
65	68028	107.6	37386	109.4	105414	108.2
66	69345	109.7	38300	112.1	107645	110.5
67	70708	111.8	39256	114.9	109946	112.9
68	72118	114.1	40259	117.9	112377	115.4
69	73575	116.4	41305	120.9	114880	118.0
70	75079	118.7	42390	124.1	117469	120.6
71	76629	121.2	43520	127.4	120149	123.4
72	78356	123.9	44759	131.0	123115	126.4

If the population in 1961 is put as 100, the population in 1972 will be 126.4, showing increases like secondary degree curve in stead of a linear line. It is inferred from this tendency that the population should reach 130 million ∿ 135 million in 1975.

Fig. 1



To study the distribution of this enormous population, we divided the ratio of each region's population to the total population by the ratio of each region's area to the total area. The results indicate the degree of population concentration in each region. If the answer for some region is 1, this region has an average concentration of population. Table 2 shows that Java alone has an extremely large figure and that all the other regions have a figure below 1.

Table 2 Degree of population concentration

Java	9.24
Sumatra	0.69
Kalimantan	0.15
Sulawesi	0.72
Other Island	0.22

Table 3 shows the population in Indonesia by age group classification and regional classification

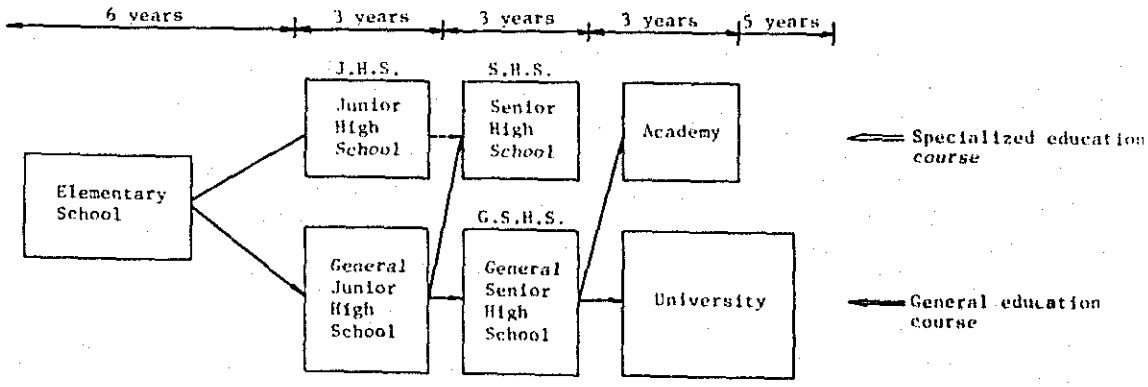
Table 3 Population by Regions and Age Groups

age group		0 ∿ 4	5 ∿ 9	10 ∿ 14	15 ∿ 19	20 ∿ 24	25 ∿ 29	30 ∿ 34	35 ∿ 39	40 ∿ 44	Indonesia
Java	persons	11874230	11914412	9077292	7138975	5004726	5851083	5235155	5454159	4080174	76102486
	Index (0∿4 as 100)	100	100.3	76.4	60.1	42.1	49.3	44.1	45.9	34.4	
Sumatra	persons	3587153	3447972	2721650	2170135	1375205	1488865	1296280	1218233	927305	20812682
	Index (0∿4 as 100)	100	96.1	75.9	60.5	38.3	41.5	36.1	34.0	25.9	
Kalimantan	persons	884881	812429	675037	484572	347665	401379	328463	349270	274892	5152166
	Index (0∿4 as 100)	100	91.8	76.3	54.8	39.3	45.4	37.1	39.5	31.1	
Sulawesi	persons	1475797	1427949	954301	866195	621822	671908	534638	566254	379428	8535164
	Index (0∿4 as 100)	100	96.8	64.7	58.7	42.1	45.5	36.2	38.4	25.7	
Other Island	persons	1339204	1269393	799606	731469	611870	629179	499711	429533	367549	7857347
	Index (0∿4 as 100)	100	94.8	59.7	54.6	45.7	47.0	37.3	32.1	27.4	
Indonesia	persons	19161265	18872155	14227886	11391346	7961288	9042414	7894247	8080449	6029348	118459845
	Index (0∿4 as 100)	100	98.5	74.3	59.4	41.5	47.2	41.2	42.2	31.5	

If the population of the 0 ∿ 4 year old group is put as 100, the index of the 10 ∿ 14 year old group (primary school graduates ∿ junior high school students) is 74.3, indicating 25% decrease. The percentage of the 20 ∿ 24 year old group (university graduates) is below 50%. This may be attributable partly to insufficient medical facilities. It may be one of the reasons for low percentage of school attendence during the age of compulsory education.

The general education system in the Republic of Indonesia is shown in Fig. 2. Compulsory education consists of elementary school and junior high school.

Fig. 2 General Education



This system is characterized by the existence of four types of junior high schools for specialized education. Students at general junior high schools receive general education. At the senior high school level, Indonesia has more types of senior high schools for specialized education. Students at general senior high schools receive general education. At the university level, Indonesia has academies for specialized education and universities for general education.

Since students at specialized education schools are assumed to work after their graduation, they have very little chance to receive higher education. Six years, three years and three years are required to finish an elementary school, a junior high school and a senior high school, respectively. Academies require 3 ∿ 4 years, while universities require 5 years.

Under this education system, 74% of the Indonesian population of the applicable age groups have not finished an elementary school during the past ten years. Only 19.4% have finished an elementary school alone. Less than

6.6% have completely finished a junior high school. This tendency is almost nationally uniform.

Various historical reasons seem to account for the low school attendance percentage during compulsory education. This will be a big obstruct for efforts to improve seamen education through rating school construction.

The real development of the Republic of Indonesia will depend partly on the efforts to spread compulsory education and to decrease the illiterate. The enlightenment of the people at the bottom is basic to the improvement of seamen education for the development of the Indonesian marine transport. The Survey Team keenly feels the need for improving compulsory education in broader aspects, instead of simply opening rating schools.

Table 4 Population of Indonesia 10 years of ago and over by educational attainment region

1971

		No School	Not Yet Finished Elementary School	Elementary School	Junior High School		Senior High School		Academy	University	Total
					General	Vocational	General	Vocational			
Java	persons	22461880	16964338	9544917	1480752	623496	591267	457886	101097	88291	52313844
	Index (total as 100)	42.9	32.4	18.2	2.8	1.2	1.1	0.9	0.2	0.2	100
Sumatra	persons	4070864	5471897	3155733	572210	177881	161631	134084	21860	11397	13777557
	Index (total as 100)	29.7	39.7	22.9	4.2	1.3	1.2	1.0	0.2	0.1	100
Kalimantan	persons	1669466	999148	647855	77769	15780	32330	10319	1518	671	3454856
	Index (total as 100)	48.3	28.9	18.8	2.3	0.5	0.9	0.3	0.04	0.01	100
Sulawesi	persons	2337415	1601744	1235109	232886	79607	67766	64237	4944	7710	5631418
	Index (total as 100)	41.5	28.4	21.9	4.1	1.4	1.2	1.1	0.1	0.1	100
Other Island	persons	2442989	1477197	1006787	155250	47054	61176	46177	5073	7047	5248750
	Index (total as 100)	46.5	28.1	19.2	3.0	0.9	1.2	0.9	0.1	0.1	100
Indonesia	persons	32982614	26514324	15590401	2511867	943818	914170	712703	134412	115116	80426425
	Index (total as 100)	41.0	33.0	19.4	3.1	1.2	1.1	0.9	0.2	0.1	100

4-1-2 Seamen Education System

In the Republic of Indonesia, the seamen education has been given to officers alone. Indonesia has one national merchant marine academy (A. I. P.), two national merchant marine high schools (S. P. M.) and about forty private academies and high schools. The national academies and high schools take 80 cadets for each department (Nautical Department and Engine Department) in each year. The number of cadets at private academies and high schools are not necessarily fixed. There are refreshing schools for obtaining higher licenses throughout the country. The period of training and the number of cadets at these schools are not necessarily fixed. They seem to correspond to the short courses (several months) offered for applicants of license examinations in Japan.

The training period, facilities and practical training at these officer training institutes are discussed below.

Three years and four years are required to complete a high school and an academy, respectively.

The final year is devoted to practical training on ships. Both the national academies and high schools have some facilities for practical training on the campus. However, they are not necessarily satisfactory. Technical education is generally given through courses in theory, experiments and practical training. The currently available practical training facilities at Indonesian officer training institutes are not entirely satisfactory. Cadets in the final year of an academy or a high school receive practical training on a ship. Groups of several cadets are sent to shipping companies and work on their ships as apprentices. This is not the best method in view of the basic principle of education that cadets are given an equal place and chance for practical training. All the cadets are not necessarily satisfied by their directors. Good results cannot always be expected from practical training.

On the other hand, no training has been given to ratings.

A ship can be considered as a type of a large manufacturing plant using various machineries.

This plant is operated by the united efforts of a small number of crew. Crew must live together away from land for some period. High productivity cannot be expected without spiritual and physical cooperation. Recently, a ship is not simple enough to be operated by one officer or by a few officers. It has become a complex assembly requiring capable assistants. Ratings are expected to play the role of capable assistants. Officers' activities depend highly on the knowledge and skills of ratings. During the initial period, Japanese enterprises have privately trained ratings from this standpoint for enterprise purposes. This is a predecessor of Japanese rating schools.

It is not an overstatement to say that the development of the Indonesian marine transport depends on the training of ratings. The development of the marine transport in the Republic of Indonesia has been inhibited by the lack of rating training system.

Fig. 3 and Tables 5 and 6 show the system of seamen education in Japan and the position of rating schools within the system.

Fig. 3 Seamen Training System

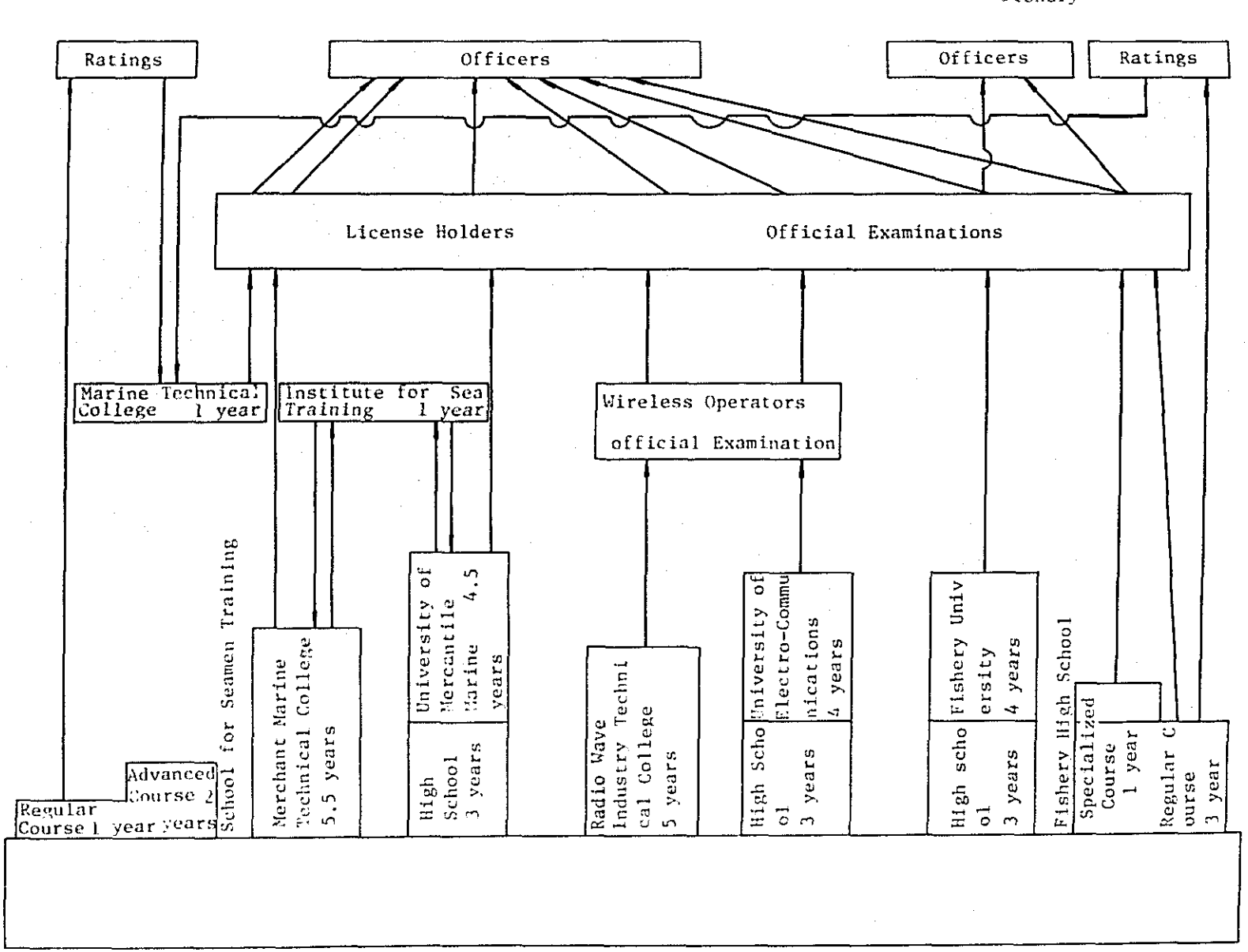


Table 5 Seamen Education and Training Establishments and Annual Registration

As of Oct. 1, 1974

Jurisdiction	Name	Number of establishments	Annual registration (total)
Ministry of Transport	Maritime Technical Academy	1	2190
"	Institute for Sea Training	1	950
"	School for Seamen Training	13	1255
"	University of Mercantile Marine	2	360
"	Fishery University	1	115
"	Fishery Department at National Universities	3	250
"	University of Electro-Communications	1	60
"	Junior Technical College of Electro-Communications	1	90
"	Merchant Marine Technical College	5	600
"	Radio Wave Industry Technical College	3	280
Ministry of Agriculture & Forestry	Fishery University	1	200
Local Government	Fishery High School	51	4726
"	Fishing Crew Training Center	3	100
Private	Non-profit Foundation	4	*9929

(Note) * indicates the number of trainees in 1973.

Table 6. Schools for Seamen Training : List

Course	Training period	Name	Regis-tration (students)	Qualified applicant	Education	Advantages of Graduates
Advanced Course	2 years	Kojima School for Seamen Training	80	Junior high School graduates (15 - 18 years)	Common operations of the deck department and the engine department have increased due to the modernization of ships and the rationalization of works. To meet this tendency, technical education and general education for the both departments are given mainly to prospective ocean-going ratings of the middle rank.	Graduates of the Advanced Course and Coasting Course (Regular Course) are exempt frow the written examination of certain official license examinations (Class B second officer or Class B second engineer of internal combustion engine). When their experience on ship and age reach 1 year and six months and 20 years, respectively, they can obtain the corresponding licenses by an oral examination. Thus, they can obtain the qualification of an officer or an engineer of greater coasting and coasting routes. When graduates enter Marine Technical College after certain experience on a ship, they are exempt from the written examination of certain official license examinations (Class A second officer or Class A second engineer) at the time of graduation. Graduates of the Advanced course can take General Education Course A of Correspondence Department of Technical Marine College. Graduates of this course are given a qualification equivalent to high school graduation.
		Otaru "	50			
		Karatsu "	80			
		Miyako "	80			
		Nanao "	80			
		Konotsu "	45			
		Awashima "	80			
		Moji "	100			
		Shimizu "	100			
		Tateyama "	80			
		Murakami "	80			
		Okinawa "	80			
Regular Course Coasting	1 year	Namikata School for Seamen Training	160	Junior high School graduates (15 - 18 years)	Tecnical education and general education are given mainly to prospective coaster officers with sufficient knowledge on modern ships.	
Regular Course Steward	1 year	Konotsu School for Seamen Training	40	Junior high School graduates (15 - 18 years)	Education on good diet planning and modern food service is given. Technical education satisfying the standards of the Cook Law is also given.	Graduates can obtain a cook's licence under the provisions of the Cook Law (Law No.147, 1958)
		Moji "	60			
		Shimizu "	60			

A discussion on the registration of rating schools will be given in 4-2-3. A discussion on teaching subjects will be given in Chapter 6. The problems on applicants' qualifications and training period are studied here.

Applicants to rating schools must have sufficient ability to understand subjects at schools. It is possible to accept junior high school graduates and give relatively short training. It is also possible to accept elementary school graduates and give relatively long training. Under the Indonesian seamen education system, university graduation requires four years after high school education, while high school graduation requires three years after junior high school graduation. It seems that the Indonesian Government originally intended to open rating schools for elementary school graduates. However, rating schools require larger expenses and a longer training period than other technical junior high schools because of differences in teaching methods. These factors may decrease applicants to rating schools and increase drop-outs. Furthermore, elementary school graduates may not be able to digest subjects at rating schools within a short training

period. For these reasons, junior high school graduates or those with equivalent scholastic ability seem to be most suitable for rating schools. The compulsory education in the Republic of Indonesia covers both elementary school and junior high school, but the percentage of school attendence is extremely low. Under such circumstances, we cannot help worrying the possibility of securing sufficient junior high school graduates for rating schools. However, we doubt the wiseness of giving vocational training in a compulsory junior high school course. The acceptance of elementary school graduates should be avoided in view of the hope to improve rating school education along with technological innovation and to extend its training period gradually.

In Japan, the training period of rating schools has been extended gradually from three months, to six months, to one year and finally to two years. In the Republic of Indonesia, ratings' knowledge and skills must be improved as larger and higher-performance ships are used. Therefore, the training period will have to be extended to one year and even to two years along with technological innovation. At the initial

period, it seems desirable to take those applicants who are judged to have scholastic ability equivalent to junior high school graduates and physical fitness for sea service. It also seems wise to require six month training. With regard to applicants' age, 15 ∿ 17 years seems to be the best. However, some experienced ratings may desire to enter a rating school. Therefore, it seems wise to broaden the age limit to 15 ∿ 20 years during the initial period partly for securing enough applicants. Young elementary school graduales without no experience in sea service are employed as ratings on Indonesian coasters. However, marine transport is international service. It will not be permitted to ignore international rules, such as International Convention of Marine Labor, as Indonesia's marine transport develops. Even if elementary school graduates are accepted for rating schools, they will be too young to work on ships after 6-month, one-year or two-year training. For this reason, it is recommended to set the lowest age limit at 15 years. In Japan, the Mariners' Law has provisions for "Juvenile Mariners and Woman Mariners" in Anticles 84 ∿ 88. The provisions are summarized below.

- No minor shall become a mariner without obtaining the consent of his legal representative.
- No shipowner shall employ a minor under fifteen years of age as a mariner.
- No shipowner shall employ a mariner under eighteen years of age and a woman mariner in dangerous work on board or in work detrimental to their safety and sanitation.
- A shipowner shall give a maternity leave and menstrual holidays to woman mariners.
- No shipowner shall engage a marine under eighteen years of age or a woman mariner in any work during the between 8 p.m. and 5 a.m. of the next morning.

The rating schools in Japan have the deck department, the engine department and the steward department. The need for the steward department was pointed out at the meeting on the interim report. However, the Survey Team recommends to open the deck department and the engine department at first in view of the current state of the Indonesian marine transport. It will not be too late to open the steward department when rating

schools are well under way.

4-1-3 Licence System

Table 7 shows the officers' licenses in the Republic of Indonesia. Holders of foreign trade license alone can become officers of ships for international voyage. Holders of home trade license can become officers of coasters, except coasters for extremely small distance voyage. Applicants of official examnations for foreign trade and home trade licenses must have a specified period of experience on sea. They must pass official examinations to become officers.

There are three levels of foreign trade licenses in the deck department and four levels of foreign trade licenses in the engine department. There is one level of home trade license in both the deck department and the engine department.

Local trade licenses are required for officers of local coasters. Local trade licenses are given by harbour masters on application to Shipping Regions. (All the harbour masters are not qualified to give local trade licenses.) There is one level of local trade license both in the deck department and the engine department.

Table 7

	Deck	Engine	Wireless
Foreign Trade (Ocean-going)	M.P.B.-I M.P.B.-II M.P.B.-III	A.M.K.-C A.M.K.-B A.M.K.-A A.M.K.-IS	KL-I KL-II TER
Home Trade	M.P.I.	A.M.K.-PI	T.E.L.
Local Trade	M.P.T.	A.M.K.-MD	

Every license examination consists of a physical examination and an oral examination. A physical examination comprices an eye test and an ear test to check fitness for sea service. Every written examination comprises questions mainly on theory and on machinery handling.

Graduates of the national merchant marine academy (A.I.P.) and the national maritime high schools have advantages related to license examinations, as Table 8 shows. Graduates of other schools have no advantage. This means that anybody with specified experience on sea can become an officer. In reality, however, it seems extremely difficult to obtain licenses without graduating national or private merchant marine schools. However, it will not be a dream for graduates of new rating schools to study hard and obtain home trade or local trade licenses. Such possibilities will encourage cadets at rating schools and contribute to the development of the Indonesian marine transport.

Table 8.

1. Advantages for Graduates of Maritime Academy (A.I.P.)

Deck			Engine		
General		A.I.P graduates	A.I.P graduates		General
					One year at sea Written examination (11 subjects)
				A.M.K-IS	
One year at sea Written examination (22 subjects)					One year at sea Written examination (11 subjects)
	M.P.B-III			A.M.K-A	
Two years at sea Written examination (20 subjects)		Two years at sea Written examination (7 subjects)	Two years at sea Written examination (9 subjects)		Two years at sea Written examination (15 subjects)
	M.P.B-II			A.M.K-B	
Two years at sea Written examination (18 subjects)		Two years at sea Written examination (4 subjects)	Two years at sea Written examination (6 subjects)		Two years at sea Written examination (15 subjects)
	M.P.B-I			A.M.K-C	
	Captain			Chief engineer	

2. Advantages for Graduates of Merchant Marine High Schools (S.P.M.)

Deck			Engine		
General		S.P.M graduates	S.P.M graduates		General
Two years at sea Written examination (24 subjects)	M.P.I	Written examination (24 subjects)	Written examination (24 subjects)	A.M.K-PI	None

4-2 Marine Transport and Demand for Seamen in Indonesia

4-2-1 Current State of Marine Transport

The Republic of Indonesia is made up of more than three thousand islands that are scattered on the both sides of the equator. The distance between the northernmost point (6°-00' North Latitude) and the southernmost point (11°-11' South Latitude) is about 1,000 miles, while the distance between the easternmost point and the westernmost point (Long 95°-11' ∿ 141°-00') is about 3,400 miles. It is one of the most notable oceanographic country in the world. Her territory is 1,904,564 km^2, which is five times as large as that of Japan's. Indonesia is blessed with the 10th largest territory in the world. Her population is 118,459,845, which is 10% larger than that of Japan's.

Table 9.

	Area		Population		Population density persons/km^2
	km^2	Percentage to Indonesia's total	Persons	Percentage to Indonesia's total	
Java	132,186	6.95	76,102,486	64.2	575.7
Sumatra	473,602	24.86	20,812,682	17.2	43.9
Kalimantan	539,460	28.37	5,152,166	4.3	9.6
Sulawesi	189,216	9.93	8,535,164	7.2	45.1
Other Island	570,100	29.94	7,857,347	6.6	13.8
Indonesia	1,904,564	100.00	118,459,845	99.9	62.2

Traffics and material transport among these islands depend mostly on coasters. The trading (volume) among the islands was about 27,571 thousand tons in 1972, showing 400% increase over the 1967 level. It amounted to 371,588 million Rupiahs (about 260 billion yen) in 1972, showing 1,300% increase over the 1967 level. The major traded goods are oils, sugar and rice.

Coaster services can be roughly classified into regular liner service, local shipping and sailing service. The regular liner service network covers the major trunk lines (including Singapore) among the islands. The regular line service network, the local shipping network and the sailing services account for about 35%, about 25% and about 15% of the total coaster transport (about 5 million tons) in 1972. Singapore's vessels and foreign vessels account for the remaining 20%.

The regular liner coasting services are faced with various problems. They include the existence of an excessive number of medium ∿ small enterprises and old ships. K.P.M. (Dutch company) had monopolistic control over regular liner services under the Dutch occupation. After

the independence of Indonesia, it allowed the advancement of PELNI (under national management) and other Indonesian shipowners, but it still managed the major part of the coasting services. However, K.P.M. withdrew about 160 thousand tons of vessels due to the "Indonesian-Dutch Fight" caused by West Illiana Problem. This was the first step toward the weakening of the coasting services. Under such circumstances, various kinds of used vessels were introduced from Europe and Japan. More than one hundred ship companies came into existence. Regular liner coasting services have been barely maintained by PELNI and three other companies. However, the reconstruction of coasting services will be extremely difficult due to incomplete ship maintenance and repairing and poor management. For this reason, the marine transport policy in the Republic of Indonesia has laid emphasis on the qualitative improvements and the expansion of coaster services. The Second Term Development Plan (1974 ∿ 1978) includes the increase of about 110 coasters (13,800 tons).

The international trading of Indonesia is reviewed below.

Indonesia's international trading amounted

to 3,340 million U.S. Dollars in 1972, showing about 270% increase over the 1950 level. The export exceeded the import by 216 million U.S. Dollars. Indonesia's trading with Japan amounted to about 5.32 million U.S. Dollars in 1970, showing 330% increase over the 1968 level. In terms of volume, Indonesia's import from Japan was 1,649,600 tons in 1972, which is 256% of the 1968 import. It accounts for 34% (in value) or 27.4% (in volume) of the total import of the Republic of Indonesia.

The major imports are cement, fertilizers, machines, automobiles etc. Indonesia's export to Japan amounted to about 902 million U.S.Dollars, which is 500% of the 1968 level. It accounts for 50.7% (in value) of Indonesia's total export. In terms of volume, Indonesia's export to Japan was 41,980,100 tons in 1972, which is 350% of the 1968 level. It accounts for 68.6% of the total export volume.

The major exports are rubber, coconut oil, lumber, oils etc. About 71% of Indonesia's oil export is to Japan.

The volume of export cargo at the major

Indonesian ports between 1968 and 1972 is studied below. The number of vessels used for cargo transport between 1963 and 1971 is also reviewed in relation to export volume.

Table 10 shows the volume (ton) and the value of the cargo that was handled at the major ports between 1968 and 1972. The table shows the increase of about 240%.

Table 10. Export at Principal Ports

	Gross weight x 1,000,000 kg					US$ x 1,000,000				
	1968	1969	1970	1971	1972	1968	1969	1970	1971	1972
Tanjung Priok	139.1	165.4	160.2	660.8	3,019.1	47.0	40.4	46.8	61.9	132.8
Index (1968 as 100)	100.0	118.9	115.2	475.1	2,170.5	100.0	86.0	99.6	131.7	282.6
Surabaya	399.8	541.4	710.4	853.3	719.4	18.5	16.8	35.3	44.6	47.2
Index (1968 as 100)	100.0	135.4	177.7	213.4	179.9	100.0	90.8	190.8	241.1	255.1
Java	883.7	1,071.1	1,239.1	2,167.5	4,333.4	85.2	72.6	115.3	153.2	239.9
Index (1968 as 100)	100.0	121.2	140.2	245.3	490.4	100.0	85.2	135.3	179.8	281.6
Belawan	542.6	549.3	493.0	595.5	651.4	98.4	103.1	122.1	142.7	145.4
Index (1968 as 100)	100.0	101.2	90.9	109.7	120.1	100.0	104.8	124.1	145.0	147.8
Pakanbaru & Dumai	17,914.7	23,919.7	28,484.7	31,000.9	35,994.7	232.4	313.1	376.3	405.2	745.6
Index (1968 as 100)	100.0	133.5	159.0	173.0	200.9	100.0	134.7	161.9	174.4	320.8
Pangkalan Susu	1,535.0	1,497.8	2,380.3	1,998.9	2,179.2	24.8	23.9	37.1	26.8	40.7
Index (1968 as 100)	100.0	97.6	155.1	130.2	142.0	100.0	96.4	149.6	108.1	164.1
Sumatra	23,002.2	29.985.7	36,984.6	39,757.5	46,104.1	542.9	667.0	862.7	853.5	1,243.4
Index (1968 as 100)	100.0	130.4	160.8	172.8	200.4	100.0	122.9	158.9	157.2	229.0
Balikpapan	935.5	1,036.8	488.6	562.3	1,416.9	12.4	13.8	7.8	14.4	33.0
Index (1968 as 100)	100.0	110.8	52.2	60.1	151.5	100.0	111.3	62.9	116.3	266.1
Kalimantan	1,970.2	3,575.7	4,661.1	5,813.1	8,288.0	61.1	84.2	123.3	160.1	208.0
Index (1968 as 100)	100.0	181.5	236.6	295.1	420.7	100.0	137.8	201.8	262.0	340.4
Ujung Pandang (Makasar)	136.0	257.7	166.2	402.3	959.0	4.8	5.1	7.5	13.8	23.1
Index (1968 as 100)	100.0	189.5	122.2	295.8	705.1	100.0	106.3	156.3	287.5	481.3
Sulawesi	480.7	508.8	616.1	1,045.6	1,161.5	32.5	22.8	34.5	35.1	36.4
Index (1968 as 100)	100.0	105.8	128.2	217.5	241.6	100.0	70.2	106.2	108.0	112.0
Total :	26,406.1	35,260.2	44,114.3	49,701.7	61,186.1	730.7	853.7	1,160.6	1,223.6	1,777.7
Index (1968 as 100)	100.0	133.5	167.1	188.2	231.7	100.0	116.8	158.8	167.5	243.3

Table 11 shows the number of the vessels that were engaged in Indonesian marine transport services between 1963 and 1971. It also shows the volume of the cargo handled by them. The number of owned vessels dropped to 70% and the number of chartered vessels dropped to 1/60 during this period. The number of the vessels that are engaged in Indonesian marine transport decreased to one half during this period, while the cargo volume decreased to 60%. Obviously, this is mainly attributable to the decrease of chartered vessels. On the other hand, the number of owned vessels decreased as much as 30%, but the cargo handled by owned vessels hardly decreased. This means that the increase and the improvement of owned ships, instead of chartered ships, is crucial for the development of the Indonesian marine transport.

The import and export volume of the Republic of Indonesia doubled during the past six ∿ seven years. This indicates the active economy in the country. However, the transport volume of the Indonesian marine transport decreased to a half. The fact that the export volume doubled and the transport volume by the Indonesian marine transport decreased to a half means that the extent of the

Indonesian marine transport's contribution to the international trading dropped to 1/4. It is regrettable that the Indonesian marine transport did not develop during the period of the rapid development in international trading and marine transport throughout the world.

Table 12 shows the number of owned ships of the Indonesian marine transport. These figures are based on the materials presented by the Directorate General of Sea Communication. Many unregistered vessels and small sailing vessels may exist additionally. However, the number of owned ships is suspected to be about 1,000.

Table 11. Vessels inventory and traffic

	Number of Vessel				D.W.I. x 1,000				Freight Carried Tons x 1,000	Passenger Carried Persons x 1,000
	Chartered	Hire-Purchase	Owned	Total	Chartered	Hire-Purchase	Owned	Total		
1963	57	1	97	153	248	13	230	491	1,985	389
1964	27	17	97	141	134	134	247	515	1,537	343
1965	39	31	98	168	258	260	221	739	1,649	266
1966	8	9	99	116	48	110	236	394	1,228	354
1967	9	8	98	115	46	98	255	399	1,210	221
1968	10	7	98	115	72	90	264	426	1,269	189
1969	7	7	75	89	50	90	226	366	1,534	220
1970	5	3	74	82	59	37	225	321	1,587	209
1971	1	4	70	75	4	51	225	280	1,554	228

Table 12. Number of owned ships

Presented by Directorate General of Sea Communication

	> 10,000	10,000 ~ 3,000	3,000 ~ 100	100 >	Total
Samudera (Ocean going)	3	52	9	-	64
Nusantra (Home trade)	-	9	332	2	343
Lokal	-	-	256	110	366
Minyak (Oil tanker)	-	6	51	6	63
Melayan (Fisherman boat)	-	-	106	24	130
Tunda (Tag boat)	-	-	42	7	49
Sumlah	3	67	796	149	1,015

Table 13. Existing of the IND Fleet (1975)

gross register tonnage

Presented by Directorate General of Sea Communication

		< 200	200 ~ 500	500 ~ 800	800 ~ 1,600	1,600 ~ 5,000	5,000 ~	total
Ocean going		-	-	-	-	27	37	64
Inter Island		6	108	104	61	61	4	344
Tanker		1	14	17	6	9	4	51
Fishery		80	23	2	-	-	-	105
Industry		36	12	1	-	-	-	49
Local		277	66	-	-	-	-	343
Misc	A	25	-	-	-	-	-	25
	C	12	-	-	-	-	-	12
Total		437	223	124	67	97	45	993

4-2-2 Marine Transport Augumentation Plan

The present discussion on Indonesia's Marine Transport Augumentation Plan is based on the following tables presented by the Directorate General of Sea Communication and the Marine Transport Export Group (Maritime Advisory Team) from Japan. Like all the other countries, the Republic of Indonesia makes 5-year or 3-year development plans under

various policies. Although the Government approves of these plans, it does not guarantee a sufficient budget for each plan in every year. As a result, actual developments tend to be behind plans.

Table 14. Fleet development plan

Presented by Directorate General of Sea Communication

	< 500	500 ∿ 800	800 ∿ 1,600	1,600 ∿ 5,000	total
Inter Island	26	49	18	17	110

Table 15.

Presented by Marine Transport Team

	Used vessels	Newly.constructed vessels		Scraps	D.W.T.
		Foreign	Domestic		
1975	8,000	32,750	2,250	31,000	43,000
1976	1,500	27,750	5,250	25,000	34,500
1977	5,000	14,500	-	10,000	19,500
1978	10,500	-	10,500	10,000	21,000
1979	9,500	2,500	8,000	6,000	20,000
total	34,500	77,500	26,000	82,000	138,000

For this reason, the number of vessels used for the Indonesian marine transport has been making slight decrease during the past several years in spite of the expansion plan. The expansion and improvement of the Indonesian marine transport will surely be an essential and urgent policy in view of the fact that the contribution of Indonesian vessels to trading volume has decreased in spite of the rapid growth of the latter. Various

factors seem to account for the current state of the Indonesian marine transport. Resource producing countries share a target of employing their own vessels for one half of their trading. Therefore, the first target of the Indonesian marine transport should be the complete realization of her vessel reinforcement plan. Both the Directorate General of Sea Communication and the Maritime Advisory Team set the vessel reinforcement plan as the first target for the development of the Indonesian marine transport. It is quite reasonable in view of the need for employing Indonesian vessels at least for domestic cargo transport.

According to the materials on the vessel reinforcement plan of the Directorate General of Sea Communication, an increase of 110 vessels is planned for the immediate future. However, the materials of the Maritime Advisory Team expect on increase of 138,000 tons in D.W.T.during the five years between 1975 and 1979. This figure (138,000 tons) includes the old vessels to be scrapped. Since coasters of 750 ∿ 2,500 tons are assumed, the team's figure agrees roughly with the proposed (110 vessels) of the Directorate General of the

Sea Communication. If scraps (82,000 tons) are subtracted, the pure increase that is planned will be 56,000 D.W.T. (about 50 vessels).

It is assumed that vessels above 24 years in age are to be scrapped. If they are still used, a pure increase of 56,000 ∿ 138,000 tons is expected.

However, better maintenance and management will be required for employing vessels after 24 years in age. Much will depend on crew's skills.

4-2-3 Seafarer Reinforcement Plan

(1) Seafarer Demand and Supply Plan

The yearly demand for ratings must be estimated for obtaining the number of cadets to be trained at rating schools.

The demand must be estimated on the basis of natural decrease (the number of ratings who quit), new need (the number of ratings required for newly increased vessels under the reinforcement plan) and reserve rate.

a) Supply for natural decrease

One of the problems which the Survey

Team faced during the survey was the difficulty of estimating experienced ratings. The Survey Team was able to obtain sufficient materials neither on the number of experienced ratings, nor on the number of vessels due to the lack of statistical materials in Indonesia.

With regard to the number of ratings, we obtained three figures, namely, 16,290 ratings (Term of Reference of July 17, 1974), 16,000 ratings (Term of Reference obtained on June 28, 1975) and 14,100 ratings. They seem to be quite accurate.

The Survey Team obtained the last figure by multipling the number of vessels 1,015 vessels, presented by the Directorate General of Sea Communication) by the number of ratings (determined according to their tonnage).

Table 16. Number of Vessels and Estimated Number of Ratings

	> 10,000	10,000 ∿ 3,000	3,000 ∿ 100	100 >	total
Number of vessels	3	67	796	149	1,015
Number of ratings per vessel	25	20	15	5	
Estimated number of ratings	75	1,340	11,940	745	14,100

However, a relatively small estimate of 9,410 ratings is obtained according to "Number of Ratings and Vessel Sizes" by one of high officials of the Diectorate General of Sea Communication.

Table 17.

	≥ 5,000	5,000 ∿ 1,600	1,600 ∿ 800	800 ∿ 500	500 ∿ 200	200 >	total
Number of vessels	45	97	67	124	223	437	993
Number of ratings per vessel	15	15	15	15	10	5	
Estimated number of vessels	675	1,455	1,005	1,860	2,230	2,185	9,410

The slight differences among the estimates are atbributable to differences in the sources of data and in the assumptions of the number of ratings per vessel.

However, medium-sized and small vessels are mostly employed for the Indonesian marine transport. Vessels of 100 ∿ 3,000 D.W.T. account for 75 ∿ 80% of the appro-nimately 1,000 Indonesian vessels. If about 15 ratings are assumed to work on each vessel of this class, almost 12,000 ratings must be employed on such vessels only. The assumption of 15 ratins per

vessel is important for making estimates.

Table 18 shows the number of ratings on vessels of various tonnage groups. The figures are based on the Report of General Survey on Demand and Supply of Ratings in Japan. In Japan, the general policy is to employ a small number of highly skilled ratings along with the adoption of vessels with highly automatic systems. For this reason, the current figures do not necessarily agree with the number of ratings on an Indonesian vessel (1,000 ∿ 2,000 D.W.T.). However, the estimate of fifteen ratings per vessel seems quite accurate in view of the figure in Japan in 1955 ∿ 1960.

Table 18. Number of vessels and number of ratings by tonnage groups and navigation areas

(1973)

From Report of General Survey on Demand Supply of Ratings in Japan.

	Number of vessels						Number of boarding seamen									
	Navigation area					Total	Officers					Ratings				Total (a)+(b)
	Smooth water	Coasting	Greater coasting	Ocean	None		Deck	Engine	Wireless	Purser	Total (a)	Deck	Engine	Purser	Total (b)	
150 G.T. under 150	5					5	5	5			10	9	4		13	23
167 D.W.T. 250	9	15	2		10	36	26	26	1	0/10	63	39	11	3	53	116
200 G.T. under 300	1	7	4			12	24	22			46	29	10	0/6	45	91
250 D.W.T. 500	10	21			59	90	53	52		0/59	164	43	21	8/12	84	248
300 G.T. under 500		1				1	2	3			5	4	2		6	11
500 D.W.T. 833	18	230	24		30	302	556	546	7	1/30	1,140	683	268	91/131	1,173	2,313
500 G.T. under 700		19	7			26	65	62	4		131	106	36	17/12	171	302
833 D.W.T. 1,167	1	88	5		7	101	220	207	1	2/7	437	375	116	44/41	576	1,013
700 G.T. under 1,000		1	1			2	5	5			10	10	4	2	16	26
1,167 D.W.T. 1,667	2	210	19	3		234	582	534	15	2/1	1,134	1,333	431	148/87	2,000	3,134
1,000 G.T. under 2,000		18	42	2		62	214	194	45	2	455	402	223	96/54	775	1,230
1,667 D.W.T. 3,333	1	53	24	3		81	262	241	28	2	533	505	248	176/19	948	1,481
2,000 G.T. under 3,000		5	9	2		16	66	69	14	15	164	137	98	169	404	568
3,333 D.W.T. 5,000	2	65	248	8		323	1,251	1,193	274	5/2	2,725	2,349	1,292	1,015/48	4,704	7,429
3,000 G.T. under 5,000		1	1			2	8	7	1		16	13	7	2/3	25	41
3,000 D.W.T. 8,333	2	38	69	10		119	465	429	97	6	997	815	469	364/49	1,697	2,694
5,000 G.T. under 10,000		10	5	4		19	77	69	19	2	167	138	83	69/5	295	462
8,333 D.W.T. 16,667	1	9	14	287		311	1,251	1,263	609	209/77	3,409	3,262	2,354	1,662/47	7,325	10,734
Above 10,000 G.T.			6	617		623	2,528	2,573	1,258	31/123	6,513	5,296	4,111	2,956	12,363	18,876
Above 16,667 D.W.T.			7	51		58	225	233	115	14/12	599	477	384	322/14	1,197	1,796

	Number of boarding seamen per vessel									
	Officers					Ratings				Total (c) + (d)
	Deck	Engine	Wireless	Purser	Total (c)	Deck	Engine	Purser	Total (d)	
150 G.T. under 150	1	1			2	1.8	0.8		2.6	4.6
167 D.W.T. 250	0.72	0.72	0.03	0/0.27	1.75	1.08	0.31	0.08	1.47	3.22
200 G.T. under 300	2	1.83			3.83	2.42	0.83	0/0.5	3.75	7.58
250 D.W.T. 500	0.59	0.58		0/0.66	1.82	0.48	0.23	0.09/0.13	0.93	2.76
300 G.T. under 500	2	3			5	4	2		6	11
500 D.W.T. 833	1.84	1.81	0.02	0.00/0.10	3.77	2.26	0.89	0.30/0.43	3.88	7.66
500 G.T. under 700	2.5	2.38	0.15		5.04	4.08	1.38	0.65/0.46	6.58	11.62
833 D.W.T. 1,167	2.18	2.05	0.01	0.02/0.07	4.33	3.71	1.15	0.44/0.41	5.70	10.03
700 G.T. under 1,000	2.5	2.5			5.0	5	2	1	8	13
1,167 D.W.T. 1,667	2.49	2.28	0.06	0.01/0.00	4.85	5.70	1.84	0.64/0.37	8.55	13.39
1,000 G.T. under 2,000	3.45	3.13	0.73	0.03	7.34	6.48	3.60	1.55/0.87	12.5	19.84
1,667 D.W.T. 3,333	3.23	3.00	0.35	0.02	6.58	6.23	3.06	2.17/0.23	11.70	18.28
2,000 G.T. under 3,000	4.13	4.31	0.88	0.94	10.25	8.56	6.13	10.56	25.25	35.5
3,333 D.W.T. 5,000	3.87	3.69	0.85	0.02/0.01	8.44	7.27	4	3.14/0.15	14.56	23
3,000 G.T. under 5,000	4	3.5	0.5		8	6.5	3.5	1/1.5	12.5	20.5
3,000 D.W.T. 8,333	3.91	3.61	0.82	0.05	8.38	6.85	3.94	3.06/0.41	14.26	22.64
5,000 G.T. under 10,000	4.05	3.63	1	0.11	8.79	7.26	4.37	3.63/0.26	15.53	24.32
8,333 D.W.T. 16,667	4.02	4.06	1.96	0.67/0.25	10.96	10.49	7.57	5.34/0.15	23.55	34.51
Above 10,000 G.T.	4.06	4.13	2.02	0.05/0.20	10.45	8.50	6.60	4.74	19.84	30.30
Above 16,667 D.W.T.	3.88	4.02	1.98	0.24/0.21	10.33	8.22	6.62	5.55/0.24	20.64	30.97

(Note) In the columns of "purser," the denominator indicates the member of seamen of the purser department, while the numberator indicates the number of the other persons.

The Report on the Japanese marine transport classifies vessels by gross tonnage, while the statistical materials on the Indonesian Marine transport use dead weight tonnage. Therefore, gross tonnage must be converted into dead weight tonnage for comparing the Japanese report and the Indonesian materials. The conversion rate depends on a ship group and a ship type. The rule that gross tonnage is 60% of dead weight tonnage except for special ships was applied. Some doubt remains in this respect.

The next problem is that of the rate of decrease.

The rate of decrease is estimated to be 5% in Japan, but it seems to be about 2.5% in Indonesia. This is because the separation rate is extremely low in Indonesia due to a shortage of job offers according to the information obtained through meetings. If the ages of ratings range between 15 years and 45 years, the difference will be 30 years. If it is assumed that ratings of the highest age leave the job

yearly, the rate of decrease will be 1/30. The rate of decrease will be 3∿4% in consideration of some ratins who leave before reaching the highest age due to illness etc. However, ratings will not quit readily because of employment difficulties and the age difference will become 40 years. Under such circumstances, it seems adequate to assume the rate of decrease as 2.5%.

A few estimates were made on the number of ratings employed for the Indonesian marine transport.

If the number of ratings is assumed to be 14,100, the yearly natural decrease will be 353.

$14{,}100 \times 0.025 \fallingdotseq 353$ (ratins)

If the number of ratings is assumed to be 16,000, the yearly natural decrease will be 400.

$16{,}000 \times 0.025 \fallingdotseq 400$ (ratins)

Naturally, these figures do not include reserves.

b) Rate of reserves

Some ratings are working on ships, while the others are on the land. The latter ratings include those on holidays and those who cannot go aboard for some reason.

Since the lifelong employment system is adopted in Japan, a ship company must employ a considerable number of ratings in addition to the ratings working on ships. They are called as reserved mariners. The percentage of reserved mariners to all the ratings is called as reserve rate.

The reserve rate for Japanese fishing boats was 5% (ooicers) and 3.8% (ratings) in 1973. The reserve rate for coasting merchant vessels was 25.8% (officers) and 23.2% (ratings). Coasters are mostly employed for the Indonesian marine transport. However, the reserve rate is assumed to be 10% here in view of the large number of job applicants.

(Number of ratings) x 0.90 = 14,100

Accordingly,

(Number of ratins) = 14,100 ÷ 0.90 ≒ 15,667

The result (15,667 ratings) is close to the figure (16,000) given in the Term of Reference. This means that the figure (16,000) includes those ratings who are working on ships and those ratings who are not, but can be on ships.

Therefore, it seems reasonable to assume the number of natural decrease as 2.5% of 16,000.

c) New increase of ratings

We must understand the reinforcement plan of the Indonesian marine transport with some flexibility, as we discussed before. Therefore, we must allow even greater flexibility to the number of ratings to be employed to meet the demand produced by the reingorcement plan.

The Second Stage Development Plan (1974 ∿ 1978) for the Indonesian marine transport includes the increase of 110 vessels (138,000 D.W.T.). If fifteen ratings are employed for each of the 110 vessels, 1,650 ratings must be employed.

15 ratins x 110 = 1,650 ratins

If the reserve rate is assumed to be 10%, 1,815 ratings must be employed.

1,650 ratins x 1.1 = 1,815 ratins

According to the view of Planning and Development Devision of Directorate General of Sea Communication, there will be a shortage of 2,000 officers in 1977.

They requested to estimate the corresponding number of ratings. The basis for their estimate was the plan to construct about 275 vessels by 1977.

However, the past record shows considerable gap between planning and realization. It seems more reasonable to assume the construction of 110 new vessels (138,000 D.W.T.) in view of their assumption of foreign assistances. On the other hand, old vessels must be disused. Therefore, the pure annual increase will never exceed a 110 vessels.

Scrapping in assumed for 24 years old or older ships. If they remain in service even after the 24th year, a pure increase of 110 vessels can be secured. However,

older vessels will need even better maintenance and management, requiring improvements in crew's skills. This will be impossible in view of the current state of the Indonesian marine transport. For this reason, it will be reasonable to estimate that the pure increase will be less than 110 vessels.

If efforts are made to increase 110 vessels (pure increase) under the Second Stage Five-Year Plan, 1,815 ratings, including reserves, will be required for five years. The number of ratings that will be required annually will be 363.

1,815 ÷ 5 = 363.

In sum, it will be sufficient to train 800 ratings annually even in consideration of natural decrease and pure increase.

400 + 363 = 763 ratings.

(2) Re-education of Ratings

Experienced ratings of the Indonesian marine transport have not been trained at reliable establishments. Young men will be

trained at new rating schools and work on ships in the future. It is essential to improve the knowledge and skills of experienced ratings for the development of the Indonesian marine transport. Short-term (about 3 months) refreshing schools are recommended to provide experienced ratings with chances for education.

Sufficient materials were not obtained on the ratio of Japanese ratings without school training. However, Table 19 shows the training status of newly employed ratings in Japan.

In Japan, experienced officers and ratings are offered with chances for education at private institutes or at national Marine Technical College. They are briefly described in Table 20.

The following method can be used to give school education to 70% of the experienced Indonesian ratings (deck department and engine department) within five years.

Table 19.

		Deck		Engine		Purser		Others		Total	
		1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
Ocean-going service	Ratings with seaman training	492 (96.5)	153 (97.5)	419 (97.2)	106 (100.0)	267 (86.7)	82 (74.5)		16 (30.2)	1,178 (94.3)	357 (83.8)
	Ratings without seaman training	18 (3.5)	4 (2.5)	12 (2.8)	-	41 (13.3)	28 (25.5)		37 (69.8)	71 (5.7)	69 (16.2)
	total	510 (100.0)	157 (100.0)	431 (100.0)	106 (100.0)	308 (100.0)	110 (100.0)		53 (100.0)	1,249 (100.0)	426 (100.0)
Coast-ing service	Ratings with seaman training	197 (50.4)	179 (70.5)	81 (55.1)	60 (76.9)	105 (54.1)	59 (60.8)	12 (44.4)	2 (22.2)	395 (52.0)	300 (68.5)
	Ratings without seaman training	194 (49.6)	75 (29.5)	66 (44.9)	18 (23.1)	89 (45.9)	38 (39.2)	15 (55.6)	7 (77.8)	364 (48.0)	138 (31.5)
	total	391 (100.0)	254 (100.0)	147 (100.0)	78 (100.0)	194 (100.0)	97 (100.0)	27 (100.0)	9 (100.0)	759 (100.0)	438 (100.0)

a) The number of experienced ratings is assumed to be 16,000. It includes ratings of the deck department, the engine department and the purser's department. The ratio of the ratings belonging to the purser's department is estimated to be 1/5 on the basis of Table 18 (Number of vessels and number of ratings by tonnage groups and ravigation areas).

Therefore, the number of the ratings belonging to the deck department and the engine department mill be 128,000.

16,000 ratings x 4/5 = 12,800 ratings

b) The facilities at four rating schools are to be tentatively used for five years for the re-education of ratings. A 3-month course is to be given to fifty ratings of the deck department and to fifty ratings of the engine department simultaneously. If such courses are repeated three times at each school, three hundred ratings can be trained yearly at each school. Therefore, 1,200 ratings can be trained yearly at four

schools.

If it is assumed that eight hundred men graduate from rating schools yearly and that 1,200 experienced ratings alternately enter a refreshing school yearly for five years, about four hundred ratings must be kept on the ground for re-education. It is equivalent to about 3% of all the ratings of the deck department and the engine department. Since the reserve rate is 10%, it will not be a big burden.

Table 20.

	Course	Training period	Registration (persons)	Applicant's qualifications	Entrence examination	Purposed of education	Remark
Regular Course	Nautical Course	2 years	10	Graduates of merchant marine schools or holders of at least Second grade license (Class A) and with at least one year experience on sea	Physical examination, written examination (Specialized subject, methematics, Japanese, physics, English)	The purpose is to give education to become higher officers.	
	Engine Course	2 years	10				
	Class A Captain Course	1 year	10	Those who are qualified to take official license examinations under the Ordinance Regulations of The Law for Ship's Officers at the time of graduation. (Second Class A Second Officer Course and Second Class A Second Engineer Course are excluded.)	Physical examination, written examination for checking ability to complete courses (Specialized subject, mathematics, Japanese, English) (No English for Class B Courses)	The purpose is to give education to prepare for official license examinations.	First Class A Second Officer Course and Engineer Course (Special Course) were designated as the second type training establishments for Class A Second Officers and Class A Second Engineers in Sep., 1972 in compliance with the provision of Article 13-2 of the Law for Ship's Officers. Accordingly, those who complete these courses are exempt from written examination in official license examinations for Class A Second Officer and Class A Second Engineer.
	" Chief Engineer Courses	1	10				
	" Chief Officer Course	1	15				
	" First Engineer Course	1	15				
	First Class A Second Officer Course	1	180				
	Second "		(Spring 90) (Fall 90)				
	First Class A Second Engineer Course	1	200				
	Second "		(Spring 100) (Fall 100)				
	Class B Captain Course	1	10				
	" Chief Engineer Course	1	10				
	" First Officer Course	6 months (Twice a year)	40x2				
	" First Engineer Course	6 months (Twice a year)	40x2				
Training Course	Regular Department Deck Course	1 year	50	Sailor	Selection based on personal history	The purpose is to give knowledge and skills to cope with technological innovation and rationalization of employment system.	
	Engine Course	1	50	Oiler			

				(persons)				
Correspondence Department	Advanced Course	Course A Nautical Course Engine Course	1 year 1 year	50 50	Holders of Class A First Officer license Holders of Class A First Engineer license	Selection based on personal history		Those who complete these courses are exampt from written examination in entrance examination for Clall A Captain Course and Class A Chief Engineer Course.
		Course B Nautical Course Engine Course	1 1	220 220	License holders	Selection based on personal history		
		Course A	1.5 years	400	Graduates of advanced course of rating school or graduates of Course C of Regular Course of Correspondence Department	Selection based on personal history	The purpose is to give knowledge and skills required for ratings and to give knowledge and skills required to become officers.	Those who complete these courses are exampt from the written examination in entrance examination for Class A Second Officer Course or Class A Second Engineer Course.
		Course B Nautical Course Engine Course	1.5 years 1.5 years	100 100	High school graduates or those who have finished 3rd year of technical college or those who have passed qualifying examination for university entrance.	Selection based on personal history	Same as above	Same as above
		Course C Nautical Course Engine Course	2 years 2 years	50 50	Graduates of regular course of rating schools		Same as above	Same as above

Table 21 shows the training plan for five years.

Table 21.

	1st year	2nd year	3rd year	4th year	5th year
Number of rating school graduates	800	800	800	800	800
Number of re-educated ratings	1,200	1,200	1,200	1,200	1,200
Natural decrease	12,800x0.25 320	13,280x0.25 332	13,748x0.25 344	14,204x0.25 355	14,649x0.25 366
Number of ratings	12,800+480 13,280	13,280+468 13,748	13,748+456 14,204	14,204+445 14,649	14,649+434 15,083
Ratio of educated ratings	2,000:13280 15.1%	4,000:13748 29.1%	6,000:14204 42.2%	8,000:14649 54.6%	10000:15084 66.3%
Pure increase in number of ratings	800-320 480	800-332 468	800-344 456	800-355 445	800-366 434

(Note) ° The rate of natural decrease was assumed to be 2.5%.

° The number of ratings at the end of each year is given.

At the end of the five-year plan, about 4,000 men will have graduated from rating schools, while 6,000 experienced ratings will have finished refreshing schools. In other words, about 10,000 ratings will have received some school education. They account for 66.3% of all the ratings in Indonesia.

The training period of rating schools may have to be restudied in five years because of technological innovations.

It may become necessary to construct more rating schools, to increase the number of trainees and to open the steward department. The system for quick rating re-education may also have to be studied. If the rate of natural decrease is assumed to be 2.5%, the difference between rating school graduates and the number of natural decrease can be allotted to new rating increase under the reinforcement plan.

Chapter 5 Field Survey related to Rating School Construction

5-1 Belawan

5-1-1 Circumstances related to Rating School Construction

Belawan is the outer harbor of Medan, which is the center of North Sumatra. It is the seat of the First Shipping Region.

Port Belawan is the most important trade port in Sumatra. The annual import volume in 1972 was 6,482 million tons, amounting to 1 billion and 67 million U.S. dollars. It counts for 38.5% of Sumatra's total import in volume and 32.1% in value. This port has been rapidly developed during the recent years. Port facilities have been increased and improved. It is expected to develop further in the future along with the development of Sumatra.

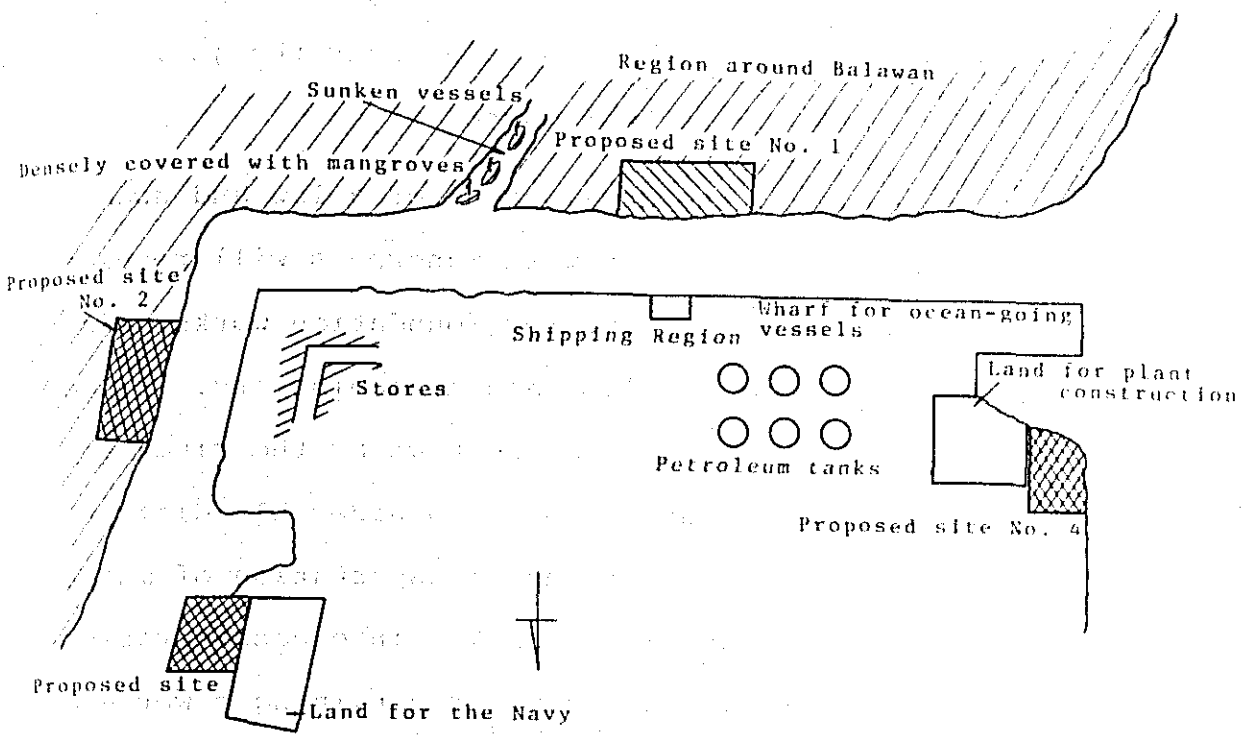
Originally, residents of Sumatra are said to be agricultural people. It is somewhat difficult to predict how many of them will want to become ratings. However, the port development has deepened residents' understanding on sea. The population of Medan is said to be 800 thousands and

will be a sufficient source of applicants for a rating school. The enthusiasm of the First Shipping Region for rating school construction seems to reflect its need directly.

Belawan is hardly hit by storms caused by a tropical depression. It has a mild tropical weather with a dry season and a rainy season. The construction of a school near the seaside involves no meteorological problem. The difference between a high tide and a low tide is small. However, the area near the coastline is low and swampy and covered with mangroves. The possibilities of being flooded during a rainy season and at a high tide must be considered.

The construction cost seems to depend on the site conditions and characteristics of each proposed site. General construction cost at Belawan is said to be about 90% of that in Jakarta. The current construction cost for cement and concrete works is said to be 90 thousand Rupiahs.

The four sites that are shown in the following map had been proposed at Belawan.



5-1-2 First and Second Proposed sites

Both the first and the second proposed sites are on a low, swampy place separated from the town of Belawan by a river. They are covered densely with mangroves and government-owned. The two sites have the identical conditions.

Both of them are large enough. They can be secured easily since they are under the jurisdiction of the harbour master.

However, the development of a low and swampy place covered densely with mangroves will require enormous cost and time for foundation works, including felling, filling and hardening etc. Since they are separated from the town by the river and the distance of about 500m, considerable difficulties are expected for the transportation of materials for construction works. Since considerable difficulties are expected for obtaining power and water from the town, an independent power plant and an independent service water system must be constructed with a rating school. These sites are not advantageous in terms of construction cost.

5-1-3 Third Proposed Site

The third proposed site is located within the government-owned land on the town side of the river. The adjacent land is being used by the Navy for wireless antennas. A part of it is being used by the Fishery Bureau of the Ministry of Agriculture for fishing boat repairing facilities and fishermen's lodgings. If the lodgings

etc. are moved, the facilities on the river band can be used as a boat mooring pond. School buildings can be constructed without special ground making. This site will be convenient for rating school construction in all the respects. The only problem is that it is outside the jurisdiction of the Shipping Region. It is superior to the other three proposed sites in terms of both environmental and site conditions.

5-1-4 Fourth Proposed Site

The fourth proposed site is in a low, swampy place covered densely with mangroves. It is near the wharf for ocean-going vessels in Port Belawan. The site will require large development cost like the first and the second proposed sites. However, it will involve less difficulties for development work than the first and the second sites since it allows direct access to the town. It will be easy to obtain power and service water from the town. A plant development is planned on the adjacent land. Furthermore, school construction at this site will inhibit wharf extension or increase in the future. For this reason, other development plans must be studied carefully for the site.

The environmental conditions are unsuitable for a school.

The photo shows the third proposed site in Belawan.

5-2 Ujung Pandang

5-2-1 Circumstances related to Rating School Construction

Ujung Pandang (Makasar) is the center of South Sulawesi. It is the seat of the Sixth Shipping Region.

Port Makasar (Ujung Pandang) is the most important trade port of Sulawesi. The annual import volume in 1972 was 964 thousand tons,

amounting to 206 million U.S. dollars. The cargo handling at this port accounted for 61% of Sulawesi's total import in volume and 83% in value.

Residents of Sulawesi like oceans. It is a traditional port town which has produced numerous seamen. Sulawesi has one of Indonesia's two merchant marine high schools (S P M) as well as two private marine academies. Numerous officers have graduated from them.

There is a strong enthusiasm for rating school construction among the people in the marine transport field. Ujung Pandang was recommended as the best site for rating school construction as a result of the Indonesian Government's survey of March, 1950. Since then, the staff of the merchant marine high school and other have made various studies and preparations. Residents of Ujung Pandang are expected to be a good source of adaptable cadets for a rating school in view of their affection for sea, a strong local enthusiasm for rating school construction and their seaman-minded character.

Instructors will be obtained relatively easily among the staff of the Shipping Region

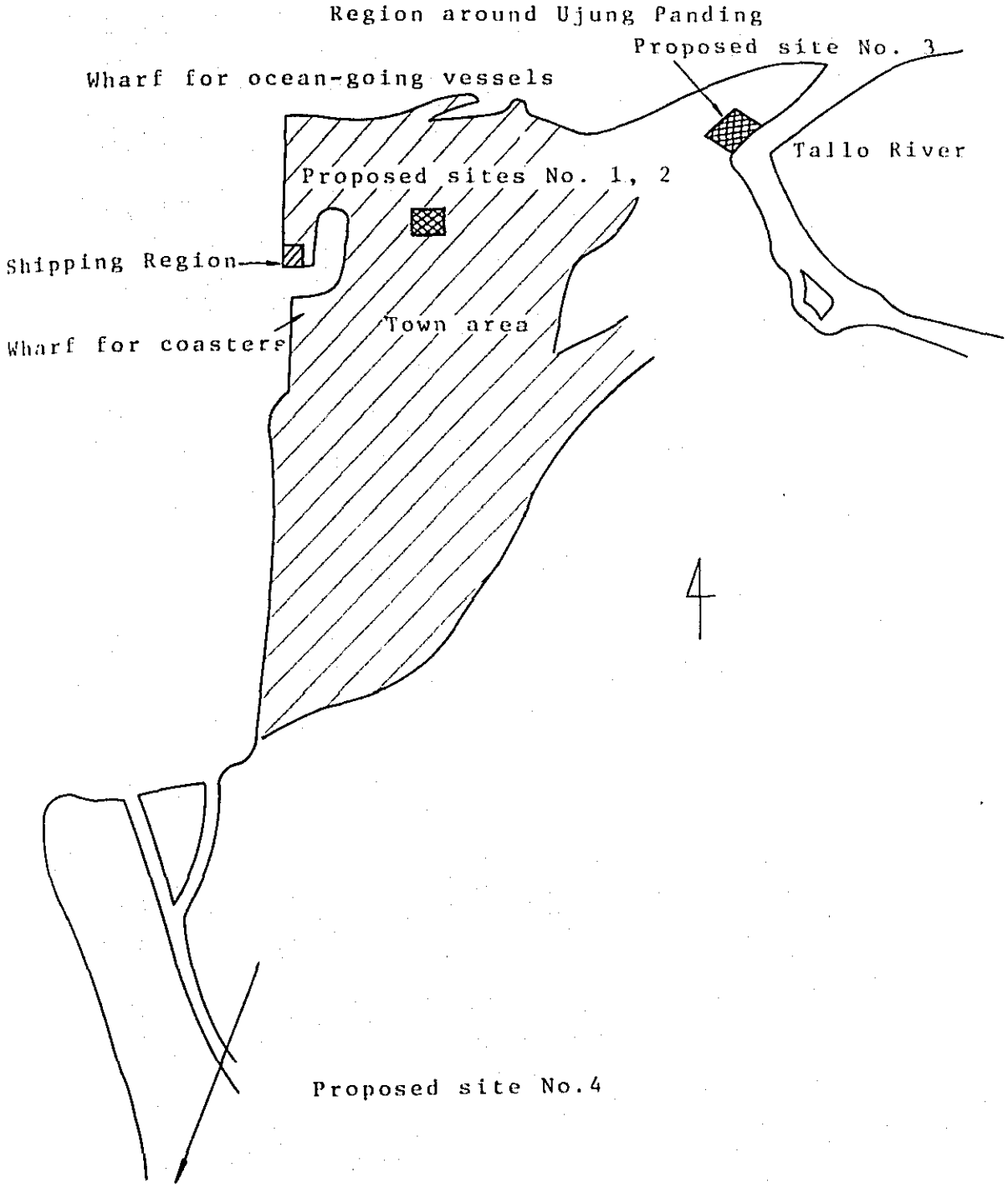
and the SPM.

Its meteorological and oceanographic conditions are also good. Like other regions in Indonesia, Ujung Pandang is hardly hit by storms caused by tropical depressions. It is visited by a dry season and a rainy season alternatively. The high tide and low tide difference is small. Its coastal area is suitable for school construction.

The general construction cost in Ujung Pandang is 60∿70% of that in Jakarta. The concrete and cement work is said to cost about 60 thousand ∿ 70 thousand Rupiahs per m^2.

Ujung Pandang is blessed with beautiful coastline and clean sea water. With superb natural environment and numerous good conditions, Ujung Pandang is believed to be one of the best places for rating school construction in Indonesia.

Four sites in the following map had been selected in Ujung Pandang.


Region around Ujung Panding
Proposed site No. 3
Wharf for ocean-going vessels
Tallo River
Proposed sites No. 1, 2
Shipping Region
Wharf for coasters
Town area
Proposed site No.4

5-2-2 First and Second Proposed Sites (as annex to SPM)

Both the first and the second proposed sites are at the SPM in Ujung Pangang. They are recommended with an idea to establish a rating school an annex to the SPM. The first idea is to rebuild the current school building and to build a four-storied building. One half of the new building is to be used for the SPM and the other half for a rating school. The second idea is to remove the official residences for the SPM staff and to construct a new building for a rating school.

The SPM is in the downtown of Ujung Pangang. Its site area is 1.8 ha. Under the first idea, this small campus will have to be used also for a rating school. This will be considerably below the desirable site standard. Another problem is the place for the SPM during the reconstruction of the school building. Under the second idea, the site of the offical residences will be added as a part of the campus. As a result, the campus area will become 2.8 ha. However, it is still too small to be used both for the SPM and a rating school.

Any further expansion will be extremely difficult since it is surrounded by the urgan distinct. Furthermore, land for new official residences for twenty-six families must be secured and substitute residences must be built. Therefore, the overall cost may become quite high. In any event, a rating school constructed at these sites will lack seaside facilities. It will be inconvenient for cutter boat training and other practical trainings on sea. This will be one of large defects for a rating school.

When two schools with different educational purposes exist together, they often given undesirable effects to each other. Educational effects can be killed.

These two sites have some advantages, including the absence of need for land development, incidental and various other facilities, the possibility of sharing facilities and relatively large availability of instructions. However, their basic defects are fatal.

Third Proposed Site - Tello River Estuary

The third proposed site is at the northeast of Ujung Pandang City. It is in the low swampy

place at the mouth of River Tello. It is a publicly-owned land and will be easy to secure flat land of more than 4 ha. However, its ground is low and can be flooded during a rainy season, etc. It requires about 1m high filling before school construction. This proposed site is faced with Tello River and at some distance from the sea. Its condition as seaside site is slightly poor due to the river sedimentation in front of the site. However, it will not give any problem for cruising and training with boats of small draft. Although the Survey Team was told that this site is publicly-owned, private breeding ponds exist on the river side. They must be removed for constructing mooring facilities for cutting boats. Since a power line and a service water pipe have been led to the adjacent land, they can be extended easily.

Since this site is close to the town of Ujung Pandang, assistances from SPM's instructors can be obtained easily. Therefore, the problem related to instructor availability will be relatively small. This site has considerably good conditions.

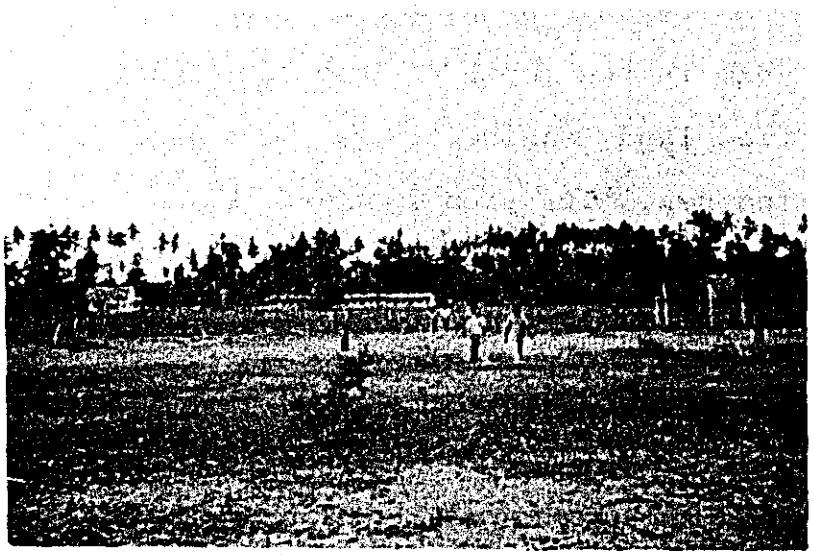
The photo shows the third proposed site.

5-2-4 Fourth Proposed Site - Barombong

The fourth proposed site is a huge government-owned land at Barombong, located at about 40km in the south of Ujung Pandang. It is in flat land leading to the sand beach of a schooling sea. Its area is about 18 ha. It will be extremely easy to secure a land and make ground here. Seaside pier facilities etc. will also be easy to construct here. On the other hand, this site is off (by 2∿3 km) the trank road. Since this region has not been developed fully, neither power, nor service water can be obtained.

The current road conditions will present some problems to the transportation of materials for school construction. An independent power plant and an independent service water plant must be constructed with school construction. These facilities require good management after construction. However, it fronts a clean sea and is ideal for acquainting cadets with sea. It has good natural environment. An ideal rating school can be constructed here. Its good conditions will easily cover its immediate inconveniences. It can be recommended as one of the ideal sites for rating school construction.

The photo shows the fourth proposed site.



5-3 Ambon

5-3-1 Circumstances Related to Rating School Construction

Ambon is the center of the Maluku State which consists of islands located at the north-east of Indonesia. It is the seat of the Eighth Shipping Region.

Sea is the base of living for residents of the Maluku State. Ambon is its center where political and economic activities and education etc. are concentrated. Port Ambom has a wharf for 10,000 ton class ocean-going vessels, a tanker berth, a dockyard with 2,000 ton repairing capacity, the Naval base and a fishery base. It is an important city in this region.

Ambon is a U-shaped island naturally endowed with a good port. It has been the center of marine traffics, trading and fishery. Its population is about 80 thousands. Most of them have something to do with sea. The level of education in Ambon is higher than the Indonesian average. However, Fishery Training Center is the only training establishment related to maritime matters. The Shipping Region and the people concerned have

strongly asked for rating school construction. The Governor of Maluku State and residents have enthusiastically requested for a rating school. A state rating school existed here between 1924 and 1945. The previous site of the rating school is currently used for the Army's barracks. Numerous people in this region operate small vessels. Since most of them are neither qualified, nor trained, they often cause accidents. The Shipping Region emphasized the need for a rating school to train these people also.

The meteorological and oceanographic conditions of Ambon Island are identical with those of the other regions. In other words, it has a mild tropical climate and rarely hit by storms. The difference between high tide and low tide is small. The inner harbour of Ambon Island is a port of good natural conditions. Since it is separated from open sea, it is an ideal place for the construction of coast facilities.

Fishery Training Center belonging to the Directorate General of Fishery of the Ministry of Agriculture exist here. It is briefly described here since the information on it will be

useful for rating school construction.

It trains sixty men each term. Its training period is six months (three months in classroom and three months in practical training on training ships). It takes junior high school graduates. (It took elementary school graduates before 1972.) It is national and its trainees are officially financed. With regard to teaching subject, the main emphasis is laid on fishery, but considerable emphasis is laid also on navigation and engineering. It is a training ship used exclusively for training. Most of the graduates are employed by fishery companies or the Directorate General of Fishery. Some of the graduates find a job on a merchant ship.

Most of the practical training facilities and materials used at this training center were provided by Japan.

No site had been selected specially for rating school construction. The Survey Tean was told that numerous sites with good conditions can be selected along the shore.

5-3-2 Site Selection

No concrete site selection had been made

in Ambon. The Survey Team cruised along the coast on a pilot boat and obtained the following results.

The previous rating school site cannot be used since many barracks of the Army have been built on it.

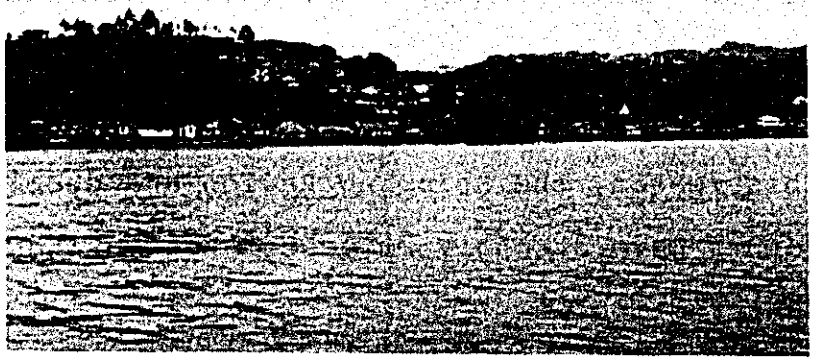
The region around Fishery Training Center is flat land. It is either wasteland or paln forest. Since a vast land is left undeveloped, it can be one of recommended sites.

Ambon Island is left undeveloped except the downtown area. A trunk road runs along the bay from one end to the other end of the island. Villages exist along the road. Vast flat lands lie along this road. The Survey Team was told that one of them can be selected for a rating school.

A power line is also laid along the road. Since many small clear rivers from valleys flow into the bay, water can be easily obtained by constructing a simple service water facility. Since the road runs along the coastline, all the sites will be faced with the inner bay. Various beach facilities can be constructed in a

quiet bay. Since many of the staff of the Eighth Shipping Region and people concerned are qualified officers, instructors will be secured easily.

The photo shows the beach near Ambon City.



5-4 Surabaya

5-4-1 Circumstances Related to Rating School Construction

Surabaya is the center of East Java. The Fourth Shipping Region is located at Tanjung Perak, which is a port district of Surabaya City.

Port Surabaya is the second trade port in Indonesia, ranking next to Tanjung Priok of

Jakarta alone. The annual import in 1972 was 8,399 million tons in volume, amounting to 187.20 million U.S. dollars. The cargo handled at this port accounts for about 14% and about 12% of the total Indonesian import in volume and in value, respectively.

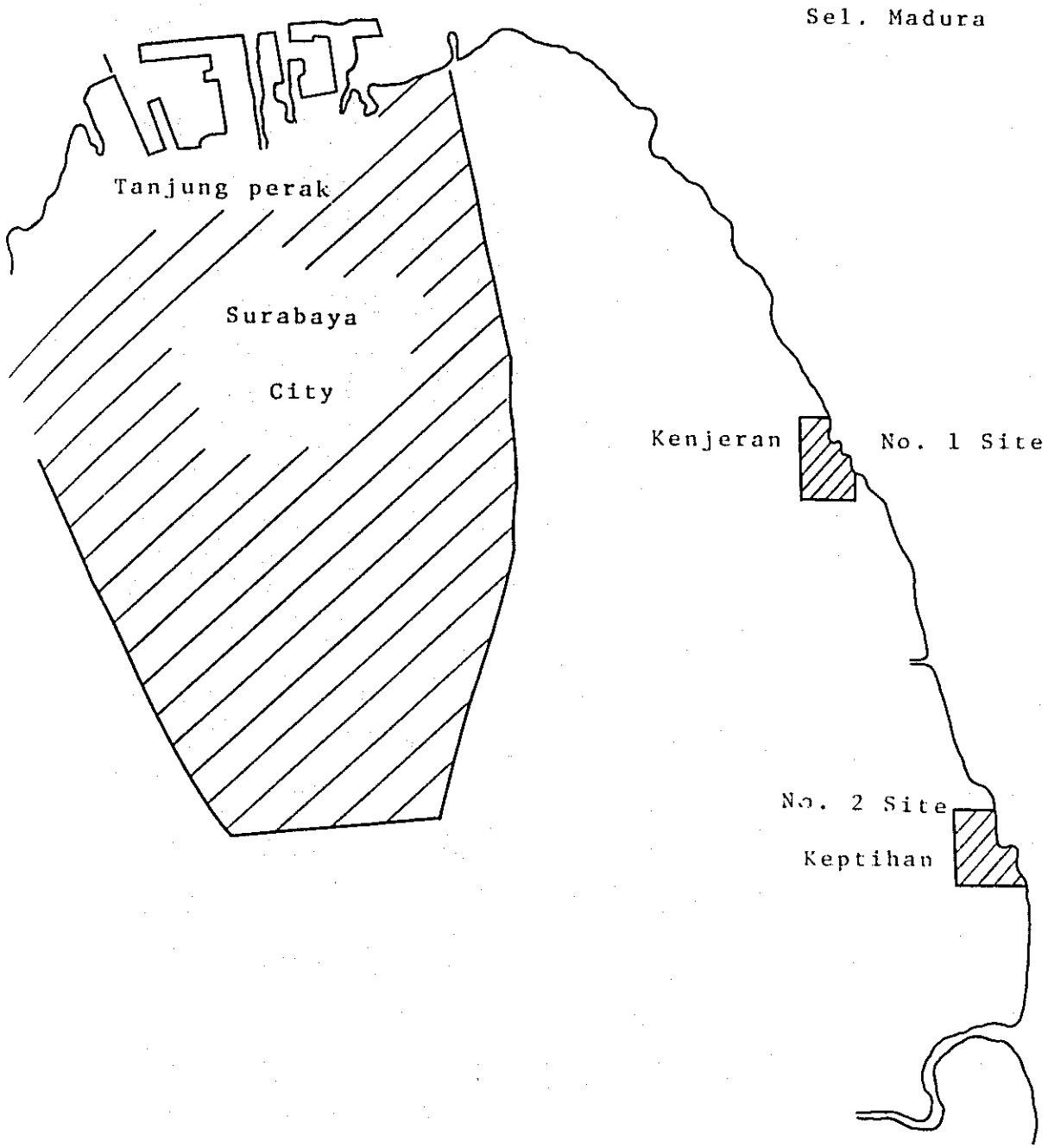
Surabaya has an Indonesian naval academy and three private merchant academies. The interest in maritime affairs and rating education is high. Although it is the second largest city in Indonesia, it has no public marine school. For this reason, the Shipping Region and people concerned have strongly requested for rating school construction.

Its meteorological and oceanographic conditions are similar to those in the other regions. Rating school construction on the beach will require no care in this respect.

General construction cost in Surabaya is almost the same or slightly lower than that in Jakarta. The current construction cost per m^2 is said to be 90 thousand ∿ 100 thousand Rupiahs.

Two sites had been proposed for rating school construction. Both of them located on the beach

at the southcast of Surabaya.



5-4-2 First Proposed Site - Kenjeran

The first proposed site on the seashore which faces Sel. Madura located at about 7km from the southeast ofTanjung Perak. It is in a vast government-owned land. It is a low and swampy grass-covered plain. A site of about 10 ha can be secured easily. Although it is a flat land where water channels run in various directions. However, the ground is somewhat low and can be flooded during an annual flooding period. Therefore, it will require some filling before school construction. It faces a shoaling sea and a flat sandy beach, its sands are quite rough due to the remains of dead coral. The site leads to the bathing beach of Kenjeran in the south. A previous radar station of the Navy is located at 1km in the west. In sum, this site has an extremely good environment. A road has been constructed between the city and this site. Since the power line comes to the radar station, it will require only slight extension. Since water can be easily obtained from wells, a water purifying system will be sufficient for water supply.

Shore facilities can be constructed easily

by constructing a pier.

This site is ideal for rating school constructions, since it requires neither incidental facilities, nor special cost besides filling. Its environment is very good.

The photo shows the first proposed site.

5-4-3 Second Proposed Site - Keptihan

The second proposed site is a low, swampy place along the beach located at about 5km in the south of the first proposed site. Geographically, its conditions are similar to those of the first proposed site. However, this site will require a large cost for incidental facilities.

In other words, the road ends at about 1km from this site. A road must be constructed for the transportation of materials and the power line must be extended by about 5km. Since spring water cannot be obtained near this site, a distilling plant must be constructed. In these respects, the second proposed site is for below the first proposed site.

5-5 Jakarta

5-5-1 Circumstances Related to Rating School Construction

Jakarta is the capical of Indonesia. It is the largest city in Indonesia with the population of 5.45 million. Port Tanjung Priok in Jakarta handles the largest volume of imported cargo in Indonesia. It is under the jurisdiction of the Third Shipping Region, which is located at Tanjung Priok.

Jakarta has a national merchant academy (AIP), where officers of merchant ships and prospective leaders of the marine transport industry are trained. Jakarta is the center of this country in the merchant ship education also.

Trainees and instructors will be secured easily if a rating school is constructed in Jakarta. However, its environmental conditions are extremely poor for a rating school since it offers no chance to acquaint trainees with sea.

Recently, population has been concentrated to Jakarta increasingly. This city is overcrowded with people, things and establishments. The construction of a new rating school is not desirable since it promotes the tendency of population concentration. Furthermore, it will be extremely difficult to find a good site on the beach.

Jakarta is in a special district where all the establish,ents and lands are governmentally managed. A rating school cannot be established with the intention of the Shipping Region alone.

Since Jakarta has a problem of land shortage and a problem of permission for a school on the ground, a cruising training ship or a moored training ship seems to be the best.

5-5-2 Site Selection

If a cruising training ship is used to take trainees periodically at various places, it will

be practical to choose Jakarta as the base for this training ship and to take the largest number of trainees at Jakarta. It will be able to take capable applicants since they can be selected from a large group. It will be convenient for instructions of this training ship to have its base at Jakarta. Although a ship is the major means of training, ground facilities can be constructed away from Jakarta for ground graining.

A training ship can be moored near Port Jakarta as a rating school. Its practical training is expected to bring about large educational effects. However, no land can be secured at Tanjung Priok for constructing ground training facilities. Furthermore, a ship to be moored should not be dead to allow the management of facilities. Its facilities and machineries must be in operating conditions like those on a cruising training ship.

Chapter 6 Scheme for Foundation of Rating Schools

6-1 Teaching Methods

The Survey Team used for the following materials for the preparation of this scheme.

(1) Regulations, Curriculum, Standard Plan on Practical Training Facilities and Equipments for Seamen's Training School in Japan.

(2) Report on Foundation of Indonesian Rating School (prepared by Ujung Pandang Survey Team)

(3) Facilities, Equipments and Teaching Method at Indonesian Fishery Training Center (Ambon City)

The materials (1) and (2) were included in the appendex.

The four teaching methods discussed in the Interim Report are good for giving the most effective education within six months. Naturally, the effects of education will be in proportion to the investments made in education. The best method for Indonesia should be selected on the basis of Indonesia's financial requirements and educational ideals.

The four methods can be ranked as below:

1. Teaching with ground facilities alone
2. Teaching with ground facilities and training ship
3. Teaching on stationed ship
4. Teaching on cruising training ship

6-1-1 Teaching with Ground Facilities Alone

This method is used at rating training establishments in Japan. Although Japanese ratings are among the best ratings in the world, this method is not completely satisfactory from the standpoint of educators. The Survey Team make the following proposals for Indonesian ratings.

(1) The site for each rating school should be 4 ∿ 6 ha in consideration of possible future expansion. Schoolrooms, dormitories, practical training rooms and a boat storage are to be built on it.

(2) The site should face a beach. Trainees should readily be able to ride boats on sea. Most of the seamen training establishments which the Survey Team visited were

in the midst of a town. They were far from the smell of sea.

(3) For practical training, each school should use not only boats, but also a motor boat of the largest scale within the budget limitation. A small ship will be useful only for acquainting trainees with sea. It will be far from practical merchant ship training.

However, the importance of practical training on ship has been recognized at Indonesian Seamen training establishments. At the national mercantile marine academies, the third year of the four-year course is devoted to practical training on a merchant ship. At the national mercantile marine high schools, the third year of the three-year course is devoted to practical training on a merchant ship. Instructors of seamen training establishments work on a merchant ship for one year in every third year. They are to feed back their new experience to education. The Survey Team was deeply impressed by this system. Japanese seamen training establishments should learn from this.

One of sites in Ujung Pandang which the Survey. Team investigated was a vast flat land facing a sea. It will be the best place for constructing Makasar Seaman Training Center. Ideal education can be given here by gathering various seaman training establishments in Ujung Pandang.

The education at Japanese rating schools and related problems are summarized below:

(1) No practical training on a large training ship is given. The Institute for Sea Training has seven large training ships. However, they are used for long-term or short-term practical training for cadets of mercantile marine academies and technical colleges. They are not available for practical training of cadets of rating school. For this reason, each school has a motor boat of 20 ∿ 30 tons (gross tonnage) and give 2 ∿ 3 hours of practical training on ship per week. Since 1975, preparations have been made for realizing practical training on a training ship.

(2) Education of rather high level must be included in the subjects for rating training to exempt graduates from the written examination of official license examinations. For this reason, subjects and skills frequently cannot be digested completely.

(3) The standards for facilities and equipments have been provided. However, most schools do not satisfy them. This has given undesirable effects on cadets' studies in some respects. This tendency is especially strong with practical training.

(4) The number of applicants has been decreasing gradually. As a result, the level of successful applicants has become low. This tendency is strong in some regions. The education system must be changed from this standpoint also.

(5) Graduates do not receive justifiably higher pay than non-educated ratings after employment.

(6) Some cadets cannot get used to the restrictions of the boarding system. They occasionally change their mind and quit.

Dormitory life has some problems.

(7) Instructors have little chance for their own training. They can be behind technological innovation.

6-1-2 Teaching with ground facilities and training ship

Under this method, four months of a six-month course are spent for basic study on ground and the remaining two months are spent for effective practical training on a training ship. In this case, a training ship of about 1,500 tons (gross tonnage) accommodating one hundred cadets should be provided in addition to the land and the buildings listed in 6-1-1. One training ship may be shared by two schools. Although this method requires additional cost, its educational effects will be far greater than imagined. If a new training ship cannot be constructed, an used ship may be remodelled for this purpose. In any event, sufficient educational effects cannot be expected only from classroom teaching (with emphasis on theories) using ground facilities alone partly due to the short training period, although such a method

is used at private seaman training establishments in Indonesia. Especially, the shortage of practical training equipments seems to point out the weak point of the Indonesia' policy on maritime education. For short-term training, it is essential to break this conventional system and to lay emphasis on practical training.

In Japan, Institute for Sea Training gives one year practical training on training ships to the nautical department and the engine department at the (two) mercantile marine academies and the (five) merchantile marine technical colleges. (Three month practical training at a plant is given to the engine department.)

No regular training on training ship has been given to cadets at rating schools due to the limited availability of training ships. However, a plan has been made to start regular training in 1976.

If two months can be spent for practical training on a training ship in Indonesia, The major contents are listed below:

(1) Boat station, fire station, waterproof station and man overboard station drills

and port leaving or making station.

About two hours are to be spent in advance to explain the stations. The drill of each station is to be given once with explanation during anchor period. The drill is to be given again during cruising. Station drills are the best of practical training on training ships.

(2) Sailing and rowing training with boats

About four hours are to be spent for lecturing in advance. The lecture is to include the boat structure, parts names, rowing method, sailing equipments and sailing method. A whole day is to be spent once a month for rowing and sailing training.

(3) Watches at sea

About eight days are to be spent for cruising per month. A training ship is to call at three ∿ four ports during this period. Cadets are to land at these ports on holidays. The fifty cadets of the deck department and the fifty cadets at the engine department are divided into three ∿ four groups for

watches at sea. The cadets of the deck department are to receive practical training on steering, watch, message, meteorological observation etc. They are also to understand the duties of officers and sailors. The cadets of the engine department are to monitor and measure gauges in the engine room, and understand the process of thrust force generation and the operations of related machineries. They are also to understand the duties of engineers and fire men.

(4) Cleanness and tidiness in ship

Cleanness and tidiness are important on a ship where many people live together within small space. A ship is to be cleaned thoroughly once a week. About thirty ∿ forty minutes are to be spent for cleaning every morning.

(5) Ship maintenance

Various parts of a ship are to be maintained. Cadets are to maintain rusted parts, lubricate movable parts, disassemble and

maintain simple machineries to obtain deeper understanding on machinery structure.

(6) Tool handling

The cadets of the deck department are taught the names and uses of the tools and measuring instruments for deck work. The cadets of the engine department are taught the names and uses of major tools and measuring instruments and packings for engine work.

(7) Signal training

Both signal flags and flashing light signalling are necessary for cadets of the deck department and the engine department. Especially, cadets of the deck department must be trained well.

(8) Others

Cadets deepen their understanding on hull structure and engine in general through teaching with actual hull and engines on a training ship.

The curriculum used for six-month training on ground facilities is to be used as the basis. Two-month practical training on a training ship is to be used for those items which can be taught better on a training ship.

With regard to the deck department, the following items can be taught more effectively on a training ship. Anchor watch; report to superior; transmission of commands; maintenance of chart desk at bridge; distribution panel of navigation lamps and lights; pipe arrangement; measurement of tank depth; outline of steering system; maintenance and operation of steering system; structure and use of magnetic compass; operation and maintenance of echo sounder; maintenance of gyro compass; maintenance and operation of course recorder; maintenance and operation of log; maintenance and operation of manual sounding machine; maintenance and operation of deck machineries; classification, standards, measurement and operation of tackles; operation of signal installation; use of boatswain's chair; types and standards of sails, sail

making, paint mixing and instructions; painting method, types and use of paint brushes; use and storage of various articles, transport of small anchors, preparation for rough weather, types and use of lifesaving appliances (inflatable life rafts, buoys etc.), rope work, types and use of tools.

With regard to the engine department, the following items can be taught more effectively on a training ship.

Anchor watch; report to superior; method of transmitting orders and report in noise; entry of regular observation report; calculation of fuel oil and lubricant consumption; fuel oil supply and cleaning; pipe arrangement; description, operation, maintenance of auxiliary machinery, temporary measure; description, inspection, maintenance of main engine and temporary measure, maintenance of spares, name and quantity of legal spares; supply of fuel oil, lubricant and fresh water from outside; description, operation and maintenance of distribution panel and temporary measures,

repairing of earth on ship; operation and maintenance of electric machineries and temporary measures; preparation for rough weather, check and operation of fire-extinguishing equipments; types and use of machining tools on ship.

A daily schedule for regulating Daily activities on a ship must be prepared for smoothly giving practical training on the above items.

Table 1 shows the daily schedule on a training ship adopted by Institute for Sea Training.

The working hours adopted by the Indonesian Government seem to be the result of long experiences in Indonesian environment. One of the themes will be how to use this wisdom in such schedule-making.

	Daily Schedule on Week Day		Daily Schedule on Holiday		Remark
	Anchor	Cruising	Anchor	Cruising	
0400		Shift of watch		Shift of watch	
Sun rise	Anchor lamp turn off	Navigation lamp turn off Flag hoisting	Anchor lamp turn off	Navigation lamp turn off Flag hoisting	
0620	Watches make up				
0630	Room light on, Every-body make up	"Turned-to" cadets wake-up	Watches make up		
0640	Commence "turned'to"	Commence "turned-to"	Room light on, Every-body wake up	"Turned-to" students wake up	
0650			Commence "turned-to"	Commence "turned-to"	
0715	Stop "turned-to"	Stop "turned-to" watch wake up	Stop "turned-to"	Stop "turned-to" watch wake up	
0730	Breakfast	Breakfast	Breakfast	Breakfast	
0800	Flag hoisting, Shift wake up	Shift of watch	Flag hoisting Shift wake up	Shift of watch	
0820	Study start	Study start	Study start		
1130	Study stop	Study stop	Study stop		
1200	Lunch	Lunch, shift of watch	Lunch	Lunch, shift of watch	
1300	Study start	Study start			Δ
1600	Study stop	Study stop, shift of watch		Shift of watch	
1700	Dinner	Dinner	Dinner	Dinner	

	Daily Schedule on Week Day		Daily Schedule on Holiday		Remark
	Anchor	Cruising	Anchor	Cruising	
Sunset	Flag lowering, anchor lamp turn on	Flag lowering, navigation lamp turn on	Flag lowering, anchor lamp turn on	Flag lowering, navigation lamp turn on	
1800	Study hour begin	*Shift of watch, study hour begin		*Shift of watch	*Under dog watch system
1945	Study hour end	Study hour end			
2000	Inspection turn	Inspection turn, shift of watch	Inspection turn	Inspection turn, shift of watch	▽
2230	Room light turn off		Room light turn off		
2400		Shift of watch		Shift of watch	

1. Physical exercise at the beginning of "turned-to" and afternoon study.
2. Under dog watch system during cruising, morning and afternoon studies end 30 minutes earlier.
3. ▽ indicates a first bell (15 minutes before) and indicates the second bell (5 minutes before).

(Note) During an extremely hot season, the lunch break is extended for another hour to end the afternoon study is one hour later during anchorage.

6-1-3 Teaching on stationed ship

An used ship of at least 1,500 tons (gross tonnage) is remodelled and moored at a port or a river. About twenty instructors and about one hundred cadets are to live together on a ship. This is an effective system under which cadets receive tangible and intangible practical education. This system is recommended for large cities, such as Jakarta, where land for a rating school cannot be secured easily.

An used ship can be moored along the shore as a school building. However, it should desirably be away from shore from an educational standpoint. Cadets will have chances to get acquainted with sea through activities to supply food and fresh water from the shore.

However, it goes without saying that a school ground, a gymnasium and a warehouse etc. should ideally be constructed on the ground.

However, this system has the following shortcomings.

(1) Ship remodelling cost is not high. However,

maintenance cost will rise sharply every year. This system does not necessarily have a cost advantage from a long-range view.

(2) A remodelled ship has for smaller durability than ground facilities. When it becomes old, extraordinary difference in strength will be found.

(3) When a ground, a gymnasium and a warehouse are constructed on the ground, their maintenance and management will present various problems.

(4) Sufficiently large classrooms and training rooms and sufficient equipments cannot be expected on a ship of this size. A ship must be completely remodelled at an enormous cost to solve these problems.

(5) Practical training on ship must be considered. If a motor boat for practical training alone is available, this system is not much different from the system using ground facilities alone.

(6) The problems of fresh water supply and sewage

and bilge treatment arise.

6-1-4 Teaching on cruising training ship

This is an ideal system for seaman training.

Two training ships of at least 3,000 tons (gross tonnage) accommodating about two hundred cadets (deck department and engine department) and seventy crew and instructors are to be built and governmentally managed. They are to move their base to take cadets, as necessary. During each training period, they are to make a navigation of an adequate scale according to the progress of training. Navigations will enhance the effects of training. This method is extremely effective since training ships can move freely while cadets receive practical training on them. If this system is adopted, the training period can be shortened. It is regrettable that this system is adopted for rating education in no country.

This system has the following problems.

(1) It requires an enormous cost to build training ships and to maintain and manage them.

the cost will be three ∿ five times as large as that of the other three systems.

(2) Problems of holidays and welfare facilities for crew and instructors arise.

(3) A considerable number of days are required to board and land cadets. This can affect training period.

(4) The care for sick or injured persons and the care for cadets with problems (cadets wishing to quit) will be difficult. However, they will not present any problem as long as a doctor is constantly on a ship.

However, the construction of school facilities on the ground in politically determined in some cases due to local requests and expectations. Even if site conditions are found undesirable in the future, they cannot be moved easily. As a result, sufficient educational effects may not be obtained. Such a possibility is almost zero with this system. Since marine transport is an international enterprise, its contribution is not usually limited to one region. Education on a

cruising training ship is desirable to give international character to seamen. In Japan, officer education is unified in the practical training on training ships. Cadets at all the schools get together for practical training. This has been extremely useful.

6-2 Curriculum

6-2-1 Teaching with Ground Facilities Alone

(1) Deck department

Table 2

No.	Subject	Total number of class hours	Number of class hours per week
A.	General Subjects		
1.	Religion	24	1
2.	Laws	12	0.5
3.	Indonesian Language	24	1
4.	English	36	1.5
5.	Mathematics	36	1.5
6.	Physics	36	1.5
7.	Physical training (including swimming)	24	1
8.	First aids	24	1

B.	Specialized Subjects		
1.	Practical training on ship(motor boat)	168	7
2.	Deck work(See Table 7 for the content)	168	7
3.	Boat(Rowing and sailing	96	4
4.	Signals	24	1
5.	Ship maintenance	36	1.5
6.	Ship structure	36	1.5
7.	Navigation tools	36	1.5
8.	Ship building		
9.	Navigation along coast and river		
10.	Laws and regulations related to ships		
11.	Compass reading (including practical training)		
Total		888	37

(2) Engine department

Table 3

No.	Subject	Total number of class hours	Number of class hours per week
A.	General Subjects		
1.	Religion	24	1

2.	Law	12	0.5
3.	Indonesian Language	24	1
4.	English	36	1.5
5.	Mathematics	36	1.5
6.	Physics	36	1.5
7.	Physical training (including swimming)	24	1
8.	First Aids	24	1
B.	Specialized Subjects		
1.	Practical training on ship( )	168	7
2.	Engine work(See Table 8 for the content)	168	7
3.	Boats(Rowing and Sailing)	72	3
4.	Labor safety knowledge	24	1
5.	Internal combustion engine	60	2.5
6.	Boiler	24	1
7.	Auxiliary machinery	36	1.5
8.	Steam machinery	36	1.5
9.	Marine electricity (including practical training)	60	2.5
10.	Materials	24	1
	Total	888	37

6-2-2 Teaching with ground facilities and training ship

(1) Ratio of ground training and sea training for two schools sharing one training ship.

Table 4

Period		School A	School B
(Entry)	0 month	Ground(2.5 months)	Ground(1.5 months)
	1 month		
	1.5 months		Training ship (1 month)
	2 months		
	2.5 months	Training ship (1 month)	Ground(1.5 months)
	3 months		
	3.5 months	Ground(2.5 months)	Training ship (1 month)
	4 months		
	5 months	Training ship (1 month)	Ground(1 month)
(Completion)	6 months		

Under the schedule of Table 3, trainees will receive education on ground for four months and on a training ship for two months. If most of the instructors at each school board a training ship, the training ship will not require many full-time crewmen. It will be good training also for instructors themselves.

Full-time crewmen can take a leave while the training ship is not used for practical training. The ship can be repaired or maintained also during this period. If each school can keep one training ship, either School A's schedule, or School B's schedule may be used. Even in such a case, it will not be advantageous to spend more period for training on a training ship. This is because each school can be provided with only a small training school. The teaching aids for practical training will be highly limited. For this reason, any longer training on a training ship will be useless.

(2) Curriculum for four months on ground

1) Deck department

Table 5

No.	Subject	Total number of class hours	Number of class hours per week
A.	General Subjects		
1.	Religion	16	1
2.	Law	16	1
3.	Indonesian Language	16	1

4.	English	32	2
5.	Mathematics	32	2
6.	Physics	32	2
7.	Physical training	16	1
8.	First aids	16	1
B.	Specialized Subjects		
1.	Deck work(See Table 7 for the content)	160	10
2.	Boat(Rowing and sailing)	64	4
3.	Signals	16	1
4.	Ship maintenance	32	2
5.	Ship structure	32	2
6.	Navigation tools	32	2
7.	Ship building	16	1
8.	Navigation on coast and river	16	1
9.	Laws and regulations related to ships	16	1
10.	Compass reading (including practical training)	32	2
	Total	592	37

2) Engine department

Table 6

No.	Subject	Total number of class hours	Number of class hours per week
A.	General Subjects		
1.	Religion	16	1
2.	Laws	16	1
3.	Indonesian Language	16	1
4.	English	32	2
5.	Mathematics	32	2
6.	Physics	32	2
7.	Physical training (including swimming)	16	1
8.	First aids	16	1
B.	Specialized Subjects		
1.	Engine work (See Table 8 for its content)	160	10
2.	Boat (Rowing and sailing)	64	4
3.	Labor safety knowledge	32	2
4.	Internal combustion engine	48	3

5.	Boiler	16	1
6.	Auxiliary machinery	32	2
7.	Steam machinery	16	1
8.	Marine electricity (including practical training)	32	2
9.	Materials	16	1
	Total	592	37

Table 7 Content and class hour ratio of deck work

	Rope working	Wire splice	Cargo working	Canvas making	Painting skills
Ratio	3	3	3	0.5	0.5

Table 8 Content and class hour ratio of engine work

	Hand finishing	Skills with tools	Practical training of packing replacement	Disassembling and adjustment of machine	Engine operation
Ratio	3	1.5	0.5	3	2

Neither welding, nor lathe work was included in the above table partly due to the intention of the Indonesian officials. Since the number of class hours for engine work is small, only

the subjects of the utmost importance were selected. The need for teaching these skills will also arise in the future along with the need to extend training period. These skills are essential for the reeducation of ratings. These equipments must be installed if rating reeducation facilities are to be included in rating school construction.

6-3 Cost Estimate for Education Facilities

The cost estimate for ground facilities is given below. This estimate is as of May, 1975.

(1) Total construction cost

About 242.69 million yen → ^{R}P 346,700,000

Details

1) School building 900m² (90m² × 8 classrooms + α)

@^{R}P 70,000 ^{R}P 63,000,000

2) Dormitory 750m² (1 room for 4 × 20 rooms + α)

@^{R}P 70,000 ^{R}P 52,500,000

3) Dining room and kitchen 500m²

@^{R}P 35,000 ^{R}P 17,500,000

4) Management building 700m²

(Instructors room, office etc.)

@^{R}P 100,000 ^{R}P 70,000,000

5) Pier (Wooden pier 50m × 4m, 1m above water, 1m below water, bottom end 20cm)

R_P 4,500,000

6) Generating system (with prime in over, for independent power plant 350 KVA)

@R_P 3,000,000 R_P 60,000,000

7) Wiring work and service water work

R_P 20,000,000

8) Ground making and road

R_P 1,200,000

9) Water supply and drainage work (including water-purifer tank)

R_P 40,000,000

10) Campus pavement (asphalt)

R_P 1,500,000

11) Adjustment cost (Total of 1 ∿ 10) x 5%

R_P 16,500,000

(2) Total equipment cost

About 51.24 million yen → R_P 73,200,000

Details

1) Class rooms (Desks, seats, blackboards etc.)

R_P 4,200,000

2) Dormitory (Iron beds, lockers etc.)

R_P 18,000,000

3) Kitchen

4) Practical training equipments for deck department (including two cutter boats)

R_P 15,000,000

5) Practical training equipments for engine department (Boat davit)

R_P 25,000,000

6) Boat storage, boat davit etc.

R_P 10,000,000

(3) Other expenses

Total: About 7.70 million yen → R_P 11,000,000

Details

1) Office equipments (Desks, seats, book shelves, typewriters, rotary press, copy machine etc.)

R_P 6,000,000

2) Purchase of Literature

R_P 5,000,000

Total estimate: (1) + (2) + (3)

About 301.63 million yen → R_P 430,900,000

If a government-owned land is used, no expense will be required for land. Otherwise, considerable cost for land will be required. However, all the sites which the Survey Team recommended were Government-owned.

Jakarta, 30 June 1975.

No. 2897/Set.Kab/LN/P/6/1975.

Mr. T. Tomaru
First Secretary
Embassy of Japan
Jakarta.

Dear Mr. Tomaru,

FTA - 102: Survey for Training Centre of Ratings.

I have the honour to submit to you a technical assistance request for the project FTA - 102: Survey for Training Centre of Ratings.

For your perusal we are enclosing the terms of reference of said project which has the approval of our Government.

We would highly appreciate your kind assistance in forwarding this request to your Government for their concurrence.

Thank you for your continued cooperation.

Sincerely yours,

Ir. Ginandjar Kartasasmita

Secretary, a. i.
Technical Cooperation
Coordinating Committee.

cc: 1. Bappenas
2. Sekjen. Dep. Perhubungan
3. Ditjen. Perl ubungan Laut
4. Ditjen. HESLLN, Deplu
5. Dit. Hubkin Dep. Keuangan

TERMS OF REFERENCE

OF

SURVEY FOR TRAINING
CENTRE OF RATINGS

FTA: 102
1974/1975

DEPARTMENT OF TRANSPORT COMMUNICATIONS & JOURISM
DIRECTORATE GENERAL OF SEA COMMUNICATION

REPUBLIC OF INDONESIA

TERM OF REFERENCE
OF
SURVEY FOR TRAINING CENTRE OF RATINGS
1974/1975

= C O N T E N T S =

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TERM OF REFERENCE
OF
SURVEY FOR TRAINING CENTRE OF RATINGS
1974/1975

I. INTRODUCTION

In an archipelago country as Indonesia, shipping is a very important communication naturally.
According to the statistics roughly estimated by A.D.B. in 1970, the number of seamen in Indonesia is following.;

- Officers	3,000
- Ratings	7,500
- Administrators	100
- Government	125
- Teachers	50
Total:	11,775

Besides, at present there has been 11,000 Indonesian ratings engaged with the foreign vessels.
In future, the demand of ratings from domestic shipping companies and foreign companies seems increasing.
But the present time, there is no ratings school in Indonesia accordingly ratings are not well educated.

II. EXISTING SITUATION.

The present system of marine education in Indonesia is composed of :

1. Academy with 2 departments
   Noutical, Engineering.
2. Higher Grade school with 2 departments Nautical, Engineering.
3. School of Basic Marine Education (home Trade) for

Nautical, Engineering at Makasar (Ujung Pandang) and Semarang.

The ratings who served the officers in navigation and repair, good trained sailor were needed.
That has the basic knowledge of seamanship for local trade, and foreign trade.
However, only 10% of the existing ratings were trained antil the year 1950, so that 90% of the whole ratings have no basic knowledge of seamenship from school and are trained on board.
Particularly, the international fleet must have officers and ratings who meet international standard although the inter-island and coastol fleet do not need such standard, it is preferable, most of Indonesian ratings study basic marine education at the school before on board for the purpose of improvement of officiency and safety in ships' operation, maneuvering and repair.
The number of which may need of Indonesian rating is as follows:

- Domestic Shipping	1,430 vessels	714,351 DWT
- Oceangoing Shipping	99 vessels	1,313,784 DWT
Total	1,529 vessels	2,028,135 DWT

Domestic Shipping not included in less than 100 DWT and Sailing vessels.

III. OBJECTIVES.

To establish a training centre of Ratings which will supply good seamen constantly and have an effect not only to increase their productivity but decrease at sea.
Additional expectation is following :

1. To have a good discipline and harmony.
2. To secure the reserved able-seamen.
3. As a second employment to preservo the more shipping

personnels, i.e. employees in harbour works, loading storage, tug-boat, supply, ship-building, etc.

4. To give a change for rating of scholastic ability to take an upper grade license.

IV. SCOPE OF WORK.

The survey calls for a small team of 3 experts to determine to establish a training centre of ratings.
The survey will be carried out within six months and the task of experts will consist of :

(1). To make a masterplan for establishment of training centre of Ratings (including training ship).

(2). To draw up the procedures and methods of administrations of Training Centre of Ratings.

(3). To determine the equipment, instrument and material requirements of the training, advice and assist in their aequisition.

(4). To draw up the budget for the initial set up of Training Centre of Ratings and the Subsequent training annual expenditures.

(5). Based on the proposed qualifications, to determine training needs to draw up training curriculum.

(6). To draw up rough demand and supply program of seamen all over including necessary adjustment of officer's education.

V. BUDGET.

(1). Experts : US$ 50,000/man year		
4 experts 6 months		US$100,000
(2). Counterparts :		
4 counterparts	6 months	Rp. 500,000
Administrative Expenses		Rp. 500,000
	Total :	Rp.1,000,000

VI. SUPPORTING DATA.

1972 South East Asia Regional Transport Survey by A.D.S.

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DRAFT INTERIM REPORT

PREPARED BY THE JAPANESE SURVEY TEAM
F O R
MASTER PLAN OF DEVELOPING THE RATING SCHOOLS
IN THE REPUBLIC OF INDONESIA

Jakarta, June 18, 1975.

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INTERIM REPORT

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FOR THE PLAN OF DEVELOPING THE RATING SCHOOLS

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

This Interim Report is prepared by the Japanese Survey Team dispatched by the Japanese Government for the purpose of making a master plan for developing the rating schools in the Republic of Indonesia.

The mission made this through the meetings with the Indonesian government and through studying the results of the field survey on the spots during their stay in Indonesia from 25th May to 18th June. This brief report is only to brief the general idea and to make principal recommendations for the project, while a complete report will be prepared after the team's further study in Japan. Due to the limited time for preparation of this, alterations in figures and expressions might be made in the complete report.

1. Completing the system of seafarer education.

The Republic of Indonesia is the archipelago country composed of about 3,000 islandsiin the wide sea area, ranging 1000 miles in the direction of North-South and 3,400 miles East-West. The population is about 129,000,000 persons which are only 10% above the population of ours, and the width of your territory amounts to about 1.94 million square kilometers which is equal to ten times of ours and the tenth grade in the world. Although Indonesia, as an archipelago country, has developed domestic shippings since the ancient, it failed to fully develop the foreign trade. This seems to be attributed to the blessed natural resources of the country, as the old proverb says that "shipping is not rich country's business".

The improvement in the shipping of Indonesia is essential to the development of the country and the world welfare. It is indispensable for the improvement of the shipping to make the modernized vessels and to bring up the industries related to the shipping. However, the education of the

seafarers may be said to be all the more important in the case of Indonesia. While the education for the ship officers is in good figure, the education for the ship ratings is hardly practised and should be started without delay.

2. Guidance for erecting ratings schools.

(1) Our mission was planning to survey six areas including Belawan, Ujung Pandang, Ambon, Jayapura, Surabaya and Jakarta according to the suggestion of Indonesian Government. It is regretable, however, that Jayapura and Jakarta couldn't be actually surveyed. We surveyed few places in each area, considering the hinter land, facility of getting the spot, difficulty in development, status of the spot, conditions of the weather and tide. It is felt that each of the four surveyed areas needs a school and that it is best, if possible, to build four schools in the area at once. But if it is difficult to build the four schools at the same time, the desirable order of building is : first in Ujung Pandang, second in Belawan, third in ambon and forth in Surabaya. For example, Japan is only one fifth of Indonesia in the domain, has thirteen rating schools, in which about 1,000 cadets are trained in the three courses of deck, engine, and catering every year.

(2) Outline of the school.

Age of the candidates	:	15 years through 20 years
Entrance examination	:	Same knowledge as the graduates of the middle school.
Term of school	:	six (6) months. This terms should be extended to from one year through two years, corresponding the innovation in the technical field in the future.
Numbers of the cadets fostering per year	:	800 persons It is appropriate to start trains 100 cadets in two

coursed, i.e. deck and engine twice a year. The cartering course should be started in the future.

(3) Ways of the training.

With the limited course length of 6 months, the following under-mentioned ways of training may be amongs the most prefered. It is recommended to select the best from them, considering the budget available.

(a) Training on the shore facilities.

The school should possess the estate of 4 ha through 6 ha, on which the class rooms, training rooms, dormitories and facilities for the training boats are built. It is essential to the training for seafarers that the site faces the sea. The salty seamen can be brought up only near the sea front, where they can feel ocean directly. In the surveyed areas, we found some ideal sites for such training, with wide space and sea front, where we can put together all kinds of educational facilities for seamen. The development of these sites may also inspire the modification of the neighbouring places into the residential ones outside the city.

(b) Training on board of a stational ship.

Training will be done on board of a stationed ship duly moored in a habour or a port. This way of training is very useful for the cadets and trains them through the real experiences of ship and teaches them how to live a group life on the sea. This way is also very practical for areas cities where sites of schools are limited and price of the land is expensive. However, it is prefered to prepare the playground, gymnasium and other facilities on shore besides a stationed ship.

(c) Training on board of a training ship crusing round the islands. Two training ships (with the capacity of 250 persons including 200 cadets) should be prepared by the government. These ships transfer their bases from one island to another by the direction of the government. During the period of a course, 6 months, they cruise for about a week per month and train the

cadets for the real seamen.

(d) Training using the shore facilities together with traiing ship.

For three months out of six months, the cadets study the theoretic subjects on shore and later on board of a training ship. This form of the training needs not only the shore facilities, mentioned above in (a), but also a training ship of about 1,500 gross tonnage the accomodation of which is 150 persons including 100 cadets. A training ship will be able to take charge of two rating schools.

(4) Necessary considerations for the development of the rating schools.

(a) Refreshing school for the existing ratings.

The opportunity of learning should be given to the ratings of the age above 20 years out of about 16,000 existing ratings. Erecting the refreshing schools for the existing ratings is no less important than rating schools themselves and it is prefered to be implemented by the government without delay. Three months will be adequate as the period of refreshing courses.

(b) Privileges to the graduates of the rating schools.

It is necessary that the lowest limited age for workers, 18 years, is lowered to 16 years for the graduates of the rating schools. Unless some measures are taken in this regard, the benefit of rating schools may be curbed. It is not necessary to give a licence of ship officers to the graduates of the rating schools but it is prefered to give a certain certificate issued by a harbour master of a regional sea communication. At first the government should take initiative in employing graduates of the rating schools with full consideration of this qualified skills and duly treats them both in the wage and the position, so that private shipping companies will realize the advantage of employing them for this business.

(c) Aid to the rating schools by the government.

The government is desired to supply the food, service

clothes for the cadets on board of a training ship because life on board costs specially high. In the same consideration, the scholarship for the cadets may be also necessary.

This report is very brief and should be elaborated through further study when the mission comes back to Japan.

We appreciate your hospitalities and cooperations extended to us during our 25 days stay in this country. Especially we were deeply impressed by the cooperative efforts made by the people concerned in the regions we visited.

Questionnaire By Japanese Survey Mission

I. Basic education establishment in your country.

	Primary School	Secondary School	Upper Secondary School
(1) Age	6-12	12-15	15-18
(2) Term of Study	6 yrs	3 yrs	3 yrs
(3) Percentage of School attendance			
(4) Kinds of Courses	general knowledge	general knowledge	general knowledge

II. Laws concerned with seafarers in your country.

(1) Names of Laws

Shipping act 1935/ Certificate Regulation 1939

(2) Summary of Laws

Any Officer on board of Indonesian ship, has to own certificate.

III. System to obtain certificate of competency of ship's officers in your country.

(1) Kinds of certificates of competency of ship's officers

Deck department: MPB I,MPB II, MPB III,MPI and MPT.

Engine department: AMK-C, AMK-B, AMK-A, AMK-IS, and MD

(2) Qualification for state examination

- Eye test,ear test,physical test
- Sea service (at least 1 year)

IV. Present ship's officers training in your country.

(1) Names of Academies Merchant Merine Academy (A.I.P) Jacarta.

(2) Founders or Promotors

Directorate General of the Sea-Communication (Government)

(3) Eligibility of admission

Graduated Senior high school (Matematical& engine departmen)

(4) Terms of courses

3 yrs theoritical science in the classroom
1 yr sea-service.

(5) Kinds of courses — Especialized for Nautical knowledge; Especialized for Engine knowledge

(6) Number of cadets in each course/year — 80 persons

(7) Curriculum of course — See list No.I

(8) Number of teaching staff(technical matter) — 60

(9) Number of teaching staff(general matter) — 4

(10) Privileges of graduates
(a) Certificate — MPB III
(b) Employment
Foreign-going — 3rd mate
Coastal — as Master
Others

(11) Relation with Navy — in the melatery course

7 Merchant marine high school in your country

(1) Names of schools — SPM in Semarang and Ujung Pandang

(2) Foundation or Promotors — Government

(3) Eligibility of admission — graduated Junior High School

(4) Terms of courses — 3 years (including 1 year SEASERVICE)

(5) Kinds of courses — Especialized for Nautical knowledge; Engine/Technical knowledge

(6) Number of cadets in each course / year — 2×80 persons

(7) Curriculum of course

(8) Number of teaching staff (general matter) — 19 — 28

(9) Number of teaching staff (technical matter) — 3 — 3

(10) Privileges of graduates
(a) Certificate — MPI
(b) Employment
Foreign-going — Home Trade

Coastal	Home Trade
Others	
(11) Relation with Navy	None

VI Rating school

(1) Names of schools	None
(2) Founders or Promoters	-
(3) Eligibility of admission	-
(4) Terms of courses	-
(5) Kinds of courses	-
(6) Number of trainees in each course / year	-
(7) Curriculum of each course	-
(8) Number of teaching staff (technical matter)	-
(9) Number of teaching staff (general matter)	-
(10) Priviloges of graduates	-
(a) Certificate	-
(b) Employment	-
Foreign-going	-
Coastal	-
Others	-
(11) Relation with Navy	None

VII Seafarers in your country

	OFFICER			CREW		
	Deck	Engine	Wireless	Deck	Engine	Catering
(1) Number (except foreigner)	3.738	1.480		18.278		
(2) Graduates of academy or school	1.059	1.036	106	845	773	
(3) Percentage of foreigner						
(4) Plans for fostering						
1975	400	400	60			
1976	400	400	60			
1977	400	400	60			
1978	400	400	60			
1979	400	400	60			

(5) If there are plans for employment of foreigners, please give information about them. NONE

(6) If there are plans for fostering seafarers in foreign countries, please give information about them.

VIII Merchant Shipping in your country

(1) Number of merchant vessel see list No: II

	Cargo Ship		Tanker		Others	
	Number	G/T	Number	G/T	Number	G/T
100 - 3,000						
Less than 10,000			(NEW TABLE)			
Above 10,000						
Total						

(2) Shipping routes

	Present	Plan
Main Shipping Routes (foreign)	5 routes	
Main Shipping Routes (coastal)	64 routes	

(3) Please indicate plans for enlarging merchant fleet in your country.
See list

(4) Please make mention of plan for improvement or expansion of port's facilities, if any. Rehabilitation of main ports in Indonesia

(5) Please make mention of plan for improvement or establishment of shipyard

TO RAISE THE PRODUCTION AS FOLLOWS :

- new building of 15.000 ton up to 45.000 ton / year (for sizer up to 3.000 ton)
- dock of size from 61.000 ton up to 1.850.000 ton (for ship up to 3.000 ton)

12/6.

LIST No. I

Curiculum of ship officer course (IV/7)

I. DECK DEPARTMENT

A. 1. Navigation
2. Astronomy
3. Navigation (electronic) instrument
4. Rules of the Road
5. Cargo handling
6. Ship's stability
7. Ship's construction
8. Ship's manouvering
9½ Handling of the shipping equipment
(equipment, maintenance and ship safety apparatus)
10. Meteorology & Oceanography
11. Shipping's Law
12. Boat handling & Radio Signal
13. Knowledge of the Tidal & Current
14. Ajusting Compass
15. First Aid Kot/Hygiene/Quarantine
16. Knowledge of the ship's engine

B. 1. Matematic
2. English
3. Science of the physical & Electrical
4. International Law
5. National Labour's Law
6. Act of the Sea Transportation
7. Act of the Insurance
8. Science of the shipping economic & Physicology
9. Science of the : Religion, PANCASILA (5 principle), and Military Basic.

II. ENGINE DEPARTMENT

A. 1. BASIC MARINE ENGINEERING.
2. STEAM ENGINE.
3. BOILER.
4. DIESEL ENGINEERING.
5. ENGINEERING DRAWING.
6. ELECTRICAL THEORY.
7. AUXILIARY ENGINE.
8. ENGINE RAW.
9. REFREGARATOR ENGINE.
10. SHIP'S CONSTRUCTION.
11. MECHANIC SCIENCE.
12. NAUTICAL SCIENCE.
13. BOAT HANDLING
14. SHI'S LAW
15. ENGINE WORRSHOP

B. 1. MATEMATIC.
2. ENGLISH.
3. BASIC LAW.
4. SHIPPING ECONOMIC.
5. INSURANCE.
6. BASIC MANAGEMENT.
7. LABOURER'S LAW.
8. PHYSICAL SCIENCE.
9. SCIENCE OF REGGION, PANCASILA, (5 PRINCIPLES), AND MILITARY BASIC.

EXISTING FLEET IN INDONESIA

Type of ship	GROSS REGISTERED TONNAGE						
	less 200	200 to 500	500 to 800	800 to 1600	1600 to 5000	more 5000	Total
OCEAN GOING	-	-	-	-	27	37	64
Interinsulair	6	108	104	61	61	4	344
T A N K E R	1	14	17	6	9	4	51
FISHERY	80	23	2	-	-	-	105
INDUSTRY	36	12	1	-	-	-	49
L O C A L	277	66	-	-	-	-	343
Misc. A	25	-	-	-	-	-	25
B	12	-	-	-	-	-	12
T o t a l :	237	223	124	67	97	45	993

The Japanese survey mission visited Indonesia for the purpose of surveying the probability of erecting rating schools in your country.

The Japanese survey mission was organised by the Japan inter national Cooperation Agency, Japan and headed by Captain Humio Shintani, professor of Institute for Sea Training, Ministry of Transport in Japan.

It is our ardent desire that you would, in appreciation of the bona fide intension of the survey mission, be generous to give answers about the following Questionnaire.

If it is inconvenient for you to make such insertions in the given spaces, please give us appropriate figeures and facts helpful for understanding of the state of things.

Questionnaire By Japanese Survey Mission

I. Basic education establishment in your country.

	Primary School	Secondary School	Upper Secondary School
(1) Age	7 - 12	13 - 15	16 - 18
(2) Term of Study	Dasar	Lanjutan Pertama	Lanjutan Atas
(3) Precentage of School attendance	4.510.902	590.397	228.452
(4) Kinds of Courses	Satu jenis	Empat Jenis	9 Jenis.

II. Laws concerned with seafarers in your country.

(1). Names of Laws -

(2). Summary of Laws -

III. System to obtain certificate of competency of ship's officers in your country.

(1). Kinds of certificates of competency of ship's officers

- M.P.I., P.B. III s/d. I.
- Masinis P.I., V.D., A.M.K. A s/d. C.

(2). Quailification for state examination

IV. Present ship's officers training in your country.

(1). Names of Academies Akademi Swasta : Surabaya, AKS. I + II.
Semarang, AMNI + AKPELNI.
S o l o , AKS. III.
Yogya , AKS. Yogya.
Ampenan , A.M.I.

(2). Founders or Promotors
Yayasan

(3). Eligibility of admission dari S.L.A.

(4). Terms of courses

(5) Kinds of courses — Nautika, Tehnika, Elektronika dan Ketatalaksanaan.

(6) Number of cadets in each course/year — Periksa lampiran.

(7) Curriculum of course

(8) Number of teaching staff (technical matter) }
(9) Number of teaching staff (general matter) } 240 orang.

(10) Prrivileges of graduates
(a) Certificates
(b) Employment
Foreign-going
Coastal
Others

(11) Relation with Navy

V Merchant marine high school in your country

(1) Names fo school — Periksa lampiran.

(2) Founders or Promotors — Yayasan.

(3) Eligibility of admission — Dari S.L.P.

(4) Terms of courses — Periksa lampiran.

(5) Kinds of courses — s.d.a.

(6) Number of cadets in each course / year — s.d.a.

(7) Curriculum of course — -

(8) Number of teaching staff (general matter) }
(9) Number of teaching staff (technical matter) } 60 orang.

(10) Privileges of graduates
(a) Certificate
(b) Employment
Foreign-going

Coastal

Others

(11) Relation with Navy

	VI Rating school	Tidak ada
(1)	Names of schools	-
(2)	Founders or Promotors	-
(3)	Eligibility of admission	-
(4)	Terms of courses	-
(5)	Kinds of courses	-
(6)	Number of trainees in each course / year	-
(7)	Curriculum of each coures	-
(8)	Number of teaching staff (technical matter)	-
(9)	Number of teaching staff (general matter)	-
(10)	Privileges of graduates (a) Certificate	-
	(b) Employment	
	Foreign - going	
	Coastal	
	Others	
(11)	Relation with Navy	-

VII Seafarers in your country

	OFFICER			CREW		
	Deck	Engine	Wireless	Deck	Engine	Catering
(1) Number (except foreigner)	646	495	285	68.229		
(2) Graduates of academy or school	-»-	-»-	-»-	—		
(3) Percentage of foreigner						
(4) Plans for fostering	Sedang direncanakan					
1975						
1976						
1977						
1978						
1979						

(5) If there are plans for employment of foreigners, please give information about them. Dalam rencana

(6) If there are plans for fostering seafarers in foreign countries, please give information about them. dalam rencana

VIII Merchant Shipping in your country

(1) Number of merchant vessel

	Cargo Ship		Tanker		Others	
	Number	G/T	Number	G/T	Number	G/T
100 - 3.000	28.337	2.064.769m3	-	-	-	-
Less than 10,000)						
Above 10,000)	8.988	43.522.888m3	-	-	-	-
Total						

(2) Shipping routes - Present Plan

Main Shipping Routes (foreign) -

Main Shipping Routes (coastal) - -

(3) Please indicate plans for enlarging merchant fleet in your country.
dalam rencana

(4) Please make mention of plan for improvement or expansion of port's facilities, if any dalam rencana

(5) Please make mention of plan for improvement or establishment of shipyard dalam rencana.

Standard Plan

on

Practical Training Facilities & Equipments

for

The Seamen's Training School

May, 1970

Policy for Drawing Up Standard Plan for Practical Training Facilities and Equipments for Seamen's Training School

1. Common Items in Facilities & Equipments

a) In the standard, according to the curriculum enforced in April 1970, minimum practical training facilities and equipments necessary in case of guiding professional subjects were pointed out.

b) The areas of facilities and quantities of equipments were decided based on the fixed number of students of advanced course (40 students for one class; two classes for each grade). As occasion demands, however, consideration has been paid so that the students of supplementary as well as regular course might also be able to utilize them.

2. Facilities

a) In the standard, beside the facilities used directly for practical training, the facilities closely related with the practical training, i.e. boathouse, paint warehouse, mooring facilities, material warehouse, fuel warehouse and so on were also included. The general and administrative facilities such as the instructors; room, passages, etc. and the land were excluded.

b) The names suitable to the content of practical training performed in the facilities were taken up.

c) The areas of the facilities were made minimum extent according to the necessity for study guidance and safety presupposing the equipments to be installed in the concerned facilities and the number of students accomodated there.

d) The incidental works necessary for every facilities were shown in the remarks column.

3. Equipments

(1) In the standard, the equipments used directly for practical training were shown.

a) Those belonging to incidental works and incidental equipments

b) General equipments and equipments for administration

c) Equipments for audio-visual education

d) Books, wall maps and diagrams, reference books, maps and so on (Hydrographical maps and books such as sharts, calendar of astronomical observation and international signal books to be put to practical study were also included.)

e) Consumption goods-like equipments

(2) Efforts were made so that the equipments might be denominated according to scientific terms, Japan Industrial Standard and so on.

(3) The quantities of equipments were decided, as a rule, without depending upon the equipments of the other facilities, presupposing every facilities might be able to perform its own practical study independently and at the same time based on the number of students conducting practical study. In this case, the practical studies were made to be conducted by dividing class within the scope as far as drawing up recitation schedule might permit and rotation of equipments was planned.

(4) The unit price of equipments was based on the retail one as of 1969.

(5) As to the durable years of equipments, the standard durable years of equipments (in case ordinary general maintenance repairs is to be conducted, the number of durable years to obtain educational effect scheduled according to the primary use of the equipments) were shown and decided with reference to durable years of every equipments stipulated in (Ministerial ordinance related to Durable Years of Fixed Assets, etc.) (Ordinance No.50 of the Finance Ministry, 1951).

(6) Efforts were made to indicate the standard of equipments as concretely as possible and also so that it might be able to be distinguished from the other equipments of the same kind.

The standard facilities and equipments for the Seamen's Training School are as follows:

A. Advanced Course

I. Deck

1. Facilities

No.	Name	Floor area m^2	No. of rooms	No. of persons to be accommodated	Remarks
A1	Practical training room for navigation and operations	80	1	40	Electric installation(Plug socket for practical training, for power)
A2	Model & sample room for navigation and operations	160	1	40	Electric installation (For practical training)
A3	Practical training room for operations and works	200	1	40	Preparation room, water supply facilities (For hand-washing)
A4	Practical training room for meteorological observation	40	1	20	Electric installation Water Supply facilities(For hand-washing)
A5	Practical training room for communication and signaling	160	1	40	Electric installation (For plug socket for practical training) Dark curtain device
A6	Deck storage	17	1		
A7	Paint storage	17	1		Fire proof construction
A8	Boat storage	200	1		
	Total	874			

No.	Name	
A9	Boat lifting gear	Crane(1 unit) Boat Dabit(2 units)
A10	Boat pulling-up gear	
A11	Signal pole	2 pcs.
A12	Training ship	(30) gross ton, 1 ship (Main engine remote control equipment, radar)
	Launch	
	Launch with engine	1
	Boat	5
	Jolley boat	4
	Yatch	7 (snipe)
A13	Mooring facilities	Mooring buoy, pontoon
A14	Land cargo gear	1 set

2. Equipments

(1) Practical training room for navigation and operations

No.	Name	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard, others
A101	List of hydrographic maps and pilots	1				
A102	Position entry plan	41				
A103	Chart	100	0.4	40	5	
A104	Pilot	1 Set	10	10	5	
A105	Light house table	1	3.5	3.5	5	
A106	Observation calculation table	41	0.5	20.5	5	
A107	Observation calendar	41	2.3	94.3	5	
A108	Tidal table	41	2	82	5	1 reel 1,400 2 reels 600
A109	Loran table	1	1.7	69.7	5	
A111	Ship name list	1	2.3	2.3	5	
A112	Charting tools	21 sets	1.2	49.2	10	Divider Triangle
A113	Practical training charting desk	20	5	100	10	
A114	Charting desk	1	50	50	10	
A115	Practical training equipment for collision prevention	1 set	450	450	15	
A116	Steering equipment	1 set	1000	1000	15	Oil pressure type
A117	Closet	2	20	40	15	180x180x 45 cm
A118	Chart closet	8	30	240	15	

(2) Model room for navigation and operations

A119	Beacon model	1 set	200	200	15	
A120	Magnetic dividers (or compasses)	1	250	250	8	200m/m Liquid compass
A121	Boat compasses	4	20	80	8	155m/m portable type
A122	Direction ring	1	12	12	8	
A123	Direction finder	1	20	20	8	
A124	Radio direction finder	1	850	850	8	Direct viewing type D,S, B,SSB Capable of receiving two waves
A125	Hand lead	2	5	10	8	
A126	Electric sounder	1	400	400	8	
A127	Towed sounder	1	50	50	8	
A128	Sextant	6	60	360	8	
A129	Chronometer	1	95	95	8	
A130	Chronograph	1	60	60	8	
A131	Celestial globe	1	6	6	10	
A132	Pressure log model	1	300	300	10	Hokushin (electricity) type
A133	Echo sounder	1	320	320	8	
A134	Gyrograph	1	40	40	15	
A135	Ship light	1 set	57	57	15	
A136	Black ball	1	3	3	10	
A137	Signal bell	1	2	2	15	
A138	Fog horn	1	20	20	10	

No.	Name	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard others
A139	Structure model of freighter	1	350	350	15	
A140	Structure model of tanker	1	350	350	15	
A141	Structure model of ore carrier	1	350	350	15	
A142	Structure model of ore carrier stem	1	250	250	15	
A143	Structure model of ore carrier central part	1	250	250	15	
A144	Structure model of ore carrier stern	1	250	250	15	
A145	Structure models of anchors	1 set	250	250	15	
A146	Structure model of Kenter Shackle	1	50	50	15	
A147	Structure models of rudders	1 set	250	250	15	
A148	Structure model of cargo gear	1	300	300	15	
A149	Structure models of cargo forms	1 set	170	170	15	
A150	Structure models of hatch covers	1	120	120	15	
A151	Structure models of tackles	1 set	30	30	15	
A152	Samples of ropes	1	50	50	15	
A153	Samples of wire ropes	1	50	50	15	
A154	Samples of slings	1 set	50	50	15	
A155	Gas detector	1 set	9	9	8	
A156	Respirator means	1 set	39	39	8	
A157	Safety lamp	1	10	10	15	
A158	Fire hatcher	1	1.5	1.5	15	

No.	Name	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard Others
A159	Structure model for davit operation	1	300	300	15	
A160	Kinds of life jackets	1 set	4	4	10	
A161	Expansible life jacket	2	5	10		
A162	Life buoy	2	8	16	10	
A163	Life raft	1	40	40	15	
A164	Life float	1	50	50	15	
A165	Expansible life raft	1	322	322	10	For 25 persons B type
A166	Parachute signal	1	3	3	2	Rocket type
A167	"	1	25	25	2	Pistol type
A168	Smoke-floating signal	1	12	12	2	
A169	Sun-light signal mirror	1	4	4	15	
A170	Self-ignition light	1	3	3	2	Flaming type
A171	"	1			8	Battery type
A172	Signal blue flame	2	1.5	3	2	
A173	Signal red flame	2	2	4	2	
A174	Signal flash	2	4	8	2	
A175	Signal grenade	2	4	8	2	
A176	Life rope shooter	1	180	180	10	
A177	Sea anchor	1	10	10	10	
A178	Legal equipments of life boat	1 set	40	40	10	
A179	Sample and model desk	10	5	50	10	100x180x 80cm

(3) Practical training room for operations and works

A180	Wooden spike	21	0.3	6.3	3	
A181	Fittings	11	0.5	5.5	3	
A182	Marline spike (big)	21	0.4	8.4	8	
A183	" (small)	21	0.5	10.5	8	
A184	Sea knife	21	0.5	10.5	3	
A185	Rigger's screw	11	3	33	5	
A186	Serving mallet	21	0.5	10.5	3	
A187	Chisel	5	0.6	3	5	
A188	Oil pressure wire cutter	1	40	40	10	
A189	Palm	21	0.2	4.2	8	
A190	Eyelet punch	11	0.85	9.35	5	For 30
A191	Scissors	21	0.5	10.5	3	
A192	Tape measure	2	5	10	8	Steel 30m
A193	Folding scale	21	0.1	2.1	3	
A194	Cutting pliers	5	0.5	2.5	5	
A195	Rope gauge	5	0.72	3.6	8	
A196	Tipping hammer	21	0.5	10.5	5	
A197	Goose neck scraper	21	0.3	6.3	5	
A198	Long handle scraper	21	0.11	2.31	5	
A199	Spray gun	1 set	85	85	10	
A200	Safety cap	21	0.5	10.5	3	
A201	Safety belt	11	5	55	5	
A202	Benching stage	2	2.5	5	10	
A203	Boatswain (or bo's'n) chair	2	1	2	10	
A204	Tackle	2	25	50	15	
A205	Shackle	12	0.2	2.4	15	

No.	Name	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard Others
A206	Boat bogie	2	75	150	10	
A207	Closet	4	20	80	15	180x180x 45cm

(4) Practical training room for meteorological observation

A208	Screen	1	30	30	10	
A209	Aneroid barometer	1	3.5	3.5		
A210	Recording barometer	1	30	30	8	
A211	Anemoscope-anemograph	1	115	115	8	Koshinben type
A212	Wind direction - air speed computer	11	0.5	5.5	8	
A213	Hand air-speed meter	1	7	7	8	
A214	Maximum-minimum thermometer	2	5	10	5	Six type
A215	Recording thermometer	2	20	40	8	
A216	Hygrometer	2	1	2	8	Hygrometer
A217	Hair hygrometer	2	1	2	8	
A218	Hygrograph	2	20	40	8	
A219	Desk	2	5	10	8	100x180x 80 cm
A220	Closet	1	20	20	10	180x180x 45 cm

(5) Practical training room for signaling

A221	Flag	41	0.5	20.5	10	
A222	International signal flag	2 sets	70	140	10	
A223	Key for luminescent signal	41	1	41	10	
A224	Signal lamp	1	3	3	8	Flood defense ty
A225	Day signal lamp	1	85	85	8	lighting type 30cm 500W
A226	Printer	1	40	40	8	For training BO-3
A227	International signal sound	11	4	44	10	
A228	Binocular	5	12	60	10	50cmx7
A229	Closet	2	20	40	10	180x180x 45cm

II. Engine

1. Facilities

No.	Name	Floor area m^2	No. of rooms	No. of persons to be accomo-dated	Remarks
B1	Practical training room for engine operation & adjustment	380 140+140 +100	3	40	Electric installation, Water tank, Water supply facilities, Chimney, Preparation room, Traveling crane
B2	Electric engineering practical training room	80	1	40	Electric installation
B3	Automation practical training room	80	1	40	Electric installation Water supply facilities
B4	Engine model room	160	1	40	
B5	Forging practical training room	100	1	20	Electric installation Chimney, Water works
B6	Finishing plate work practical training room	165	1	40	Electric installation Tool room
B7	Welding practical training room	80	1	20	Electric installation
B8	Machine-work practical training room	198	1	20	Electric installation Water supply facilities, Preparation room
B9	Materials' storage	40	1		Hanger rock
B10	Fuel storage	10	1		Water-proof contruction
B11	High pressure gas bombs' hanger	5	1		Water-proof contruction
Total		918			

2. Equipments

(1) Engine Practical training room

No.	Name (Marine prime mover)	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard, Others
B101	Diesel engine	1	3200	3200	15	2Hz,120PS Adjustment for practical training
B102	Diesel engine	1	3200	3200	15	4Hz,120PS With supercharger, With remote control dynamometer (separate paragraph) For operation practical training
B103	Gasoline engine	1	100	100	10	5PS 4Hz
B104	Petroleum engine	1	100	100	10	6PS 4Hz
B105	Semi-diesel or hot bulb engine	1	100	100	10	6PS 2Hz
B106	Boiler	1	2000	2000	15	All automatic Water pipe type
B107	Steam turbine plant	1	3000	3000	15	Steam turbine, Power Generation type
B108	Air compressor	1	450	450	15	10KW, with clatch Diesel driving
B109	Air tank	1	100	100	15	30kg/cm^2 21m^3

No.	Name (Marine prime mover)	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard, Others
B110	Oil cleaning apparatus	1	1000	1000	15	All automatic purifier Heater, Oil tank
B111	Refrigerating plant	1	1000	1000	15	All automatic refrigerating machine Refregirator
B112	Weir's pump	1	250	250	20	Steam pipe With suction and discharge pipe equipment
B113	Washington pump	1	300	300	20	- ditto -
B114	Spiral pump	1	180	180	15	Electrically driven With suction and discharge pipe equipment
B115	Turbine pump	1	200	200	15	Motor With suction and discharge pipe equipment
B116	Winch	1	1000	1000	20	Motor oil pressure type 1 ton
B117	Windlass	1	1000	2000	15	Motor type
	(Instruments)					
B118	Fuel tank for instrumentation	1	50	50	10	1 ton
B119	Electric dynamometer	1	200	200	15	
B120	Platform weighing machine	1	30	30	10	For the above
B121	Flow meter	1	50	50	8	

No.	Name (Marine prime mover)	Q'ty	Unit price (¥1,000)	Amount (¥1,000)	Durable Years	Standard, Others
B122	Pressure indicator	1	60	60	10	For medi speed
B123	Planimeter					
B124	Cylinder, gauge					
B125	Thermoelectric hygrometer					
B126	Boiler water tester					
B127	Gas analyzing apparatus					
B128	CO_2 meter					
B129	Gravimeter					
B130	Viscosimeter					
B131	Fuel valve-testing pump					
B132	Smoke indicator	1	30	30	10	
B133	Exhaust gas thermometer	1	130	130	8	Electric type
B134	Bench	2	30	60	15	200x150x 80cm
B135	Instruments' closet	2	20	40	15	180x180 45cm
B136	Chain block	3	21	42	10	1/4, 1/ 1 ton
B137	Vice	4	7	28	10	
B138	Overhaul and assembly tools	2 sets	100	200	15	Spanner, plier, hammer, screw-d etc.

(2) Electric engineering practical training room

	Electric equipments					
B139	Diesel engine generator	2	650	1300	10	Capable of parallel operation 3-phase AC generator
B140	Switchboard	1	800	800	10	Capable of parallel operation Include Synchronous board
B141	Motor-generator	1	250	250	15	AC motor DC motor with speedometer
B142	DC motor	2	60	120	15	100V 2KW With starter
B143	AC motor	2	30	60	15	100V 2KW
B144	Transformer	3	20	60	15	Single-phase, singly re-entrant winding, 3-phase each 1
B145	Rectifier	1	20	20		Semiconductor, rectifier
	(Electric instruments)					
B146	DC ampere meter	8	5	40	8	
B147	AC ampere meter	8	5	40	8	
B148	DC voltmeter	8	5	40	8	
B149	AC voltmeter	8	5	40	8	
B150	Avometer	2	10	20		Universal type

B151	Wattmeter	2	12	24	10	For single-phase
B152	Wattmeter	1	15	15	10	For 3-phase
B153	Power-factor indicator	2	19	38	8	100/200 V
B154	Frequency meter	1	10	10	8	50C/S or 60C/S
B155	Galvanometer	1	7	7	8	Pointer
B156	Energy meter	2	5	10	8	Induction type, single phase 3-phase, each 1
B157	Wheatstone bridge	1	15	15	8	
B158	Resistance	8	9	72	10	Wound-rotor type variable resistance
B159	Megger	1	16	16	8	
B160	Synchronism indicator	1	37	37	8	Pointer
B161	Tachometer	2	7	14	8	Hasura type 10,000 rpm
B162	Illuminometer	1	15	15	10	5,000 luxes
	(Testing devices for electric equipments)					
B163	Load resistance	2	100	200	10	For single phase, variable
B164	Loading device for small - sized motor	1 set	50	50	15	2 KW
(Power source devices)						
B165	Single-coil voltage regulator	2	10	20	10	1 KVA
B166	Battery	2	20	40	5	12 V
B167	Charging device	1	100	100	10	

	(Electric machine-tools)					
B168	Winding machine	1	20	20	15	With automatic feeder
B169	Electric drill	1	14	14	8	
	(Desk, bench and closet)					
B170	Test bench	4	10	40	15	100x60x80cm
B171	Tools' closet	2	20	40	15	180x180x 45cm
	(Automatic controllers)					
B172	Remote controller	1	2000	2000	8	Oil pressure control system driven by electricity for diesel
B173	Level controller	1	2000	2000	8	
B174	Pressure controller	1				
B175	Flow controller	1				
B176	Temperature controller					
	(Electronic instrumentation)					
B177	Oscilloscope	1	210	210	8	Cathode-ray tube type
B178	Semiconductor tester	1	15	15	8	
B179	Oscillator	1	25	25	8	
B180	Amplifier	1	35	35	8	
B181	Photoelectric tube	1	5	5	8	
B182	Discharge tube	1	25	25	8	
B183	Vacuum-tube function explicative device	1	15	15	8	
B184	AC and DC comparison explicative device	1	8	8	8	
B185	AC bridge	1	60	60	8	

	(Electric and magnetic experiment)					
B186	Power source apparatus	1	20	20	8	For small size table
B187	- ditto -	1	65	65	8	Eliminator type
B188	AC Circuit experimental device	1 set	8	8	8	
B189	Double coil	1	7	7	8	
B190	Galvanometer used for lectures	1	17	17	8	
B191	Universal meter used for lectures	1	26	26	8	
B192	Revolving magnetic field	1	5	5	8	
B193	Electromagnetic phenomenon expicative device	1	35	35	8	
B194	Closet	5	20	100	15	180x100 x45

(3) Forging practical training room

B195	Forge fire	5	100 25	200	10	Mobile type 4 Fired type 1 (Chimney)
B196	Air blower	1	50	50	10	
B197	Anvil	5	30	150	15	
B198	Honey-comb floor	2	7	14	15	
B199	Forging tools (1 set)	5	20	100	5	
B200	Water tank	5	2	10	5	
	(Desk, bench & closet)					
B201	Bench	2	30	60	15	200x150x 80 cm
B202	Tools' closet	2	20	40	15	180x180x 45 cm

(4) Welding practical training room

	(Welding machines and means)					
B203	Gas welding machine	4	50	200	10	
B204	Electric welding machine	4	70	280	10	
B205	Shielding means	4	10	40	10	
B206	Arc shield	21	0.5	10.5	5	
B207	Protecting means	21	1	21	5	Glasses for gas welding included
	(Machine-tools)					
B208	Bench grinder	4	20	80	10	
B209	Vice	4	7	28	15	
	(Desk, bench & closet)					
B210	Bench	1	30	30	15	200x150x 80 cm
B211	Tools' closet	2	20	40	15	180x180x 45 cm

(5) Machine-work practical training room

	(Machine-tools)					
B212	Universal machine-tool	1	1650	1650	15	Max. distance between spindle & center 1000m/m
B213	Lathe	6	900	5400	10	Max. distance between spindle & center 550m/m
B214	Bench drilling machine	1	43	43	10	13m/m 400W
B215	Bench grinder	2 2	36 30	66	10	750W 400W
B216	Electric grinder	2	28 36	64	10	300W 500W
B217	Tool grinder	2	25	50	10	
B218	Electric drill	2	17 25	42	10	10m/m 20m/m
B219	Hand drill	1	1.5	1.5	10	
B220	Chuck	2	5	10	10	
B221	Mandrils, dogs	7	11	77	5	
B222	Bit tools	7	4	28	3	
B223	Drills	5	3	15	3	
B224	Polishing tools	2	4	8	3	
B225	Tools' closet	2	20	40	15	

(6) Finishing plate work practical training room

	(Plate work tools)					
B226	Soldering iron	20	0.1	2.0	5	
B227	Wodden hammer	20	0.1	2.0	3	
B228	Tinman's shears	20	1.1	20.2	5	
B229	Torch lamp	5	3	15	5	
B230	Cord winding-off machine	1	10	10	10	
	(Finishing tools)					
B231	File	40	2	80	5	
B232	Set file	10	0.8	8	5	
B233	Cant file	20	0.4	8	5	
B234	Chisel	40	0.6	24	5	
B235	Hand hammer	40	0.24	9.6	5	
B236	Compass	10	0.2	2	5	
B237	Calipers	40	0.15	6	5	
B238	scriber	20	0.05	1	5	
B239	Scribing block	10	0.4	4	5	
B240	Punch	10	0.05	0.5	5	
B241	Metal flash					
B242	V block					
B243	Hand vice					
B244	Squill vice					
B245	Hack-saw					
B246	Screw working tools					
B247	Tap handle					
B248	Die stock					
B249	Reamers					

B250	Punch	2 sets	0.8	1.6	5	
B251	Figure punches	3 sets	1	3	5	
B252	Alphabet punches	2 sets	2	4	5	
B253	Small hammer	5	0.2	1	5	
B254	Marking-off table	3	80	240	15	1000m/m x 1200m/m
B255	Fitting table	3	10	30	10	300m/mx 300m/m
B256	Pipe	1	25	25	10	
B257	Pipe vice	1	6	6	10	
B258	Vice	20	7	140	10	
B259	Vice	20	6	120	10	
B260	Spanner	5 sets	2	10	5	
B261	Monkey wrench	5 sets	2.5	12.5	5	
B262	Socket wrench	5 sets	10	50	5	
B263	Double head wrench	5 sets	8.7	18.5	5	
B264	Set spanner	5 sets	1.9	9.5	5	
B265	Pipe wrench	5 sets	5.1	25.5	5	
B266	Screw driver	5 sets	1	5	5	
B267	Pliers	5 sets	1	5	5	
B268	Cutting plyers	5 sets	1.2	6	5	
B269	Pipe cutter	2	4	8	5	
B270	Bolt clipper	1	2	2	5	
B271	Special hammer	5		5	5	Various kind of lead, copper, wood, plastics
B272	Hammer	5		4	5	9kg-0.6kg Various kind

B273	Bulb sheet cutter	1 set	20	20	5	
B274	Pet-jack	10	0.2	2	10	
B275	Jack	1	20	20	10	
B276	Impact wrench	1	45	45	10	With air hose for 38m/m
B277	Air hammer	1	20	20	10	
B278	Chain block	5	15	75	10	
B279	Pulley tap pincers	2		20	10	
B280	Tap pincers	2 sets	1.5	3	5	
B281	Screw extractor	1 set		1.5	5	
B282	Counter sunl head nut	2 sets	4	8	5	
B283	Vice stand	5	25	125	15	1800x1200 x850cm
	(Instruments)					
B284	Torque wrench	1	20	20	8	
B285	Gas detector	1	8	8	8	
B286	Level vial	1	8	8	10	
B287	Outside micrometer	2	12	24	8	
B288	Dial gauge	2	15	30	8	
B289	Slide calipers	10	2	20	8	
B290	Steel tape	10	0.3	3	5	
B291	Steel tape	2	1	2	5	
B292	Square	40	0.35	17.5	5	
B293	"	2	2.5	5	8	
B294	Protractor	2	3	6	8	

B295	Pitch gauge	2 sets	0.3	0.6	8	
B296	Radius gauge	2	0.7	1.4	8	
B297	Taper gauge	1	5	5	8	
B298	Wire gauge	2	0.3	0.6	8	
B299	Clearance gauge	2 sets		3	5	
B300	Tape measure	1	3	3	5	
B301	Drawing instrument	1	5	5	10	
	(Desk, bench & closet)					
B302	Tool's closet	5	40	200	15	
B303	Drawing table	1	60	60	10	
B304	Drawing board	1	5	5	10	

(7) Marine equipment model room

B305	Marine high pressure water tube boiler model	1	250	250	15	
B306	Combustion apparatus	1	80	80	15	
B307	Sealed water supply equipment	1	180	180	15	
B308	Marine main diesel engine	1	200	200	15	Large size low speed 2Hz Plane type
B309	"	1	380	380	15	Solid type
B310	Supercharging system model	1	100	100	15	
B311	2 cycles' scavenging pump model	1	180	180	15	
B312	Diesel engine fuel pump model	1	95	95	15	Bush type
B513	"	1	100	100	15	Spill type
B514	Structure models of HP & LP turbines reduction gear and condenser	1	200	200	15	
B315	Marine main steam turbine engine model	1	180	180	15	
B316	Turbine flexible joint models	1	80	80	15	Claw type dentiform type
B317	Turbine emergency cut-out gear model	1	180	180	15	
B318	Models of stern tube, propeller and rudder	1	150	150	15	
B319	Steering gear model	1	150	150	15	
B320	Multistage turbing pump models	1	100	100	15	

B321	Variable pitch propeller model	1	130	130	15	
B322	Reversing clutch model	1	150	150	15	
B323	Models of oil pressure pump and motor					Oxial pump
B324	Variable discharge pump model	2	150	300	15	Helshow Hanney
B325	Induction motor model	1	100	100	15	3-phase Double fasket type
B326	Commutator model	1	180	180	15	AC series
B327	DC compound motor model	1	180	180	15	
B328	Induction compound motor model	1	15	15	15	Single phase Phase splitting starter
B329	Induction compound motor model	1	16	16	15	Single phase Condenser-start type
B330	- ditto -	1	15	15	15	

E. Home Trade Course

The standard facilities and equipments required to the practical trainings for the deck and engine departments of the Home Trade Course shall be the same as for the Advanced Course, with the exception of the filling numbers added with a mark " ".

Compulsory subjects, corresponding Courses, Education Methods, Education Hours & Units, etc. (Deck Department of Advanced Course)

Compulsory subject	Corresponding courses & Education hours		Education methods	Facilities used	Education hours & units allocated to the compulsory subject	
	Course	Hour or unit			Unit	Hour
1. Subjects of navigation						
1. Nautical instrument	Navigation		Lecture	Classroom 2nd Model room	3.14	110
	Practical training on board		Practical training	Training ship	0.29	10
2. Beacons	Navigation		Lecture	Classroom 1st Model room	0.4	14
3. Hydrography	Navigation		Lecture	Classroom	0.4	14
	Practical training on board		Practical training	Training ship	0.17	6
4. Tides & Oceanic Currents	Oceanic meteorology		Lecture	Classroom	0.29	10

5. Physiographical navigation	Navigation	Lecture	Classroom Combined classroom	1	35
	Practical training on navigation	Practical training	Training ship	0.29	10
6. Radio navigation	Navigation	Lecture	Classroom	0.14	5
Total				6.12	214
II. Subjects of Operations & Workings					
1. Hull, equipment & tools	Operations	Lecture	Classroom 1st & 2nd Model rooms	2.11	74
	Practical training on board	Practical training	Training ship	0.71	25
	Deck jobs		Working room	2	70
2. Steering	Operations	Lecture	Classroom	1.31	46
	Boat	Practical training	Boat	2	70
	Practical training on board		Training ship	0.8	28

3. Prevention of marine casualties & salvage works	Operations	Lecture	Classroom	0.27	10
	Practical training on board	Practical training	Training	0.11	4
4. Fire and water preventions	Operations	Lecture	Classroom	0.11	4
5. Life-saving	Operations	Lecture	Classroom	0.17	6
	Boat	Practical training	Boat	0.63	22
	Practical training on board		Training ship	0.06	2
6. Marine meteorology & phenomena	Oceanic meteorology	Lecture	Classroom Meteorological observatory room	1.86	65
7. Stability & trim of vessel	Operation	Lecture	Classroom	0.77	27
8. Security & sanitation in vessel	Sanitation & gymnastics	Lecture	Classroom	0.74	26
	Operations			0.2	7

9. Duty	Duty in ship	Lecture	Classroom	0.29	10
	Operations			0.14	5
	Practical training on board	practical training	Training ship	0.34	12
10. Signalling	Signalling	Lecture	Classroom	2	70
		Practical training	Auditorium		
	Practical training on board	Practical training	Training ship	0.14	5
11. Outline of engines	Marine engines		Classroom	3.8	133
	Automation	Lecture	Classroom	1.43	50
			Electrical experiment room		
	Machine-work		Classroom	0.29	10
	Practical training on board	Practical training	Training ship	1.43	50
	Engine room jobs		Engine room	0.57	20
Total				24.30	851
III. Subjects of Laws & Regulations					
1. Regulations for preventing collisions at sea	Maritime laws & regulations	Lecture	Classroom	0.91	32

	Practical training on board	Practical training	Training ship	0.11	4
2. Maritime traffic safety law & directions based upon this law	Maritime laws & regulations	Lecture	Classroom	0.11	4
3. Port regulations law & directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.23	8
	Practical training on board	Practical training	Training ship	0.11	4
4. The mariner's law and directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.94	33
5. The law for ship's officers and directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.14	5
6. Marine accident inquiry law and directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.06	2
7. Ship law and directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.09	3

8. Ship's safety law and directions upon this law	Maritime laws and regulations	Lecture	Classroom	0.46	16
9. Marine pollution prevention law and directions upon this law	Maritime laws and regulations	Lecture	Classroom	0.11	4
10. The quarantion law and directions upon this law	Maritime laws and regulations	Lecture	Classroom	0.03	1
Total				3.30	116
Total				33.72	1,181

Compulsory subjects, Corresponding Courses, Education Methods, Education hours & Units, etc. (Engin Department of Advanced Course)

Compulsory subject	Corresponding courses & Education hours		Education methods	Facilities used	Education hours & units allocated to the compulsory subject	
	Course	Hour or unit			Unit	Hour
I. Subjects of engines						
1. Internal combustion engine and its attachments	Marine engines		Lecture	Classroom 3rd Model room	2.6	91
	Practical training on board		Practical training	Training ship	0.86	30
	Engine jobs			Working room	0.29	10
2. Propellers, propeller shaft systems & gearings	Marine engines		Lecture	Classroom 3rd Model room	0.71	25
	Practical training on board		Practical training	Training ship	0.11	4
3. Auxiliary boiler and its attachments	Marine engines		Lecture	Classroom 3rd Model room	2.77	97
	Engine jobs		Practical training	Working room	0.17	6

4. Auxiliary engine, control system and instrument and their attachments	Marine engines	Lecture	Classroom	1.49	52
			3rd Model room		
	Automation	Lecture	Classroom	1.43	50
			Electrical experiment room		
	Practical training on board	Practical training	Training	0.17	6
	Engine jobs		Working room	0.23	8
5. Electric systems & their attachments	Marine electricity	Lecture	Classroom	4.11	144
			Electrical experiment room		
	Marine engines	Lecture	Classroom	0.14	5
	Practical training on board	Practical training	Training ship	0.17	6
	Engine jobs		Working room	0.17	6
6. Fuel & lubricant	Marine engines	Lecture	Classroom	0.54	19
	Practical training on board	Practical training	Training ship	0.11	4
	Engine jobs		Working room	0.17	6

7. Engine general	Marine engine	Lecture	Classroom	0.6	21
8. Fundamental knowledge on engines	Science	Lecture	Classroom	1.03	36
	Mathematics			1.63	57
	Machine-works			0.57	20
	Engine jobs	Practical training	Working room	0.57	20
Total				20.64	723
II. Subjects of service general					
1. Duty, arrangement for safety & emergency measure	Operations	Lecture	Classroom	0.43	15
	Duty in ship			0.23	8
	Boat	Practical training	Boat	0.63	22
	Practical training on board		Training ship	1.14	40
2. Security & sanitation in vessel	Sanitation & gymnastics	Lecture	Classroom	0.74	26
	Operations	Lecture	Classroom	0.2	7

3. The mariner's law and directions based upon this law	Maritime laws and regulations	Lecture	Classroom	0.94	33
4. The law for ship's officers and direction upon this law	Maritime laws and regulations	Lecture	Classroom	0.14	5
5. Marine accident inquiry law	Maritime laws and regulations	Lecture	Classroom	0.06	2
6. Ship's safety law and directions upon this law	Maritime laws and regulations	Lecture	Classroom	1.03	36
7. Marine pollution prevention law and directions upon this law	Maritime laws and regulations	Lecture	Classroom	0.11	4
8. Outline of navigation	Navigation	Lecture	Classroom	2	70
	Operations	Lecture	1st & Model room	2.29	80
	Maritime laws and regulations	Lecture	Classroom	0.43	15
	Practical training on board	Practical training	Training ship	2	70
	Deck jobs		Working room	0.57	20
Total				12.94	453
Total				53.58	1,176

Fig. (3-1) ORGANIZATION OF DEPARTMENT OF COMMUNICATION

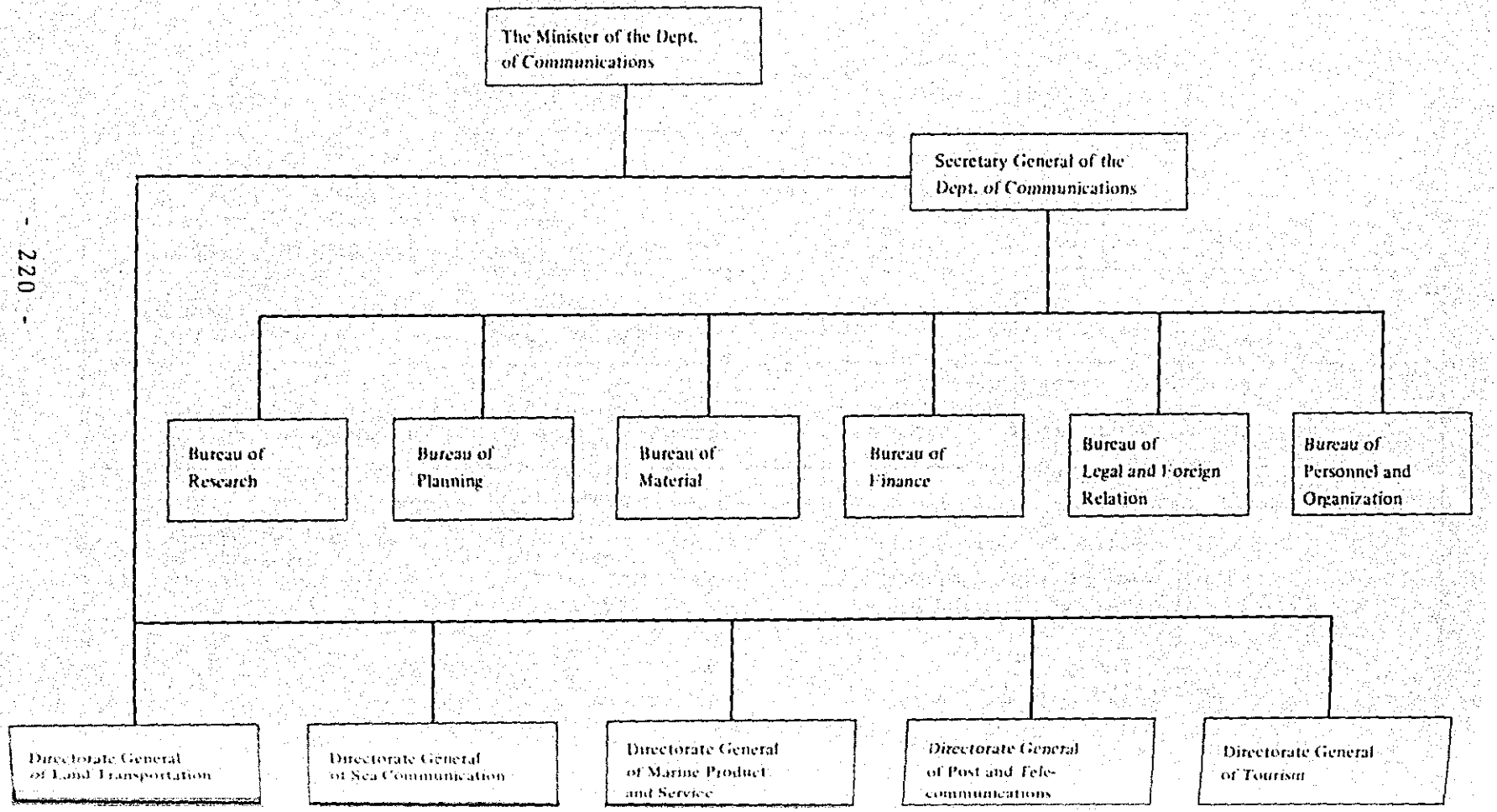


Fig. (3-2) ORGANIZATIONAL CHART OF DIRECTORATE GENERAL OF SEA COMMUNICATION

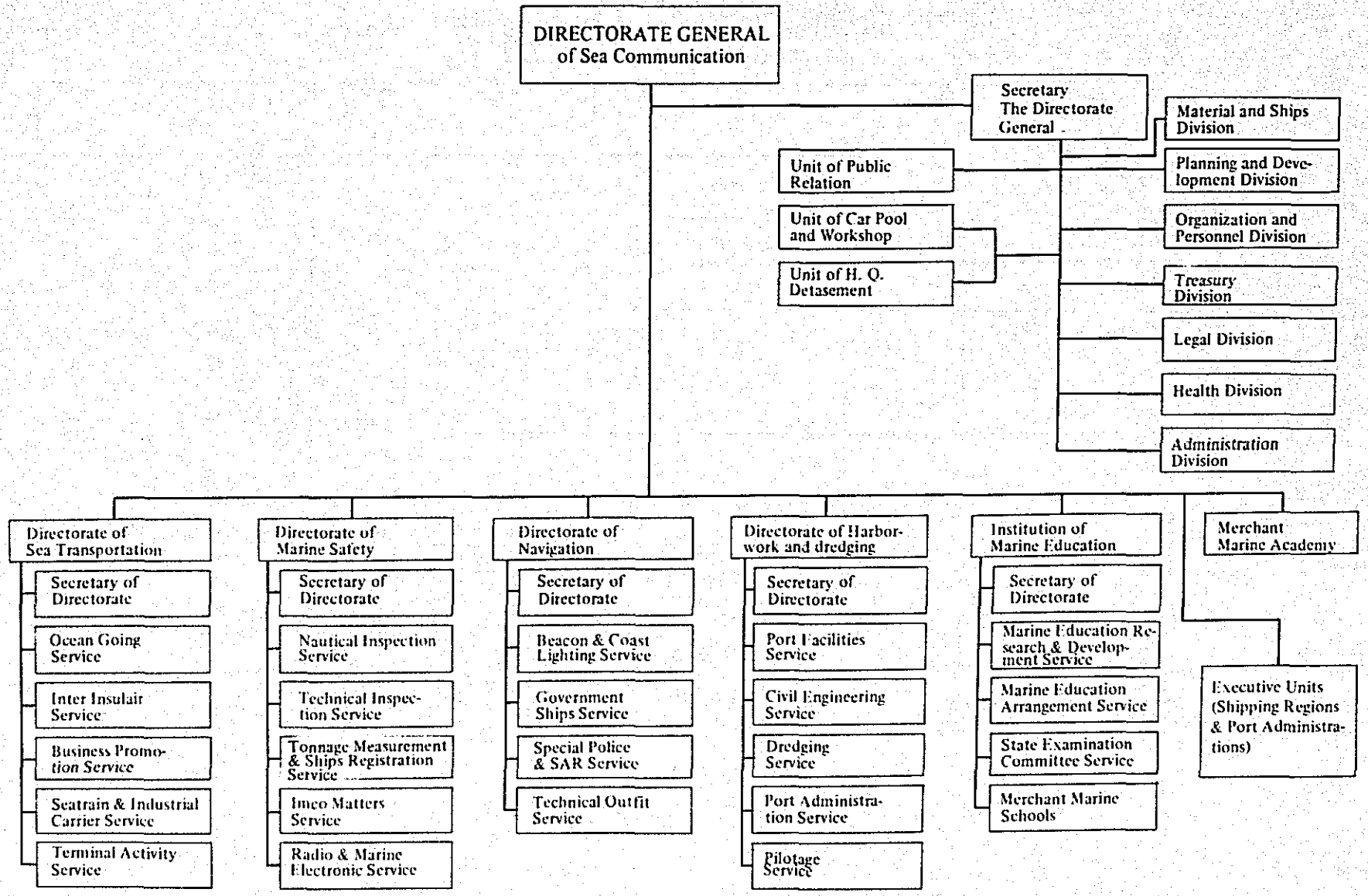


Fig. (3-3) ORGANIZATION OF SHIPPING REGION

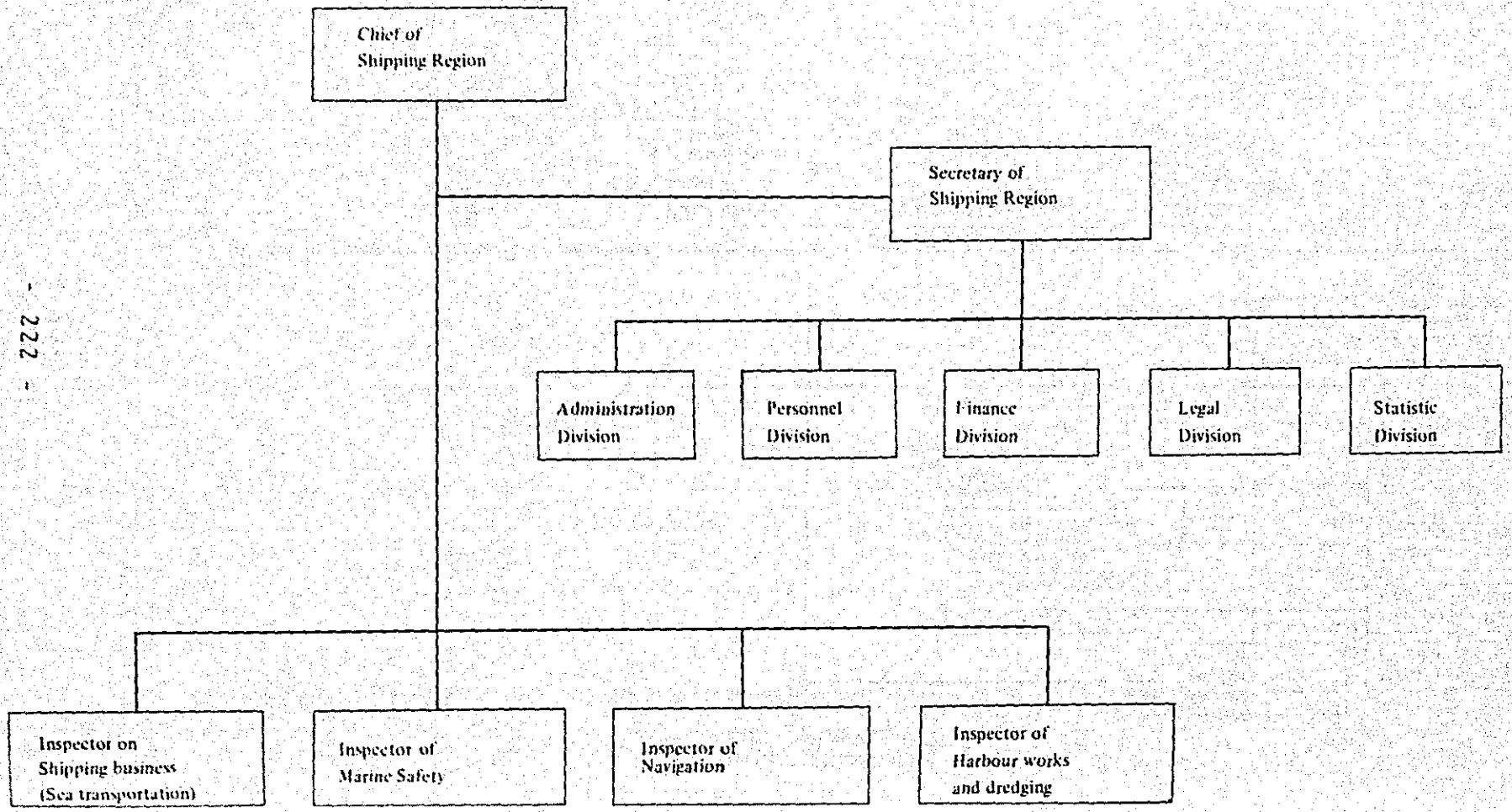
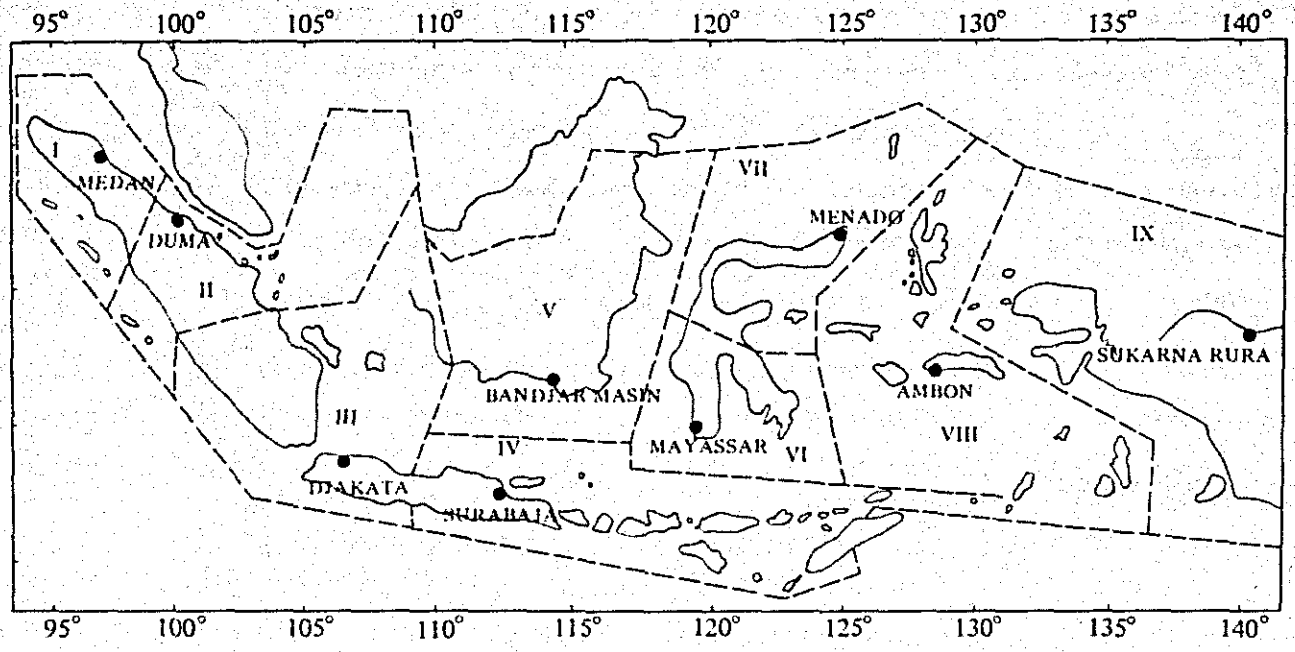


Fig. 3-4 JURISDICTIONAL AREA CHART OF 9 SHIPPING REGIONS



DAFTAR : KAPAL2 INDONESIA DALAM PENGAWASAN KESYAHBANDARAN UJUNG PANDANG TAHUN 1972 S/D 31 MARET 1975.

NO. Ur.	PEMILIK/ PERUSAHAAN	NAMA KAPAL	THN PEMBUATAN	ISI KOTOR M3	ISI KOTOR BRT	DWT	KONSTRUKSI KAPAL	JENIS MESIN	DAYA KUDA	DAERAH PEL.	CLASS	CALL SIGN	PEM.PE..TAAN	TANGGAL DAN TEMPAT DOK 1972	1973	1974	1975	KETERANGAN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	IPT. P P S S	A NOLIMOHONUTU	1959 Nederland	2.312,92	816,46	1063	B	c	660	B	BKI	PKIXI	JET	12-4-72 Tgpriok	-	-	-	Sdg dok Tgpriok
2.	s.d.a	AMANNA GAPPA	sda	2.304,47	813,47	1063	B	c	660	B	BKI	PKLYI	"	15-11-72 Tgpriok	-	11-4-74 Ambon	-	Masih berlayar
3.	s.d.a	ANDI PANGERANG	sda	2.315,88	817,50	1063	B	c	660	B	BKI	PKLAI	"	7-11-72 S'baya	-	15-5-74 S'baya	-	
4.	s.d.a	HERO DALOMO	sda	2.308,15	814,77	1063	B	c	660	B	BKI	PKLZI	"	13-5-72 Ambon	-	-	-	Sdg dok S'baya
5.	s.d.a	BOTOLEMPANGAN	sda	2.304,47	813,47	1063	B	c	660	B	BKI	PKLYI	"	21-12-72 Tgpriok	19-5-73 Ambon	12-11-74 Tgpriok	-	
6.	s.d.a	KAJAO LALIDO	sda	2.304,47	813,47	1063	B	c	660	B	BKI	PKMZI	"	-	24-12-73 Ambon	-	-	Sdg dok Tgpriok
7.	s.d.a	P A S U D U	1953 Belgia	1.542,95	544,66	618	B	c	350	B	BKI	PKFPI	"	-	12-8-73 Ambon	-	-	Sdg dok S'baya
8.	IPT. BONE LLOYD	BONTOSUNGGU	1967 Jakarta	926,93	326,93	360	B	c	375	B	BKI	-	UP	-	2-3-73 UP	-	-	Sdg menunggu dok UP.
9.	s.d.a	BONTOMARANU	s.d.a	916,41	323,49	300	B	c	375	B	BKI	-	UP	-	15-7-73 UP	-	-	sda
10.	s.d.a	BONTOMANAI	1965 Jakarta	527,01	186,03	200	B	c	210	B	BKI	-	"	6-3-72 UP	13-12-73 UP	-	-	sda
11.	IPT. KA LINGGING	A S O L A	1955 Jepang	2.094,28	739,27	1108	B	c	1200		BKI	PLKAI	-	-	3-10-73 Ambon	9-9-74 Tgpriok	-	-
12.	IPT. SINAR SULSELATAN	TONGKOL	1945 Valence	1.197,99	422,89	470	B	c	600		BKI	PKGTI	JET	-	-	-	-	Diatas Gal.UP
13.	s.d.a	I B R A T A	1953 Italia	801,44	282,90	250	B	c	300		BKI	PKHKI	"	1-11-72	-	3-6-74	-	-
14	IPT. HALAMANDRIN LLOYD	BINTANG -27	1971 Tegal	444,02	156,73	±235	B	c	200	C	BKI	-	UP	-	23-3-73 UP	5-8-74 UP	-	-
15.	IPT. GANGGAWA	BINTANG -29	s.da	444,02	156,73	233	B	c	200	C	BKI	-	UP	-	10-4-73 UP	31-7-74 UP	-	-
16.	IPT. KALI MAS TIMUR	KALIANGET	1960 Jepang	482,55	170,34	±255	B	c	2x110	C	BKI	-	"	-	20-4-73 UP	22-8-74 UP	-	-
17.	s.d.a	KALI BAND	1968 UP	160,80	56,79	± 85	K	c	60	C	-	-	"	17-8-72 UP	7-8-73 UP	21-11-74 UP	-	-
18.	s.d.a	KALI ASIN	1973 UP	271,03	95,68	±143	K	c	120	C	-	-	"	-	24-7-73 UP	17-5-74 UP	-	-
19.	s.d.a	KALI JATI	1968 UP	177,11	62,51	± 93	K	c	60	C	-	-	"	17-6-72 UP	24-7-73 UP	30-9-74 UP	-	-
20.	s.d.a	LALLANDA	1964 Jakarta	136,66	48,24	±73	B	c	107	C	-	-	"	-	30-3-73 UP	1-6-74 UP	-	-
21.	s.d.a	KALI MAS	1966 UP	96,05	33,89	± 50	K	c	45	D	-	-	"	-	5-7-73	-	-	Diatas Gal.UP
22.	IPT. JAYA LAUT LAUT	CALLITY	1971 Sulawesi	208,80	73,72	±110	K	c	150	C	-	-	"	27-10-72 UP	-	13-6-75 UP	-	Masih berlayar
				205,00	71,65	107	K	c	110	C	-	-		-	-	31-7-74	21-7-75	

24.	IPT. JAYA [illegible]	[illegible]	1958 Selayar	169,91	67,05	±100	K	c	50	C	–	–	UP	31-5-72 UP	7-7-73 UP	31-8-74 UP	–	–
25.	s.d.a	[illegible] JAYA	1973 UP	130,22	66,64	" 99	F	c	90	C	–	–	"	–	12-9-73 UP	–	23-4-75 UP	–
26.	IPT. [illegible]	B A L I	1968 Juang	248,47	87,70	"130	K	c	120	C	–	–	"	14-11-72	–	19-2-74	–	Menunggu dok diUP.
27.	IPT. P R A U	B[illegible]JALINTANG -I	1962 Jkt.	279,61	99,73	"120	B	c	115	C	–	–	"	–	3-6-73	–	–	sda
28.	IPT. H.SAIFUDDIN	[illegible] A II	1960 Selayar	197,20	69,61	"100	K	c	75	C	–	–	"	20-11-72 UP	17-3-73 UP	23-1-74 UP	14-4-75 UP	–
29.	IPT. I N D A H A	P[illegible]TA -I	1965 Bajoe	210,44	74,28	"100	K	c	40	C	–	–	"	23-1-72	–	12-2-74	–	Menunggu dok di UP.
30.	s.d.a	INDAHA – 2	1961 Jkt	146,36	51,66	" 77	K	c	180	C	–	–	"	–	22-5-73	–	–	Tidak ada data Kapal berada DiTarakan.
31.	IPT. B I S M A	LAMA -I	1973 Palopo	182,26	64,33	" 96	K	c	130	C	–	–	"	–	28-12-73 Palopo	–	11-2-75 UP	–
32.	ITRO DG PASOLONG & ABD LATIF	SINAR TANGGAJENG	1974 Barru	164,37	58,02	" 87	K	c	102	C	–	–	"	–	–	18-4-74 Barru	–	Sdg dok di Barru
33.	IPT. [illegible]	DAMAI [illegible]	1974 Barru	152,92	53,98	" 80	K	c	80	C	–	–	"	–	–	12-12-74 UP	–	–
34.	IPT. Kamala Baru	TG. [illegible]GGIT	1974 Palopo	282,01	99,54	"149	K	c	100	C	–	–	"	–	–	22-7-74 Palopo	–	–
35.	CV. G U L A T	GENTONG	1974 Jkt	242,53	85,61	"128	K	c	240	C	–	–	Jkt	–	–	24-8-74 UP	13-5-75 UP	–
36.	AD.KONG KOLOG DAM XIV/HN	[illegible]AYU	1974 UP	135,66	47,88	" 70	K	c	32	C	–	–	UP	–	–	15-6-74 UP	–	–
37.	MUSLIMIN DG [illegible]	MA[illegible]GA DUA	1974 UP	124,60	43,98	" 65	K	c	36	C	–	–	"	–	–	24-7-74 UP	–	–
38.	[illegible]ANTO T	SULAWESI JAYA	1974 Barru	188,67	66,60	" 99	K	c	102	C	–	–	"	–	–	1-5-74 UP	29-1-75 UP	–
39.	IPT. [illegible]OOD	PALAPI	1974 UP	118,14	41,70	" 60	K	c	45	D	–	–	"	–	–	26-12-74 UP	–	–
40.	KOL. WIJOTO	HIDUP BA[illegible]	1974 UP	76,90	27,14	" 40	K	c	33	D	–	–	"	–	–	18-9-74 UP	–	–
41.	IPT. [illegible]WOOD TIM[illegible]	S [illegible] A	1974 Maros	47,76	16,85	" 25	K	c	33	D	–	–	"	–	–	22-7-74 Maros	–	–
42.	s.d.a	[illegible] D U	1974 Maros	63,06	22,26	" 35	K	c	45	D	–	–	"	–	–	2-11-74 Maros	–	–
43.	CV. LA [illegible]	[illegible] JAYA	1974 Donggala	78,86	27,83	" 40	K	c	65	D	–	–	"	–	–	12-12-74 UP	–	Tg.22-1-75 tenggelam di Irja.
44.	IPT. I N D A H A	INDAHA – I	1973 UP	93,18	32,89	" 49	K	c	36	D	–	–	"	–	22-5-73 UP	–	22-1-75 UP	–
45.	HAMAD [illegible] ALI	GOWA [illegible]	1975 Barru	118,05	41,66	" 60	K	c	75	C	–	–	"	–	–	–	Peb.75 Barru	–
46.	[illegible] TAPPA	B[illegible] I [illegible]	1975 Palopo	261,04	92,14	"130	K	c	110	C	–	–	"	–	–	–	18-2-75 Palopo	–
47.	IPT. TU[illegible]	BUMI JAYA	1975 Pangkep	195,48	69.00	"163	K	c	125	C	–	–	"	–	–	–	Maret75 Pangkep	–
48.	....																	

48.	PT. A[illegible] BULANTA [illegible]	A [illegible]	1975 Bajoe	438,50	154,79	±250	K	c	125	C	-	-	UP	-	-	-	[illegible] Lajoe	
	PELAYARAN LAYAR MOTOR DENGAN LAYAR BANTU (NON [illegible] MOTO [illegible])																	
49.	PT. [illegible]	[illegible] A II	1966 Palengu	99,55	35,14	" 50	K	c	33	D	-	-	"	-	30-3-73 UP	-	-	Berlayar di Irja.
50.	PT. [illegible] LAYAR	CAHAYA I [illegible]	1973 Barru	223,91	79,04	"118	K	c	82	C	-	-	"	-	Juni '73 Barru	5-11-74 B'papan	-	-
51.	s.d.a	[illegible] JAYA	1973 UP	155,12	54,75	" 82	K	c	50	C	-	-	"	-	18-8-'73 UP	28-[illegible]-'74 UP	20-[illegible]-75 Mamoro	-
52.	s.d.a	[illegible] I	1973 Barru	85,12	30,04	" 45	K	c	24	D	-	-	"	-	-	22-[illegible]-74	-	-
53.	P.[illegible]MAJAYA A[illegible] DAIA	[illegible] KITA	1973 Pelayar	182,06	64,26	" 96	K	c	68	C	-	-	"	-	16-10-73 Pelayar	25-11-74 Mamoro	-	-
54.	[illegible] GOSAL	[illegible] JAYA	1974 Pangkep	87,04	30,72	" 46	K	c	45	D	-	-	"	-	-	29-7-74 Pangkep	-	-
55.	P.[illegible]MAJAYA [illegible] DAIA	[illegible]	1975 Bima	189,05	66,73	"100	K	c	66	C	-	-	"	-	-	-	Peb.'75 Bima	-
56.	I [illegible]	PANCA [illegible] A	1975 Pangkep	170,94	60,34	" 90	K	c	80	C	-	-	"	-	-	-	Jan.'75	-
57.	HAJI [illegible]	[illegible] JAYA III	1975 Barru	134,99	48,66	" 78	K	c	56	C	-	-	"	-	-	-	18-2-75 Barru	-
58.	M I L [illegible]	HARAPAN IV	1975 Barru	48,83	17,23	" 25	K	c	3[illegible]	D	-	-	"	-	-	-	[illegible]'75 Barru	-
	PROJECK MOTORISASI PERAHU LAYAR MOTOR																	
59.	GUB.KDH.P.O.SULSEL	TODDO PULI I	1972 Bajoe	264,28	93,29	"150	K	c	50	C	-	-	"	Juni '72 Bajoe	-	-	-	Tidak ada data dok
60.	GUB.KDH.P.O.SULSEL/ BKDH [illegible] KUMBA	TODDO PULI II	1972 Bulukumba	224,64	79,29	"110	K	c	50	C	-	-	"	Maret72 Bulukumba	-	-	-	Musnah terbakar th.197
61.	GUB.KDH.P.O.SULSEL/ BKDH J[illegible]PONTO	TODDO PULI III	1972 Palengu	355,68	125,90	"188	K	c	50	C	-	-	"	Maret '72 Palengu	-	-	-	Kandas bocor B'papan tu.19[illegible] Tidak ada da[illegible]
62.	GUB.KDH.P.O.SULSEL	TODDO PULI IV	1972 Takalar	269,13	95,10	"140	K	c	52	C	-	-	"	Mei '72 Takalar	-	-	-	Tunggu perbaikan di UP.
63.	KOOPERASI FAMILI PANGKEP	TODDO PULI V	1972 Barru	238,05	84,03	"126	K	c	52	C	-	-	"	April '72 Barru	-	-	-	Tidak ada dock
64.	GUB.KDH. SUL.SEL	TODDO PULI VI	1972 UP	Blm diukur	-	" -	K	c	50	-	-	-	"	th 1972 UP	-	-	-	Tdk baik perbaikan bagian di
65.	GUB.KDH.P.O.SULSEL/ BKDH MAMUJU	TODDO PULI VII	1973 Mamuju	221,85	78,31	"117	K	c	52	C	-	-	UP	-	Okt.'73 Mamuju	-	-	Tidak ada dock
66.	CV. [illegible]	TODDO PULI VIII	1972 Polewali	212,58	75,04	"112	K	c	52	C	-	-	"	-	Juli '73 Polewali	-	-	3[illegible]
67.	....																	

67.	[illegible]	[illegible] MULI II	1973 Palembang	35,60	12,56	1" 131	K	c	35	D	–	–	LP	–	Feb.'73 Palembang	–	–	Tidak ada data docking.
68.	H.JI ABD.[illegible]	TOBO MULI X	1973 Palembang	83,76	29,56	1" 441	K	c	52	D	–	–	"	–	Juli '73 P.Lewali	–	–	sda
69.	KEP.DAL[illegible] BUTON	KABALWATA	1972 Buton	93,60	35,04	1" 491	K	c	24	D	–	–	"	–	Sept.73 LP	–	–	sda
70.	s.d.a	KABALANA[illegible]	1972 Buton	85,60	29,51	1" 441	K	c	24	D	–	–	"	th.1972 Buton	–	–	–	sda
71.	GAL.KAPAL MAKMUR	WILLY I[illegible] I	1970 LP	879,52	93,67	1"1481	K	c	60	D	–	–	"	–	–	April '74 LP	–	Kapal sdg perbaikan mesin LP.
72.	MUB.KDH.P.O.[illegible]	TOBO MULI	1974 LP	[illegible] 87,67	30,94	1" 461	K	–	60	D	–	–	"	–	–	Okt.74 LP	–	Hadiah G.b.utk Presiden
	KAPAL2 MILIK PEMERINTAH DAERAH DLL.																	
73.	DAL AL VII CQ PELKOPAL UP	A N T A R G I	1954 Italia	481,85	170,09	1"2551	B	E	350	C	–	–	Jkt	12-2-72 LP	–	30-3-74 LP	–	–
74.	KODAU III UP	A U R I -VI	1954 Jepang	143,56	50,67	1" 761	B	c	350	C	–	–	"	10-2-72 LP	5-5-73	—	–	L.dg menunggu dok di LP
75.	ST.PLAYWOOD	TAKA I -II	1964 Jepang	140,24	49,50	1" 741	B	Tdl	550	D	–	–	LP	–	19-6-73 LP	—	—	Tidak ada data dok. rusak di Pel.Palopo.
76.	PORT. ADMINISTRATOR MAKASSAR UP	[illegible]	1948 Ned.	391,16	120,42	1"180	B	Tdl	300	D	–	–	"	–	–	15-2-74 LP	–	–
77.	s.d.a	ANGGADA VII	1968 Jerman	336,83	119,00	1"178	L	Tdl	800	D	–	–	"	–	13-9-73 LP	–	–	Masih beroperasi dipelabuhan LP.
78.	s.d.a	B E N P	1957 Jakarta	69,03	24,36	1" 56	L	Tdl	120	D	–	–	Jkt	–	–	7-4-74 LP	–	Diatas gal.kpl UP.
79.	DISTRIK NAVIGASI UP.	D U A T A	1952 Nederland	205,65	72,94	1"109	L	c	170	D	–	–	"	–	Sep.'73 Soya	–	10-2-75 LP	–
80.	PROJEK GAL.KAPAL MAKASSAR	PAOTERE II	1963 Jakarta	213,32	75,30	1"112	L	c	–	D	–	–	"	–	–	–	–	Tongkang tsb koorusak/bocor di Gal.kar.
81.	s.d.a	PAOTERE III	1965 Jakarta	270,21	95,38	1"145	L	c	–	D	–	–	"	–	24-12-73	–	–	sda.
82.	PORT. ADMINISTRATOR UP.	TEG. 007	1950 Jakarta	305,87	129,15	1"190	L	c	–	D	–	–	"	–	–	7-5-74	–	–
83.	DAL AL VII CQ PELKOPAL	KOLAKA III	–	734,27	259,19	1"588	L	c	–	D	–	–	–	19-12-72	–	7-8-74	–	–

KAPAL2 NELAYAN

KAPAL2 NELAYAN

84.	PT. BONECOM	BONECOM -I	1966 Jepang	270,43	95,46	±143	L	M	550	B	BKI	BKKL	UP	9-12-72 UP	15-2-73 UP	6-7-74 UP	-	-			
85.	s.d.a	BONECOM -III	1964 Jepang	246,40	86,97	"130	B	B	M	550	B	-	BKKK	"	Maret72 Jepang	Juli 73 Jepang	25-11-74 UP	-	-		
86.	s.d.a	BONECOM -V	1966 Jepang	246,40	86,97	"130	B	M	550	B	-	BKKL	"	Maret72 Jepang	Juli 73 Jepang	23-12-74 UP	-	-			
87.	s.d.a	BONECOM -VII	1967 Jepang	985,07	347,72	"520	B	M	1150	B	-	BKKM	"	Nop.'72 Jepang	-	6-3-74 Jepang	-	Persiapan dok ke Sbaya.			
88.	s.d.a	BONECOM -IX	1958 Jepang	1041,21	367,54	"550	B	M	900	B	-	BKKN	"	-	-	20-3-74 Jepang	-	-			
89.	s.d.a	MARINE -I	1973 UP	12,63	4,45	" 61	K	M	161	-	-	-	"	-	-	Des.'74 UP	-	-			
90.	s.d.a	MARINE -II	1973 UP	18,68	6,59	" 91	K	M	331	-	-	-	"	-	-	Des.'74 UP	-	-			
91.	PT. KAMUL	SAKURA	1973 B'Siapi2	27,99	9,83	" 141	K	M	961	-	-	-	B'Siapi2	-	April73 B'Siapi	-	14-2-75 UP	-			
92.	HARJONO ANGSANA	SAMPANGAN- II	1970 Cilacap	33,68	11,95	" 171	K	M	661	-	-	-	Cilacap	Sktr72	Okt.'73 Cilacap	-	-	-			
93.	s.d.a	P U P U T	1969 Cilacap	44,64	15,75	" 231	K	M	1201	-	-	-	"	-	April73 Cilacap	-	-	-			
94.	s.d.a	KURAKURA LAUT	1972 B'Siapi2	48,30	17,04	" 251	K	M	1201	-	-	-	B'Siapi2	-	April73 B'Siapi2	-	-	Keadaan rusak.			
95.	s.d.a	SELAMAT JAYA	1972 B'Siapai2	68,02	24,01	" 361	K	M	1201	-	-	-	"	-	Des.'73 B'Siapai2	-	-	sda			
96.	GUMRI Bin BADARUDDIN	TG. JAYA	1973 Belawan	48,25	17,03	" 251	K	M	1201	-	-	-	Belawan	-	Des.'73 Belawan	-	-	sda			
97.	HARJONO ANGSANA	G E M B I R A	1972 B'Siapi2	44,97	15,87	" 231	K	M	1201	-	-	-	B'Siapi2	Agustus72 B.Siapi2	-	-	-	-			

UJUNG PANDANG, 1 APRIL 1975

K E P A L A B A N D A R,

U J E, MAWIKERE.-

No. Urt.	Milik/ Perusahaan	Nama - Kapal	Tahun, di.	Isi - Kotor m3	Brt.	Dwt	Konst.	Jenis	Daya kuda	Drn. Pely.	Class	Call sign	Pemeriksaan pertama di.	Tempat dan tanggal dock 1972	1973	1974	Keterangan
1.	PT. NURLINA	Km. Nurlina-I	1972 Pare-2	244,36			K	c	82		-	-	U.Pandang	-	S'rinda 28-11-73	-	Domisili Pare-2
2.	- sda -	" Nurlina-III	1973 Pare2	326,60			K	c	125		-	-	U.Pandang	-	-	U.Pdng 30-7-74	-sda-
3.	- sda -	" Nurlina-IV	1974 Pare-2	337,72			K	c	150		-	-	U.Pandang	-	-	Pare-2 16-4-74	-sda-
4.	- sda -	" Cahaya Caddi Baji	1971 Pare-2	235,75			K	c	100		-	-	U.Pandang	-	S'rinda 14-9-73	-	-sda-
5.	-sda -	" Cahaya Salama	1971 Pare-2	170,36			K	c	66		-	-	U.Pandang	-	S'rinda 22-2-73	-	-sda-
6.	CV. HARAPANKU	" Harapanku-I	1970 Pare-2	67,35			K	x	50		-	-	U.Pandang	-	S'rinda 24-3-73	-	-sda-
7.	- sda -	" Harapanku-II	1970 S.rinda	299,95			K	c	200		-	-	U.Pandang	-	S'rinda 29-8-73	-	-sda-
8.	- sda -	" Harapanku-III	1972 Pare-2	169,30			K	c	66		-	-	U.Pandang	-	S.rinda 24-11-73	-	-sda-
9.	- sda -	" Harapanku-IV	1972 Pare-2	254,47			K	c	60		-	-	U.Pandang	-	S'rinda 3-11-73	-	-sda-
10.	- sda -	" Harapanku-V	1972 Pare2	86,09			K	c	50		-	-	U.Pandang	-	-	-	-sda-
11.	- sda -	" Harapanku-VI	1972 Pare-2	372,32			K	c	140		-	-	U.Pandang	Pare-2 Agst.72	Pare-2	-	-sda-
12.	W.Sda.-	" Harapanku-VII	1974 Pare-2	182,43			K	c	110		-	-	U.Pandang	-	-	Pare-2 Jan.74	-sda-
13.	Moh. HINDI	" Tanjung Selamat	1973 Pare-2	173,78			K	c	75		-	-	U.Pandang	-	Pare-2 Sept.73	-	-sda-
14.	CV.Manire Raya	" Latando	1973 Pare2	151,54			K	c	36		-	-	U.Pandang	'	Pare-2	Pare-2 Apr.74	-sda-
15.	Moh. GANDI	" Marga-I	1973 Pare-2	122,06			K	c	36		-	-	U.Pandang	-	Pare-2 Agst.73	-	-sda-
16.	Muh. SULAIMAN	" Cahaya Allung Mangenre	1974 Pare-2	374,74			K	c			-	-	U.Pandang	-	-	Pare-2 Juni-74	-sda-
17.	H.Abd. RAUF	" Urfan-I	1974 Pare-2	109,57			K	c	50		-	-	U.Pandang	-	-	Pare-2 Juni-74	-sda-
18.	Moh. TAHIER	" Cahaya Nefo	1974 Pare-2	109,52			K	c	36				U.Pandang	-	-	Pare-2 24-4-74	-sda-
19.	H. Abd. RAUF	" Urfan-II	1974 Pare-2				K	c									-sda-
20.	Pemda Buton	Flm.Wasalamata	1972 Buton	93,98			K	c	24		-	-	U.Pandang	-	U.Pdng Sept.73	-	Buton/ Bau-bau
21.	- sda -	" Wasalabose	1972 Buton	83,60			K	c	24		-	-		-	-	-	Buton/ Bau-bau
22.	Pemda (CV Buana Karya)	" Taddopuli-VIII	1973 Polewali	212,58			K	c	52		-	-	U.Pandang	-	-	-	Polewali
23.	CV.Teluk Bone	" Putra BajoE	1973 Bajo-E	72,93	24,20	20,55	K	c	36	d	-	-	Bajo-E	-	-	-	Bajo'E
24.	Haji Rasyak	" Putra BonE	1973 Bajo'E	33,41	11,79	10,16	K	c	22	d	-	-	Bajo'E	-	-	-	-sda-
25.	Andi Yanwar	" Fajar Jaya-II	1973 Bajo'E	42,65	15,05	11,56	K	c	33	d	-	-	Bajo'E	-	-	-	-sda-

No. Urt.	Milik/ Perusahaan	Nama - Kapal	Tahun, di.	Isi - Kotor m3	Isi - Kotor Brt	Dwt	Konst.	Jenis	Daya kuda	Drh. Pely.	Class	Call sign	Pemeriksaan pertama di.	Tempat dan tanggal dock 1972	1973	1974	Keterangan
26.	CV.Teluk Bone	Plm. Aman Jaya	1973 Bajo'E	44,41	15,67	13,28	K	c	24	d	-	-	Bajo'E	-	-	-	Bajo'E
27.	CV.Sedjahtera	" Bone Jaya	1973 Bajo'E	135,67	47,89	29,48	K	c	50	d	-	-	Bajo'E	-	-	-	-sda-
28.	- sda -	" Sejahtera-II	1973 Bajo'E	139,29	49,17	23,16	K	c	50	d	-	-	Bajo'E	-	-	23-10-74	-sda-
29.	Haji Suibu	" Marwa Jaya	1974 Cenrana	22,46	7,92	6,06	K	M	12	d	-	-	-	-	-	-	-sda-
30.	CV.Sedjahtera	" Bone Jaya-II	1974 Bajo'E	48,70	17,18	13,14	K	C	33	d	-	-	Bajo'E	-	-	-	-sda-
31.	H.M.Said Sale	" Cahaya Segar	1973 Bulukumba	107,39	37,91	15,20	K	C	36	d	-	-	Bajo'E	-	-	-	-sda-
32.	Haji Rewo	" Hati Segar	1974 U.Pandang	113,47	40,05	19,20	K	C	36	d	-	-	Bajo'E	-	-	-	-sda-
33.	Ridwan Haji Akhmad	" Bunga WaliE	1974 Sinjai	46,45	16,39	15,44	K	C	24	d	-	-	Bajo'E	-	-	-	-sda-
34.	H.Parewasi	" Lanjutan Bersama	1974 Polmas	97,22	34,32	-	K	C	33	d	-	-	U.Pandang	-	-	-	Polewali
35.	Pemt.Daerah	Km. AMTARERJA P.In 6	1971 Jepang	179,11	63,22	-	B	Komando	200	c	BKI	-	Jakarta	U.Pandang 1972	-	-	Kendari
36.	- sda -	Kt. Wawoni	1970 Jakarta	71,97	25,41	-	B	Td	208	c	B.V	-	Jakarta	Kobbing	U.Pdng 9-1-73	-	Kendari

"FEASIBILITY STUDY"

PENDIDIKAN TAMTAMA PELAUT ARMADA NIAGA.- No.2

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PENDAHULUAN :

Pendidikan Tamtama Pelaut adalah merupakan sarana terpenting dalam menunjang perkembangan Armada Kapal2 Dagang Nasional.

Dari sudut lain memang pendidikan tersebut sudah lama diabaikan, sehingga pelaut tamtama Indonesia merupakan pelaut pengalaman, tanpa melintasi proses pendidikan serta tidak memegang mutu sertifikat, sehingga kurang mendapat pengakuan Internasional.

Mengingat hal diatas serta hasil briefing Kepala Lembaga Pendidikan Direktorat Jenderal Perhubungan Laut pada tgl.7 Maret 1975 di Sekolah Pelayaran Menengah Ujung Pandang, tentang kemungkinan dibukanya pendidikan yang demikian.

Untuk melaksanakan pendidikan tersebut telah dibentuk suatu team survey dengan S.K. Kepala Sekolah Pelayaran Menengah - Ujung Pandang tgl.18 Maret 1975, No.520/Kep.SPM/3/75.-

Hasil2 team Survey tsb. kami tuangkan dalam Feasibility Study ini, yang terdiri atas;

1. Lokasi Pendidikan.
2. Lokasi Gedung/Fasilitas Air.
3. Tenaga2 Pembina / Pengajar.
4. Biaya Pembangunan.
5. Biaya /Fasilitas Pendidikan.
6. Kurikulum / Silabi.

I. LOKASI PENDIDIKAN :

Ujung Pandang dengan pertimbangan s.b.b.:

1. Ditinjau dari segi Geografis, maka Ujung Pandang merupakan Kota Pelabuhan yang merupakan pusat lintas pelayaran di Indonesia Bahagian Timur.
2. Ujung Pandang merupakan pusat pendidikan Maritim di Indonesia Bah. Timur.
3. Animo terhadap pendidikan2 Kemaritiman sangat besar di Daerah Sulawesi Selatan khususnya serta Indonesia Bh. Timur umumnya.
   Sebagai bahan perbandingan dapat diberikan [illegible] dari data2 prosent se pelamar di Sekolah [illegible] - Ujung Pandang tahun ajaran 1975/1976 s.b.b.:

a. Sulawesi Selatan	71,42	%
b. Sulawesi Tenggara	1,33	%
c. Sulawesi Tengah	2,13	%
d. Sulawesi Utara/Sangir	7,73	%
e. M a l u k u	4,00	%
f. Irian Jaya	4,00	%
g. Kalimantan	1,33	%
h. Indonesia Barat	6,67	%

4. Ujung Pandang merupakan Kota Pelabuhan yang termasuk kategori Pelabuhan Kelas I, dimana tiap bulan disinggahi kapal2 rata2 125 buah.
   Perusahaan2 pelayaran yang berdomisili/mempunyai Home Port di Ujung Pandang sebanyak 10 buah.
5. Untuk keperluan praktek lapangan Ujung Pandang juga mempunyai sebuah galangan Kapal.
6. Biaya hidup untuk Daerah Ujung Pandang termasuk murah dibandingkan dengan biaya Indek; 50 terhadap Jakarta.-

II. LOKASI GEDUNG / FASILITAS AIR :

Melihat adanya kemungkinan dibukanya Pendidikan Tamtama Pelaut Kapal2 Niaga Indonesia di Ujung Pandang, maka perlulah adanya persediaan fasilitas tempat belajar, Asrama dan sebagainya.

Untuk mahsud tersebut diatas perlu dikemukakan 3 (tiga) Alternatif Lokasi tempat belajar s.b.b.:

A. ALTERNATIF PERTAMA :

Complex Sekolah Pelayaran Menengah Ujung Pandang - Jalan [illegible] No.173.

1). Ruang kelas belajar: tidak perlu dibangun secara keseluruhan. Cukup ditambah 4 (Empat) buah ruangan lagi, Yaitu dengan cara ditingkatkan [illegible] beberapa kelas S.P.M. Ujung Pandang yang ada yang memang fundationya adalah [illegible] bertingkat.

2). Asrama (Tempat tinggal):
   Asrama S.P.M. - Ujung Pandang sebanyak 2 (dua) buah dengan jumlah Ruangan 14 (Empat belas) buah. Dengan ditingkatkan Gedung Asrama tersebut diatas berarti, maka fasilitas asrama ini telah mencukupi.

3). Ruangan Makan / Dapur;
   Perlu dibangun yang baru diatas Tanah S.P...
   Yang digunakan Pelaut Kapel VI.

B. Alternatif Kedua:

B. ALTERNATIF KEDUA :

- Penggunaan fasilitas pendidikan S.P.L. - Ujung Pandang untuk tempat belajar.
- Pembeli a Tanah Milik Tionghoa disebelah Utara Comp. S.P.L. - Ujung Pandang seluas 70 x 60 M2. untuk keperluan pembangunan Asrama.

Penggunaan fasilitas pendidikan S.P.L. - Ujung Pandang.
sebagaimana telah dijelaskan pada alternatif pertama Sub.I..
Agar supaya Asrama tempat tinggal para Taruna ini terpisah dengan Asrama S.P.L. - Ujung Pandang, maka perlu dibangun yang baru. Lokasinya adalah Tanah Milik Tionghoa disebelah Utara Komplex S.P.L. - Ujung Pandang seluas 70 X 60 M2.
(Tanah yang harus dibeli).
Demikian pula halnya dengan ruangan Dapur/Dapur, perlu dibangun baru dan berdekatan dengan Asrama.

C. ALTERNATIF KETIGA :

Dibangunlah sebuah Kampus baru yang dari Komplex S.P.L. - Ujung Pandang dan diluar Kota, Kemungkinan di TALLO atau BAROMBONG.-

FASILITAS AIR :

Pada alternatif Pertama maupun Alternatif Kedua Fasilitas Air dapat dipergunakan (Air Tanah).-

III. TENAGA2 PEMBINA / PENGAJAR :

Guna pembinaan Pendidikan Tantama Pelaut tsb. Diatas di Ujung Pandang terdapat Tenaga2 yang cukup, yang merupakan suatu jaminan demi kelancaran Pendidikan tersebut dengan pasti :

- Tenaga dari S.P.L. - Ujung Pandang.-

a) Tenaga2 kejuruan Mesin :	1. Ijazah M.P.B.	I.	:	1	Orang.
	2. Ijazah M.P.B.	II.	:	3	-"-
	3. Ijazah M.P.B.	III.	:	1	-"-
	4. Ijazah M.P.I.		:	1	-"-
		Jumlah :		6	Orang.
b) Tenaga2 kejuruan Mesin :	1. Ijazah ADK - B		:	2	Orang.
	2. Ijazah ADK - A		:	1	-"-
	3. Ijazah BMD		:	1	-"-
	4. Tenaga Praktek		:	4	-"-
		Jumlah :		8	Orang.
c) Tenaga2 Umum :	1. Ijazah Sarjana Ilmu Pasti		:	1	Orang.
	2. Ijazah Sarjana Sospol		:	1	-"-
	3. Ijazah Sarmud. Olah raga		:	1	-"-
	4. Perawat		:	1	-"-
		Jumlah :		4	Orang.

B. Tenaga dari BAPEL VI Ujung Pandang.

a) Tenaga2 Kejuruan Mesin :	1. Ijazah P.L.	II.	:	1	Orang.
	2. Ijazah P.L.	III.	:	2	-"-
	3. Ijazah M.P.I.		:	4	-"-
	4. Serang Kapal		:	4	-"-
		Jumlah :		11	Orang.
b) Tenaga2 Kejuruan Mesin :	1. Ijazah ADK.	A.	:	2	Orang.
	2. Ijazah BMD.		:	2	-"-
	3. Mandor Mesin		:	2	-"-
		Jumlah :		6	Orang.

C. Tenaga2 dari DANRAL - 7 Ujung Pandang.

1. Tenaga Kejuruan Dock.		:	3	Orang.
2. Tenaga Pembinaan Disiplim.		:	4	-"-
	Jumlah :		7	Orang.

IV. BIAYA2 PEMBANGUNAN.-

IV. BIAYA2 PEMBANGUNAN :

A. Alternatif Pertama :

a. Peningkatan gedung Kelas dengan ukuran
55 x 9 M2. à Rp. 100.000,-- . . . . Rp. 50.000.000,--
terdiri dari 5 buah Kelas
Uk. : 10 x 7 M2. ditambah 1 (satu) Ruang Kantor
Uk. : 5 x 7 M2.

b. Peningkatan Asrama sebanyak 2 (dua) buah dengan Ukuran masing2.
1) 64 x 16 M2. terdiri dari 8 ruang
per M3. à Rp. 100.000,--. . . . . Rp. 102.400.000,--
2) 36 x 14 M2. terdiri dari 6 ruang
per M3. à Rp. 100.000,-- . . . . Rp. 50.400.000,--

c. 1) Ruangan Makan / Dapur :
Ukuran : 500 M2. à Rp. 70.000,--. . . . . . Rp. 35.000.000,--
2) Pemindahan 3 (tiga) Kopel perumahan Pelaut Dapol VI untuk keperluan c. 1) dengan biaya s.b.b.:
-Membangun 3 (tiga) Kopel Baru di Bello
Uk. : 330 M2. à Rp. 50.000,-- . . . . Rp. 16.500.000,--
-Biaya pemindahan perumahan Kepala/R.T.
à Rp. 50.000,-- . . . . Rp. 300.000,--

Jumlah : Rp. 254.600.000,--

B. Alternatif Kedua :

a. Ruang Kelas (Kelas)
Baru dengan Ukuran) . . . . Rp. 50.000.000,--

b. Asrama :
1). Pembelian tanah baru yang berada disebelah Utara Comp. [illegible] seluas,
dgn.Uk.:70x60 M2.à Rp.7.500,-- . . . . Rp. 31.500.000,--
2). Pembangunan Asrama baru sebanyak
1200 M2.à Rp.100.000,-- . . . . Rp. 120.000.000,--
3). Pemindahan 1[illegible] Kopel R.T.à Rp. 2 Juta. Rp. 20.000.000,--

c. Ruang Makan / Dapur
Uk. : 500 M2. à Rp. 70.000,-- . . . . Rp. 35.000.000,--

Jumlah : Rp. 272.500.000,--

C. Alternatif Ketiga :

Pembangunan Kampus baru.
1. Pembelian Tanah dengan ukuran 75x 100 M2.
à Rp. 7.500.-- . . . . Rp. 56.250.000,--
2. Gedung Kelas sebanyak 10 buah dengan
900 M2 à Rp. 100.000,-- . . . . Rp. 90.000.000,--
3. Pembangunan Asrama sebanyak 20 Unit
(bertingkat II) dengan ukuran
1200 M2. à Rp. 100.000,-- . . . . Rp. 120.000.000,--
4. Ruang Makan / Dapur
Ukuran 500 M2 à Rp. 7500.-- . . . . Rp. 35.000.000,--

Jumlah : Rp. 309.250.000,--

V. BIAYA DAN FASILITAS PENDIDIKAN :

A. Perlengkapan Kelas : Jumlah Kelas 8 (Delapan) buah
Jumlah Siswa 300 Orang.

a. Bangku/Meja Kelas 8 Kelas à 20 bangku/Meja 160 Stell bangku/Meja à Rp. 25.000,— . . . . Rp. 4.000.000,—
b. Meja Guru — 8 Kelas à Rp. 15.000,— . . . . . . Rp. 120.000,—
c. Kursi Guru — 8 Kelas à Rp. 7.500,— . . . . . . Rp. 60.000,—

Jumlah : Rp. 4.180.000,—

B. Perlengkapan Asrama :

a. Tempat tidur besi bersusun 150 bh. à Rp. 20.000,— Rp. 3.000.000,—
b. Kasur / Bantal 1 Kepala / Bantal 1 Guling } 300 bh. à Rp. 10.000,— . . . . . Rp. 3.000.000,—
c. Seprei / Kelambu / Sarung bantal Kepala / Sarung bantal Guling } 300 bh. à Rp. 7.500,—. Rp. 4.500.000,—
d. Lemari Asrama 30 buah à Rp. 250.000,— . . . . . Rp. 7.500.000,—

Jumlah : Rp. 18.000.000,—

C. Perlengkapan Dapur :

a. Piring/Sempreng 300 bh. à Rp. 1000,— . . . . . Rp. 300.000,—
b. Sendok/Garpu 300 bh. à Rp. 200,— . . . . . Rp. 60.000,—
c. Mangkok / Bok 300 bh. à Rp. 150,— . . . . . Rp. 45.000,—
d. Alat2 Masak . . . . . Rp. 345.000,—

Jumlah : Rp. 750.000,—

D. Alat2 Praktek :

a. Sekusi / Lengkap . . . . Rp. 2.000.000,—
b. Mesin bubut, Gurinda Bor dan Mesin Ukuran Besar / Kecil . . . . Rp. 2.000.000,—
c. Mobil :
1. 1 (satu) Sedan . . . . Rp. 2.500.000,—
2. 1 (satu) Jeep TOYOTA . . . . Rp. 4.500.000,—
3. 2 (dua) BUS à Rp. 10.000.000,— . . . . . . Rp. 20.000.000,—

Jumlah : Rp. 31.000.000,—

E. Lemari Arsip Administrasi : KANTOR/T.U.

a. Lemari Arsip bersusun 10 bh. à Rp. 100.000,— Rp. 1.000.000,—
b. Meja Kantor 10 bh. à Rp. 25.000,— . . . . Rp. 250.000,—
c. Kursi Kantor 20 bh. à Rp. 5.000,— . . . . Rp. 100.000,—
d. Papan2 Pengumuman 4 buah à Rp. 12.500,— . . . . . Rp. 50.000,—
e. Mesin Ketik 4 buah à Rp. 250.000,— . . . . . . Rp. 1.000.000,—
f. Mesin Hitung 1 buah . . . . Rp. 150.000,—
g. Mesin Stensil 1 buah . . . . Rp. 500.000,—
h. Alat2 tulis menulis Kantor . . . . Rp. 250.000,—
i. Alat2 Foto Copy . . . . Rp. 1.500.000,—
j. Mic / Intercomb. . . . . Rp. 1.000.000,—
k. Lain2. . . . . Rp. 200.000,—

Jumlah : Rp. 6.000.000,—

F. Poliklinik : Biaya Pengobatan/Orang/bulan
Rp. 2500.— = 300 x Rp. 2500.— .....Jumlah : Rp. 750.000,—

G. Alat2 Pemadam Kebakaran ...B.C./Lengkap Jumlah: Rp. 1.000.000,—

H. Biaya Operationil: 20 Orang à Rp. 25.000,— Jumlah: Rp. 500.000,—

I. Lain2.—: a. Kain Gordon/Kantor lengkap. . . . . Rp. 150.000,—
b. Kain Gordon Asrama . . . . . Rp. 200.000,—
c. Alat2 Olah Raga . . . . . Rp. 250.000,—
d. Biaya Perjalanan/Rapat . . . . . Rp. 150.000,—

Jumlah : Rp. 750.000,—

REKAPITULASI :

A.	Perlengkapan Kelas	Rp. 4.180.000,—
B.	Perlengkapan Asrama	Rp. 18.000.000,—
C.	Perlengkapan Dapur	Rp. 750.000,—
D.	Alat2 Praktek	Rp. 31.000.000,—
E.	Lemari Arsip Adm. Kantor T.U.	Rp. 6.000.000,—
F.	Poliklinik	Rp. 750.000,—
G.	Alat2 Pem dan Kebakaran	Rp. 1.000.000,—
H.	Biaya Operationil	Rp. 500.000,—
I.	Lain-2.	Rp. 750.000,—
	JUMLAH :	Rp. 62.930.000,—
	DIBULATKAN :	Rp. 63.000.000,—

Biaya Pendidikan :

BIAYA PENDIDIKAN :

A. HONORARIUM PENGAJAR : Per Jam Rp. 1000.--

Nautika	: 20 Mata Pelajaran	=	46	Jam Pelajaran/Minggu.
Teknika	: 20 Mata Pelajaran	=	46	Jam Pelajaran/Minggu.
	40 Mata Pelajaran	=	92	Jam Pelajaran/Minggu.

Honorarium sebulan = 4 x 92 x Rp. 1000.-- = Rp. 368.000,--
Jadi 1 Triwulan = 3 x Rp. 368.000,-- = Rp. 1.104.000,--

B. V A K A S I :

A. Ujian Masuk : -- Perlembar Rp. 100.--
Siswa yang diterima 300 orang.
a. Mata Pelajaran Testing :
1. Bahasa Indonesia.
2. Perhitung.
3. Pengetahuan Umum/Pengt. Ilmu.
4. Kewargaan Negara.
5.
b. Pemeriksaan Kesehatan
Testing Komisi.-
Biaya yang digunakan .
300 x 5 x 2 x Rp. 100.-- .... = Rp. 300.000,--

B. Ujian Akhir : -- Perlembar Rp. 50.--
Biaya yang digunakan
300 x 42 x Rp. 50.-- = Rp. 630.000,--
[illegible] = Rp. -20.000,--
= Rp. 650.000,--

Jumlahnya A. = Rp. 300.000,--
B. = Rp. 650.000,--
.... = Rp. 950.000,--

[illegible] : = Rp. 1.000.000,--

C. [illegible]:
a. [illegible] : - Kertas.
- [illegible]ur.
- [illegible]2.
- [illegible] ([illegible]) Rp. 75.000,--
b. [illegible]2 [illegible] : - [illegible]
- [illegible] 2
- [illegible] dsb. ...... Rp. 75.000,--

[illegible] : Rp. 150.000,--

D. ADMINISTRASI :
- [illegible]2 - [illegible] - Kertas -

Jumlah : Rp. 100.000,--

[illegible] :

A. Honorarium Pengajar	Rp.	1.104.000,--
B. Vakasi Ujian	Rp.	1.000.000,--
C. [illegible] Pendidikan [illegible].	Rp.	150.000,--
D. Administrasi	Rp.	100.000,--
J u m l a h :	Rp.	2.354.000,--
Dibulatkan :	Rp.	2.500.000,--

VI. K U R I K U L U M / S I L A B I.-

A. KURIKULUM JURUSAN NAUTIKA :

Lamanya Pendidikan : 3 (tiga) bulan Didarat.-

Nomor Urut	MATA PELAJARAN	JAM / MINGGU Kelas	JAM / MINGGU Praktek
A.	KELOMPOK DASAR :		
1.	A G A M A	1	-
2.	PANCASILA / U.U.D.'45	2	-
3.	BAHASA INDONESIA	2	-
4.	P. B. B.	-	2
5.	OLAH RAGA (Berenang)	-	2
B.	KELOMPOK KEJURUAN :		
1.	KECAKAPAN PELAUT	4	-
2.	PEMELIHARAAN KAPAL	1	2
3.	PERLENGKAPAN KAPAL	1	2
4.	ALAT2 NAVIGASI	1	2
5.	TALI TEMALI	1	4
6.	OLAH SEKOCI & MENDAYUNG	1	4
7.	BAGIAN KAPAL	1	-
8.	P 3 L & PEDALAMAN	1	-
9.	S E M B O Y A N	1	-
10.	UNDANG2 PERKAPALAN	1	-
11.	MEMBACA PEDOMAN	2	-
C.	KELOMPOK PENTING :		
1.	BERHITUNG	2	-
2.	P. P. P. K.	1	-
3.	BAHASA INGGRIS	2	-
4.	ILMU [illegible]	2	-
	J U M L A H :	27	19 - 46

B. KURIKULUM JURUSAN TEKNIKA :

Lamanya Pendidikan : 3 (Tiga) Bulan Didarat.-

Nomor Urut	MATA PELAJARAN	Jam / MINGGU	
		Kelas	Praktek
A.	KELOMPOK DASAR :		
1.	A G A M A	1	-
2.	PANCASILA/UUD'45	2	-
3.	BAHASA INDONESIA	2	-
4.	P. B. B.	-	2
5.	PENDIDIKAN JASMANI	-	2
B.	KELOMPOK KEJURUAN :		
1.	TEKNIK MOTOR	2	2
2.	TEKNIK LISTRIK	2	2
3.	KETEL UAP	2	-
4.	MESIN UAP	2	-
5.	PESAWAT BANTU	2	-
6.	ILMU BAHAN	2	-
7.	PRAKTEX MEMBUAT PAKKING	-	2
8.	PRAKTEK MEMBUBUT	-	2
9.	PRAKTEK MENCELAS	-	2
10.	PRAKTEK TALI MENALI/ MENDAYUNG SEKUCI	-	3
11.	KESELAMATAN KERJA/ PEMADAMAN KEBAKARAN	2	2
C.	KELOMPOK PENTING :		
1.	BERHITUNG	2	-
2.	P. P. P. K.	1	1
3.	BAHASA INCGERIS	2	-
4.	ILMU ALAM	2	-
	JUMLAH :	26	20 - 46

(Keseluruhan):

1. Biaya Pembangunan :
   a. Alt. Pertama : . . . . . Rp. 254.600.000.--
   b. Alt. Kedua : . . . . . Rp. 272.500.000.--
   c. Alt. Ketiga : . . . . . Rp. 309.250.000.--
2. Biaya Fasilitas Pendidikan : Rp. 63.000.000.--
3. Biaya Pendidikan : Rp. 2.500.000.--

J U N L A H : Rp.

a. Dengan Alternatif Pertama . . . . . Rp. 320.000.000.--
b. Dengan Alternatif Kedua . . . . . Rp. 338.000.000.--
c. Dengan Alternatif Ketiga . . . . . Rp. 374.000.000.--

Demikianlah Feasibility Study ini kami buat untuk dijadikan bahan pertimbangan dalam Rangka pembukaan Sekolah Tamtama Pelaut Armada Niaga Indonesia.-

Somega dapat teraliser secepataya demi masa depan dari pada Pelaut2 pengalaman (Tanpah sertificat).

Atas perhatian dan kerja sama yang baik, kami ucapkan banyak terima kasih.

Ujung Pandang: 29 Maret 1975.-

Sekolah Pelayaran Menengah
Ujung Pandang.
K e p a l a,

(WAJAN DIRA) ...
Nrp.E, 15603.-

DEPARTEMEN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN LAUT
LEMBAGA PENDIDIKAN
SEKOLAH PELAYARAN MENENGAH

Jalan SERAM No. 171 Ujung Pandang

DAFTAR TENAGA PENGAJAR
SPM. UJUNG PANDANG

A. TENAGA PENGAJAR TETAP.

No. Urt.	N a m a	Jabatan dalam Sekolah	Jenis Ijazah	Status
1.	Wajan Dira	K e p a l a	M.P.B. - I	P
2.	Dimas Dali	Wakil Kepala	M.P.B. - II	P
3.	E.W. Manikome	Pwa. Prayek Laut	M.P.B. - II	P
4.	M. Bilondatu	Pwa. Pendidikan	A.M.K. - B	P
5.	Asparayan Rundi	Pwa. Batalion	A.M.K. - B	P
6.	Arief Santoso	Pwa. Perlengkapan	A.M.K. - A	P
7.	Drs. G. Tinungki	Pwa. P.3.	Sarjana Pendidikan Jur. I. Pasti	D
8.	Drs. Arief Rasjid	Sekretaris	Sarjana Sospol	D
9.	R.H. Saifuddin B.A.	Pwa. Duril/Purek	Sarjana Muda Penjas.	D
10.	Ramelan	Pwa. Kesehatan	Perawat	D
11.	Adam Ondang	Bintara Pelini	M.M.D.	P

B. TENAGA PENGAJAR TIDAK TETAP.

1.	Drs. Mintardjo	-	Sarjana Sospol	D
2.	Drs. Badrun	-	Sarjana SMAN	D
3.	Kpt. Nasrun	-	SMTTAL	P
4.	Drs. M. Jasin Mijala	-	Sarjana Agama Islam.	D/AL.
5.	Drs. Ch. Sectrisno L.	-	Akademi Theologi	D/AL.
6.	Lettu Soeprapto BA.	-	Sarjana Muda Pendidikan Jurusan	D/AL.
7.	H.A. Tumien B.A.	-	Sarjana Muda Pendidikan Jurusan Bahasa Inggris.	D
8.	Lettu Soedarso	-	Akademi Nautik	A.L.
9.	Kpt. Yudha	-	Akademi	A.D.
10.	Kpt. M.A. Gafar	-	Akademi	A.L.
11.	Serma F.X. Sumardi	-	K.K.O.	A.L.
12.	Serma Ibnu S.	-	A.L.	
13.	Supardi	-	S.G.P.T.	
14.	Jacob S.	-	S.T.M.	
15.	Suparno	-	S.T.M.	
16.	Serda Rahardjo	-	A.L.	
17.	Serda Oere	-	A.L. (K.K.O.).	

Keterangan :

1. P. = Pelaut.
2. D. = Darat.
3. AL. = Angkatan Laut.
4. AD. = Angkatan Darat.

Ujung Pandang, 4 April 1975.-
Sekolah Pelayaran Menengah
Ujung Pandang.
K o p a l a,

WAJAN DIRA
Nrp. F. 15603.-

DEPARTEMEN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN LAUT
LEMBAGA PENDIDIKAN
SEKOLAH PELAYARAN MENENGAH

Jalan SERAM No. 173 Ujung Pandang

I. KEADAAN JUMLAH SEKOLAH.

Situation of schools number.

A. DI SULAWESI - SELATAN. (Position, At South-Sulawesi)

	Negara	Swasta	Jumlah
1. Elementary Schools (S.D.)	3118	313	3431
2. Junior high Schools (SLP).	208	74	282
3. General Junior high Sheols (SMP).	109	66	175
4. High School (SLA).	70	61	131
5. General High Schools (SMA).	31	27	58
6. Akademi	3	17	20
7. Perguruan Tinggi	4	8	12

B. DI UJUNG PANDANG.

1. Elementary Schools	104	64	168
2. Junior high Schools (SLP)	14	34	48
3. General Junior high School (SMP)	8	34	42
4. High Schools (SLA)	12	21	33
5. General high Schools (SMA)	4	19	23
6. Academies	5	10	15
7. University/Institut	4	8	12

II. KEADAAN MURID/SISWA/MAHASISWA.

Pupils/Student
Situation/position

A. SULAWESI - SELATAN.

1. Elementary Schools (SD).	505.442	60.309	565.751
2. Junior high Schools			48.190
3. General Junior high Schools			34.168
4. High Schools			17.650
5. General high Schools			8.795
6. Academies	2.055	26.97	5.752
7. Perguruan Tinggi (University).	8.088	2.158	10.240

B. UJUNG PANDANG.

1. Elementary Schools	54.702	19.660	74.365
2. Junior high Schools			7.729
3. General Junior high Schools			5.601
4. High Schools			6.594
5. General Junior high Schools			1,181
6. Academies	2.055	2.697	5.752
7. University	8.088	2.158	10.240

Ujung Pandang, 2 Juni 1975.-

Sekolah Pelayaran Menengah
Ujung Pandang.
Kepala,

(WAJAN DIRA)
NIP. 15603.-

DEPARTEMEN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN LAUT
LEMBAGA PENDIDIKAN
SEKOLAH PELAYARAN MENENGAH

Jalan SERAM No. 173 Ujung Pandang

DAFTAR KEADAAN SISWA.-

No. Urt.	Angkatan.	Periode	In Put			Out Put			Drop Out			Keterangan
			N	T	J	M	T	J	M	T	J	
1.	I	1964/1967	77	77	154	61	62	123	16	15	31	
2.	II	1966/1968	73	49	122	67	43	110	6	6	12	C P
3.	III	1968/1970	40	40	80	25	23	48	15	17	32	C P
4.	IV	1970/1972	60	61	121	32	34	66	28	27	55	C P
5.	V	1971/1974	81	69	150	26	34	30	55	35	90	
6.	VI	1972/1975	64	45	109	38	28	66	26	17	43	
7.	VII	1973/1976	90	60	150	46	45	91	44	15	59	
8.	VIII	1974/1977	70	70	140	x)	::)	-	-	-	-	
9.	IX	1975/1978	80	80	160	xx)	-	-	-	-	-	

Ujung Pandang, 2 Juni 1975.-

Sekolah Pelayaran Menengah
Ujung Pandang.
Pwa. Pendidikan,

([illegible]).-
AMK-B. S.15624

Keterangan :

1. N = Jurusan Nautika.
2. T = Jurusan Teknika.
3. J = J u m l a h .
4. C P = Crash Program.
5. x) = Dipersiapkan untuk Prola.
6. xx) = Dipersiapkan untuk Ujian Semester I.-

DATA2 UNTUK TEAM SURVEY RATINGS JAKARTA.

1. Jumiah Penduduk :
   a. Maluku = 1.167.393 Jawa
   b. a m b o n - 80.000 Jawa

2. Jumlan awak kapal pada :
   a. Kapal barang = orang
   b. Kapal ikan = orang
   Catatan khusus untuk Ambon

3. Jumlah Kapal dan yang masuk/keluar pelabuhan Ambon tiap tahun (Terlampir)

4. D o c k : 1 buah (dock ampung) Wayame milik Pemerintah Daerah Maluku Kapasitas 2,000 ton dilengkapi dengan 1(satu) buah kran apang

5. Jumlah Sekolah di Maluku.
   a. Su = 1.373 buah 175.804 murid
   b. SLTP.= I.8M.P. = 117 buah, 15.517 murid
      II.S.M.E.P. 37 buan 3.323 murid (Termsuk sekolah swasta)
   c. SLTA.= I.S.M.M.A. = 26 buah 3.972 murid (Termasuk sekolag swasta)
      II.S.M.E.A. = 14 buah 2.132 murid s.d.a.
   d. Sekolah Perikanan Kaut : 1 buah, 60 murid.

ambon, 30 Mei 1975.-

MINISTRATOR PELABUHAN AMBON

Ke a.n. Sekretariat,

JHIR DJOU. B.A.

PERKEMBANGAN : KUNJUNGAN KAPAL DI PELABUHAN AMBON
TAHUN : 1969 S/D. 1974.-

No	Tahun	SAMUDERA		NUSANTARA		LOKAL		J U M L A H		Keterangan
		Shipcall	D.W.T.	Shipcall	D.W.T.	Shipcall	D.W.T.	Shipcall	D.W.T.	
1.	1969	14	45.914	213	333.366	52	6.743	179	386.053	Tidak termasuk kunjungan perahu layar.
2.	1970	217	356.794	231	320.366	60	6.927	505	684.027	
3.	1971	311	966.668	415	432.162	141	22.087	867	1.420.917	
4.	1972	293	1.480.923	539	564.011	260	34.671	1.092	2.079.605	
5.	1973	214	1.026.402	550	517.463	268	26.910	1.030	1.570.775	
6.	1974	570	1.147.452	475	395.168	273	42.738	1.318	1.542.621	

Ambon 30-5-75
ADPEL Ambon

KUNJUNGAN PERAHU LAYAR DI PELABUHAN AMBON.

Nomor Urut:	T A H U N	BANYAK PERAHU	DWT/BRT	K E T E R A N G A N.
1.	1971.	779.	12.969.	Bulan Januari s/d Bulan Mei 1975 belum dapat terisi berhubung data-data belum lengkap.-
2.	1972.	467.	7.005.	
3.	1973.	384.	5.985.	
4.	1974.	402.	16.830.	

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A m b o n, 30 Mei 1975.-

ADMINISTRATOR PELABUHAN AMBON.
KEPALA SEKRETARIAT,

(FADJHIR DJOU B.A.).-

DAFTAR : PELAUT INDONESIA PADA PERUSAHAAN-2 PELAYARAN YANG BERDOMISILI DI AMBON :-

No. Urt.	NAMA KAPAL	ISI KOTOR	PEMILIK	PELAUT Pa.	Menengah	Sailor	Cook / Pelayan	JUMLAH
1.	Mina Raya 10	1.277,64 M3	PT. Mina Kartika	-	5	18	2	25
2.	Toyo 2	286,39 "	PT. Tofico	-	1	13	2	16
3.	Wenas I	782,39 "	PT. Wenas	2	6	17	2	27
4.	Mina Raya I	334,83 "	PT. Mina Kartika	-	2	13	1	16
5.	Wenas III	282,49 "	PT. Wenas	-	-	13	2	15
6.	Wenas II	368,09 "	PT. Wenas	4	[illegible]	5	1	10
7.	Toyo 15	448,27 "	PT. Tafico	-	1	13	2	16
8.	Malaka Jaya II	151,79 "	PT. Raja Wali	2	-	5	1	8
9.	Rejeki Jaya II	103,64 "	PT. Rejeki II	2	1	6	1	10
10.	Toyo 6	300,19 "	PT. Tofico	-	1	13	1	15
11.	Paskopal IX	114,65 "	[illegible]ral IX	2	-	5	1	8
12.	Werin	205,62..	St. Tjeanda	2	2	6	1	11
13.	Masohi	154,51 "	PT. Pel. Nusa Ina	2	1	6	1	10
14.	Djati Utara	215,91 "	PT. Djati Lines	2	3	6	1	12
15.	Djati Tenggara	215,91 "	PT. Djati Lines	2	2	6	1	11
16.	Laut Banda	142,51 "	PT. Dock Waiame	3	-	5	1	9
17.	Kairatu	320,67 "	D. Pek. Umum Prosal	3	-	6	1	10
18.	Ampera II	936,68 "	Palmas Berdikari	8	2	8	1	19
19.	Djati Malaka	2[illegible],83 "	PT. Djati Lines	3	2	5	1	11
20.	Samudera	109,82 "	Ny. Kim Bie Bian	2	-	5	1	8
21.	Bratasena	336,06 "	Palmas Berdikari	2	2	7	2	13
22.	Nusantara Agung	546,68 "	PT. Nusantara Fishery	-	-	17	2	19
23.	Nusantara Jaya	896,62 "	PT. Nusantara Fishery	2	-	14	2	18
24.	Ampera III	1169,33 "	Palmas Berdikari	5	6	9	1	21
25.	Frans Jaya	206,33 "	PT. Bajawali	2	1	6	1	10
26.	Kalapa	1736,91 "	Palmas Berdikari	4	5	10	2	21
27.	Pahepa	1573,35 "	PT. Parindo	5	5	12	4	26
28.	Mina Raya 6	1079,26 "	PT. Mina Kartika	-	1	18	1	20
29.	Mina Raya 8	1115,19 "	PT. Mina Kartika	-	2	16	2	20
30.	Mina Raya 5	911,62 "	PT. Mina Kartika	-	2	26	1	29
31.	Toyo 10	1309,57 "	PT. Tofico	-	1	32	3	36
32.	Nusantara Utama	441,73 "	PT. Nusantara Fishery	1	-	24	3	28
			JUMLAH :	60	54	365	49	528

33 ....

No. Urt.	NAMA KAPAL	UKURAN	PEMILIK	PENGURUS				JUMLAH
				Pa.	Mandarah	Seiler	Cook/Pelayan	
			Pemindahan	60	54	365	49	528
33.	Toyo 8	295,54 M3	PT. Tofico	-	-	12	1	13
34.	Toyo 7	295,34 "	PT. Tofico	-	1	10	2	13
35.	Toyo 5	297,82 "	PT. Tofico	-	-	12	1	13
36.	Toyo 11	1168,31 "	PT. Tofico	-	-	27	2	29
37.	Toyo 15	448,27 "	PT. Tofico	-	1	11	2	14
38.	Nusantara Perma	265,69 "	PT.Nusantara Fishery	1	1	8	1	11
39.	Mina Raya 16	652,62 "	PT.Mina Kartika	-	1	13	1	15
40.	Merugai	442,30 "	PT. Maprodin	-	2	19	3	24
41.	Toyo 3	1128,10 "	PT. Tofico	-	1	24	4	29
42.	Toyo 1	260,47 "	PT. Tofico	-	1	14	1	16
43.	Wenas I	782,39 "	PT. Wenas	-	-	22	3	25
44.	Maleo	964,33 "	PT. Maprodin	-	1	14	4	21
45.	Merak	679,60 "	PT. Maprodin	-	1	9	1	11
46.	Merbuk	236,89 "	PT. Maprodin	-	2	17	1	20
47.	Merpati	773,39 "	PT. Maprodin	-	2	19	1	22
48.	Mina Raya 17	562,62 "	PT. Mina Kartika	-	-	15	1	16
49.	Toyo 18	358,23 "	PT. Tofico	-	-	16	1	17
50.	Toyo 20	358,23 "	PT. Tofico	-	1	12	1	14
51.	Mina Raya 12	1097,57 "	PT. Mina Kartika	-	3	21	3	27
52.	Chakrawala II	1429,64 "	PT. Chakrawala	-	1	18	1	20
53.	Tofo 18	402,44 "	PT. Tofico	-	1	11	1	13
54.	Mina Raya 20	590,56 "	PT. Mina Kartika	-	3	11	1	15
55.	Chakrawala I	763,20 "	PT. Chakrawala	1	1	17	2	21
56.	Mina Raya 3	330,94 "	PT. Mina Kartika	-	-	14	1	15
57.	Nusantara Raju	441,73 "	PT.Nusantara Fishery	-	1	10	1	12
58.	Toyo 2	286,31 "	PT. Tofico	-	2	10	2	14
59.	Melivia	321,87 "	PT. Maprodin	-	1	15	1	17
60.	Toyo 17	448,27 "	PT. Tofico	-	1	11	2	14
61.	Manyar	295,06 "	PT. Maprodin	-	2	14	2	18
62.	Murai	252,25 "	PT. Maprodin	-	3	13	1	17
			JUMLAH :	62	90	804	98	1054

63. .....

No. Urt.	N A M A Kapal	ISI BRUTO	PEMILIK	ABK				JUMLAH
				Pa.	Nakoda	Sailor	Cook/Pelayan	
			Pesindahan	62	90	961	96	1054
63.	Meranul	425,52 M3	PT. Maprodin	-	1	14	3	18
64.	Mina Raya 2	334,80 "	PT. Mina Kartika	-	2	12	1	15
65.	Mina Raya 3	330,94 "	PT. Mina Kartika	-	2	13	1	16
66.	Mina Raya 11	405,29 "	PT. Mina Kartika	-	1	14	1	16
67.	Mina Raya 16	402,44 "	PT. Mina Kartika	-	3	14	1	18
68.	Bengat	551,36 "	Gereja Sura Ketetuaan	6	2	11	2	21
69.	Ampera IV	1169,33 "	Pelmas Berdikari	5	5	9	2	21
70.	Nusantara Indah	359,18 "	PT. Nusantara Fishery	-	2	16	2	20
71.	Nusantara Sakti	276,69 "	PT. Nusantara Fishery	-	-	8	1	9
72.	Mentilau	236,39 "	PT. Maprodin	2	1	15	2	20
73.	Sambari I	211,20 "	PT. Gita Sambari Lines	4	1	6	1	12
74.	Arafuru 5	422,28 "	PT. Maluku Pearl Dev	-	-	-	2	2
75.	Bakti	457,55 "	Keuskupan Amboina	4	2	8	2	16
76.	Judistira	236,92 "	PN. Perikani Ambon	2	-	11	1	14
77.	Mujur Abadi	313,15 "	Pa. Mujur Abadi	3	2	6	1	12
			JUMLAH :	88	114	961	121	1284

Ambon, 30 Mei 1975.-

SYAHBANDAR AMBON,

u.b.
Sekretaris

(M. J. HUMUALY).-

DAERAH PELAYARAN IV
KOORDINATOR PENDIDIKAN

LAMPIRAN : [illegible]

DAFTAR : AKADEMI DAN SEKOLAH KEMARITIMAN SE - DAPEL IV.

KEADAAN AWAL TAHUN 1975.-

NO.	N A M A SEKOLAH Ø AKADEMI	J U R U S A N TATALAKSANA.	TEHNIKA	NAUTIKA	ELEKTRONIKA	KETERANGAN
1.	Akademi Perhubungan Maritim (A.P.M.) SURABAYA.	84	-	-	-	APM. + AMS Samudra +
2.	Akademi Ilmu Maritim (A.I.M.) SURABAYA	7	27	17	9	AAN + API Menjadi AKS [illegible]
3.	Akademi Ilmu Bahari (A.I.B.) SURABAYA	52	46	33	-	
4.	Akademi Maritim Samudera SURABAYA (A.M.S.) Samudra	39	40	24	-	
5.	Akademi Antar Negara (A.A.N.) SURABAYA	47	-	-	-	
6.	A.M.S. Arga Bagya/APMI SBYA	18	34	14	-	
7.	Akademi Pelayaran Indonesia (A.P.I.) SURABAYA	21	22	24	-	
8.	AKADEMI SEMARANG	87	161	105	-	
9.	Akademi Maritim Nasional Indonesia (AMNI/AMS) SMRANG	97	33	-	-	
10.	A.M.N.I. SURABAYA	81	-	-	-	AMNI, AIM, AMY menjadi A.P.I
11.	A.I.M. SURABAYA	88	110	-	-	
12.	A.M.Y. YOGYAKARTA	101	53	-	-	
13.	A.M.I. DENPASAR	52	-	12	-	~~135-Orang.~~
14.	Kursus Mekanis KM. BUNGUR	-	-	-	-	135 Orang.
15.	Koppel/Kesyahbandaran	-	-	-	-	44 Orang.
16.	Shipping Bussiness Course	-	-	-	-	42 Orang.
17.	Kepanduan	-	-	-	-	15 Orang.
	" SEKOLAH MENENGAH "					
18.	Sekolah Kemaritiman Mene- (S.K.M.) SURABAYA	-	10	36	-	
19.	S.P.M. Samudera SURABAYA	-	31	20	-	
20.	APM/AIM/ARGA BAGYA	-	111	108	-	
	JUMLAH : TARUNA AKADEMI	774	526	229	9	
	SISWA SEKOLAH MENENGAH.	-	152	164	-	
	KURSUS.	-	-	-	-	236 Orang.

Surabaya, 4 Juni 1975.-
KOORDINATOR PENDIDIKAN DAPEL IV SBAYA.

R A T I N G S

1. PERSONALIA - x)
2. DIT. PERPEL ada
   (Armada Niaga)
3. DIT. NAV. ada
   (Armada Perla)
4. DIT. PEL. PENG. ada
   (Dinas Pengerukan)

N.B.

x) Hingga sekarang belum bisa memberikan data2 awak kapal rendahan yang perlu dididik.-

DIREKTORAT JENDERAL PERHUBUNGAN LAUT
LRMBAGA PENDIDIKAN.

M E M O

No. : DKP. 646/1 /1

K E P A D A : Yth. Kepala Direktorat Perkapalan dan Pelayaran.
D A R I : Kepala Lembaga Pendidikan Perhubungan Laut.
PERIHAL : Data-2 mengenai Kapal.

==========

Sehubungan dengan akan diadakannya meeting dengan Team Survey Pendidikan Rating's dari Jepang bersama ini kami harapkan depatlah kiranya Saudara memberikan kepada kami seperti tersebut pada pokek surat ini, yaitu mengenei :

a. Kapal yang berukuran dari 2500 M3 keatas = 188
b. Kapal yang berukuran dari,
   1000 M3 s/d 2500 M3 237
c. Kapal yang berukuran dari,
   500 M3 s/d 1000 M3 153
d. Kapal yang berukuran dari,
   200 M3 s/d 500 M3 346

Dapat kami beritahukan bahwa data ini diperlukan pada hari Selasa tgl. 27 Mei 1975.

Atas perhatian dan kerja cama kami ueapkan terima kasih.

Jakarta, 26 Mei 1975.

A.n. KUPALA BACA PENDIDIKAN.
Kepala Sekretariat,

(Drs. SOIMANTRI).-

DAFTAR ARMADA

JENIS KAPAL	BERUKURAN 2500 M³ KEATAS	BERUKURAN 1000 M³ s/d 2500 M³	BERUKURAN 500 M³ s/d 1000 M³	BERUKURAN 200 M³ s/d 500 M³	BERUKURAN 100 M³ s/d 200 M³
KAPAL PENUMPANG	64	—	—	—	—
KAPAL BARANG	105	197	118	219	48
KAPAL TANKER	19	24	7	10	3
TUG BOAT / TUNDA	—	4	10	31	4
KAPAL MELAYAN	—	12	18	86	14
TONGKANG	—	—	—	—	—
JUMLAH	188	237	153	346	69

JUMLAH KAPAL DITNAV AWAL 1975.

No.urut	NAMA KAPAL	B.R.T.	PANGKALAN.	KETERANGAN.
1.	Mayang.	1.708,56	Tg. Priok.	P.3.
2.	Mixan.	1.708,66	Tg. Priok.	P.3.
3.	Biduk.	1.218,43	Surabaya.	P.3.
4.	Jadayat.	1.131,64	Tg. Priok.	D.U. dlm perbaikan.
5.	Mengkara.	1.131,64	Tg. Priok.	D.U.
6.	Blewah.	840,32	Tg. Priok.	P.A.P.
7.	Bukuh.	680,37	Tg. Priok.	P-A.P.
8.	Buren.	680,37	Tg. Priok.	P.A.P.
9.	Intan	666,80	Tg. Priok.	P.3.
10.	Pusparagam	666,80	Tg. Priok.	P.3.
11.	Permata.	664,89	Timor Kupang.	D.U.
12.	Harlian.	663,87	Tg. Priok.	P.A.P.
13.	Kemba.	553,46	Surabaya.	P.3.
14.	Karakata.	553,49	Dumai.	P.3.
15.	Zamrud.	404,69	Tg. Priok.	P.A.P.
16.	Egon	200,--	Timor Kupang	D.U.
17.	Elpa Putih.	200,--	Tg. Priok.	D.U.
18.	Baran.	195,25	Tg. Priok.	D.U.
19.	Rabut.	194,34	Menado.	D.U.
20.	Bettet.	194,34	Tg. Priok.	D.U.
21.	B e o.	194,34	Banjarmasin.	D.U.
22.	Blekok.	191,53	Tg. Pinang.	D.U.
23.	B i d o.	194,34	Menado.	D.U.
24.	Bayan.	192,87	Tg. Priok.	D.U.
25.	Bendelu.	192,87	Menado.	P.A.P.
26.	B e c a.	192,87	Surabaya.	D.U.
27.	B a l a m.	192,87	Ambon.	D.U.
28.	Bedawang(De051)	192,87	Tlk. Bayur.	D.U.
29.	Dageng.(D-048)	79,22	Samarinda.	P.3.
30.	Data. (D-047)	79,22	Palembang.	D.U.
31.	Dadat. (D-046)	79,22	Dumai.	D.U.
32.	Dingki.(D-045)	79,22	Ampenan.	D.U.
33.	Daik. (D-044)	79,22	Pontianak.	D.U.
34.	Duku. (D-043)	79,22	Sampit.	D.U.
35.	Duata. (D-042)	79,22	Makassar.	P.3.
36.	Damara.(D-040)	79,22	Benoa.	P-3.

JUMLAH KAPAL DITNAV AWAL THN 1970.

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No.urt	NAMA KAPAL	B.R.T.	PANGKALAN.	KETERANGAN.
37.	AK-010.	45,59	Samarinda.	sdh diusul utk upkir.
38.	AK-012.	47,04	Tg. Priok.	P.3.
39.	AK-018.	74,91	Tg. Pinang.	sdh diusul utk upkir.
40.	AK-017.	82,65	Samarinda.	D.U.
41.	AK-023.	82,65	Perigi.	D.U.
42.	AK-021.	82,65	Banjarmasin.	D.U.
43.	AK-025.	82,65	Pekanbaru.	D.U.
44.	AK-026.	82,65	Ternate.	D.U.
45.	AK-027.	82,65	Timor Kupang.	D.U.
46.	AK-028.	82,65	Tg. Pandan.	D.U.
47.	AK-029.	82,65	Kalianget.	P.3.
48.	AK-030.	82,65	Banjarmasin.	P.3.
~~49.~~	~~AK-031.~~	~~82,65~~	~~Kotabaru.~~	~~D.U.~~
50.	AK-032.	82,65	Tg. Priok.	D.U.
51.	B-008.	33,61	Semarang.	D.U.
52.	B-013.	33,61	Bengkalis.	D.U.
53.	B-027.	33,61	Semarang.	P.3.
54.	B-051.	33,61	Tg. Pinang.	D.U.
55.	B-063.	33,61	Surabaya.	D.U.
56.	B-066.	33,61	Tg. Pinang.	D.U.
57.	B-067.	33,61	Tg. Pinang.	D.U.
58.	B-068.	33,61	Surabaya.	D.U.
59.	B-082.	33,61	Tg. Pinang.	P.3.
60.	B-088.	33,61	Banjarmasin.	tua, rusak.
61.	B-104.	33,61	Saumlaki.	D.U.
62.	B-115.	44,37	Sampit.	D.U.
63.	B-116.	41,38	Timor Kupang.	D.U.
64.	B-118.	41,38	Belawan.	P.3.
65.	B-120.	41,38	Surabaya.	D.U.
66.	B-126.	44,37	Palembang.	P.3.
67.	B-129.	44,37	Tarakan.	D.U.
68.	B-132.	44,37	Tg. Pinang.	D.U.
69.	B-134.	44,37	Menado.	P.3.
70.	B-135.	44,37	Ambon.	D.U.
71.	B-124.	44,37	Semarang.	D.U.
72.	B-100.	33,61	Surabaya.	D.U.
73.	B-133.	44,37	Tg. Pinang.	D.U.
74.	Suar-001.	47,73	Surabaya.	P.3.
75.	Suar-002.	47,73	Palembang.	P.3.
76.	Suar-003.	30,--	Palembang.	P.3.

JUMLAH KAPAL DITNAV AWAL TAHUN 1975.

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No.urut	NAMA KAPAL	B.R.T.	PANGKALAN.	KETERANGAN.
77.	Suar-004.	50,--	Tg. Pinang.	P.3.
78.	Suar-005.	50,--	Sabang.	P.3.
79.	Suar-006.	50,--	Dumai.	P.3.
80.	Suar-007.	50,--	Cilacap.	P.3.
81.	Tenggiri-002.	48,20	Tg. Pinang.	Dinas Umum.
82.	AP-027.	46,67	Tg. Priok.	Dinas P.3.
83.	AB-004.	5,93	Tg. Priok.	D.U.
84.	AB-016.	5,93	Tg. Priok.	D.U.
85.	AB-019.	5,93	Tg. Priok.	D.U.
86.	AB-026.	5,93	Belawan.	tua, rusak.
87.	AB-027.	5,93	Tg. Priok.	D.U.
88.	AB-028.	5,93	Tg. Priok.	D.U.
89.	AB-032.	5,93	Tg. Priok.	D.U.
90.	AB-045.	8,16	Tg. Priok.	D.U.
91.	AB-046.	8,16	Tg. Priok.	D.U.
92.	AB-048.	8,16	Makassar.	D.U.
93.	AB-065.	8,16	Tg. Priok.	D.U.
94.	AB-066.	8,16	Tg. Priok.	D.U.
95.	AB-069.	8,16	Tg. Priok.	D.U.
~~96.~~	~~AC-010.~~	~~18,38~~	~~Tg. Priok.~~	~~D.U.~~
97.	AC-024.	18,38	Bengkalis.	D.U.
98.	AC-041.	18,38	Ternate.	D.U.
99.	AC-050.	18,38	Pekanbaru.	D.U.
~~100.~~	~~AC-056.~~	~~18,38~~	~~Banggelay~~	~~D.U.~~
101.	AC-068.	18,38	Surabaya.	D.U.
102.	AC-069.	18,38	Belawan.	D.U.
103.	AC-071.	18,38	Ternate.	D.U.
104.	H-156.	9,11	Semarang	D.U.
105.	AA-002.	-	Tg. Priok.	D.U.
106.	APP-03.	-	Tg. Priok.	D.U.
107.	Ribra.	4	Tg. Priok.	D.U.

1975.-

No.	Nama - Nama	Kapasitas	Tahun Pembuatan	Umur
I.				
	1. Sumatra II	3000 m3/jam	1968	12 tahun.
	2. [illegible] u	750 m3/jam	1961	13 tahun.
	3. B a l i	[illegible]	[illegible]	17 tahun.
	4. Kalimantan	[illegible]	1969	[illegible] tahun.
	5. [illegible]	250 m3/jam	1950	25 tahun.
II.	6. Sulawesi II 7. Lombok	3000 m3 hopper 750 m3	1974 1974	-
	8. [illegible]	[illegible]	[illegible]	[illegible]
	9. [illegible]	[illegible]	[illegible]	[illegible]
	10. Sumatra II	300 m3/jam	1955	19 tahun.
	11. [illegible]	[illegible]	[illegible]	[illegible]
	12. [illegible]	[illegible]	[illegible]	[illegible]
	13. Sumatra	100 m3/jam	1957	17 tahun.
	14. Torani	500 m3/jam	1919	56 tahun.
	15. M u s i	1090 m3/jam	1952	22 tahun.
	16. Bengkulu	375 m3/jam	1952	22 tahun.
	17. Sumatra	143 m3/jam	1952	22 tahun.
	18. Batu, Nasi	65 m3/jam	1951	23 tahun.
	19. Sumatra	[illegible]	[illegible]	[illegible] tahun.
	20. Maluku	[illegible]	[illegible]	[illegible] tahun.
	20. Marion III/II	150 m3/jam	1955	19 tahun.
	21. Marion 93	74 m3/jam	1955	19 tahun.
	22. Marion III/I	150 m3/jam	1955	19 tahun.

Jakarta, [illegible] 1975.-

[illegible]

DAFTAR [illegible]

[illegible]

No.	[illegible]	[illegible]	Ukuran
11.	1. Boat X	1956	18 tahun
	2. -"- XVI	1957	17 tahun
	3. -"- XVII	1958	16 tahun
	4. -"- XVIII	1964	10 tahun
	5. -"- I	1950	24 tahun
	6. -"- IV	1950	24 tahun
	7. -"- V	1952	22 tahun
	8. -"- VII	1955	19 tahun.
	9. -"- XII	1957	17 tahun
	10. -"- XV	1957	17 tahun
	11. -"- XIX	1959	15 tahun
	12. -"- XXI	1963	11 tahun
	13. -"- XXII	1963	11 tahun
	14. -"- XXIII	1963	11 tahun
	15. -"- XXIV	1963	11 tahun
	16. -"- XXV	1966	8 tahun
	17. -"- XIV	1957	17 tahun
	18. -"-, XXVIII	1964	10 tahun
	19. -"- IX	1956	18 tahun
	20. -"- XIII	1957	17 tahun
	21. -"- XX	1962	12 tahun
	22. -"- XXVI	1961	10 tahun
	23. -"- XXVII	1964	10 tahun
	24. -"- XXX	1964	10 tahun

Jakarta [illegible] 1974.-

Dinas Pengairan,

DAFTAR ALAT2 DARAT

/BAK LUMPUR .-

No.	NAMA TYPE BAK LUMPUR			BUATAN TAHUN	U M U R
III.	TIPE BAK LUMPUR:				
1.	Type	Bak	R. 10	1960	8 tahun
2.	-"-	-"-	R. 11	1966	8 tahun
3.	-"-	-"-	R. 14	1971	3 tahun
4.	-"-	-"-	R. 13	1971	3 tahun
5.	-"-	-"-	U. 2	1952	22 tahun
6.	-"-	-"-	U. I	1952	22 tahun
7.	-"-	-"-	U. 4	1955	19 tahun
8.	-"-	-"-	U 8	1955	19 tahun
9.	-"-	-"-	U 3	1955	19 tahun
10.	-"-	-"-	U 6	1955	19 tahun
11.	-"-	-"-	U 7	1965	9 tahun
12.	-"-	-"-	S 15	-	-
13.	-"-	-"-	S 9	1959	15 tahun
14.	-"-	-"-	S 11	1969	5 tahun
15.	-"-	-"-	S 12	1969	5 tahun
16.	-"-	-"-	S 13	-	-
17.	-"-	-"-	S 14	1955	19 tahun
18.	-"-	-"-	S 3	1940	34 tahun
19.	-"-	-"-	S 5	1955	19 tahun
20.	-"-	-"-	S 8	1959	15 tahun
21.	-"-	-"-	H 8	1963	11 tahun
22.	-"-	-"-	H 9	1963	11 tahun
23.	-"-	-"-	H 10	1963	11 tahun
24.	-"-	-"-	H 11	1970	4 tahun
25.	-"-	-"-	H 12	1970	4 tahun
26.	-"-	-"-	H 2	1970	4 tahun
27.	-"-	-"-	H 6	1956	18 tahun
28.	-"-	-"-	H 7	1956	18 tahun
29.	-"-	-"-	H 5	1955	19 tahun
30.	-"-	-"-	D 3	1971	3 tahun
31.	-"-	-"-	D 10	1956	18 tahun
32.	-"-	-"-	D 1	1971	3 tahun
33.	-"-	-"-	D 2	1971	3 tahun
	KAPAL2 AIR & SISTEM:				
	1. T.M.A. I			1963	11 tahun
	2. T.M.A. II.			1963	11 tahun

Split barges 2 buah 400 / 500 } 1974

JUMLAH PEGAWAI TIAP2 KAPAL KERUK

No.	Nama Kapal	Bagian Dek Orang	Bagian Mesin Orang	Jumlah Orang
1.	Kpl. Sumatra II	43	25	68
2.	Kpl. B a l i	33	21	54
3.	Kplb.A r u	33	19	52
4.	Kpl. Kalimantan	33	21	54
5.	Kpl. M a d u r a	22	13	35
6.	Kkt. B r o m o	17	14	31
7.	Kkt. Singgalang	17	14	31
8.	Kkt. Semeru II	8	8	16
9.	Kkt. Kalando	8	8	16
10.	Kkt. Tambora	8	8	16
11.	Kkt. Sarempaka	9	4	13
12.	Kkt. Torami	9	2	11
13.	Kplb. M u s i	24	19	43
14.	Kplb. Brantas	11	4	15
15.	Kplb. Bengawan	11	4	15
16.	Kplb. Batanghari	6	4	10
17.	Kplb. Serdang	6	4	10
18.	Kplb. Mahakam	6	4	10
19.	Ku. A l t u r	13	6	19
20.	Kc. Marion 111/I	5	5	10
21.	Kc. Marion 111/II	5	5	10
22.	Kc. Marion 93	5	5	10

DAFTAR PERINCIAN JUMLAH PELAUT RENDAHAN
DARI PERUSAHAAN-PERUSAHAAN PELAYARAN YANG
BERDOMISILI DI TANJUNG PRIOK/ JAKARTA.

Nomor Urut	Perusahaan Pelayaran	Jumlah - Crew				Keterangan
		Dek	Mesin	CD	Jumlah	
1.	PT. Djakarta Lloyd	242	251	218	711	
2.	PT. Samudera Indonesia	105	92	77	274	
3.	PT. Gesuri Lloyd	243	173	110	416	
4.	PT. Trikora Lloyd	63	51	43	157	
5.	PT. Arafat	218	127	372	717	
6.	PT. Samudera Kalog	26	26	14	66	
7.	PT. Karana Line	12	10	6	28	
8.	PT. Wahansa	7	6	5	18	
9.	PN. P e l n i	881	650	572	2103	
10.	PT.Bahtera Adhiguna	46	40	21	107	
11.	Pertamina Shipping	904	593	309	1806	
12.	PT. Pertamina Tongkang	391	307	128	826	
13.	PT. Angkutan Pertambangan	81	71	50	202	
14.	PT. P N P	50	32	25	107	
15.	PT.Sriwijaya Raya Lines	124	63	47	234	
16.	PT. Abadi Inti Lines	47	23	17	87	
17.	PT. B a h a r i	48	34	18	100	
18.	PT. Wasesa Line	21	14	4	39	
19.	PT. Nagah Berlian	39	22	21	82	
20.	PT. P e l p a	51	29	19	99	
21.	PT. M.P.N.	11	10	5	26	
22.	PT. Palka Utama	55	44	6	105	
23.	PT. Samudera Jaya Line	25	28	22	75	
24.	PT. Kalimantan	13	6	5	24	
25.	PT. P e j a m a	14	7	7	28	
	J U M L A H	3716	2709	2121	8437	

TANJUNG PRIOK, 2 JUNI 1975.

S Y A H B A N D A R

ADWAN NADLAN.

PERWIRA IEKAYARAN NIAGA

IJAZAH	MPB-1	MPB-II	MPB-III	AMK-C	AMK-B	AMK-A/IS	Keterangan
1. Yang diperlukan :							
a. Armada yang ada	597	544	319	63	86°	566	
b. Armada RIS PelitaII	11°	11°	11°	--	22°	11°	
Jumpah :	7°7	654	429	63	1°8°	676	
c. Cadangan 2°%	141	13°	86	12	216	126	
Jumlah :	848	784	515	75	1296	8°2	
	(28%)	(45%)		(29%)	(7%)		
2. Yang ada	243	356	1187	22	98	1264	
3. Kekurangan	6°5	428	*672	53	1198	*462	