

THE REPUBLIC OF INDONESIA  
REPORT ON  
THE DEVELOPMENT PROJECT  
FOR THE JAKARTA FISHING PORT/MARKET

April, 1974

OVERSEAS TECHNICAL COOPERATION AGENCY

THE REPUBLIC OF INDONESIA  
REPORT ON  
THE DEVELOPMENT PROJECT  
FOR THE JAKARTA FISHING PORT/ MARKET

JICA LIBRARY



1056472[2]

国際協力事業団	
受入 月日 '84. 9. 14	108
登録No. 09613	89.4
	FDT

April, 1974

OVERSEAS TECHNICAL COOPERATION AGENCY

## PREFACE

In compliance with the request of the Government of Indonesia, the Japanese Government decided to conduct a feasibility survey for drawing up a development project on Pasar Ikan fishing port/market in Jakarta City, and entrusted the conduct to the Overseas Technical Cooperation Agency.

The Agency organized the first survey team, consisting of 4 members headed by a group leader, Shinji Hayashi, President of All Japan Fishing Port Association, and dispatched them to Indonesia, for the period between 22nd November 1973 and 5th December 1973, for confirmation of the basic plan of the Government of Indonesia and collection of the existing data.

The Agency, in reference to the information, data, etc. after return of the first survey team, organized the second survey team consisting of 10 members also headed by Shinji Hayashi, which conducted a survey of the spot and related areas for the period between 6th February 1974 and 7th March 1974. The survey team submitted to the Government of Indonesia the draft report prepared on the spot and returned home.

This report contains a summary of the analysis on the various data obtained through survey activities, and also the results of the planning works, and shows an over all plan for the development project of Jakarta fishing port/market.

It will be our great pleasure if this report will contribute to improvement of the living for the people in Indonesia and also to the development of the fishing industry and will be of some assistance to the friendship and good will between Indonesia and Japan.

I avail myself of this opportunity to express my deep gratitude to authorities of the Government of Indonesia and other persons concerned for the kind and willing cooperation offered to the mission throughout the survey period.

April 1974



Keiichi Tatsuke  
Director General  
Overseas Technical Cooperation Agency

## CONTENTS

### MAPS OF INDONESIA AND JAKARTA CITY

INTRODUCTION .....	1
1. Circumstances .....	1
2. Purposes .....	1
3. Composition of the Survey Team .....	2
4. Schedule and Activities of the Survey Team .....	3
5. Acknowledgements .....	10
SUMMARY .....	12
MAIN SUBJECT .....	23
VOLUME I   OUTLINE OF FISHERIES IN INDONESIA TOGETHER WITH ITS POLICY AND INFORMATION AS TO THE FISHING PORT/MARKET OF JAKARTA .....	23
Chapter 1: General Information and Transition of Fisheries in Indonesia .....	23
1-1 General Information .....	23
1-2 Sea Fishery .....	25
1-3 Inland Water Fishery .....	27
Chapter 2: Projects for the Promotion of Fisheries Industry by the Government of Indonesia .....	29
2-1 Consumption Project .....	30
2-2 Export Project .....	30
2-3 Production Project .....	31
2-4 Regional Development Project .....	32
2-5 Required Amount of Funds .....	32
Chapter 3: Fishing Port/Market of Jakarta .....	34
3-1 Position of Jakarta in Fisheries of Indonesia .....	34
3-2 Present Situation of the Fishing Port/Market and Its Problem .....	35

3-3	Intention of the Government of Indonesia and Jakarta City for Improving the Fishing Port/Market .....	39
3-4	Necessity for Development of the Fishing Port/Market .....	39
VOLUME II DEVELOPMENT PROJECT OF THE FISHING PORT/ MARKET .....		43
Chapter 1: Fundamental Ideas on the Development Project .....		43
Chapter 2: Determination of the Target of the Project .....		44
2-1	Dealing Amount Aims at in the Project .....	44
2-2	Fundamental Conditions for Determination of the Target ....	44
2-3	Planned Dealing Amount of Fish and Number of Fishing Boats .....	45
Chapter 3: Selection of the Projected Site .....		49
Chapter 4: Lines of the Plan .....		53
Chapter 5: Plan of Basic Facilities .....		58
5-1	Development Level of the Facilities .....	58
5-2	Basic Data for the Plan .....	58
5-3	Required Length of the Mooring Facilities .....	63
5-4	Layout .....	65
Chapter 6: Plan of Functional Facilities .....		67
6-1	Development Level of the Facilities .....	67
6-2	Planned Standard Figures .....	67
6-3	Capacities of the Functional Facilities .....	69
6-4	Layout .....	70
Chapter 7: Plan of Miscellaneous Facilities .....		75
Chapter 8: Consideration for Future Development of Jarkarta Fishing Port/Market .....		76
Chapter 9: Structures' Design of the Main Facilities .....		77
9-1	Basic Consideration in the Structures' Design of the Main Facilities .....	77
9-2	Conditions for the Structures' Design .....	77
9-3	Determination of Main Facilities' Structure .....	78

Chapter 10: Construction Plan .....	87
10-1 Construction Works Plan .....	87
10-2 Execution Schedule of the Construction Works and Yearly Construction Procedure .....	89
10-3 Calculation of Construction Cost .....	94
VOLUME III ECONOMIC AND FINANCIAL ANALYSIS .....	101
Chapter 1: Outline .....	101
1-1 General .....	101
1-2 Method of Quantity Analysis .....	102
Chapter 2: National Economic Analysis .....	104
2-1 Estimation of Cost .....	104
2-2 Estimation of Benefit .....	106
2-3 National Economic Analysis .....	122
Chapter 3: Financial Analysis .....	125
3-1 Outline .....	125
3-2 Income from the Fishing Port/Market .....	126
3-3 Expenses of Fishing Port/Market .....	131
VOLUME IV MANAGEMENT AND OPERATION OF FISHING PORT/MARKET .....	145
Chapter 1: Management of Fishing Port/Market .....	145
1-1 Basic Principles of the Management .....	145
1-2 Management Staff and Organization .....	146
1-3 Duty of the Management .....	146
Chapter 2: Operation of the Fishing Port/Market .....	148
2-1 Distribution System .....	148
2-2 Operation of Relative Facilities of Fishing Port/Market ..	148
VOLUME V RECOMMENDATION ON PROBLEMS RELATING TO ITS PROJECT AND SUBJECT TO FUTURE STUDY ...	153
Chapter 1: Recommendation on the Problems Relating to the Project .....	153
1-1 Establishment of a Committee Composed of the Organizations Concerned .....	153

1-2	Promotion Measures for Motorization and Enlargement of Fishing Boats, and the Modernization of Fishing Gear .....	153
1-3	Consolidation of Support Stations .....	154
1-4	Installation of Additional Retail Markets, Including Their Appropriate Arrangement, and the Expansion and Improvement of the Processing Industry .....	154
1-5	Training on the Management and Operation of Fishing Port/Market .....	155
1-6	Early Consolidation of the Management System of the Fishing Port/Market .....	155
1-7	Bringing up of Experts on Fishing Port .....	155
1-8	Completion of Statistical Data on Fisheries and Fishing Port/Market .....	156
Chapter 2: Subjects for Future Study .....		157
2-1	Planning for the Use of the Reclaimed Land .....	157
2-2	Construction of the Access Road from Jakarta City to the Fishing Port .....	157
2-3	Execution of Soil Investigation .....	157
2-4	Continuous Execution of Sounding Survey .....	157

## Appendix

1.	Natural Conditions around the Projected Site of the Jakarta Fishing Port .....	161
2.	Data for Estimation of Capacity required for the Basic and Functional Facilities of the Fishing Port/Market .....	183
3.	Summary of the Investigation of Fishing Ports/Markets in Other Countries .....	201
4.	Laws and Regulations relative to Fishing Ports/Market in Japan .....	215
4-1	The Fishing Port Law .....	215
4-2	Model Form of Fishing Port Management Regulations .....	247
4-3	Wholesale Market Law .....	255
5.	Summary of Reference Data .....	307







## INTRODUCTION

### 1. Circumstances

In view of the fact that the fishing port/market located at Pasar-Ikan of Jakarta City, the capital of Indonesia, has become older and narrower and hence the smooth supply of fisheries products over Jakarta City and its surrounding areas became difficult. This was deemed to be one of the important factors preventing development of the fishing industry all over Indonesia. The Government of Indonesia, with an aim to radically improve the disadvantageous conditions, approached the Japanese Government in May 1973, through the Japanese Embassy to Indonesia, with a request for the dispatch of a survey team for drawing up a development project for the Jakarta fishing port/market.

In compliance with the request, the Japanese Government placed the investigation for drawing up of the said project in the handle of Overseas Technical Cooperation Agency. The Agency dispatched a survey team to Indonesia twice, the first for 14 days in November/December 1973 and the second for 30 days in February/March 1974.

### 2. Purposes

The purposes of the survey team were as follows:-

- (1) To investigate the present situation of production, distribution and consumption of the fishing industry in Indonesia, Jakarta City and the surrounding areas.
- (2) To determine number of years required for its investigation based on the above (1), and to forecast the production, distribution and consumption of the fishing industry during the proposed year in Jakarta City and the surrounding areas.
- (3) To determine a suitable site in Jakarta City for the construction of a fishing port and to prepare a plan for the development project of a fishing port/market which would be reasonably matched with plan in the above (2).

- (4) To conduct economic evaluation and a management analysis of the projected plan.
- (5) To determine a policy for adequate management and operation of the fishing port/market aimed at by the projected plan.
- (6) To draw attention to any policy/measure taken in connection with the development of the fishing port/market or the subject of future study.

In order to attain the foregoing investigation purposes, the survey team carried out investigations not only in Jakarta City but also in related areas in Indonesia; such as Sumatra, central and western parts of Java Island, Surabaya, Bena, etc., and also the main fishing ports and markets in the neighbouring countries such as Singapore, Thailand.

### 3. Composition of the Survey Team

The survey team consisted of S. Hayashi, the leader, and 9 others with the work divided as follows:

		Name	Present occupation	Division of work
*	Team leader	S. Hayashi	President of All Japan Fishing Port Association	General
	Sub-leader	I. Sakai	Director of Construction Division, Fishing Port Dept. of Fishery Agency	
	Team member	Y. Aoki	Penta-Ocean Construction Co. Ltd.	
*	"	J. Ohtani	Fisheries Division of Tottori Prefecture	Distribution and processing
	"	A. Kumasaka	Agriculture Forestry and Fisheries Finance Corporation	Cost analysis
*	"	K. Mitsuhashi	Construction Division, Fishing Ports Dept. of Fishery Agency	Fishing port planning

		Name	Present occupation	Division of work
	Team member	M. Morimoto	Long Distance Fishery Division, Marine Fishery Dept. of Fishery Agency	Fishery
	"	M. Yamamoto	Fishing Port Laboratory, Agricultural Engineering Research Station	Analysis on natural conditions
	"	F. Isshiki	Construction Division, Fishing Ports Dept. of the Fishery Agency	Structure design
*	"	I. Tanaka	Overseas Technical Cooperation Agency	Liaison

(Remarks) \* These were also despatched as members of the first survey team.

#### 4. Schedule and Activities of the Survey Team

The first survey team left Tokyo on 22nd November 1973, arrived at Jakarta on the same day and spent 14 days in Jakarta for investigation purposes until their departure on 5th December 1973.

The second survey team left Tokyo on 6th February 1974, arrived at Jakarta on the same day and spend 30 days for investigation purposes until departure on 7th March 1974. Their trip included an investigation of the fishing ports/markets at Singapore and Bangkok on the way back to Japan leaving Jakarta on 3rd March 1974. During the 4 days between 14th and 17th February, the team was divided into four groups and conducted measurements of the projected site and investigations of related areas. The schedule of the survey team is shown in Tables 1 and 2.

Table 1 Schedule and activities of the first survey team

Month	Day		Main activities	Stayed at
11	22	Thurs.	*Left Tokyo 10:20 a. m., arrived at Jakarta 6:25 p. m.	Jakarta
	23	Fri.	Arrangement of investigation schedule	"
	24	Sat.	Visited Embassy of Japan. First discussion held with Directorate General of Fisheries	"
	25	Sun.	Assortment of reference data	"
	26	Mon.	Visited BAPPENAS**, Governor of Jakarta City, Directorate General of Sea Communication and the World Bank (I. B. R. D.)	"
	27	Tues.	Discussion with the officials of Jakarta City. Survey of projected site for fishing port. Investigation of Tandjung Priok port.	"
	28	Wed.	Investigation of Pasar Ikan fish market. Assortment of reference data	"
	29	Thurs.	Second discussion with Directorate General of Fisheries. Arrangement for the second investigation plan.	"
	30	Fri.	Team leader Hayashi left Jakarta 8:15 a. m. and arrived at Tokyo 7:50 p. m. Questions and answers with Directorate General of Fisheries.	"
12	1	Sat.	Investigation of a retail market. Questions and answers with Directorate General of Fisheries Bureau.	"
	2	Sun.	Assortment of reference data	"
	3	Mon.	Visited a fishing base (Kalibaru) in Jakarta City. Assortment of reference data	"

Month	Day		Main activities	Stayed at
12	4	Tues.	Compliment visit to Embassy of Japan together with explanation of the contents of investigation.	Jakarta
			Compliment visit to Directorate General of Fisheries Bureau.	"
	5	Wed.	Left Jakarta 8:30 a.m. Arrived at Tokyo 8:25 p.m.	"

(Remarks) \* 3 members only (Hayashi, Ohtani and Mitsunashi).

Tanaka left for Indonesia on 11th November as a co-ordinator with another survey team.

\*\* Abbreviation of the National Development Agency of the Government of Indonesia. Having a right on compilation of the development budget.

Table 2 Schedule and activities of the second survey team

Month	Day		Main activities	Stayed at
2	6	Wed.	Left Tokyo 9:20 a.m. Arrived at Jakarta 6:30 p.m.	Jakarta
	7	Thurs.	Visited Embassy of Japan and Directorate General of Fisheries of the Government of Indonesia.	"
	8	Fri.	Visited Jakarta Special City and Directorate General of Sea Communication of the Government of Indonesia. Arrangement of schedule and method of investigation.	"

Month	Day		Main activities	Stayed at
2	9	Sat.	Discussion with the counter parts at Directorate General of Fisheries.	Jakarta
	10	Sun.	Pre-discussion among the team members concerning the basic plan of the investigation work.	"
	11	Mon.	Investigation of Pasar Ikan. Visited BAPPENAS.	"
	12	Tues.	Visited Tandjung Priok Port, Kalibaru fishing port and the related facilities for investigation.	"
	13	Wed.	Measurement of the basic points of the planned construction site.	"
	14	Thurs.	"A" group led by sub-team leader Sakai and 4 others (Aoki, Mitsuhashi, Yamamoto and Isshiki) conducted sounding measurements of the sea area of the site.  Other 3 groups left for investigation of related areas (respective activities as per separately reported).	"
	15	Fri.	Sounding measurement and its assortment.	"
	16	Sat.	"	"
	17	Sun.	Topographical surveying and assortment of the surveying.	"
	18	Mon.	Meeting held concerning the result of the investigation of the related areas.  Preparation of draft of Summary Report on the Development Project for Jakarta Fishing Port/Market (called as "Report").	"
	19	Tues.	Draft preparation work of "Report".	"
	20	Wed.	Interim reporting and discussion of the draft "Report" at Directorate General of Fisheries.	"

Month	Day		Main activities	Stayed at	
2	21	Thurs.	Preparation work of "Report".	Jakarta	
	22	Fri.	Completion of "Report". Ordered for the English translation.	"	
	23	Sat.	Left Jakarta 7:00 a.m. Arrived at Surabaya 8:15 a.m. Investigation of Surabaya fishing port.	Surabaya	
	24	Sun.	Left Surabaya 5:30 p.m. Arrived at Dempasar 6:30 p.m.	Dempasar	
	25	Mon.	Investigation of Bena fishing port.	"	
	26	Tues.	Left Dempasar 1:00 p.m. Arrived at Jakarta 2:20 p.m. Proofreading of the English translation of "Report".	Jakarta	
	27	Wed.	The team leader and sub-leader submitted "Report" to the Embassy of Japan and explained the contents.	"	
	28	Thurs.	Submission/explanation of "Report" to the Director General of Fisheries.	"	
	3	1	Fri.	Submission/explanation by the team leader and sub-leader of "Report" to BAPPENAS. Pre-discussion of the investigation to be held at Singapore and Bangkok.	"
		2	Sat.	Preparation for homecoming.	"
3		Sun.	Team leader, Aoki and Tanaka left for Japan. Left Jakarta 8:15 a.m. Arrived at Tokyo 8:55 p.m. Team sub-leader and 6 others left Jakarta 8:00 a.m. and arrived at Singapore 9:40 a.m. Pre-discussion for the contents of investigation.	Singapore	



Month	Day		Main activities	Stayed at
3	4	Mon.	Investigation of Juron fishing port/market. Visited the South East Asia Fisheries Development Center.	Singapore
	5	Tues.	Left Singapore 8:30 a.m. Arrived at Bangkok 10:05 a.m. Team sub-leader visited Embassy of Japan. Pre-discussion for the contents of investigation.	Bangkok
	6	Wed.	Investigation of Bangkok fishing port/market. Investigation of Sumut Sakhon fishing port. Visited to Barnera Saduak fishing village.	"
	7	Thurs.	Left Bangkok 11:05 a.m. Arrived at Tokyo 6:30 p.m.	

Schedule for investigation of the related areas  
Investigation Group for central part of Java, Semarang area  
(Hayashi-Team Leader, Ohtani and Tanaka)

Month	Day		Main activities	Stayed at
2	14	Thurs.	Left Jakarta 6:30. Arrived at Bandung 12:00 a.m. Noted the situation at Bandung Branch of Directorate General of Fisheries. Visited a retail market.	Tegar
	15	Fri.	Visited Fisheries Training Center and Fisheries High School.	Semarang
	16	Sat.	Met the Governor of Semarang Government. Visited fisheries facilities.	"
	17	Sun.	Left Semarang 2:00 p.m. Arrived at Jakarta 3:00 p.m.	Jakarta

Investigation Group for Southern part of Sumatra  
(Kumasaka)

Month	Day		Main activities	Stayed at
2	14	Thurs.	Left Jakarta 7:00 a.m. Arrived at Belitung 8:30 a.m. Investigation of the market and ice making facilities at Belitung fishing port.	Belitung
	15	Fri.	Investigation of the fishing port in Selliu Island.	"
	16	Sat.	Left Belitung 9:00 a.m. Arrived at Bangka 10:00 a.m. Investigation of Sungailiat fishing village. Visited Surue canning factory.	Bangka
	17	Sun.	Left Belitung 12:00 a.m. Arrived at Jakarta 2:00 p.m.	Jakarta

Investigation Group for Southern part (Lampung) of Sumatra  
(Morimoto)

Month	Day		Main activities	Stayed at
2	14	Thurs.	Left Jakarta 9:40 a.m. Arrived at Telukbetung 10:30 a.m. Investigation of Telukbetung fishing port/market.	Telukbetung
	15	Fri.	Investigation of Kalianda fishing village and the fishing port facilities.	"
	16	Sat.	Visited Lab. Maringgai village and conducted investigation of the fishing and distribution system there.	"
	17	Sun.	Left Telukbetung 10:55 a.m. Arrived at Jakarta 11:45 a.m.	"

5. Acknowledgements

The members of the survey team heartfully appreciated the co-operation and assistance given by the people from various fields in pursuance of their investigation work. They wish to express their gratitude to those men, particularly those hereunder:

Nizam Zachman, Rear Admiral Navy	Director General Directorate General of Fisheries, the Government of Indonesia
A. Tjipto Wignioprajitno, Colonel Navy	Secretary of Dir. Gen. of Fishery, Directorate General of Fisheries, "
Pattepoy Pasau	Assistant of Dir. Gen. of Fishery, Directorate General of Fisheries, "
Drs. Soekirno	Head of Credit Division, Directorate General of Fisheries, "
Ir. Jusuf Ismail	Staff of Directorate Planning Directorate General of Fisheries, "
Ir. M. Sunjoto	Head of Port Facilities Division Directorate General of Sea Communication, "
Drs. A. Poerwadi	Head of Directorate of Economic, Jakarta City
Drs. Sofjan Jusuf	Expert of Planning Board, Jakarta City
Soetik Moehadi	Chief of Fisheries Service, Jakarta City
Ir. Johnny Maruto	Staff of City Planning, Jakarta City
Ir. Njoman Jenderia	Staff of Directorate of Economic, Jakarta City
Ir. Soemaryo Widjojo	Staff of Fisheries Service, Jakarta City

Masao Akai	Members of Advisory Team to Directorate General, the Government of Indonesia
Shunichi Hozumi	"
Hiroshi Shindo	"
Kazuhiro Koshiro	Members of Advisory Team to Directorate General of Sea Communication,
Ken Uesugi	Secretary of Embassy of Japan in Indonesia
Teizo Sugiyama	O. T. C. A. Jakarta Branch Manager
Norimoto Goto	O. T. C. A. Singapore Branch Manager
Atsushi Mito	Singapore Branch of South East Asia Fisheries Development Center
Toshifumi Sakurai	Advisor to Fisheries Bureau of the Government of Thailand
Udom Mahawangswat	Assistant Head of FMO of the Government of Thailand
Earn Sukhapinda	Head of BFM of the Government of Thailand
Kiwamu Kawasaki	(Interpreter)

## SUMMARY

### 1. Present Situation of the Jakarta Fishing Port/Market

The population of Jakarta special city is 4.7 million and occupies 4.0% of the total population of Indonesia. Jakarta is the largest consumption and distribution center of fishery products and more than half of its domestic distribution are carried out through Jakarta City. Therefore, the price movement of the fishery products in Jakarta has a dominant influence on the dealings of fishery products in other areas of Indonesia.

Pasar Ikan is playing a pivotal role in the capacity of a fishing base in Jakarta. Not only is there the prospects of its development as a fishing base but it also has a strong influence over the neighbouring communities in regard to the development of the fisheries industry. However, in the fishing base, Pasar Ikan, facilities required as a fishing port/market, are so narrow, obsolete and insufficient that Pasar Ikan does not fulfill its function as a fishing base, or to the contrary, such a situation results in the prevention of its development in terms of modernization and rationalization of fishing activity and fish distribution.

### 2. Necessity of the Development of Jakarta Fishing Port/Market

In reference to the consumption trend of the fishery products in Indonesia, the income elasticity is remarkably high and it appears that, following the future increase of the national income, consumption per capita, i.e. the demand, of fishery products, will rapidly increase.

As Jakarta City is a large consumption area of fishery products and, at the same time, plays an important role as a collection/distribution center of the fishery products over the neighbouring areas, the dealing amount of the fish market will increase steadily in the future. However, the existing poor facilities at Pasar Ikan already mentioned, can not meet such requirements and accordingly it is necessary to develop, at the earliest opportunity, a fishing port/market well equipped with modernized facilities.

### 3. Fundamental Way of Ideas on the Development Project

On drafting the project, we proceeded with preparations under the following fundamental basis.

- i) Not only to dissolve the insufficient capacity of the existing facilities, but also to develop them so efficiently as to cope with any sharp increase in the dealing amount in the near future. Furthermore, to give serious consideration to rapid development in the fishing industry thereafter.
- ii) To construct a model fishing port/market well equipped with modern facilities acceptable as a core fishing port/market for the development of the fishing industry in Indonesia.
- iii) To give due consideration on this project to be capable of conforming to the Jakarta City Planning.
- iv) The construction period for the development project shall cover 5 years.

### 4. Determination of the Target of the Project

The year 1974 (the first year of the Second Five Years Economic Development Plan in Indonesia) shall be the first year of this project, and the estimated dealing amount of marine products in 1983 (10 years after 1973) shall be considered as the target amount used for this project.

Production amount classified by types of fisheries in the aimed year (1983) is shown in Table 3.

### 5. Plan of Fishing Port Facilities

In accordance with the foregoing "Fundamental ideas on the development project" and also "Determination of the target of the project", a plan of the fishing port is determined at the site as shown in Figure 1 and with the details as shown in Figure 2.

Table 3 Dealing amount of Jakarta fishing port/market in the aimed year (1983) under the development project

Unit: tons

Marine fish by fishing boats	53,200
Fresh fish by carriers	20,000
Salted and dried fish by carriers	30,000 (90,000 if calculated with the corresponding fresh fish)
Marine fish by truck	13,300
Fresh water fish	3,500
Total	120,000 (180,000, if calculated with the corresponding fresh fish)

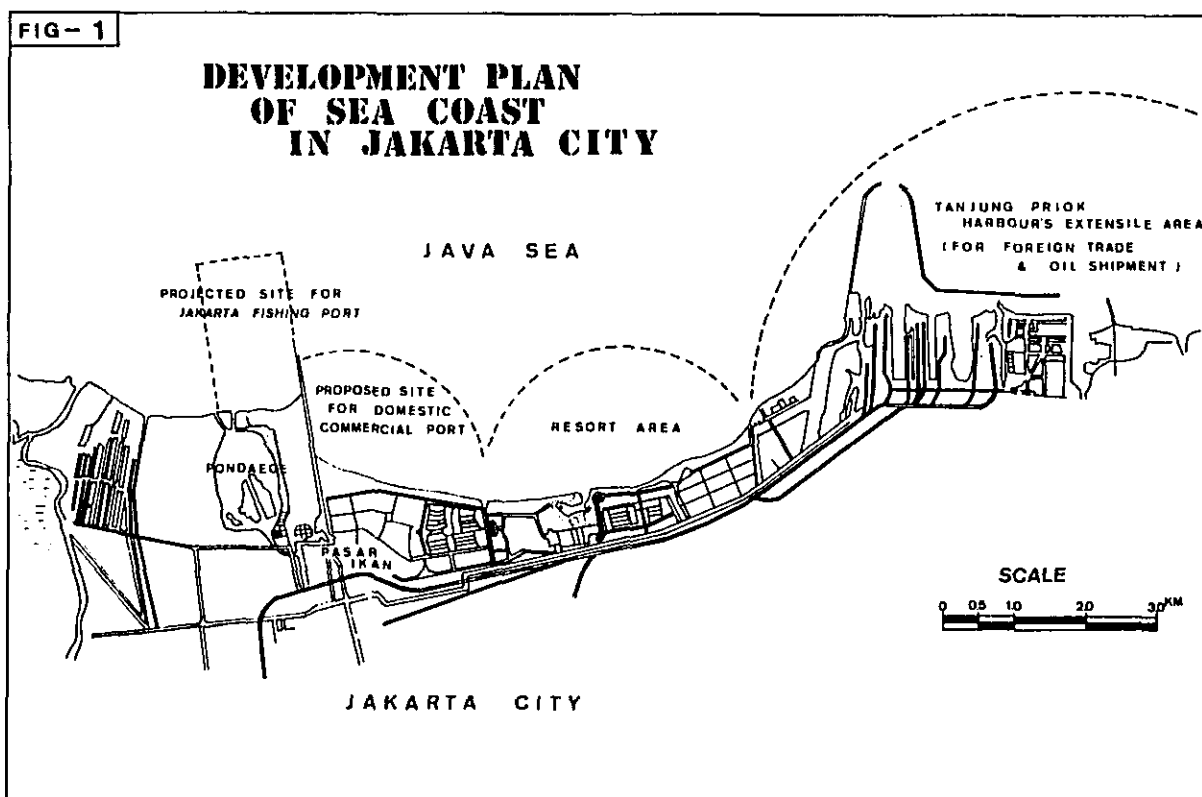
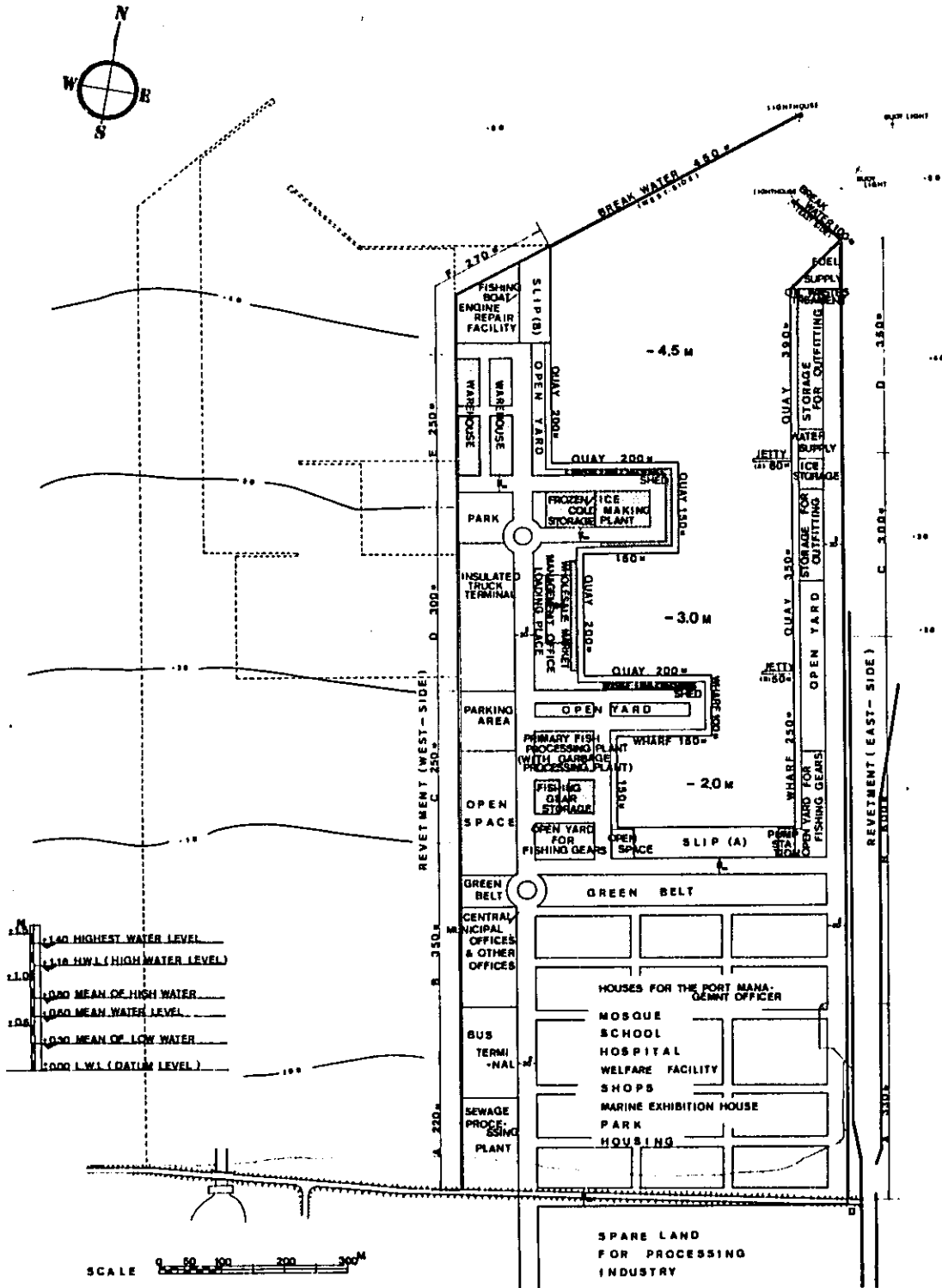


FIG- 2

# JAKARTA FISHING PORT PLAN





## 6. Construction Cost and Execution Schedule

With regard to the materials and labours available in Indonesia, we made a thorough investigation and decided to use and employ as much as possible. An estimation of the construction cost was calculated accordingly.

Furthermore, special consideration was given to the execution schedule so that part of the aimed facilities could be used at an early stage or even, during the course of construction, this would be taken from the standpoint of the effective availability of facilities. (Refer to Table 4 and 5.)

Table 4 Yearly Construction Cost

Unit: 1,000 Rp (1,000 US\$)

Year	Construction cost			Consultant fees	Reserve funds	Total		
	Total	Foreign currency	Domestic currency			Total	Foreign currency	Domestic currency
1975	1,375,050 (3,313)	769,120 (1,853)	605,930 (1,460)	87,000 (210)	153,824 (371)	1,615,874 (3,894)	1,009,944 (2,434)	605,930 (1,460)
1976	2,149,400 (5,179)	1,275,970 (3,075)	873,430 (2,104)	87,000 (209)	255,194 (615)	2,491,594 (6,003)	1,618,164 (3,899)	873,430 (2,104)
1977	3,127,830 (7,537)	1,714,010 (4,130)	1,413,820 (3,407)	37,350 (90)	342,802 (826)	3,507,982 (8,453)	2,094,162 (5,046)	1,413,820 (3,407)
1978	3,146,910 (7,583)	2,304,920 (5,554)	841,990 (2,029)	- (-)	460,984 (1,111)	3,607,894 (8,604)	2,765,904 (6,665)	841,990 (2,029)
1979	830,800 (2,002)	251,970 (607)	578,830 (1,395)	- (-)	49,194 (118)	879,994 (2,120)	301,164 (725)	578,830 (1,395)
Total	10,629,990 (26,614)	6,315,990 (15,219)	4,314,000 (10,395)	211,350 (509)	1,261,998 (3,041)	12,103,338 (29,164)	7,789,338 (18,789)	4,314,000 (10,395)

o Consultant fees and Reserve funds are included in Foreign currency.

o Reserve funds fixed at 20% of Foreign currency cost.

o 415 Rp - 1US\$

Table 5 Available Facilities (Yearly)

At the end of second year	20%	Depth 4.5 m water area available for use
At the end of third year	50%	Depth 3.0 m water area available for use
At the end of fourth year	80%	Depth 2.0 m water area available for use
At the end of fifth year	100%	Completion of all the facilities

## 7. Economic Analysis and Management Analysis

### 7-1 Economic Analysis

An analysis on National Economy was conducted as follows:

- 1) Shortening of the time required from arrival to departure of fishing boats through relieving traffic congestion.
- 2) Increase of fish catch through enlargement of fishing activities.
- 3) Maintain fresh condition with the use of ice.
- 4) Increase of income by switching over from salted and dried fish to fresh fish.

Based on the calculation of cost and benefit in reference to the above, the Internal Rate of Return (IRR) and the Cost-Benefit Ratio (B/C Ratio) of 12% discount rate were calculated to be 14.5% (IRR) and 1.17 (B/C Ratio) respectively. Furthermore, it is considered that this project is of very high value to the national economy of Indonesia, in view of the unmeasurable social effect anticipated. Such effects would include improvement of the diet life of the Jakarta citizen, increase of opportunities for employment, modernization of the distribution system on fishery products, expansion of the related industry, etc.

### 7-2 Financial Analysis

A financial analysis was made in reference to the income standard, considered generally to be reasonable, on an assumption of a self-supporting accounting system fishing port/market.

IRR and B/C Ratios were calculated to be 2.1% and 0.23 respectively and it became clear that such management with a self-supporting accounting system would face financial difficulties.

However, it will lead to a substantial loss to the national economy to abandon this project merely because of the aforementioned difficulties over the fishing port/market management and therefore it is desirable that the public should invest in putting this project into operation.

A trial calculation produced the clear answer that such management

could be realized if 68.1% of the total construction cost of the fishing port, that is equal to the cost of the construction of fundamental facilities and the consultant fee, was treated as a aid fund object.

#### 8. Management and Operation

In order to have the function of fishing port/market operated properly, smooth and adequate management/operation of the facilities is required, and hence the following recommendations were submitted:

- (1) A fundamental principle of management
- (2) A management staff
- (3) Required duty of the management staff

#### 9. Recommendations on the Problems Relating to this Project

Although many adequate measures are necessary, in relation to the development of the fishing port/market; for effective use and full demonstration of its function, recommendations were submitted which would be considered most urgent/important:

- (1) Organization of a committee by the related organs.
- (2) Promotion measures for motorization and enlargement of fishing boats and modernization of fishing gear.
- (3) Development of supporting stations.
- (4) Installation of other retail markets including proper arrangement of them and promotion of the processing industry.
- (5) Training on the management and operation of the fishing port/market.
- (6) Early consolidation of the management system of the fishing port/market.
- (7) Installation of experts in fishing port.
- (8) Completion of statistics on fisheries and the fishing port/market.

#### 10. Subject for Future Study

The following items were indicated as subjects for future study in promotion of the development project on the Jakarta fishing port/market.

- (1) Making a plan for utilizing the reclaimed land behind the fishing port.

- (2) Construction of an access road from Jakarta City to the fishing port.
- (3) Execution of soil investigation.
- (4) Continuous execution of sounding in and around of the fishing port water area.



VOLUME I

OUTLINE OF FISHRIES IN INDONESIA  
TOGETHER WITH ITS POLYCY AND  
INFORMATION ON THE FISHING PORT  
/MARKET OF JAKARTA



## MAIN SUBJECT

### VOLUME I. OUTLINE OF FISHERIES IN INDONESIA TOGETHER WITH ITS POLICY AND INFORMATION ON THE FISHING PORT/MARKET OF JAKARTA

#### Chapter 1. General Information and Transition of Fisheries in Indonesia \*

##### 1-1. General Information

The total catch of fisheries in Indonesia for the year 1972 amounted to 1,270,000 tons, consisting of 840,000 tons from sea fisheries and 430,000 tons from inland water fishery. Both have the characteristic feature that inland water fisheries occupy 34% of the total catch and thus are highly valued as the supply sources of animal protein for those people living in the inland area availed with poor facilities of transportation.

Indonesia is a complex nation consisting of many islands over a large sea area, and the possible catch of sea fisheries within the territorial waters and the adjacent seas would amount to 5,800,000 tons. If the possible catch of inland water fisheries for 1,800,000 tons was added to this, the total output is estimated to be 7,600,000 tons. Hence, a development of the fisheries is greatly desired so as to cover the food supply sources for the people of Indonesia.

Although the proportion of the fisheries in the industrial national income of Indonesia is 2.3%, the population engaged in the fisheries amounts to 1,300,000, and thus it is recognized as an important industry in Indonesia.

---

\* This chapter is a summary of a book "Fisheries in Indonesia", written by Masao Akai and Shunichi Hozumi and published by the Japan Fishery Resources Protection Association.



Table 6 Transition of the total catch of fisheries

Unit: 1,000 tons

Year	1967	1968	1969	1970	1971	1972
Total	1180	1159	1214	1229	1226	1268
Sea fishery	678	723	785	807	810	838
Inland water fishery	502	437	429	421	416	430

The fisheries main production areas are Sumatra, Kalimantan and Java islands where 79% of the total catch is produced. Sumatra island produces 46% of the total catch of "sea fishery" and Kalimantan island produces 39% of the total catch of "inland water fishery".

Table 7 Regional fisheries catch (1971)

Unit: 1,000 tons

	Total	Sea fishery	Inland water fishery
Whole land	1,226 (100%)	810 (100%)	416 (100%)
Sumatra	452 ( 37%)	370 ( 46%)	82 ( 20%)
Java	263 ( 21%)	135 ( 17%)	128 ( 31%)
Kalimantan	253 ( 21%)	93 ( 11%)	160 ( 39%)
Sulawesi	173 ( 14%)	135 ( 17%)	37 ( 9%)
Others	83 ( 7%)	75 ( 9%)	4 ( 1%)

1-2. Sea Fishery

The working population of the sea fishery is approx. 900,000 of which the majority works traditionally using primitive and simple types of fishing boats and gear.

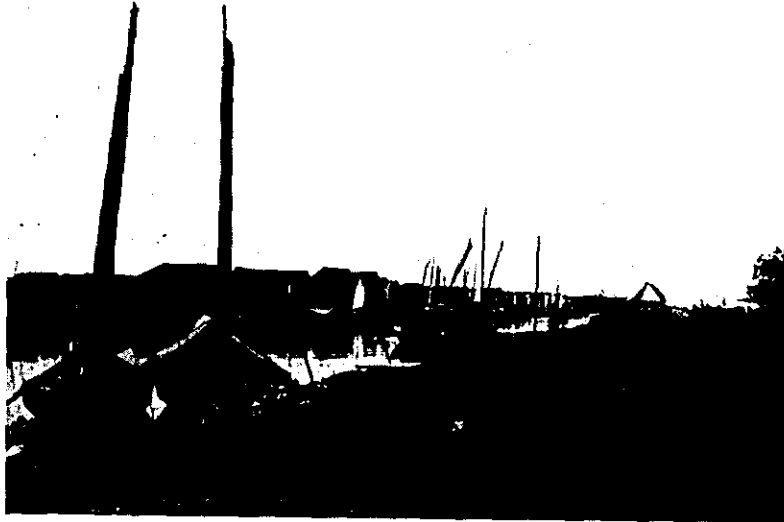


Photo 1. View of a fishing base



Photo 2. Processing factory for salted and dried fish (at Tegal)

Many of the fishermen do not possess fishing boats or gear as a production means, but obtain them in pre-modern methods. They borrow fishing boats, gear, etc. from the local collectors (fixed traders) in exchange for the return of a catch or obtain them through credit from the Government. Thus, their social or economic position is still on a low level.

Further, the motorization proportion of the fishing boats is only 2.3% and modernization of the fishing method is considerably delayed. Since the fishery in Indonesia has been carried out within a self-supporting economy under colonial control, there are few fishing ports or distribution facilities even in the main fishery production area. Thus, retardness is observed in the development/consolidation of infrastructure, such as water supply, electricity, transportation and tele-communication systems.

Under the circumstances, the annual fish catch per fisherman capita amounts to a little less than 1 ton, which is considerably low when compared with that of international fishery standards.

Recently, joint-venture enterprises with foreign capital have been established, engaged in shrimp trawl fishery using large sized fishing boats at the fishing ground of East Sumatra, Kalimantan or West Irian, and also in skipjack pole and line fishery at Banda sea.

Meanwhile, the development of tuna long line fishery and skipjack pole and line fishery has been positively promoted by the Government investment project since the year 1970.

Table 8 Number of fishermen, fishing boats, fishing gear pertaining to "Sea Fishery" and its catch

Year	1960	1967	1968	1969	1970	1971
Fishermen (number)	771,642	926,157	870,137	880,478	928,239	893,760
Fishing boats (number)	169,431	272,680	283,913	280,633	295,436	287,647
Non-powered (number)	167,975	268,687	278,206	275,314	289,402	280,927
Powered (number)	1,456	3,993	5,707	5,319	6,034	6,720
Fishing gear (set)	454,343	702,485	707,500	...	...	...
Catch (tons)	410,043	677,933	722,511	785,344	807,391	810,092

### 1-3. Inland Water Fishery

Inland water fishery (including farming) has been stagnant in recent years and the annual catch is more or less 420,000 tons. Of this, 73% covers the catch from natural water area, such as rivers, lakes, swamps, etc. and the rest covers the catch from brackish or fresh water farming ponds, paddy fields, dams, etc.

The working population of the inland water fishery is said to be approx. 400,000 (1971, full-time workers). In view of the large number of fishermen involved and of the quantity of animal protein supplied the inland water fishery bears as much importance the sea fishery.

The fish farming is carried out at brackish water ponds, paddy fields, reservoirs, etc., and mainly at Java and South Sulawesi; both with a high population density.

Table 9 Catch of Inland Water Fishery divided into the respective water area (1967)

	Catch (tons)	Ratio (%)
Catch from inland water		
Swamps	138,480	28
Rivers	110,745	22
Lakes	72,500	14
Artificial Ponds	2,600	1
Others	40,550	8
Sub-total	364,875	73
Farming from Inland water		
Fresh water farming ponds	60,230	12
Paddy fields	20,540	4
Brackish water farming ponds	56,750	11
Others	106	-
Sub-total	137,626	27
Grand total	502,501	100

## Chapter 2. Projects for the Promotion of Fisheries Industry by the Government of Indonesia

The Government of Indonesia carried out its first 5 years Economic Development Plan between 1969 and 1973. Because of financial restrictions, a method was adopted under the first Economic Development Plan whereby plans would be carried out in order of priority.

Under the First Plan, they would not achieve the aimed target for the fishery production, but the movement gave encouraging influence over not only large or medium sized fishery but also over small coastal fishery. In instance the First Plan is highly valued as a factor for fundamental consolidation necessary for future development.

During this period, rearrangements of various regulations for protection of the coastal fishery and enactment of Domestic and Foreign Capital Investment Laws have been established, and under these regulations and laws, capital investments have been made over fishing industry. Hence selective fishery production according to the market demands have become possible. As the result, a sharp increase in the export of fishery products has been made in recent years and they expect this tendency to continue in the future.

Under these circumstances, the Government of Indonesia, following the First 5 Years Economic Development Plan, is planning to begin the Second 5 Years Economic Development Plan through the years, 1974 - 1978.

### The Second 5 Years Economic Development Plan

Under the Second Plan, further expansion of the fishing industry is proposed to meet the domestic consumption and export demands. The contents of the Plan include the following:

2-1. Consumption Project

An estimation was made, based on consumption for the year 1970, using an increase ratio of the population as 2.4%, increase ratio of the disposable income "Y" as 3.3% and income elasticity of demand for fish "e" as 0.5 or 1.0.

Table 10 Target for Consumption of Fishery Products during the Second 5 years Economic Development Plan

Year	Target (low side) Y=3.3% e=0.5	Target (high side) Y=3.3% e=1.0
1973	1,367,903	1,435,252
1974	1,423,836	1,518,066
1975	1,482,057	1,605,659
1976	1,542,658	1,698,305
1977	1,605,738	1,796,298
1978	1,671,396	1,899,944

2-2. Export Project

Due consideration is given for possible catch of fisheries adequate for exports, particularly prawns, tuna and skipjack, without harming to the domestic consumers.



Photo 3. Frozen processing of shrimp (Semarang)

Table 11 Target for Export of Fishery Products under the  
Second 5 Years Economic Development Plan

Year	Quantity (tons)	Amount (U. S. \$)
1973	20,000	40,000,000
1974	24,600	44,692,000
1975	36,300	56,661,000
1976	46,100	66,672,000
1977	51,100	71,707,000
1978	56,100	76,842,000

2-3. Production Project

The import amount is so small compared with the amounts of domestic production that it is not included in the Project.

Table 12 Target for the Fishery Products under the Second  
5 Years Economic Development Plan

Year	Target (low side)		Target (high side)	
1973	1,387,900 tons	100	1,455,300 tons	100
1974	1,448,400	104.4	1,544,700	106.1
1975	1,518,400	109.4	1,642,000	112.8
1976	1,588,800	114.5	1,744,400	119.9
1977	1,656,800	119.4	1,847,400	127.0
1978	1,727,500	124.5	1,956,000	134.4

The aimed project is to be carried out based on the target (low side), bearing in mind the production trend under the First Economic Development Plan and the amount of capital investment available under the Second Economic Development Plan.



2-4. Regional Development Project

As shown in Table 13.

Table 13 Target for the Regional Production under the Second  
5 Years Economic Development Plan

	Increase in domestic consumption	Increase in export	Total
	tons	tons	tons
Java, Bali	199,100	8,000	207,100
North Sumatra, West Sumatra and Riau	28,100	1,100	29,200
Other area	76,300	3,000	79,300
Large-scale project on areas except Java (National enterprise)	8,000	24,000	32,000
Total	311,500	36,100	347,600

2-5. Required Amount of Funds

Required amount of funds for achievement of the aforementioned project  
is shown in Table 14.

Table 14 The Amount of Funds Required for under the Second 5 Years Economic Development Plan

Unit: 1,000,000 Rp

Planned project	Central government	Regional government	Private	Foreign assistance	Total	Contents of project
1. Production development	267	4	368	2,194	2,833	Development of coastal, off-shore and distant water fishery. Promotion of fish farming at coastal area, brackish and fresh water ponds.
2. Improvement of distribution system	59	130	150	132	471	Development of cold chain system. Improvement of fisheries products distribution facilities.
3. Infrastructure/supporting industries	68	7	1,161	905	2,141	Development/Consolidation of fishing ports, shipbuilding yards, shelter facilities, ice-making plants, refrigerators, processing factories, preservatives and packing materials plants.
4. Administration/organization/facilities	205	195	-	-	400	Development of facilities, systems and structure of the apparatus.
5. Statistics	125	75	-	-	200	Consolidation of statistics collection system. Improvement of statistics preparation works.
6. Extension/Education	265	130	-	358	753	Improvement of system and institutions for fisheries extension and education.
7. Research	200	-	-	100	300	Fishing, fish farming, fishing boats, fishing gear, and resources assessment.
Total	1,189	541	1,679	3,689	7,098	

## Chapter 3. Fishing Port/Market of Jakarta

### 3-1. Position of Jakarta in Fisheries of Indonesia

#### "Present"

- (1) The catch of the fisheries in Jakarta amounted to 8,163 tons in 1971 (sea fishery 6,342 tons, inland water fishery 1,821 tons) and occupies 0.7% of the total fishery catch of Indonesia.
- (2) As already mentioned, the annual fish catch per fisherman capita in Indonesia is 1.0 ton for the year 1971 and the fishery productivity is considerably low compared with that of international standards. The fishery productivity around Jakarta City is also on a similar level with that of all Indonesia.
- (3) Jakarta City is the capital of Indonesia, the center of economic activity and the largest city in Indonesia with a population of 4,700,000. Jakarta City is also the largest consuming area of fisheries products in Indonesia and at the same time the largest domestic collection/distribution center not only in West Java but also in the whole of Indonesia.
- (4) Within the distribution circle of Jakarta City including the surrounding areas, approx. 40,000 tons per annum of fisheries products are consumed (salted and dried fish 30,000 tons, fresh sea fish 6,500 tons and inland water fresh fish 3,500 tons). As the result, the transaction/price movements of fishery products in Jakarta City have a dominant influence over the distribution conditions and dealing price in the production and consuming areas throughout Indonesia.

#### "Future"

- (1) The fishery resources in the Java Sea are abundant, and execution of an adequate fishery development project would result in a rapid increase of the fish catch in Jakarta City.

- (2) Bearing in mind the possible increase of population in Jakarta City and also the increase in consumption of fisheries products per capita following the increase in income, the amount of fisheries products traded in Jakarta City is expected to increase more and more. At the same time, it is anticipated that the dominant influence on the dealing price over all Indonesia, as referred to in "Present" (4) of this chapter, will become stronger in the future.

### 3-2. Present Situation of the Fishing Port/Market and Its Problem

- (1) The dealing amount of fisheries products within Jakarta City for the year 1972 was 8,248 tons (fresh fish) and 18,804 tons (dry salted fish), and the daily average dealing amount was 72 tons.
- (2) The supply of fresh sea fish to Jakarta City is conducted at 5 unloading ports in the City. As Pasar Ikan fish market is known as the largest supply center, part of the fishery products unloaded at other ports are carried into Pasar Ikan fish market and sold there.
- (3) The majority of salted and dried fish are carried, by small-sized sailing boats designed for carriage from the so-called "outside territory", Sumatra and Kalimantan, onto Pasar Ikan and Kalibaru, and the rest carried onto Jakarta by trucks from the producing areas in Central or West Java, such as, Tegal.
- (4) Inland water fish is carried by trucks onto Jakarta from the inland areas of Central and West Java.
- (5) Pasar Ikan is known as the largest unloading port of fishery products in Jakarta City, but its facilities were constructed during the colonial era.
  - (a) A drastic development is required for the breakwater and mooring facilities.
  - (b) The access road to the City is too narrow.

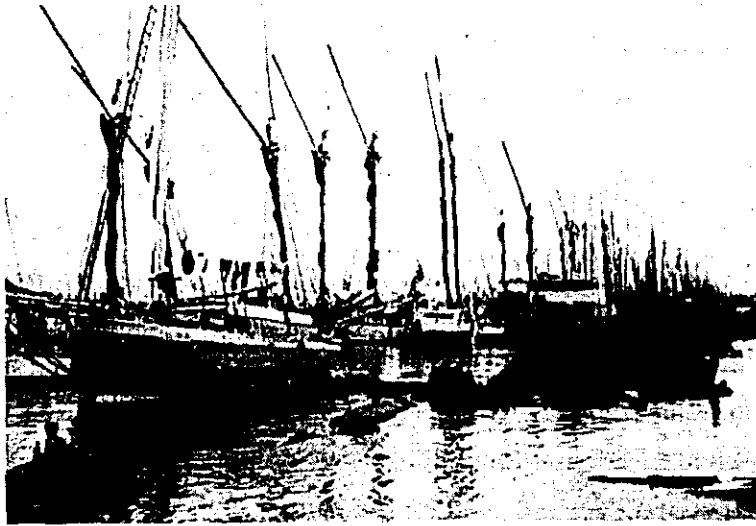


Photo 4. Pasar Ikan Port (Entrance Portion)



Photo 5. View of Ice Unloading (at Pasar Ikan)

- (c) Warehouse facilities for fishery materials, refrigeration facilities, ice-making facilities, clean water supply facilities, electricity supply facilities, tele-communication facilities; these facilities, indispensable for sound development of fishing industry, are all incomplete in both quality and quantity.
- (d) The facilities are, in general, obsolete and unsanitary.



Photo 6. View of Fish Market at Pasar Ikan

- (6) There are many cargo sailing boats coming in and out of Pasar Ikan from and to Sumatra and Kalimantan and the weight is rather heavy for a domestic port. This situation results in difficult unloading work from ordinary fishing boats.
- (7) Fresh fish and salted and dried fish are handled separately as different wholesale markets. Further, as the unloading bases of the fishery products are scattered here and there, distribution activities of the fisheries products are not conducted smoothly. It is, therefore, difficult to establish an adequate price reflecting demands/supply of all the fisheries products.



Photo 7. Fish Market at Kalibaru

In addition, there are many occasions where the fishery products, in their retail sales stage, are sold in general grocery market handling sales of vegetables, fruits, etc.



Photo 8. Fish Retailer in a Market (Cikini Market)

3-3. Intention of the Government of Indonesia and Jakarta City for Improving the Fishing Port/Market

In view of the present situation as aforementioned, the Government of Indonesia and Jakarta City came to a conclusion that Pasar Ikan fishing port/market facilities should be fundamentally ameliorated. The intentions of the authorities is noted as hereunder:

(1) Intention by the Government of Indonesia

1) BAPPENAS and Directorate General of Fisheries

They wish to treat this as an execution project for the year 1974 through the fund assistance from foreign countries.

They wish to construct, as an over-all project relating to Fishery, Jakarta fishing port as a model fishing port in Indonesia, having adequate functions and facilities both for fishing ports and the fishery products wholesale market.

2) Directorate General of Sea Communication

They agree that the projected construction site of the new fishing port will be separated from the port area provided for future extension of Tanjung Priok foreign trade port.

(2) Intention by Jakarta City

Jakarta City project through 1965 - 1985 (master plan) has been prepared on the assumption that a new fishing port will be constructed. Jakarta City realizes that a new fishing port construction project should be treated with the highest priority and looks for commencement and completion of the fishing port at the earliest opportunity.

3-4. Necessity for Development of the Fishing Port/Market

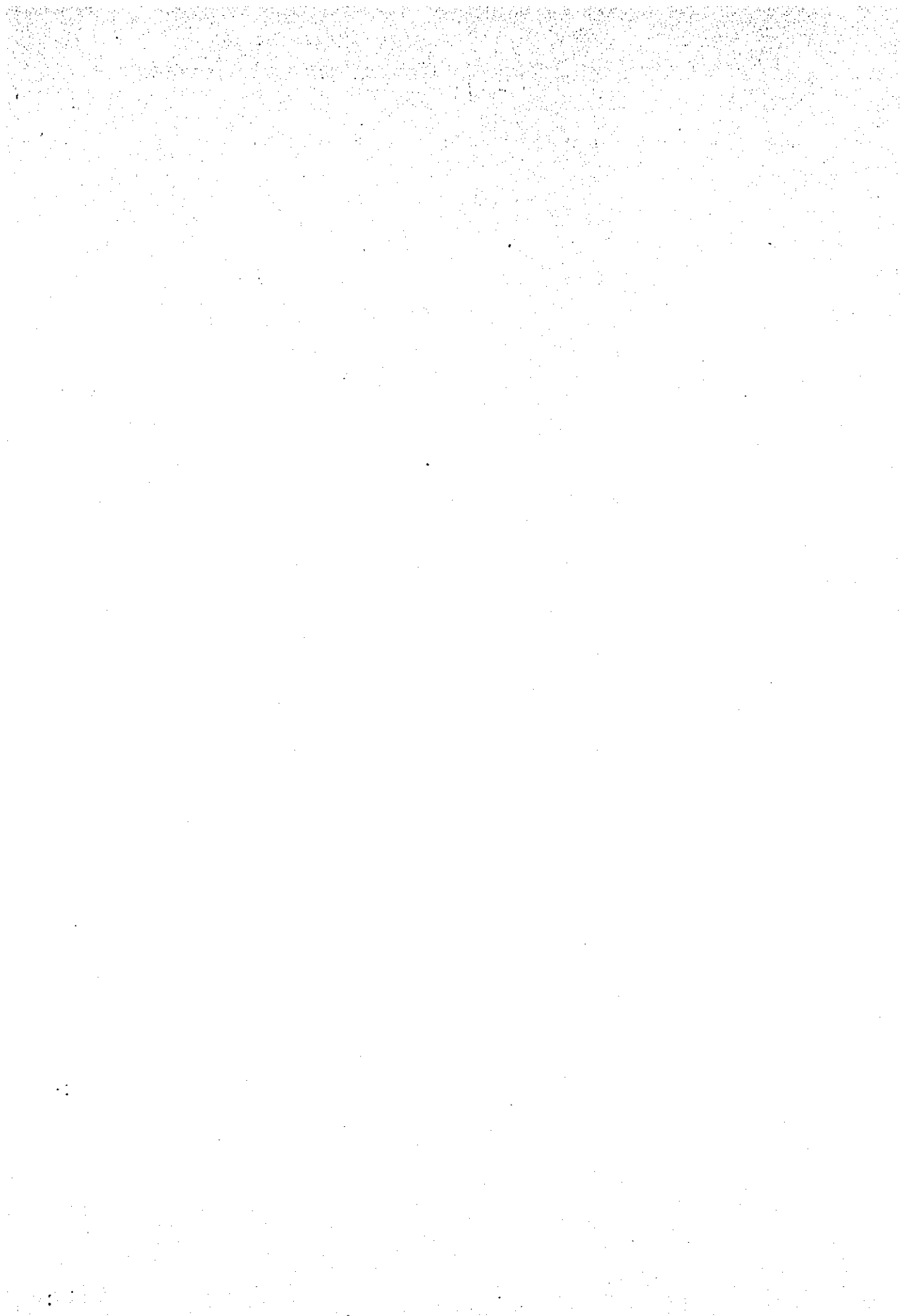
Following the actual survey/investigation, collection of the reference data, explanation received from and exchange of opinion into the relative organizations/governmental bodies, and in view of the present situation of the fishing port/market in Jakarta City as aforementioned, and further in view of the consideration given on the undermentioned points, this survey



team confirms that an urgent step should be taken for development of the fishing port/market of Jakarta City.

- (1) An establishment of fishery products supply system is necessary through motorization and enlargement of fishing boats and modernization of the relative facilities based on the Fishing Industry Development Plan. Thus an adequate development of fishing port is required.
- (2) It is necessary to promote collection/distribution activities and aim at an increase in the dealing amount, through development of modernized market facilities.
- (3) It is necessary to keep the price-down and preserve the quality, through a rationalization of the collection/distribution process.
- (4) It is necessary to establish fair dealings and thus reasonable prices, through a development of the distribution channel.
- (5) Development of production, collection and distribution functions or facilities in the main fishing bases of all Indonesia is considered to be an urgent requirement for promotion of the fishing industry. Therefore the intended development of the Jakarta fishing port/market is considered to occupy an important part as a model fishing base.

VOLUME II  
DEVELOPMENT PROJECT OF  
THE FISHING PORT/MARKET



## VOLUME II. DEVELOPMENT PROJECT OF THE FISHING PORT/MARKET

### Chapter 1. Fundamental Ideas on the Development Project

On drafting the development project for the Jakarta fishing port/market, we based our opinions on the following fundamental ideas, bearing in mind the present situation as to the production, distribution and consumption of fisheries products in Indonesia and Jakarta City as aforementioned and also on the Fishing Development Project of the Government.

- (1) Not only to dissolve the insufficient capacity of the existing facilities, but also to develop them so efficiently as to cope with any sharp increase in the dealing amount in the near future. Further, to give deliberate consideration to rapid development in fishing industry thereafter.
- (2) To construct a model fishing port/market well equipped with modern facilities acceptable as a core fishing port/market for the development of the fishing industry in Indonesia.
- (3) To give due consideration on this project to coordinate with the Jakarta City Planning.
- (4) The construction period for the development project shall cover 5 years.

## Chapter 2. Determination of the Target of the Project

### 2-1. Dealing Amount Aimes at in the Project

The year 1974 (the first year of the Second 5 Years Economic Development Plan in Indonesia) shall be the first year of this project, and an estimated dealing amount of marine products in 1983 (10 years after 1973) shall be taken up as the object of this project.

The reasons for the construction period of the fishing port facilities, etc. determined as 5 years are:

- (1) To secure enough facilities to cater for a rapid increase in the dealing amount.
- (2) To construct, at the earliest opportunity, Jakarta fishing port facilities, etc. valued as the core for modernization of the fishing industry in Jakarta and the surrounding areas to improve the collection/distribution system resulting and to promote the development of various facilities in the related area.
- (3) To progress accordingly with the Second 5 Years Economic Development Plan.

### 2-2. Fundamental Conditions for Determination of the Target

An estimated amount of consumption shall be 180,000 tons (calculated in terms of fresh fish).

The ground for the estimation is as follows:

- (1) Population of Jakarta City after 10 years ..... 6,000,000

The increase ratio of Jakarta City population from 1961 to 1971 is recorded as 4.6%, but we take it as 2.5% on an assumption that the increase ratio will go down.

- (2) Annual consumption per capita in Jakarta City ..... 30 kg x 80% = 24 kg.

From a dietic view point, the annual consumption of fisheries products per capita is normally 30 kg. In this instance, the achievement ratio in 10 years time is set at 80%.

- (3) Annual consumption in Jakarta City .....  $6,000,000 \times 24 \text{ kg} = 144,000 \text{ tons}$ .

In order to secure above consumption, consideration should be given to the possible amount consumed in the surrounding areas of Jakarta City, estimated to be 25% of the above consumption, then .....  
 $144,000 \text{ tons} \times 1.25 = 180,000 \text{ tons}$ .

### 2-3. Planned Dealing Amount of Fish and Number of the Fishing Boats

- (1) Planned supply amount (calculated in terms of fresh fish)
- 1) Catch of the sea fishery in 1983, estimated on the basis of the average annual increase ratio in the past 5 years (1967 - 1972) of sea fishery in Indonesia ..... 1,331,000 tons.
  - 2) Catch of the fresh water fish is set up unchanged at ..... 429,000 tons.
  - 3) The average supply ratio (1970 - 1972) to Jakarta City of the total catch is 9.1%, and if that of 1983 is calculated as 10%, then the planned supply amount in 1983 will be 180,000 tons [ $(1,331,000 \text{ tons} + 429,000 \text{ tons}) \times 10\% \doteq 180,000 \text{ tons}$ ].

- (2) Dealing amount by form of fisheries products

The dealing amount by form of fisheries products in 1983 is calculated to be 120,000 tons (180,000 tons in terms of fresh fish) obtained through the following plans:

- 1) It is considered that the dealing amount of fresh fish will substantially increase in comparison with that of salted and dried fish, bearing in mind the consumption trend, preservation of the fresh quality of fish and modernization of the transportation system, that is, the present proportion (fresh fish 25%; salted and dried fish 75%)

then in 1983 (fresh fish 75%; salted and dried fish 25%).

- 2) The dealing amount of inland water fish would remain unchanged, bearing in mind the recent production trend, influence by use of agricultural chemicals.
  - 3) The amount of fisheries products carried-in by means of land transportation would increase as a result of the development of the required facilities (fishing ports, ice-making facilities, refrigeration facilities, etc.) in the neighbouring areas and also a result of the profitability and stability of the fish price at its new base.
  - 4) The amount of fresh fish carried-in by fresh fish carriers would gradually increase as a result of the development of support stations in Sumatra and Kalimantan.
- (3) Yearly transition (1973 - 1983) of the planned dealing amount.

As per Table 15.

- (4) Yearly transition of the number of fishing boats in Jakarta fishing port.

The yearly transition of the number of fishing boats in Jakarta fishing port for securing the planned dealing amount as referred to in (3) is shown in Table 16.

Table 15 Yearly Transition of the Planned Dealing Amount in Jakarta Fishing Port

Unit: tons

Category	*1973	*1974	*1975	*1976	*1977	*1978	*1979	1980	1981	1982	1983
Marine fish by fishing boats	7,300	8,900	10,800	13,200	16,100	19,600	23,900	31,200	38,600	45,800	53,200
Fresh fish by carriers	2,700	3,400	4,100	5,000	6,100	7,400	9,100	11,800	14,500	17,300	20,000
Salted and dried fish by carriers	18,800	19,700	20,600	21,600	22,700	23,800	24,900	26,200	27,500	28,700	30,000
Marine fish by trucks	-	-	-	-	-	5,000	6,100	7,900	9,700	11,500	13,300
Fresh water fish	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Total	32,300	35,400	39,000	43,300	48,400	59,300	67,500	80,600	93,800	106,800	120,000

- Remarks:
1. The figures under \* noted years include the dealing amounts of the existing fishing ports, such as Pasar Ikan.
  2. The dealing amount for 1973 was estimated based upon the earliest available data on each category.
  3. The dealing amounts for 1974 - 1979 were estimated in accordance with the annual increase ratio from 1973 to 1983, that is, Marine fish by fishing boats 22.0%, Fresh fish by carriers 22.0%, Dry salted fish by carriers 4.8%.
  4. The dealing amount of Marine fish by trucks is expected to sharply increase from 1978 (during the course of the fish market facilities construction). Marine fish will be carried from the producing areas near Jakarta City, such as Merak, Tegal, Pekalongan, Cilacap.
  5. The dealing amounts of Fresh fish by carriers for 1973 - 1977 include those of Marine fish conveyed by trucks.
  6. The dealing amounts for 1980 - 1983 are expected to sharply increase upon completion of the fishing port in 1979 and estimated with linear regression equation.
  7. The construction work will commence in 1975 and finish in 1979.
  8. The availability ratio of the fishing port/market during the course of construction is shown below (the ratio of the respective year's decline of amount in proportion to the dealing amount of the 6th year after commencement of the construction work, set out as 100%).

3rd year after commencement of the construction work	20%
4th year after commencement of the construction work	50%
5th year after commencement of the construction work	80%
6th year after commencement of the construction work	100%



Table 16 Yearly Transition of the Number of Fishing Boats in Jakarta Fishing Port

Types of Fisheries	Size of Fishing Boats	Unit: number of vessels										
		*1973	*1974	*1975	*1976	*1977	*1978	*1979	1980	1981	1982	1983
Hand hook, Long line	Under 1 ton, Non-powered	1,025	966	908	846	782	711	634	(550)	(455)	(349)	(231)
"	" , Outboard engine	80	97	117	142	171	207	251	304	368	445	530
Gill net, Lift net	3 - 5 tons	220	255	285	315	344	373	400	426	451	476	504
"	5 - 10 tons	94	100	109	116	122	128	134	139	145	149	154
Muro-Ami	17 tons	18	18	18	18	18	18	18	18	18	18	18
Purse-Seine	10 - 30 tons	10	11	12	13	14	15	16	17	18	19	20
Trawl	20 - 30 tons	49	52	55	58	61	65	69	73	77	82	88
Sub-Total		1,496	1,499	1,504	1,508	1,512	1,517	1,522	977	1,077	1,189	1,314
Distant Water Fishery												
Tuna long line	50 - 100 tons	-	-	-	-	-	-	2	4	6	8	10
Skipjack pole and line	100 - 200 tons	-	-	-	-	-	-	1	2	3	4	5
Shrimp trawl, etc.	200 - 300 tons	-	-	-	-	-	-	1	1	1	1	1
Sub-Total		-	-	-	-	-	-	4	7	10	13	16
Sea Fishery Total (1)		1,496	1,499	1,504	1,508	1,512	1,517	1,526	984	1,087	1,202	1,330
Fresh fish carriers	30 tons	3	4	4	5	7	8	10	13	15	18	21
Salted and dried fish carriers	40 tons	5	5	5	5	5	6	6	6	7	7	7
"	100 tons	6	6	7	7	7	8	8	8	9	9	10
Carriers Total (2)		14	15	16	17	19	22	24	27	31	34	38
Grand Total (1) + (2)		1,510	1,514	1,520	1,525	1,531	1,539	1,550	1,011	1,118	1,236	1,368
									(1,561)	(1,573)	(1,585)	(1,599)

- Remarks: 1. The figures under \* noted years include those fishing boats using existing fishing ports, such as Pasar Ikan.  
 2. The yearly figures are those assumed by the increase/decrease ratio (annual ratio) from 1971 to 1983 based on the actual number of fishing boats in 1971.  
 3. It is assumed that the small-sized fishing boats will be enlarged and non-powered boats will gradually be motorized.  
 4. Non-powered boats will not use the Jakarta fishing port after completion of the new port. The figures in ( ) include those fishing boats not using the Jakarta fishing port.  
 5. The large-sized boats will be brought in at the previous year before completion of the fishing port.  
 6. Carrying capacity of the carriers is calculated to represent 60% of the gross tonnage of the respective vessel.  
 Required period of sailing for the carriers was based on the following:  
 Fresh fish carrier (30 tons type) ----- 7 days  
 Salted and dried fish carriers (40 tons type) ----- 7 days  
 Salted and dried fish carriers (100 tons type) ----- 10 days

### Chapter 3. Selection of the Projected Site

Pre-arrangements had been made in regard to utilization of the seacoast within Jakarta City, between the Government of Indonesia and Jakarta City before conduct of this investigation. This is shown in Figure 1 with the respective utilization areas of the seacoast.

The survey team, after due study at the site, also came to a conclusion that the seacoastal area located in front of the west side of Pasar Ikan Port would be best suitable for a construction site of the required fishing port/market in view of the following reasons. They started the planning accordingly.

- (1) The weather, sea, geographical and soil conditions in the front area of Jakarta City are almost similar in terms of utilization, and the projected site area does not have any disadvantages.
- (2) The projected site is the nearest seacoast area to the center of Jakarta City.

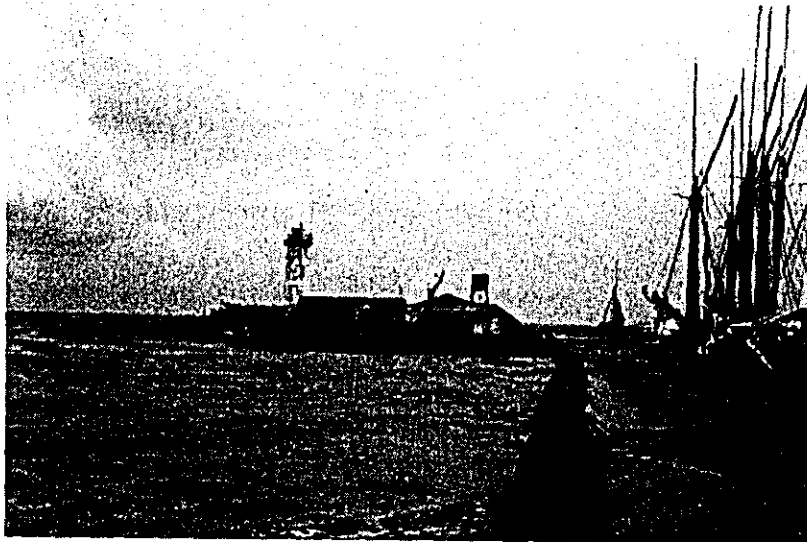


Photo 9. Projected site for the fishing port (on sea at Pasar Ikan)

- (3) As the projected site is adjoining to Pasar Ikan Port, transportation of the construction materials would be easy.
- (4) As the planned site is the nearest seacoast to Pasar Ikan fish market, trouble will be much less when various fishery facilities and traders are compelled to be removed.
- (5) The projected site lies midway among the fishing bases on the seacoast in Jakarta City.
- (6) A project to widen the access road from the center of the city to the projected site is planned by Jakarta City, and after completion of the road improvement the time necessary for transportation of the fishery products from the projected site to the City and the surrounding area will be shortened.
- (7) When future expansion of the fishing port is required, it is possible and easy as there is enough land on the west coast/sea water area.



Photo 10. Projected site for the fishing port (on sea at Pasar Ikan)



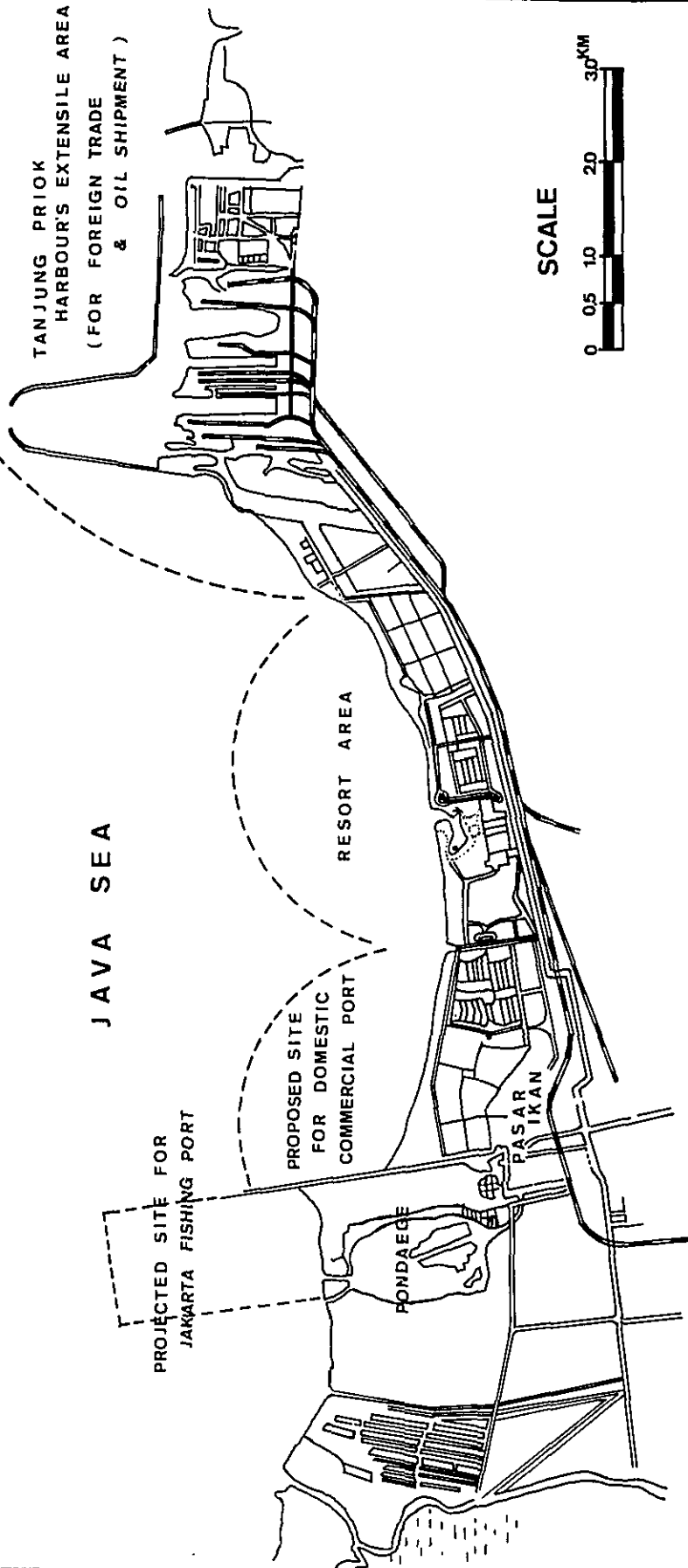
Photo 11. Projected site for the fishing port (on land at Pasar Ikan)



Photo 12. Projected site for the fishing port (on land at Pasar Ikan)

FIG - 1

# DEVELOPMENT PLAN OF SEA COAST IN JAKARTA CITY



## Chapter 4. Lines of the Plan

An adequate layout should be prepared for various facilities required for safe and practical handling and disposal of the aimed dealing amount referred to in Chapter 2 "Determination of the target of the project".

Special consideration should be given to completion of the functional facilities needed for a thorough disposal system of the fishery products from the time of unloading until the time of shipping out. The planned fishing port/market will be valued not only as a "Fishery Products Terminal" to cater for Jakarta City and the surrounding area, but also as a "Model Fishing Port/Market" for promotion of over all expansion of the domestic fishing industry.

The lines of the layout in the aforementioned circumstances is as follows:

- (1) To minimize the cost of dredging for maintaining the port as far as possible after completion of the fishing port.
- (2) To prepare the plan with due consideration to future expansion caused by increase in unloading amount, dealing amount of the fish market and number of fishing boats together with increase of their tonnage, after completion of the fishing port.
- (3) In order to secure the tranquility over the anchorage areas inside the port, due precautions should be taken for sheltering the anchorage from the rough waves caused by the north-west wind. Further, the entrance of the port is planned to open toward the north-east with the position of the entrance at a point 5 meters in depth (consideration being given also in reference to the above (1)), for the safety of entrance and clearance of the fishing boats.
- (4) To plan for utilization of the dredged soil for reclamation as needed.
- (5) To prepare the required mooring facilities divided for large-sized, medium-sized and small-sized fishing boats in that order from the port entrance, for the sake of effective usage of the fishing boats and rapid disposal of the unloaded products.

- (6) To arrange the oil supply facilities, for which loss prevention measures are required, at places where other facilities will not be affected in case of an accident.
- (7) To give due consideration for countermeasures on disposal of dirty water and the prevention of water pollution in the port following disposal of the fish.
- (8) To give due consideration to securing enough space for welfare facilities, housing for fishermen, etc.
- (9) To develop and complete the fundamental facilities within 5 years (1975 - 1979) and the functional facilities on land within 3 years (1977 - 1979). For the other facilities, the periods of development/completion are not necessarily defined. The plans for development/completion periods of facilities required are shown in Table 17.

In addition, due consideration has also been given on the following for determination of the layout along with the aforementioned Lines of the Plan.

- (1) It is apparent that Jakarta fishing market, because of its conditions of location, requires such future development not only for Jakarta City itself, but also, as the consuming area market and transit market for the hinterland. However, bearing in mind the present situation of the production, consumption and distribution, it is reasonable to determine, for the time being, a development project for the supply to Jakarta City as the first object.
- (2) Jakarta City is the largest consumer area in Indonesia, and its distribution area covers a wide range of area, i. e. Sumatra, Kalimantan, etc., where the facilities for production, distribution and other functions related are very poor. Under these circumstances, a practical effect can not be expected in the development project unless due consideration be given not only for the development of Jakarta fishing market, but also for the related development projects, such as

development of the over all fishing industry, Jakarta City development plan, etc. Therefore, before the execution of the projects, effective adjustment should be required among them for the success of the project.

- (3) The layout of the facilities should be such which will promote centralization of the fishery products through rationalization of the distribution system, thus resulting in formation of the adequate prices.
- (4) The Jakarta fishing market should be developed as a model base for distribution of the fishery products so that it would lead to development of other main production areas in the local country.

Furthermore, the road connecting Jakarta fishing port with Jakarta City is very defective at present, but no specific consideration is given under this project, since Jakarta City has its own plan to construct the required road within 1975. This matter is specifically referred to hereunder, as the development of the road is considered to be the most important precondition for the development of Jakarta fishing port.



Photo 13. Present situation of the road connecting the projected site with the city



Table 17 Details of the Facilities required for Development

Classification	Basic Facilities	Functional Facilities	Miscellaneous
Period necessary for development	5 years	3 years	not determined
Facilities	<p>Counter Facilities</p> <p>Breakwater</p> <p>Rivetment</p> <p>Pier</p> <p>Mooring Facilities</p> <p>Quay</p> <p>Wharf</p> <p>Slipway</p> <p>Water Facilities</p> <p>Route</p> <p>Basin</p>	<p>Transporting Facilities</p> <p>Road, Parking Area</p> <p>Truck Terminal</p> <p>Insulated Truck</p> <p>Facilities auxiliary to sailing</p> <p>Light Buoy</p> <p>Lighthouse</p> <p>Maintenance Facilities for Fishing Boats/Gear</p> <p>Fishing Boat Repair Yard</p> <p>Engine Repair Shop</p> <p>Gear Drying Ground</p> <p>Supply Facilities</p> <p>Water Supply Facilities</p> <p>Oil Supply Facilities</p> <p>Facilities for Disposal, Preservation and Processing of Fish Catch</p> <p>Fish Handling Shed</p> <p>Fish Market</p> <p>Fish Handling Machine</p> <p>Fishery Products Storage</p> <p>Open Yard</p> <p>Ice-making Plant</p> <p>Ice Storage</p> <p>Refrigerating Facilities</p> <p>Processing Facilities</p> <p>Fish Box Making Factory</p> <p>Tele-communication Facilities for Fishery</p> <p>Wireless Telegraph/Telephone Station</p> <p>Meteorological Signal Station</p>	<p>Housing for Fishermen</p> <p>Green Belt</p> <p>Recreation Zone</p> <p>Mosque</p> <p>School</p> <p>Hospital</p> <p>Government Office</p> <p>Shops</p>

Classification	Basic Facilities	Functional Facilities	Miscellaneous
		<p>Welfare Facilities for Fishing Boat Crews  Lodging House  Bath Room  Clinic  Hall for the Crew</p> <p>Fishing Port Management Facilities  Management Office  Watch House</p> <p>Fishing Port Cleanliness Facilities  Filthy Water Disposal Facilities  Water Pollution Prevention Facilities</p> <p>Space for Fishing Port Facilities</p>	

- Remarks:
1. The basic facilities means those required for safe entry/ departure and/or anchorage/mooring of fishing boats.
  2. The functional facilities means those auxiliary to the fundamental facilities and/or those required for smooth operation/ service necessary in fishing ports.

## Chapter 5. Plan of the Basic Facilities

The basic facilities means those satisfying the basic fishing port requirements for protection against undesirable external influences, such as waves, littoral drift current, etc.; for unloading of fish catch, supply of various materials, mooring fishing boats for idle berthing and/or lifting up fishing boats for laid-up purposes; and for safe departure/entry and anchorage/mooring of fishing boats.

### 5-1. Development Level of the Facilities

The development level of the main facilities is as follows:

- (1) To provide safety for departure/entry of fishing boats.
- (2) To provide enough mooring space for accommodation of fishing boats.
- (3) To provide safe mooring facilities for fishing boats, even under stormy weather.
- (4) To provide smooth and practical handling for the unloading of fish catch.
- (5) To maintain smooth outfitting for fishing and also smooth idle berthing of fishing boats.

### 5-2. Basic Data for the Plan

Reference is made to "Yearly Transition of the Number of Fishing Boats in Jakarta Fishing Port" (Table 16) and, the values in Table 18 for the natural conditions and in Table 19 for the available fishing boats were used as data under this project.

Various coefficients used for estimation of the required facilities were determined fittingly on consideration of the present situation in Indonesia, in reference to those coefficients used for fishing ports plans in Japan.

Table 18 Data used for Jakarta Fishing Port Project in regard to the Natural Conditions

	Data	Explanation
Waves	NW Wave $H_{1/3} = 1.3M$ , $T = 7.3$ sec N Wave $H_{1/3} = 1.0M$ , $T = 4.4$ sec NE Wave $H_{1/3} = 1.1M$ , $T = 5.5$ sec	Calculated by multiplying the deep sea wave height before refraction ( $H_{1/3} = 2.4M$ ) by the refraction coefficient at -5M point
Tide	Design High Water Level HWL = 1.16M	M. S. L. + $M_2 + S_2 + K_1 + O_1 + P_1 = 1.16M$ The diurnal inequality is notable and there are many occasions of one tide a day
Tide Current and Oceanic Current	-----	Considered to have no influence on the operation of vessels, although it may affect the movement of littoral drift.
Littoral Drift	The amount of littoral drift not available Main Direction of the Movement W→E	To be considered on determination of the layout of breakwater and the normal line
Wind	Maximum wind velocity approx. 10M/sec	Considered not to cause troubles for entry/departure of motorized fishing boats
Nature of the Ground	Soft ground (no measurement value available)	To estimate in accordance with the survey datas on the shore area nearby To assume the corn supporting capacity of the viscous soil to be $q_c = 4kg./cm^2$
Earthquake	No	Felt earthquakes exist but requiring no particular consideration under this project
The Lay of the Land	The sea-bed slope 1/300	1/300 similar slope from the coast line to the offing at a distance of 2km (refer to the plan appendix Figure 4)

Table 19. Data on the Fishing Boats Utilized for Jakarta Fishing Ports Plan (Summary of the Fishing Boats Utilized in 1983)

Type of Fisheries	Class	Size of the Average Type of Boats Length: L x Width: B x Draught: D (Dmax)	Standard Number of Available Boats Per Day	Depth of Unloading and Outfitting Facilities	Depth of Idle Berthing Facilities	Depth of Route	Width of Route	Radius of Curvature on Curved Line of the Route	Width of Maneuvering	Radius of Turn	Width of the Port Entrance (Double Ways)	Space between the Route and Structure (One side)
Hand Hook, Long Line	1t	8.0m x 1.8m x 0.6m (0.6)	480 boats	Over 1.1m	Over 1.1m	Over 1.4m	Over 11m	Over 40m	Over 24m	Over 24m	Over 11m	Over 3m
Gill Net, Lift Net	(1 - 3t) 2t	9.9m x 2.3m x 1.1m (1.1)	-	" 1.6m	" 1.6m	" 1.9m	" 17m	" 60m	" 35m	" 35m	" 17m	" 4m
"	(3 - 5t) 4t	11.8m x 2.8m x 1.2m (1.2)	361 boats	" 1.7m	" 1.7m	" 2.0m						
"	(5 - 10t) 8t	14.1m x 3.4m x 1.3m (1.3)	111 boats	" 1.8m	" 1.8m	" 2.3m						
Muro-Ami	(10 - 30t) 20t	19.1m x 4.2m x 1.7m (1.8)	16 boats	" 2.3m	" 2.2m	" 2.8m						
Purse Seine	(10 - 30t) 20t	18.0m x 4.2m x 1.5m (1.6)	8 boats	" 2.1m	" 2.0m	" 2.6m	" 26m	" 100m	" 60m	" 60m	" 26m	" 7m
Trawl	(10 - 30t) 20t	19.7m x 4.3m x 1.9m (2.0)	54 boats	" 2.5m	" 2.4m	" 3.0m	" 32m	" 140m	" 82m	" 82m	" 32m	" 9m
Tuna Long Line	(50 - 100t) 75t	27.2m x 5.4m x 2.1m (2.4)	1 boat	" 2.9m	" 2.6m	" 3.4m						
Shrimp Trawl	100t	32.0m x 5.7m x 2.1m (2.4)		" 2.9m	" 2.6m	" 3.4m						
Tuna Long Line	200t	38.2m x 6.7m x 2.5m (3.2)		" 3.7m	" 3.0m	" 4.2m						
Skipjack Pole and Line, Purse Seine	300t	43.7m x 7.3m x 3.0m (3.8)		" 4.3m	" 3.5m	" 4.8m						
Fresh Fish Carrier	30t	20.0m x 4.2m x 2.1m (2.2)	8 boats	" 2.7m	" 2.6m	" 3.2m	" 26m	" 100m	" 60m	" 60m	" 26m	" 7m
Salted and Dried Fish Carrier	40t	22.0m x 4.4m x 2.3m (2.5)	3 boats	" 3.0m	" 2.8m	" 3.5m	" 27m	" 110m	" 66m	" 66m	" 27m	" 10m
"	100t	30.2m x 6.0m x 2.0m (2.4)	3 boats	" 3.0m	" 2.5m	" 3.5m	" 36m	" 150m	" 91m	" 91m	" 36m	

\* Length: L and Width: B represent the values of the average tonnage of the classified fishing boats.  
 Draught: D represents the values of the draught at the time of idle berthing and the draught (Dmax) at the time of unloading and outfitting.

### 5-3. Required Length of the Mooring Facilities

Based on the conditions referred to in the foregoing (5-1 and 5-2), the required length of the mooring facilities is estimated as in Table 20 and Table 21.

On estimation of the length, the way of use of the fishing port were assumed as follows:

- (1) To determine as a principle term the mooring facilities are separately used for unloading, outfitting for fishing and idle berthing.
- (2) To determine the time allowed for unloading operation to be 6 hours a day.
- (3) To use the unloading quay and wharf separately for "large-sized fishing boats and fresh fish carriers", "medium-sized fishing boats", "small-sized fishing boats" and "salted and dried fish carriers".
- (4) The unloading operation of fish catch is carried out with the fishing boats over 10 tons lying alongside the wharf and those under 10 tons lying fore and aft the wharf.
- (5) To determine the time available for use of the wharf in outfitting for fishing to be 6 hours a day.
- (6) To conduct the outfitting for fishing with the fishing boats over 10 tons lying alongside the quay and wharf and with those under 10 tons at the wharf for idle berthing, no outfitting wharf being planned for the latter.
- (7) In case of idle berthing, the moorings are exercised in single file by fishing boats over 10 tons and in double file by those under 10 tons, both fore and aft the wharf. A part of the fishing boats 10 - 30 tons are to use the outfitting wharf.

Table 20 Required Length of the Mooring Facilities

Type of Fishery	Class	Number of available boats	Standard Number of available boats per day	Unloading facilities	Outfitting facilities	Idle berthing facilities
		boats	boats	m	m	m
Hand Hook, Long Line	0-1	530	480	65	-	288
Gill Net, Lift Net	1-3	-	-	-	-	-
"	3-5	504	361	115	-	334
"	5-10	154	111	45	-	125
Muro-Ami	10-30	18	16	44	44	77
Purse Seine	"	20	8	42	21	39
Trawl (small size)	"	88	54	205	137	268
Tuna Long Line	50-100	10				
Skipjack Pole and Line	100-200	5				
Shrimp Trawl, Purse Seine	200-300	1				
Fresh Fish Carriers	30	21	8	92	46	44
Salted and Dried Fish Carriers	40	7	3	51	-	18
"	100	10	3	105	-	24
Total	-	1,368 boats	1,046 boats	859 m	299 m	1,236 m
The Total Length of the Facilities						2,394 m

#### 5-4. Layout

The layout based on the foregoing lines (5-2 and 5-3) is shown in Figure 3, and the mooring places were sectioned according to the size of boats, i. e. large-sized over 30 tons, medium-sized 10 - 30 tons and small-sized under 10 tons, and the way of use. Further, due consideration was given for use of the mooring facilities in that the fishing boats should move counterclockwise within the port for securing the regular and safe sailing, and for avoiding unnecessary congestion.

A detailed layout of the basic facilities and the functional facilities on land is shown in Figure 2.

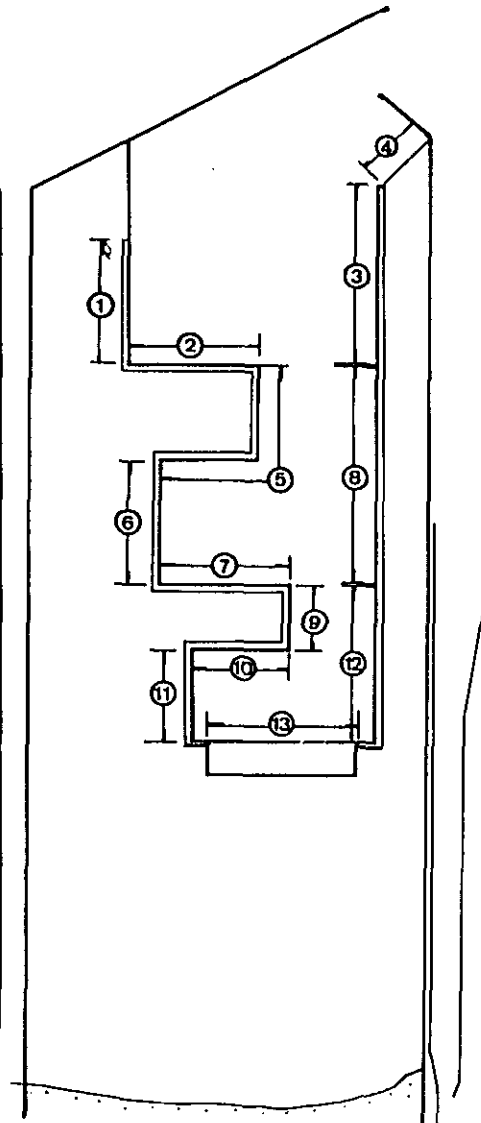
On completion of the port, the fishing boats will be able to go in and out of the port safely even under the influence of advancing waves (height 1.0M - 1.5M) resulting from strong north-west wind during December - March, and in the circumstances constant fishing out will be possible, thus the days of fishing operation will be very much increased. In addition, the degree of calmness within the port will be kept in good condition even under stormy weather, and safe operation for unloading, outfitting and idle berthing can always be expected. Furthermore, even during the peak fishing period, the problem of long waiting time of fishing boats caused the lack of the facilities required will be solved in the majority of cases, hence disposals of fish catch can be made rapidly.



Table 21 Required Length of the Mooring Facilities Classified by Depth

No.	Name of the Facilities	Length	Main Purpose of Use
①	-4.5 m West Quay	200 <sup>m</sup>	Unloading/Outfitting/Idle berthing by dried and salted fish carriers,
②	"	200	Unloading by large-sized fishing boats over 50 tons and dried and salted fish carriers.
③	-4.5 m East Quay	250	Outfitting/Idle berthing by large-sized fishing boats over 50 tons, medium-sized 10 - 30 tons and fresh fish carriers.
④	"	110	Oil supply operation for large-sized fishing boats over 50 tons.
⑤	-3.0 m West Quay	150	Unloading by medium-sized trawl boats 10 - 30 tons.
⑥	"	200	Unloading by medium-sized purse seine boats 10 - 30 tons and small-sized fishing boats under 10 tons.
⑦	"	200	Unloading by small-sized fishing boats under 10 tons and Idle berthing by medium-sized boats 10 - 30 tons.
⑧	-3.0 m East Quay	350	Outfitting/Idle berthing by medium-sized boats 10 - 30 tons.
⑨	-2.0 m West Unloading Wharf	100	Outfitting/Idle berthing by small-sized boats under 10 tons
⑩	"	150	"
⑪	"	150	"
⑫	-2.0 m East Unloading Wharf	250	Resting by medium-sized boats 10 - 30 tons and Outfitting/Idle berthing by small-sized boats under 10 tons
⑬	Slipway	230	Idling by and Repair of small-sized boats under 10 tons.
Total		2,540 m	

- Remarks:
1. The length appearing in Table 21 includes transitional part and therefore does not equal to that of Table 20.
  2. Slip yard for the repairing facilities is not included.
  3. Oil supply for small-sized boats under 50 tons is carried out by oil supply trucks or vessels.



Remarks: No. corresponds to the respective numbers appearing in Table 21.

Figure 3. Utilization Section of the Mooring Facilities in Jakarta Fishing Port

## Chapter 6. Plan of Functional Facilities

Functional facilities means those, auxiliary to the fundamental facilities, which would heighten the value on availability of fishing ports by exercising practical operations and services required at the fishing ports. Fishing market and refrigerating facilities, when constructed within the fishing port area, are also classified as one of the functional facilities for fishing ports.

### 6-1. Development Level of the Facilities

The development level of the main facilities is as follows:

- (1) Fish handling facilities should be established as a general wholesale market handling fresh fish, salted and dried fish and fresh water fish with a scale capable for disposal of total of the aimed tonnage.
- (2) Refrigerating facilities required for stable and smooth supply of fishery products and other facilities related to distribution.
- (3) Fishing boats repair facilities, engine repair facilities and other related facilities such as fishing gear storage warehouse, etc., all required for maintenance of production activities.
- (4) Facilities required for smooth management of the fishing port.
- (5) Facilities required for disposal of filthy water and prevention of water pollution within the port.
- (6) Due consideration should be given to layout of the facilities and for securing enough space for construction of the facilities so as to be able to cope with tonnage of handling fish increase in the future.

### 6-2. Planned Standard Figures

Reference is made to "Yearly Transition of the Planned Dealing Amount" (Table 15) and the planned tonnage per day (Planned Standard Figures) to be handled is determined to be 334 tons, corresponding to the planned tonnage of 120,000 tons in the Target Year 1983. (Table 22)

Table 22 Average Daily Tonnage of Fish Handling (Planned Standard Figures)

Total Tonnage	Total Arriving						Total Shipment		
	Fresh Fish			Salted and dried Fish	Total Tonnage		Fresh Fish		Salted and dried Fish
	Sea		Fresh Water		Sea	Fresh Water	Trucks	Trucks	
	Fishing Boats	Trucks	Carriers	Trucks	Carriers	Trucks	Trucks	Trucks	
Annual	53,200	13,300	20,000	3,500	30,000	117,300	82,400	3,600	31,300
Daily Average	148	37	56	10	83	326	229	10	87

Remarks: 1. As it is possible in Jakarta fishing port to defer the handling of part of the unloaded products to the next day, due to completion of the storage facilities such as refrigerating facilities etc., the daily average tonnage was calculated from the annual tonnage, divided by 360 days.

2. The total shipment per day was calculated to be 326 tons, since a part of the sea fresh fish for 241 tons (carried in by vessels for 204 tons plus those by trucks for 37 tons) would be placed for the first processing.

$$241 \text{ tons} \times 0.05 \div 12 \text{ tons (the amount of fish placed for the first processing)}$$

$$12 \text{ tons} \times 0.3 \div 4 \text{ tons (the amount of yield under the first processing)}$$

This would result in reduction of 8 tons in the tonnage.

$$334 \text{ tons} - 8 \text{ tons} = 326 \text{ tons}$$

### 6-3. Capacities of the Functional Facilities

Based on the conditions as in the foregoing (6-1 and 6-2), the required capacities of the various functional facilities are estimated as shown in Table 23.

Table 23 List of the Capacities of the Main Functional Facilities

Facilities	Scale/Capacities	Remarks
<b>1 Unloading Facilities</b>		
Shed	6,800 m <sup>2</sup>	Handling 204 tons
Fish Handling Gear	Belt Conveyors 34 Forklifts ) Seales ) 34	5 - 10 T types
<b>2 Wholesale Facilities</b>		Handling 334 tons/ day (1st Floor)
Wholesale Market	3,350 m <sup>2</sup>	(2nd and 3rd Floor)
Management Office, etc.	3,350 m <sup>2</sup>	Accommodation for 300 vehicles
Parking Lot	6,000 m <sup>2</sup>	
<b>3 Refrigerating Facilities</b>		
Refrigerator	1,700 tons	F class - 30°C
Freezer	28 tons	
<b>4 First Processing Facilities</b>		
First Processing Plant	A set of equipments for disposal of 12 tons	Bldg. 1,500 m <sup>2</sup>
Remnants Disposal Plant	Plant, disposal capacity 5 tons/Hr	
Filthy Water Disposal Plant	Plant, disposal capacity 100 tons/Day	Screening, Settling tank
<b>5 Transportation Facilities</b>		
Insulated Trucks	63 vehicles	6 T type
Truck Terminal	3,150 m <sup>2</sup>	

Facilities	Scale/Capacities	Remarks
6 Supply for Fishing Boats		
Ice-making Facilities	300 tons/day	
Ice-storage Warehouse	1,200 tons	
Oil Supply	500 kl x 3	
Water Supply	40 tons/Hr x 2	
Fish Box-making Facilities	3,000 boxes/day x 2	
Fishery Products Storage	2,000 m <sup>2</sup>	
7 Fishing Boats/Engine Repair Facilities	Up-holding for small boats: 3 lines Up-holding for medium boats: 1 line Repair of engines: 1 set	Bldg. 360 m <sup>2</sup>
8 Welfare Facilities	Bldg. 2,000 m <sup>2</sup> Sports Ground 5,000 m <sup>2</sup> Parking Lot 500 m <sup>2</sup>	Reinforced concrete

#### 6-4. Layout

The required functional facilities were systematically planned so that the fishery products would be smoothly forwarded to the retail markets locating in the center of Jakarta City, in line with the flow as shown in Figure 4, and the fishing boats could smoothly operate in line with the flow as shown in Figure 5. A series of places on land, where they exercise operations from unloading through shipment, is called a "Market Area" and the places of living quarters for the staff concerned as "Living Area", the latter being separated by green belts from the former.

Required facilities for the respective Areas are distributed as shown in Figure 6.

A detailed layout of the functional facilities is shown in Figure 2.

Figure 4. Connection between Flow of Fishery Products and the Functional Facilities

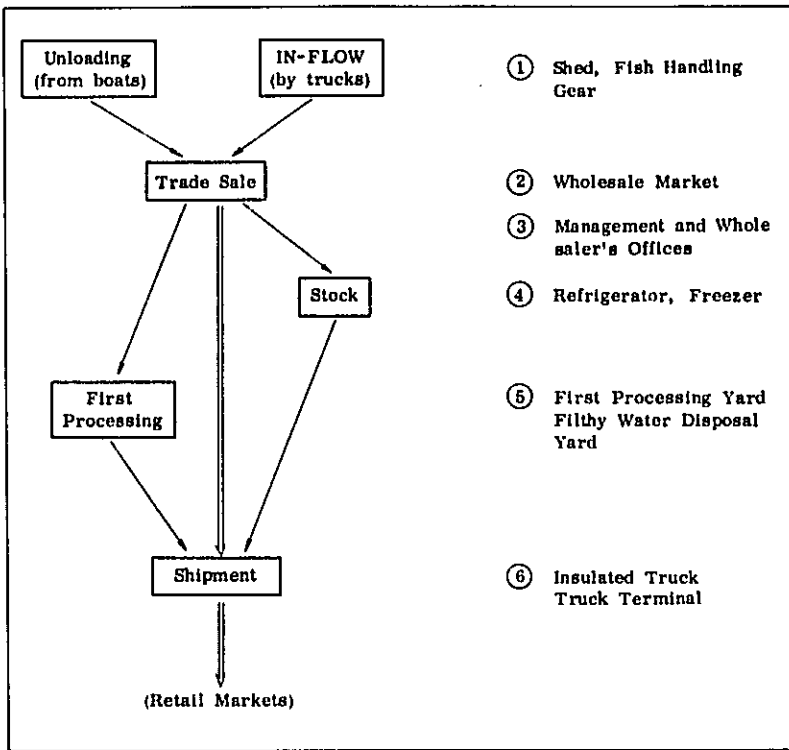


Figure 5. Connection between Flow of Fishing Boats and the Functional Facilities

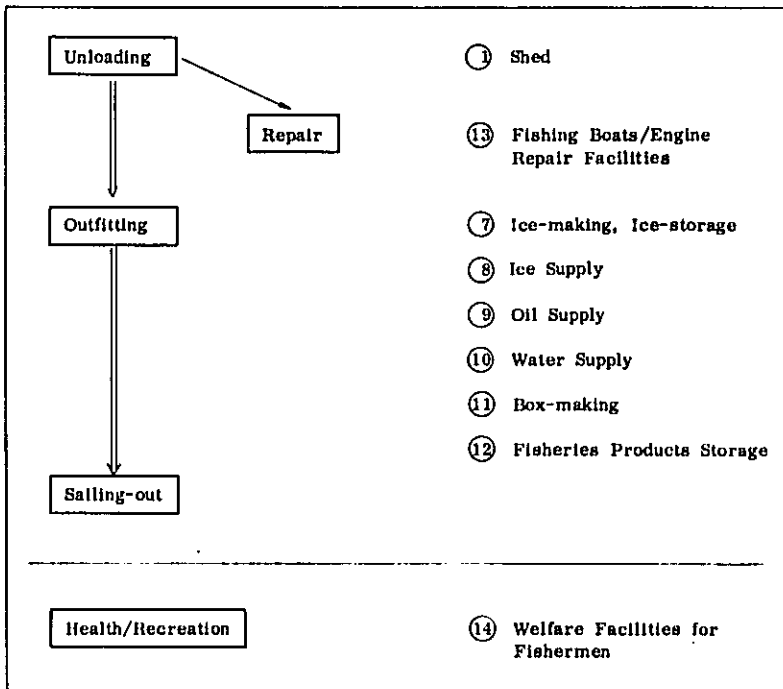
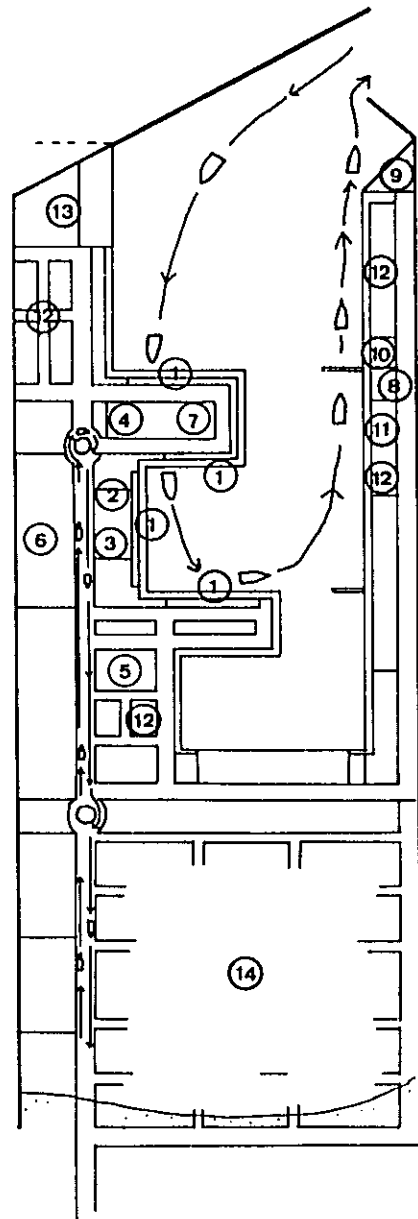


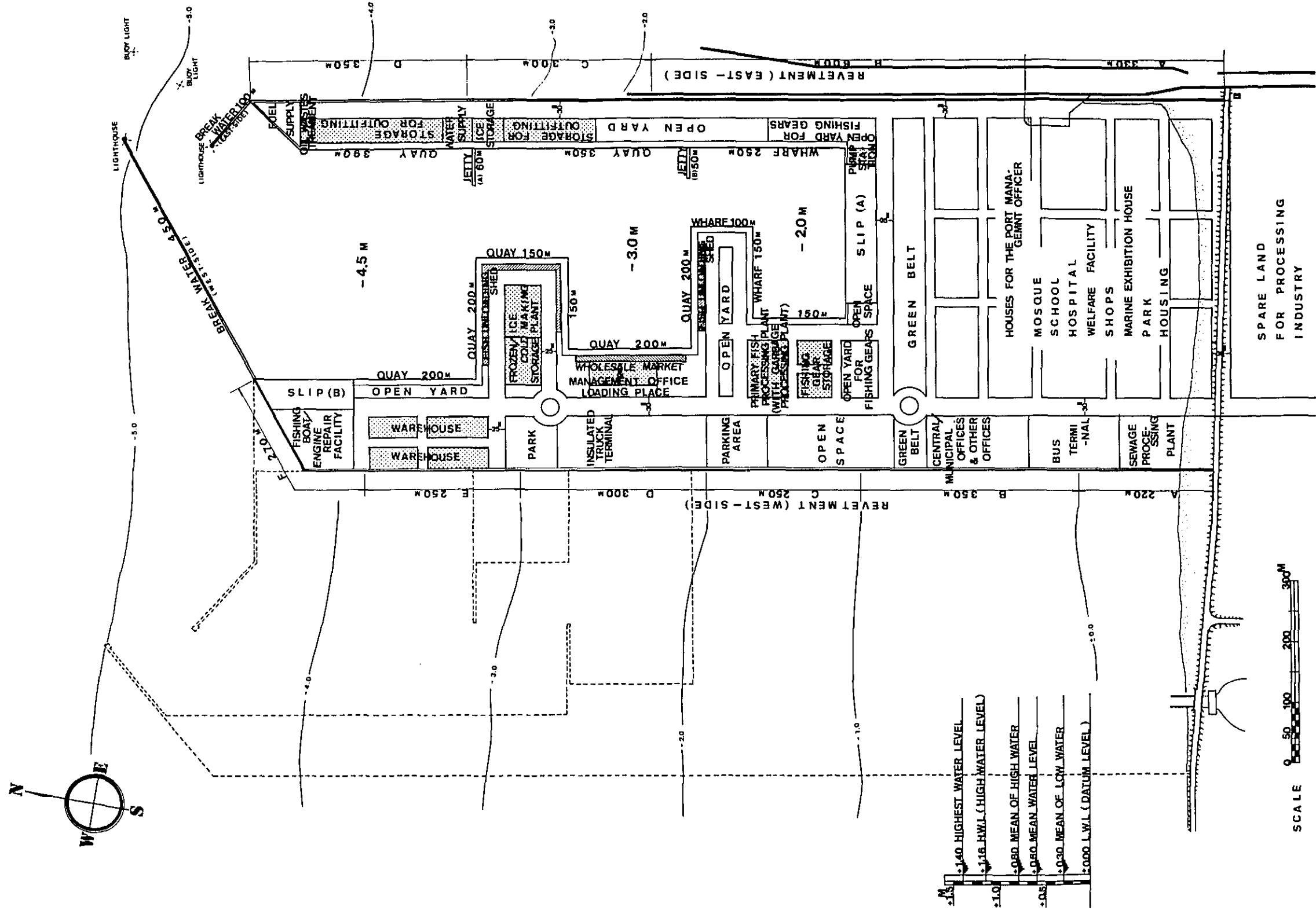
Figure 6. Layout of Functional Facilities



Note: Each No. in Figure-6 corresponds to the respective No. in Figure 4 and Figure 5.

FIG- 2

# JAKARTA FISHING PORT PLAN



## Chapter 7. Plan of Miscellaneous Facilities

As it appears desirable that consideration should be given, after due exercise of the function as a fishing port through the development of Jakarta fishing port, to the plans of miscellaneous facilities, such as housing, schools, offices and hospitals, which are not included in the plan for the basic and/or functional facilities of fishing ports, we, at the present stage, only refer to the securing of the spaces required for such facilities.



## Chapter 8. Considerations for Future Development of Jakarta Fishing Port/Market

It is foreseen that further extensive development of Jakarta fishing port would be required following the development of Indonesia and Jakarta City in the near future. In this consideration a prearrangement was made covering such area to cater for the development at the west side of Jakarta fishing port, as shown by dotted lines in the Plan (Figure 2 as inserted).

This area must at least be secured and the layout of this plan was determined with due consideration for such future extensive developments.

## Chapter 9. Structure's Design of the Main Facilities

### 9-1. Basic Consideration in the Structure's Design of the Main Facilities

The structure's design of the main facilities was determined in consideration of the following points:

- (1) To complete the works within the limited construction period (5 years).
- (2) To have the facilities completed with less possibility for causing subsidence of the ground because the ground is very soft at the site, and also following to change of the ground conditions.
- (3) To receive stable supply of building materials.
- (4) Easy construction and simple structure.
- (5) Comparatively economical construction cost.
- (6) Easy maintenance and repair with economical costs.

### 9-2. Conditions for the Structures' Design

(1) Tide Level

H. W. L. +1.16 m                      L. W. L.  $\pm 0.0$  m

(2) Waves

Direction: NW	Wave Height: 1.3 m	Wave Period: 7.3 sec
Direction: NE	Wave Height: 1.1 m	Wave Period: 5.4 sec

(3) Earthquake

Not taken into consideration

(4) Coping Height

Mooring Facilities

Quay (for large or medium sized boats):	+2.0 m
Wharf (for small sized boats):	+1.5 m

### Counter Facilities

- |                  |                 |
|------------------|-----------------|
| West Breakwater: | +3.0 m          |
| East Breakwater: | +2.5 m          |
| West Revetment:  | +2.5 m ~ +3.5 m |
| East Revetment:  | +2.0 m ~ +2.5 m |
- (5) Approaching Velocity of the Boat  
50 cm/sec
- (6) Tractive force of the Boat  
5.0 tons
- (7) Surcharge
- |              |                |                      |
|--------------|----------------|----------------------|
| Uniform Load | Quay:          | 1.0 t/m <sup>2</sup> |
|              | Wharf:         | 0.5 t/m <sup>2</sup> |
| Vehicle Load | TL-20          |                      |
| Crane Load   | not considered |                      |
- (8) Width of Apron  
W = 10.0 m
- (9) Pavement of the Apron and Road  
Apron: Concrete Pavement                      Road: Asphalt Pavement
- (10) Condition of the Soil  
Basic Ground                      Cohesion  $\hat{=}$  2.0 t/m<sup>2</sup>

\* Refer to the Appendix "The Natural Conditions around the Projected Site".

### 9-3. Determination of Main Facilities

Based on the conditions referred to in the foregoing 9-2, we made a comparative study, applying as the design standard, the Standard of Fishing Ports Structures design in Japan. The general plans and standard cross sections for the main facilities were determined as shown in Figures 7 - Figures 14.

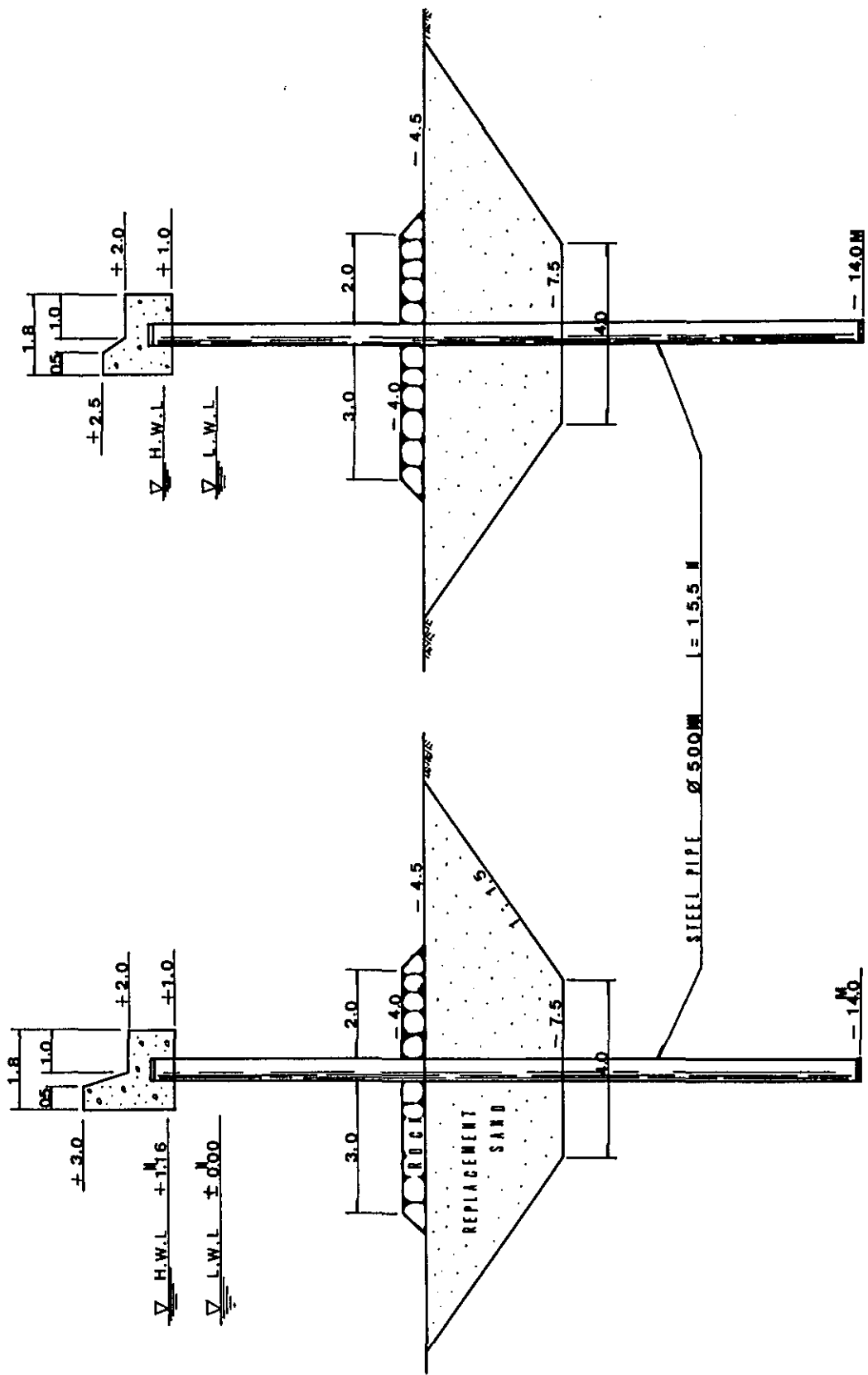
UNIT : M

# BREAK WATER

FIG - 7

WEST - SIDE SECTION

EAST - SIDE SECTION



UNIT: M

SECTION - B

FIG - 8

# QUAY WALL & WHARF

SECTION - A

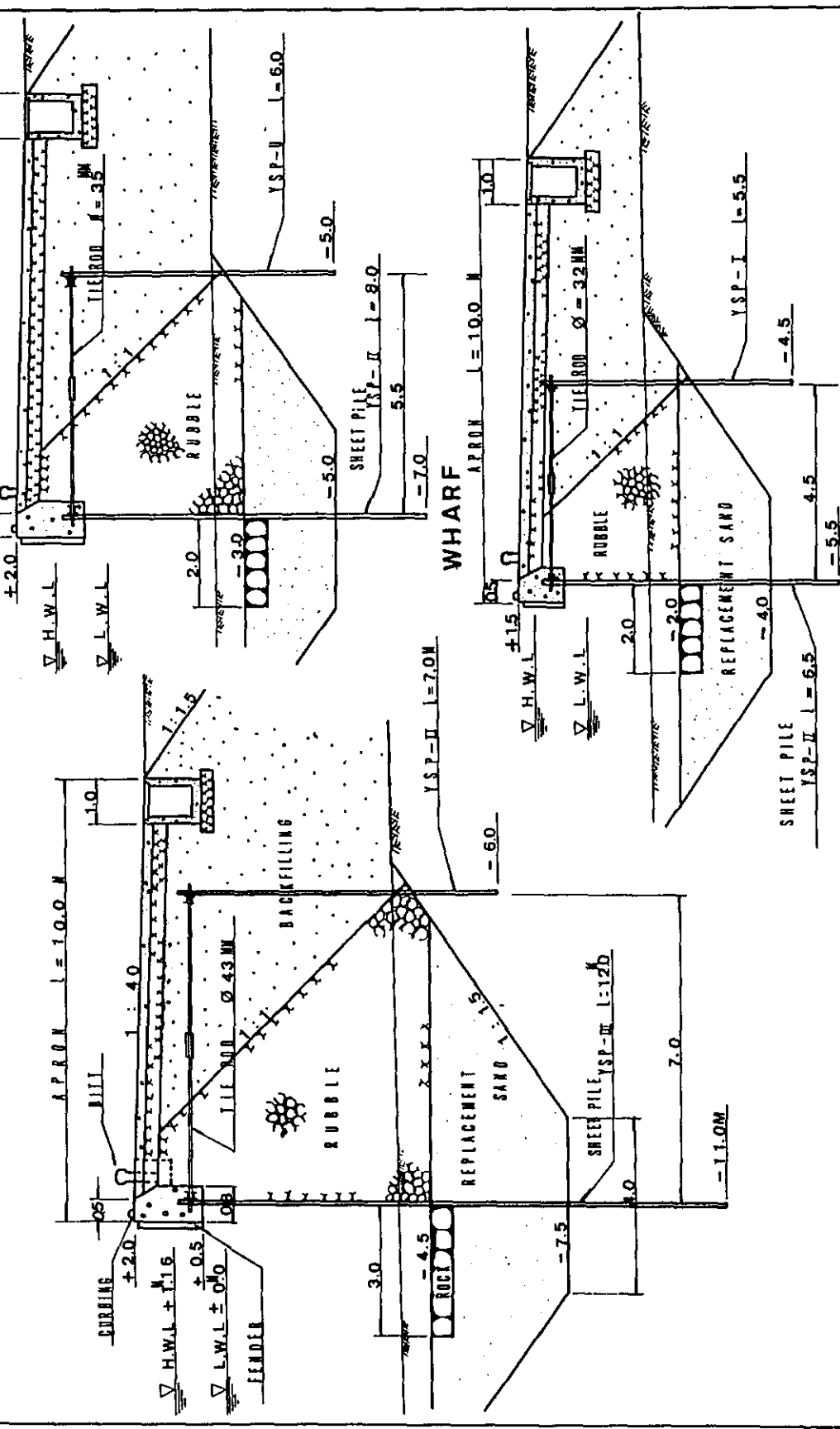


FIG - 9

# JETTY

UNIT : M

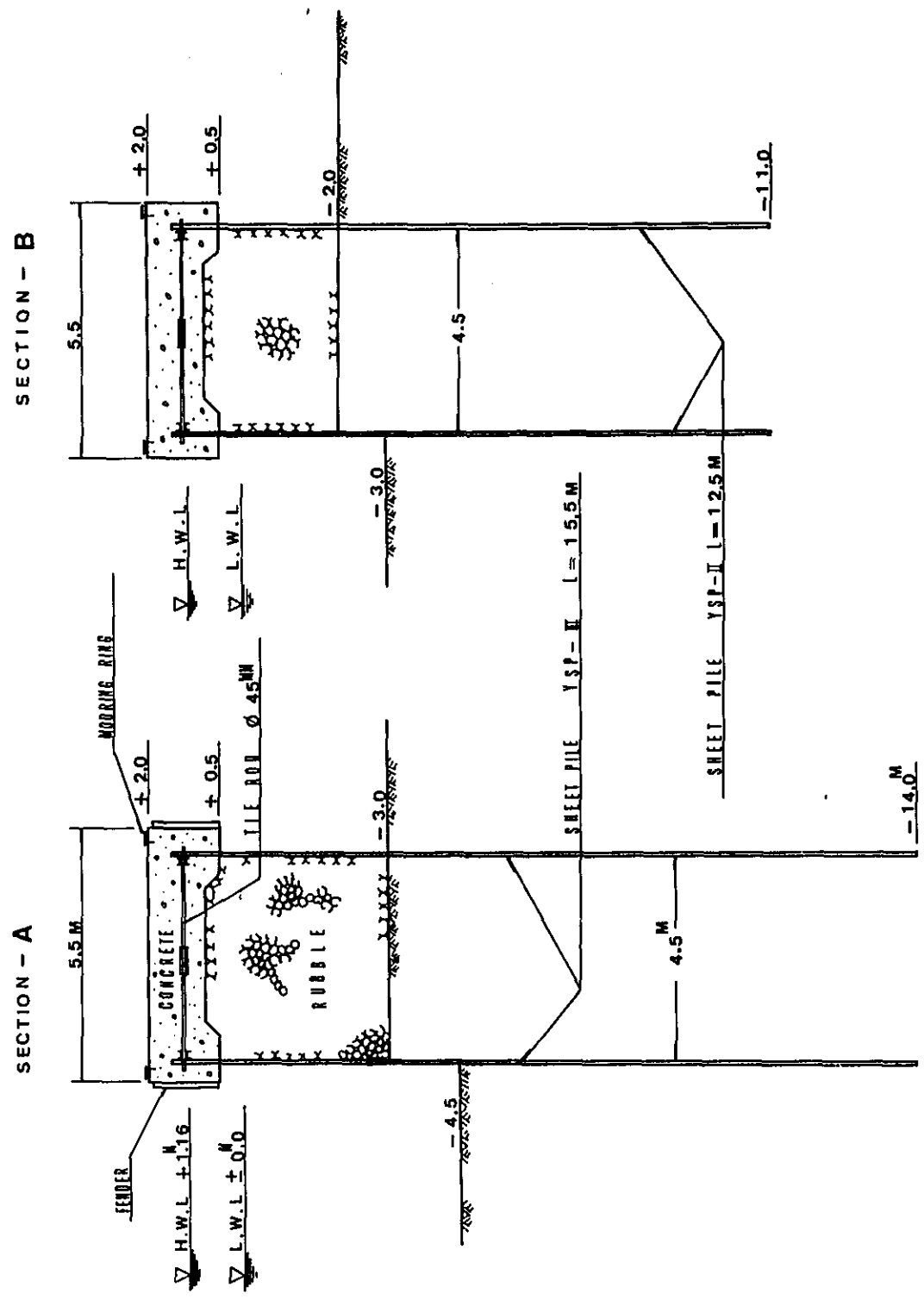


FIG-10

# RETAINMENT (WEST-SIDE)

UNIT: M

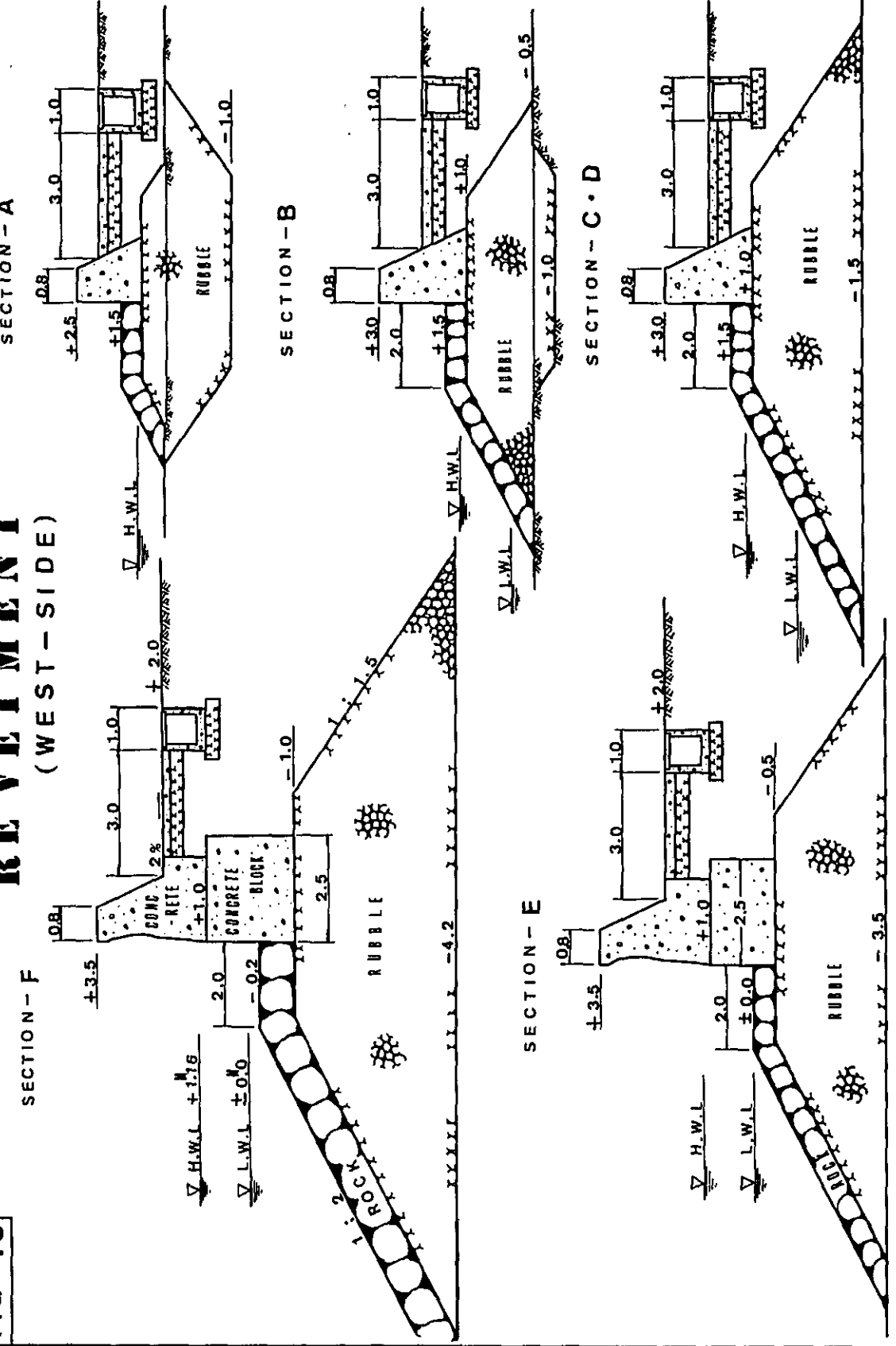
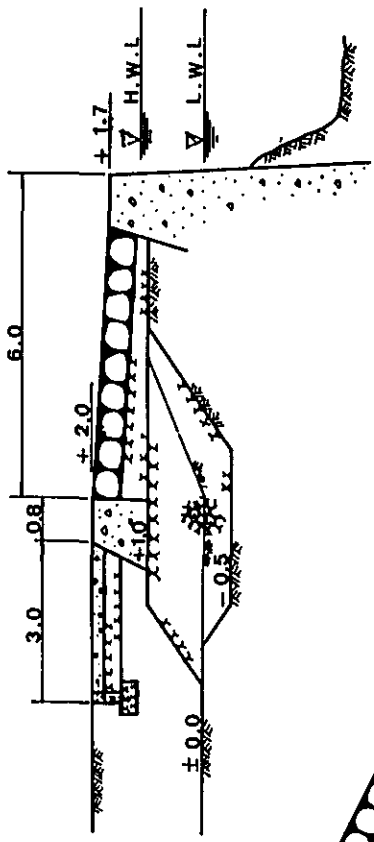


FIG-11

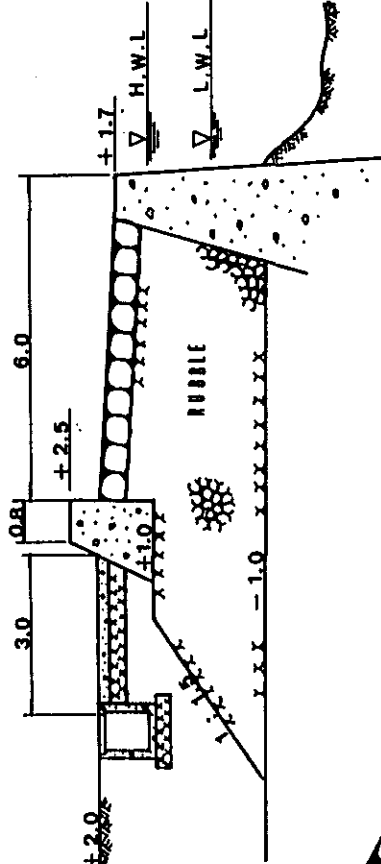
# REVTMENT (EAST-SIDE)

UNIT : M

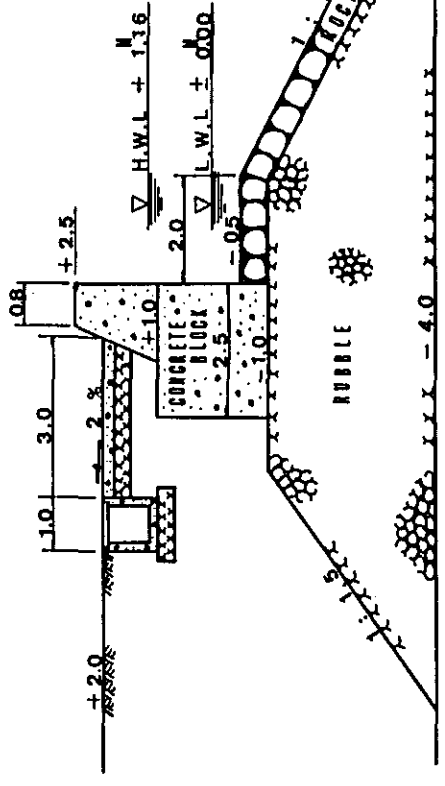
SECTION - A



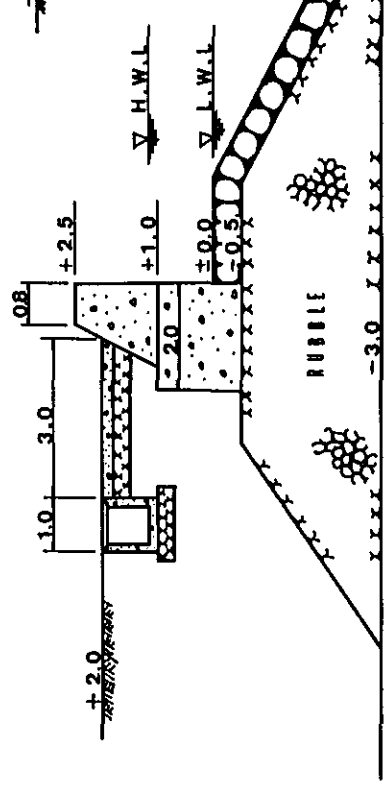
SECTION - B



SECTION - D



SECTION - C



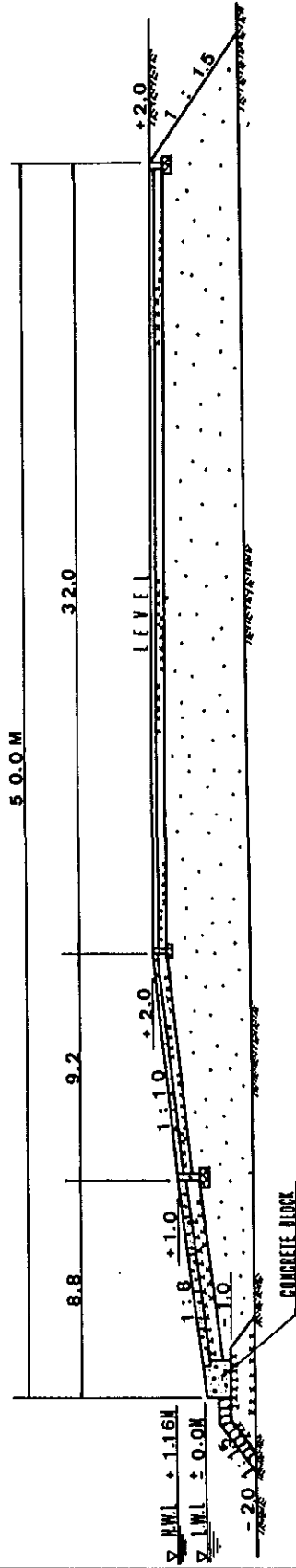


UNIT: M

# SLIPWAY

FIG-12

## SECTION - A



## SECTION - B

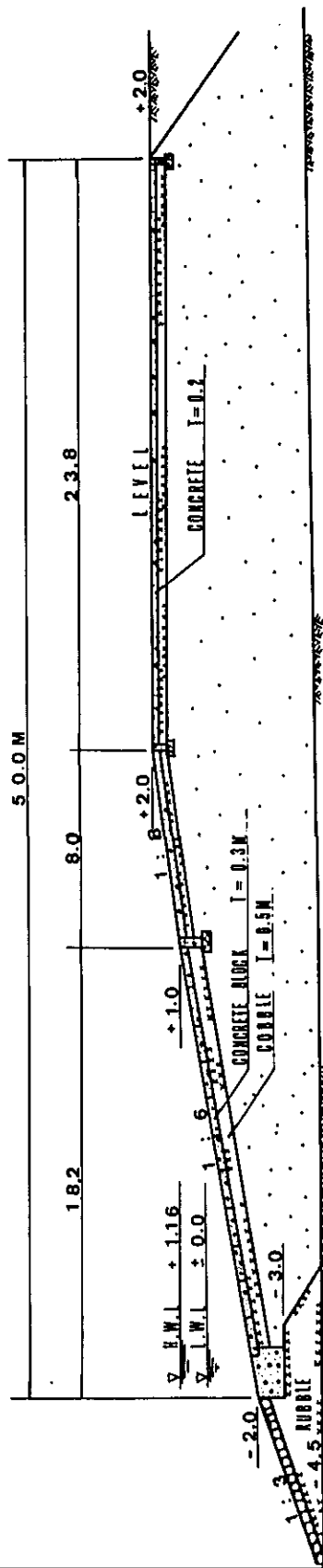
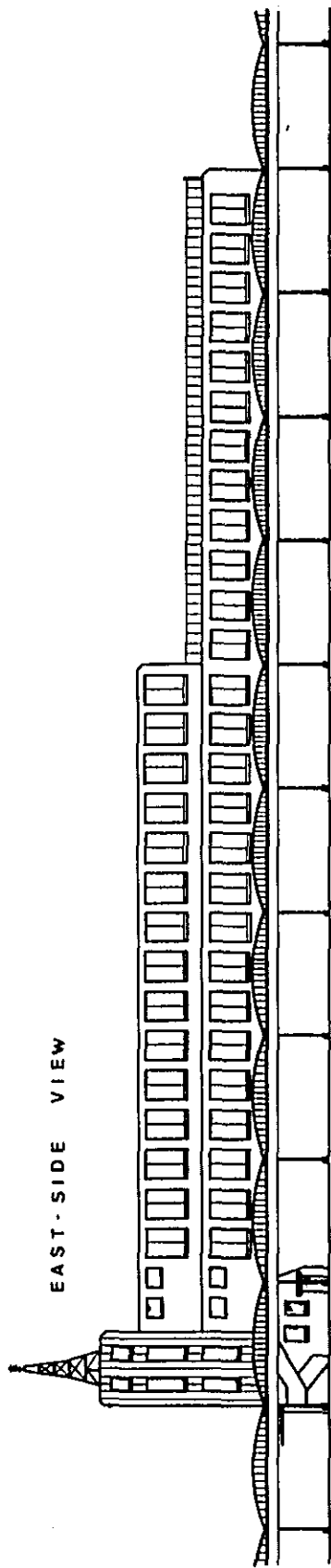


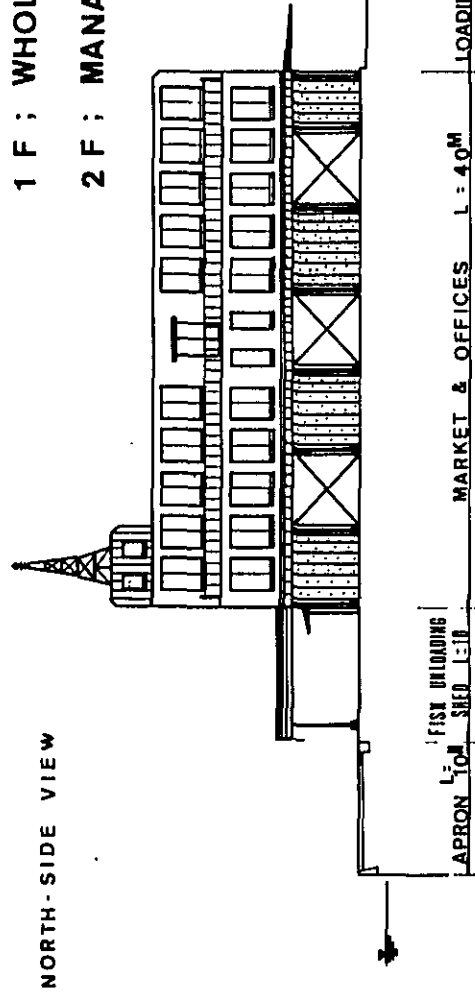


FIG-14

# MARKET & OFFICES



GF ; WHOLESALE MARKET  
1 F ; WHOLESALERS' OFFICES  
2 F ; MANAGEMENT OFFICE



## Chapter 10. Construction Plan

### 10-1. Construction Works Plan

#### 10-1-1. Plan Outline

Due consideration was given in the Construction Plan to the effect that the construction works would be exercised on the respective working process within a short period of time. In view of the limited construction period of 5 years, and that the constructed facilities could be utilized at an early date, in view of the urgency for utilization and also the effective use of the facilities.

#### 10-1-2. Acquisition of labors and procurements of materials and machines and tools for the construction

Generally speaking, inexperienced labors would be acquired without difficulties. Materials such as aggregate, rubble and gravel, etc. for concrete will be abundantly available near the construction site, but otherwise materials must rely on import.

##### (1) Labors

Laborers (inexperienced) to be employed for the construction purpose would be abundantly available in the vicinity of Jakarta City, and there would be a few experienced laborers available.

Although many construction works are carried out in Jakarta City, it is considered difficult to employ in Indonesia those suitably experienced technicians capable for these works, in conjunction with the speciality as harbor construction works.

A necessity arises for securing a large number of such technicians, experienced in harbor construction works.

##### (2) Construction Materials

The main materials for the construction are as follows:

- 1) Rubble filling, rubble backing, rubble base  
These can be collected at Karawung River between Jakarta and Cirebon. There is also a quarry supplying the quarries by the means of sea transport, all available on the spot.
- 2) Sands and gravel for concrete  
Available similarly to rubble filling.
- 3) Back filling sand, replacement earth, and sand  
Collection from the nearby sea is possible, on receipt of permission for the collection of earth and sand.
- 4) Cement  
Cement is now produced at 3 places in Indonesia with a plan to construct another plant, not enough for the market demands and relying upon imported cement. Under the Plan, cement will be procured by import in view of the short period of time required for the construction and the large quantity involved.
- 5) To import steel pipe piles, steel sheet piles, tie rods and iron bars.
- 6) Form and temporary stage materials  
Available in Indonesia, if timbers are used as the materials.
- 7) Others, special equipments and materials  
To import cables, electric wires, electric equipment, conveying equipment, refrigerators, etc.

(3) Construction Machines

To bring in the following main machines from overseas:

- 1) Grab bucket dredgers (partially to use those owned by the Government).
- 2) Pump dredgers (partially to use those owned by the Government).
- 3) Pile driving barge.
- 4) Floating cranes.
- 5) Barges.
- 6) Crawler cranes.

- 7) Dump trucks.
  - 8) Batchter plant.
  - 9) Crushing plant.
- (4) Facilities for construction works
- 1) Road
 

Jakarta City is now planning development of the road from the City to the construction site, but at the same time consideration must be given for construction of temporary roads within the construction site.
  - 2) Temporary Office
 

It is necessary to construct office buildings for the construction staff, warehouse, construction materials shed and machine shed at the time of commencement of the construction work.
  - 3) Facilities for water service, electricity, telephones, etc.
 

These will be completed, before commencement of the construction work by the City or Government, from within the City to the construction site.

10-2. Execution Schedule of the Construction Works and Yearly Construction Procedure

The execution schedule of the construction work is shown in Table 24.

The annual completion progress is shown in Figures 15, 16 and 17.

For information, the areas available for use in the respective fiscal year on execution of the construction work under the plan are noted hereunder:

At the end of 2nd fiscal year	20% (use of -4.5 m water area available)
At the end of 3rd fiscal year	50% (use of -3.0 m water area available)
At the end of 4th fiscal year	80% (use of -2.0 m water area available)

Table-24


CONSTRUCTIONAL SCHEDULE


DESCRIPTION		QUANTITIES	1st YEAR	2nd YEAR	3rd YEAR	4th YEAR	5th YEAR
PRELIMINARY WORK		SUM	1				
BREAK	WEST SIDE	M	450				
WATER	EAST SIDE	M	100				
REVEET	WEST SIDE A(+0.5 <sup>M</sup> )	M	220				
	" B(-0.5 <sup>M</sup> )	M	350				
	" C(-1.5 <sup>M</sup> )	M	250				
	" D(-2.5 <sup>M</sup> )	M	300				
	" E(-3.5 <sup>M</sup> )	M	250				
	" F(-4.5 <sup>M</sup> )	M	270				
MENT	EAST SIDE A(±0.0 <sup>M</sup> )	M	330				
	" B(-1.0 <sup>M</sup> )	M	600				
	" C(-3.0 <sup>M</sup> )	M	300				
	" D(-4.0 <sup>M</sup> )	M	350				
SLIP	FOR LARGE SHIPS	M	160				
WAY	FOR SMALL SHIPS	M	230				
QUAY	WEST SIDE (-4.5 <sup>M</sup> )	M	400				
	EAST SIDE (-4.5 <sup>M</sup> )	M	390				
WALL	WEST SIDE (-3.0 <sup>M</sup> )	M	700				
	EAST SIDE (-3.0 <sup>M</sup> )	M	350				
WHARF	WEST SIDE (-2.0 <sup>M</sup> )	M	450				
	EAST SIDE (-2.0 <sup>M</sup> )	M	250				
JETTY	JETTY (-4.5 <sup>M</sup> )	M	60				
	JETTY (-3.0 <sup>M</sup> )	M	50				
RECLAMATION		M3	2,000,000				
ROAD WORK		M2	120,000				
FISH UNLOADING SHEDS		M2	6,800				
MACHINES FOR FISH UNLOADING		SUM	1				
WHOLESALE MARKET		M2	3,350				
MANAGEMENT OFFICE		M2	3,000				
PARKING AREA		M2	6,000				
FROZEN / COLD STORAGES		Ton	1,700				
PRIMARY FISH PROCESSING PLANT		SUM	1				
INSULATED TRUCKS		Noe	55				
INSULATED TRUCK TERMINAL		M2	2,750				
OUTFITTING FACILITIES	ICE MAKING PLANT	Ton	300				
	ICE STORAGE	Ton	1,200				
	FUEL SUPPLY	SUM	1				
	WATER SUPPLY	SUM	1				
	BOXES MAKINGFACTORY STORAGES	M2	2,000				
FISHING BOATS / ENGINES REPAIR FACILITY		SUM	1				
WELFARE FACILITY		M2	2,000				
NAVIGATION LIGHT BUOYS		SUM	1				
HOUSES FOR THE PORT MANAGEMENT OFFICERS		M2	3,600				

Fig. - 15

YEARLY CONSTRUCTION PROCEDURE



 : Reclamation and Basic Facilities Completed

 : Functional Facilities Completed

1st YEAR

2nd YEAR

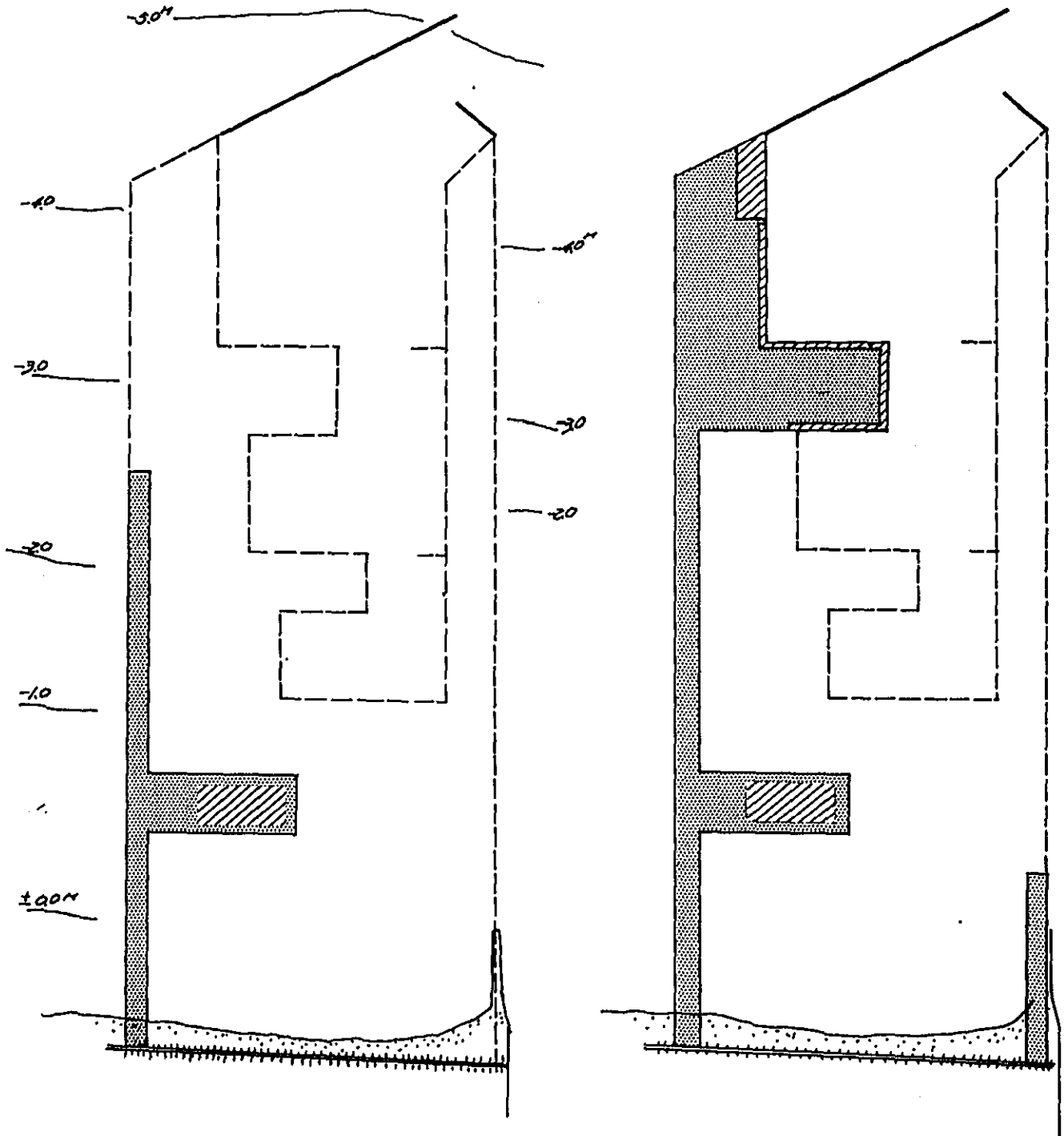




Fig. - 16

YEARLY CONSTRUCTION PROCEDURE

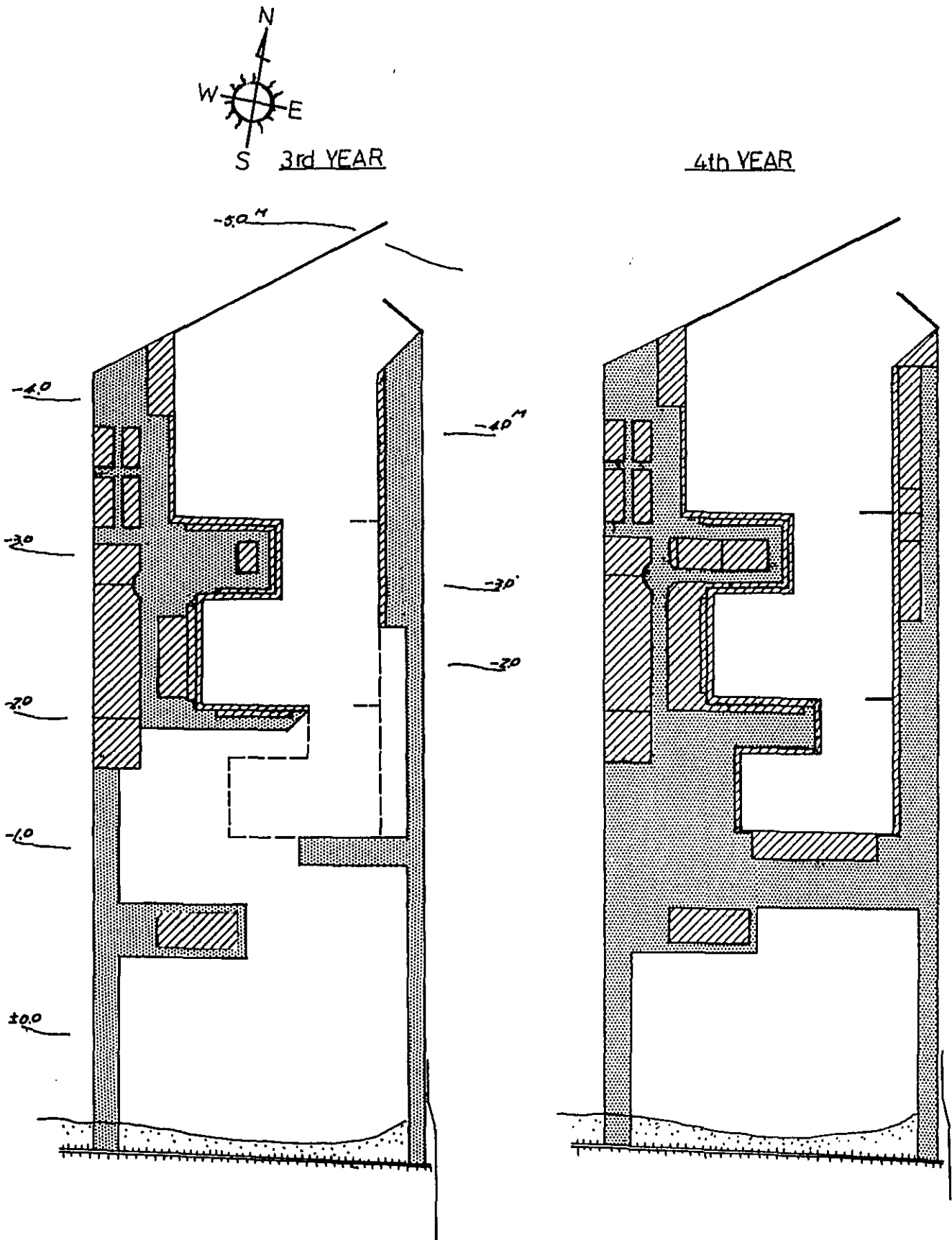
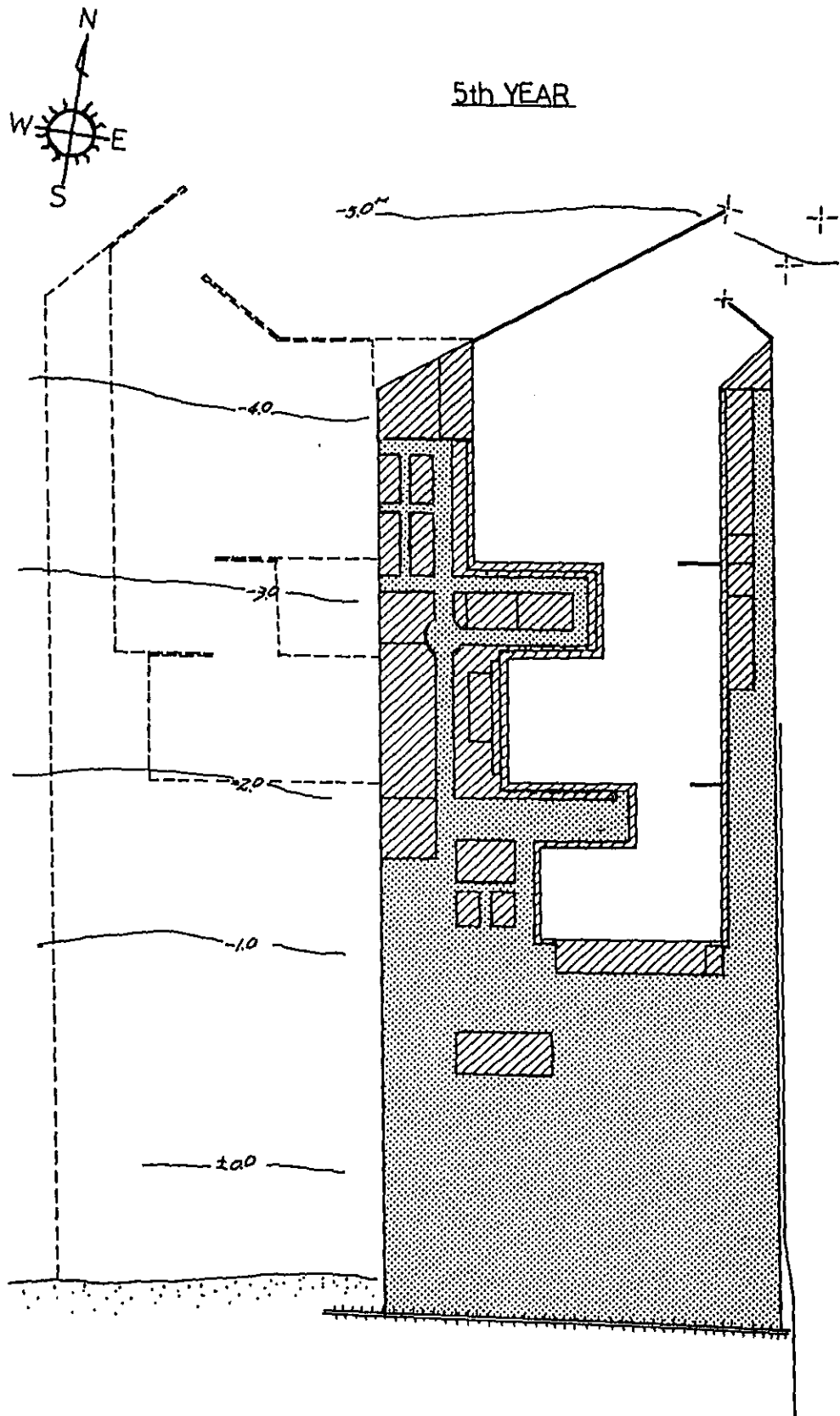


Fig. - 17

YEARLY CONSTRUCTION PROCEDURE



At the end of 5th fiscal year                      100% (use of all the area available)

10-3. Calculation of Construction Cost

The calculation of the construction cost is made on the understandings that the materials and laborers available in the spot should be procured, as far as possible, and that those not at all available or available but with expensive cost on the spot should be imported.

The cost of materials, labor, etc. available on the spot was based on the data contained in "DAFTER HARGA SATUAN BAHAN BANGUNAN (BASIC PRICE)" and "DAFTER HARGA SATUAN PEKERJAAN (UNIT PRICE)" both published by the Government of Indonesia, and further in reference to the current situation in the Indonesia.

The results according to the calculation in this connection are shown in Table 25.

Table - 25 - 1 ESTIMATED CONSTRUCTION COST AND FOREIGN CURRENCY COMPONENTS (× 1000 R.P)

DESCRIPTION	QUANTITIES	UNIT	RATE (R.P)	TOTAL	TOTAL	
					FOREIGN	LOCAL
PRELIMINARY WORK JETTY HOUSES E.	1	SUM		150000	60000	90000
BREAK WATER	WEST SIDE	450	M	1330	598500	76500
	EAST SIDE	100	M	1320	132000	16000
REVETMENT	WEST SIDE A(+0.5M)	220	M	185	40700	31680
	" B(-0.5M)	350	M	236	82600	63350
	" C(-1.5M)	250	M	321	80250	62750
	" D(-2.5M)	300	M	440	132000	105300
	" E(-3.5M)	250	M	566	141500	107500
	" F(-4.5M)	270	M	661	178470	135810
	EAST SIDE A(±0.0M)	330	M	69	22770	16170
	" B(-1.0M)	600	M	112	67200	46800
	" C(-3.0M)	300	M	224	67200	45900
	" D(-4.0M)	350	M	304	106400	72100
SLIP WAY	FOR LARGE SHIPS	160	M	1306	208960	153600
	FOR SMALL SHIPS	230	M	689	158470	116380
QUAY WALL	WEST SIDE (-4.5M)	400	M	1687	674800	504400
	EAST SIDE (-4.5M)	390	M	1687	657930	491790
	WEST SIDE (-3.0M)	700	M	1334	933800	711200
	EAST SIDE (-3.0M)	350	M	1334	466900	355600
WHARF	WEST SIDE (-2.0M)	450	M	1210	544500	427500
	EAST SIDE (-2.0M)	250	M	1210	302500	237500
JETTY	FOR (-4.5M)	60	M	1550	93000	10500
	FOR (-3.0M)	50	M	1220	61000	7500
RECLAMATION WORK	2000000	M <sup>3</sup>	0.5	1000000	800000	200000
ROAD WORK	120000	M <sup>2</sup>	3	360000	96000	264000
FISH UNLOADING SHEDS	1	SUM		359500	18000	341500
MACHINES FOR FISH UNLOADING	1	SUM		196700	167200	29500
WHOLESALE MARKET	1	SUM		157900	7900	150000
MANAGEMENT OFFICE	1	SUM		308600	15400	293200
PARKING AREA	1	SUM		30000	600	24000
PROZEN/COLD STORAGES	1	SUM		293040	266400	26640
PRIMARY FISH PROCESSING PLANT	1	SUM		447100	134130	312970
INSULATED TRUCKS	1	SUM		239600	157100	82500
INSULATED TRUCK TERMINAL	1	SUM		13800	5520	8280
OUT FITTING FACILITIES	ICE MAKING PLANT	1	SUM	642800	610660	32140
	ICE STORAGE	1	SUM	85700	8570	77130
	FUEL SUPPLY	1	SUM	23800	21420	2380
	WATER SUPPLY	1	SUM	2800	1400	1400
	BOXES MAKING FACTORY	1	SUM	5700	1140	4560
	STORAGES	1	SUM	42800	2140	40660
FISHING BOATS/ENGINES REPAIR FACILITY	1	SUM		70500	28200	42300
WELEARE FACILITY	1	SUM		188200	37640	150560
NAVIGATION LIGHTS & BUOYS	1	SUM		80000	40000	40000
HOUSES FOR THE PORT MANAGEMENT OFFICERS	1	SUM		180000		180000
SUB TOTAL				10629990	6315990	4314000
SUB TOTAL (× 100 U.S.\$)				(256144)	(152192)	(103952)
CONTINGENCIES				1261998	1261998	-
CONSULATUNT FEE				211350	211350	-
TOTAL ESTIMATED CONSTRUCTION COST				12103338	7789338	4314000
" " (× 100 U.S.\$)				(291647)	(187695)	(103952)

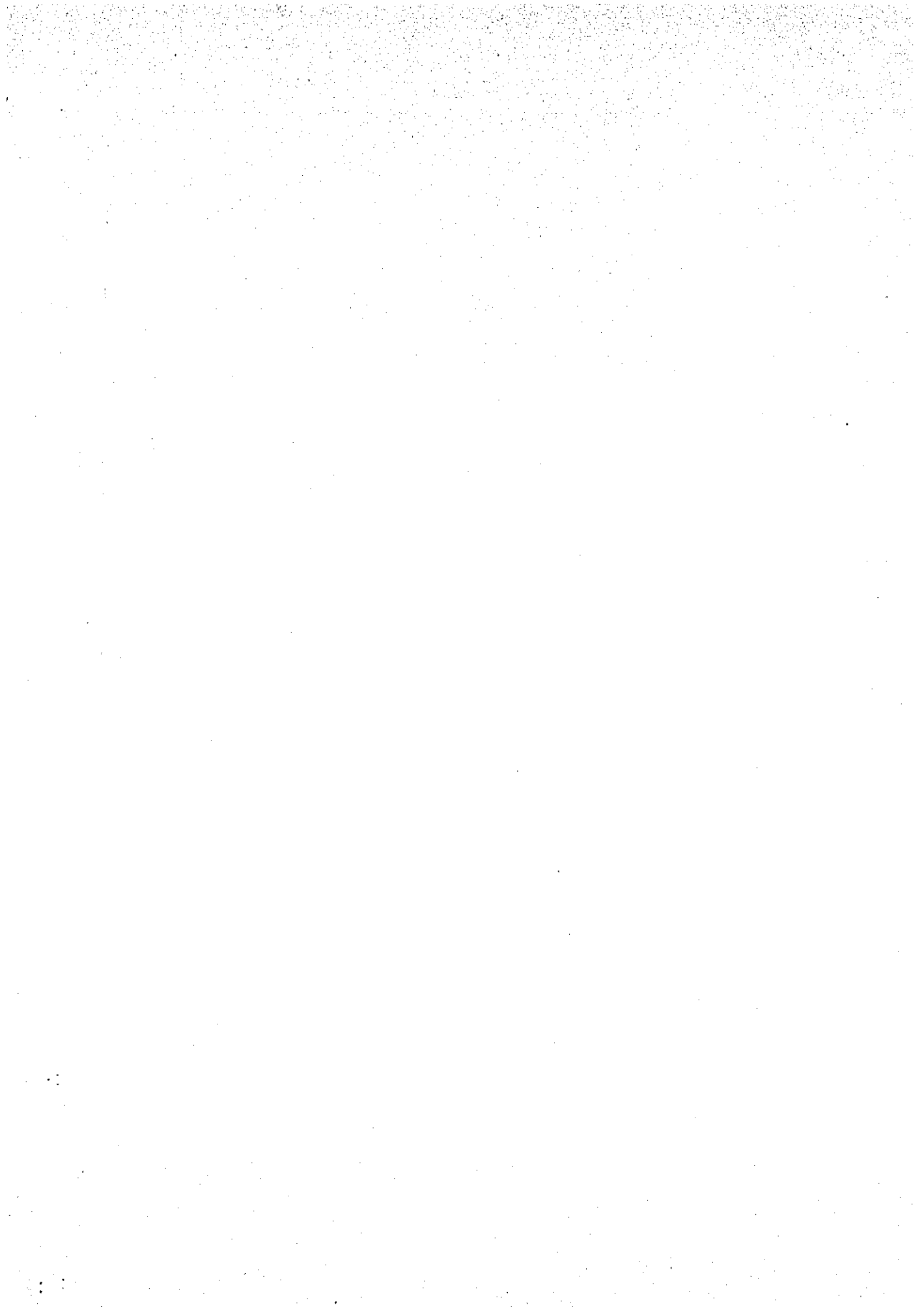
Table - 25 - 2

## ESTIMATED CONSTRUCTION COSTS AND FOREIGN CURRENCY COMPONENT BY YEAR

DESCRIPTION		1st YEAR (1975)			2nd YEAR (1976)			3rd YEAR (1977)			4th YEAR (1978)			5th YEAR (1979)		
		TOTAL	FOREIGN	LOCAL	TOTAL	FOREIGN	LOCAL	TOTAL	FOREIGN	LOCAL	TOTAL	FOREIGN	LOCAL	TOTAL	FOREIGN	LOCAL
PRELIMINARY WORK	TEMPORARY ROAD, JETTY, HOUSES, ETC	150,000	60,000	90,000												
BREAK WATER	WEST SIDE	598,500	522,000	76,500												
	EAST SIDE	132,000	116,000	16,000												
REVETMENT	WEST SIDE A (+0.5 <sup>M</sup> )	40,700	9,020	31,680												
	" B (-0.5 <sup>M</sup> )	82,600	19,250	63,350												
	" C (-1.5 <sup>M</sup> )	80,250	17,500	62,750												
	" D (-2.5 <sup>M</sup> )	66,000	13,350	52,650	66,000	13,350	52,650									
	" E (-3.5 <sup>M</sup> )				141,500	34,000	107,500									
	" F (-4.5 <sup>M</sup> )				178,470	42,660	135,810									
	EAST SIDE A (±0.0 <sup>M</sup> )				22,770	6,600	16,170									
	" B (-1.0 <sup>M</sup> )							67,200	20,400	46,800						
	" C (-3.0 <sup>M</sup> )							67,200	21,300	45,900						
	" D (-4.0 <sup>M</sup> )							106,400	34,300	72,100						
SLIP WAY	FOR LARGE SHIPS				208,960	55,360	153,600									
	FOR SMALL SHIPS							68,900	18,300	50,600	89,570	23,790	65,780			
QUAY WALL	WEST SIDE (-4.5 <sup>M</sup> )				674,800	504,400	170,400									
	EAST SIDE (-4.5 <sup>M</sup> )							657,930	491,790	166,140						
	WEST SIDE (-3.0 <sup>M</sup> )				466,900	355,600	111,300	466,900	355,600	111,300						
	EAST SIDE (-3.0 <sup>M</sup> )							133,400	101,600	31,800	333,500	254,000	79,500			
WHARF	WEST SIDE (-2.0 <sup>M</sup> )										544,500	427,500	117,000			
	EAST SIDE (-2.0 <sup>M</sup> )										302,500	237,500	65,000			
JETTY	FOR (-4.5 <sup>M</sup> )										93,000	82,500	10,500			
	FOR (-3.0 <sup>M</sup> )										61,000	53,500	7,500			
RECLAMTION WORK					300,000	240,000	60,000	300,000	240,000	60,000	400,000	320,000	80,000			
ROAD WORK		45,000	12,000	33,000	90,000	24,000	66,000	90,000	24,000	66,000	90,000	24,000	66,000	45,000	12,000	33,000
FISH UNLOADING SHEDS								359,500	18,000	341,500						
MACHINES FOR FISH UNLOADING											196,700	167,200	29,500			
WHOLESALE MARKET								157,900	7,900	150,000						
MANAGEMENT OFFICE								154,300	7,700	146,600	154,300	7,700	146,600			
PARKING AREA								30,000	6,000	24,000						
FROZEN/COLD STORAGES											293,040	266,400	26,640			
PRIMARY FISH PROCESSING PLANT														447,100	134,130	312,970
INSULATED TRUCKS								239,600	157,100	82,500						
INSULATED TRUCK TERMINAL								13,800	5,520	8,280						
ICE MAKING PLANT								214,800	204,500	10,300	428,000	406,160	21,840			
ICE STORAGE											85,700	8,570	77,130			
FUEL SUPPLY FOR FISHING BOAT											23,800	21,420	2,380			
WATER SUPPLY FACILITIES											2,800	1,400	1,400			
BOXES MAKING FACTORY											5,700	1,140	4,560			
STORAGES											42,800	2,140	40,660			
FISHING BOATS/ENGINES REPAIR FACILITY														70,500	28,200	42,300
WELFARE FACILITY														188,200	37,640	150,560
NAVIGATION LIGHTS & BUOYS														80,000	40,000	40,000
HOUSES FOR THE PORT MANAGEMENT OFFICERS		180,000		180,000												
SUB TOTAL		1,375,050	769,120	605,920	2,149,400	1,275,970	873,430	3,127,830	1,714,010	1,413,820	3,146,910	2,304,920	841,990	830,800	251,970	578,830
" " (x100 U.S.\$)		(33,134)	(18,533)	(14,600)	(51,793)	(30,746)	(21,047)	(75,369)	(41,301)	(34,068)	(75,829)	(55,540)	(20,289)	(20,019)	(6,072)	(13,948)

VOLUME III

ECONOMIC AND FINANCIAL ANALYSIS



## VOLUME III. ECONOMIC AND FINANCIAL ANALYSIS

### Chapter 1. Outline

#### 1-1. General

An economic appraisal of the Jakarta Fishing Port/Market development project must be made from two different view points. The first views it West Java with respect to the country of in order to determine what economic effect the construction of the Jakarta Fishing Port/Market would have on the entire national economy. This is the national economy view. The other limits the discussion to the management of the Jakarta Fishing Port/Market, examining whether it would be financially feasible. This views the financial or management problem of the Fishing Port/Market. These two analysis are totally different approaches, so they cannot be discussed at the same level.

Therefore the national economic analysis and the local financial analysis will be discussed separately in this report.

The results of these analysis showed that the development of the Jakarta Fishing Port/Market will give the highest economical effects, which are worthy of investment, and that, however, management of the fishing port and market would have financial difficulties when the management is carried out by a self-sufficient system.

That is, if the large amount of money which was to be invested in the development of the vast space necessary for the fishing port, in the construction of a large scale breakwater and in the operation of the port were to be borrowed, the repayment of the loan and interest would exceed what an ordinary enterprise could afford.

Therefore, the assessment will be made from another viewpoint, considering the present actual situation. That is, how the fishing port/market finances could be helped by a aid fund from Government of Indonesia to cover the cost of the basic fishing port facilities.



## 1-2. Method of Quantity Analysis

### 1-2-1. National Economic Analysis

Considering that the project has been organized as a construction of an infrastructure of a public body, we have adopted the common method for the economic appraisal of development projects: "the Cost-Benefit Analysis"

#### (1) Cost-Benefit Ratio

$$Bo/Co = \frac{\sum_{i=1}^n \frac{Bi}{(1+r)^i}}{\sum_{i=1}^n \frac{Ci}{(1+r)^i}}$$

where  $Bo$ ,  $Co$  : Benefit and Cost in the year prior to the start of construction

$Bi$ ,  $Ci$  : Benefit and Cost in  $i$ -th year after starting construction

$r$  : discount rate

$n$  : considering period

The B/C ratio calculated from discounting the Benefit and Cost of each year from the present values is uniquely determined from  $Bi$  and  $Ci$ , the Benefit and Cost of each year, the discount rate  $r$  and the considering period  $n$ .

#### (2) Internal Rate of Return

$$P_v = \sum_{i=1}^n \frac{B_i - C_i}{(1+r)^i}$$

where  $P_v$  : present value of the project in the previous year prior to the start of construction

$Bi$ ,  $Ci$  : Benefit and Cost in  $i$ -th year after starting construction

$r$  : discount rate

$n$  : considering period

Referring to the internal rate of return as IRR, we define IRR as the discount rate that makes the present value  $Pv = 0$ . Since the investment efficiency (relative priority of investment) of a given project can be determined, by using IRR, without determining the discount rate, the calculation of IRR should suffice for evaluating the project. However, since the rate of loan interest (opportunity cost of capital) for development projects in Indonesia has been set at 12%, the B/C ratio for the discount rate 12% is also calculated for reference.

The considering period has been set at 30 years, from 1975 to 2004, which is 25 years after the completion of the construction, and the period has been decided from the view point of the economical durable years of the said facilities.

Because future price fluctuation is beyond our estimation, cost value and benefit value are assumed as constant values; that is, no adjustment factor has been included to account for inflation.

#### 1-2-2. Financial Analysis

The Cost-Benefit Analysis used for the national economic analysis is also applicable, theoretically, to the financial analysis of the management of the Jakarta Fishing Port/Market. However, since this project is planned as a public service, the rate of rentability of the Fishing Port/Market project as a self-supporting accounting system is rather smaller than that from a view point of national economy, and since the project requires the consideration of the payment of interest and depreciation which is not relevant to the macroscopic analysis, a Cost-Benefit Analysis is impractical here. Therefore, estimated financial tables (estimated revenue and expenditure table and capital operation plan) are adopted here for the consideration.

## Chapter 2. National Economic Analysis

### 2-1. Estimation of Cost

#### 2-1-1. Cost of Construction of Fishing Port/Market

The construction cost of the Fishing Port/Market is the total cost of construction, the cost of consultation and the reserve fund. The detailed figures of the cost divided in terms of fiscal year and foreign or domestic currency are shown in Table 26. A consultant fee covering seven advisors a year for construction affairs of the first two years has been proposed, and consultant fees for three advisors for the operational affairs of the third year have been proposed. Each consultant is paid 30 thousand U.S. dollars yearly. Regarding the reserve fund, it has been proposed that 20% of the cost of construction be paid in foreign currency because of the currency situation of Indonesia. It must be noted that the interest incurred on the construction cost during construction has not been included due to the character of the Cost-Benefit Analysis.

#### 2-1-2. Maintenance and Management Cost

The yearly maintenance and management cost after 1980 has been estimated to be 2% of the construction cost above, and is so proposed. This cost in the period from 1977 to 1979 has been proposed relative to the extent of partially completed and available facilities.

Table 26 Detailed costs of the investment necessary for the construction of the Jakarta Fishing Port/Market

Unit: 1,000 Rp (US\$1,000)

Year	Cost of construction			Consultation fee	Reserve fund	Total		
	Total	Foreign currency	Domestic currency			Total	Foreign currency	Domestic currency
1975	1,375,050 (3,313)	769,120 (1,853)	605,930 (1,460)	87,000 (210)	153,824 (371)	1,615,874 (3,894)	1,009,944 (2,434)	605,930 (1,460)
1976	2,149,400 (5,179)	1,275,970 (3,075)	873,430 (2,104)	87,000 (209)	255,194 (615)	2,491,594 (6,003)	1,618,164 (3,899)	873,430 (2,104)
1977	3,127,830 (7,537)	1,714,010 (4,130)	1,413,820 (3,407)	37,350 (90)	342,802 (826)	3,507,982 (8,453)	2,094,162 (5,046)	1,413,820 (3,407)
1978	3,146,910 (7,583)	2,304,920 (5,554)	841,990 (2,029)	-	460,984 (1,111)	3,607,894 (8,694)	2,765,904 (6,665)	841,990 (2,029)
1979	830,800 (2,002)	251,970 (607)	578,830 (1,395)	-	49,194 (118)	879,994 (2,120)	301,164 (725)	578,830 (1,395)
Total	10,629,990 (25,614)	6,315,990 (15,219)	4,314,000 (10,395)	211,350 (509)	1,261,998 (3,041)	12,103,338 (29,164)	7,789,338 (18,769)	4,314,000 (10,395)

(Note) : (1) Consultation fee and reserve fund are in foreign currency.

(2) Currency exchange rate: 415 Rp = US\$1.00

### 2-1-3. Cost of Renewing Facilities

Facilities on land (including such as pavement of roads) are assumed to be renewed after their individual durable years, and the amount of money required to be reinvested during the considering period has been estimated for each required year. The durable years of each facility are listed in Table 27.

Table 27 List of durable years of facilities

Durable years	Facilities
5 - 10 years	Fish handling machines, insulated trucks (five years) loading and repairing equipment for the fishing boat (10 years).
15 years	Ice making, frozen/cold storages, and processing facilities.
20 years	Parking and road (pavement).
25 years	Fish unloading sheds, wholesale market, management office, welfare facilities, port management officers' houses.

Since Jakarta City is planning to construct a access road to the site of this project in 1975 under its own road development project, the cost of constructing the road has not been estimated in this project.

### 2-2. Estimation of Benefit

#### 2-2-1. Major Effects of the Development of Jakarta Fishing Port/Market

- (1) Shortened shifting time from arrival to departure of fishing boats through alleviating present traffic congestion of the port.

- (2) An increased catch due to the increase of fishing days.
- (3) Faster handling of fish, and improved preservation of the freshness of fish by supplying cheaper ice.
- (4) Easier motorization of non-powered boats and easier building of large scale fishing boats due to the modern and large scale facilities involved in the development of the fishing port.
- (5) An increase in the income of fishermen through switching over from salted and dried fish production to fresh fish production.
- (6) The smooth supply of cheaper, fresher animal protein to the people of Jakarta and surrounding areas.
- (7) Reduction of marketing and distribution costs (intermediary margin, in particular) and stabilization of the consumers' price by improvement of the distributing system.
- (8) Increased employment in the development of modern fishery marketing and processing facilities.
- (9) Promotion of related industries like processing industry, as a secondary effect.
- (10) Protection of occurrence of bad smell caused marine products through the construction of processing facilities.
- (11) Establishment of pivotal distribution center for fish in West Java, and also the model fish center in the country.

These economic effects of the development of the new Jakarta Fishing Port/Market benefit many fields, directly, indirectly, and through transferred and induced effects.

These effects are felt not only by producers and consumers of fish, but also by the general public through the national economy. In this analysis, however, only the following four items are discussed as direct benefits which can be measured quantitatively.

- (1) Shortened shifting time from arrival to departure of fishing boat through alleviating traffic congestion.
- (2) Increased fish catch through the increase of fishing days.
- (3) Improved preservation of the freshness of fish by using ice and insulated trucks.
- (4) Increased income of fishermen by switching over from dry salted fish production to fresh fish production.

2-2-2. Estimation of Benefit

- (1) Shortening the shifting time from arrival to departure of fishing boats through alleviating traffic congestion.

Pasar Ikan Port which is adjacent to the site of this project is at present the pivotal fishery base of Jakarta City. To gain access to the port, every boat must pass through a narrow canal about 3 km long, and the increased number of sailing boats to unload general cargoes like timber has caused considerable congestion. For this reason, recent shifting time (the time spent from arrival to departure in the port) of a fishing boat is 1 - 3 days for 1 - 3 ton boats and 2 - 5 days for boats of more than 3 tons, varying with the type and scale of fishing boats, and the season of the year. After the completion of the new fishing port with larger quays and modern fish unloading facilities which will be partially available from the third year of construction, every fishing boat will be able to arrive, unload and depart in 1 - 2 days, thus reducing shifting time by at least one day.

Therefore, compared not having the new port, the necessary cost for mooring one fishing boat for one day can be reduced as shown in Table 28.

Table 28 Necessary cost of fishing boat per day

Scale of boat	Labour cost	Food cost	Maintenance cost of boat	Total
1 - 3 ton	2 ~ 3 x 400Rp= 800 ~ 1,200Rp	2 ~ 3 x 200Rp= 400 ~ 600Rp	50 ~ 100Rp	Average 1,500Rp
Over 3 ton	4 ~ 5 x 400Rp= 1,600~2,000Rp	4 ~ 5 x 200Rp= 800 ~ 1,000Rp	100 ~ 150Rp	Minimum 2,500Rp

The yearly benefit of the saving due to shortened shifting time in the port can be calculated by the formula shown below.

$$B = A \alpha (T_o - T_i) + A \beta (T_o - T_i) + \frac{1}{2} A \gamma (T_o - T_i)$$

where  $T_o$  : necessary shifting time before the construction of the new port.

$T_i$  : necessary shifting time after the completion of the new port.

$\alpha$  : yearly total entry of conventional fishing boats.

$\beta$  : yearly total entry of transferred fishing boats.

$\gamma$  : yearly total entry of newly developed fishing boats.

$A$  : daily value (saved cost).

The yearly total of fishing boat entering Jakarta Fishing Port is estimated as shown in Table 30, based upon Table 16 in Volume II, Chapter 2, "Yearly Transition of Number of Fishing Boats in Jakarta Fishing Port" and also upon Table 29, "Yearly Transition of Number of Fishing Boats using Jakarta Fishing Port", which has been estimated from Table 15 [note], "The Availability of the Port/Market during the Construction". In a strict sense, the yearly total entry of fishing boats should be estimated individually for conventional, transferred and newly developed fishing boats. However, the present



number of conventional fishing boats is the limiting figure for the present capacity and congestion of Pasar Ikan Port. The limited number of fishing boats which will be transferred from other fishing ports in Jakarta City, such as Kalibalu and Kamal, at the completion of the new port, are mostly small scaled, all transferred fishing boats were treated as newly developed boats and their yearly benefit was multiplied by 1/2 as shown in Table 31.

Table 29 Yearly Transition of Number of Fishing Boats using Jakarta Fishing Port (1977 - 1983)

Type and scale of fishing boat		Year						
		1977	1978	1979	1980	1981	1982	1983
Hand hook, long line	1 Outboard engine	61	152	243	304	368	445	530
Gillnet, lift net	3 - 5 ton	85	213	341	426	451	476	504
"	5 - 10 ton	28	70	111	139	145	149	154
Muro-Ami	17 ton	4	9	14	18	18	18	18
Purse seine	3.5 ton	1	2	2	3	2	1	-
"	10 - 30 ton	3	7	11	14	16	18	20
Trawl	20 - 30 ton	15	37	58	73	77	82	88
Subtotal (1)		197	490	780	977	1,077	1,189	1,314
Larger boats (Tuna long line, Skipjack pole and line, Shrimp trawler)	50 - 100 ton	-	-	2	4	6	8	10
	100 - 200 ton	-	-	1	2	3	4	5
	200 - 300 ton	-	-	1	1	1	1	1
Subtotal (2)		-	-	4	7	10	13	16
Fresh fish carrier	30 ton	3	7	10	13	15	18	21
Salted and dried fish carrier	100 ton	2	4	6	8	9	9	10
	40 ton	1	3	5	6	7	7	7
Subtotal (3)		3	7	11	14	16	16	17
Total (1)+(2)+(3)		203	504	805	1,011	1,118	1,236	1,368

(Note) (1) The figures after 1983 are assumed to be the same as those for 1983.

Table 30 Yearly and Daily Total of Fishing Boats entering Jakarta Fishing Port (1977 - 1983)

Type and scale of fishing boat		Year		1977		1978		1979		1980		1981		1982		1983	
		Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats	Yearly total entry of boats	Daily total entry of boats
Hand hook, long line	Outboard-engine	139	8,427	158	24,016	176	42,768	215	65,360	248	91,264	275	122,375	300	159,000		
			23		66		117		179		250		335		436		
Gillnet, lift net	3 - 5 ton	92	7,820	105	22,365	118	40,238	143	60,918	165	74,415	184	87,584	200	100,800		
			21		61		110		167		204		240		276		
"	5 - 10 ton	92	2,576	105	7,350	118	13,098	143	19,877	165	23,925	184	27,416	200	30,800		
			7		20		36		54		66		75		84		
Muro-Ami	17 ton	115	460	131	1,179	147	2,058	148	2,664	206	3,708	230	4,140	250	4,500		
			1		3		6		7		10		11		12		
Purse seine	3.5 "	92	92	105	210	118	236	143	429	165	330	184	184	200	-		
			1		1		1		1		1		1		-		
"	10 - 30 "	58	174	66	462	73	803	90	1,260	103	1,648	115	2,070	125	2,500		
			1		1		2		3		5		6		7		
Trawl	20 - 30 "	66	990	75	2,775	84	4,872	102	7,446	118	9,086	131	10,742	143	12,584		
			3		8		13		20		25		29		34		
Larger boats	50 - 100 "					9	14	9	36	10	60	11	81	12	120		
							1		1		1		1		1		
"	100 - 200 "					4	4	4	8	5	15	6	24	6	30		
							1		1		1		1		1		
"	200 - 300 "					2	2	3	3	3	3	4	4	4	4		
							1		1		1		1		1		
Subtotal	Yearly total entry of boats		20,591		58,357		104,091		158,001		204,454		254,627		310,338		
	Daily total entry of boats		57		160		288		434		564		700		852		
Fresh fish carrier	30 ton		156		364		520		676		780		936		1,092		
			0.4		1.0		1.4		1.9		2.1		2.6		3.0		
Salted and dried fish carrier	100 "		64		148		222		296		333		333		370		
			52		156		260		312		364		364		364		
	40 "		0.3		0.8		1.3		1.7		1.9		1.9		2.0		
Total	Yearly total entry of boats		20,863		59,025		105,093		159,285		205,931		256,260		312,164		
	Daily total entry of boats		58		162		291		438		568		704		857		

(Note) (1) Upper figure: yearly total entry of boats (yearly number of fishing boat x yearly number of trips in 1983 x yearly coefficient of productivity)  
 Lower figure: daily total entry of boats (yearly total entry ÷ 365)  
 (2) The figures after 1983 are assumed to be the same as those of 1983.

Table 31 The Benefit of Shortened Shifting Time of Fishing Boats in the Port

Year	Total number of fishing boats to use the new port	Number of small fishing boats to use the new port (Less than 3 tons) (A)	Number of middle and large scale fishing boats to use the new port (More than 3 tons) (B)	Benefit value (1) (A)x1, 500Rp	Benefit value (2) (B)x2, 500Rp	Gross benefit value (C) = (1) + (2)	Net benefit value (D) = (C) x 50%
				Million Rp	Million Rp	Million Rp	Million Rp
1977	20, 860	8, 480	12, 380	12	31	43	21
1978	59, 020	24, 010	35, 010	36	92	128	64
1979	105, 090	42, 770	62, 320	64	156	220	110
1980	159, 280	65, 360	93, 920	98	234	332	166
1981	205, 930	91, 260	114, 670	137	286	423	212
1982	256, 260	122, 370	133, 890	183	334	517	258
1983	312, 160	159, 000	153, 160	283	383	621	310

(Note) (1) Carriers are included.

(2) The figures after 1983 are assumed to be the same as those for 1983.

The reason the number of newly developed fishing boats is multiplied by 1/2 is that the increase in the number of fishing boats and the number of yearly trips will not be brought about solely because of the construction of the new fishing port, but will also be caused by other factors such as the natural growth in ship building and the increase of operational hours of fishing boats by motorization (increased productivity). The benefit from these other factors should be estimated to be 50%.

The assumption that the number of fishing boats to use the new port would not increase after 1983, was made since this would be the ideal capacity of the new port. It is assumed that the increased number of fishing boats after 1983 would be absorbed by other fishing ports.

At present, fares and other costs are being paid for the manual unloading work which is necessary at Pasar Ikan Port and the fish are sold at the fish market. These costs can also be saved when the new port is completed, but they are not treated in this analysis.

- (2) Increase of fish catch in proportion to the enlargement of fishing activity of fishing boats.

The benefit brought about by the increased catch due to longer operational hours, will be made possible by two factors;

- (1) shortened time from entry to departure from the port, and
- (2) fishing in rough weather which is made possible by the construction of a large scale breakwater.

The yearly benefit from the increased fish catch due to lengthened operational hours of fishing boats is calculated by the following formula,

$$B = \alpha a(B-A)P + \beta a(B-A)P + \frac{1}{2} \gamma a(B-A)P$$

where  $a$  : recent average fish catch per trip.

$A$  : yearly average of the number of trips before the construction of this port.

- B : yearly average of the number of trips after the completion of the construction.
- $\alpha$  : the number of conventional fishing boats.
- $\beta$  : the number of transferred fishing boats.
- $\alpha$  : the number of newly developed fishing boats.
- P : recent average fish price.

Based upon material presented by Jakarta City and the results of our survey, a study made with major fisheries of the present and future, hook and long line fishing boats (1 - 3 tons), and gillnet and liftnet fishing boats (3 - 5 tons), shows that the recent figures for the average catch per one trip, the average number of trips per year and the average fish price per kg are 110 kg, 90 trips and 120 Rp respectively.

The yearly average number of trips after the completion of the new port will be estimated to be 60 more than the present number of trips, even if 150 were taken up as a minimum number.

Therefore, the benefit value of one fishing boat will be  $110 \text{ kg} \times 60 \text{ times} \times 120 \text{ Rp} = 792,000 \text{ Rp}$ .

Calculating from the numbers of conventional, transferred and newly developed fishing boats to use the new port after 1977, separate benefit values for each year can be obtained from the above formula.

However, for the same reasons outlined above in the calculation of benefits due to shortened the shifting time in the port, (Item (1)), the benefit value of all transferred fishing boats counted as newly developed boats, is calculated by multiplying by  $1/2$ .

In a strict sense, the benefit value per fishing boat should be estimated separately in terms of the kind of fishery, scale of fishing boat, coefficient of productivity and the year studied, but, in the interest of simplicity of calculations, this additional data has not been applied.

Table 32 Benefit of Increased Catch due to the Lengthened  
Operational Hours of Fishing Boats

Year	Number of fishing boats (A)	Benefit value per fishing boat (B)	Gross benefit value (C)=(A)x(B)	Net benefit value (D)=(C)x50%
		thousand Rp	million Rp	million Rp
1977	197	792	156	78
1978	490	792	388	194
1979	780	792	617	308
1980	977	792	773	386
1981	1,077	792	852	426
1982	1,189	792	941	470
1983	1,314	792	1,040	520

- (Note) (1) Fresh or salted and dried fish carriers are not included.  
(2) The figures after 1983 are assumed to be the same as those for 1983.

(3) Benefit of maintaining freshness by using ice and insulated trucks.

Although there is a large demand for fresh fish, salted and dried fish is the major product from the sea consumed in Jakarta City and West Java due to the climate conditions and the lack of ice supply.

Construction of an ice plant in the new fishing port, and provision of insulated trucks, will increase the production of fresh fish and their freshness will be better maintained as well.

The benefit of maintaining freshness by using ice and insulated trucks is calculated with the following formula,

$$B + \frac{1}{2} \alpha (P_i - P_o) - F$$

where  $P_i$  : price of fresh fish when ice and insulated trucks are used.

$P_o$  : price of fresh fish without ice and insulated trucks.

$\alpha$  : increased amount of dealing in fresh fish (including land transported fresh fish and fresh-water fish)

$F$  : purchase price of ice and maintenance cost of insulated trucks.

According to a recent survey (November, 1973) of Jakarta City, the wholesale prices of per kilogram of the five most popular fresh fishes in three different grades (mainly freshness grades) are 172 Rp for the first grade, 134 Rp for the second grade and 92 Rp for the third grade.

If maintaining the fish's freshness became possible with the increased use of ice and insulated trucks, and if the fish could be sold at least at the middle price between the first and second grade in the fish market, then

153 Rp - 120 Rp (latest yearly average fresh fish price) = 33 Rp

33 Rp - 8 Rp (price of ice per kg and maintenance cost  
of insulated truck) = 25 Rp

could be the benefit value per kg.

The yearly benefit value could be obtained by multiplying the benefit value per unit by the increased amount of fish dealing at the market. This increased amount of dealing is also caused by the increased number of fishing boats and prolonged operational hours of fishing boats, so the net benefit value is calculated by multiplying the gross value by 1/2. (Table 33)

The increased amount of fresh fish at the market each year has been calculated by subtracting 10% of the total consumption of fish in Jakarta City, from the amount of fresh fish sold at the market in and after 1977. The 10% figure is the ratio of fresh fish to the total fish consumption.

- (4) Increase of income of fishermen by switching over from salted and dried fish to fresh fish production.

As was mentioned earlier, the major form of sea produce being consumed in Jakarta and the surrounding area is salted and dried fish. Since salted and dried fish is cheaper than fresh fish, an increase in the fishermen's income can be expected by switching over from salted and dried fish to fresh fish production.

The benefit value expected from the increased fishermen's income in this transition to fresh fish production is calculated with the formula below,

$$B = \frac{1}{3} \alpha (K_i - K_o) + A$$

where  $K_i$  : average price of fresh fish.

$K_o$  : average price of salted and dried fish.



Table 33 Effect of Maintaining Freshness with Ice and Refrigerator Trucks

Year	Amount of dealing with fresh fish in the new fish market					Increased amount of fresh fish (A)	Gross benefit value (B)=(A)x25Rp million Rp	Net benefit value (C)=(B)x50% million Rp
	Fishing boat fishery	Fresh fish carrier	Land transported fresh fish	Fresh-water fish	Total			
1977	tons 6,061	tons 2,362	tons -	tons 700	tons 9,123	tons 8,210	million Rp 204	million Rp 102
1978	15,153	5,905	3,950	1,750	26,748	24,073	600	300
1979	23,916	9,078	6,100	2,800	41,894	37,704	942	471
1980	31,237	11,809	7,900	3,500	54,446	49,001	1,224	612
1981	38,558	14,540	9,700	3,500	66,498	59,848	1,496	748
1982	45,829	17,271	11,500	3,500	78,100	70,290	1,756	878
1983	53,200	20,000	13,300	3,500	90,000	81,000	2,024	1,012

(Note) The figures after 1983 are the same as those of 1983.

- $\alpha$  : increase of fresh fish catch.  
A : processing cost of salted dry fish.

According to a recent survey of Jakarta City, the average price of salted and dried fish is 100 Rp per Kg (the average price from October to December, 1973, reported in statistic material of January 1974), while the average price of fresh fish is 120 Rp (according to the basic statistic material of Pasar Ikan, 1973). The processing cost of salted and dried fish which varies, with the type of fish and the method of processing, is roughly estimated at a minimum value of 20 Rp/Kg. Therefore the benefit value per unit is

$$120 \text{ Rp} - 100 \text{ Rp} + 20 \text{ Rp} = 40 \text{ Rp}.$$

By multiplying this benefit value per unit by the increased amount of unloaded fresh fish, (the increased amount of fresh fish traded estimated in (3)) and subtracting the increased amount of dealing in fresh-water fish, the yearly benefit value (after 1977) is obtained. However, since the switching over to the fresh fish production is not only due to the construction of the new port, but to other factors, including the increased number of newly built fishing boats, improved productivity, lengthened operational hours due to the introduction of new fishery techniques, and a stable supply of ice at the fishing port, the net benefit value is calculated by multiplying the gross value by 1/3. (Table 34)

Table 34 Benefit of the Increased Income of Fishermen Caused by Switching  
Over from Salted and Dried Fish to Fresh Fish Production

Year	Amount of fresh fish unloaded by fishing boats (A)	Amount of fresh fish unloaded by carrier (B)	Total amount of fresh fish unloaded (A)+(B)	Increased amount of fresh fish unloaded (D)	Net benefit value (D) x 40,000Rp x 1/3
1977	6,061 tons	2,362 tons	8,423 tons	7,580 tons	85 million Rp
1978	15,153	5,905	21,058	18,952	240
1979	23,916	9,078	32,954	29,695	386
1980	31,237	11,809	43,046	38,741	503
1981	38,558	14,540	53,098	47,786	621
1982	45,829	17,271	63,100	56,789	738
1983	53,200	20,000	73,200	65,880	856

### 2-3. National Economic Analysis

The results of quantity analysis based upon the calculations of cost and benefit which have been described are, as shown in Table 35, that the internal rate of return which makes the cost equal to the benefit in 30 years of the considering period is 14.5%, and that the cost-benefit ratio when the discount rate is 12% is 1.17.

Since, in Indonesia, a project with a strong public character is generally recognized as feasible if the internal rate of return exceeds 10%, Jakarta Fishing Port/Market Development Project with 14.5% should be a proper project.

Furthermore, although the quantity analysis has concentrated on the benefits for the fishermen, great social, economic effects which can not be measured by the cost-benefit analysis method are also expected. Examples of these other benefits are the improvement of the food and life of the citizens of Jakarta, the modernization of the distributing system for products from the sea, the promotion of related industries and increased employment. It is necessary to secure the protein food on a stable base, in quantities corresponding to the increase of population, and to enhance the quality of the production and consumption of seafoods and produce. As the actual measure of this, the intensification of fishery production by fishery promoting policies, such as the enlargement of the scale of fishing boats and motorization, must be coupled with the simultaneous development of the modern fishing port/market which combines fishery production and consumption. When a macroscopic analysis is to be done to study what value a project will have for the national economy, it is necessary to carry out the work carefully checking the realization of many other projects which are introduced under the basic policy of a country and are related to each other, so that a general evaluation covering a wide range must be done.

Table 35. National Economic Analysis of Jakarta Fishing Port/Market Development Project

Unit: x 1,000,000 Rp

	(1)	(2)	(3)= (1)+(2)	(4)	(5)	(6)	(7)	(8)=(4)+(5) +(6)+(7)	(9)= (8)-(3)	(10)	(11)	(12)	(13)
Year	Invest- ment cost	Maintenance and manage- ment cost	Total cost	Benefit of shortened shifting time	Benefit of increased catch due to lengthened operational hours	Benefit of maintaing freshness of fish	Benefit by switching over to fresh fish	Total benefit	Net benefit	Cost 12% dis- counted	Benefit 12% dis- counted	Net benefit 14% dis- counted	Net benefit 15% dis- counted
1975	1,615		1,615						-1,615	1,441		-1,416	-1,404
1976	2,492		2,492						-2,492	1,986		-1,917	-1,884
1977	3,508	20	3,528	21	78	102	85	286	-3,242	2,511	203	-2,188	-2,131
1978	3,607	67	3,674	64	194	300	240	798	-2,876	2,311	507	-1,702	-1,644
1979	880	112	992	110	308	471	386	1,275	283	562	723	146	140
1980		242	242	166	386	612	503	1,667	1,425	122	844	658	624
1981		242	242	212	424	748	621	2,005	1,763	109	906	704	662
1982	437	242	679	258	470	875	738	2,341	1,662	274	945	582	543
1983		242	242	310	520	1,012	856	2,698	2,456	87	972	755	698
1984		242	242	310	520	1,012	856	2,698	2,456	77	868	662	609
1985		242	242	310	520	1,012	856	2,698	2,456	69	775	581	529
1986		242	242	310	520	1,012	856	2,698	2,456	62	692	509	460
1987	437	242	679	310	520	1,012	856	2,698	2,019	155	618	367	328
1988		242	242	310	520	1,012	856	2,698	2,456	49	552	392	347
1989		242	242	310	520	1,012	856	2,698	2,456	44	492	344	301
1990	874	242	1,116	310	520	1,012	856	2,698	1,582	182	440	194	169
1991		242	242	310	520	1,012	856	2,698	2,456	35	392	264	228
1992	437	242	679	310	520	1,012	856	2,698	2,019	88	350	190	163
1993		242	242	310	520	1,012	856	2,698	2,456	28	313	203	172
1994	450	242	992	310	520	1,012	856	2,698	1,726	102	279	124	104
1995	404	242	646	310	520	1,012	856	2,698	2,052	59	249	130	309
1996		242	242	310	520	1,012	856	2,698	2,456	19	222	137	113
1997	407	242	679	310	520	1,012	856	2,698	2,019	50	199	99	70
1998		242	242	310	520	1,012	856	2,698	2,456	15	177	105	85
1999		242	242	310	520	1,012	856	2,698	2,456	14	158	92	74
2000	874	242	1,116	310	520	1,012	856	2,698	1,582	58	141	52	41
2001		242	242	310	520	1,012	856	2,698	2,456	11	126	71	56
2002	437	242	679	310	520	1,012	856	2,698	2,019	28	112	51	40
2003		242	242	310	520	1,012	856	2,698	2,456	9	100	54	42
2004		242	242	310	520	1,012	856	2,698	2,456	8	90	48	37
Total	17,189	6,247	23,438	7,651	13,300	25,372	21,405	67,728	44,311	10,561	12,445	+ 291	- 319

- Note (1) Benefit-Cost Ratio when 12% discounted, Bo/Co = 12,445/10,561 = 1.17  
(2) Internal Rate of Return IRR =  $14 + 291/(291 + 319) = 14.5$   
(3) 415 RP = US 1\$ = 300 yen

## Chapter 3. Financial Analysis

### 3-1. Outline

In this chapter the discussion is focused on the management of Jakarta Fishing Port/Market, to study whether such management is financially feasible.

In this discussion, the management (the administrator of the Fishing Port/Market) is assumed to be authorized by an executive organization, such as the Jakarta City and Indonesian Government, since that these facilities have a strong public character as will be stated in Part IV "Administration of the Fishing Port/Market".

The scope of the management's business shall be both maintenance/operation of fishing port facilities and general administration of fish market and related facilities. On the other hand, the wholesale business, considering the importance of establishing a fair and proper dealing and credibility, shall be carried out, for the time being, by a semi-official corporation specialized at wholesale business. The related facilities, including the ice plant, frozen and regular storage, transportation, supply and repairment facilities shall be operated by private commercial enterprises.

Therefore the income which will pay for expenses of management and operation will come from port rents, market rents, the rent from related facilities, parking fees and office rents paid by the wholesalers. The expenses of the management, on the other hand, will be the personnel expenses for the staff required for the operation and management of these facilities, maintenance costs, depreciation costs and the payment of interest for the loaned money.

### 3-2. Income from the Fishing Port/Market

#### 3-2-1. Port Rents

The port rents refer to the money collected from the fishing boats using the quay, and the yearly income from this fee is obtained by multiplying the figures in Table 30. "The Yearly and Daily Total of Fishing Boats entering Jakarta Fishing Port", by the port rent for one entry. At present, the port rent of Pasar Ikan Port is 180 Rp for one entry of a boat weighing less than 30 tons, and 270 Rp for a boat over 30 tons. With the new port, however, these rents are estimated to be 400 Rp for the smaller class boats and 800 Rp for the longer ones because of the modern large scale port equipment and landing work facilities. (See Table 36.)

Table 36 Income from Port Rents

Year	Total number of fishing boats using the port	Income from the port rents
1977	20,071 802	8,670 thousand Rp
1978	57,237 1,788	24,320
1979	100,871 4,222	43,720
1980	153,187 6,102	66,150
1981	198,324 7,607	85,420
1982	246,777 9,483	106,300
1983	300,778 11,386	129,400

- (Note) (1) In the "total number of fishing boats using the port", upper figures are boats less than 30 tons, and the lower figures are boats equal and over 30 tons.
- (2) The figures after 1983 are assumed to be the same as those of 1983.

### 3-2-2. Market Rent

The market rents refer to the money collected from the wholesalers, to whom the wholesale market place is rented, and the money shall be collected from their income of wholesale commission. There are two ways of determining the market rent, the first is from the amount of dealing at the market, the second is by the selling space used. In some countries (see Appendix 3 "The Report of Related Surveys in Singapore and Bangkok) the market rents are collected only in proportion to the selling space, and in others the rents are collected according to both measures. At present, in Jakarta City, the collecting system is in proportion to the amount of dealing and the rate is rather high (5%), partially because the market size and the amount of dealing are small.

If the market rent for the wholesaler is set too high, the commission of the wholesalers will naturally increase, causing raised consumer prices of sea produce. It is important to give careful consideration to the operation of the new fish market, especially to the determination of the market rents, so that the fee is the minimum necessary for the maintenance and operation of the facilities. Considering this situation, the present rent, 5%, will be by no means unfairly high. However, in consideration of the great increase of trade expected after the completion of the facilities, the market renting rate has been estimated at 3.5% in this analysis. The income from the market rent has been calculated by multiplying the above estimated value by the amount of dealing for each year and by the present wholesale prices



of aquatic product per kilogram; 120 Rp for fresh fish, 100 Rp for salted and dried fish and 150 Rp for fresh water fish. (Table 37)

Table 37 Income from Market Rent

Year	Amount of dealing of fish in the Jakarta fish market	Amount of monetary transactions in the Jakarta fish market	Income from market rent
1977	48,340 tons	1,638 million Rp	57,330 thousand Rp
1978	59,310	5,073	177,560
1979	67,500	7,205	252,180
1980	80,600	9,256	323,960
1981	93,800	10,806	378,210
1982	106,800	12,349	432,180
1983	120,000	13,905	486,670

Note

- (1) The figures after 1983 are assumed to be the same as those of 1983.

3-2-3. Sales Commission on Supplying Goods

The ice plant and the supplying facilities for fuel and water for the fishing boats are rented to private enterprises which run the business on a commercial basis, and the management collects the rents from these enterprises. Though the rents could be set at the value calculated from the depreciation cost, 10% of the turnover from the sale of the supplied goods is assumed to be collected in consideration of peculiarity on the operation of the supplying facilities.

The amount of supplied goods sold will increase at the same rate as the number of the fishing boats which use the new port after 1977,

and it will continue until a peak. The figure will stay constant after 1983.

The calculations of the amount of ice, fuel and water sold in 1983 were based upon the following figures.

Ice: 300 tons (amount manufactured in a day) x 360 days  
x 5,000 Rp (unit price) = 540,000 (thousand Rp)

Fuel: 200 Kl (amount of oil used in a day) x 360 days x  
18,000 Rp (unit price) = 1,296,000 (thousand Rp)

Water: 80 tons (supply of water per day) x 360 days x 70 Rp  
(unit price) = 2,000 (thousand Rp)

Table 38 Income from commission of sales from supplied goods

Unit: x 1,000 Rp

Year	Amount of ice sold	Amount of oil sold	Amount of water supplied	Total turnover	Commission of sales
1977	63,000	151,600	400	215,000	21,500
1978	196,500	471,700	800	669,900	66,990
1979	279,700	671,300	1,100	952,100	95,210
1980	359,100	861,800	1,300	1,222,200	122,220
1981	419,600	1,006,900	1,600	1,428,100	142,810
1982	480,600	1,153,400	1,800	1,635,800	163,580
1983	540,000	1,296,000	2,000	1,838,000	183,800

3-2-4. Rent of Frozen/Cold Storages and Processing Facilities

Regarding the frozen/cold storages and the processing factory, an amount of money equal to the depreciation cost of those facilities is assumed to be collected from the renting enterprises as the rental fee of those facilities. The income has been calculated using the estimated value for 1983 as the standard value and the yearly increasing rate of dealing in the markets from 1979 to 1983, after the completion of the facilities. (Figures after 1983 are assumed to stay constant.)

3-2-5. Office Rents

Out of the entire space on the first and second floor of the wholesale market, which is planned to house the collective management office, about 2,000 m<sup>2</sup>, (2/3 of the entire space), excluding the space occupied by the administrator of the executive organization, will be used by the wholesalers and private enterprises which will operate the related facilities. The rents collected will be equal to the depreciation cost and in proportion to the rented space. The collection of office rents will start in 1979. The yearly income was calculated, in the same way as in the previous item, using the estimated income in 1983 as the standard value and the increasing rate of dealing for each year.

3-2-6. Parking Fees

The parking fee has been estimated to be 100 Rp for large cars and 50 Rp for middle and small sized cars, judging from the present situation. The number of vehicles to use the parking area in 1983, the standard year, is estimated to be 55 large cars (mainly the insulated trucks) and 300 middle and small sized cars. Considering the amount of dealing in the market and the capacity, the yearly income from the parking fee has been calculated, in the same manner as the previous item, from the increased rate of dealing in the market.

In addition to these sources of income, the fee for fishing boat repairing facilities and the fee for welfare facilities are also considered. However, since the number of fishing boats and the number of people using these facilities are uncertain, the income from these sources has not been included in this analysis.

### 3-3. Expenses of Fishing Port/Market

#### 3-3-1. Personnel Expenses

The number of the staff required for the management and operation of a fishing port/market varies with the scale of the fishing port/market, the scope of business and the experience and ability of the administrative staff. Since the scale and the scope of business of this project are large, it will require many administrators and helpers, to carry out operations smoothly and efficiently. We have estimated that 200 staff members will be required from the year 1980 on. The annual personnel cost per staff member will be 360,000 Rp (30,000 Rp per month), judging from the present situation. For the years from 1977 to 1979, the cost has been estimated to be respectively 40, 50 and 60% of that for 1980.

#### 3-3-2. Depreciation Cost

The yearly depreciation cost of the fishing port/market facilities can be obtained, if the residual value of the facilities is zero, by the construction cost of the facilities to be depreciated and its durable years. Excluding the contour facilities, like the break water, the revetment and the unloading quay wall which is the mooring facility, whose life is said to be more than 50 years, the yearly depreciation cost is as follows. For the depreciation before 1980 when the construction will be completed, 1977 has been set to the first year of depreciation, and the depreciation until 1979 has been estimated in proportion to the progress of the construction. (Table 39)

Table 39 Annual Depreciation Cost

Facilities subject to depreciation	Construction cost (A)	Durable years (B)	Annual depreciation cost (A/B)
Unloading sheds	360 million Rp	25 years	14.4 million Rp
Wholesale market	158	25	6.3
Collective management office	308	25	12.3
Welfare facilities	188	25	7.5
Houses for management officers	180	25	7.2
Parking place (paved)	44	20	2.2
Road (paved)	360	20	18.0
Ice making plant, refrigerating facilities, storages	293	15	19.5
Processing facilities	447	15	29.8
Fishing boat repairing facilities	70	10	7.0
Stock facilities for outfitting	804	10	80.4
Fish handling machinery	197	5	39.4
Insulated trucks	240	5	48.0
Total			292.0

### 3-3-3. Maintenance Costs of the Facilities

The basic fishing port facilities, which are excluded from depreciation due to their semipermanency, naturally require expenditures for maintenance. The cost of dredging sea area inside the fishing port, and maintenance cost of the facilities on land must also be considered. In this analysis, the total maintenance cost of the basic port facilities (construction cost of the basic facilities x 1.5%), dredging cost, and maintenance cost of the facilities on land, was estimated to be 170 million Rp, annually.

### 3-3-4. Interest on the Loan

The loan obtained by the management of Jakarta Fishing Port/Market is (for reason mentioned later), the construction cost of facilities on land and others excluding basic facilities and the consultant fee, which is 3,368,540,000 Rp. The interest payable (12%), calculated by multiplying this sum by the interest rate of Indonesia Bank, for the project loan. (The calculated sum includes interest during construction.)

Payment is to be made in 20 years, from 1983, in a uniform base of the principal (168,430,000 Rp annually), so that the payment of interest will decline after 1984.

### 3-3-5. Management Analysis of the Fishing Port/Market

The estimated balance for management, calculated by income and expense mentioned above, is shown in Table 40.

Examining the profitability by the cost-benefit method in the managerial economic measure, the cost is the total of total investments on the construction of the new fishing port/market (excluding the contingency of 20% of the foreign currency assumed as the shadow-price) and the maintenance and administration cost, which is 15,928 million Rp.

The benefit is the accumulated income for the management of the fishing port/market, for the planned period until 2004, which amounts to 19,024 million Rp.

The cost/benefit ratio, when the discount rate is 12%, is 0.23. The internal rate of return, that makes the cost equal to the benefit, is 2.1%.

This indicates a financial difficulty for the management on a self-paying basis.

To be more exact, when the large amount of money to be invested on the development of a vast land area for the fishing port, and on the construction of a large scale break water is to be borrowed and the business is to be run in the same financial frame, the management of the enterprise on a self-supporting accounting system is infeasible due to the difficulty of the loan payment and the interest thereon.

Although the Jakarta Fishing Port/Market development project is, as already shown in Chapter 2, enormously valuable for the national economy, it was found that the management would be infeasible under the conditions stated above.

If the project were abandoned because of financial difficulty of the Fishing Port/Market management, the national economy would suffer greatly also.

Management of a fishing port depends heavily on the managerial system.

The profitability analysis shown above is based upon a self-paying basis for the fishing port/market management, and upon the balancing criteria generally accepted as a proper measure. However, there are some other possible systems; the system where the government develops the necessary land and constructs the basic facilities first, transferring the management to a managerial body at the time when the facilities could produce a proper profit, or the system where the government grants, subsidizes or invests in the management body.

A combination of these systems is also possible.

Adopting these systems, would improve the management of the fishing port/market, to realize a project highly valuable for the national economy.

The major reasons why the Jakarta Fishing Port/Market does not allow management on a self-supporting accounting system, are the severe conditions for constructing the port (natural conditions), and the special character of the management of the Fishing Port/Market. That is, while an enormous amount of investment is required for reclamation, to secure a vast land area, and for construction of a large scale break water and revetment, the operational revenue from a fishing port/market must generally be set to a low level because the revenue directly influences the lives of fishermen, a large number of small producers, consumers, and the general public. This influence is quite different from that of a general harbor.

Considering these conditions, the financial fostering by the government, or Jakarta City, is considered essential for the realization of this project.

This report now discusses to what extent the management of the Fishing Port/Market will be improved by aid fund of the government, or the city.

The facilities to be subject to the aid fund, and in what percentage, are not determined until the interest level of the loan, to be invested for the construction of this project, is set, as well as the revenue standard of port rents, fish market rents and other fees. Basically, the functional facilities and relative facilities of the fishing port, which produce profit themselves, do not have to be the object of aid fund, while the development of necessary land, counter facilities and water facilities of the fishing port should be subsidized.



Assuming that the interest rate of the loan for this project is 12%, the present rate of the Bank of Indonesia for development projects, then the development of land, basic facilities of the fishing port (including the unloading facilities), and consultant fee must be subsidized to make the management financially feasible.

In this case, total aid fund will be 7,472 million Rp and the percentage of the aid fund will be 68.9% (7,472 million Rp/10,841 million Rp).

With above assumptions on the aid fund, the estimated revenue and expenditure, and its annual transition, are shown in Table 40, and operational planning for the fund, based on the above annual transition, is shown in Table 41.

As shown in the estimated revenue/expenditure in Table 40, annual balance will turn into the black in the eleventh year of operation, after the beginning of business (8 years after the completion of the construction), but the accumulated balance of revenue/expenditure will not be in the black until 24th year (21 years after the completion), and red figures must remain for a rather long period. This is mainly because the payment of interest on the loan, 3,369 million Rp including the interest during the construction, which is invested for the construction of facilities on land, is rather severe for the management, though the percentage of the aid fund in the entire investment is so high as 68%. This means that the interest rate reduction will greatly improve finances and, at the same time, may lower the percentage of aid fund.

As seen in the operational planning of the funds in Table 41, the shortage of the annual operational fund, which develops from the year after completion of the construction, is assumed to be loaned with no interest, and the payment to be made by the possible sources, in a possible amount, from the target year of 1983, to complete the Table.

Though the payment of the loan, in both foreign and domestic currency, for the construction has been assumed to be paid in "uniform payment with principal" in 20 years from the target year 1983 to 2002, the loan in foreign currency out of the entire loan 7,472 million Rp may well be paid by the government separately, according to the future preparation of foreign currency.

Table 40. Estimated Revenue and Expenditure Table of the Management of Jakarta Fishing Port/Market

Unit: 1,000 Rp

Year		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Item																
Revenue	Port Rents	-	-	8,670	24,320	43,720	66,150	85,420	106,300	129,400						
	Market Rents	-	-	57,330	177,560	252,180	323,960	378,210	432,180	486,670						
	Commission from Sales of Goods	-	-	21,500	66,990	95,210	122,220	142,810	163,580	183,800						
	(Ice supply)	-	-	(6,300)	(19,650)	(27,970)	(35,910)	(41,960)	(48,060)	(54,000)						
	(Fuel Supply)	-	-	(15,160)	(47,170)	(67,130)	(86,180)	(100,690)	(115,340)	(129,600)	864,770	"	"	"	"	"
	(Water Supply)	-	-	( 40)	( 80)	( 110)	( 130)	( 160)	( 180)	( 200)						
	Rents of Refrigerators and Processing Plants	-	-	-	-	25,530	32,780	38,310	43,780	49,300						
	Office Rents	-	-	-	-	4,260	5,470	6,380	7,290	8,220						
	Parking Fee	-	-	-	2,690	3,820	4,910	5,730	6,550	7,380						
	Total	-	-	87,500	271,560	424,720	555,490	656,860	759,680	864,770	864,770	864,770	864,770	864,770	864,770	864,770
Expenditure	Personnel Expenses	-	-	28,800	36,000	43,200	72,000	72,000	72,000	72,000						
	Maintenance and Operation Cost	-	-	68,000	85,000	102,000	170,000	170,000	170,000	170,000	534,000	"	"	"	"	"
	Depreciation Cost	-	-	56,000	153,000	245,000	292,000	292,000	292,000	292,000						
	Interest Payable	10,800	21,600	91,790	235,960	357,080	404,220	404,220	404,220	404,220	384,130	363,800	343,590	323,370	303,160	282,950
Total	10,800	21,600	244,590	509,960	747,280	938,220	938,220	938,220	938,220	918,130	897,800	877,590	857,370	837,160	816,950	
Gross Profit (before Excluding Depreciation and Interest Payable)		△ 10,800	△ 21,600	△ 9,200	150,560	279,520	313,490	413,860	517,680	622,770	622,770	622,770	622,770	622,770	622,770	622,790
Balance Profit of Income and Expenditure		△ 10,800	△ 21,600	△ 157,090	△ 238,400	△ 322,560	△ 382,730	△ 281,360	△ 178,540	73,450	△ 53,360	△ 33,030	△ 12,820	7,400	27,610	47,820
Accumulated Profit		△ 10,800	△ 32,400	△ 189,490	△ 427,890	△ 750,450	△ 1,133,180	△ 1,414,540	△ 1,593,080	△ 1,666,530	△ 1,719,890	△ 1,752,920	△ 1,765,740	△ 1,758,340	△ 1,730,730	△ 1,682,910
Year		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Revenue	Port Rents	129,400														
	Market Rents	486,670														
	Commission from Sales of Goods	183,800														
	(Ice Supply)	(54,000)														
	(Fuel Supply)	(129,600)	864,770	"	"	"	"	"	"	"	"	"	"	"	"	"
	(Water Supply)	( 200)														
	Rents of Refrigerators and Processing Plants	49,300														
	Office Rents	8,220														
	Parking Fee	7,380														
	Total	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770	864,770
Expenditure	Personnel Expenses	72,000														
	Maintenance and Operation Cost	170,000	534,000	"	"	"	"	"	"	"	"	"	"	"	"	"
	Depreciation Cost	292,000														
	Interest Payable	262,740	242,520	222,320	202,110	181,890	161,680	141,470	121,260	101,050	80,840	60,620	40,410	20,210	0	0
Total	796,740	776,530	756,320	736,110	715,890	695,680	675,470	655,260	635,050	614,840	594,620	574,410	554,210	534,000	534,000	
Gross Profit (before Excluding Depreciation and Interest Payable)		622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770	622,770
Balance Profit of Income and Expenditure		68,030	88,240	108,450	128,660	148,880	169,090	189,300	209,510	229,720	249,930	270,150	290,360	310,560	330,770	330,770
Accumulated Profit		△ 1,614,880	△ 1,526,640	△ 1,418,190	△ 1,289,530	△ 1,140,650	△ 971,560	△ 782,260	△ 572,750	△ 343,030	△ 93,100	177,050	467,410	777,970	1,108,740	1,439,510

(Note) Interest during construction is included.

Table 41. Operational Planning for Funds

Unit: 1,000 Rp

Year		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	
Item																	
Raising	Aid Fund	1,282,050	2,236,400	1,995,280	1,914,070	45,000	-	-	-	-	-	-	-	-	-	-	
	Loaned Fund for Facilities	180,000	-	1,169,900	1,232,840	785,800	-	-	-	-	-	-	-	-	-	-	
	(Loan in Foreign Currency)	-	-	(406,720)	(882,130)	-	-	-	-	-	-	-	-	-	-	-	
	Loaned Management Fund	10,800	21,600	101,090	85,400	77,560	90,730	-	312,900	27,310	7,220	-	-	337,030	-	-	
	Depreciation Cost	-	-	56,000	153,000	245,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000
	Profit/Loss of the Term	△10,800	△21,600	△157,090	△238,400	△322,560	△382,730	△281,360	△178,540	△73,450	△53,360	△33,030	△12,820	7,400	27,610	47,820	
Total		1,462,050	2,236,400	3,165,180	3,146,910	830,800	0	10,640	426,360	245,860	245,860	258,970	279,180	636,430	319,610	339,820	
Operation	Investment for Construction	1,462,050	2,236,400	3,165,180	3,146,910	830,800	-	-	-	-	-	-	-	-	-	-	
	Payment of the Loan (for Facilities)	-	-	-	-	-	-	-	-	245,860	245,860	245,860	245,860	245,860	319,610	339,820	
	(for Management)	-	-	-	-	-	-	-	-	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	
	Reinvestment	-	-	-	-	-	-	-	437,000	-	-	-	-	437,000	-	-	
	Total		1,462,050	2,236,400	3,165,180	3,146,910	830,800	-	-	437,000	245,860	245,860	245,860	245,860	682,860	319,610	339,820
Year		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Item																	
Raising	Aid Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Loaned Fund for Facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	(Loan in Foreign Currency)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Loaned Management Fund	682,400	-	204,980	-	477,550	-	-	103,920	-	-	480,280	-	2,870	-	-	
	Depreciation Cost	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000	292,000
	Profit/Loss of the Term	68,030	88,240	108,450	128,660	148,880	169,090	189,300	209,510	229,720	249,930	270,150	290,360	310,560	330,770	330,770	
Total		1,042,430	380,240	605,430	420,660	918,430	461,090	481,300	605,430	521,720	541,930	1,042,430	582,360	605,430	622,770	622,770	
Operation	Investment for Construction	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Payment of the Loan (for Facilities)	168,430	380,240	168,430	420,660	168,480	461,090	481,300	168,430	521,720	541,930	168,430	582,360	168,430	103,600	-	
	(for Management)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	(168,430)	-	
	Reinvestment	874,000	-	437,000	-	750,000	-	-	437,000	-	-	874,000	-	437,000	-	-	
	Total		1,042,430	380,240	605,430	420,660	918,430	461,090	481,300	605,430	521,720	541,930	1,042,430	582,360	605,430	103,600	-

(Notes) (1) The loaned management fund is assumed as the shortage of the year, however the running cost is not considered here. Also the interest on the loaned management fund is set at zero.

(2) The payment of the loaned management fund is assumed to begin in 1983.

VOLUME IV  
MANAGEMENT AND OPERATION OF  
THE FISHING PORT/MARKET



## VOLUME IV. MANAGEMENT AND OPERATION OF THE FISHING PORT/MARKET

### Chapter 1. Management of the Fishing Port/Market

To make full use of the functions of the Fishing Port/Market, management and operational methods are most important.

*In case of this project since a part of the facilities is planned to commence operations before the completion of the entire facilities (from the third year of construction), the management and operating system should be established without delay. Considering that the Jakarta Fishing Port/Market will be a model case for future development of fishing ports/markets in Indonesia, and that the number of fishing boats to use the Port and the dealing amount of the Fish Market will increase, a new management and operating system suited to the conditions of Indonesia should be established; not by merely following the conventional management and operating system, learning from the examples of adjacent countries in South East Asia and other advanced countries in fishery.*

#### 1-1. Basic Principles of Management

- (1) To always maintain the facilities in perfect condition.
- (2) To always utilize the facilities effectively, and to make full use of the functions.

In order to follow these principles in the Fishing Port, such functions as safety arrival/departure of fishing boats, smooth fish unloading, and easy and speedy outfitting and repair of fishing boats must be developed.

In the Fish Market, such functions as smooth handling of collection and distribution of a large amount of fishery products, fair transaction and forming of reasonable prices, and settlement of accounts and *primary holding must be developed.*

1-2. Management Staff and Organization

The management of the Fishing Port/Market shall be the authorized governmental, in view of the strong public character of the Port/Market.

In management organization, such departments shall be provided under the general manager of the Fishing Port, as Fishing Port Dpt., Fish Market Dpt., Facilities Dpt., Transportation Dpt. and Statistics Dpt. Each department shall have staffs who conduct each business, and workers who are engaged with cargo handling and other works in the market.

1-3. Duty of the Management

The management will establish Management Regulation for the Fishing Port and Business Regulation for the fish market, etc., to insure secure operations mentioned in 1-1. (These regulations shall stipulate, for example, the method of collecting rents from the users of the facilities.)

Following items are required of the Management of the Fishing Port.

- (1) Establish management regulations for the constructed premises, that is, Management Regulation for the Fishing Port.
- (2) Govern the Fishing Port usage according to Management Regulation for the Fishing Port.
- (3) Keep the Management ledger, and have responsibility for the maintenance of the Port.
- (4) Provide statistical data and surveys necessary for future development of the Fishing Port.
- (5) To have authority to conduct a spot inspection for the maintenance and management of the Fishing Port, and to use officially or to expropriate the land or sea for emergency purposes.



The regulating items regarding dealings, to be stipulated in the Business Regulations for the Fish Market, are as follows.

- (1) Method of collection. (Principle of consignment sales and prohibit denial of consignment sales.)
- (2) Acceptance of consignment goods. (Acceptance inspection of consignment goods, and the acceptance notice for consignment goods.)
- (3) Preparation for sales. (Bulletin on the reported amount of goods which arrived, arrangement and preview of the goods, and the order for sale.)
- (4) Method of sale. (Dealing unit, principle of auction, and the method of auction.)
- (5) Delivery of goods which are sold in the Market. (Clarifying the name of purchaser and the acceptance of goods.)
- (6) Commission (Prohibition of any reward other than the regulated commission, and the rate of commission.)
- (7) Settlement of accounts. (Settlement of accounts and remittance, the form of invoice, and the payment of settled money.)
- (8) Prepayment to the consigner, and granting many kinds of bounty.
- (9) Reporting and publication of such items as the number and the price of goods sold by wholesalers.

## Chapter 2. Operation of the Fishing Port/Market

### 2-1. Distribution System

In the distributing route of fishery products from the producer to the consumer, the smallest number of dealing stages as possible is desirable, in the interest of speedy dealing and reduction of distributing costs.

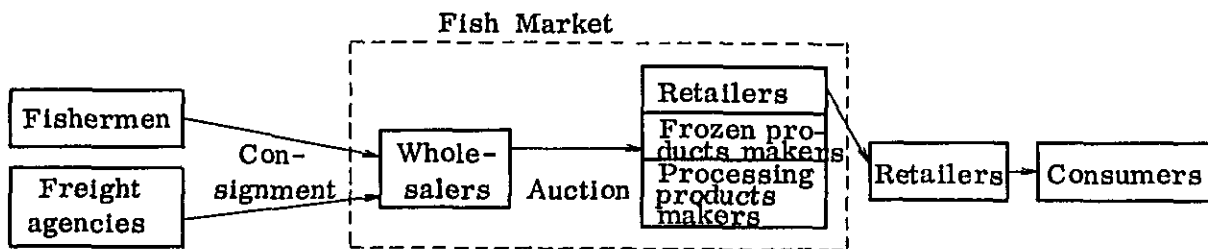


Fig. 18 Distribution System

- (1) It is desirable that wholesale business be carried out by a semi-governmental body for the time being, to rationalize and enhance the creditability of market dealings.
- (2) In this development project, the installation of shops for brokers (middlemen) has not been assumed. In this case, it is possible that all retailers should participate in the auction in the market, and disturb the order of the market. Therefore, in order to limit the number of retailers in the market, establishment of a joint purchasing system of retailers by each retail market in the city is desirable.

### 2-2. Operation of Relative Facilities of Fishing Port/Market

Operations of relative facilities such as ice making, freezing, cold storage, transportation, supply of foods and other material to the fishing

boats, and repairing of boats and engines, shall be carried out through private enterprises on a commercial basis.



VOLUME V

RECOMMENDATION OF THE PROBLEMS  
RELATING TO THIS PROJECT AND  
SUBJECTS FOR FUTURE STUDY



VOLUME V. RECOMMENDATION ON THE PROBLEMS RELATING TO THIS  
PROJECT AND SUBJECTS FOR FUTURE STUDY

Chapter 1. Recommendations on the Problems Relating to The Project

The completion of this project will play a very important role in the development of fishing ports not only in Jakarta City but in the whole of Indonesia, and will have a remarkable impact on both economic and social fields. These effects have been described in the preceding chapters.

A great number of appropriate measures in various fields related to the development of the fishing port/market are required for it to function effectively. Some of the measures that seem to be most urgent are listed in the following.

1-1. Establishment of a Committee Composed of the Organization Concerned

It is desirable to establish a committee composed of the governmental officials concerned in order to promote this project urgently and powerfully.

1-2. Promotion Measures for the Motorization and Enlargement of Fishing Boats and the Modernization of Fishing Gear

Present fisheries around Jakarta City depend mostly on sailing or small size power boats, and these groups of fishing boats are to be replaced gradually by motorized or large size boats due to the development of Jakarta fishing port.

In order to promote the effective use of Jakarta fishing port, it is necessary to expedite the motorization and enlargement of fishing boats using this port, and the modernization of fishing gear. And then immediate legislation for a subsidy or loan system is essential.

### 1-3. Consolidation of Support Stations

In this project, fresh fish and dry salted fish transported by carriers or trucks from areas other than Jakarta City are important to the market and therefore, the consolidation of support stations for smooth collection and distribution activities must be promoted parallel with the fishing port construction.

Table 42 Spots where the Consolidation of Support Stations is required

Area	Support Stations
Sumatra	Bagansiapiapi, Tanjungpinang Labuhanmaringgai, Bangka Is.
Kalimantan	Pontianak
Java	Cirebon, Tegal, Pekalongan, Cilacap

### 1-4. Installation of Additional Retail Markets Including Their Appropriate Arrangement, and the Expansion and Improvement of the Processing Industry

With the development of Jakarta fishing port, a stabilized, increased supply of good quality fishery products will become possible, and the installation of additional retail markets and the plans for their arrangement are required to ensure the effective supply of fishery products to consumers in Jakarta City.

Upgrading the processing industry is also required for the effective utilization of the facilities in the new fishing port and the manufacture of processed fishery products of good quality.



1-5. Training in the Management and Operation of the Fishing Port/Market

As the Jakarta fishing port will be a very large-scale establishment, it is necessary for its smooth operation to secure many officials who are familiar with the management and operation of fishing ports. In Indonesia presently, however, there are no standard fishing ports, and experience in the aspects of the management and operation of fishing ports is scanty. Therefore it is important for smooth management and operation of the new port that officials visit foreign countries which have developed fishing ports similar to, or more extensive than the new Jakarta fishing port, and receive necessary training in the actual conditions of management and operation in these countries.

1-6. Early Consolidation of the Management System of the Fishing Port/Market

In the Jakarta fishing port development project, the actual use of the new fishing port/market will start concurrent with its construction during the period of its construction, therefore, the management system of the new fishing port/market must be completed in the early stages. The construction of management offices and houses for officials must have top priority.

1-7. Bringing up of Experts on Fishing Ports

From the example of the development Jakarta's fishing port/market, the need of construction of fishing ports is anticipated to arise in various other parts of Indonesia. This is encourages in view of the advancement and development of the fishing industry. However, to fill this demand, experts who have a wide knowledge of planning and construction of fishing ports are needed. Since the technique of fishing port construction is a specialized field, it is difficult to secure such experts from outside on short notice. Consequently, it is necessary that the Directorate General of Fisheries encourage engineers who have a fundamental knowledge of civil engineering, especially harbor engineering, and employ them in the capacity of official experts of fishing ports. Cultivation of such experts must be started immediately because they cannot be trained in a short time.

Naturally training in advanced countries is very useful for this purpose.

1-8. Completion of Statistical Data on Fisheries and Fishing Ports/Market

In the planning of the development of the fishing port/market, statistical data becomes basic, and this required data includes not only data of the national fish catch and amount of dealing in fish but also careful data showing the usage situation of fishing ports and the distribution conditions in market. Since Jakarta fishing port, in particular, is considered to be a model for the development of other fishing ports in the rest of Indonesia, its statistical data will be basic to this later development, and the collection of statistical data for it must preserve sufficiently high accuracy. The establishment of a system for this purpose is required.

## Chapter 2. Subjects for Future Study

In developing Jakarta fishing port/market, subjects for future study are as follows:

### 2-1. Planning for the Use of the Reclaimed Land

Under the project, the reclamation area amounts to 280,000 square meters outside of the fishing port district, therefore, plans for the utilization of this area will be required immediately after approval of this project.

### 2-2. Construction of the Access Road Connecting Jakarta City with the Fishing Port

The construction cost of the access road connecting Jakarta City with the fishing port is not included in this project because it was already included in Jakarta City planning. However, for the successful realization of this project, it is necessary that the construction of the road will be completed before the start of construction work on the port.

### 2-3. Execution of Soil Investigation

Before the execution of the plans, it is necessary to carry out soil investigation on the proposed area and the planning of the port should be based on this data.

### 2-4. Continuous Execution of Sounding Survey

During and after construction work, it is advisable to execute a survey of the shore-line and seabed in and around the fishing port once a year. The results of these surveys will become very useful data in the estimation of maintenance and management costs of the fishing port and plans for its future extension.



## APPENDIX



## APPENDIX

### 1. Natural Conditions around the Projected Site of the Jakarta Fishing Port

#### 1-1. Weather

##### 1-1-1. Outline of the Weather Around Jakarta

The weather of the western part of Java Island, mostly a tropical rain forest climate area, shows typical characteristics of the monsoon zone of South East Asia. That is, the temperature is always high with little variation throughout the year. The amount of rainfall is around 1,800 m/m but is influenced by the monsoon. The period from December to March is the rainy season, during which the north west monsoon blows. And the period from May to October is the dry season, when the south east trade wind blows. April and November are transition periods of the season. The tropical cyclone does not come out or pass through Java Island and Java Sea.

##### 1-1-2. Rainfall

The rainfall in Jakarta registers about 1,800 m/m in a year, three quarters of which falls in the rainy season.

In this rainy season the heavy rainfall, in "squalls", falls an average of once every two days. The data concerning rainfall is shown in Appended Table 1.

Appended Table-1 Data on Rainfall (Jakarta)

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly total
The rainy days	19	19	17	12	9	8	5	4	6	9	13	16	137
The amount of rainfall	307	312	201	140	102	86	58	41	69	112	137	211	1768
Hours of rainfall	61.0	57.4	39.8	23.5	18.0	14.0	11.0	6.5	10.4	16.6	28.4	41.9	328.5
Days of thunderstorm	13.4	12.6	14.5	14.0	11.5	8.1	5.2	4.9	7.0	12.7	16.3	13.4	133.5

Appended Table-2 Data about Temperature (Jakarta)

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly total
Mean daily temperature	25.8	25.8	26.2	26.7	26.8	26.5	26.3	26.5	26.8	26.8	26.5	26.1	26.4
Mean daily high temperature	28.8	28.8	29.6	30.3	30.4	30.2	30.1	30.5	30.9	30.9	30.4	29.5	30.0
Mean daily low temperature	23.3	23.3	23.5	23.7	23.6	23.2	22.8	22.7	23.0	23.3	23.5	23.3	23.3
Mean variation of temperature in a day	5.5	5.5	6.2	6.6	6.8	6.9	7.2	7.8	7.8	7.6	7.0	6.1	6.8
Highest temperature	33.4	32.9	33.2	33.4	33.1	33.2	33.4	34.5	35.8	35.8	35.6	33.8	35.8
Lowest temperature	20.4	20.7	20.6	20.5	21.2	19.7	19.4	19.3	18.9	20.6	19.9	19.4	18.9
Mean value of every year's highest temperature	31.3	31.0	31.7	32.0	32.0	31.7	31.6	32.2	32.9	33.0	32.7	32.0	32.0
Mean value of every year's lowest temperature	22.1	22.2	22.3	22.5	22.4	21.8	21.2	21.1	21.6	22.1	22.3	22.1	22.0



1-1-3. Temperature

The average temperature in Jakarta is high (26.4°C), the seasonal change of temperature is less than 1°C, and the daily change is 6.8°C. The mean value of the monthly high temperature is 30°C and the monthly low is 23°C. The data about temperature is shown in Appended Table-2.

1-1-4. Wind

On the sea a few score kilometers from Jakarta, the regular wind (the south-east wind in the dry season and the north-west wind in the rainy season) blows all day. Near the seashore, however, the land and sea breeze prevails, and it is observed in Jakarta that the north wind blows from the sea in daytime and the east wind blows from the land at night, and that the times when the wind direction changes are at about 07:30 and 17:30. It is generally said that the land and sea breeze blows about 20 - 30 km around the seashore, but observations here indicate that the breeze blows only 10 km.

The weather is stable in this area, and the tropical cyclone such as typhoon, doesn't occur. The highest wind velocity ever recorded in Jakarta is 10.3 m/sec. Tornadoes seem to have occurred but the details are not known. The data, which indicates the outline of wind in Jakarta is shown in Appended Tables-3 and 4.

Appended Table-3 Percentage of Monthly Wind Direction (Jakarta)

Time	Wind direction	Month												Yearly total
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
6 o'clock	N	2	2	3	0	1	2	1	0	1	0	1	1	1
	NE	4	2	1	1	5	6	2	5	3	1	2	2	3
	E	8	5	8	10	19	11	12	14	21	11	9	6	11
	SE	6	8	6	6	7	6	11	13	11	18	8	9	9
	S	5	6	4	1	2	3	4	7	9	8	5	5	5
	SW	7	4	6	3	2	1	2	2	3	5	5	8	4
	W	14	8	10	4	1	0	1	0	1	1	8	15	6
	NW	7	6	3	2	0	0	0	0	1	1	2	4	2
	Calm	47	59	59	73	63	71	67	59	50	55	60	50	59
	13 o'clock	N	21	17	21	30	22	21	20	32	49	45	38	27
NE		4	7	9	29	47	40	37	32	18	17	14	10	22
E		2	1	2	7	15	24	15	10	5	4	5	1	8
SE		0	0	0	0	1	2	2	2	1	1	2	1	1
S		2	1	0	0	1	1	2	1	0	2	1	1	1
SW		5	3	4	4	3	2	3	1	1	2	4	4	3
W		32	38	34	14	5	5	7	4	4	22	16	28	17
NW		31	33	30	16	6	5	13	18	22	0	20	28	19
Calm		1	0	0	0	0	0	1	0	0	7	0	0	1

Appended Table-4 Data about Wind Velocity (Jakarta)

Month	Yearly total												
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Mean velocity of wind (m/s)	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2
Highest # velocity of wind (m/s)	2.6	2.6	2.6	2.0	2.0	2.0	2.0	2.6	3.1	2.6	2.0	2.0	2.6
Mean of highest velocity of wind (m/s)	4.8	4.8	5.0	5.0	5.0	5.0	5.0	5.8	6.2	6.2	5.2	5.0	7.1*
Highest record	8.0	8.6	9.5	8.0	7.0	7.2	6.8	8.8	9.5	10.3	8.9	8.5	10.3

\* Mean annual value for the highest wind velocity # 1879 - 1935.

1-1-5. Other Element of Weather

The data about humidity is shown in Appended Table-5. The mean value of relative humidity is 82.6% in the rainy season and 74.2% in the dry season. The variation between day and night is greater than the seasonal variation. The atmospheric pressure is almost constant throughout the year, but changes regularly in a day; the average difference between the poles in a day is about 4 mb. Squalls with thunder develop very often in the evenings in the tropical area.

Appended Table-5 Data about Humidity and Pressure (Jakarta)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly total
Mean humidity %	86	87	81	81	79	77	73	71	71	75	79	80	77
Humidity at 6:00 %	95	95	95	94	94	94	92	91	90	91	93	94	94
Humidity at 13:00 %	75	76	73	70	68	67	63	61	61	64	68	72	68
Mean pressure (mb)	1010	1010	1010	1009	1009	1010	1010	1010	1010	1010	1010	1009	1010

## 1-2. Sea Conditions

### 1-2-1. Description of Sea near Jakarta City

The Java Sea is shallow, its average depth of water is less than 60 m, and it is known as the "Calm Sea". There are ocean currents and waves developed by the monsoon, but they are weak here.

The sea water temperature, all at around in Java Sea, is nearly 28°C all year round. Therefore it is never foggy in the sea.

Speaking of the tide, the diurnal inequality is great, and the tidal range at Tanjung Priok in Jakarta City is about 1 meter.

The coast line along Jakarta City forms a bay and its cape interrupts the waves coming from the east, so that the sea becomes rough in the rainy season, when the north-west monsoon blows. (See Appended Fig. 2)

### 1-2-2. Tide

The diurnal tide inequality is very great in the northern coast of Java Island. The tide usually rises once a day, but sometimes twice a day when the moon is situated at the equator.

The tidal range is great when the moon is far from the equator and is small when it is close.

The type of tide varies to a great extent with the place. When the tide flows twice a day near Jakarta, the higher high water comes first and then lower low water. The seasonal change of the mean sea level is very small.

The harmonic constant of tide at Tanjung Priok Port is shown in Appended Table-6, and the unharmonic constant in Appended Table-7.

Appended Table-6 Harmonic Constant Tanjung Priok (S6°06, 'E106°52')

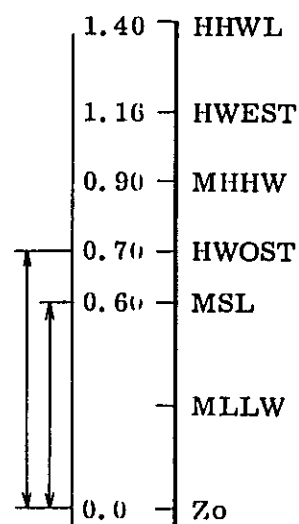
	M <sub>2</sub>	S <sub>2</sub>	K <sub>1</sub>	O <sub>1</sub>	P <sub>1</sub>	MSL
Delayed angle	351°	296°	144°	124°	143°	-
Tide height	0.05m	0.05m	0.25m	0.13m	0.08m	0.60m
Tide period	about half a day	half a day	about one day	about one day	about one day	-

Appended Table-7 Unharmonic Constant

Mean heights of higher high-water	0.9 m
Mean heights of lower low-water	0.3 m
Mean intervals of high-water	10 <sup>h</sup> 00 <sup>m</sup> (with respect to tropic tide)
Mean intervals of low-water	20 <sup>h</sup> 30 <sup>m</sup> ( " )

(Note)

Spring rise	0.7 m
Neap rise	0.6 m
Highest water level	1.16 m
Recorded highest tidal wave level	1.40 m



1 Spring rise

2 Neap rise

Tide pole chart

### 1-2-3. Ocean Current and Tidal Current

The ocean current around Jakarta is mainly developed by the monsoon. In the period from May to September, the current from the west side of the island prevails. From November to March the current from the east side does. April and October are the month of transition.

The mean speeds of western and eastern currents are almost the same, and the highest velocity record is 0.5 kt. The tidal current in the ocean is generally weak, and only strengthens or weakens the oceanic current.

### 1-2-4. Waves

Since data directly from wave observation around Jakarta was unavailable, the height of waves was calculated from the wind by using the S.M.B method. The data of offshore wind is desirable, because it is not influenced by the land and sea breeze. Therefore the record of the wind observed for four years (1967 - 1970) on Bawean Island ( $E112.6^{\circ}$ ,  $S4.1^{\circ}$ ) (See Appended Figure-1), situated in the middle of the Java Sea, has been used. (The observing time 7, 10, 13, 16, 19 o'clock)

The highest wave in a day, calculated from the above data and classified according to the month and the wave direction, is shown in Appended Table-8.

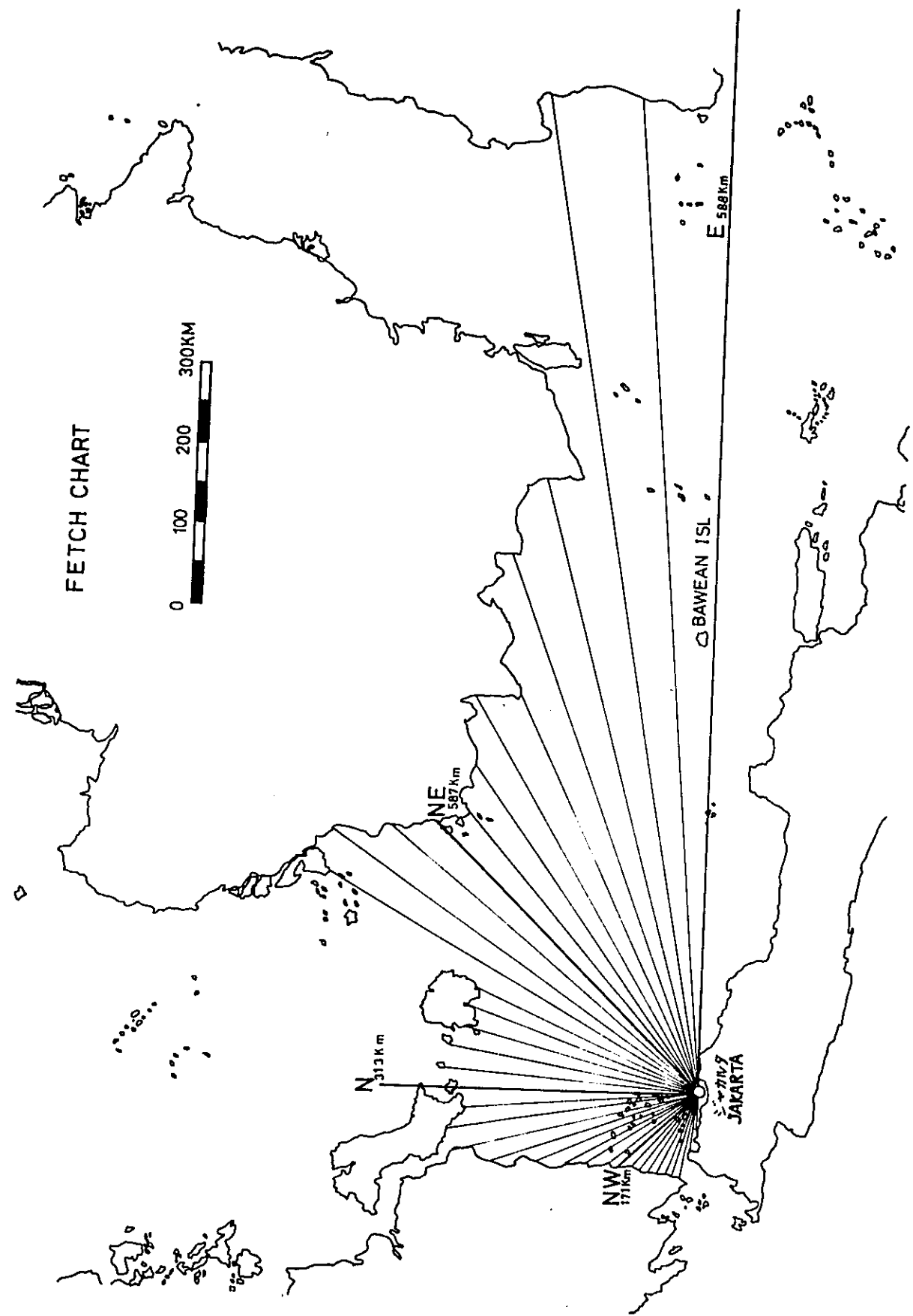
It is indicated in this table that the waves from the NW direction (the north west) develop in the rainy season and those from E direction (the east) in the dry season. The highest wave recorded is 2.3 m for NW waves and 2.8 m for E waves. In Jakarta, however, the sea in the dry season is calm, because the waves from E direction (the east) are stopped by the cape in the east. Waves developing offshore are refracted as they run closer to the coast line, (shown in Appended Figure-2), which reduces the wave height. The distribution of wave height and direction around the fishing port entrance (the depth

of water is -5 m) is shown in Appended Table-9 and Appended Figure-3. The highest at this point was calculated to be a NW wave on March 3, 1967, with a height of 1.3 m, and a period of 7.3 sec.

1-2-5. Other Oceanographic Items

Since the sea, observed in this survey, is so muddy and dark brown in color to a depth of about 4 m, flowing east, it is estimated that there are many sand drifts even at this depth. Striking storm surges are not recorded.

Appended Figure-1



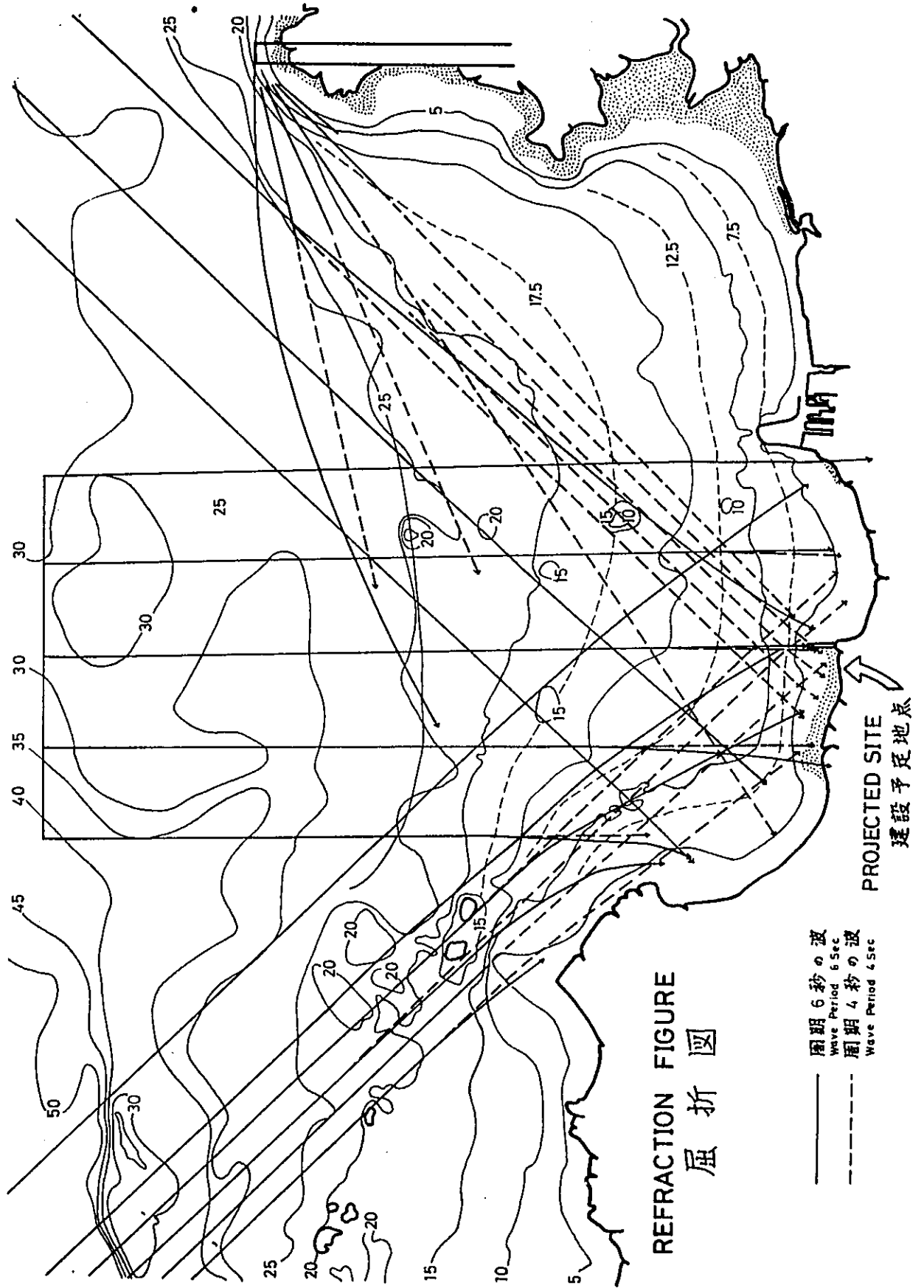


Appended Table-8 Occurred Days of Daily Highest Wave in the Sea near Jakarta, Classified in Terms of Wave Height (the average from 1967 to 1970)#

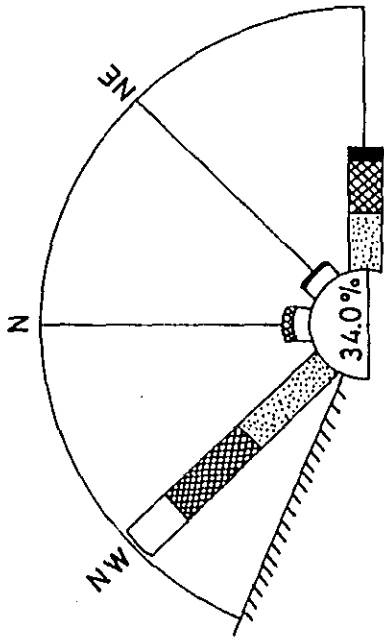
Wave direction	NW							N					NE					N					Wavy day			
Wave height	Calmness +	0.5 m	1.0	1.5	2.0	2.5	Total	0.5	1.0	1.5	2.0	2.5	Total	0.5	1.0	1.5	2.0	2.5	Total	0.5	1.0	1.5	2.0	2.5	Total	Wavy day
Month	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day
January	9.4	5.1	9.2	4.0	0.3	-	(18.6)	0.5	0.3	-	-	-	(0.8)	0.5	-	-	-	-	(0.5)	0.8	0.8	-	-	-	(1.6)	21.5
February	6.8	7.2	7.7	4.0	2.0	0.2	(21.2)	-	-	-	-	-	(0.0)	0.2	-	-	-	-	(0.2)	-	-	-	-	-	(0.0)	21.4
March	12.8	7.3	2.2	0.8	0.5	0.2*	(11.0)	1.3	-	-	-	-	(1.3)	1.0	-	-	-	-	(1.0)	3.2	1.5	0.3	-	-	(5.0)	18.3
April	4.3	2.0	1.0	0.2	-	-	(3.2)	-	0.3	-	-	-	(0.3)	2.7	0.5	-	-	-	(3.2)	6.8	8.7	3.5	-	-	(19.0)	25.7
May	7.3	3.0	1.0	-	-	-	(4.0)	0.7	-	-	-	-	(0.7)	0.7	1.3	0.7	-	-	(2.7)	2.3	6.3	7.0	0.7	-	(16.3)	23.7
June	4.3	-	-	-	-	-	(0.0)	-	0.3	-	-	-	(0.3)	1.3	-	-	-	-	(1.3)	5.7	8.0	9.0	1.3	-	(24.0)	25.6
July	2.5	0.5	-	-	-	-	(0.5)	-	-	-	-	-	(0.0)	0.3	0.2	-	-	-	(0.5)	3.8	8.7	12.8	2.2	-	(27.5)	28.5
August	2.8	-	-	-	-	-	(0.0)	-	-	-	-	-	(0.0)	-	-	-	-	-	(0.0)	4.2	8.8	14.2	1.0	-	(28.2)	28.2
September	2.2	0.3	-	-	-	-	(0.3)	-	-	-	-	-	(0.0)	0.2	-	-	-	-	(0.2)	6.3	9.7	9.8	1.5	-	(27.3)	27.8
October	6.5	-	-	-	-	-	(0.0)	-	-	-	-	-	(0.0)	0.5	-	-	-	-	(0.5)	8.5	8.0	5.0	2.0	0.5**	(24.0)	24.5
November	16.7	4.7	2.0	-	0.3	-	(7.0)	0.7	0.3	-	-	-	(1.0)	0.7	-	-	-	-	(0.7)	2.7	1.7	-	0.3	-	(4.7)	13.4
December	12.0	4.8	5.5	1.0	-	-	(11.3)	0.7	0.8	-	-	-	(1.5)	-	-	-	-	-	(0.0)	4.7	1.3	0.2	-	-	(6.2)	19.0
Annual total	87.6	34.9	28.6	10.0	3.1	0.4	(77.0)	3.9	2.0	-	-	-	(5.9)	8.1	2.0	0.7	-	-	(10.8)	49.0	63.5	61.8	9.0	0.5	(183.8)	277.5
Mean wave period (Sec)		3.1	4.2	5.4	6.5	7.2		3.1	4.2	5.4	6.5	7.2		3.1	4.2	5.4	6.5	7.2		3.1	4.2	5.4	6.5	7.2		
Refraction coefficient ***		0.76	0.70	0.64	0.58	0.54		0.97	0.96	0.94	0.92	0.91		1.00	0.93	0.84	0.75	0.70		0.02	0.02	0.02	0.02	0.02		

- (Note) # The deep sea wave height is calculated by using four year's record of wind on Bawean Island.  
+ Calmness is less than 0.18 m of wave height.  
\* The highest wave is 2.3 m.  
\*\* The highest wave is 2.8 m.  
\*\*\* Refraction coefficient is the value at the point -5 m in the projected site of fishing port.

Appended Figure-2

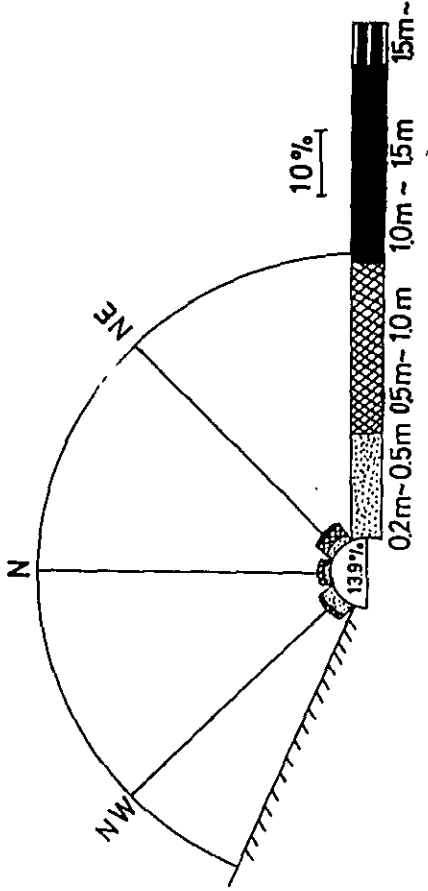


Appended Figure-3



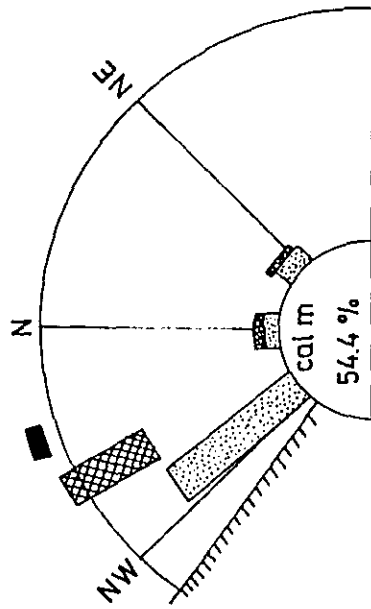
Wave Hight at Offshore

November ~ April



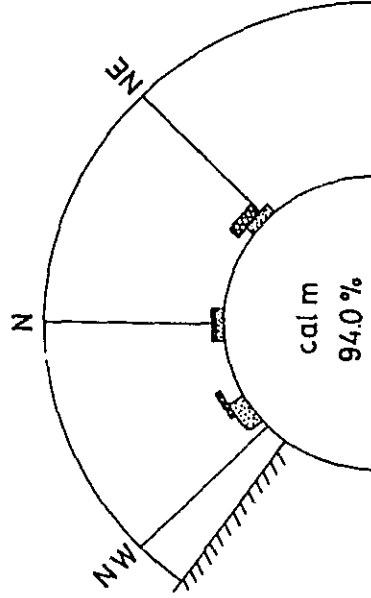
Wave Hight at Offshore

May ~ October



Wave Hight at Port Entrance

November ~ April



Wave Hight at Port Entrance

May ~ October

Appended Table-9 Occurred Days of Daily Highest Wave at a Water Depth of -5 m, Classified by Wave Height (yearly average 1967-1970)

Wave direction		EW				N				NE				E				All directions				
Wave height	Calm-ness	0.5 ≥	1.0 ≥	1.5 ≥	Total	0.5 ≥	1.0 ≥	1.5 ≥	Total	0.5 ≥	1.0 ≥	1.5 ≥	Total	0.5 ≥	1.0 ≥	1.5 ≥	Total	0.5 ≥	1.0 ≥	1.5 ≥	Total	
	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day	day
January	11.0	8.5	9.7	0.4	(18.6)	1.5	0.3	-	(0.8)	0.5	-	-	(0.5)	-	-	-	(0.0)	9.5	10.0	0.4	(19.9)	
February	6.8	10.1	8.7	2.3	(21.1)	-	-	-	(0.0)	0.2	-	-	(0.2)	-	-	-	(0.0)	10.3	8.7	2.3	(21.3)	
March	17.8	8.1	2.2	0.7	(11.0)	1.3	-	-	(1.3)	1.0	-	-	(1.0)	-	-	-	(0.0)	10.4	2.2	0.7	(13.3)	
April	23.3	2.4	0.8	-	(3.2)	-	0.3	-	(0.3)	2.8	0.4	-	(3.2)	-	-	-	(0.0)	5.2	1.5	-	(6.7)	
May	23.6	3.4	0.6	-	(4.0)	0.7	-	-	(0.7)	1.0	1.0	0.7	(2.7)	-	-	-	(0.0)	5.1	1.6	0.7	(7.4)	
June	28.3	-	-	-	(0.0)	-	0.3	-	(0.3)	1.3	-	-	(1.3)	-	-	-	(0.0)	1.3	0.3	-	(1.6)	
July	30.0	0.5	-	-	(0.5)	-	-	-	(0.0)	0.3	0.2	-	(0.5)	-	-	-	(0.0)	0.8	0.2	-	(1.0)	
August	31.0	-	-	-	(0.0)	-	-	-	(0.0)	-	-	-	(0.0)	-	-	-	(0.0)	-	-	-	(0.0)	
September	29.5	0.3	-	-	(0.3)	-	-	-	(0.0)	0.2	-	-	(0.2)	-	-	-	(0.0)	0.5	-	-	(0.5)	
October	30.5	-	-	-	(7.0)	-	-	-	(0.0)	0.5	-	-	(0.5)	-	-	-	(0.0)	0.5	-	-	(0.5)	
November	21.4	5.4	1.3	0.3	(0.0)	0.7	0.3	-	(1.0)	0.7	-	-	(0.7)	-	-	-	(0.0)	6.8	1.6	0.3	(8.7)	
December	18.2	6.9	4.4	-	(11.3)	0.8	0.7	-	(1.5)	-	-	-	(0.0)	-	-	-	(0.0)	7.7	5.1	-	(12.8)	
Total	271.4	45.6	27.7	3.7	(77.0)	4.0	1.9	-	(5.9)	8.5	1.6	0.7	(10.8)	-	-	-	(0.0)	58.1	31.2	4.4	(93.7)	

### 1-3. Geological Conditions

#### 1-3-1. Geographical Features near the Projected Site of Jakarta Fishing Port/Market

The projected site is the west part contiguous to the waterway leading to Pasar Ikan Port. A 7 m wide road surfaced with asphalt has been constructed along the coast line of projected site. On the land side of the road, ponds for fish farming and for flood control are provided. On the sea side, a rugged, dried shore about 30 m wide separates the road from the shore line. As shown in Appended Figure 4, the depth of the sea bottom is increasing with a gentle slope of 1/300, and becomes -5 m at about 1,700 m offshore.

#### 1-3-2. Nature of Soil

A boring and sounding survey at the projected site has not been made. Besides, since the sea was so rough that the soil survey of the sea bottom couldn't be made during the allotted surveying days, the nature of soil at the projected port site is to be estimated from the data of the soil samples from areas near the projected site.

The points near the site where the soil was surveyed are shown in Appended Figure-5. The results of the field penetration test are shown in Appended Figure-6. The chart of soil profile is in Appended Figure-7.

This data showed that the hard supporting strata, which indicated a cone bearing capacity of more than 100 kg/cm<sup>2</sup>, exists at -33 m at Point B, at -2.3 m at Point C and at -21 m at Point D. Therefore the depth of supporting stratum at the projected port site is estimated, from the above mentioned sloping strata, to be -35 m or -40 m.

The cone bearing capacity from the surface of the sea to the depth of -10 m is estimated to be 4 kg/cm<sup>2</sup> on the average.

1-4. Natural Conditions Used for the Project

The natural conditions used for the Jakarta Port Development Project, based on these mentioned data, are listed in Appended Table-10 as follows.

Appended Table-10

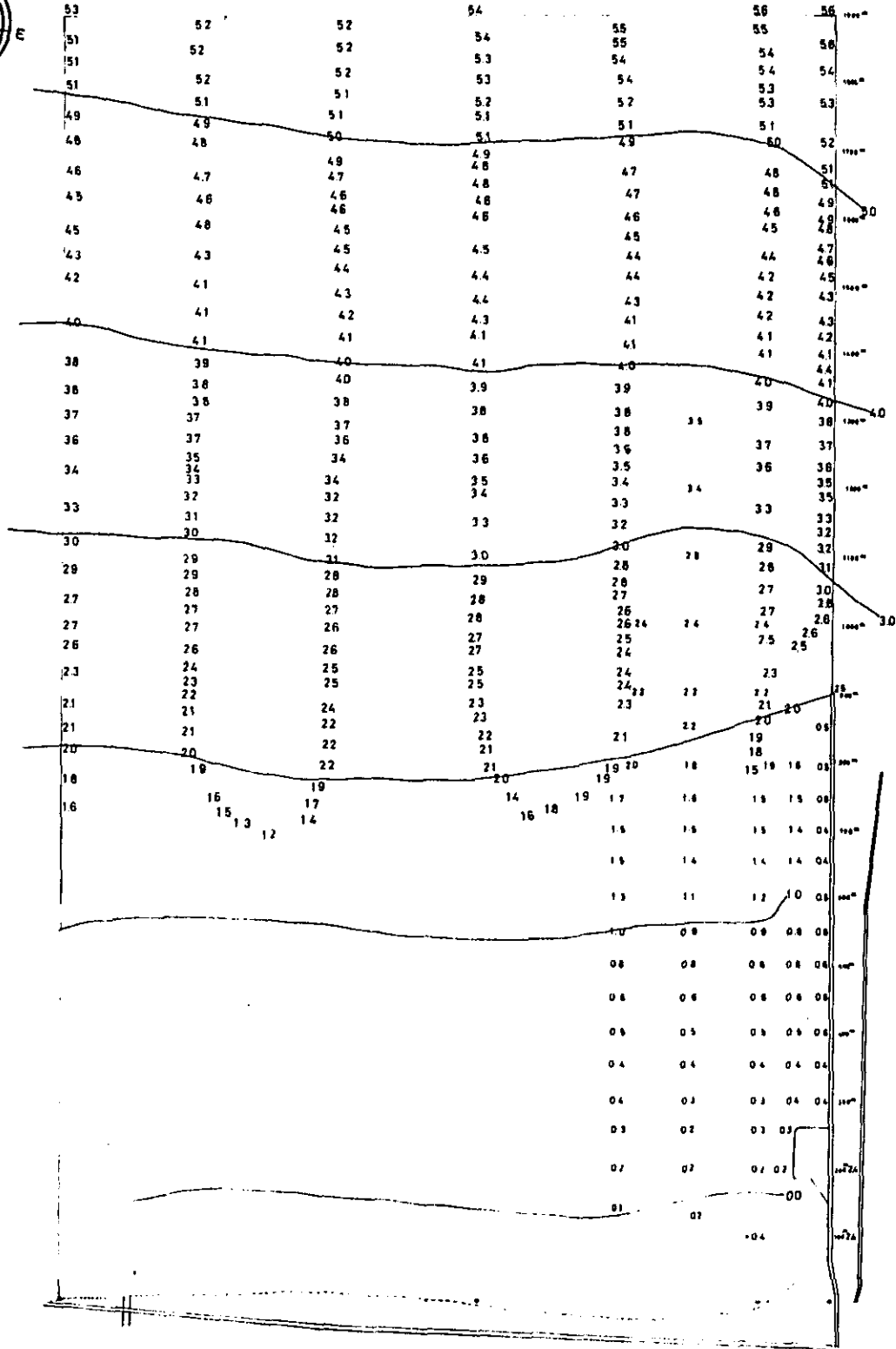
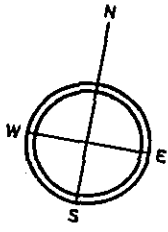
Dimensions of Natural Conditions Used for Jakarta Fishing Port Project

	Dimension	Explanation
Wave	NW wave $H_{1/3}=1.3M$ $T=7.3$ sec  N wave $H_{1/3}=1.0M$ $T=4.4$ sec  NW wave $H_{1/3}=1. M$ $T=5.5$ sec	The design wave height was multiplied the deep sea wave height by the refraction coefficient at $-5M$ .
Tide	Designated high water level $HWL=1.16M$	$M. S. L. +M_2+S_2+K_1+O_1+P_1=1.16M$ The diurnal inequality is great and the tide usually floods once a day.
Tidal current and oceanic current	-----	Considered to influence the transport of the sand drift but not the operation of fishing boats.
Littoral drift	Quantity of Littoral drift not known  Main direction of transition $W \longrightarrow E$	Considered in setting the breakwater.
Wind	The highest velocity of wind about $10m/sec$	Considered not to interfere with navigation of motorized fishing boats in and out the port.
Nature of the Ground	Soft foundation (No measured value)	Estimated and used, based on the survey data of the surrounding lands. The cone bearing capacity of clay soil is estimated to be $q_c=4$ kg/cm <sup>2</sup> .
Earthquake	None	The earthquake which can be felt to occur but not enough to be considered in the planning.
The lay of the land	Slope of the sea bed  $1/300$	Uniform slope of $1/300$ to the point of about 2 km on the sea from the coast line. (See Appended Figure-4)

Appended Figure-4

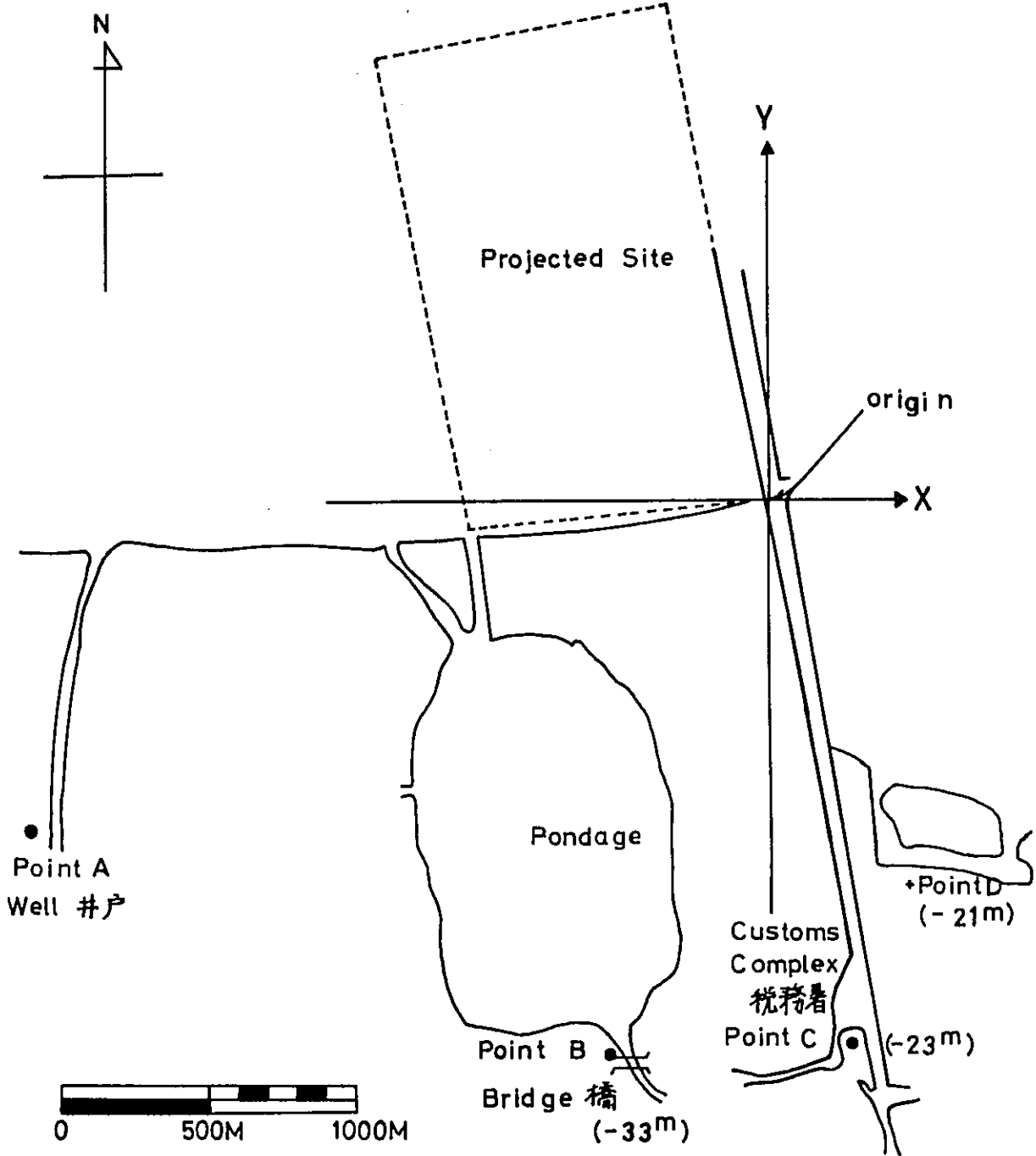
### CHART OF PROJECTED SITE

SOUNDINGS IN METERS  
Below Low Water Springs



Appended Figure-5

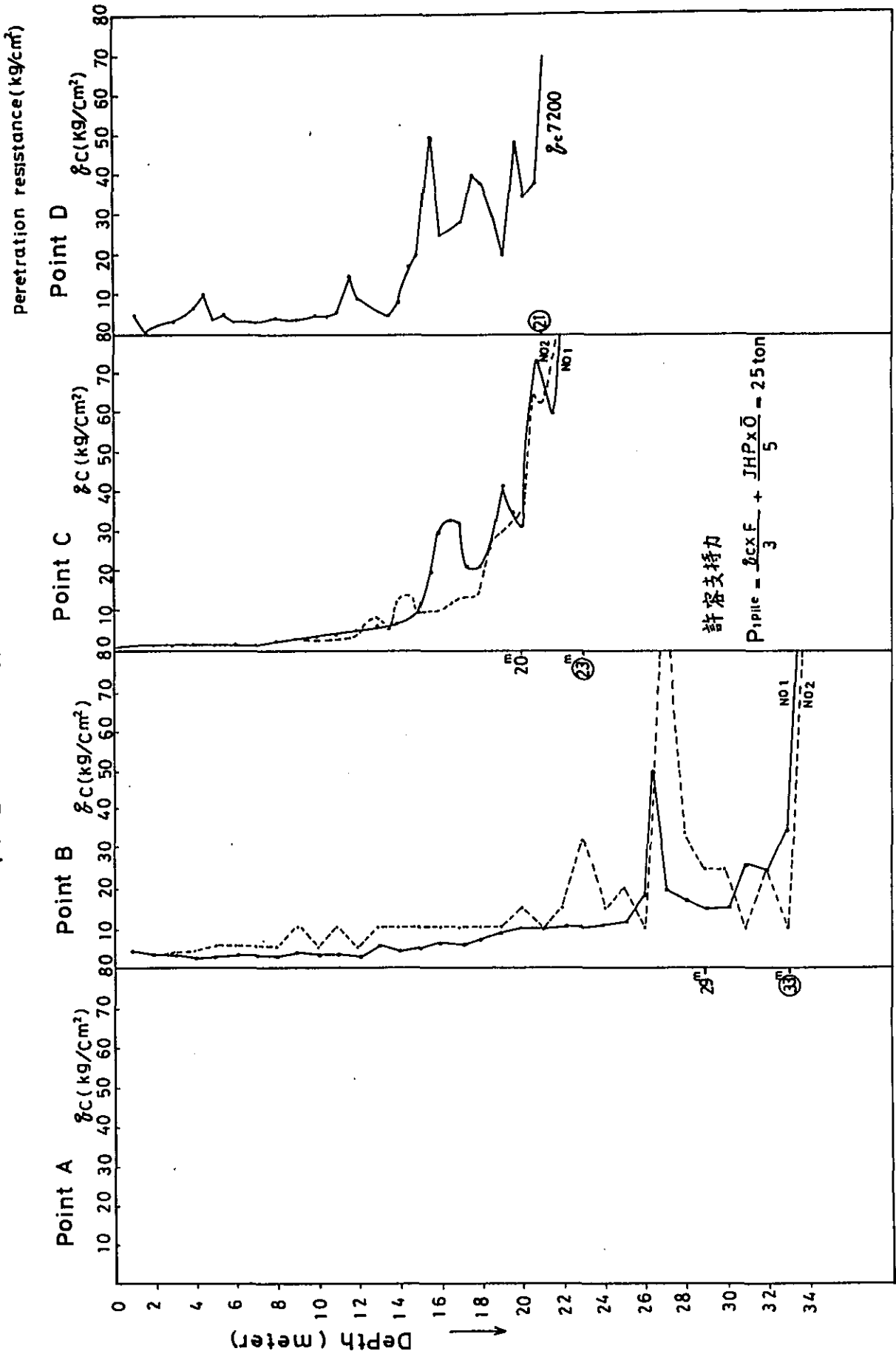
### POSITON OF SOIL SURVEY





Appended Figure-6

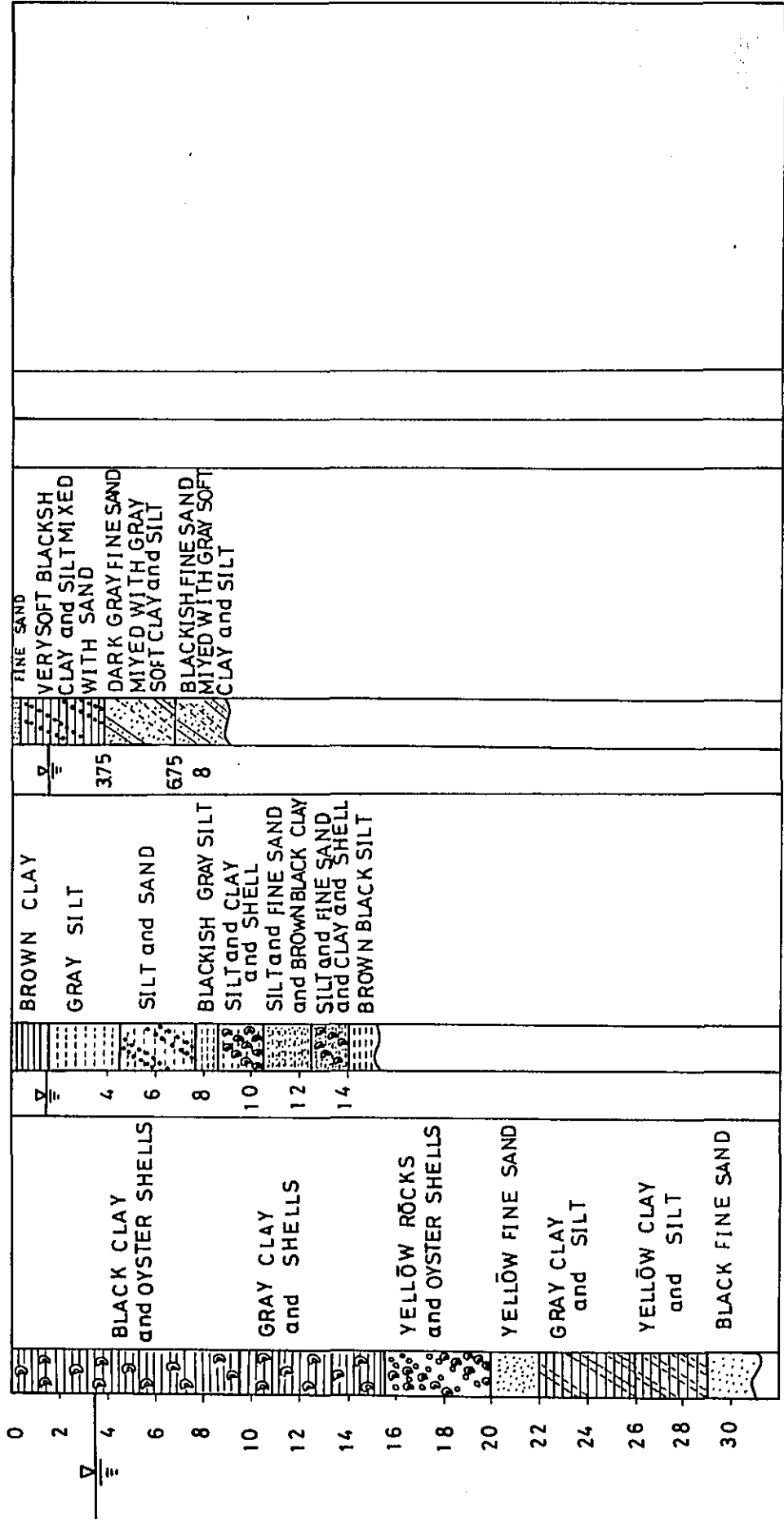
FIELD PENETRATION TEST



Attended Figure-7

# Soil Profile

Point A Point B Point C Point D



2. Data for Estimation of Capacity required for the Basic and Functional Facilities of the Fishing Port/Market

2-1. Calculation of the Length of Mooring Facilities in Jakarta Fishing Port

In calculating the required length of the mooring facilities in the fishing port, the number of boats utilizing the port, divided by class and type of boat should, of course, be made clear beforehand. Moreover, the form of use of the port of each fishing boats should be known accurately. For example, the length of the mooring facilities becomes different depending on whether the port is to be used only for unloading fishery products or for a series of activities, namely, unloading, outfitting and idle berthing. Even when only unloading is considered, it varies with the kind of fish to be unloaded, the method of unloading and the way of sorting.

The pattern of usage by fishing boats differs depending on the character of the port. Therefore it is most proper and appropriate way to study how fishing boats utilize, or should utilize, the fishing port, in an actual setting.

So we surveyed Pasar Ikan, the most important fishery base in Jakarta City at present. The port is utilized both for domestic trade and as a fishing port. Facilities are insufficient, old and small, therefore, merchant ships, sailing vessels for trade and fishing boats are using the port simultaneously. For this reason, the port is congested and confused. This shows that collection of the data necessary for designing the new port is almost impossible because conditions of utilization are restricted. For example, entry or departure of boats is frequently forbidden because of jam in the port and delays in unloading work is common on account of extreme lacks both in quantity and quality of the necessary facilities.

In practice, we could not obtain the appropriate data, and it is improper to use the extremely distorted present situation as data without any modification. Therefore, in calculating the length of the mooring facilities in Jakarta fishing port, we decided this time to calculate on the basis of

the fundamental figures and planning method generally used in Japan, taking the present situation in Indonesia into consideration.

The result of the calculation is shown in Tables 20 and 21 in the text. The reference, basic figures used in calculation, intermediate processes and the results of calculation will be described in the following.

1. Estimates of Yearly Averages of Number of Fishing Days, Number of Fishing Trips, and Tonnage of Fish Catch

As in appended Tables 11 and 12, we calculate from the statistical data the average yearly fish catch and number of trips of Japanese fishing boats of the same class as those of the Jakarta Fishing Port development project.

Next from appended Tables 11 and 12, we calculated the modified values for the spot as in appended Table 13, referring to the results of investigation in Indonesia, and determined the fundamental figures used in the Jakarta Fishing Port development project.

Appended Table 11 Calculation of Number of Fishing Days and Number of Fishing Trips

Type of Fisheries	Classification	1967		1968		1969		1970		1971		Average		Days per Trip
		Days	No. of Trips	Days	No. of Trips	Days	No. of Trips	Days	No. of Trips	Days	No. of Trips	Days	No. of Trips	
Hand Hook Long Line	Non-Powered	96	107	87	94	63	65	69	69	96	96	82	86	1.0
		139	145	133	138	118	122	147	156	146	151	137	140	
Gillnet, Lift Net	1-3	150	155	167	176	161	170	171	188	168	179	163	168	1.0
		150	153	175	192	162	168	173	185	176	179	167	172	
" "	3-5	185	186	161	166	157	156	165	164	156	160	165	166	1.0
		276	145	334	135	317	150	246	162	298	151	294	149	
Muro-Ami	10-30	218	107	232	115	230	107	212	98	232	111	225	108	2.0
		244	6	220	5	207	4	228	5	233	4	226	5	
Purse Seine	10-30	244	6	220	5	207	4	228	5	233	4	226	5	2.1
		244	6	220	5	207	4	228	5	233	4	226	5	
Tuna Long Line	50-100	244	6	220	5	207	4	228	5	233	4	226	5	45.2
		244	6	220	5	207	4	228	5	233	4	226	5	

Note: The figures are based on the average of fishing unit in the Annual Report of the Fisheries Economic Survey in Japan for five years from 1967 to 1971.

Appended Table 12 Calculation of Yearly Fish Catch per Boat

Type of Fisheries	Classification t	1967	1968	1969	1970	1971	Average	Fishing Days in Japan
Hand Hook Long Line	Non-Powered	1.12	0.63	0.31	0.27	1.46	0.8	82
	0-1	2.80	2.51	2.02	2.24	2.61	2.4	137
Gillnet, Lift Net	1-3	9.19	6.83	9.22	8.99	7.38	8.3	163
	3-5	29.46	31.19	19.72	34.92	30.17	29.1	167
	5-10	48.30	69.71	66.68	79.98	121.71	77.3	165
Muro-ami	10-30						*18.7	
Purse Seine	10-30	606.4	613.8	816.0	670.6	566.3	654.6	294
Trawl	10-30	97.4	84.1	69.9	81.3	68.0	97.0	225
Tuna Long Line	50-100	134.6	116.3	119.8	126.1	131.0	125.6	226

Note: 1. The figures are based on the average of fishing unit in the Annual Report of Fisheries Economic Survey in Japan for five years from 1967 to 1971.

2. \* is an average of gillnets and lift nets (1-3t class) (3-5t class):  
 (8.3 + 29.1) / 2 = 18.7 tons  
 (This figures is used for Muro-Ami because of the lack of actual figures of Muro-Ami.)

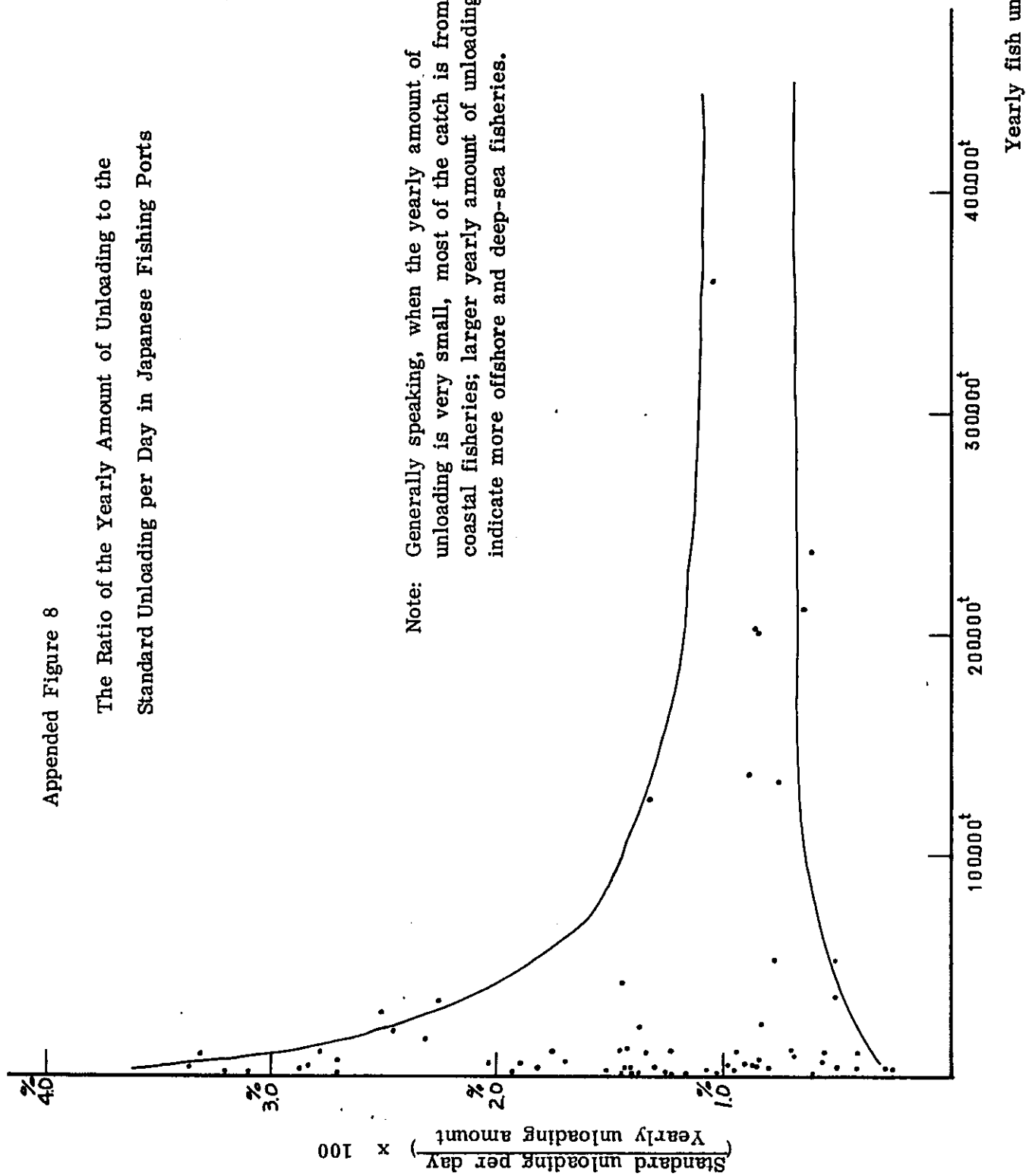
2. Calculation of the Standard Number of Fishing Boats using the Port and Standard Unloading

The average amount of unloading per day can be calculated from the appended Tables 11, 12 and 13. However, to keep freshness of the handled goods is of the first priority in fishing ports, since it is usual that the unloaded amount in the fishing season is adopted as the standard unloaded amount used for the plan. Then, the calculated amount of facilities based on the standard will be expected to bring little congestion on fish handling in fishing season.

Here, as in appended Table 14, the standard coefficient is determined from the present data of Japanese fishing ports (appended Figure 8), and the standard unloaded amount and the standard number of fishing boats using the port are calculated by using of the coefficient. Appended Table 15 has the required quay length obtained from appended Table 14.

Appended Figure 8

The Ratio of the Yearly Amount of Unloading to the Standard Unloading per Day in Japanese Fishing Ports





Appended Table 13 Calculation of Number of Fishing Boats and Fish Catch for Jakarta Fishing Port Planning

Types of Fisheries	Classification	Estimated No.	Yearly Fishing Days and No. of Trips			Yearly Fish Catch per Boat	Yearly Fish Catch Calculation		Calculation of Utilizing Fishing Boat per Day		Calculation of Fish Catch per Day		Fishing Days and No. of Trips		Yearly Fish Catch per Boat	Yearly Fish Catch per Day	Utilizing Fishing Boats per Day	Fish Catch per Day
			Fishing Days	No. of Trips	D=B/C		Fish Catch	Formula for Calculation	Utilizing fishing boat	Formula for Calculation	Fish Catch	Formula for Calculation	Days	No. of Trips				
		A	B	C	D	(tons) E	(tons) F	F=A x E	G	$G = \frac{A \times C}{365}$	(tons) H	$H = \frac{E \times G}{C}$	I	J	K	L	M	N
Hand Hook Long Line	Non-Powered	-	82	86	1.0	0.8												
"	0-1 t	530	137	140	1.0	2.4	1,272	530x2.4=1272	203	530x140÷365	3.48	2.4÷140x203	300	300	5.2	2,756	436	7.6
Gillnet, Lift Net	1-3	-	163	168	1.0	8.3												
"	3-5	504	167	172	1.0	29.1	14,666	504 x 29.1 = 14,666	238	504x172÷365	40.25	29.1÷172x238	200	200	33.0	16,632	277	45.6
"	5-10	154	165	166	1.0	77.3	11,904	154 x 77.3 = 11,904	70	154x166÷365	32.59	77.3÷166x70	200	200	90.0	13,860	85	38.0
Purse Seine	10-30	20	294	149	2.0	654.6	13,092	20 x 654.6 = 13,092	8	20x149÷365	35.15	654.6÷149x8	250	75	278.3	5,566	4	15.2
Trawl	10-30	88	225	108	2.1	97.0	8,536	88 x 97.0 = 8,536	13	44x108÷365	11.68	9.7÷108x13	300	110	129.3	11,378	27	31.2
Muro-Ami	10-30	18	165	170	1.0	18.7	337	18 x 18.7 = 337	8	18x170÷365	0.88	18.7÷170x8	250	250	28.3	509	12	1.4
Skipjack Pole and Line	10-30	-	178	92	1.9	78.5												
Tuna Long Line	50-100		226	5	45.2	125.6		6 x 125.6 = 754	0.08	6x5÷365	2.01	125.6÷5x0.08	300	7.5	166.7	1,000	0.12	2.67

(Note)

- The figures are based on the average of fishing unit in the Annual Report of Fisheries Economic Survey in Japan for five years from 1967 to 1971.
- For handhook and long line, 'Hand Hook and Long Line Fisheries' of part of 'Fisheries' is used in the report; for gillnet and lift net, 'Net Fisheries' of the same part (except trawl); for purse seine, 'Purse Seine of One Boat Operation' of the part on 'Enterprises'; for trawl, 'Off-Shore Trawl of One Boat Operation'; for muro-ami, average of 1 - 3 t, 3 - 5 t of 'Gillnet and Lift Net'.
- Column D is yearly number of fishing days divided by yearly number of trips and shows trip days per boat per trip.
- Column F: the formula is no. of fishing boat x yearly fish catch per ship.
- Column G: the formula is no. of ships x no. of trips ÷ 365.
- Column H: yearly fish catch ÷ no. of trips x utilizing fishing boats per day.
- Column I is filled with data collected in Indonesia. For tuna long line, data are values from the report by the fisheries advisory team of the Government of Indonesia.
- 'No. of trips' in column J were decided from the present situation of fisheries in Indonesia and data of Fisheries Economic Survey in Japan.
- Column K is obtained as follows:  
Trip days (Japan): fish catch (Japan) = trip days (Indonesia): x where x is yearly fish catch per boat in column K.
- Column L: No. of fishing boats x yearly fish catch per year.
- Column M: No. of fishing boats x no. of trips ÷ 365
- Column N: fish catch per boat ÷ No. of trips x utilizing fishing boats.

Appended Table 14 Calculation of Number of Fishing Boats and Fish Carriers and Amount of Fish Unloading in Jakarta Fishing Port in 1983

Type of Fisheries		1	2	3	4	5	6 = 5 x 3	7 = 5 x 4	Foundation of Calculation of Total No. of Utilizing Fishing Boats
		No. of Utilizing Fishing Boats	Yearly Fish Unloading	Average No. of Utilizing Boats/day	Average Unloading/day	Standard Coefficient	Standard No. of Utilizing Boats/day	Standard Unloading/day	
Hand Hook, Long Line	Non-Powered (0 - 1)	-	-	-	-	1.1	-	-	It is supposed that non-powered boats will utilize the existing fishing bases in and around Jakarta City, then they are not taken into consideration here.
"	0 - 1	530	2,756	436	7.6	1.1	480	8.4	
Gillnet, Lift Net	1 - 3	-	-	-	-	1.3	-	-	
"	3 - 5	504	16,632	277	45.6	1.3	361	59.3	
"	5 - 10	154	13,860	85	38.0	1.3	111	49.4	
Muro-Ami	10 - 30	18	509	12	1.4	1.3	16	1.8	
Purse Seine	"	20	5,566	4	15.2	2.0	8	30.4	
Trawl	"	88	11,378	27	31.2	2.0	54	62.4	
Sub-Total (Coastal Small Size)		1,314	50,701	841	139.0		1,030	211.7	
Tuna Long Line, Skipjack Pole and Line, Trawl, Purse Seine, etc.	50 - 100t	10	1,200	0.3	3.3	2.7	0.81	8.9	One trip 30 days
	100 - 200t	5	1,275	0.07	3.5	2.7	0.19	9.5	One trip 60 days
	200 - 300t	1	308	0.01	0.8	2.7	0.03	2.2	One trip 90 days
Sub-Total (Offshore and Deep-Sea)		16	2,783	0.4	7.6		2.0	20.6	
Fresh Fish Carrier	30 t	21	20,000	3	54.8	2.5	(7.5) 8.0	137.0	One trip 7 days
Sub-Total (Fresh Fish Carrier)		1,351	73,484	844.4	201.4		1,040	369.3	
Salted and Dried Fish Carrier	40 t	7	9,000	1	24.7	2.5	3.0	61.8	One trip 7 days
	100 t	10	21,000	1	57.5	2.5	3.0	143.8	One trip 10 days
Sub-Total (Salted and Dried Fish Carrier)		17	30,000	2	82.2		6.0	205.6	
Grand Total		1,368	103,484	846.4	283.6		1,046	574.9	

(Note) (1)\* To calculate the Length of mooring facilities, the application of queuing theory, Monte Carlo Method, etc. is practical, however, there are many uncertain factors in the types of fishing boat and fishing operation in these classes, therefore, we decided to calculate it by using the turnover method referring to deep-sea fishing bases in Japan.

(2) Sea fish catch amount in the target year (1983), shown in Table 15, was decided on the following basis:

(Sum of tonnage of small coastal fishing boats) + (sum of tonnage of offshore and deep sea fishing boats) = 53,484<sup>t</sup>  $\approx$  53,200.

(3) The above total of unloading amount by offshore and deep sea fishing boat was taken as the average for the various kinds of the fishery, on reference to several data.

Appended Table 15. Calculation of Required Length of Mooring Facilities in 1983

Type of Fisheries	Average Boat Tonnage	Unloading Facilities						Outfitting Facilities						Idle Berthing Facilities						Total Length of Mooring Facilities
		①	②	③	④	⑤ = ④/③	⑥ = ②x⑤	①	②	③	④	⑤ = ④x③	⑥ = ②x⑤	①	②	③	④	⑤ = ④/③	⑥ = ②x⑤	
		Type of Mooring	Required Width for Mooring	Times of Rotations	Standard No. of Utilizing Boats	No. of Berths Req'd	Length of Mooring Facilities	Type of Mooring	Required Width for Mooring	Times of Rotations	Standard No. of Utilizing Boats	No. of Berths Req'd	Length of Mooring Facilities	Type of Mooring	Required Width for Mooring	Times of Rotations	Standard No. of Utilizing Boats	No. of Berths Req'd	Length of Mooring Facilities	
Hand Hook, Long Line (Non-Powered)	0-1	Vertical	2.4m	18	-	-	-m	Vertical	2.4	-	-	-	-	Vertical	2.4/2	1	-	-	* -	747m
"	0-1	"	2.4	18	480	27	65	"	2.4	-	-	-	"	"	1	480/2	480/2	** (576) 288		
Gillnet, Life Net	1-3	"	3.0	12	-	-	-	"	3.0	-	-	-	"	3.0/2	1	-	-	-		
"	3-5	"	3.7	12	361	31	115	"	3.7	-	-	-	"	3.7/2	1	361/2	361/2	** (668) 334		
"	5-10	"	4.5	12	111	10	145	"	4.5	-	-	-	"	4.5/2	1	111/2	111/2	** (250) 125		
Muro-Ami	10-30	Alongside	22.0	8	16	2	44	Alongside	22.0	12	16	2	44	"	5.5	1	1] 14	14	77	384
Purse Seine	"	"	20.7	4	8	2	42	"	20.7	9	8	1	21	"	5.5	1	2] 7	7	39	
Trawl	"	"	22.7	6	54	9	205	"	22.7	9	54	6	137	"	5.6	1	3] 48	48	268	
Sub-Total (Coastal Small Size)					1,030	81	516				78	9	202				545	545	1,131	
Tuna Long Line, Skipjack Pole and Line, Trawl, Purse Seine, etc.	50-100	"	31.3	1	2	2	95	"	31.3	2	1	1	51	"	7.1	1/5	2	2	19	
	100-200	"	44.0	0.5				"	44.0	1				"	8.8	1/7				
	200-300	"	50.3	0.3				"	50.3	0.5				"	9.5	1/7				
Sub-Total (Offshore and Deep-Sea)					1	2	95				1	1	51				2	2	19	
Fresh Fish Carrier	30t	"	23.0	2	8	4	92	"	23.0	6	8	2	46	"	5.5	1	8	8	44	
Salted, Dried Fish Carrier	40t	"	25.3	2	3	2	51	"	-	-	-	-	-	"	5.8	1	3	3	18	
"	100t	"	34.8	1	3	3	105	"	-	-	-	-	-	"	7.8	1	3	3	24	
Total (Salted and Dried Fish Carrier)					6	5	156				-	-	-				6	6	42	
Grand Total					1,046	92	859				87	12	299				561	561	1,236	2,394

(Note) \* Non-powered vessels are not taken into consideration for calculation on length of mooring facilities, because the vessels are presumed to use their home fishing villages.

\*\* Half of the fishing boats within 10t are regarded to return to their fishing villages for idle berthing.

1] 16 - 2 boats (utilization of outfitting quay)

2] 8 - 1 boats (utilization of outfitting quay)

3] 54 - 6 boats (utilization of outfitting quay)

The above results are showed in Table-20 and 21 of this treatise.

In addition, the increase in the amount of unloading during the fishing season is due to the combined effects of the following two factors:

1. Increase in the fish catch per boat, per trip
2. Increase in the number of fishing boats operating.

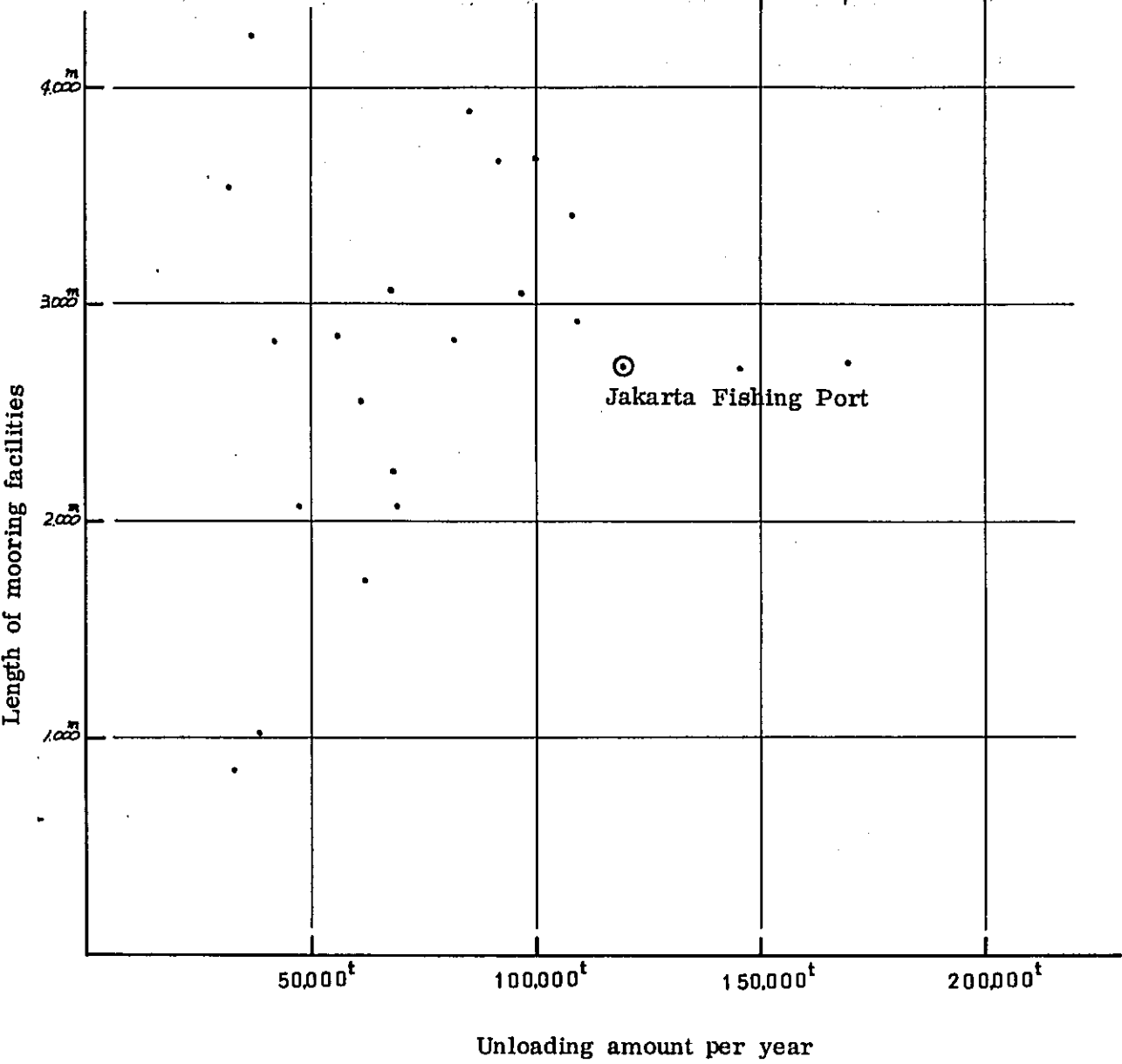
However, local data necessary to estimate how the fish catch per boat varies could not be obtained, so the amount of unloading has been calculated by assuming that the fish catch per boat does not vary even in fishing season and that the unloaded amount per day increases only because of the increased number of boats using the port.

To complement the data shortage, a calculation of the unloading quay length based on the unit length of quay and the amount of unloading handled per unit time has also been made to supplement the turnover method (the method of calculation based on amount of time of quay use per boat).

In this report, the length calculated by the turnover method is confirmed by the second method based possible unloading amount per unit quay length·unit hour.

In addition, in Attached Figure 9 the length of mooring facilities in the Jakarta fishing port is compared with that of main fishing ports in Japan. According to this data, the extension does not differ very much from that of Japanese fishing ports, so it can be considered appropriate. Also, the length and width occupied per boat, and the radius of turning (shown in Table 19 of the Report), are fundamental figures also determined and based on the same kind of thinking as described above.

Appended Figure 9 Comparison of Length of Mooring Facilities in Jakarta Fishing Port with those in Japanese Main Fishing Ports



2-2. Calculation of Required Amount of Main Functional Facilities

Since the data required in Indonesia was almost unavailable or unobtainable, required quantity of main functional facilities was calculated by referring to examples in Japan. Fundamental figures and calculation methods are shown in the appended Table 16.

Appended Table 16 Calculation of Required Capacity of Main Functional Facilities

Facilities	Capacities	Remarks
1. Unloading, Fish handling		
(1) Sheds	204 <sup>t</sup> (handling amt. in shed) ÷ 30 kg/m <sup>2</sup> ÷ 6,800 m <sup>2</sup>	Steel frame one-storied house
(2) Cargo handling machines	Belt conveyor (Type 5 - 10t) Nos: 34 680 m ÷ 20 m/set = 34 Fork lift truck Nos: 34 Weighing balance Nos: 34	
2. Wholesale		
(1) Wholesale market	334 t/day (Average dealing amt.) ÷ 100 kg/m <sup>2</sup> ÷ 3,350 m	Reinforced concrete
(2) Management office	Manager's office, offices for persons concerned in the market, telecommunication facilities, etc.	Built on the wholesale market building
(3) Parking place	300 cars x 20 m <sup>2</sup> = 6,000 m <sup>2</sup>	

Appended Table 16 (Cont'd)

Facilities	Capacities	Remarks
<p>3. Freezing, Storage</p> <p>(1) Cold storage</p>	<p>a) 334 t/day (average dealing amt.) x 4 days = 1,336t</p> <p>b) Fish for primary treatment 241<sup>t</sup> x 0.05 = 12<sup>t</sup> 12<sup>t</sup> x 30 days = 360<sup>t</sup></p> <p>c) Storage amt. of primary treatment 12<sup>t</sup> x 0.3 = 4<sup>t</sup> 4<sup>t</sup> x 4 days = 16<sup>t</sup></p> <p>a) + b) + c) = 1,700<sup>t</sup></p>	
<p>(2) Freezing</p>	<p>1,700<sup>t</sup> ÷ 60 days = 28<sup>t</sup>/day</p>	<p>Class F-30°C</p>
<p>4. Primary treat- ment</p>	<p>(1) Primary treat- ment house</p> <p>241<sup>t</sup> x 0.05 ÷ 12<sup>t</sup> Building: 1,500 m<sup>2</sup> Equipment for fillet: 1 set</p>	
<p>(2) Remnants treat- ment house</p>	<p>12<sup>t</sup> x 0.4 ÷ 5<sup>t</sup> Treatment amt.: 5<sup>t</sup>/hr.</p>	
<p>(3) Sewage treat- ment site</p>	<p>Treatment amt. of fish: 12<sup>t</sup>; Amt. of sewage: 100<sup>t</sup>/day</p>	<p>Screening tank and settling tank</p>
<p>5. Transportation</p>	<p>(1) Insulated car</p> <p>For receiving: 10t(Receiving amt. of fresh water fish) ÷ 6t/car ÷ 2 cars 37t(Receiving amt. of fresh marine fish) ÷ 6t/car ÷ 6 cars</p>	

Appended Table 16 (Cont'd)

Facilities	Capacities	Remarks																																								
(2) Parking place	For shipping: 239t(Shipping amt. of fresh fish) $\div 6t/car \doteq 40$ cars 87t(Shipping amt. of salted and dried fish) $\div 6t/car \doteq 15$ cars $63 \text{ cars} \times 50 \text{ m}^2 = 3,150 \text{ m}^2$																																									
6. Supplies for fishing boats																																										
(1) Ice	For fishing boats: $204^t \times 1.0 = 204^t$																																									
(2) Storage amt. of ice	For land: $239^t \times 0.5 = 119.5^t$ Total = $300^t$																																									
(3) Refueling facilities	$300^t \times 4 \text{ days} = 1,200^t$																																									
	<table border="1"> <thead> <tr> <th>Fishing boat classification</th> <th>Horse power</th> <th>Consumption/hr. HP</th> <th>Operation time</th> <th>No. of boat</th> </tr> </thead> <tbody> <tr> <td>0 - 5</td> <td>- 20<sup>HP</sup></td> <td>x 0.18</td> <td>x 8<sup>hr</sup></td> <td>x 713 = 20,534 l</td> </tr> <tr> <td>5 - 10</td> <td>- 60</td> <td>x 0.18</td> <td>x 16</td> <td>x 362 = 62,553</td> </tr> <tr> <td>10 - 50</td> <td>- 200</td> <td>x 0.18</td> <td>x 24</td> <td>x 45 = 38,880</td> </tr> <tr> <td>50 - 100</td> <td>- 500</td> <td>x 0.18</td> <td>x 240</td> <td>x 2 = 43,200</td> </tr> <tr> <td>100 - 200</td> <td>- 600</td> <td>x 0.18</td> <td>x 240</td> <td>x 1 = 25,920</td> </tr> <tr> <td>200 - 300</td> <td>- 700</td> <td>x 0.18</td> <td>x 360</td> <td>x 1 = 45,360</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>236,447 l</td> </tr> </tbody> </table>	Fishing boat classification	Horse power	Consumption/hr. HP	Operation time	No. of boat	0 - 5	- 20 <sup>HP</sup>	x 0.18	x 8 <sup>hr</sup>	x 713 = 20,534 l	5 - 10	- 60	x 0.18	x 16	x 362 = 62,553	10 - 50	- 200	x 0.18	x 24	x 45 = 38,880	50 - 100	- 500	x 0.18	x 240	x 2 = 43,200	100 - 200	- 600	x 0.18	x 240	x 1 = 25,920	200 - 300	- 700	x 0.18	x 360	x 1 = 45,360	Total				236,447 l	
Fishing boat classification	Horse power	Consumption/hr. HP	Operation time	No. of boat																																						
0 - 5	- 20 <sup>HP</sup>	x 0.18	x 8 <sup>hr</sup>	x 713 = 20,534 l																																						
5 - 10	- 60	x 0.18	x 16	x 362 = 62,553																																						
10 - 50	- 200	x 0.18	x 24	x 45 = 38,880																																						
50 - 100	- 500	x 0.18	x 240	x 2 = 43,200																																						
100 - 200	- 600	x 0.18	x 240	x 1 = 25,920																																						
200 - 300	- 700	x 0.18	x 360	x 1 = 45,360																																						
Total				236,447 l																																						
	$236^{kl} \times 20^{\text{days}} \times 1/3$ (No. of turnovers per month: 3) $\doteq 1,500^{kl}$ No. of 500 <sup>kl</sup> tank: 3																																									



Appended Table 16 (Cont'd)

Facilities		Capacities					Remarks
(4) Water supply facilities							
<u>Fishing boat classification</u>	<u>Crew</u>	<u>Consumption/ man-day</u>		<u>Days</u>	<u>No. of boat</u>		
0 - 5	- 3	x 10	x	1	x 713	= 21,390 l	
4 - 10	- 4	x 10	x	2	x 362	= 28,960	
10 - 50	- 8	x 10	x	3	x 45	= 10,800	
50 - 100	- 10	x 10	x	30	x 2	= 6,000	
100 - 200	- 15	x 10	x	30	x 1	= 4,500	
200 - 300	- 20	x 10	x	45	x 1	= 9,000	
Total						80,650 l	
No. of facilities for supplying 40 <sup>t</sup> /hr: 2							
(5) Box manufacturing equipment							
3,000 Boxes per day equipment: 2							
(6) Fishery products warehouses							
7. Fishing boat repair facilities	a) Facilities for 3 boats (2 times/year) b) Facilities for one medium-sized boat c) Engine repair						
8. Welfare facilities	a) Lodging-and its insident-facilities, health-keeping facilities etc.: 2,000 m <sup>2</sup> b) Parking place: 500 m <sup>2</sup> c) Recreation facilities: 5,000 m <sup>2</sup>						

### 3. Summary of the Investigation of Fishing Ports/Markets in Other Countries

In order to contribute to planning Jakarta fishing port/market maintenance, particularly to recommend solutions to management and operation problems in the market, investigations of main fishing ports/markets in Singapore and Thailand were performed. The outline of the investigation will be described in the following.

#### 3-1. Juron Fishing Port/Market in Singapore

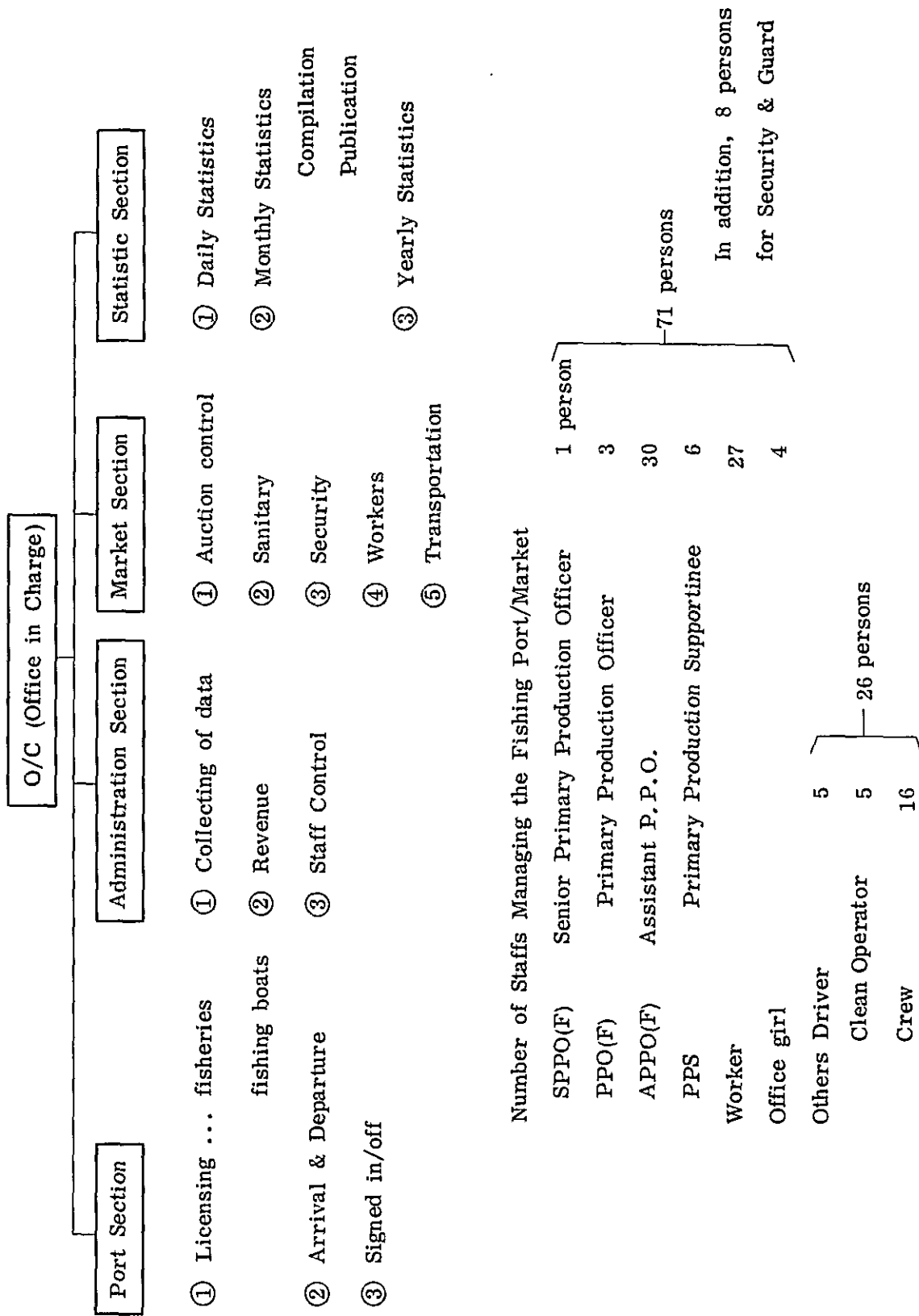
Juron Fishing Port/Market, whose formal name is Juron Fishing Port/Central Fish Market, is situated at one corner of Juron Industrial area about 20 km from the center of Singapore City.

The facility was completed in 1969 funded by the Singapore Government and is managed and operated under the management of the government. Its staff members are about 70 persons and its organization is shown in attached Figure 10.



Appended Photo 1. Juron Fishing Port/Central Fish Market

Appended Figure 10



There are some laws relating to the management and operation of this facility, namely, the Fishery Act, Market Regulations, Requirements for Arrival and Departure of Fishing Vessels, etc.

Its yearly amount of dealing in fishery products was approximately 98,000 tons, totalling to s\$ 98,224,000 (¥ 12,000,000,000) in 1973. About one third of it was directly unloaded at the quay of Jurong Fishing Port, and two thirds of it was carried in by trucks from Malaysia and Thailand. Average daily amount of dealing is approximately 150 tons and the maximum amount reaches to 250 tons. Main dealing products are marine and freshwater fish, and salted and dried fish is handled very little. In the market, there are 80 wholesalers and 2,500 retailers. Handling is mostly by auction, and settlement is usually made on the next day. Charge for the use of the fishing port/market facilities includes the permission fee of wholesalers (s\$200/month), occupation fee for market permits (s\$3/m<sup>2</sup>/month), office fees and fees for usage of the unloading crane.

From the standpoint of revenue and expenditure, however, the expenses of the government budget required for management and operation seems to be more than the total fees of utilization.

This facility is composed of a 700 ft quay (210 m), a shed (400 ft (120 m) x 150 ft (45 m)), a management office, wholesalers' office, etc.

3-2. On the Present Situation of Southeast Asia Fisheries Development Center (SEAFDEC), FAO Training Center, and Fisheries in Singapore

In Singapore we visited Jurong Fishing Port/Market, and also SEAFDEC and the FAO Training Center to survey the activity of both organizations, and the present situation of fisheries in Singapore. The survey will be outlined in the following.

3-2-1. On Southeast Asia Fisheries Development Center (SEAFDEC)

SEAFDEC is situated in Changi District in Singapore, and is jointly operated by Thailand, the Philippines, Malaysia, Singapore, and Japan.

The purpose of its establishment is the upgrading of talent, the investigation of the fish resources, development survey of fishing ground and the promotion of farming, but many problems occur because the South China Sea utilized as the central fishing ground by SEAFDEC members is not originally highly valued fishing ground. Another problem is that the results of SEAFDEC investigations are not published quickly.

3-2-2. On the FAO Singapore Training Center

The center is situated at the same site as SEAFDEC, and is executing the training of persons who will be engaged in fisheries starting at the junior high school graduate-level. About 25 graduates are sent out every year at the expense of the state, but at present, in Singapore the foundations of the fisheries industry has not yet been established. Therefore, the fact that the graduates cannot be engaged in fishing directly is causing a problem.

3-2-3. Present Situation and Problems of Fisheries in Singapore

The annual fish-catch is 15,000 tons and fishery product imported is 45,000 tons. Imported goods are mostly fresh fish.

The main types of fisheries in Singapore are trawl, purse seine, and lift net. Fisheries in Singapore have many restricted conditions for development because most of the fish caught is low priced fish such as horse mackerel and sardines, and because territorial waters are narrow and Singapore's Fishing ground are very small.

Because of small fishing grounds, the problem of territorial water among adjacent countries, and the shortage of manpower, at present

Singapore cannot help depending on import from foreign countries for most of its consumption, although it wants a self-supply system. Therefore, as for the maintenance and utilizing method of Jurong Fishing Port/Market, Singapore seems to answer domestic demand in Singapore by considering that unloading of fresh fish from foreign fishing boats is easy and the amount of dealing will increase.

### 3-3. The Bangkok Fish Market (BFM) in Thailand

#### 3-3-1. Outline

Bangkok Fish Market was established in 1953 as the central wholesale market for the auction of fishery products, and was built in the Yarnnawa District on the left bank 30 km from the mouth of Menam River (Chow Phya River) which runs through Bangkok City.



Appended Photo 2. Bangkok Fish Market

The enterprise core is FMO (Fish Marketing Organization), and FMO constructed the Market with governmental funds (special budget after obtaining the approval of the Ministry of Agriculture.) (Construction cost 14,130,000 bahts ≈ ¥210,000,000)

FMO is an autonomous body (juridical body) under supervision of the Ministry of Agriculture. Its business is specified to be the operation of a domestic wholesale market, the management of a Fish Market, and the improvement of the fishermen's standard of living and their welfare.

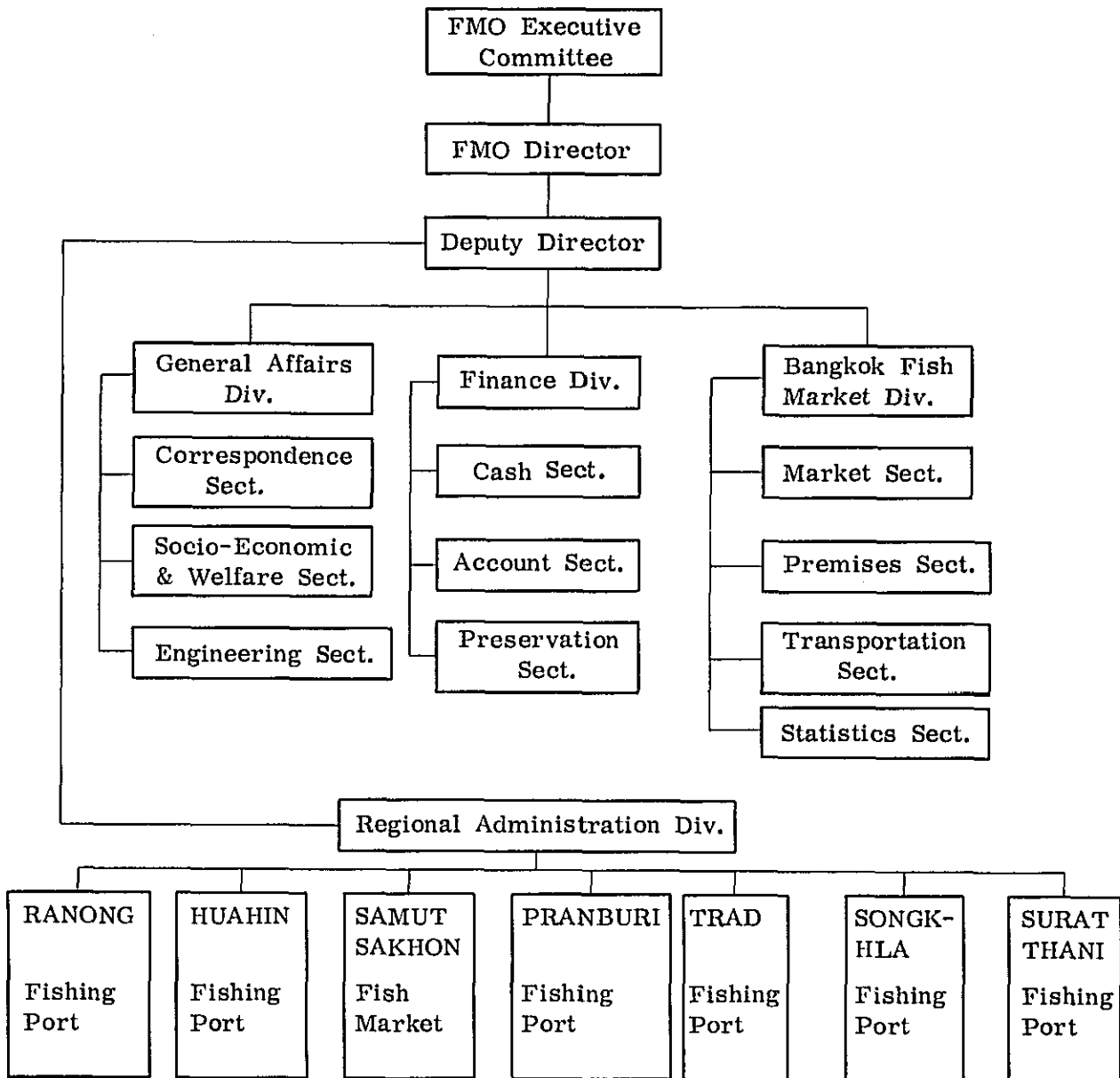
FMO can construct wholesale markets at any suitable places after approval of the Ministry of Agriculture, and manages directly seven unloading facilities (fishing ports) and two wholesale markets (Bangkok and Samut Sakhon). (See appended Figure-11)

The Bangkok Fish Market is in the administrative organization of FMO, and its functions are; to take charge of the marketing of fishery products arriving at the market, that is, fish catch and processed fishing products, etc.; to perform works relating to sanitation in the market, overall security, labor, and transportation. Collection of statistical data is also executed. A related law, the Act Organizing the Activities of the Fish Market was promulgated on Jan. 21, 1953.



Appended Photo 3. Unloading Quay (Sumut Sakhon Fishing Port)

Appended Figure 11. FMO Administration and Organization Chart





Fish Agents (wholesalers) are carrying on their business with the permission of the Department of fisheries. They have function as brokers and representatives of persons engaging in fisheries. They accept consignments of fishery products from producers and sell to fish buyers (retailers). The margin is prescribed as 6% by Market Law, and the producer is paid the price minus the margin and overhead (freight rates, price for ice, etc.).

Fish Agents for marine fish (10 companies) ...

To lend loans to fishermen without interest, and fishermen perform consignment sales of their catches to fish agents who are their regular lenders.

Fish agents for fresh-water fish (6 companies) ...

Fresh-water fishermen who hold a licence for inland waters fisheries obtain a loan of funds from the fish agents, with the same conditions described above. Fish agents also provide them with standard fish containers for transporting live fish, with free of charge.

### 3-3-2. Present Situation of the Market's Operation

#### (1) Transaction method

Auction take place between fish agents (wholesalers) and fish buyers (mostly retailers).

Fish Buyer (1,500 - 2,000 persons → average  
1,611 persons per day)

Fish agents (100%) --->	}	Retailers	70%*
		Brokers	10%
		Cold-Storage Factories	10%
		Fish-Steaming Factories	5%
		Fish Ball Factories	3%
		Canning Factories	2%

\* % indicates the rate of fish bought by each kind of buyer.

The method of the auction is that an auctioneer presents a maximum price, and the product is sold to the buyer who presents the price nearest to it.

Unit of sale:

Chub mackerel ... transaction in large quantities (transaction by sample)

Other pelagic fish ... sold by the basket (30 - 70 kg)

Trawled fish ... sold by the box (12 - 15 kg)

Fresh-water fish ... sold by the container (40 - 80 kg)

Opening time of market:

Chub mackerel, fresh-water fish 3:30 a.m.

Other fish 7:30 a.m.

Operating days of market:

365 days (only on Chinese new years day, closed for 1 - 2 days)

(2) Dealing amount (1972)

Total dealing amount 122,000 tons (332 tons per day)  
476 million baht (¥7,100,000,000)

Marine fish 116,000 tons (317 tons per day)  
423 million baht (¥6,100,000,000)

Fresh-water fish 6,000 tons (15 tons per day)  
53 million baht (¥800,000,000)

Processed products none after 1969

Dealing amount by main fish species (1972)

Marine fish	Chub mackerel	32,000 tons
	Others	74,000 tons
Fresh-water fish	Crustacea	} 9,000 tons
	Mollusc	
Fresh-water fish	Catfish	4,000 tons
	Snakehead fish	2,000 tons

(3) Transportation means (1972)

Incoming (per day)	Trucks	119
	Fishing boats	3
	Trains	3
	Total	125

Incoming by trucks and trains tends to be increasing, and direct unloading by fishing boats is decreasing.

Outgoing (per day)	Trucks	482
	Motortricycles	20
	Motor launches	12
	Sampan (Lighter)	1

Outgoing by trucks is increasing rapidly.

(4) Market staffs

FMO: Officer 100 persons, Worker 100 persons

of which

BFM: " 6 " " 24 "

(5) Laborors ... Stevedores

Inner labourers (inside duty, regular employees)

They are employed by fish agents, and payment form is by a dual system, namely, basic salary and efficiency pay corresponding to the norm at unloading time.

Duties ① Unloading and conveyance from trucks and fishing boats.

② Sorting fish and putting fish in containers for auction.

Approximately 200 persons at present.

Outer labourers (outside duty, temporary employees) ...

under the responsibility and control of FMO.

As for wages, the sum of money which buyers pay are equally distributed.

The duty is to carry to the vehicles or boats the fish which belongs to the buyer after auction.

At present, 220 persons.

- (6) **Income of Fishing Port/Market**
  - (i) **Collection from fish agents**
    - ① one percent of the transaction amount (within 3 percent of that by law)
    - ② permission fee 5,000 baht per year
    - ③ rental for the office
  - (ii) **Seventy-five percent of the market income**
    - ① cost for facility maintenance
    - ② cost for market management (includes salary for officials)
    - ③ cost for promotion of FMO (future extension plan)
  - (iii) **Twenty-five percent of the market income**
    - ① welfare fund for fishermen
    - ② for construction of fishing ports
    - ③ for lighthouses and warning signals for ships at sea
    - ④ for roads and sidewalks
    - ⑤ for schools

The welfare fund is used for various projects by approval of FMO Executive Committee via decision of Fisheries Promotion Committee in FMO.

- (7) **Construction cost for Fishing Ports**
  - ① large and middle size ... by government budget
  - ② small size ..... by FMO welfare fund and fund supported by fishery associations or prefectural governments (Fisheries Welfare and Counter-part Funds)

### 3-3-3. Bangkok Fish Market Problems

- (1) Its dealing amount has been increasing year by year, so the market facilities has become too small.

- (2) To settle this problem, a survey team for making a plan for construction a new fish market was sent from OTCA. The survey team recommended to construct a new market that has an annual dealing amount of 270,000 tons, by 1974, in a different location than the present Bangkok Fish Market.
- (3) The plan has not taken concrete shape yet, left without any budgetary measure taken.
- (4) In addition to the budgetary aspects, there is a question as to whether a new market will be constructed or the present one maintained. There seems to be some points which make it difficult to make a decision, with regard to price formation and distribution.
- (5) There is interest in whether or not the introduction of the broker system of the Central Wholesale Market in Japan is necessary when the dealing amount is increasing.

#### 3-4. Samut Sakhon Fish Market in Thailand

Samut Sakhon Fish Market was built on the left bank of Tachine River, established in 1968, and is a public market that is an important unloading base of marine fish in the suburb of Bangkok and it belongs to FMO.

Its facilities are; an unloading quay 143 m in length and 16 m in width, a place for fish handling (84 m x 18 m), a two-story management office (30 m x 10 m), etc. Approximately 80,000 tons of fish are unloaded every year.

Since a large majority of fishing boats used are trawl boats, about 25 to 40 percent of unloading amount is trash fish.

There is a private fish market adjacent to Samut Sakhon. At present, mainly small sized boats unload fish at the private market and large size boats of more than 20 to 30 tons unload at this market.

At this market, fish of good quality are unloaded from seven o'clock in the morning, and trash fish in the evening.

From the fact the facilities are used constantly, it is apparent that facilities of the unloading quay and fish handling shed is quite insufficient, but there is no space for extension at the present location. FMO is now seeking a site where quay length of about 500 m can be made, in the same vicinity.

Staff is 5 officers and 17 laborers, a total of 22 persons.

At the market, fish agents of 24 companies are registered. Commission fee is under 6 percent of the price of the fish auctioned. Including fresh fish handling retailers and processors of salted and dried fish approximately 150 persons take part in the daily auction of fish catches.

Unlike Bangkok fish market, in Samut Sakhon, no fishes are carried in by trucks and all fish is directly unloaded from the fishing boats. As for outgoing, in addition to trucks, a means of transportation on the water such as taxi boats is available.

After market investigation was over, we performed a survey of the nearby river courses in a taxi boat, and found that large and small fishing boats were moored everywhere in the river courses and that several fishing boats that seem to be approximately 200 G.W. T. were under construction. This is recognized as showing the high potential of this district as a fishing base.



#### 4. Laws and Regulations relative to Fishing Ports/Markets in Japan

##### 4-1. The Fishing Port Law (Law No. 137 of 1950)

Contents		Page
Chapter I	General Provisions (Articles 1 - 4 ) .....	216
Chapter II	Designation of Fishing Port (Articles 5 and 6).....	218
Chapter III	Fishing Port Council (Articles 7 - 16) .....	219
Chapter IV	Fishing Port Repair and Construction Works (Articles 17 - 24-5) .....	223
Chapter V	Maintenance and Management of Fishing Ports (Articles 25 - 39) .....	232
Chapter VI	Miscellaneous Provisions (Articles 40 - 44) .....	242
Chapter VII	Penal Provisions (Articles 45 - 47) .....	244
Supplementary	Provisions .....	254



## Chapter I. General Provisions

### (Purpose of this Law)

Article 1 The purpose of this Law is to provide efficient fishing ports and to carry out their proper maintenance and management in order to facilitate the development of fishing industry which will contribute to stabilization of the national life as well as advancement of the national economy.

### (Definition of Fishing Port)

Article 2 "Fishing Port" as used in this Law means a composition of water area, land area and facilities to be used as a natural or artificial fishing base, which shall be designated in accordance with the provision of Article 5 paragraph 1.

### (Definition of Fishing Port Facilities)

Article 3 "Fishing port facilities" as used in this Law means the facilities within a fishing port area which shall be specified as follows:

- (1) Basic facilities:
  - a. Contour facilities: Break waters, sand groins, tide embankments, training walls, sluices, locks, bulkheads or revetments, levees, jetties, seashore levees and seawalls;
  - b. Mooring facilities: Mooring quays, landing place, mooring buoys, bollards, piers, floating piers and slipways;
  - c. Water facilities: Routes, anchorages and basins;
- (2) Functional facilities:
  - a. Transporting facilities: Beltline railways, beltline tramways, roads, bridges and canals;
  - b. Navigation facilities: Navigation aids, signal facilities and lighting facilities of communications for entry and clearance of fishing vessels;
  - c. Land for fishing port facilities: Sites for all kinds of fishing port facilities;

- d. Preservation facilities for fishing vessels and gears: Fishing vessel repairing yards, fishing vessel engine repairing yards and fishing gears drying grounds;
- e. Supply facilities: Water supply and oil supply facilities for fishing vessels;
- f. Fish catch handling, preserving and processing facilities: Selling places, cranes, marine products warehouses, open yards, ice making, refrigerating and cold storing facilities and processing plants;
- g. Fisheries communication facilities: Wireless telegraph stations on land and meteorological signal stations;
- h. Crew members' welfare facilities: Lodgings, bath houses, medical offices and halls;
- i. Fishing port managing facilities: Offices and watch houses.
- j. Fishing port purification facilities: Water conducting facilities and other purification facilities for the purpose of prevention of pollution.
- k. Waste oil disposal facilities: Facilities for disposal of waste oil produced in fishing vessels.

(Definition of Fishing Port Repair and Construction Works)

Article 4 "Fishing port repair and construction works" as used in this Law means works for new construction, enlargement, improvement, repair or removal of fishing port facilities, prevention of land collapse within fishing port areas, prevention of soil inflow into fishing port areas and other construction or improvement of fishing bases, which shall be operated on the basis of the Fishing Ports Planning mentioned in Article 17 Paragraph 1, and any other work to prevent pollution, including removal of dirt and any other deposits which may cause pollution and purification of spoiled water in the fishing port.

## Chapter II. Designation of Fishing Ports

### (Designation of Fishing Ports)

Article 5 The Minister of Agriculture and Forestry shall, upon consulting with the Fishing Port Council and upon hearing the opinion of the governor of To, Do, Fu and prefecture concerned, determine the names, types and areas of fishing ports and carry out their designation.

2. In case where the Minister of Agriculture and Forestry considers that there has come forth any change of circumstances or any other special condition to any fishing port designated in accordance with the provision of the preceding paragraph, he may, upon consulting with the Fishing Port Council and upon hearing the opinion of the governor of To, Do, Fu or prefecture concerned, alter the contents of its designation or cancel it. In this case, however, if the alteration in the contents of designation is slight and complies with the standard previously determined by the Minister of Agriculture and Forestry upon consulting with the Fishing Port Council, no new consultation with the Council shall be needed.
3. In case where the Minister of Agriculture and Forestry intends to make the designation mentioned in paragraph 1 or the alteration mentioned in the preceding paragraph, if he determines or alters the area of the fishing port, he shall consult with the Minister of Transportation thereabout.
4. In case where the Minister of Agriculture and Forestry intends, in regard to the area of fishing port, to make the designation mentioned in paragraph 1 or the alteration mentioned in paragraph 2 in any river area prescribed in Article 3 paragraph 1 of the River Law (Law No.167 of 1964) or in any coast preservation area designated in accordance with the provision of Article 3 of the Coast Law (Law No.101 of 1956), he shall consult exercises jurisdiction over that river or with the coast administrator who administers that coast preservation area.

5. The designation mentioned in paragraph 1 or the alteration or cancellation mentioned in paragraph 2 shall be made through Ministerial Notification.

(Types of Fishing Ports)

Article 6. The types of fishing ports shall be as follows:

- Type 1 fishing port: Fishing port whose scope of utilization is chiefly limited to the fisheries in its local district.
- Type 2 fishing port: Fishing port whose scope of utilization is larger than that of type 1 fishing port and does not belong to type 3 fishing port.
- Type 3 fishing port: Fishing port whose scope of utilization is nationwide.
- Type 4 fishing port: Fishing port which is located in an isolated land or any other remote place and indispensable for exploitation of fishing grounds or shelter of fishing vessels.

### Chapter III. Fishing Port Council

(Establishment and Powers)

Article 7 The Fishing Port Council shall be established in order to make research and deliberation on the matters concerning fishing ports falling into its powers in accordance with the provisions of this Law and other important matters relating to fishing ports.

2. The Fishing Port Council can submit to the administrative offices concerned its opinions on the matters concerning fishing ports.
3. The Fishing Port Council shall have a constant and close contact with the Central Fisheries Adjustment Council.

4. The Fishing Port Council shall be under the supervision of the Minister of Agriculture and Forestry.

(Organization)

Article 8 The Fishing Port Council shall be composed of nine members.

2. There shall be a chairman in the Fishing Port Council, and he shall be elected by co-option from among the members.
3. The chairman shall preside over the business of the Council.
4. The Fishing Port Council shall designate in advance the person from among its members, who acts for the chairman in case he is prevented from discharging his duties.

(Appointment of Members)

Article 9 The members shall be appointed by the Prime Minister with the consent of both Houses from among the following persons:

- (1) Persons who have full knowledge and experience in fishing port planning;
  - (2) Persons who have full knowledge and experience in techniques relating to fishing port repair and construction works;
  - (3) Persons who have full knowledge and experience in management of fishing ports;
  - (4) Persons who have full knowledge and experience in fishing industry.
2. In case where the term of office of the members expires or any vacancy occurs in the membership, if the Prime Minister can not obtain the consent of both Houses owing to a close of the Diet or a dissolution of the House of Representatives, he may appoint the members without obtaining the consent of both Houses regardless of the provision of the preceding paragraph. In this case, however, the Prime Minister shall obtain the consent of both Houses at the first Diet held after the appointment of the members.

(Term of Office of Members)

Article 10 The term of office of the members shall be two years. However, the term of office of a member who has filled a vacancy of member's post shall be the remaining term of office of his predecessor.

2. The members may be re-appointed.

(Retirement of Members)

Article 11 In case where the consent of both Houses prescribed in the latter clause of Article 9 paragraph 2 has failed to be obtained the member concerned shall retire from office.

(Removal of Members)

Article 12 The Prime Minister may remove any of the members with the consent of both Houses when he considers that the said members cannot perform his duties owing to his physical or mental disabilities or that the member has violated his obligations or committed any misconduct deemed unfit for the membership.

2. In case where the Prime Minister intends to obtain the consent of both Houses for the removal of any member in accordance with the provision of the preceding paragraph, he shall make previous notice to the member concerned by a document stating the reason of his removal and give the said member or his proxy the opportunity to explain himself at the public hearing and to produce favorable evidence.

(Method of Making Decision and Researches, etc.)

Article 13 In the meeting of the Fishing Port Council, the proceedings shall not be opened nor decisions be taken unless the majority of the members are present.

2. The proceedings of the Fishing Port council shall be decided by the majority of the members who are present (excluding the chairman); and in case of a tie, the decision shall be made by the chairman.
3. The Fishing Port Council may request any public office, any persons interested in fishing ports, any organization formed by such persons or any other persons concerned to submit reports or data necessary for its deliberation, or may request any person concerned to attend the council and express his opinion.
4. The Fishing Port Council may, when deemed necessary to do so for the purpose of deliberation, entrust any public office, any persons interested in fishing ports or any organization formed by such persons or persons of learning and experience with necessary researches or investigations.
5. Any person who has been requested of his attendance in accordance of the provision of paragraph 3 shall demand his travelling expenses and allowance, as provided for by Cabinet Order.

(Public Hearing)

Article 14 In case when the Fishing Port Council determines its opinion on the Fishing Ports Planning mentioned in Article 17 paragraph 1 or in case when the Council considers it necessary to do so, it may hold public hearing; or in case when any instruction of the Minister of Agriculture and Forestry or any request of the persons interested as determined by the Fishing Port Council to that effect has been received, it shall hold public hearing.

(Payment of Actual Expenses for Members)

Article 15 The members shall, as provided for by Cabinet Order, receive travelling expenses, allowances and other actual expenses necessary for performing their duties.

(Provisions of Delegation)

Article 16 Matters necessary for management of the Fishing Port Council, except those provided for by this Law, shall be determined by the Fishing Port Council.

Chapter IV. Fishing Port Repair and Construction Works

(Fishing Ports Planning)

Article 17 The Minister of Agriculture and Forestry shall, upon bearing the opinion of the Fishing Port Council and in deference thereto, determine the Fishing Ports Planning and lay it before the Cabinet Council for decision.

If the Minister of Agriculture and Forestry can not adopt the opinion of the Fishing Port Council, he shall submit to the Cabinet the Fishing Port Planning determined by him along with the opinion of the Council.

2. In case where the Fishing Ports Planning has been determined in accordance with the provision of the preceding paragraph, the Cabinet shall submit it to the Diet for approval. In this case, however, if the Fishing Ports Planning determined by the Cabinet differs from the opinion of the Fishing Port Council thereupon, the Cabinet shall lay that Fishing Ports Planning before the Diet accompanying it with the opinion of the Council.
3. Any alteration in the Fishing Ports Planning mentioned in paragraph 1 shall be made in the procedures prescribed in the preceding two paragraphs.
4. The Cabinet shall make the estimates of the necessary expenditures in the National Budget every year, within the financing ability of the State, for the enforcement of the Fishing Ports Planning mentioned in the preceding paragraph.



(Operators)

Article 18 Any fishing port repair and construction works shall not be operated by persons other than the State, local public entities in the location of fishing ports or fisheries cooperative associations which have fishing ports within their areas.

(Permission for Operation)

Article 19 In case when any person other than the State intends to operate any fishing port repair and construction works (excluding those of the specific type 3 fishing port mentioned in paragraph 1 of Article 19-2), he shall determine his fishing port repair and construction plan according to the Fishing Ports Planning mentioned in Article 17 paragraph 1, and then file an application for permission with the Minister of Agriculture and Forestry.

2. In case where the Minister of Agriculture and Forestry grants the permission mentioned in the preceding paragraph, he shall comply with the standard previously determined upon consulting with the Fishing Port Council.
3. In case where the State operates any fishing port repair and construction works, the Minister of Agriculture and Forestry shall determine its fishing port repair and construction plan according to the Fishing Ports Planning mentioned in Article 17 paragraph 1.
4. In case where the fishing port repair and construction plan mentioned in paragraph 1 or the preceding paragraph is determined, if there is any fishing port management body in the fishing port concerned, it shall be determined upon hearing the opinion of the fishing port management body concerned and in deference thereto.
5. In the case of paragraph 1 or 3, any person who intends to operate the fishing port repair and construction works may, when deemed necessary to do so for the purpose of determining his fishing port repair and con-

struction plan, enter another person's land or waters and carry out survey or investigation, with a five days previous notice thereof to its owner or occupant. In this case, however, if the operation is made by any person other than the State, the person concerned shall, upon determining the land or waters to be entered, obtain a previous permission of the Minister of Agriculture and Forestry therefor.

6. Any person who makes any entrance, survey or investigation prescribed in the preceding paragraph shall carry with him a card identifying his status.
7. In the case of paragraph 5, the person concerned in the operation shall make compensation without delay for the damage actually caused by the entrance, survey or investigation mentioned in the same paragraph.

(Repair and Construction Planning of Specific Type 3 Fishing Ports)

Article 19-2 With regard to specific type 3 fishing ports (which mean those belonging to the type 3 fishing port that are specially important for the promotion of fishing industry and are designated as provided for by Cabinet Order), the plan of their repair and construction works, which may be operated by persons other than the State, shall also be determined by the Minister of Agriculture and Forestry on the basis of the Fishing Ports Planning mentioned in Article 17 paragraph 1. In this case, however, the Minister of Agriculture and Forestry shall determine it upon hearing the opinion of the operator of the works and in deference thereto.

2. In case where any person other than the State intends to operate any fishing port repair and construction works on the basis of the Fishing Port Planning mentioned in the preceding paragraph, he shall obtain the permission from the Minister of Agriculture and Forestry therefor.
3. In case where the Minister of Agriculture and Forestry deems it necessary to do so because of any change of circumstances or for other reasons, he may alter the fishing port repair and construction plan mentioned in paragraph 1 following the procedures mentioned in the same paragraph.

4. In the determination or alteration of Fishing port repair and construction plan prescribed in paragraph 1 or the preceding paragraph, the provisions of paragraphs 5 to 7 inclusive of the preceding Article (excluding the provision of the latter part of paragraph 5) shall apply with necessary modifications. In this case, in the former part of paragraph 5 of the same Article "in the case of paragraph 1 or 3, any person who intends to operate the fishing port repair and construction works" shall read, "in the case of Article 19-2 paragraph 1 or 3, the Minister of Agriculture and Forestry", and in paragraph 7 of Article 19, "the person concerned in the operation" shall read "the State".

(Shares of Expenses and Subsidy)

Article 20 In case where any fishing port repair and construction work is operated by the State, the State may, according to the standard determined by Cabinet Order, cause the fishing port management body of the port concerned to bear a part of the expenses with the consent of that body.

2. In case where any fishing port repair and construction works of type 3 or type 4 fishing port are operated by any person other than the State, the expenses required for the repair and construction of the basic facilities mentioned in Article 3 paragraph 1 shall be borne by the State at the rate indicated respectively in the following specifications:

Type of fishing ports	Rate
Type 3 fishing port	60% in Hokkaido (70% for the contour facilities of the specific type 3 fishing port) 50% in other districts (70% for the contour facilities and water facilities of the specific type 3 fishing port, 60% for the mooring facilities of the specific type 3 fishing port)
Type 4 fishing port	80% in Hokkaido In other districts, 75% for contour facilities and water facilities; 60% for mooring facilities

3. In case where any fishing port repair and construction works of type 1 or type 2 fishing port are operated by any person other than the State, the State shall subsidize the expenses required for the repair and construction of the basic facilities mentioned in Article 3 paragraph 1 to the operator of the fishing port repair and construction works concerned at the rate indicated respectively in the following specifications:

Type of fishing ports	Rate
Type 1 fishing port	60% in Hokkaido 40% in other districts
Type 2 fishing port	60% in Hokkaido 40% in other districts

4. In case where any fishing port repair and construction work is operated by any person other than the State, the State may, in case of special necessity, subsidize according to the standard determined by Cabinet Order and within the limit of the budgetary appropriations, a part of the expenses required for the repair and construction of the functional facilities mentioned in Article 3 paragraph 2, in addition to those subsidies prescribed in the preceding two paragraphs, to the operator of the fishing port repair and construction work concerned.
5. In case where the Minister of Agriculture and Forestry grants the permission mentioned in paragraph 1 of Article 19, he shall do it within the limit that the amount of money to be borne or subsidize by the State in accordance with the provision of paragraph 2 or 3 does not exceed the amount of the budget decided by the Diet.

(Shares of Expenses for Works of Fishing Port Facilities serving Double Purpose with other Structures)

Article 20-2 With regard to the shares of expenses for the works of the fishing port facilities serving double purpose with other structures, they shall be determined through the consultation between the operator of such fishing port repair and construction works and the administrator of such structures.

(Transfer of Rights relative to Permission for Fishing Port Repair and Construction Works and Entrust of their Operation)

Article 21 No transfer of right relative to the permission for the operation of the fishing port repair and construction works shall take effect unless the approval of the Minister of Agriculture and Forestry be obtained therefor.

2. Any operator of fishing port repair and construction works may, upon obtaining the permission of the Minister of Agriculture and Forestry, entrust other persons with the operation of fishing port repair and construction works.
3. The provision of Article 19 paragraph 2 shall apply with necessary modifications to the approval mentioned in paragraph 1 and the permission mentioned in the preceding paragraph.

(Alteration of Fishing Port Repair and Construction Plan, Abandonment of Fishing Port Repair and Construction Works, etc.)

Article 22 No operator of fishing port repair and construction works other than the State shall, in case where any change of circumstances or other conditions occur, alter his fishing port repair and construction plan, abandon the whole or part of his fishing port repair and construction works or suspend the operation thereof unless the permission of the Minister of Agriculture and Forestry has been obtained therefor. However, this shall not apply in case where the proposed alteration of the fishing port repair and construction works is slight and complies with the standard determined by Ministerial Ordinance.

2. In case where the Minister of Agriculture and Forestry grants the permission mentioned in the preceding paragraph if there is a fishing port management body in that fishing port, he shall grant it upon hearing the opinion of the fishing port management body concerned and in deference thereto. However, this shall not apply in case where it must be done in haste.

3. In case where any operator other than the State of fishing port repair and construction works has made any slight alteration prescribed in the proviso to paragraph 1 relating to his fishing port repair and construction plan, he shall give without delay notification of the altered matters to the Minister of Agriculture and Forestry.

(Instructions and Orders to Operators and Cancellation of Permission)

Article 23 The Minister of Agriculture and Forestry can give instructions necessary for the order of operation of the fishing port repair and construction works and methods of their operation to operators other than the State.

2. In case where the Minister of Agriculture and Forestry deems it necessary to do so because of any change of geographical features or other reasons, he can order any operator of the fishing port repair and construction works other than the State to alter his fishing port repair and construction plan, or to abandon the whole or part of such works or to suspend their operation.
3. In case where the Minister of Agriculture and Forestry considers that any operation of works made by an operator other than the State violates this Law or Ordinances issued thereunder or any disposition executed by the administrative offices under such Law and Ordinances, or its completion is hopeless or the operator concerned does not set about the work by the period determined by the fishing port repair and construction plan, he can cancel the permission for the operation of the fishing port repair and construction works.

(Use and Expropriation of Land, Waters, etc.)

Article 24 In case where any operator of fishing port repair and construction works considers it necessary to do so for the purpose of operating fishing port repair and construction works, he may, upon giving a five days'

previous notice thereof to the owner or occupant, enter another person's land or waters, or use them as temporary materials yards. In this case, if the works are operated by any person other than the State, the person concerned shall determine the area of land or waters to be entered or used and the period of such use, and shall obtain the permission of the Minister of Agriculture and Forestry therefor in advance.

2. Any person who makes any entrance prescribed in the preceding paragraph shall carry with him a card identifying his status.
3. In the case of paragraph 1, the operator of the fishing port repair and construction works shall make, without delay compensation for the damage actually caused by the entrance or use mentioned in the same paragraph or pay a reasonable rent therefor.

(Settlement of Accounts for Expenses of Fishing Port Repair and Construction Works)

Article 24-2 In case where any person who received any amount to be borne by the State or any subsidies prescribed in Article 20 paragraph 2, 3 or 4 has operated the fishing port repair and construction works concerned in such grants, he shall settle, without delay, the accounts for the expenses of works and receive a certificate for the completion of works from the Minister of Agriculture and Forestry.

(Disposition of Balance)

Article 24-3 In case where any person who received any money to be borne by the State or any subsidies prescribed in Article 20 paragraph 2, 3 or 4 has got any balance in the expenses for the fishing port repair and construction works undertaken by means of such grants, he shall return to the State without delay out of the balance the amount of money equivalent to the sum in proportionate to the amount borne by the State and the subsidies.

(Return of Money borne by the State and Subsidies, etc.)

Article 24-4 In case where any person who received any money to be borne by the State or any subsidies prescribed in Article 20 paragraph 2, 3 or 4 has come under any of the following items, the Minister of Agriculture and Forestry may not grant the whole or part of such money or subsidies or may order the person to return the whole or part of the sum:

- (1) In case where any alteration prescribed Article 19-2 paragraph 3 has been made; in case where any permission for alteration, abandonment or suspension prescribed in Article 22 paragraph 1 has been obtained, and in case where any notification prescribed in paragraph 3 of the same Article has been given;
- (2) In case where any instructions prescribed in Article 23 paragraph 1 have been violated;
- (3) In case where any alteration, abandonment or suspension prescribed in Article 23 paragraph 2 has been ordered;
- (4) In case where any permission prescribed in Article 23 paragraph 3 has been cancelled;
- (5) In case where the money or subsidies have been used for any object other than that granted for.

(Management and Disposition of the Land, etc. Produced by Fishing Port Repair and Construction Works enforced by the State)

Article 24-5 Any land or structure produced by any fishing port repair and construction works enforced by the State shall be managed or disposed by the Minister of Agriculture and Forestry, as provided for by Cabinet Order.

2. The Minister of Agriculture and Forestry may, as provided for by Cabinet Order, charge the fishing port management body concerned with the management of the fishing port facilities constituting the land or structure mentioned in the preceding paragraph.



3. The countervalue of the land or structure mentioned in paragraph 1 when it is transferred by the Minister of Agriculture and Forestry to the fishing port management body shall be gratuitous with the limits of amount of expenses borne by such management body.

#### Chapter V. Maintenance and Management of Fishing Ports

##### (Designation of Fishing Port Management Body)

Article 25 For the purpose of carrying out the proper maintenance, preservation and management of fishing ports and other administration thereof, the Minister of Agriculture and Forestry shall, according to the standard determined upon consulting with the Fishing Port Council and upon hearing the opinion of the governor of To, Do, Fu or prefecture concerned, designate the local public entity having that fishing port within its area, as its fishing port management body.

2. Any local public entity designated as a fishing port management body in accordance with the provision of the preceding paragraph cannot refuse such designation unless any justifiable reason exists therefor.
3. In case where the Minister of Agriculture and Forestry deems that any fishing port management body does not perform a proper maintenance and management of the fishing port, or is not appropriate for its duties, he may cancel the designation of the fishing port management body prescribed in paragraph 1.
4. In case where the Minister of Agriculture and Forestry intends to cancel the designation of fishing port management body in accordance with the provision of the preceding paragraph, he shall hold a public hearing therefor.
5. The designation mentioned in paragraph 1 and the cancellation mentioned in paragraph 3 shall be made through notification.

(Duties of Fishing Port Management Body)

Article 26 Any fishing port management body shall determine its fishing port management regulations and shall thereunder be responsible for the maintenance and management of its fishing port, and at the same time it shall carry out the study and research necessary for the development of its fishing port as well as the preparation of its statistical data.

(Establishment and Powers of Fishing Port Management Committee)

Article 27 Any fishing port management body of Type 3 fishing port shall set up a Fishing Port Management Committee in its fishing port.

2. Any fishing port management body other than that of Type 3 fishing port may set up a Fishing Port Management Committee in its fishing port.
3. The Fishing Port Management Committee shall, in compliance with the request of the management body, conduct research and deliberation on important matters relating to the maintenance and management of its fishing port.
4. In case when any fishing port management body has set up a Fishing Port Management Committee, it shall give notice thereof without delay to the Minister of Agriculture and Forestry.
5. Any fishing port management body of Type 3 fishing port and the port which has set up a fishing port management committee in its port in accordance with the provision of paragraph 2 shall, in the enactment of its regulations for fishing port management and about other important matters relating to maintenance and management of its fishing port, hear the opinion of the Fishing Port Management Committee and shall defer thereto.

(Organization of Fishing Port Management Committee)

Article 28 A Fishing Port Management Committee shall be of a chairman and committee members.

2. The chairman shall be the chief of the local public entity which is a fishing port management body.
3. The chairman shall preside over the business of the committee.
4. The committee members shall be as follows:
  - (1) Persons appointed by the fishing port management body from among those recommended by the mayor or headman of the city, town or village in which the fishing port is located, upon hearing the opinion of the fisheries cooperative association concerned from among those having their residence or operation places within the area of the city, town or village in which the fishing port is located, who operate fisheries by fishing vessel or who engage in gathering, taking or culturing aquatic animals and plants by fishing vessel for fisheries operators over ninety days in a year ..... 7 persons.
  - (2) Persons appointed by the fishing port management body from among those of full knowledge and experience in fishing ports who have been recommended by the mayor or headman of the city, town or village in which the fishing port is located: ..... 2 persons
  - (3) Persons appointed by the fishing port management body from among those of full knowledge and experience in fishing ports who have been recommended by the Governor of To, Do, Fu or prefecture in which the fishing port is located: ..... 2 persons (in case of fishing port management committees in Type 1 fishing port ..... one person)
  - (4) Persons appointed by the fishing port management body from among those of full knowledge and experience in fishing ports who have been recommended by the Minister of Agriculture and Forestry: ..... one person (only in case of fishing port management committees in Type 3 fishing port and Type 4 fishing port)

5. In case where the location of a fishing port extends over two or more cities, towns or villages or two or more To, Do, Fu or prefectures or in case where there is any other special reason, the Minister of Agriculture and Forestry may, upon consulting with the Fishing Port Council thereabout, alter the number of committee members specified in each item of the preceding paragraph.
6. In case where there are two or more fishing ports in one and the same city, town or village or any other special reason exists, the Minister of Agriculture and Forestry may, upon consulting with the Fishing Port Council, determine a definite area of each fishing port. In this case, in paragraph 4 item (1), "the area of the city, town or village" shall read "the definite area of a fishing port".
7. The alteration in the number of committee members prescribed in the preceding paragraph shall be made through Notification.

*(Term of Office of Committee Members)*

Article 29 The term of office of the committee members shall be two years.

However, the term of office of a committee member who has filled a vacancy of member's post shall be the remaining term of his predecessor.

*(Removal of Committee Members)*

Article 30 Any fishing port management body may, upon hearing the opinion of the *Fishing Port Management Committee* and in deference thereto, remove any of the committee members when it considers that the said member cannot perform his duties owing to his physical or mental disabilities or he has violated his obligations or committed any misconduct deemed unfit for the membership.

2. In case where any fishing port management body intends to hear the opinion of the *Fishing Port Management Committee* on the proposed removal of committee members in accordance with the provision of the

preceding paragraph, it shall make previous notice thereof to the member concerned through a document stating the reason of his removal and shall give the said member or his proxy the opportunity to explain himself at the public hearing and to produce favourable evidence.

(Special Case relative to To)

Article 31 In Article 28, "City, town or village" or "mayor of the city, town or village" shall be "To" or "Governor of To" on the area where there is a ward of To.

2. The provision of Article 28 paragraph 4 item 3 shall not to any Fishing Port Management Committee in a fishing port which is in the area where there is a ward of To.

(Method of Making Decision)

Article 32 In the meeting of the Fishing Port Management Committee, the proceedings shall not be opened nor decisions be taken unless the majority of the members and the chairman are present.

2. The proceedings of the Fishing Port Management Committee shall be decided by the majority of the members who are present; and in case of a tie, the decision shall be made by the chairman.

(Payment of Actual Expenses for Members)

Article 33 Deleted.

(Establishment and Alteration of Fishing Port Management Plan and Regulations for Fishing Port Management)

Article 34 In case where any fishing port management body carries out the maintenance and management of its fishing port, the establishment or alteration of its fishing port management regulations shall not take effect unless the approval of the Minister of Agriculture and Forestry be obtained therefor.

2. Any fishing port management regulations shall, as provided for by Cabinet Order, provide necessary matters relating to the maintenance, conservation and management of the fishing port facilities as well as the maintenance and administration of the fishing port under its control.
3. The fishing port management regulations shall be put to public notice.
4. The Minister of Agriculture and Forestry may, upon consulting with the Fishing Port Council, determine model forms of the fishing port management regulations.

(Collection of Consideration for Utilization)

Article 35 Any fishing port management body may, as provided for by the fishing port management regulations, for the purpose of covering the expenses required for maintenance and management of its fishing port, collect from the utilizers such considerations for the utilization as charges for utilization, use, service or exclusive use.

(Use and Expropriation of Land, Waters, etc.)

Article 36 The provision of Article 24 shall apply with necessary modifications in case where it is necessary for the maintenance and management of fishing ports.

2. Any fishing port management body may, in case of emergency from disaster, cause persons on the scene to cooperate in the restoration, prevention of danger or other works, or may, regardless of the provision of the preceding paragraph, take the following measures:
  - (1) Use of necessary land, waters, vessels or structures;
  - (2) Use or expropriation of soil, stone, bamboo, wood or other objects (excluding those specified in the preceding item)
3. The provision of Article 24 paragraph 3 shall apply with necessary modifications in case where the measures specified in the preceding paragraph have been taken.

(Fishing Port Register)

Article 36-2 Any fishing port management body shall prepare a register for its fishing port.

2. Necessary matters relating to the fishing port register shall be provided for by Ministerial Ordinance.

(Restrictions on Disposition of Fishing Port Facilities)

Article 37 Any owner or occupant of the fishing port facilities shall not change the shape and character or the place of the facilities, nor transfer, lease, remove, or dispose of such facilities unless the permission of the Minister of Agriculture and Forestry has been obtained therefor. However, this shall not apply in case where it is done according to the fishing port repair and construction plan, or the regulations for fishing port management.

2. In case where the Minister of Agriculture and Forestry deems it necessary to do so for the purpose of preservation of fishing ports, he may order any person who has violated the provision of the preceding paragraph to make reversion to its original condition.
3. Any expenses required for the reversion to its original condition prescribed in the preceding paragraph shall be borne by the violater.

(Utilization of Fishing Port Facilities)

Article 38 Any person (excluding the State and fishing port management body) who intends to make his fishing port basic facilities available to the use of other persons or collect the rent thereof shall determine the methods of utilization and the rate of charge, and submit them to the Minister of Agriculture and Forestry for approval. The same shall apply to the case of their alteration to be effected.

2. In case where the Minister of Agriculture and Forestry intends to grant the approval mentioned in the preceding paragraph, he shall do so after hearing the opinion of the fishing port management body concerned, if any, in such fishing port, and in deference thereto.

(Preservation of Fishing Ports)

Article 39 Any person who intends to operate, in the water area or a vacant lot for public use within a fishing port area, construct or improve structures (excluding work requiring exclusive use of the waters and land), take away soil and sand dig or raise earth, discharge sewage, dump dust, or exclusively use a part of the waters and land (excluding where it is done by reclamation of water subject to the public use), shall obtain the permission of the Minister of Agriculture and Forestry therefor, However, this will not apply when such is done according to the Fishing Port Repair and Construction Plan or the regulations for fishing port management, or where such is minor work designated under the Minister of Agriculture and Forestry Ordinance.

2. The Minister of Agriculture and Forestry shall grant permission, mentioned in the preceding paragraph, unless the action, for which permission is applied, would greatly affect the operations of construction or repair work of the fishing ports, or the utilization of fishing ports.
3. The Minister of Agriculture and Forestry may attach conditions, necessary for preservation of fishing ports, to permission granted under Paragraph 1.
4. Where any State organ, Japan Monopoly Corporation, Japan National Railways, Nippon Telegraph and Telephone Corporation or any local public entity (including a Port Authority set forth in the Port and Harbor Laws (Law No.218 of 1949) intends to take any action for which permission is required pursuant to the provisions of Paragraph 1, it shall be sufficient to consult with the Minister of Agriculture and Forestry in advance.



5. Where the Minister of Agriculture and Forestry deems it necessary, in connection with the preservation of a fishing port, he may cancel permission granted under Paragraph 1, suspend the effect thereof or alter conditions thereto. Or, he may order: suspension of the action; alter actions; removal or elimination of structures already made; or restoration to the original state; by any person coming under the provisions of any of the following:
  - (1) Any person who violates any conditions attached to permission granted under Paragraph 1.
  - (2) Any person who received permission under Paragraph 1 by fraudulent or any other wrongful means.
  
6. Where the Minister of Agriculture and Forestry deems it necessary, in connection with preservation of a fishing port, he may order any person who violates the provisions of Paragraph 1: to suspend their action; to alter their action; remove or eliminate any structures already made; or to make restorations to the original state.
  
7. With regard to reclamation of public water area in a fishing port area the Governor of To, Do, Fu or Prefecture shall obtain permission of the Minister of Agriculture and Forestry therefor, except for;
  - (1) Reclamation pursuant to a Fishing Port Repair and Construction Plan.
  - (2) Reclamation in areas of Types 1 and 2 fishing ports which will not greatly affect utilization of such fishing ports.
  
8. The Minister of Agriculture and Forestry may order any inflict upon of any land, bamboo, wood or structure within the fishing port area to make necessary provisions to prevent land erosion; inflow of soil; sand or sewage; or any other injury such land, bamboo, wood or structure any inflict upon the fishing port. In such a case, he shall hear the opinion of said owner or occupant in advance.
  
9. Any expenses required for alteration removal or elimination, or restoration to the original state set forth in Paragraph 5 or 6, or provisions set forth in

the preceding paragraph shall be borne by the person who received such order.

(Transitory Measures)

Articel 39-2 At the time of designation of a fishing port set forth in Article 5, any person who is currently carrying out any work requiring permission pursuant to Paragraph 1 of the preceding article by authority of their own title shall be deemed to have received permission with regard to said work pursuant to the provisions of aforementioned paragraph. The same shall apply to any person who carries out any new work, which will require permission pursuant to Paragraph 1 of the preceding article due to the changing of a fishing port area in accordance with Article 5, Paragraph 2, by authority of their own title at the time of such change.

Articel 39-3 The Chief of a Fishing Port Management Body may collect charges for the taking away of soil and sand; the exclusive use with regard to the waters (except the waters of land managed by a person other than the Fishing Port Management by authority of his own title); and a vacant lot for public use within the fishing port area in accordance with standards set forth in the Ministry of Agriculture and Forestry Ordinance, from any person who obtained permission for said taking away of soil and sand, or exclusive use pursuant to Article 39, Paragraph 1. However, this will not apply to persons coming under Paragraph 4 of the same article.

2. The Chief of a Fishing Port Management Body may collect a negligence fine of not more than five times the sum evaded from any person who evades payment of charges for taking away of soil and sand, or exclusive use, by fraudulent or any other wrongful means.
3. Charges for taking away of soil and sand and exclusive use set forth in Paragraph 1 and negligence fines set forth in the preceding paragraph shall be income of the Fishing Port Management Body concerned.

4. If the Minister of Agriculture and Forestry grants permission for taking away or exclusive use pursuant to Article 39, Paragraph 1; he shall promptly notify the Chief of the Fishing Port Management Body of such permission.

## Chapter VI. Miscellaneous Provisions

### (Facilities regarded as Fishing Port Facilities)

Article 40 The Minister of Agriculture and Forestry may, upon consulting with the Fishing Port Council, regard the facilities specified in Article 3 not being located within the fishing port area as fishing port facilities. In this case, he shall give notice thereof without delay to the owner or occupant concerned.

### (Investigation, Survey and Inspection by Minister of Agriculture and Forestry)

Article 41 In case where the Minister of Agriculture and Forestry considers it necessary to do so for the purpose of determining or altering fishing port areas in accordance with the provision of Article 5, he may request the persons interested in fishing ports or organizations formed by such persons to submit necessary reports or data, or may enter another person's land or waters and carry out survey or inspection with a five days' previous notice thereof to its owner or occupant.

2. The Minister of Agriculture and Forestry may, when considered necessary, request operators of the fishing port repair and construction works or fishing port management bodies to submit necessary reports or data relative to the operation of the works or execution of their duties, or may cause the officials concerned of the central government to enter their operation places, offices or other places and to ask questions or inspect their books, documents or other objects.
3. Any official who carries out the entrance, survey, inspection or questioning prescribed in the preceding two paragraphs shall carry with him a card identifying his status.

4. In the case of paragraph 4, the Minister of Agriculture and Forestry shall make compensation for any damage actually caused by the entrance, survey or inspection mentioned in the same paragraph.

(Consultation with Minister of Transportation)

Article 42 In case where the Minister of Agriculture and Forestry intends to grant the approval mentioned in Article 38 paragraph 1 or the permission mentioned in Article 39 paragraph 1 in respect to any facilities to be used chiefly for transportation, he shall consult with the Minister of Transportation thereupon.

(Petition)

Article 43 Any person who is not satisfied with any disposition made by any administrative office under this Law or Ordinances issued thereunder or under the fishing port management regulations may institute a petition.

2. In case where any petition prescribed in the preceding paragraph has been instituted, the Minister of Agriculture and Forestry shall give decision thereabout upon hearing the opinion of the Fishing Port Council and in deference thereto.

3. In case where the Fishing Port Council intends to decide its opinion in accordance with the provision of the preceding paragraph, it shall, with a previous notice of the date and place, hold public hearing for the person who has instituted the petition or his proxy.

(Delegation of Powers of Minister of Agriculture and Forestry)

Article 44 A part of the powers of the Minister of Agriculture and Forestry as provided for by this Law may, as provided for by Cabinet Order, be exercised by Governors of To, Do, Fu and prefectures or mayors or headmen of cities, towns or villages (in the area where there is a ward to To, the headman of Ward). In this case, in Article 41 paragraph 2, "the officials concerned of the central government" shall read "the officials concerned of the local government."

## Chapter VII. Penal Provisions

### (Penal Provisions)

**Article 45** Any person who comes under any of the following items shall be punished with a fine not exceeding thirty thousand yen (30,000 yen):

- (1) Any person who has entered another person's land or waters without obtaining the permission of the Minister of Agriculture and Forestry, in the cases of Article 19 paragraph 5;
- (2) Any person who has entered or used another person's land or waters without obtaining the permission of the Minister of Agriculture and Forestry, in the cases of Article 24 paragraph 1 (including cases in which Article 36 paragraph 1 is applied with necessary modifications);
- (3) Any person who has violated the provision of Article 37 paragraph 1;
- (4) Any person who operates, constructs, improves, takes away, excavates, raises earth, discharges, dumps or exclusively uses as mentioned in Article 39, Paragraph 1 without obtaining permission required by the same paragraph.

**Article 46** Any person who comes under any of the following items shall be punished with a fine not exceeding ten thousand yen (10,000 yen):

- (1) Any person who has entrusted other persons with the operation of fishing port repair and construction works without obtaining the permission mentioned in Article 21 paragraph 2;
- (2) Any person who has violated the provision of Article 22 paragraph 1 or 3;
- (3) Any person who has made his fishing port basic facilities available to the use of other persons or collect the rent thereof without obtaining the approval mentioned in Article 38 paragraph 1;
- (4) Any person who has refused, obstructed or evaded the entrance, survey or inspection of any official of the central or local government prescribed in Article 41 paragraph 2.

Article 47 In case where any representative of a juridical person, or any agent, employee or other worker of a juridical person or individual, committed any violation mentioned in the preceding two Articles, if the juridical person or individual has known the plan of such violation and has not taken necessary measures to prevent the violation, or has known the violation and has not taken necessary measures to correct it, or has instigated the violation, not only shall such violator be punished, but the juridical person or individual shall also be fined in accordance with the provision of any of these Articles.

#### Supplementary Provisions

1. The date of enforcement of this Law shall be determined by Cabinet Order within a period not exceeding ninety days as from the day of its promulgation. However, the provisions of 1951.
2. In case where any person other the State operates fishing port repair and construction works in Hokkaido, the State shall for the time being bear or subsidize the expenses for the basic facilities (except for the mooring facilities in Type 4 fishing ports), regardless of the provisions of Article 20 paragraph 2 or 3, at the rate of 90 per cent in case of the repair and construction works of contour facilities or water facilities, and 75 per cent in case of the repair and construction works of mooring facilities, according to the specifications of Type 1, Type 2 and Type 3, and 80 per cent in case of Type 4 fishing ports.
3. With regard to any fishing port repair and construction work for type 1 or 2 fishing ports in the To, Fu or prefectures where any such structure improvement work as mentioned in Article 8 paragraph 1 of the Promotion Law for Coastal Fisheries etc. (Law No.165, 1963) relating to promotional subsidy of the State is operated within its limits, in case where any structure improvement work of coastal fisheries recognized as contributable to

improvement of the structure of coastal fisheries is to be operated by any person other than the State, the State shall, for the expenses for repair and construction of the basic facilities, subsidize for the time being, regardless of the provisions of Article 20 paragraph 3, at the rate of 50 per cent for any of the two types of fishing port.

4. In the cases mentioned in the preceding two paragraphs, "the preceding two paragraphs" in Article 20 paragraph 4 shall read "the preceding two paragraphs, or paragraph 2 or 3 of Supplementary Provisions"; "paragraph 2 or 3" in paragraph 5 of the same article shall read "paragraph 2 or 3, or paragraph 2 or 3 of Supplementary Provisions"; and "paragraph 2, 3 or 4" in Article 24-2, Article 24-3 and Article 24-4, shall read "Article 20 paragraph 2, 3 or 4, or paragraph 2 or 3 of Supplementary Provisions."

4-2. Model Form of Fishing Port Management Regulations

XX Prefecture (City, Town, or Village Fishing  
Port Management By-Laws  
(or XX Fishing Port Management By-Laws)

(Purpose)

Article 1 The purpose of these By-Laws is to provide requirements for maintenance and management of a fishing port managed by a Prefecture (City, Town or Village, as the case may be (hereinafter the same)) (hereinafter referred to as "fishing port") in accordance with provisions of the Fishing Port Law (Law No.137 of 1949).

(Maintenance and Operation of Fishing Port Facilities)

Article 2 The Governor (Major or Headman, as the case may be (hereinafter the same)) shall establish a Maintenance and Operation Plan each year with regard to the basic facilities, transportation facilities and land for the fishing port facilities (but only land for public facilities) managed by the Prefecture (hereinafter referred to as "Type-A fishing port facilities").

2. Where the Governor deems it necessary, for the purpose of maintenance and operation of fishing port facilities other than Type-A fishing port facilities (hereinafter referred to as "Type-B fishing port facilities"), he may require submission of data relating to, or make recommendations on necessary matters for, the maintenance and operation to the owner or occupant of such facilities.
3. Where the Governor establishes a Maintenance and Operation Plan for Type-A fishing port facilities set forth in Paragraph 1, or makes recommendations to the owner or occupant of Type-B fishing port facilities in accordance with the preceding paragraph, he shall hear the opinion of the Fishing Port Management Committee of the fishing port concerned.



(Preservation of Fishing Port)

Article 3 No person shall perform any unreasonably act which may impair the fishing port facilities or any act which may hinder the functioning of the fishing port within the fishing port area.

2. Any person who has destroyed or impaired Type-A fishing port facilities shall immediately report such fact to the Governor and, shall, in accordance with the Governor's instructions, restore such facilities to their original state, or make compensation for damages caused by said destruction or impairment. However, this shall not apply when such destruction or impairment was the result of any cause not attributable to said person.

Article 4 Any person who intends to construct or alter structures, take away soil and said, or dig earth within the land area of a fishing port which has been designated by the Governor (except the land area in Type-A fishing port facilities) shall obtain prior approval from the Governor, except as provided for in regulations.

2. When an application is made for approval pursuant to the preceding paragraph, the Governor shall grant such approval unless such intended actions will greatly affect preservation of the fishing port.
3. The designation set forth in Paragraph 1, shall be made on the minimum area necessary for the preservation of the fishing port.
4. When the Governor intends to make, or rescind, designation of an area as set forth in Paragraph 1, he shall publish this fact at least one month in advance.

(Maintenance of Order within the Port)

Article 5 If the governor deems it necessary, for the maintenance of order within the port, he may order vessels lying at anchor, staying, or being moored (hereinafter referred to as "anchorage or mooring") to move.

(Prohibited Area for Anchorage or Mooring)

Article 6 If the Governor deems it necessary, for the proper use of waters within the fishing port area, he may designate a port of the waters as a prohibited area for anchorage or mooring.

2. No vessels or rafts shall lie at anchor or be moored within the prohibited area, unless permission of the Governor is obtained.

(Restrictions with Regard to Dangerous Objects, etc.)

Article 7 Vessels loading explosives or any other dangerous objects (except those to be devoted to the use of such vessels), or objects presumably harmful to health (hereinafter referred to as "dangerous objects, etc.") shall not lie at anchor or be moored at places other than those places designated by the Governor.

2. Any person who intends to load or unload dangerous objects, etc. shall obtain permission of the Governor.
3. Kinds of dangerous objects, etc. shall be specified by regulations.

(Order for Removal of Abandoned Objects)

Article 8 If floating objects, sunken objects or any other objects within the waters of the fishing port facilities (Type A or B) or, objects left in facilities of Type A fishing port might cause serious obstruction to the utilization of the fishing port, the Governor may order the owner or occupant of such objects to remove them.

(Restrictions on Acts at Mooring Facilities)

Article 9 In mooring facilities of Type A fishing port facilities, any of the following acts shall be prohibited:

1. Mooring rafts or any other objects which may hinder mooring of vessels.

2. *Mooring vessels alongside mooring facilities without just reasons for purposes other than landing or loading of fish catch, fishing gear, fishing materials or other cargoes (hereinafter referred to as "fish catch, etc.").*
3. *Piling of fish catch, etc. to the extent that it may cause obstruction to the preservation of fishing port facilities.*
4. *Leaving, without just reasons, fish catch, etc. for a long period of time.*

*(Adjustments of Utilization in the Area for Unloading, Transportation, etc.)*

Article 10 The Governor may designate a part of the fishing port area as an area for landing, transportation and outfitting for fishing.

2. If the Governor deems it necessary, for operation of Type A fishing port facilities, he may issue necessary instructions with regard to place, time or any other matters for landing or loading within the designate area.
3. Upon completion of landing or loading of fish catch, etc. within the designated area of Type A fishing port facilities, vessels shall promptly move out of the designated area. However, this shall not apply where the Governor recognizes no hindrance for the utilization of such area and permits delay of vessel movement.
4. Any user of Type A fishing port facilities shall clean such places as he used for landing or loading immediately after completion of landing or loading of fish catch, etc.

*(Report of Utilization)*

Article 11 Any person who intends to utilize Type A fishing port facilities *(except routes)* shall report such intention to the Governor in advance.

(Approval for Exclusive Use, etc.)

Article 12 Any person who intends the exclusively use of Type A fishing port facilities; or to construct, alter, increase or remove structures fixed to such facilities shall obtain permission of the Governor.

2. The Governor may attach conditions necessary for utilization of Type A fishing port facilities to the approval set forth in the preceding paragraph.
3. The duration of exclusive use set forth in Paragraph 1 shall not exceed one month (in the case of exclusive use for the purpose of establishing structures, one year), except where the Governor recognizes any special need for a longer period.

(Fees for Utilization, etc.)

Article 13 Fees for utilization, use, or exclusive use (hereinafter referred to as "fees for utilization") shall be as provided for in the attached table, from persons who utilize Type A fishing port facilities.

2. Fees for utilization, etc. shall be paid in advance except where approval of the Governor is obtained to the contrary.
3. The Governor may reduce, or entirely remit fees for utilization, or have them paid in installments in cases where he recognizes the existence of special circumstances.
4. Fees for utilization, etc. already paid shall not be refunded except in cases where the governor recognizes the existence of causes not liable to the user.

(Report on Entrance and Clearance)

Article 14 When any vessel enters the fishing port or intends to clear said port, it shall report promptly to the Governor to that effect. However, this shall not apply to watch boats, patrol ships or any other vessels which are engaged in official duties.

(Supervisory Measures)

Article 15 The Governor may: cancel permission or approval or alter conditions attached thereto; order suspension of work, alteration, moving, or removal of structures already constructed; order installation of facilities necessary for prevention of hindrance with regard to preservation or utilization of the fishing port which such structures may cause; or order restoration to the original state, by any person who comes under any of the following items.

1. Any person who violates any provision of Article 4, Paragraph 1 or Article 12, Paragraph 1.
2. Any person who violates any condition attached to permission granted under Article 12, Paragraph 1.
3. Any person who has obtained approval under Article 4, Paragraph 1 or permission under Article 12, Paragraph 1 by fraudulent or any other wrongful means.

(Cancellation, etc. Due to Necessity of Public Interest and Compensation for Loss)

Article 16 When the Governor deems it necessary for the performance of fishing port repair and construction work, or any other work relating to the fishing port, or maintenance and management of the fishing port, he may take measures set forth in the preceding article against any person who has obtained approval set forth in Article 4, Paragraph 1, or permission set forth in Article 12, Paragraph 1, or order them to take any measures set forth in the same article.

2. Prefecture (City, Town, Village) shall make reasonable compensation for any damage caused the measure set force the preceding article.

(Penal Provisions)

Article 17 A non-penal fine of not more than two thousand yen (¥2,000) shall be imposed on any person who comes under any one of the following items:

1. Any person who violates the provision of Article 4, Paragraph 1.
2. Any person who does not observe the order of the Governor in accordance with the provision of Article 5.
3. Any person who violates any provision of Article 6, Paragraph 2 or Article 7, Paragraph 1 or 2.
4. Any person who does not observe the order of the Governor in accordance with the provision of Article 8.
5. Any person who violates any provision of Article 9, Article 10, Paragraph 3, Article 12, Paragraph 1 or Article 14.
6. Any person who violates the order of the Governor in accordance with any provision of Article 15 or Article 16, Paragraph 1.

Article 18 Any person who has evaded the collection of fees for utilization by fraudulent or any other wrongful means shall have a non-penal fine imposed of a sum not more than five times the sum so evaded.

(Additional Provision)

Article 19 Any necessary matters with regard to the enforcement of these By-Laws shall be provided for by the Governor.

Supplementary Provision

These By-Laws shall come into effect on the day after a lapse of thirty days from the day of its promulgation.

4-3. Wholesale Market Law

Chapter I. General Provisions

(Purpose)

Article 1 This Law, by promoting the consolidation of wholesale markets, and by maintaining their proper and wholesome operation, through measures for intentional promotion of consolidation of wholesale markets and their regulations, etc., concerns establishment of, and wholesale and other transactions in, wholesale markets, intends to rationalize transactions of fresh foodstuff, etc., and to streamline production and distribution thereof, thereby contributing to the establization of peoples' living.

(Definitions)

Article 2 The term "fresh foodstuff, etc.", as used in this Law, shall mean vegetables, fruits, fish, meats and other fresh foodstuff and any other foodstuff which is appropriated for use in general consumers' daily life (including other agricultural, livestock and marine products closely related to general consumers' daily life, which are designated by Cabinet Order).

2. The term "wholesale market", as used in this Law, shall mean any market established for wholesale of fresh foodstuff, etc., which is provided with spaces for wholesale, parking lots and other facilities necessary for transactions and handling of fresh foodstuff, etc., and is open on a continuous basis.
3. The term "central wholesale market", as used in this Law, shall mean any wholesale market established under the approval of the Ministry of Agriculture and Forestry, pursuant to the provision of Article 8, herein, to serve as a base for the wholesale of fresh foodstuff, etc., for the purpose of securing smooth distribution thereof, in any city and surrounding area which is specially important with regard to distribution and consumption of fresh foodstuff, etc., as well as to contribute to improvement of the distribution of fresh foodstuff, etc., in a wider sphere, outside said areas.



4. The term "local wholesale market", as used in this Law, shall mean any wholesale market other than the central wholesale market provided with facilities larger in scale than stipulated in the cabinet order.

(Restriction on Names)

Article 3 The terms "Central Wholesale Market" or "Local Wholesale Market" shall be used in the name of a central wholesale market or a local wholesale market, respectively.

2. Any wholesale market not a central wholesale market or a local wholesale market shall not use the term "Central Wholesale Market" or "Local Wholesale Market" in its name.

## Chapter II. Basic Policy for the Consolidation of Wholesale Markets, Etc.

(Basic Policy for the Consolidation of Wholesale Markets)

Article 4 The Minister of Agriculture and Forestry shall, as provided by Cabinet Order, establish the basic policy for the consolidation of wholesale markets (hereinafter referred to as the "basic policy for the consolidation of wholesale markets").

2. The basic policy for the consolidation of wholesale markets shall include matters set forth in the following items:
  - (1) Objective on the proper arrangement of wholesale markets based on the long-range perspective, with regard to supply and demand of fresh foodstuff, etc.
  - (2) Basic indexes with regard to the locations of modern wholesale markets, and kind, scale, layout and structure of facilities.
  - (3) Basic matters concerning rationalization of transactions, loading and unloading, handling and storage of commodities in the whole sale markets.

- (4) Objectives for modernization of business such as expansion of the scale of business and rationalization of management by those who conduct wholesale operation (the operation meaning to receive on consignment, or buy, fresh foodstuff, etc., from shippers and wholesale at the wholesale market concerned (hereinafter the same)).
- (5) Any other important matters concerning consolidation of wholesale markets.

3. When the Minister of Agriculture and Forestry intends to establish the basic policy for the consolidation of wholesale markets, he shall hear the opinions of the Wholesale Market Council.

4. When the Minister of Agriculture and Forestry has established the basic policy for the consolidation of wholesale markets, he shall make such policy public without delay.

(Central Wholesale Market Consolidation Plan)

Article 5 The Minister of Agriculture and Forestry shall establish a plan for consolidation of the central wholesale markets (hereinafter referred to as the "Central Wholesale Market Consolidation Plan"), as provided by Cabinet Order.

2. The Central Wholesale Market Consolidation Plan shall set forth the matters enumerated in the following items, the contents of which shall be based on the basic policy for the consolidation of wholesale markets.

- (1) Names of specially important cities with regard to distribution and consumption of fresh foodstuff, etc., and where it is deemed necessary to establish central wholesale markets, and names of central wholesale markets where it is deemed necessary to adjust items to be handled and to improve facilities.
- (2) Matters concerning establishing or altering of items to be handled.
- (3) Matters concerning improvement, construction or acquisition of facilities.

- (4) Any other matters necessary for consolidating central wholesale markets.
3. When the Minister of Agriculture and Forestry intends to establish the Central Wholesale Market Consolidation Plan, he shall hear the opinions of the Wholesale Market Council, and consult with local public entities concerned.
4. When the Minister of Agriculture and Forestry has established the Central Wholesale Market Consolidation Plan, he shall make such plan public without delay.
5. The provisions in the three preceding paragraphs, shall apply mutatis mutandis to alteration of the Central Wholesale Market Consolidation Plan.

(To, Do, Fu or Prefecture Wholesale Market Consolidation Plan)

Article 6 The Governor of To, Do, Fu, or Prefecture may establish a plan for consolidation of wholesale markets in the To, Do, Fu or Prefecture concerned (hereinafter referred to as the "To, Do, Fu or Prefecture Wholesale Market Consolidation Plan") as provided by Cabinet Order.

2. The To, Do, Fu or Prefecture Wholesale Market Consolidation Plan shall set forth matters enumerated in the following items, the contents of which shall be based on the basic policy for the consolidation of wholesale markets and the Central Market Consolidation Plan.
  - (1) Policy for the proper arrangement of wholesale markets in accordance with the status of distribution of fresh foodstuff, etc., in each area or each area set forth by dividing such area.
  - (2) Indexes with regard to the location of modern wholesale markets, and kind, scale, layout and structure of facilities.

- (3) Matters concerning rationalization of transactions in the wholesale markets, and loading and unloading, handling and storage of commodities.
  - (4) Any other matters necessary for consolidation of wholesale markets.
3. When the Governor of To, Do, Fu or Prefecture intends to establish the To, Do, Fu or Prefecture Wholesale Market Consolidation Plan, he shall consult with the designated cities set forth in Article 252-19, Paragraph 1, of the Local Autonomy Law (Law No.67 of 1947) in the area of such To, Do, Fu or Prefecture.
  4. When the Governor of To, Do, Fu or Prefecture has established the To, Do, Fu or Prefecture Wholesale Market Consolidation Plan, he shall submit such plan to the Minister of Agriculture and Forestry and make the plan public, without delay.
  5. The provisions in three preceeding paragraphs shall apply mutatis mutandis to alteration of the To, Do, Fu or Prefecture Wholesale Market Consolidation Plan.

### Chapter III. Central Wholesale Market

#### Section 1. Establishment

##### (Establishment Area)

Article 7 The Ministry of Agriculture and Forestry may designate as the central wholesale market establishment area (hereinafter referred to in this chapter as the "establishment area") a city and surrounding area deemed necessary to have a central wholesale market as provided for in the Central Wholesale Market Consolidation Plan and where it is deemed necessary to promote smooth distribution of fresh foodstuff, etc., as a whole, in view of the situation of distribution of fresh foodstuff, etc., in such area.

2. When the Minister of Agriculture and Forestry intends to designate the establishment area, he shall hear the opinions of the Wholesale Market Council and consult with local public entities concerned.
3. The provisions in the two preceding paragraphs shall apply mutatis mutandis to alteration of the establishment area.

(Approval of Establishment)

Article 8 Any local public entity which comes under any of the following items may establish a central wholesale market in the establishment area, upon approval of the Minister of Agriculture and Forestry.

- (1) Any city with a population greater than that stipulated by To, Do, Fu or Prefecture or in the Cabinet Order, and has jurisdiction over a part, or whole, of the area of such city where it is deemed necessary to establish a wholesale market as provided for in the Central Wholesale Market Consolidation Plan.
- (2) Any partial-affairs-association established in accordance with the provisions of Article 284, Paragraph 1, of the Local Autonomy Law, for the purpose of jointly disposing of the affairs concerning the establishment of a central wholesale market, and to which one or more To, Do, Fu, Prefecture or cities has joined, and which is organized only by such local public entities having jurisdiction over whole, or part, of the establishment area.

(Application for Approval)

Article 9 Any local public entity which comes under Paragraph 1 or Paragraph 2, of the preceding article, which intends to obtain approval as provided in the preceding article, shall formulate a Business Regulations and plan of operation and submit same, together with application, to the Minister of Agriculture and Forestry.

2. The Business Regulation set forth in the preceding paragraph shall, at

least, contain the matters enumerated in the following items:

- (1) Location and area of the central wholesale market.
  - (2) Commodities to be dealt in.
  - (3) Date and time of opening.
  - (4) Methods of transaction and settlement concerning wholesale business.
  - (5) Matters concerning persons to be engaged in wholesale business.
  - (6) Matters concerning entrepreneurs concerned, other than persons to be engaged in the wholesale business (only such matters as mentioned in this Chapter) are matters to be stipulated in the Business Regulation.
  - (7) Charges for use of facilities.
3. The matters enumerated in each of the following items shall be set forth in plan of operation under Paragraph 1.
- (1) Target population of supply, by commodity to be dealt in, and estimated quantity and amount of money to be handled.
  - (2) Kind, scale and structure of facilities.
  - (3) Expenses required for establishment, and plan for source and depreciation thereof.

(Standards of Approval)

Article 10 The Minister of Agriculture and Forestry shall grant approval set forth in Article 8, unless application set forth in the same article does not satisfy any of the standards enumerated in the following items:

- (1) The establishment of a central wholesale market shall conform with the Central Wholesale Market Consolidation Plan.
- (2) The central wholesale market shall be properly located as a base for fresh foodstuff, etc., in the establishment area concerned, and equipped with facilities of suitable scale.
- (3) The contents of the Business Regulation shall not be contrary to any Law or Ordinance, and matters enumerated in Paragraph 2,

Items 3 through VII, of the preceding article, shall be appropriately formulated with a views to securing proper and wholesome operations of the central wholesale market.

- (4) The plan of operation shall be proper and be considered to be positively performed.

(Alternation of Matters, etc. Set Forth in the Business Regulation)

Article 11 When any local public entity which has obtained approval set forth in Article 8 (hereinafter referred to in this chapter as the "establisher") intends to alter matters set forth in any of the items in Article 9, Paragraph 2, or Paragraph 3, Item 2 (except any slight alteration set forth in Cabinet Order) shall obtain approval of the Minister of Agriculture and Forestry.

2. The provisions in the preceding article shall apply mutatis mutandis to the alterations set forth in the preceding paragraph.

(Recommendation on Promotion of Establishment, Etc.)

Article 12 When the Minister of Agriculture and Forestry deems it necessary, for the purpose of proper and smooth implementation of the Central Wholesale Market Consolidation Plan, he may, upon hearing opinions of the Wholesale Market Council, recommend any local public entity having jurisdiction over the whole, or part, of the area of the city where it is deemed necessary to establish such central wholesale market, as provided for in the Central Wholesale Market Consolidation Plan; and/or any local public entity having jurisdiction over the surrounding area of such city, to promote the establishment of a central wholesale market, to establish a central wholesale market together, or to effect adjustments with regard to the location, scale, etc., of the central wholesale market to be established.

(Central Wholesale Market Establishment and Operation Committee)

Article 13 Any local public entity or establisher coming under Article 8, Paragraph 1 or Paragraph 2, may set up a Central Wholesale Market Establishment and Operation Committee (hereinafter referred to as "the Committee") through by-laws, for the purpose of having it investigate and deliberate necessary matters with regard to the establishment and operation of business of the central wholesale market.

2. Members of the Committee shall be appointed, from among persons of learning and experience, by such local public entity or establisher mentioned in the preceding paragraph, who establishes such Committee. Such local public entity or establisher may, upon consultation with such other local public entities having jurisdiction over whole or part of the establishment area of the central wholesale market concerned, appoint representatives or officials of such local public entities as members of the Committee.
3. In addition to the matters provided for in the preceding two paragraphs, matters necessary with regard to the organization and operation of the Committee shall be established through by-laws of such local public entity or establisher mentioned in Paragraph 1, who establishes the Committee.

(Approval of Discontinuance)

Article 14 When any establisher intends to discontinue any central wholesale market, he shall obtain approval of the Minister of Agriculture and Forestry.

2. The Minister of Agriculture and Forestry shall not grant such permission, mentioned in the preceding paragraph, unless he recognizes that there is no fear that the interests of general consumers and entrepreneurs concerned may be prejudiced.



## Section 2. Wholesalers, Etc.

(Permission for Wholesale Business)

Article 15 Any person who intends to operate a wholesale business at any central wholesale market shall obtain permission of the Minister of Agriculture and Forestry.

2. Permission set forth in the preceding paragraph shall be granted by market, set forth in the Ministry of Agriculture and Forestry Ordinance (hereinafter referred to in this chapter as "the market"), and by classification of the commodities to be dealt in, set forth in the Ministry of Agriculture and Forestry Ordinance (hereinafter referred to in this chapter as "the classification of the commodities to be dealt in").

(Application for Permission)

Article 16 Any person who intends to obtain permission, set forth in Paragraph 1 of the preceding article, shall submit an application, stating therein matters enumerated in the following items, to the Minister of Agriculture and Forestry, through the establisher:

- (1) Name or appellation, and domicile
  - (2) For a juridical person, amount of capital or investment, and names of officers
  - (3) The market in which the wholesale business is desired to be operated, and the commodities to be dealt in, in accordance with Paragraph 1 of the preceding article.
2. The establisher shall, upon receipt of the application set forth in the preceding paragraph, forward said application without delay, together with his opinion with regard to such applicant' performing wholesale business in the central wholesale market concerned to the Minister of Agriculture and Forestry.
  3. The application set forth in Paragraph 1, shall be accompanied with documents set forth in the Ministry of Agriculture and Forestry Ordinance.

(Standard of Permission)

Article 17 The Minister of Agriculture and Forestry shall not approve any application set forth in Article 15, Paragraph 1, for permission set forth in the same paragraph, coming under any of the following items:

- (1) When the applicant is bankrupt, and has not been reinstated.
- (2) Where the applicant is a person who has been sentenced to a penalty heavier than imprisonment without hard labor or punished with a fine under the provision of this Laws, and where a period of three years has not elapsed from the date he has served out his term or ceased to serve.
- (3) Where the applicant received cancellation of permission set forth in the provision of Article 49, Paragraph 1, and where a period of three years has not elapsed from the date of such cancellation.
- (4) Where the applicant is a person who was an officer of a juridical person, who received cancellation of permission pursuant to Article 49, Paragraph 1, Item 2, and said applicant was conducting said juridical persons business at the time of said cancellation (except where said applicant exerted due effort to prevent matters causing said cancellation and offers presumptive proof to that effect); or a person deemed to have been discharged by virtue of the order pursuant to Item 3, of the same paragraph, by said juridical person who received such order, and when a period of three years has not elapsed from the date of such dispositions.
- (5) Where the applicant is a juridical person having among his officers, who conduct his business, a person or persons coming under any of the preceding items.
- (6) When the applicant has insufficient knowledge and experience for proper conduct of a wholesale business in the central wholesale market.
- (7) When the net assets of the applicant is less than the net assets standard set forth in Article 19, Paragraph 1, with regard to the classification of the commodities to be dealt in (if the applicant has

obtained permission under Article 15, Paragraph 1, with regard to other classification of the commodities to be dealt in, or has applied for such approval, the aggregate total of the net assets standard set forth in Article 19, Paragraph 1, with regard to such classification of the commodities to be dealt in and such other classification of the commodities to be dealt in).

- (8) When the business regulation sets up a maximum number of persons to conduct wholesale business in the central wholesale market, and when the number of persons who have obtained permission set forth in Article 15, Paragraph 1 (hereinafter referred to in this chapter as the "wholesaler") exceeds such maximum number.
2. The Minister of Agriculture and Forestry may not approve any application for permission set forth in Article 15, Paragraph 1, coming under any of the following items:
    - (1) When the applicant received cancellation of permission set forth in the provisions of Article 25, Paragraph 2, and when a period of one year has not elapsed from the date of such cancellation;
    - (2) When the starting of a wholesale business in the central wholesale market concerned, by the applicant, may cause excessive competition among the wholesalers in such central wholesale market, and thereby hinder proper and wholesome operation of the wholesale business in such central wholesale market.
  3. The net assets mentioned in Paragraph 1, Item 7, shall mean the amount obtained by deducting the total liabilities from the total assets, and shall be calculated in accordance with the method set forth in the Ministry of Agriculture and Forestry Ordinance.

(Disposition Procedures)

Article 18 The Minister of Agriculture and Forestry shall make disposition of permission or refusal thereof mentioned in Article 15, Paragraph 1, in deference to opinion of the establisher.

(Net Assets Value)

Article 19 The net assets standard for the wholesaler shall be set forth, by classification of the commodities to be dealt in, by the Minister of Agriculture and Forestry, taking into consideration scale of business of the central wholesale market, the maximum number of persons to be engaged in wholesale business, and any other conditions.

2. When it has become obvious that the net assets of a wholesaler is less than the net assets standard set forth in accordance with the provision of the preceding paragraph, with regard to the classification of the commodities to be dealt in, in which such wholesaler is conducting wholesale business (when such wholesaler is conducting wholesale business with regard to two or more classifications of commodities to be dealt in, the aggregate amount of net assets standard set forth in accordance with the provision of the same paragraph with regard to each classification of the commodities to be dealt in) the Minister of Agriculture and Forestry may order such wholesaler to suspend the whole, or part, of the wholesale business in the central wholesale market.
3. When a notice was submitted within a period of six months from the date of the disposition set forth in the provision of the preceding paragraph, by any person who has received such disposition, to the effect that the net assets exceeds the net assets standard set forth in the same paragraph, in accordance with the Ministry of Agriculture and Forestry Ordinance, the Minister of Agriculture and Forestry may cancel such disposition without delay when he deems such notice is proper.
4. When the Minister of Agriculture and Forestry makes a disposition as set forth in the provision of Paragraph 2, and has not received any notice mentioned in the preceding paragraph within the period set forth in the same paragraph, from the person who received such disposition, or where, if received, within such period, he deems such notice not proper (when two

or more such notices have been made during such period, the Minister of Agriculture and Forestry deems all such notices not proper), he shall cancel permission set forth in Article 15, Paragraph 1, for such person without delay, after the lapse of such period.

5. When the Minister of Agriculture and Forestry intends to make disposition pursuant to the provisions of Paragraph 2, or the preceding paragraph, he shall give notice to the party receiving such disposition, the date, place and reasons for disposition, and inquire and hear, in public, after a reasonable period of time, and thereby give such person or his representative a chance to submit evidence and express opinions.
6. The provisions of Article 17, Paragraph 3 shall apply mutatis mutandis to the net assets value mentioned in Paragraphs 2 and 3.

Article 20 The wholesaler shall report the net assets value to the Minister of Agriculture and Forestry, twice each year, in accordance with the Ministry of Agriculture and Forestry Ordinance.

2. The provisions of Article 17, Paragraph 3, shall apply mutatis mutandis to the net assets value mentioned in the preceding paragraph.

(Assignment and Taking Over of a Business, and Merger)

Article 21 When a wholesaler assigns his business (only business concerning wholesale in the central wholesale market) and where the assignor and assignee obtain approval of the Minister of Agriculture and Forestry, with regard to such assignment and taking over, the assignee shall succeed to the position of wholesaler.

2. Where juridical persons who are wholesalers merge (except the case where a juridical person who is a wholesaler and a juridical person who is not a wholesaler merge and the former survives), and where such

merger is approved by the Minister of Agriculture and Forestry, the judicial person who continues to exist after the merger, or who comes into existence as a consequence of the merger, shall succeed to the position of wholesaler.

3. Any person who intends to obtain approval set forth in Paragraph 1, or the preceding paragraph, shall submit an application to the Minister of Agriculture and Forestry, through the establisher, in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance.
4. The provisions of Article 16, Paragraph 2 and 3, and Articles 17 and 18 shall apply mutatis mutandis to the approval set forth in Paragraph 1 or Paragraph 2. In such case, the terms "application set forth in the preceding paragraph" and the "applicant" in Article 16, Paragraph 2 shall read the "application mentioned in Article 21, Paragraph 3" and the "assignee concerning such application or juridical person who continues to exist after the merger or who has come into existence as a consequence of the merger", respectively, the term "applications set forth in Paragraph 1" in Paragraph 3 of Article 16 shall read "application mentioned in Article 21, Paragraph 3", "any application for permission set forth in Article 15, Paragraph 1" and "applicant" in Article 17, Paragraphs 1 and 2, shall read "application, for approval mentioned in Articles 21, Paragraph 1 or Paragraph 2" and the "assignee concerning such application, or juridical person who continues to exist after the merger, or who has come into existence as a consequence of the merger", respectively, and the term "disposition of permission, or refusal thereof, mentioned in Article 15, Paragraph 1" in Article 18 shall read "disposition of approval, or refusal thereof, mentioned in Article 21, Paragraph 1 or Paragraph 2".
5. The assignment and taking over of a business which has been approved under Article 29, Paragraph 1, shall be deemed as the assignment and taking over of a business which has been approved under Paragraph 1,

hereof, so long as the application of the provision of the same paragraph and the merger which has been approved under Paragraph 1 of the same article, shall be deemed as the merger which has been approved under Paragraph 2, hereof.

(Inheritance)

Article 22 In the case of the death of a wholesaler and when his heir (when there are two or more heirs who have decided the heir to succeed to the wholesale business of said wholesaler in the central wholesale market concerned, by consultation among themselves, such heir) desires to succeed to the wholesale business which had been conducted by the deceased in the central wholesale market, he shall obtain the approval of the Minister of Agriculture and Forestry, within sixty days from the death of the deceased.

2. When the heir has made application for approval, set forth in the preceding paragraph, the permission mentioned in Article 15, Paragraph 1, granted to the deceased shall be deemed to have been granted to his successor from the day of death of the deceased to the day of the notice that such approval has been granted or rejected was received.
3. Any person who desires to obtain the approval set forth in Paragraph 1, submit an application to the Minister of Agriculture and Forestry, through the establisher, in accordance with the Ministry of Agriculture and Forestry Ordinance.
4. The provisions of Article 16, Paragraphs 2 and 3, Articles 17 and 18, shall apply mutatis mutandis to the approval set forth in Paragraph 1. In such case the terms "application set forth in the preceding paragraph" in Article 16, Paragraph 2 and "application set forth in Paragraph 1" in Paragraph 3, of the same article, shall read "application set forth in Article 22, Paragraph 3"; the term "application for permission set forth in Article 15, Paragraph 1" in Article 17, Paragraphs 1 and 2, shall read

"application for approval set forth in Article 22, Paragraph 1"; and the terms "disposition of permission, or rejection thereof, set forth in Article 15, Paragraph 1" shall read "disposition of approval, or rejection thereof, set forth in Article 22, Paragraph 1".

5. Any person who obtained approval set forth in Paragraph 1, shall succeed to the position of wholesaler.

(Report on Business Concurrently Carried On)

Article 23 When any wholesaler intends to conduct any business, other than wholesale business and any business incidental thereto, in the central wholesale market (hereinafter referred to in this paragraph and the subsequent article as the "business concurrently carried on") shall report to the Minister of Agriculture and Forestry, through the establisher, together with the business plan concerning such business to be concurrently carried on, in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance. The same shall apply when such reported matters are to be altered.

2. When any wholesaler has established control over another juridical person (meaning, in relation to another juridical person, a relationship under which the wholesaler owns the number or amount of stock, or subscription, equivalent to more than one-half of the total number of issued stock, total number of units of subscription, or total amount of subscription of another juridical persons business, or any other relationship which makes it possible for the wholesaler to substantially control business activities of such other juridical person; as provided in the Ministry of Agriculture and Forestry Ordinance; hereinafter the same), he shall report that fact to the Minister of Agriculture and Forestry, through the establisher. The same shall apply to the alteration of such reported matter.



(Report on Changes of Name, Etc.)

Article 24 Any wholesaler who comes under any of the following items shall report to the Minister of Agriculture and Forestry, through the establisher, to that effect without delay:

- (1) When he has started, suspended or reopened a wholesale business with permission set forth in Article 15, Paragraph 1);
- (2) When he has discontinued a wholesale business with permission set forth in Article 15, Paragraph 1;
- (3) When any alteration has been made in the matters set forth in Article 16, Paragraph 1, Item 1 or Item 2;
- (4) When all business concurrently carried on, has been discontinued; and
- (5) When all controlling relationships with another juridical person has ceased to exist.

(Cancellation of Permission)

Article 25 When the wholesaler has come under any provisions of Article 17, Paragraph 1, Item 1 or Item 2 (including the case where such wholesaler is a juridical person and when any of his officers who are conducting his business has come under any provision of said items), the Minister of Agriculture and Forestry shall cancel permission set forth in Article 15, Paragraph 1.

2. The Minister of Agriculture and Forestry may cancel permission set forth in Article 15, Paragraph 1, when any wholesaler has come under any provisions of the following items.

- (1) When no wholesale business in the central wholesale market has been commenced within one month after the day of receipt of notice of permission set forth in Article 15, Paragraph 1 without justifiable reason; and
- (2) When the wholesale business in the central wholesale market has been continuously suspended for more than one month without justifiable reason.

3. The provisions of Article 19, Paragraph 5, shall apply mutatis mutandis to the dispositions pursuant to the preceding paragraph.

(Caution Money to Be Deposited By the Wholesaler)

Article 26 A wholesaler shall not commence wholesale business in the central wholesale market prior to depositing, to the establisher, the caution money, by market and classification of the commodities to be dealt in, with permission set forth in Article 15, Paragraph 1, in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance.

2. National bonds, local bonds or any other securities stipulated in the Ministry of Agriculture and Forestry Ordinance, may be appropriated as the caution money set forth in the preceding paragraph, in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance.
3. The establisher shall be entitled to preferential rights in receiving payment, against other obligees, on the caution money set forth in Paragraph 1, deposited by the wholesaler, against charges for use, storage and fees which shall be collected from said wholesaler, in connection with the central wholesale market.
4. Any person who has made sales, or consignments for sales, to the wholesaler shall be entitled to preferential rights in receiving payment, against other obligees on the caution money set forth in Paragraph 1 deposited by the wholesaler, against obligations arising from such sales or consignments for sales.
5. Preferential rights to receive payment set forth in Paragraph 3, shall prevail over the preferential rights to receive payment set forth in the preceding paragraph.

(Fiscal Year)

Article 27 The fiscal year of the wholesaler shall be from April through March of the following year, or from April through September and from October through March of the following year.

(Submission of Business Report)

Article 28 The wholesaler shall prepare, in each fiscal year, business report in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance, and submit same to the Minister of Agriculture and Forestry, through the establisher, within ninety days after the end of each fiscal year.

(Exemption From the Law on Prohibition of Private Monopoly and Maintenance of Fair Trade)

Article 29 The provisions of the Law on Prohibition of Private Monopoly and Maintenance of Fair Trade (Law No. 54 of 1947) shall not apply to the taking over of a business conducted among the wholesalers under prior approval of the Minister of Agriculture and Forestry, or the agreement concerning the conditions of the transactions (except matters concerning price, quality or quantity of fresh food stuff, etc. to be handled by such wholesalers) in the wholesale business concluded among such wholesalers under prior approval of the Minister of Agriculture and Forestry. Where a specific necessity exists for preventing ill effects caused by excessive competition among such wholesalers, and maintaining proper and wholesome operation of the wholesale business in the central wholesale market concerned, and acts based on such agreement; and the taking over of the business or merger conducted among the wholesalers and persons conducting the wholesale business with regard to the commodities to be handled in the central market concerned in other wholesale market established in the establishment area concerning said central wholesale market (hereinafter in this article referred to as the "wholesalers in other market") under prior approval of the Minister of Agriculture and Forestry (except

where the wholesalers of other market take over the business or continue to exit after the merger) in case there exists special necessity for the purpose of preventing excessive competition among such wholesalers and such wholesalers of other market and maintaining proper and wholesome operation of the wholesale business of said central wholesale market. However, this shall not apply where any exempted matters comes under any of the following items:

- (1) When unfair business practices are employed;
  - (2) When a period of one month has elapsed after the notice was made pursuant to the provision of Article 32, Paragraph 4, with regard to the agreement concluded under said approval (except where the Ministry of Agriculture and Forestry has made disposition set forth in the following article, in compliance with the demand set forth in Article 32, Paragraph 3).
2. When the demand pursuant to the provision of Article 32, Paragraph 3, has been made on part of the stipulations of the agreement concluded under the approval mentioned in the preceding paragraph, the provisions in Item 2 of the same paragraph notwithstanding, the provisions of the Law on Prevention of Private Monopoly and Maintenance of Fair Trade, shall not apply to such other parts of said agreement other than the part concerning such demand, and any acts thereon.
3. The Minister of Agriculture and Forestry shall approve the application for approval set forth in Paragraph 1, when he deems such taking over of a business or merger, or agreement concerning such application satisfies any of the requirements enumerated in the following items:
- (1) Where such assignment of a business, merger, or the contents of the agreement are necessary, and minimum, for the purpose of preventing ill effects caused by excessive competition among such wholesalers, or between such wholesalers and wholesalers of other markets, and maintaining proper and wholesome operations of the wholesale business in such market;

- (2) Where such assignment of a business, or merger, or the contents of such agreement are not unjustifiably discriminating;
  - (3) Where there are no unjustifiable restrictions on joining and/or retiring from such agreement;
  - (4) Where there is no fear of unjustifiably injuring the interests of the *general consumers and entrepreneurs concerned*; and
  - (5) Where the granting of approval would be deemed proper, if such application for the approval set forth in Article 21, Paragraph 1 or Paragraph 2 had been made for such assignment and taking over of business by assignment of business or such merger (except where the wholesalers and the wholesalers of other markets merge, and the wholesalers continue to exist after the merger.
4. Any person who desires to obtain approval set forth in Paragraph 1 shall submit an application to the Minister of Agriculture and Forestry, through the establisher of such central wholesale market, in accordance with the Ministry of Agriculture and Forestry Ordinance.
5. The provisions of Article 16, Paragraphs 2 and 3 and Article 18 shall apply *mutatis mutandis* to the approval set forth in Paragraph 1. In such case, the terms "application set forth in the preceding paragraph" and "application" in Article 16, Paragraph 2 shall read the "application set forth in Article 29, Paragraph 4" and "opinion with regard to the taking over of a business or merger, or agreement concerning such application, and where such application concerns taking over of a *business, or merger*, assignee or the juridical person which continues to exist, after merger, and which will be established as a consequence of the merger", respectively; the term "application set forth in Paragraph 1" shall read "application set forth in Article 29, Paragraph 4"; and the term "disposition of permission, or rejection thereof, set forth in Article 15, Paragraph 1" shall read "disposition of approval, a rejection thereof, set forth in Article 29, Paragraph 1".

(Order to Alter the Agreement or Cancellation of the Approval)

Article 30 When the Minister of Agriculture and Forestry deems that the agreement to which approval set forth in Paragraph 1 of the preceding article has not satisfied wholly, or in part, the requirements enumerated in Paragraph 3, Items 1 through 4 of the same article, he shall order the parties who concluded such agreement to make alterations thereof, or cancel approval set forth in Paragraph 1 of the same article.

(Report on Discontinuance of the Agreement)

Article 31 When the wholesalers have discontinued the agreement concluded under approval set forth in Article 29, Paragraph 1, they shall report to the Minister of Agriculture and Forestry, through the establisher, without delay.

(Relationship with the Fair Trade Committee)

Article 32 When the Minister of Agriculture and Forestry intends to grant approval set forth in Article 29, Paragraph 1, he shall consult with the Fair Trade Committee.

2. When the Minister of Agriculture and Forestry has made the disposition set forth in the provision of Article 30, or received the report set forth in the provision of the preceding article, he shall notify the Fair Trade Committee, to that effect, without delay.
3. When the Fair Trade Committee deems the agreement concluded under approval set forth in Article 29, Paragraph does not satisfy wholly, or in part, the requirements enumerated in Paragraph 3, Items 1 through 4 of the same article, it may demand that the Minister of Agriculture and Forestry make disposition set forth in the provision of Article 30.
4. When the Fair Trade Committee made such demand as set forth in the provision of the preceding paragraph, it shall publish that fact in the Official Gazette.

(Permission on Middlemen's Business)

Article 33 The Middlemen's business in the central wholesale market (meaning the business conducted, in stores set up by the establisher, to sell, fresh foodstuff etc., after assorting or preparing, which are bought from wholesalers in such central wholesale market; hereinafter the same) shall not be conducted by any person other than those obtaining permission from the establisher.

2. The permission set forth in the preceding paragraph shall be given, by market and classification of the commodities to be dealt in.
3. The establisher shall set up standards of permission of Middlemen's the maximum number thereof, caution money or any other matters set forth in the Ministry of Agriculture and Forestry Ordinance. by market and classification of the commodities to be dealt in, in the Business Regulation, except with regard to the markets and classifications of the commodities to be dealt in ;or which no middleman shall be allowed under the provision of the following paragraph.
4. When the establisher deems it not necessary to have middlemen with regard to the whole, or part, of the market, and the classifications of the commodities to be dealt in, in view of the scale of business of the market, nature of the commodities to be dealt in, situation of transactions, etc.

Section 3. Transactions

(Principle of Auction Sale or Bid)

Article 34 The wholesalers shall conduct wholesale in the central wholesale market by means of auction sale or bid; provided, however, this shall not apply to cases coming under any of the following items:

- (1) When conducting wholesale of commodities designated in the Business Regulation as proper to sell by means other than the auction sale or bid from among fresh foodstuff, etc., which have a certain standard of preservability and of which supply and demand condition is relatively stable, and which are stipulated in the Ministry of Agriculture and Forestry Ordinance, or fresh foodstuff, etc., of which item or quality is special and not demanded by the general public, and which are stipulated in the Ministry of Agriculture and Forestry Ordinance (hereinafter collectively referred to as "specified goods").
- (2) When such special circumstances as occurrence of disaster or otherwise set forth in the Ministry of Agriculture and Forestry Ordinance exist, and when the establisher deems it is improper to adopt auction sale or bid in accordance with the Business Regulation.

(Prohibitions on Sales Other Than Wholesale without Permission)

Article 35 The wholesaler shall not conduct wholesale of fresh foodstuff, etc., coming under the classification of the commodities to be dealt in, under permission granted to him under Article 15, Paragraph 1, or any other sale, except when conducting wholesale business with said permission, within the establishment area of the central wholesale market, except where such wholesaler conducts wholesale business under said permission.

(Prohibition, Etc. of Discriminating Dealings)

Article 36 The wholesaler shall not deal in an unduly discriminating manner with the shippers, middlemen (meaning those have obtained permission under Article 33, Paragraph 1, hereinafter the same), or the participants to the transaction (meaning those who have obtained approval, by market and classification of the commodities to be dealt in from the establisher, in accordance with the Business Regulation, hereinafter the same) with regard to the wholesale business in the central market.



2. The wholesaler shall not refuse to accept, without justifiable reason, the offer of consignment of sale for wholesale with regard to fresh foodstuff, etc. coming under the classification of the commodities to be dealt in under permission set forth in Article 15, Paragraph 1, in the central wholesale market.

(Restriction on the Opposite Party of Wholesale)

Article 37 The wholesaler shall not conduct wholesale, with regard to wholesale business in the central wholesale market, to any person other than the wholesale receiver and participants to transactions (only those who have obtained permission set forth in Article 33, Paragraph 1, with regard to the identical market and classification of the commodities to be dealt in, with those concerning such wholesaler and the participants to transaction who have obtained approval set forth in Paragraph 1 of the preceding Article with regard to the identical market and the classification of the commodities to be dealt in (hereinafter in this article the same); provided, however, this shall not apply where excessive flow of supply into such central wholesale market may cause unsold goods or any other special circumstance set forth in the Ministry of Agriculture and Forestry Ordinance, and where the establisher deems it not unduly restrictive to purchase by the wholesale receivers and participants to transaction, in accordance with the business rule.

(Prohibition of Wholesale by One's Own Account)

Article 38 The wholesaler shall not sell for his own account, with regard to the wholesale business, in the central wholesale market except in cases which come under any of the following items:

- (1) Wholesale of specified goods, which are deemed proper to sell for his own account, in view of the situation of transactions outside such central wholesale market, etc. as provided in the Business Regulation.

2. When it is excessively difficult to receive fresh foodstuff, etc., through the means of wholesale, because of shippers, or when there exist special circumstances set forth with Ministry of Agriculture and Forestry Ordinance, and when the establisher deems there exists no fear of hindering proper and wholesome operations of the wholesale business as provided in the Business Regulation.

(Prohibition of the Wholesale of Goods Located Outside the Market)

Article 39 The wholesaler shall not sell any fresh foodstuff, etc., other than those in the market where he conducts wholesale business under the permission of Article 15, Paragraph 1, with regard to the wholesale business in the central market. However, this shall not apply to fresh foodstuff, etc., located in the place designated, by the establisher, within the establishment area of such central wholesale market (where special circumstances exist set forth in the Ministry of Agriculture and Forestry Ordinance and where the Minister of Agriculture and Forestry has designated a certain place within the surrounding areas of such establishment area, in accordance with the Ministry of Agriculture and Forestry Ordinance, including such place).

(Prohibition of Purchase by the Wholesaler as an Opposite Party of Wholesale)

Article 40 The wholesaler (including his officers and employees) shall not purchase fresh foodstuff, etc., in the market where such wholesaler conducts wholesale business, under permission set forth in Article 15, Paragraph 1, as an opposite party of wholesale conducted with regard to the fresh foodstuff, etc., coming under the classification of commodities to be dealt in.

(Prohibition on Collection of Remuneration Other Than Commission Fees)

Article 41 The wholesaler shall not receive any remuneration, other than commission fees set forth in the Business Regulation, from the consignor in connection with the acceptance of consignment of sale for wholesale in the central wholesale market.

(Consignment Agreement Stipulation)

Article 42 The wholesaler shall establish the Consignment Agreement Stipulations with regard to the acceptance of consignment of sale, for wholesale in the central wholesale market, in accordance with the Business Regulation and obtain approval of the establisher therefor. The same shall apply when any alteration thereof is to be made.

2. When the establisher has granted approval provided for in the preceding paragraph, he shall submit the Consignment Agreement Stipulation to the Minister of Agriculture and Forestry without delay.

(Registration of Bidder)

Article 43 The bidder of the wholesale conducted by the wholesaler in the central wholesale market shall be a person for whom such wholesaler receives registration, effected by the establisher.

2. The establisher shall set forth qualification of the bidder and any other necessary matters for the registration set forth in the preceding paragraph, in the Business Regulation, in accordance with the standards set forth in the Ministry of Agriculture and Forestry Ordinance, and shall effect such registration.
3. Where the bidder, set forth in Paragraph 1, has impaired the fairness, or committed any act which may impair the fairness, of the wholesale in the central wholesale market, the establisher shall cancel the registration of such bidder, or restrict the bidding in the wholesale of such person in the central wholesale market.

(Regulations on Business of Middlemen)

Article 44 The middleman shall not commit any act coming under any of the following items in the establishment area of the central wholesale market, where middlemen's business under permission set forth in Article 33, Paragraph 1 is conducted; provided, however, this shall not apply to the

act set forth in Item 2 when it is difficult for the wholesale receiver to purchase fresh goodstuff, etc., coming under the classification of the commodities to be dealt in under said permission from the wholesalers of such central wholesale market and when the establisher deems it will not disturb orderly transaction in such central wholesale market area.

- (1) Accept consignment of sale of fresh foodstuff, etc., to be dealt in undersaid permission.
- (2) Purchase from any person other than the wholesaler, of such central wholesale market, and sell fresh foodstuff, etc., coming under the classification of the commodities to be dealt in, under said permission.

(Restriction on Transaction)

Article 45 When the establisher deems that any unjust act has been committed or an unjust price is formed in the course of the transactions in the central wholesale market, he may restrict transactions in such central wholesale market against the wholesaler, middleman or participant to the transaction as pertains to the wholesale (to include acceptance of consignment of sale for wholesale in such central wholesale market) in accordance with the Business Regulation.

(Publishing of Quantity of Arrival, etc.)

Article 46 The establisher shall display, in a prominent place of each market concerned, the quantity of important items received on that day or any other matter set forth in the Ministry of Agriculture and Forestry Ordinance concerning fresh foodstuff, etc., handled in each market of the central wholesale market, by the time each day's sales starts.

2. The establisher shall make public each day's quantity and price of wholesale, sale, by the wholesalers, concerning fresh foodstuff, etc., in accordance with the Ministry of Agriculture and Forestry Ordinance.

(Report on Market Conditions, Etc.)

Article 47 The establisher shall report to the Minister of Agriculture and Forestry each month's market conditions, and quantity and value of the wholesale by the wholesalers, with regard to fresh foodstuff, etc., set forth in Paragraph 1 of the preceding article, in accordance with the Ministry of Agriculture and Forestry Ordinance.

#### Section 4. Supervision

(Report and Inspection)

Article 48 The Minister of Agriculture and Forestry may, to the extent required for the enforcement of this Law, request the establisher, on the wholesaler, to submit reports and/or data concerning their business or assets, or have his staff enter the office or any other place of business of the establisher or wholesaler, and inspect the conditions of the business, or assets or books, documents, or any other objects.

2. The establisher may, to the extent required for the enforcement of this Law, request the wholesaler, or wholesale receiver, to submit reports and/or data concerning their business or assets, or have his staff enter the office or any other place of business of the wholesaler or wholesale receiver, and inspect the conditions of the business, or assets or books, documents, or any other object.
3. The staff who may enter and inspect pursuant to the provisions of Paragraph 1, or the preceding paragraph, shall carry with him a certificate showing his identity and submit same to persons concerned.
4. The authority to enter and inspect set forth in Paragraph 1 or Paragraph 2, shall not be construed to have been granted for the purpose of criminal investigation.

*(Supervisory Disposition)*

Article 49 When the establisher or wholesaler has violated this Law, or orders based thereon, or dispositions based thereon, the Minister of Agriculture and Forestry may order such establisher or wholesaler to suspend or amend such violating acts, or take any necessary steps to correct such violation, or make disposition enumerated in Item 1, in the case of the establisher and Item 2 or Item 3, in the case of the wholesaler.

- (1) Cancel the permission granted to establish the central wholesale market, or order suspension wholly, or in part, of the business of the central wholesale market, for a fixed period of not more than one year.
- (2) Cancel the permission granted under Article 15, Paragraph 1, or order suspension wholly, or in part, of the wholesale business of such permission, for a fixed period of not more than one year.
- (3) Where the wholesaler is a juridical person; to order the discharge of such officer, who is conducting his business, and who has committed such violating acts.

2. The provision of Article 19, Paragraph 5, shall apply mutatis mutandis to the disposition pursuant to the provisions of the preceding paragraph. In such case, with regard to the disposition pursuant to Item 3, of the same paragraph, the terms "party" and "such person" in Article 19, Paragraph 5, shall read "party and the person to be discharged because of such disposition" and "such persons", respectively.

Article 50 Where the wholesaler, wholesale receiver, or participant to the transaction has violated the Business Regulation, or any disposition based thereon, the establisher may impose an administrative fine of not more than one hundred thousand yen in accordance with the Business Regulation; or the disposition set forth in Item 1, in the case of the wholesaler, Item 2, in the case of the middleman, and Item 3, in the case of the participant to the transaction.

- (1) Order the suspension wholly, or in part, the wholesale business of the permission under Article 15, Paragraph 1, within a fixed period of not more than six months.
- (2) Cancel permission under Article 33, Paragraph 1, or order the suspension wholly, or in part, the wholesale receiver's business, under said permission, within a fixed period of not more than six months.
- (3) Cancel the approval set forth in Article 36, Paragraph 1, or order suspension of entering the central wholesale market, within a fixed period of not more than six months.

(Recommendations or Orders to Take Necessary Steps for Improvement)

Article 51 When the Minister of Agriculture and Forestry deems it necessary for the maintenance of proper and wholesome operations of business in the central wholesale market, he may make recommendations to the establisher for the improvement of facilities of the central wholesale market, alteration of the Business Regulation, or otherwise.

2. Where the Minister of Agriculture and Forestry, or the establisher, deems at necessary for the maintenance of proper and wholesome operation of the business of the central wholesale market, either may order the wholesaler to take necessary steps for improvement with regard to the business or accounting of such wholesaler, or make recommendations for improvement with regard to the business or accounting, to any juridical person over which the wholesaler has control.
3. When the establisher deems it necessary for the maintenance of proper and wholesome business of the middleman's business, he may order the middleman to take necessary steps for the improvement of business, or accounting, of such wholesale receiver.

## Section 5. Additional Provisions

(Acting for the Wholesaler)

Article 52 Where any wholesaler is unable to conduct the wholesale business wholly, or in part, the establisher may conduct such business himself, or have some other wholesaler conduct, the wholesale business, in accordance with the Business Regulation, with regard to fresh foodstuff, etc., for which an offer of consignment of sale for wholesale has been made to such wholesaler (including one who was a wholesaler), who has become unable to conduct such wholesale involved.

2. The provisions of Section 2, of this chapter, shall not apply to such establisher conducting wholesale business pursuant to the provision of the preceding paragraph.

(Report and Matters to be Made Public)

Article 53 The establisher shall report to the Minister of Agriculture and Forestry, without delay, any matter enumerated in the following items.

- (1) When he deems that there exist, reasons to make dispositions set forth in Article 19, Paragraph 2, Article 25, Paragraph 1 or Paragraph 2, Article 49, Paragraph 1, Item 2, or Item 3.
  - (2) When he has imposed restriction on transaction in the central wholesale market pursuant to the provision of Article 45.
  - (3) When he has made disposition pursuant to the provisions of Article 50.
  - (4) When he conducted, or had other wholesaler to conduct, wholesale business pursuant to the provision in Paragraph 1, of the preceding article.
  - (5) When he temporarily opened or closed the central wholesale market.
2. The Minister of Agriculture and Forestry shall give notification on any matters enumerated in the following items. The same shall apply to alterations of the matters for which notification was given.



- (1) When he made designation pursuant to the provision of Article 7, Paragraph 1.
- (2) When he granted approval set forth in Article 8 or Article 14, Paragraph 1.
- (3) When he granted permission set forth in Article 15, Paragraph 1.
- (4) When he made disposition pursuant to the provisions of Article 19, Paragraph 2, Paragraph 3, or Paragraph 4, Article 25, Paragraph 1, or Paragraph 2, or Article 49, Paragraph 1, Item 1 or Item 2.

(Intermediary Role of the Governor of To, Do, Fu or Prefecture)

Article 54 Any application for permission or approval, notice or report, to be submitted to the Minister of Agriculture and Forestry pursuant to the provisions in this chapter, or orders based thereon, shall be submitted through the Governor of To, Do, Fu or Prefecture; provided, however, this shall not apply to the application for permission or approval, notice or report, concerning the control wholesale market established by To, Do, Fu, Prefecture, or the designated cities under Article 252-19, Paragraph 1 of the Local Autonomy Law.

2. Concerning the principal clause of the preceding paragraph; when the Governor of To, Do, Fu or Prefecture has any opinion with regard to applications for permission or approval, notice or report, he may submit to the Minister of Agriculture and Forestry the document concerned, with his opinion attached thereto.

## Chapter IV. Local Wholesale Market

### Section 1. Permission for establishment of wholesale markets and business

#### (Permission for Establishment)

Article 55 Any person who intends to establish a local wholesale market shall obtain the permission of the Governor of To, Do, Fu or Prefecture, by market, in accordance with the By-Laws of such To, Do, Fu or Prefecture.

#### (Application for Permission)

Article 56 Any person who applies for permission, set forth in the preceding paragraph, shall prepare a Business Regulation and plan of operation and submit them to the Governor of To, Do, Fu or Prefecture attached to their application.

2. The Business Regulation set forth in the preceding paragraph shall contain the location and area of the local wholesale market, commodities to be dealt in, and any other matters set forth in the By-Laws of the To, Do, Fu or Prefecture.
3. The plan of operation set forth in Paragraph 1 shall contain type of facilities, scale, layout and structures, and any other matters set forth in the By-Laws of the To, Do, Fu or Prefecture.

#### (Standards for Permission)

Article 57 The Governor of the To, Do, Fu or Prefecture shall not grant permission set forth in Article 55 to any applicant coming under any of the following items:

- (1) Any applicant who has been sentenced to a penalty heavier than a fine under the provisions of this Law, where a period of two years has not elapsed from the date he has served out his term or ceased to serve;

- (2) Any applicant whose permission, pursuant to the provision of Article 65, Paragraph 2, Item 1 was cancelled and a period of two years has not elapsed from the date of such cancellation;
- (3) Any applicant who is a juridical person whose business employs any officer coming under Paragraph 1 or the preceding paragraph;
- (4) Any applicant who does not possess necessary finances or credit for establishing a local wholesale market;
- (5) Where the Business Regulation violates laws and regulations (including By-Laws of To, Do, Fu or Prefecture based on the provision of this chapter);
- (6) Where the plan of operation is not proper or the performance of which is deemed uncertain; and
- (7) When the location of the local wholesale market of such application is deemed substantially lacking in adequacy in view of the To, Do, Fu or Prefecture Wholesale Market Consolidation Plan; or, the location, scale, layout or structure of the local wholesale market of such application is deemed materially improper for the maintenance of smooth operations of business in the local wholesale market.

2. When an application for permission under Article 55 has been submitted, and the applicant is a person whose permission was cancelled under the provision of Article 65, Paragraph 2, Item 2 or Item 3, and a period of two years has not elapsed, the Governor of To, Do, Fu or Prefecture may not grant such permission set forth in the same article.

(Permission for a Wholesale Business)

Article 58 Any person who intends to conduct a wholesale business in the local wholesale market shall obtain permission of the Governor of To, Do, Fu or Prefecture, by market and classification of commodities to be dealt in.

2. Where the applicant is not the person who established the local wholesale market, the application for permission under the preceding paragraph shall be made through such person as has established the local wholesale market.

3. The provision of Article 16, Paragraph 2 shall apply mutatis mutandis to the preceding paragraph. In such case, the terms "application set forth in the preceding paragraph", "central wholesale market concerned" and "Minister of Agriculture and Forestry" in Paragraph 2 of the same article shall read "application for permission set forth in Article 58, Paragraph 1", "local wholesale market concerned", and "Governor of To, Do, Fu or Prefecture", respectively.

(Standards for Permission)

Article 59 When an application for permission, set forth in Paragraph 1 of the preceding article has been made, the Governor of To, Do, Fu or Prefecture shall not grant permission when the applicant comes under the provision of Article 57, Paragraph 1, Item 1, Item 2 or Item 3; or, when he deems that the applicant does not have sufficient knowledge and experience, and finances and credit to perform wholesale business in the local wholesale market fairly and properly.

(Permission for Discontinuance)

Article 60 Any person who has obtained the permission set forth in Article 55 (hereinafter referred to in this chapter as the "establisher") shall, in case he intends to discontinue the local wholesale market, obtain permission of the Governor of To, Do, Fu or Prefecture in accordance with stipulations of the By-Laws of the To, Do, Fu or Prefecture.

Section 2. Regulations and supervisions on the business

(Prohibition of Discriminatory Dealings)

Article 61 The establisher or any other person who has obtained permission set forth in Article 58, Paragraph 1 (hereinafter referred to in this chapter as the "wholesaler") shall not deal with shippers, buyers or any other user of the local wholesale market in an unduly discriminating manner with regard to business operations in the local wholesale market.

(Principle of Auction Sale or Bid)

Article 62 The wholesaler shall conduct wholesale business in the local wholesale market by means of auction sale or bid; however, this shall not apply where it is deemed improper to adopt auction sale or bid due to the nature of the transaction, etc., and where the establisher has so stipulated in the Business Regulation, in accordance with the provisions of the To, Do, Fu or Prefecture By-Laws.

(Publication of Supply Quantity Received, etc.)

Article 63 The establisher shall make public the supply quantity received each day, quantity and wholesale price by the wholesaler of fresh foodstuffs, etc., handled in the local wholesale market, in accordance with the stipulations of the To, Do, Fu and Prefecture.

(Alteration of the Business Regulation)

Article 64 If the establisher intends to alter the Business Regulation, he shall obtain approval of the Governor of To, Do, Fu or Prefecture, in accordance with the stipulations of the By-Laws of the To, Do, Fu or Prefecture.

2. The provision of Article 57, Paragraph 1 (but only the part concerning the Business Regulation) shall apply mutatis mutandis to the approval in the preceding paragraph.

(Cancellation of Permission, etc.)

Article 65 The Governor of To, Do, Fu or Prefecture shall cancel permission granted under Article 55 or Article 58, Paragraph 1, where the establisher or the wholesaler comes under the provision of Article 57, Paragraph 1, Item 1 (including cases where the establisher or the wholesaler is a juridical person and any of their officers conducting their business comes under the provision of the same item) or is deemed to have insufficient finances or credit to conduct their business.

2. The Governor of To, Do, Fu or Prefecture may order the suspension wholly, or in part, of a business for a fixed period not longer than one year, or cancel permission granted under Article 55 or Article 58, Paragraph 1, where the establisher or the wholesaler comes under any of the following items:
- (1) Violations of this Law, orders based thereon, By-Laws of To, Do, Fu or Prefecture based on the provisions of this chapter or the Business Regulation;
  - (2) Failure to start the business within one month from the day the notice of permission under Article 55 or Article 58, Paragraph 1 was received; and
  - (3) For suspending business for more than one month without justifiable reason.
3. The provision of Article 19, Paragraph 5 shall apply *mutatis mutandis* to the disposition under the provisions of the preceding paragraph.

(Report and Inspection)

Article 66 The Governor of To, Do, Fu or Prefecture may, to the extent necessary for the enforcement of this Law, request the establisher or the wholesaler to submit reports and/or data concerning their business or assets, or have his staff enter the office or any other place of business of the establisher or wholesaler and inspect their business, condition of assets, books, documents or any other objects.

2. The provisions of Article 48, Paragraphs 3 and 4 shall apply *mutatis mutandis* to inspections set forth in the preceding paragraph.

### Section 3. Miscellaneous provisions

(Local Wholesale Market Within the Established Area of the Central Wholesale Market)

Article 67 When application for permission under Article 55 has been made and where such application concerns the local wholesale market within the established area of the central wholesale market, the Governor of To, Do, Fu or Prefecture shall report these facts to the Minister of Agriculture and Forestry, attaching his opinions and seek the advice of the Minister of Agriculture and Forestry.

2. When the Governor of To, Do, Fu or Prefecture grants permission under Article 55 or Article 58, Paragraph 1, or makes disposition set forth in Article 65, Paragraph 1 or Paragraph 2, he shall report such facts to the Minister of Agriculture and Forestry without delay.

(Matters to be Set Forth in the By-Laws of To, Do, Fu or Prefecture)

Article 68 In addition to the matters stipulated in this chapter, any necessary matters with regard to the establishment and operation of a local wholesale market shall be set forth in the By-Laws of To, Do, Fu or Prefecture.

(Report to the Minister of Agriculture and Forestry, etc.)

Article 69 The Minister of Agriculture and Forestry may request the Governor of To, Do, Fu or Prefecture to submit reports and/or data regarding the local wholesale market, or give advice or make recommendation regarding the administration of the local wholesale market.

Chapter V. The Wholesale Market Council and the To, Do, Fu  
or Prefecture Wholesale Market Council

(Wholesale Market Council)

Article 70 The Wholesale Market Council (hereinafter referred to as "the Council") shall be set up in the Ministry of Agriculture and Forestry.

2. The Council shall handle matters coming under its authority pursuant to this law, and investigate and deliberate important matters regarding the enforcement of this Law, in response to requests from the Minister of Agriculture and Forestry.
3. The Council may state its views to the Minister of Agriculture and Forestry regarding matters set forth in the preceding paragraph.
4. The Council shall be constituted of not more than ten members.
5. Members of the Council shall be appointed by the Minister of Agriculture and Forestry from persons of learning and experience.
6. Members of the Council shall be part-timer.
7. In addition to the matters set forth in the preceding paragraphs, any matters necessary for the organization and operation of the Council shall be set up by Cabinet Order.

(To, Do, Fu or Prefecture Wholesale Market Council)

Article 71 To, Do, Fu or Prefecture may set up a To, Do, Fu or Prefecture Wholesale Market Council under By-Laws, for the purpose of having such council investigate and deliberate matters concerning the To, Do, Fu or Prefecture Wholesale Market Consolidation Plan, or any other important matters concerning wholesale markets, in response to requests of the Governor of To, Do, Fu or Prefecture.



2. In addition to the matters set forth in the preceding paragraph, any matter necessary for the organization and operation of the To, Do, Fu or Prefecture Wholesale Market Council shall be set up by the By-Laws of To, Do, Fu or Prefecture.

## Chapter VI. Miscellaneous Provisions

(Subsidy)

Article 72 Where any local public entity coming under Article 8, Item 1 or Item 2 or any local public entity establishing a central wholesale market intends to improve, construct or acquire facilities of the central wholesale market pursuant to the Central Wholesale Market Consolidation Plan, the State may subsidize, within limits of the budget, not more than four-tenths of the costs required for the purpose of improvement, construction and acquisition of such important facilities as building, machinery and equipment.

2. The State and To, Do, Fu and Prefecture shall make their best efforts to give advice, guidance, loan facilitation, or any other assistance necessary, for the purpose of completing the Central Wholesale Market Consolidation Plan, or To, Do, Fu or Prefecture Wholesale Market Consolidation Plan.

(Exception with Regard to Taxation in Case of Merger, etc.)

Article 73 The Minister of Agriculture and Forestry may, in accordance with a Cabinet Order, give recognition to any person who establishes any local wholesale market, and who is not a local public entity, or person who conducts wholesale business in the central or local wholesale market (hereinafter referred to in this article as the "establisher", etc.), when any such persons merges with another establisher, etc. (juridical person), or invests in other establisher, etc. (juridical person), or sets up an establisher, etc. (juridical person) by joint investment with another establisher, etc., the productivity of such establishers, etc. will markedly improve, and the local wholesale market established by the establishers, etc. will satisfy the basic index under Article 4, Paragraph 2, Item 2, set forth in the Basic Plan for the Consolidation of the Wholesale Market, or such establisher, etc. will achieve the objective of Item 4, of the same paragraph, set forth in the Basic Plan for the Wholesale Market Consolidation Plan.

2. Where the juridical person who obtained recognition set forth in the preceding paragraph, merges within the period of time set forth in the Cabinet Order, in accordance with said recognition, the Corporate Tax of said juridical person's liquidation income shall be deducted in accordance with provisions of the Temporary Management Law for Taxation. (Law No. 26 of 1957)

3. The juridical person who continues after the merger, under recognition set forth in Paragraph 1; or a juridical person established by such merger; or a juridical person receiving investment in connection with such recognition; or a juridical person established by such investment; shall, when they effect registration of the matters concerning said recognition, be imposed with abated Registration and License Tax in accordance with the provisions of the Temporary Management Law for Taxation.

(1) Establishment of a corporation, or increase of capital or investment.

(2) Establishment of a juridical person or acquisition of real estate at the time of capital or investment increase.

(Relationship with By-Laws)

Article 74 The provisions of this Law shall not preclude any local public entity from establishing any necessary regulation or By-Laws with regard to the establishment or operation of a wholesale market which is not a central or local wholesale market.

(Restrictions or Conditions Attached to Permission or Approval)

Article 75 Any restrictions or conditions may be attached to permission or approval granted pursuant to this Law.

2. The restrictions or conditions set forth in the preceding paragraph shall be limited to the minimum necessary for the full performance of matters for which permission or approval has been granted, and shall not impose unjustifiable obligations on the persons who have obtained such permission or approval.

**(Delegations of Authority)**

**Article 76** Part of the authority of the Minister of Agriculture and Forestry set forth in this Law may be delegated to the Governor of To, Do, Fu or Prefecture, in accordance with the stipulations of the Cabinet Order.

## Chapter VII. Penal Provisions

Article 77 Any person coming under any of the following items shall, upon conviction, be punished with imprisonment at hard labor for a period not exceeding two years, or a fine of not more than two hundred thousand yen, or both:

- (1) Any person who conducts a wholesale business in the central wholesale market in violation of the provisions of Article 15, Paragraph 1.
- (2) Any person who obtained permission set forth in Article 15, Paragraph 1 through fraudulent or any other wrongful means.
- (3) Any person who violates an order pursuant to the provision of Article 19, Paragraph 2.
- (4) Any person who violates the provision of Article 49, Paragraph 1, Item 2.
- (5) Any person who violates restrictions or conditions attached to the permission set forth in Article 15, Paragraph 1, attached in accordance with the provisions of Article 75, Paragraph 1.

Article 78 Any person who comes under any of the following items shall be punished with imprisonment at hard labor for a period not exceeding one year or a fine of not more than one hundred thousand yen, or both:

- (1) Any person who establishes a local wholesale market in violation of the provisions of Article 59.
- (2) Any person who obtained permission set forth in Article 55 through fraudulent or any other wrongful means.
- (3) Any person who conducts a wholesale business in a local wholesale market in violation of the provisions of Article 58, Paragraph 1.
- (4) Any person who obtained permission set forth in Article 58, Paragraph 1 through fraudulent or any other wrongful means.

- (5) Any person who violates an order pursuant to the provisions of Article 65, Paragraph 2.
- (6) Any person who violates any restriction or condition attached to the permission set forth in Article 55 or Article 58, Paragraph 1, attached in accordance with the provisions of Article 75, Paragraph 1.

Article 79 Any person who comes under any of the following shall be punished by a fine of not more than fifty thousand yen.

- (1) Any person who has not reported or has made any false report pursuant to the provisions of Article 20, Paragraph 1.
- (2) Any person who has not reported or has made any false report pursuant to the provisions of Article 22, or Article 24.
- (3) Any person who violates the provisions of Article 26, Paragraph 1.
- (4) Any person who has not submitted the business report set forth in the provision of Article 28, or has submitted a business report with false entries.
- (5) Any person who violates the provision of Article 33, Paragraph 1.
- (6) Any person who has not made a report, has not submitted data or has submitted false data, or refuses, obstructs or evades inspection under the provisions of Article 48, Paragraph 1.
- (7) Any person who violates an order under the provisions of Article 49, Paragraph 1, Item 3.

Article 80 Any person who comes under any of the following shall be punished by a fine of not more than thirty thousand yen:

- (1) Any person who has not made a report, submitted data, or has made a false report or submitted false data, or refuses, obstructs or evades inspection under the provision of Article 48, Paragraph 2 or Article 66, Paragraph 1.

- (2) Any person who discontinued a local wholesale market in violation of the provisions of Article 60.

Article 81 When a representative of a juridical person, or an agent, an employee or any other person in the service of a juridical person, or of an individual has, with regard to the business of said individual or juridical person, committed any violation of the provisions of Article 77 through the preceding article, said juridical person or individual, shall be punished by such fines as provided for in each article, in addition to the punishment of the offender.

Article 82 Any person who violates the provision of Article 3, Paragraph 2, shall be punished by an administrative fine of not more than thirty thousand yen.

## Supplementary Provisions

### (Date of Enforcement)

Article 1 This Law shall come into effect from the day set forth in the Cabinet Order within three months from the date of promulgation; however, the provisions of Article 27 shall be effective from April 1, 1972 and the provision of Chapter IV (including penal provisions of said chapter) shall come into effect from the day set forth in the Cabinet Order within nine months from the date of promulgation.

Article 2 The Central Wholesale Market Law (Law No. 32 of 1923; hereinafter referred to as the "Old Law") is hereby rescinded.

### (Transitional Provisions with Regard to Restrictions on Use of Appellation)

Article 3 The provisions of Article 3, Paragraph 2 shall not apply to any wholesale market which currently uses the term "local wholesale market" in its appellation at the time of enforcement of this Law for a period of nine months after the enforcement of this Law.

### (Transitional Provisions with Regard to the Central Wholesale Market Consolidation Plan)

Article 4 The current Central Wholesale Market Establishment Consolidation Plan set forth in Article 7-2, Paragraph 1 of the Old Law shall be deemed as the Central Wholesale Market Consolidation Plan set forth under the provision of Article 5, Paragraph 1 at the time of enforcement of this Law until one year has elapsed from the day of the enforcement of this Law (such day, when the Central Wholesale Market Consolidation Plan is established in accordance with the provision of Article 5, Paragraph 1).



(Transitional Provisions with Regard to the Establishment Area)

Article 5 The current designated area designated in accordance with the provision of Article 1, Paragraph 1 of the Old Law at the time of the enforcement of this Law shall be deemed as the Central Wholesale Market Establishment Area.

(Transitional Provisions with Regard to the Existing Central Wholesale Market)

Article 6 The current central wholesale market established under permission set forth in Article 2 of the Old Law (hereinafter referred to as the "existing markets") at the time of enforcement of this law shall be deemed as the central wholesale markets established under permission set forth in Article 8.

2. The current Business Regulation of the existing markets in effect at the time of enforcement of this Law shall be deemed as the Business Regulation established under the provisions of Chapter III, until nine months have elapsed from the day of the enforcement of this Law. Existing markets which have applied for, and obtained, approval by such day, under the provisions of the next paragraph, such day as the approved Business Regulation will be effective. Existing markets which have applied for, but have not obtained approval or refusal thereof by such day, under the provisions of the next paragraph, such day as specified in said approval or refusal will be effective. Where the approved business Regulation will become effective after the day approval is obtained, the approved Business Regulation date will be effective. If the provisions of said Business Regulation are in conflict with the provisions of said chapter, provisions of said chapter shall not apply with regard to the parts in conflict with the Business Regulation.
3. Any local public entity establishing existing markets shall set forth a Business Regulation which satisfies the provisions of chapter III with regard to said existing markets, and shall file applications for permission

to the Ministry of Agriculture and Forestry, until period of seven months elapses from the day of the enforcement of this Law, in accordance with the Ministry of Agriculture and Forestry Ordinance.

4. The provisions in Article 10, (but only the part concerning Item 3) shall apply mutatis mutandis to approvals of the preceding paragraph.
5. The Business Regulation obtaining approval of Paragraph 3 shall be deemed to have been established under the provisions of Chapter III.

(Transitional Provisions with Regard to Wholesalers of the Central Wholesale Market)

Article 7 Any person who is currently conducting a wholesale business under the permission of Article 10 of the Old Law, at the time of the enforcement of this Law, shall be deemed to have received permission under Article 15, Paragraph 1.

2. Any person set forth in the preceding paragraph shall, when such person currently has a controlling relationship over other juridical person(s), at the time of enforcement of this Law, report this fact to the Minister of Agriculture and Forestry, in accordance with the provisions of the Ministry of Agriculture and Forestry Ordinance, within thirty days from the day of enforcement of this Law; however, this shall not apply when all such controlling relationships has ceased to exist by that date.
3. The report under the provisions of the preceding paragraph shall be deemed as a report under the provisions of the latter part of Paragraph 2, Article 23 with regard to the application of the provisions of latter half of the same paragraph (including the penal provisions).
4. Any person who has not made the report under the provisions of Paragraph 2, or has submitted a false report shall be punished by a fine of not more than fifty thousand yen.

5. When a representative of a juridical person, or an agent, an employee or any other person in the service of a juridical person, or of an individual has, with regard to the business of said individual or juridical person, committed a violation as provided for in the preceding paragraph, said individual or juridical person, shall be punished by such fine as provided in the same paragraph, in addition to the punishment of the offender.

(Transitional Provisions with Regard to the Local Wholesale Market)

Article 8 Any person who established a local wholesale market, or any person who conducted a wholesale business in a local wholesale market, prior to the time of enforcement of the provisions in Chapter IV, may operate the same business without obtaining permission under Article 55 or Article 58, Paragraph 1 for a period of one year after the day of enforcement of the same chapter. The same shall apply, where such person files application for permission under Article 55 or Article 58, Paragraph 1 during said period, until permission or refusal is given.

(Transitional Provisions with Regard to Other Dispositions and Procedures, etc.)

Article 9 Except as provided for in Article 4 through the preceding article of this Supplementary Provision, any disposition, procedure, or any other act under the provisions of the Old Law, or order based thereon, made prior to the enforcement of this Law are deemed to have been made under the corresponding provisions in this Law, or order based thereon, where such corresponding provisions exist in this Law, or order based thereon.

(Transitional Provisions with Regard to the Penal Provisions)

Article 10 With regard to the applicability of penal provisions for acts committed prior to the enforcement of this Law, provisions of the Old Law will still apply.

## 5. A list of References

In preparing this survey report, the following materials were utilized.

### 5-1. Materials of the government and public offices of Indonesia

1. Fisheries Statistics of Indonesia, 1972/73.  
Directorate Gen. of Fisheries, Gov. of Indonesia.
2. Statistics of Sea Fisheries Service of the Municipality DKI Jakarta, 1967/72.  
Fisheries Service of the Municipal Gov. of the Capital City Jakarta.
3. Primary 5 Year Plan of West Java Sea Fisheries (1969 - 73)  
JAKARTA CITY.
4. Outlines of the Policy of the Directorate General of Fisheries, 1969/1970  
Directorate Gen. of Fisheries, Gov. of Indonesia.
5. Basic Data on Jakarta Fish Port (Sea Food Terminal) 1973  
Fishery Service of the Municipal Gov. of the Capital City Jakarta.
6. Fisheries of Indonesia 1973.
7. Harbour Service  
Ministry of Communication.
8. Strategy and Programme of the Fisheries Sub-Sector during Pelita II  
Directorate Gen. of Fisheries, Gov. of Indonesia.
9. Stipulation in Channeling the Credit Service to the Pelita  
Economic Project D.K.I. Jakarta, Jakarta City.
10. Harbour Taxes Rate for Fishing Boat  
Directorate Gen. of Sea Communication, Gov. of Indonesia.
11. Consumption Utilization of Fish Auction Facilities Fish Market  
Complex, Jakarta City.
12. Bill of Tax Harbour Rate
13. Region Regulation of Jakarta Raya Municipality about Fish  
Public Sale, Jakarta City.
14. Daftar Harga Satuan Bahan Bagunan (Basic Price)

15. Dafter Harga Satuan Pekerjaan (Unit Price)
- 5-2. Materials Made by Specialists, etc., in Indonesia
1. On development of Jakarta Fish Market/Fishing Ports  
Japanese Advisory Team, Directorate Gen. of Fisheries, Gov.  
of Indonesia.
  2. Proposals on Development of Jakarta Fish Market/Fishing Ports  
Japanese Advisory Team, Directorate Gen. of Fisheries, Gov.  
of Indonesia.
  3. Pilot Project for Improvement of Fisheries Products Distribution  
Japanese Advisory Team, Directorate Gen. of Fisheries, Gov.  
of Indonesia.
  4. Final Report on Survey of Present Conditions of Fisheries in Java  
Island (Summary)  
Japanese Advisory Team, Directorate Gen. of Fisheries, Gov.  
of Indonesia.
  5. Indonesia Agricultural Sector Survey, Fisheries  
I. B. R. D.
- 5-3. Materials of the Government and Public Offices in Singapore
1. The Fisheries Act, 1966  
Gov. Gazette.
  2. The Fisheries (Import, Export and Marketing) Rules, 1969  
Ministry of Law and National Development
  3. The Fishing Vessels (Control and Licensing) Rules, 1969  
Ministry of Law and National Development
  4. The Fish Processing Establishment (Control and Licensing) Rules, 1971  
Ministry of Law and National Development
  5. The Fisheries (Fishing Harbours) Rules, 1971  
Ministry of Law and National Development
  6. Market Regulations  
Ministry of Law and National Development

7. Requirements for Arrival and Departure of Fishing Vessels  
Ministry of Law and National Development

5-4. Materials of the Government and Public Offices in Thailand

1. General Information on the Fish Marketing Organization of Thailand  
Fish Marketing Organization and Bangkok Fish Market
2. Summary of the Assistancess in the Fisheries Promotion and Welfare  
Projects of the Fish Marketing Organization 1954 - 1967  
Fish Marketing Organization and Bangkok Fish Market
3. Fisheries Record of Fish Marketing Organization, 1972  
Fish Marketing Organization and Bangkok Fish Market
4. Samut Sakhon Fish Market

5-5. Materials Published in Japan

1. Fisheries in Indonesia  
Akai, M. Hozumi, S., Japan Fisheries Resources Preservation  
Society, March, 1974.
2. General Report on Technical Cooperation Plan for Fisheries of  
Indonesia  
OTCA, March, 1972.
3. Fisheries of Indonesia - Fisheries Conditions of Developing Countries  
OTCA, January, 1972.
4. Basic Investigation for Indonesia Fisheries Cooperation  
(Investigation Report)  
Society of Overseas Fisheries Cooperation (Incorporated  
Association), November, 1965.
5. Report on Fisheries Development Project in Papua New Guinea  
OTCA, January, 1972.
6. Basic Investigation for Indonesia Economical Development  
OTCA, March, 1973.
7. Fisheries Development of Southeast Asia  
Iwakiri, N., Research Institute of Asian Economy, 1973.

8. Handbook on Economic Analysis of Projects (Methodology)  
Research Institute of Asian Economy, January, 1974.
9. Master Plan of Formation for Distribution and Processing Center  
of Fisheries Products in the Producing Area  
Tottori Prefecture, January, 1972.
10. Summary Report on Investigation of Economic Effects at Fishing Ports  
Planning Div., Fishing Port Dept., Fisheries Agency, October,  
1970.
11. Investigation Report on Standard of Fishing Port Facilities Planning  
in 1959 and 1960.  
Planning Div., Fishing Port Dept., Fisheries Agency
12. Materials for Panel Discussion (Reading Papers of Technology of  
Fishing Port Construction in 10th to 13th Meeting)  
Fishing Port Dept., Fisheries Agency.
13. Standard Design Method of Fishing Port Structures  
All Japan Fishing Port Association, 1971.

5-6. Others

1. Economic Appraisal of Transport Projects  
Adler, H. A., translated by Toriyama, M., Oriental Economic  
Paper Co., 1971.
2. Fishery Harbours Planning Studies  
F. A. O. 1970.

