

FINAL FINANCIAL REPORT
ON
THE PROCUREMENT OF A TRAINING VESSEL,
A RESEARCH VESSEL, AND EQUIPMENT
FOR THE SOUTHEAST ASIAN FISHERIES
DEVELOPMENT CENTER

December 1972

OVERSEAS TECHNICAL COOPERATION AGENCY

| 国際協力事業団 | |
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P R E F A C E

The Overseas Technical Cooperation Agency (OTCA) has the pleasure to present the final report on the work under the Contract for the Procurement of a Training Vessel, a Research Vessel, and Equipment for the Southeast Asian Fisheries Development Center between the Southeast Asian Fisheries Development Center and the Overseas Technical Cooperation Agency, Japan, concluded at Bangkok on July 5, 1968.

The training vessel was built at the Yokosuka Shipyard of the Hayashikane Shipbuilding and Engineering Co. Ltd., and delivered to the Center in June 1969.

The research vessel was built at the Miho Shipyard Co. Ltd., Shimizu, and delivered to the Center in June 1969.

The training vessel sailed for Bangkok and the research vessel sailed for Singapore after the completion of training for their crews.

The training equipment as described in Annex III of the Contract was delivered to the Center in December 1969 with the exception of the equipment under C group. The Secretary-General requested the OTCA to postpone the shipment of the C group equipment, since the construction of the Training Department had not yet been completed, resulting in shortage of storage space. The OTCA accepted his request and delivered the equipment in January 1972, after the completion of the building.

Among the equipment enumerated in Annex III for the Training Department, a drag equipment for tank experiment, a tape recorder, a microscope and an electric typewriter were exchanged for other equipment. The drag equipment was exchanged due to a request in July 1971 by the Training Department to cancel its procurement since a water tank had not yet been constructed.

With regard to the remaining four items, the Training Department planned to purchase them from the USAID fund.

In addition, a refrigerating unit, a net hauler and a gasoline engine for the Training Department were donated by Japanese makers and shipped to the Center together with the C group equipment and the additional equipment for the Training Department.

Most of the research equipment, as described in Annex IV of the Contract, was delivered to the Center in December 1969, and fishing gear and accessories and other 9 items by the end of January 1972.

Instead of a salinometer (Auto Lab) and a hydrogen ion analyser for sea water enumerated in Annex IV for the Research Department, a salinometer (Electronic Switch Gear) and a micro-Kjeldahl nitrogen determination apparatus were

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delivered to the Center upon the proposal of the Research Department that it was easier to handle them and use them effectively from the research point of view. The OTCA also arranged to purchase additional equipments for both Departments within the limit of the balance remaining of the money contributed to the Center and the accrued interest derived there from.

These additional equipments are gyro-compass and 50 items for the Training Department and a transportation boat and 27 items for the Research Department. They have already been delivered to the Center by the end of October 1972.

Vessels and equipment delivered to the Center are itemized in Chapter 2. The final balance sheets for the procurement are shown in Chapter 1, and expenditures for the Training and the Research Departments are shown in (3) and (4) of Chapter 1 respectively. Total expenditures for the Procurement and delivery of vessels and equipment amounted to 1,512,954.00 US dollars, of which 1,158,333.33 US dollars was for vessels and 311,291.09 US dollars for equipment and 14,220.10 US dollars for freight and insurance and 29,109.48 US dollars for training and homeward navigation. Expenditures for the Training Department amounted to 804,775.33 US dollars, and expenditures for the Research Department amounted to 708,178.67 US dollars.

Finally, on behalf of the OTCA, I hope that these vessels and equipment will be utilized effectively for fisheries development in Southeast Asia.



December 1972

Keiichi Tatsuke
Director General,
Overseas Technical Cooperation Agency

* C group equipment means training equipment delivered to the Center in January 1972 after the completion of building construction of the Training Department. It is put * marks on the Training equipment listed in (3) of Chapter 2.

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CHAPTER 1: FINAL BALANCE SHEETS

(1) INCOME AND EXPENDITURES FOR BOTH DEPARTMENTS

| Articles | Amount US\$* (Yen) |
|---|------------------------------------|
| 1. INCOME | |
| 1) Income of Contribution from Japanese Government | 1,471,516 <u>67</u> (529,746,000) |
| 2) Interest | 104,341. <u>69</u> (37,270,241) |
| Total | 1,575,858. <u>36</u> (567,016,241) |
| 2. EXPENDITURES | |
| 1) Expenditures for Purchase and Delivery of Vessels, Equipment as well as Training of Crew and Homeward Navigation | 1,512,954. <u>00</u> (537,823,209) |
| (1) Vessels | 1,158,333. <u>33</u> (417,000,000) |
| (2) Instruments and Equipment | 244,320. <u>33</u> (83,926,792) |
| (3) Additional Instruments and Equipment | 66,970. <u>76</u> (21,763,980) |
| (4) Freight and Insurance | 14,220. <u>10</u> (4,653,023) |
| (5) Training of Crew and Homeward Navigation | 29,109. <u>48</u> (10,479,414) |
| 2) Expenditures for Work concerning Purchase and Delivery of Vessels and Equipment | 83,131. <u>26</u> (29,193,032) |
| Total | 1,596,085. <u>26</u> (567,016,241) |

* 1 US\$ = ¥ 360 (After January 1, 1972, 1 US\$ = ¥ 308)

** The deference of total amounts between income and expenditure in US dollar is due to the up valuation of Yen against US dollar.

(2) INCOME AND EXPENDITURES FOR BOTH DEPARTMENTS BY FISCAL YEAR

| Articles | Amount US\$ (₣) | | | | |
|---|--------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | 1968 | 1969 | 1970 | 1971 | 1972 |
| 1) Income of Contribution from Japanese Government | <u>1,471,516.67</u> (529,746,000) | <u>982,742.18</u> (353,787,185) | <u>133,145.79</u> (47,932,485) | <u>107,288.45</u> (38,623,841) | <u>13,804.18</u> (4,251,686) |
| 2) Expenditures for Purchase and Delivery of Vessels, Equipment as well as Training of Crew and Homeward Navigation | <u>488,774.49</u> (175,958,815) | <u>849,596.39</u> (305,854,700) | <u>25,857.35</u> (9,308,644) | <u>108,696.90</u> (34,372,155) | <u>40,028.87</u> (12,328,895) |
| (1) Vessels | <u>463,333.33</u> (166,800,000) | <u>695,000.00</u> (250,200,000) | | | |
| (2) Instrument and Equipment | <u>23,287.81</u> (8,383,610) | <u>124,387.58</u> (44,779,528) | <u>2,923.34</u> (1,052,400) | <u>93,721.60</u> (29,711,254) | |
| (3) Additional Instrument and Equipment | | | <u>21,865.11</u> (7,871,443) | <u>9,957.96</u> (3,067,050) | <u>35,147.69</u> (10,825,490) |
| (4) Freight and Insurance | <u>2,153.35</u> (775,205) | <u>1,099.33</u> (395,758) | <u>1,068.90</u> (384,804) | <u>5,017.34</u> (1,593,851) | <u>4,881.18</u> (1,503,405) |
| (5) Training of Crew and Homeward Navigation | | <u>29,109.48</u> (10,479,414) | | | |
| Balance Carried Forward to the Next Fiscal Year | <u>982,742.18</u> (353,787,185) | <u>133,145.79</u> (47,932,485) | <u>107,288.45</u> (38,623,841) | <u>13,804.18</u> (4,251,686) | <u>Δ26,224.70</u> (Δ8,077,209) |
| 3) Interest and Brought Forward Account | <u>12,665.62</u> (4,559,620) | <u>56,852.01</u> (20,466,725) | <u>42,731.09</u> (15,383,194) | <u>42,108.28</u> (15,158,979) | <u>35,419.37</u> (10,909,164) |
| (1) Interest | <u>12,665.62</u> (4,559,620) | <u>67,407.22</u> (24,266,602) | <u>9,455.96</u> (3,404,147) | <u>11,552.67</u> (4,035,725) | <u>3,260.22</u> (1,004,147) |
| (2) Brought Forward Account | | <u>-10,555.21</u> (3,799,877) | <u>33,275.13</u> (11,979,047) | <u>30,897.93</u> (11,123,254) | <u>32,159.15</u> (9,905,017) |

| Articles | Amount: US\$ (¥) | | | | |
|---|----------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| | 1968 | 1969 | 1970 | 1971 | 1972 |
| 4) Expenditures for Work concerning Purchase and Delivery of Vessels, and Equipment | 23,220.83 (8,359,497) | 23,576.88 (8,487,678) | 11,833.17 (4,259,940) | 15,305.72 (5,253,962) | 9,194.66 (2,831,955) |
| Balance forward to the Next Fiscal Year | -10,555.21 (-3,799,877) | 33,275.13 (11,979,047) | 30,897.93 (11,123,254) | 32,159.15 (9,905,017) | 26,224.70 (8,077,209) |

* 1 US\$ = ¥360 (After January 1, 1962, 1 US\$ = ¥308)

(3) INCOME AND EXPENDITURES FOR TRAINING DEPARTMENT BY FISCAL YEAR

| Articles | Amount US\$ (¥) | | | | | Total |
|---|----------------------------|-----------------------------|--------------------------|---------------------------|--------------------------|-----------------------------|
| | 1968 | 1969 | 1970 | 1971 | 1972 | |
| Expenditures for Purchase and Delivery of Vessel, Instruments and Equipment as well as Training of Crew and Homeward Navigation | 228,888.89 (82,400,000) | 452,645.00 (162,952,199) | 12,446.56 (4,480,760) | 91,198.89 (28,089,258) | 19,595.99 (6,035,565) | 804,775.33 (283,957,782) |
| 1. Training Vessel | 228,888.89 (82,400,000) | 343,333.33 (123,600,000) | | | | 572,222.22 (206,000,000) |
| 2. Training Instruments and Equipment | | 94,217.02 (33,918,126) | 555.56 (200,000) | 77,471.60 (23,861,254) | | 172,244.18 (57,979,380) |
| 3. Additional Instruments and Equipment | | | 11,891.00 (4,280,760) | 9,642.86 (2,970,000) | 16,307.13 (5,022,596) | 37,840.99 (12,273,356) |
| 4. Freight and Insurance | | 303.24 (109,165) | | 4,084.43 (1,258,004) | 3,288.86 (1,012,969) | 7,676.53 (2,380,138) |
| 5. Training of Crew and Homeward Navigation | | 14,791.41 (5,324,908) | | | | 14,791.41 (5,324,908) |

* 1 US\$ = ¥360 (After January 2, 1972, 1 US\$ = ¥308)

(4) INCOME AND EXPENDITURES FOR RESEARCH DEPARTMENT BY FISCAL YEAR

| Articles | Amount US\$ (¥) | | | | | Total |
|--|----------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|
| | 1968 | 1969 | 1970 | 1971 | 1972 | |
| Expenditures for Purchase and Delivery of Vessels, Instruments and Equipment as well as Training of Crew and Homeward Navigation | 259,885.60 (93,558,815) | 396,951.39 (142,902,501) | 13,410.79 (4,827,884) | 17,498.01 (6,282,897) | 20,432.88 (6,293,330) | 708,178.67 (253,865,427) |
| 1. Research Vessel | 234,444.44 (84,400,000) | 351,666.67 (126,600,000) | | | | 586,111.11 (211,000,000) |
| 2. Research Instruments and Equipment | 23,287.81 (8,383,610) | 30,170.55 (10,861,402) | 2,367.78 (852,400) | 16,250.00 (5,850,000) | | 72,076.15 (25,947,412) |
| 3. Additional Instruments and Equipment | | | 9,974.11 (3,590,680) | 315.10 (97,050) | 18,840.56 (5,802,894) | 29,129.77 (9,490,624) |
| 4. Freight and Insurance | 2,153.35 (775,205) | 796.09 (286,593) | 1,068.90 (384,804) | 932.91 (335,847) | 1,592.32 (490,436) | 6,543.57 (2,272,885) |
| 5. Training of Crew and Homeward Navigation | | 14,318.07 (5,154,506) | | | | 14,318.07 (5,154,506) |

*1 US\$ = ¥360 (After January 2, 1972, 1 US\$ = ¥308)

CHAPTER 2. VESSELS AND EQUIPMENT DELIVERED TO THE CENTER

(1) TRAINING VESSEL (PAKNAM)

1. GENERAL DESCRIPTION:

The vessel to be so designed and built complete as a steel single screw Fisheries Training Vessel, suitable to use at The Training Department, as follows:-

- (1) Training of fishing operation upon trawling, tuna long line and drift net fishing.
- (2) Training of navigational technic and controls of engines, refrigeration, radio equipments, etc.
- (3) Training of study and research upon oceanography, fishing ground and biology.
- (4) Training on handling of caught fish on board.

2. CLASS, SURVEY & SUPERVISION:

- (1) The vessel to be built in accordance with the Rules and Regulations of The Nippon Kaiji Kyokai (NK) and inspected under its surveyors during construction, classed and registered as NS * and MNS * for fishing vessel.

In accordance with The Panama and Suez Canal Regulations, all necessary fittings to be supplied for international voyage, and Tonnage certificates also supplied by the builders.

- (2) Radio apparatus to be complied with SOLAS 1960.
- (3) International Loadline Regulations 1966 to be applied.
- (4) Stability of the vessel to be complied with the stability regulations, adopted by IMCO 1967.

3. NATIONALITY

Nationality Certificate to be issued by the Maritime Bureau, the Kingdom of Thailand.

4. TYPE OF SHIP:

The vessel to be a flush decker with a long sunken fore castle, provided with a stern ramp for trawl and a combination of line hauler and net hauler at bow.

1) Trawl winch : Fukushima

Main drum 4 t x 60 m/min

Auxiliary drum 7.5 t x 30 m/min

2) Tuna long hauler Izui 2S-6C type

All living accommodations to be properly insulated considering use in tropical zone.

5. HULL DIMENSIONS, PROPELLING ENGINE GENERATOR:

1) Length, registered 37.00 m

2) Breadth, " 8.50 m

3) Depth, " 4.40 m

4) Main Engine: Niigata 6M28DHS 1 set

Diesel, 1,000 ps x 360 rpm, four cycle with controllable pitch propeller, Kamome.

5) Generator: AC 230 100 KVA 2 sets

driven by 130 ps diesel engine

6. TONNAGE, CAPACITY:

1) Gross tonnage 386.82 t

2) Net tonnage 115.75 t

3) Fish Hold capacity

Refrigerated room 28.66 m³

Freezing room 22.37 m³

Preparation room 19.76 m³

4) Fuel oil Tank: 103.94 m³

5) Fresh water Tank: 71.53 m³

6) Lub. oil Tank: 5.26 m³

7. SPEED:

1) Trial speed, max. 12.135 kts

2) Cruising speed 10.5 kts

3) Cruising range abt. 5,400 miles

8. COMPLEMENTS 54 persons

9. TWEEN DECK HEIGHT

- | | |
|---|--------|
| 1) Compass deck - Nav. bridge deck | 2.20 m |
| 2) Nav. bridge deck - Long sunken file deck | 2.20 m |
| 3) Long sunken file deck - upper deck | 1.80 m |
| 4) Upper deck - second deck | 0.40 m |
| 5) Second deck - Top of double bottom tank | 2.30 m |

(2) RESEARCH VESSEL (CHANGI)

1. GENERAL DESCRIPTION:

The vessel to be so designed and built complete as a steel single screw Fisheries Research Vessel, suitable to use for research and trainings at the Research Department, as follows:-

Purpose

- (1) To develop the fishing ground in Southeast Asia by experimental fishing, Stern trawl, Tuna long line and Drift net, etc.
- (2) To study the fishing gears and methods for the fishing of above-mentioned fisheries.
- (3) To do research on fisheries resources, biology, oceanography and handling of fish at sea.
- (4) Training of persons engaged in the researches and studies mentioned in the above three items.

2. CLASS, SURVEY & SUPERVISION:-

- (1) The vessel to be built in accordance with the Rules and Regulations of The Nippon Kaiji Kyokai (NK) and inspected under its surveyors during construction, classed and registered as NS* and MNS* for fishing vessel.

In accordance with The Panama and Suez Canal Regulations, all necessary fittings to be supplied for international voyage, and Tonnage certificates also supplied by the builders.

- (2) Radio apparatus to be complied with SOLAS 1960.
- (3) International Loadline Regulations 1966 to be applied.
- (4) Stability of the vessel to be complied with the stability regulations, adopted by IMCO 1967.

3. NATIONALITY:-

Nationality Certificate to be issued by the Maritime Bureau, the Republic of Singapore.

4. TYPE OF SHIP:

The vessel to be a flush decker with a long sunken forecastle, provided with a stern ramp for trawl and a combination of line howler and net hauler at bow.

- 1) Trawl winch: Fukushima
 - Main drum 4 t x 60 m/min.
 - Auxiliary drum 11 t x 30 m/min.

- 2) Tuna live hauler: Izui No. 6 type

All living accommodations to be properly insulated considering use in tropical zone.

5. HULL DIMENSIONS, PROPELLING ENGINE AND GENERATOR:

- 1) Length, registered 42.30 m
- 2) Breadth, registered 8.70 m
- 3) Depth, registered 4.20 m
- 4) Main engine: Niigata 6M28DHS 1 set
with controllable pitch propeller, Diesel, four cycle,
1,000 ps x 380 rpm Kamome
- 5) Generator: AC 230, 100 KVA 2 set
driven by 160 ps diesel engine

6. TONNAGE, CAPACITY

- 1) Gross tonnage 386.58 t
- 2) Net tonnage 118.44 t
- 3) Fish hold capacity
 - Refrigerated room 43.62 m³
 - Freezing room 27.49 m³
 - Preparation room 18.88 m³
- 4) Fuel oil tank 127.80 m³
- 5) Fresh water tank 62.35 m³
- 6) Lub. oil tank 10.48 m³

7. SPEED:

- 1) Trial speed, max. 13,414 kts
- 2) Cruising speed about 12 kts

8. COMPLEMENTS 35 persons

9. TWEEN DECK HEIGHT

- 1) Compass deck - nav. bridge deck 2.20 m
- 2) Nav. bridge deck - Boat deck 2.20 m
- 3) Boat deck - Upper deck 2.20 m
- 4) Upper deck - Top of double bottom 2.20 m

(3) TRAINING EQUIPMENT

LIST A

| No. | Items | Description | Quantity |
|-----|------------------------------------|--|----------|
| 1. | Automatic tensile strength machine | 1) Main Body Type TOM/200D | 1 set |
| | | 2) Recorder Type AS14/A/MS (with Load Cell and Chuck each 3 sets) | 1 " |
| | | 3) Automatic Integrator Type IT4/DC | 1 " |
| | | 4) Immersion Testing Equipment | 1 " |
| | | 5) Load Cell Type LP/10K | 1 ea. |
| | | 6) Chuck Type 2-11 | 1 " |
| 2. | Apparatus for dark room | 1) Enlarger, Fuji S-69 | 1 " |
| | | 2) Enlarging Lens, Fujinon-E F5.6 50 mm | 1 " |
| | | 3) Enlarging Lens, Fujinon-E F5.6 75 mm | 1 " |
| | | 4) Enlarging Lens, Fujinon-E F5.6 90 mm | 1 " |
| | | 5) Easel Mask for 10" x 12" | 1 " |
| | | 6) Cutter for 10" x 12" | 1 " |
| | | 7) Negative Carrier for 24 x 36 mm | 1 " |
| | | 8) Negative Carrier for 60 x 90 mm | 1 " |
| | | 9) Roll Film Developing Tank No. Belt for 35 mm | 2 " |
| | | 10) Roll Film Developing Tank No. Belt for 2B | 2 " |
| | | 11) Thermometer Special | 3 " |
| | | 12) Thermometer Standard | 3 " |
| | | 13) Tray for 5" x 7" | 3 " |
| | | 14) Tray for 8" x 10" | 3 " |
| | | 15) Tray for 10" x 12" | 3 " |
| | | 16) Liquid Measure 650cc | 3 " |
| | | 17) Liquid Measure 1,300cc | 3 " |
| | | 18) Bottle 650cc | 3 " |
| | | 19) Bottle 1,300cc | 3 " |
| | | 20) Bottle 2,000cc | 3 " |
| | | 21) Dryer for 10" x 12" | 1 " |
| | | 22) Dryer Plate for 10" x 12" | 4 " |
| | | 23) Rubber Roller for 5" x 7" | 1 " |

| No. | Items | Description | Quantity | |
|-----|--|---|----------|---|
| 2. | Apparatus for dark room | 24) Bamboo Tweezers | 10 ea. | |
| | | 25) Lamp for Dark Room (220V) | 1 " | |
| | | 26) Focus Scope | 1 " | |
| | | 27) Timmer, RUCKY | 1 " | |
| | | 28) Dark Bag (large) | 1 " | |
| | | 29) Dark Bag (middle) | 2 " | |
| | | 30) Watch for Dark Room | 1 " | |
| | | 31) Enlarging Lamp | 1 " | |
| | | 32) Safe Light Glass 5" x 7" (No. 1-5) | 5 " | |
| | | 33) Bucket | 5 " | |
| 3. | Steering | 1) Hele-Shaw type | 1 set | * |
| | | 2) Mactagart-Scott type | 1 " | * |
| 4. | Practical operation set for radio and navigation | 1) Frequency Counter Model ANY AFC-245 | 1 " | |
| | | 2) Multitester Model SANWA 430-ES | 1 " | |
| | | 3) Electrotester Model SANWA EM-700 | 1 " | |
| | | 4) Electrical Thermometer Model SANWA STH-213 | 1 " | |
| | | 5) 5 Inch Oscilloscope Model KIKUSUI 555 | 1 " | |
| | | 6) 10 MHZ Oscilloscope Model PHILIPS PM3230 | 1 " | |
| | | 7) Transister Megaphon Model TRM-22A | 1 " | |
| | | 8) Transister Megaphon Model TRM-10A | 1 " | |
| | | 9) Tool Set | 3 sets | |
| | | 10) "T" Square 120 cm | 20 ea. | |
| | | 11) Triangle Acrylic 24cm | 20 " | |
| | | 12) Triangle Acrylic 45cm | 1 " | |
| | | 13) Drawing Weight | 20 " | |
| | | 14) French Curve | 20 " | |
| | | 15) Drafting Machine | 2 " | |
| | | 16) Drawing Instrument | 1 " | |
| | | 17) Lettering Set | 1 set | |
| | | 18) Protector | 20 ea. | |
| | | 19) Divider | 20 " | |
| | | 20) DYMO Tapewriter | 1 " | |
| | | 21) Nautical Sextants | 10 sets | |
| | | 22) Pocket Compass with Extension Tripod | 1 set | |

| No. | Items | Description | Quantity | |
|-----|--|--|----------|---|
| 4. | Practical operation set for radio and navigation | 23) Binocular, NIKON Tropical in a Case | 2 sets | |
| | | 24) Slide rule HEMMI No. 2664SS | 30 ea. | |
| | | 25) Daviation Adjusting Instrument (1,000 x 1,300 mm) with Accessories | 1 set | * |
| | | 26) Insulation Resistance Tester Model SM-5 | 1 " | * |
| | | 27) Telecommunication Training Apparatus Model STR-10 | 1 " | * |
| | | 28) Dummy Transmitter Model STR-9 | 4 sets | * |
| | | 29) Morse Code Printing Machine Model JK-101 Low-frequency Internal Oscillator Type with Key MK-7 Earphone and Tape 100 Rails | 2 " | * |
| | | 30) Standard Signal Generator Model M-327 | 1 set | * |
| | | 31) Low-frequency Signal Generator Model VP-711B | 1 " | * |
| | | 32) Low-frequency Oscillator Model VP-702B | 1 " | * |
| | | 33) Insulation and Compression Tester Model MS-3E | 1 " | * |
| | | 34) Circuit Tester Model SH-63TRD-2 | 1 " | * |
| | | 35) Circuit Tester Model P-2-B | 12 sets | * |
| | | 36) Transistor Checker Model TCB-4 with Inter-Circuit Test Adaptor | 1 set | * |
| | | 37) Vacuum Tube Tester Model VG-16 with Socket for Testing Braun Tube | 1 " | |
| | | 38) Q-Meter Model Q-75B with Accessories | 1 " | * |
| | | 39) Slide Resistor Model DW-3-1 | 6 sets | * |
| | | 40) Preliminary Impulse Oscillator (Loran Electric Wave Transmitter Model 2 with Spare Parts) | 1 set | * |
| | | 41) Materials for Practice | | |
| | | (1) Cell Assembly Set Model AC-5 | 5 pcs | * |
| | | (2) Vacuum Tube Curve Demonstrator Model VW-2 | 5 sets | * |
| | | (3) Ohm's Law Demonstrator Model DF-3 | 5 " | * |
| | | (4) Meter for AC and DC Model DU-8 | 2 pcs | * |
| | | (5) AC Current Circuit Demonstrator with case | 5 sets | * |

| No. | Items | Description | Quantity | |
|--|--|---|---------------|--|
| 4. | Practical operation set for radio and navigation | (6) Transformer Model AT-3 | 5 sets | * |
| | | (7) Primary and Secondary Coils Model S1-T | 5 pcs | * |
| | | (8) Hand Operated Dynamo Demonstrator with three Phases Motor Model Model DH-3 | 3 sets | * |
| | | (9) AC & DC Current Comparison Board | 2 " | * |
| | | (10) Fleming's Rule Demonstrator Model FY-2 | 5 sets | * |
| | | (11) Selenium Rectifier 70K 2 x 1 x 1 | 5 pcs | * |
| | | (12) Selenium Rectifier 50K 2 x 1 x 4 | 5 " | * |
| | | (13) Vacuum Tube 5Y3GT | 5 " | * |
| | | (14) Vacuum Tube 6SN7GT | 5 " | * |
| | | (15) Vacuum Tube 6V6GT | 5 " | * |
| | | (16) Radio Assembly Kit SR-300K | 10 sets | * |
| | | 42) Voltage Regulator (Variable Transformer) with Meter Capacity: 300W Primary Voltage: 220V, 50c/s Secondary Voltage: 80-120V | 5 sets | * |
| | | 43) Bolt Slider Model S-260-5 with Meter Capacity: 1KVA Max. Electric Current: 5A | 5 " | * |
| | | 44) Step-down Transformer Capacity: 11 KVA | 5 " | * |
| | | 45) Radiation Marse Code Operator Model STR-1-11 | 1 set | * |
| | | 5. | Diesel Engine | YANMAR, Marine, Model 6M 200HP at 750 RPM complete with standard accessories |
| YANMAR, Marine, Model EGY 11HP at 1,400 RPM complete with standard accessories | 5 sets | | | * |
| 6. | Meters for Engine Practice | 1) Air Compressor Model VD2-11B (30kg/cm ² , 35m ³ /hc) with 11 KW Motor, Base and 200 liter Air Tank | 1 set | * |
| | | 2) Electric Operated Over-head Traveling Crane 2.0 ton x 5.4 m | " | |
| | | 3) Sarface Plate for Engine Testing (3m x 3m) with 8 Rails | 1 " | * |
| | | 4) Brake Horse-Power Dynamometer for Educational Demonstration Model BH-100 | | |
| | | 5) Torque Wrench Model 1,900F with socket (8, 10, 12, 14, 17 m/m) | 1 pc | * |

| No. | Items | Description | Quantity | |
|---|--------------------------------|--|----------|---|
| 6. | Meters for Engine Practice | 6) Dial Guage No. 55F4 (5mm stroke, JIS 0.001 mm) with Universal Holder | 2 pcs | * |
| | | 7) Thickness Gauge | | |
| | | (1) Metric - 65 M x 25 | 2 sets | * |
| | | (2) Inch - 2 1/2A x 25 | 2 " | * |
| | | 8) Micrometer | 1 set | * |
| | | (External Micrometer, Tubular Type Inside Micrometer with chips and Pass Type Inside Micrometer) | | |
| | | 9) Platform Scale 500 kg. | 1 pc | * |
| | | " 100 kg. | 1 " | * |
| | | 10) Tachometer H Type | 1 " | * |
| | | " Hand Type (100-4,000 RPH) | 1 " | * |
| | | 11) SEIKO Stop Watch (1/10 sec.) | 3 pcs | * |
| | | 12) Ammeter | 1 pc | * |
| | | 13) Anticorrosive Chemicals | 10 kg. | * |
| | | 14) Nozzle Tester Model DT-33 | 1 set | * |
| | | 15) Pressure Gauge 75 mm x 35 kg. | 2 sets | * |
| | | 16) Indicator M-5 Type 1,000 RPM | 1 set | * |
| | | " M-3 Type 600 RPM | 1 " | * |
| | | 17) Pitch Gauge JIS 0.25 - 6.0 (21) | 2 sets | * |
| | | " UND 10 - 40 (7) | 2 " | * |
| 18) R-Gauge | 1 set | * | | |
| (272MA, 272MB, 178MA, 178MB) | | | | |
| 19) Depth Gauge 300 m/m Model B with hook | 1 pc | * | | |
| 7. | Work Shop Instrument and Tools | 1) Surface Plate Model BS 1,000 x 500 x 170 m/m | 1 " | * |
| | | 2) Parallel Vice 125 mm | 15 pcs | * |
| | | 3) Tools for Training Machinist File 200 m/m | 10 sets | |
| | | Scraper | | |
| | | Hand Hammer 450 g | | |
| | | Wood Hammer 45φ x 300 m/m | | |
| | | Steel Rule 300 m/m | | |
| | | Caliper 200 m/m | | |
| | | Square 200 x 115 m/m | | |
| | | Scribing Needle | | |
| | | Bunch 150 m/m | | |
| | | Screw Clamp 100 m/m | | |
| | | Alundum Oil Stone 100 x 13 m/m | | |
| | | Tool Box | | |
| Caliper 200 m/m | | | | |

| No. | Items | Description | Quantity | |
|-----|--------------------------------|---|---|---|
| 7. | Work Shop Instrument and Tools | <p>4) Tools Chisel 200 m/m Six Wrenches Set Surface Gauge 300 mm V-Block (A type 100, 125 m/m) Leaden Hammer (32 m/m dia. 1,000g) Plastic Hammer (35 m/m dia.) Rubber Hammer Combination Plier Nipper 175 m/m Cutting Plier 200 m/m Gauge & Hand Vise 125 m/m Steel Rule 600 m/m Rule Holder 480 m/mH Screw Center Jack 75 - 105 m/m Hack Saw Frame</p> <p>5) Tools for Marking-off Square Measure Type Surface Plate 200 m/m V-Block model A 125 & 100 m/m Caliper 200 m/m Punch 125 m/m Screw Center Jack 75 - 105 m/m</p> <p>6) Tap Dies OK-100 (6 m/m - 30 m/m) " " OK-107 (1/4 - 1")</p> <p>7) Hammer Hand Hammer No. 1/2 Hand Hammer No. 1 Test Hammer No. 1/4 Black-Switch Hammer No. 10 4.5 kg</p> <p>8) Machinist File Machinist File 300 m/m Set of Needle File</p> <p>9) Chiesel 190 m/m</p> <p>10) Square Model AA 150 x 100 m/m</p> <p>11) Steel Rule 1,000 m/m " " 300 m/m</p> <p>12) Vernier Caliper Model M 200 m/m</p> <p>13) Steel Tape Measure 10 m with case</p> <p>14) Alundum Oil Stone 150 x 25 m/m (triangle, square and round 3 kinds)</p> <p>15) Adjustable Bench Level 9 x 225 m/m 0.05 m/m 24 x 600 m/m 0.05 m/m</p> <p>16) Precision Lathe Model LR-55A with Standard Accessories and the Following Special Accessories:</p> | <p>5 sets</p> <p>1 set</p> <p>1 pc 1 "</p> <p>1 set</p> <p>1 set</p> <p>20 pcs 2 " 1 pc 2 pcs 2 " 2 pcs</p> <p>1 pc 1 "</p> <p>1 set</p> | <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> |

| No. | Items | Description | Quantity | | |
|-----|--------------------------------------|----------------------------|--|--------|---|
| 7. | Work Shop Instrument and Tools | Face Plate | | | |
| | | Steady Rest | | | |
| | | Follow Rest | | | |
| | | Four-jaw Independent Chuck | | | |
| | | Coolant equipment | | | |
| | | Live center MT4 | | | |
| | | 17) | Plain Horizontal Milling Machine Model MS-P with Standard Accessories and the Following Special Acces- sories: Vartical Attachment Quick Change Adapter & Collets | 1 set | * |
| | | 18) | Upright Drilling Machine Model KUD- 550 with Standard Accessories and the Following Special Accessories: Drill Chuck Drill Sleeve Arbor Machine Vice | 1 set | * |
| | | 19) | Bench Type Drilling Machine Model NBD-340 | 1 " | * |
| | | 20) | Hack-Sawing Machine Model SH-20D with Standard Accessories and the Following Special Accessories: Size-Setting Attachment Work Support Bogie Carrier | 1 " | * |
| | | 21) | Portable Electric Drill 10 m/m | 1 " | * |
| | | | " " " 20 m/m | 1 " | * |
| | | 22) | Electric Bench Grinder (Double Heads) 205 m/m | 1 " | * |
| | | 23) | Standard Piece for Spark Test Model D (15) | 1 " | * |
| | | | Model E (15) | 1 " | * |
| | | 24) | Bits (Welded Tipped Tool Bites and Carbide Standard Single Point Tool Bites) | 1 " | * |
| | | 25) | Cutters (Slotting Cutter SKH, Metal Slitting Saw, and Slide Milling Cutter) | 2 sets | * |
| | | 26) | Drills 0.5 - 13 m/m (0.5 mm) | 1 set | * |
| | | | " 14 - 20 m/m (1 mm) | 1 set | * |
| | | 27) | Gas Welding Equipment (Safety Device 50 x 21 x 18 Oxygen Regulator 250 - 25 kg/cm ² Acetylene Regulator 25 - 2 kg/cm ² with Acces- sories) | 1 " | * |

| No. | Items | Description | Quantity | * |
|-----------|--------------------------------------|--|----------|---|
| 7. | Work Shop Instrument and Tools | 28) Arc Welding Equipment (300A) with Condenser and Accessories | 1 set | * |
| | | 29) Forging Equipment Electric Rivet Forge (480 m/m, 2,820 rpm) Electric Fan (135ø) Cast Steel Anvil (50 kg) Tongs 450 m/m | 1 set | * |
| | | 30) Equipment for Sheet Metal Processing Soldering Iron (100W) Soldering Paste (225 g) Hammer (5 kinds) Scale (300, 100 m/m) Solder (2 kg) Plier (200 m/m) Pipe Wrench (300 m/m) Hammer (21 m/m) Silver Solder (400 g) | 1 set | * |
| | | 31) Deep Well Pump Model 80 SGM (15m, 30m ³ /h) with Accessories | 1 set | * |
| | | 32) Carpenter's Tools Plane 36 m/m Double Edge Saw Blade (9", 11") Chisel (1/4", 3/8", 1/2") Pushing Chisel (1/4", 3/8", 1/2") Chisel (6", 9", 12") Marking Tool Square Gauge Scale 1 m Metal Hammer (21 m/m, 24 m/m) Grinding Stone (rough and finish) Drill (3 Cutters and 4 Cutters) Hammer (3.5 pound) | 1 set | * |
| | | 33) Adjustable Pipe Wrench 250 m/m | 1 pc | * |
| | | " " " 450 m/m | 1 " | * |
| | | 34) Vice for Pipe No. 2 (with foot) | 1 " | * |
| | | 35) Pipe Cutter No. 52 (1/2" - 2") | 1 " | * |
| | | 36) Metallurgical Microscope Model PHG-2 | 1 set | * |
| | | 37) Working Lamp with cable 10 m | 2 pcs | * |
| | | 38) Socket Wrench No. 350 (metric) | 2 " | * |
| | | 39) Wire Rope No. .76 x 61 | 20 m | * |
| | | 40) Wire Brush No. 1 | 10 pcs | * |
| | | " " No. 2 | 10 " | * |
| | | " " No. 3 | 10 " | * |
| " " No. 4 | 10 " | * | | |

| No. | Items | Description | Quantity | | | |
|---------------------------------|--------------------------------------|--|-------------------|------------------------|--------|--|
| 7. | Work Shop Instrument and Tools | 41) Oil Gun 540 cc | 10 pcs | * | | |
| | | " " 900 cc | 10 " | | | |
| | | " " 180 cc | 10 " | | | |
| | | 42) Petroleum Oil Torch Lamp (1.5ℓ) with Burner | 2 " | * | | |
| | | 43) Coolant (1.8ℓ) | 5 cans | * | | |
| | | 44) Miniature Model Diesel Engine (4 cycle) | 1 set | * | | |
| | | Anchor Gear | 1 " | * | | |
| | | Steering Gear | 1 " | * | | |
| | | 45) Wall Map for Model IR-55A | 1 pc | * | | |
| | | " " for Model MS-P | 1 " | * | | |
| | | 46) Melachite Green (225g) | 3 cans | | | |
| | | 47) Waste (3 kg white) | 100 bundless | * | | |
| | | 48) Sand Paper (9 kinds) | 50 sheets | * | | |
| | | 49) Red Lead (225g) | 3 cans | * | | |
| | | 8. | Fishing machinery | 1) Net Hauler 450 Type | 1 set | |
| | | | | 2) V-Roller 20 Type | 2 sets | |
| 3) V-Roller 30 Type | 1 set | | | | | |
| 4) Roller | 8 sets | | | | | |
| 5) Winch for Stick Held Dip Net | 1 set | | | | | |
| 6) Winch for Trawl Net | 1 " | | | | | |
| 7) Line Hauler Type No. 4 | 1 " | | | | | |
| 8) Underwater Gun | 1 " | | | | | |
| 9) Squid Fishing Gears | | | | | | |
| a) Electro-Motion Type | 1 set | | | | | |
| b) Hand Worked Type | 1 " | | | | | |
| 10) Manga | 1 " | | | | | |
| 11) Winch | 1 " | | | | | |
| 12) Hand Worker Winch | 2 sets | | | | | |
| 13) Kakibasami | 3 " | | | | | |
| 14) Electro-Motion Winch | 1 set | | | | | |
| 15) Outboard Motor Yamaha 6P.S. | 1 " | | | | | |
| 16) Boat FRP Yamaha Fish-12 | 1 boat | | | | | |
| 9. | Transceiver | Model ANY FB-600 (frequency 2 channel 26.968, 26.976) | 4 sets | | | |
| 10. | Adding machine | Model CITIZN No. 210 | 3 ea. | | | |

| No. | Items | Description | Quantity | |
|-----|--------------|--|----------|---|
| 11. | Autofax | Facsimile Receiver Model FX-750 Complete Set with Spare Parts and Accessories, for Connection to 220V AC 50 c/s, Consisting of | 1 set | * |
| | | Receiver | 1 set | * |
| | | Antenna | 1 " | * |
| | | Interconnecting Cable | 1 " | * |
| | | Step-down Transformer | 1 " | * |
| | | Spare parts Box | 1 " | * |
| | | Installation Materials | 1 " | * |
| | | Operation Manual | 1 " | * |
| | | RF Tuning Pack | 20 pcs | * |
| 12. | Paper cutter | Model PLAS No. 126 | 1 ea. | |
| 13. | Range finder | Finding range 400-500m | 1 set | |
| 14. | Books | Details as per attached sheets in the following | | |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|---|-------------------------------|---------------|
| 1. | Eibun Kokainisshi sono Kakikata | Kaibundo | 1 vol. |
| 2. | Senpaku-kozo oyobi Setsubi-zokugu | Tennensha | 1 |
| 3. | Kogata-kosen no Sekkei to Seizu | Kaibundo | 1 |
| 4. | Hyakumannin no Electoronics | Seizando | 1 |
| 5. | Compasu Cado no Yomikata | Kaibundo | 1 |
| 6. | Jiki Compasu no Riron to Jisashusei | " | 1 |
| 7. | Kaizu Chishiki | Seizando | 1 |
| 8. | Kokusaishingoki to Tebatashingo | Kaibundo | 1 |
| 9. | Rikagaku Roshiago Jitan | Sankyo Shuppan | 1 |
| 10. | Kenkyuhapyo no tameno Shashin- gijutsu | Naneido | 1 |
| 11. | Denkigijutsu Hando Bukku | Tokyo Kagaku Dojin | 1 |
| 12. | Kadai Kenkyu Jisshi no Tehodoki | Naneido | 1 |
| 13. | Kyoyokatei Daigaku no Sugaku | Tokyo Kyoikusha | 1 |
| 14. | Daigakukyoiku Sugakujisshu | Morikita Shuppan | 1 |
| 15. | Kazu no Puzuru wa Omoshiroi | Hakuyosha | 1 |
| | Smirnov Kotosugaku Kyotei | Kyoritsu Shuppan | 1 |
| 16. | " 2 Kan (2 bunsatsu) | " | 1 |
| 17. | " 3 Kan (3 bunsatsu) | " | 1 |
| 18. | Shimin no Sugaku | " | 1 |

| No. | Title of Book | Author & Publisher | Volume |
|-----|--|------------------------------------|--------|
| 19. | Sugakushinsho-Kantan na Saidai-saisho no Mondai Futoshiki- | Tokyo Toshō | 1 vol. |
| 20. | Shintei-Shotō Bubungaku- | Shokado | 1 |
| 21. | Shintei-Shotō kaiseki Kikagaku- | Asakura Shobō | 1 |
| 22. | Zugaku Enshū | Nikkan Kōgyoshinbun Shuppanyoku | 1 |
| 23. | Suikigaku Nyūmon Enshū | Sangyō Toshō | 1 |
| 24. | Jōhō no Riron to Enshū | Hirokawa-Shoten | 1 |
| 25. | Operation Research Nyūmon | " | 1 |
| 26. | Sukeisan no Fukushū to Kinjichi no Keisan | Tokyo Denki Daigaku | 1 |
| 27. | Kikenchi Keisanhō | Nikkan Kōgyō | 1 |
| 28. | Keisan Zuhyō | Iwanami Shoten | 1 |
| 29. | Shinsei Butsurigaku Honron (I) | " | 1 |
| 30. | " (II) | " | 1 |
| 31. | Butsuri Keisan Hittai | Sangyō Toshō | 1 |
| 32. | Shotō Rikigaku | Shōkabō | 1 |
| 33. | Atsuryoku | Koronasha | 1 |
| 34. | Hikō no Genri | Iwanami Shoten | 1 |
| 35. | Gakusei Kagakuyōgo Jiten | Kyoritsu Shuppan | 1 |
| 36. | Kagaku Kyokasho | " | 1 |
| 37. | Tenmongaku Gaisetsu | Kōseisha Kōseikaku | 1 |
| 38. | Oboeyasui Seiza Kyōshitsu | Seibundō Shinkōsha | 1 |
| 39. | Zōho-Kishō no Jiten- | Tōkyōdō Shuppan | 1 |
| 40. | Ippan Seibutsugaku | Kyōdō Shuppan | 1 |
| 41. | Kaiyō Seibutsugaku | Kōseisha Kōseikaku | 1 |
| 42. | Senkai Zōshokugaku | " | 1 |
| 43. | Gyorui Seibutsu Seitai-gaku | " | 1 |
| 44. | Suisan Shigen Kakuron | " | 1 |
| 45. | Gyorui-gaku (II) | " | 1 |
| 46. | Yōgyōgaku Soron | Kōseisha Kōseikaku | 1 |
| 47. | " Kakuron | " | 1 |
| 48. | Zoku Suisan Shigen Kakuron | " | 1 |
| 49. | Suisangaku Tsuron | " | 1 |
| 50. | Kenchiku Setsubi Pokketo Bukku | Sagami shobō | 1 |
| 51. | Kenchiku Denki Sekkei Deta Bukku | Nikkan Kōgyō | 1 |
| 52. | Denki Ippan | Omusha | 1 |
| 53. | Kikai Seizu | Kyoritsu Shuppan | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|--|----------------------------------|---------------|
| 54. | Kikai Sekkei Seizu Binran | Rikōgakusha | 1 vol. |
| 55. | Kiso Zugaku | Pawasha | 1 |
| 56. | Seizuyō Moji | " | 1 |
| 57. | Dizeru Kikan Hando Bukku | Nikan Kogyo | 1 |
| 58. | Haiden Okunai Haisen | Denki Gakkai | 1 |
| 59. | Shokyū Tsūshinyō Eigo | Kindai Kagakusha | 1 |
| 60. | Shotō Musen Sugaku (I) | " | |
| 61. | " (II) | | |
| 62. | Antena Nyūmon | Omusha | 1 |
| 63. | S.S.B Hando Bukku | C Q Shuppan | 1 |
| 64. | Shin Tsurī Hyakka | Ōizumi Shoten | 1 |
| 65. | Gakkō Hoken Teiyo | Daiichi Shuppan | 1 |
| 66. | Sanpūkan Taisō | Kōbunsha | |
| 67. | Sakka | Gakugei Shuppan | 1 |
| 68. | Suiei | " | 1 |
| 69. | Kokumin Hyakka Jiten Zen 8 kan | Heibonsha | 1 |
| 70. | Dōbutsu no Jiten | Tōkyōdō | 1 |
| 71. | Shizai Kanri Binran | Nippon Shizai Kanrisha Kyokai | 1 |
| 72. | Ōyō Sokuteihō | Asakura Shoten | 1 |
| 73. | Seimitsu Sokuteikiki to Sokuteiho | Taiyokaku | 1 |
| 74. | Tan-i no Jiten | Rateisu (Isamu Oshida) | 1 |
| 75. | J I S Kikaku Zenshū (Zen 7 satsu) | Kikaku Kyōkai | 1 set |
| 76. | Gakujutsu Yōgoshū Sugaku Hen | Dainippon Tosho | 1 vol. |
| 77. | " Butsuri Hen | " | 1 |
| 78. | " Denki Kōgaku Hen | Koronasha | 1 |
| 79. | " Senpaku Kōgaku Hen | " | 1 |
| 80. | " Kikai Kōgaku Hen | Gihosha | 1 |
| 81. | " Kagaku Hen | Nankōdō | 1 |
| 82. | Waei Senpaku Yōgo Jiten | Shiroyamadō Shoin | 1 |
| | Eiwa " | " | 1 |
| 83. | Atarashii Kogata Kōsen no Tsukurikata | " | 1 |
| 84. | Hakuyōhoki to Kan Sochi | " | 1 |
| 85. | Hakunyo Shukikikan no Nejiri Shindō | Kaibundō | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|--|-------------------------------|---------------|
| 86. | Hakuyō Kikan no Koshō to Okyushochi | Seizandō | 1 vol. |
| 87. | Kihon Kikan Sanpō | " | 1 |
| 88. | Saishin Kikanka Testo | " | 1 |
| 89. | Hakuyō Kikan Deta Bukku | " | 1 |
| 90. | Kikantō no Keikōto Taisaku | " | 1 |
| 91. | Hakuyō Reitoki to sono Toriatsukai | " | 1 |
| 92. | Hakuyō Nainen Kikan (I) | Tennensha | 1 |
| 93. | " (II) | " | 1 |
| 94. | Gyosenron | Kōseisha Kōseikaku | 1 |
| 95. | Senpaku no Jidōseigyō to Enkaku Soju | Kaibundō | 1 |
| 96. | Junkatsu-u | Kaibundō | 1 |
| 97. | Shirindā Rainā no Mamō to Yurui | Kaibundō | 1 |
| 98. | Nenryoyu, Junkatsuyu | Seizandō | 1 |
| 99. | Chūkogata Dizeru Kikan no Koshō to Taisaku | " | 1 |
| 100. | Genkō Kaiji Hōreishū (44 nendoban) | " | 1 |
| 101. | Senyō Kikaikōgaku Dai 1 bunsatsu | Kaibundō | 1 |
| 102. | " 2 " | " | 1 |
| 103. | " 3 " | " | 1 |
| 104. | " 4 " | " | 1 |
| 105. | Senpaku Giso | " | 1 |
| 106. | Otsushu Kikanka Sanpō | " | 1 |
| 107. | Kō ni Kikanka Dokuhon | " | 1 |
| 108. | Waeidoku Kikai Yōgo Shinjiten | " | 1 |
| 109. | Eiwadoku Kōgyō Yōgo Jiten | " | 1 |
| 110. | Kikai Kōgaku Pokketo Bukku | Nippon Kikai Gakkai | 1 |
| 111. | Kikai Jitsuyō Binran | " | 1 |
| 112. | J I S Kikai Kōgaku Binran | " | 1 |
| 113. | Kikai Kōgaku Binran | " | 1 |
| 114. | Kikai Kōshiki Katsuyō Binran | Jitsugyō Toshō | 1 |
| 115. | Kaitei Kikai-Kōgaku Taii | Sangyō Toshō | 1 |
| 116. | Kikai Kōgaku Tsuron | Morikita Shuppan | 1 |
| 117. | Kisoōyō Kikai Kōgaku Enshū | Maki Shoten | 1 |
| 118. | Correcting Codes | Tōkyō Daigaku Shuppansha | 1 |

| No. | Title of Book | Author & Publisher | Volume |
|------|--|-----------------------------------|--------|
| 119. | Kōgyo Sugaku Binran (1) | Nikkan Kōgyo Shinbun | 1 vol. |
| 120. | " (2) | " | 1 |
| 121. | Enginia no tameno Kiso no Sugaku | Rikōgakusha | 1 |
| 122. | Kikai Gijutsu no tameno Kōgaku Sugaku | Shokokusha | 1 |
| 123. | Kikaikōsaku Sekkei ni Hitsuyō na Sugaku, Butsuri Keisan Mondai shu | Nakamura Shuppansha | 1 |
| 124. | Kōgaku Mondai no Kaisetsu | Koronasha | 1 |
| 125. | Engineering analysis | Maruzen | 1 |
| 126. | Daigaku Rikōkakei o shu to shita Daisugaku Kikagaku | Yokendō | 1 |
| 127. | Daigakuenshu Kaisekigaku Gairon | Shōkabo | 1 |
| 128. | Kaisekigaku Gairon | Yokendō | 1 |
| 129. | Enginia no tameno Bibun Sekibun-gaku | Rikōgakusha | 1 |
| 130. | Taisūhyō 7-keta | Maruzen | 1 |
| 131. | Bannō Sūchihyō (Kaitei Zōhoban) | Hakusuisha | 1 |
| 132. | Jidō Seigyō | Koronasha | 1 |
| 133. | Jido Seigyō (Kikai Kōgaku Koza 8) | Kyōritsu Shuppan | 1 |
| 134. | Kōgaku Kiso Jikken | Gijutsu Shoin | 1 |
| 135. | Hyojun Kikaikōgaku Jikkenhō | Riko Tosho | 1 |
| 136. | Rikigaku (Tōdai Kisokōgaku 3) | Tokyo Daigaku Shuppankai | 1 |
| 137. | Gijutsusha no tameno Rikigaku Nyumon | Sangyō Tosho | 1 |
| 138. | Daigaku Katei Kōgyo Rikigaku | Omusha | 1 |
| 139. | Kōgyō Rikigaku Enshū | Sangyō Tosho | 1 |
| 140. | Kikai Ōyō Rikigaku | Riko Tosho | 1 |
| 141. | Ōyō Rikigaku Enshu | Tokyo Denki Daigaku Shuppan-Kyoku | 1 |
| 142. | Zairyō Rikigaku (I) | Tokyo Tosho | 1 |
| 143. | " (II) | " | 1 |
| 144. | Zairyō Rikigaku Enshū 1, 2 | Morikita Shuppan | 1 |
| 145. | Kikōgaku | Rikōgakusha | 1 |
| 146. | Kikōgaku Enshū | Gakkensha | 1 |
| 147. | Kiso Kikai Sekkei (Jōkyū Hen) | Kōgaku Tosho | 1 |
| 148. | J I S ni motozuku Kikai Sekkei Seizu Binran | Rikōgakusha | 1 |
| 149. | Kikai Kōsakuhō Nyumon (1) | Omusha | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|--|-------------------------------|---------------|
| 150. | Kikai Kosakuho Nyumon (2) | Omusha | 1 vol |
| 151. | Kikai Kosaku Jisshu Shido-hyo | Koronasha | 1 |
| 152. | Zumen no Mikata Egakikata | Kogaku Tosho | 1 |
| 153. | Neji no Kirikata (Gijutsu Shido) | " | 1 |
| 154. | Teshiage Sagyo | Sangyo Tosho | 1 |
| 155. | Kikai Keisokuho | Yokendo | 1 |
| 156. | Netsu Rikigaku | Sankaido | 1 |
| 157. | Kaisetsu Kogyo Netsurikigaku | Kyoritsu Shuppan | 1 |
| 158. | Nainenkikan Hando Bukku | Asakura Shoten | 1 |
| 159. | Nainenkikan Kogi (I) | Yokendo | 1 |
| 160. | " (II) | " | 1 |
| 161. | Dizeru Kikan Sekkeiho | Kogaku Tosho | 1 |
| 162. | Kuki Chowa Reito Gijutsu Binran | Sangyo Tosho | 1 |
| 163. | Kaitei Reito Kogaku | Koronasha | 1 |
| 164. | Yosetsu Sagyo | Sangyo Tosho | 1 |
| 165. | Netsu Kanri Gijutsu Kogi | Maruzen | 1 |
| 166. | Suirikigaku Reidai Enshu | Koronasha | 1 |
| 167. | Suirikigaku (Oyo Rikigaku Soshu) | Sangyo Tosho | 1 |
| 168. | Pompu Sono Setsubi Keikaku, Unten, Hoji | Maruzen | 1 |
| 169. | Kinzoku Binran | " | 1 |
| 170. | Kinzokugaku Tsuron | " | 1 |
| 171. | Kinzoku Zairyo Jiten | " | 1 |
| 172. | Kinzoku Zairyogaku (I) | Koronasha | 1 |
| 173. | " (II) | " | 1 |
| 174. | Hitetsu Kinzoku Zairyo | " | 1 |
| 175. | Kigata to Chuzo Sagyoho | Rikogakusha | 1 |
| 176. | Chuzo Sagyo | Nikkan Kogyo Shinbun | 1 |
| 177. | Yosetsu Kogaku | Kogaku Tosho | 1 |
| 178. | Denki Yosetsu no Tebiki | Sanpo | 1 |
| 179. | Gasu Yosetsu no Tebiki | " | 1 |
| 180. | Shin Eiwa Jiten | Kenkyusha | 1 |
| 181. | Shin Waei Jiten | " | 1 |
| 182. | Senpaku Tsushin Jitsumu | Kaibundo | 1 |
| 183. | Denpa Koho | " | 1 |
| 184. | Reda Unyo Shishin | " | 1 |
| 185. | Saishin Shotō Denki | Tokyo Denki Daigaku | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|--|-------------------------------------|---------------|
| 186. | Denki Riron A B C | Omusha | 1 vol. |
| 187. | Hakuyo Denki Kiso | Tennensha | 1 |
| 188. | Shoto Toranzisuta Kyokasho | Omusha | 1 |
| 189. | Denki Jikken Sidoshō (I) | | 1 |
| 190. | " (II) | | 1 |
| 191. | " (III) | | 1 |
| 192. | Tsushin Shisutemu Kogaku Hando Bbuku | Maruzen | 1 |
| 193. | Denkikogaku Kiso Jikken Yoko | Koronasha | 1 |
| 194. | Chokuryu Denki Texto | Seizandō | 1 |
| 195. | Denki Tsushin Sokutei Noto | Omusha | 1 |
| 196. | Jitsuyo Denki Sokutei Noto | " | 1 |
| 197. | Kikai Seizu | (Kabushiki Kaisha) Rateisu | 1 |
| 198. | Mokei Chu-tanzō, Bankin, Yosetsu | " | 1 |
| 199. | Kosaku-Kikai (Sessaku, Kensaku) | " | 1 |
| 200. | Shiage, Keisoku Kensa Kumiai | (Kabushiki Kaisha) Rateisu | 1 |
| 201. | Netsu Rikigaku Nainen Kikan | " | 1 |
| 202. | Joki Gendoki | " | 1 |
| 203. | Kogyo Eigo | " | 1 |
| 204. | Ippan Denki Kogaku | " | 1 |
| 205. | Denki Kogaku Ippan | " | 1 |
| 206. | Bessatsu Kangaekata, Tokikata (Zairyo Rikigaku Hen) | " | 1 |
| 207. | Musen Yogo Jiten | Koronasha | 1 |
| 208. | Denki Seizu no Mikata to Kakikata | Denki Shoin (Tatsuji Matsuda) | 1 |
| 209. | Denpa Koho Yogo Jiten | Kaibundo (Denpa Koho Kenkyu Kai) | |
| 210. | Kokusai Denshin Joyaku Musen Tsushin Kisoku | Denpa Shinkokai | 1 |
| 211. | Kokusai Denpa Hoki Kaisetsu | " | 1 |
| 212. | Kokusai Musen Denpa no Gosu- keisan to Ryokinkeisan | " | 1 |
| 213. | Kokusai Denpa Hoki no Somatome | " | 1 |
| 214. | Tsushin Kotsu Chizu | " | 1 |
| 215. | Kaijo Jinmei Anzen Joyaku (SOLAS) | Kaibundo | 1 |
| 216. | Denki-Butsuri | Denpa Shinkokai | 1 |
| 217. | Z2 Denki Dokuhon | Kaibundo | 1 |
| 218. | Shugyoto-Sono Riron to Oyo- | Idea Shoin | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|-----------------------------|------------------------------------|---------------|
| 219. | Giso | Kaibundo | 1 vol. |
| 220. | New Hand Book of English | Kenkyusha | 1 |
| 221. | Oyō Sugaku I | | |
| 222. | Hakuyō Denki (I) | Jikkyō Shuppan Kabushiki Kaisha | 1 |
| 223. | Hakuyō Denki (II) | Jikkyō Shuppan Kabushiki Kaisha | |
| 224. | Gyosen | " | 1 |
| 225. | Suisan Seizō Hōki | " | 1 |
| 226. | Suisan Seizō 1 | " | 1 |
| 227. | " 2 | " | 1 |
| 228. | " 3 | " | 1 |
| 229. | Reizō, Reitō | " | 1 |
| 230. | Kikan Sekkei Kōsaku | " | 1 |
| 231. | Kikaiseizu | " | 1 |
| 232. | Denkizairyo | " | 1 |
| 233. | Kenchiku-Keikaku | " | 1 |
| 234. | Kikaikōsaku (I) | " | 1 |
| 235. | " (II) | " | 1 |
| 236. | Kikai Zairyo | " | 1 |
| 237. | Kikai Sekkei | " | 1 |
| 238. | Kikaiōyō Rikigaku | " | 1 |
| 239. | Gendōki | " | 1 |
| 240. | Kōgyō Keisoku | " | 1 |
| 241. | Denki Riron 1 | " | 1 |
| 242. | " 2 | " | 1 |
| 243. | Denki-Oyō | " | 1 |
| 244. | Denshi Kōgaku | " | 1 |
| 245. | Kōgyō Gaisetsu | " | 1 |
| 246. | Shin Kōgyō Keiei | " | 1 |
| 247. | Kikai · Denki | " | 1 |
| 248. | Shin Denki Ippan | Jikkyō Shuppan Kabushiki Kaisha | 1 |
| 249. | Denki Ippan | " | 1 |
| 250. | Tensoku Keisanhyō | Suirobu | 40 |
| 251. | Tensoku Reki (44 Nen-ban) | " " | 16 |
| 252. | Kani Tensokuhyō (Dai 2 Kan) | " | 10 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|--|--|---------------|
| 253. | RORAN CHATO - Minami Taiheiyo L2102, L2103 - | Suirobu | each 2 |
| 254. | Kokusai Shingosho (Denshin Shingo-hen) | " | 2 |
| 255. | Todaihyo (Dai 3 Kan) | " | 1 |
| 256. | Sekai Sozu (6001) | " | 1 sheet |
| 257. | Sekai Zenzu (6002) | " | 2 sheets |
| 258. | Tonan Asia Zenzu (801) | " | 2 " |
| 259. | Ichi Kinyuzu (Ko) 6037-1.2.3. | " | each 15 |
| 260. | " (Otsu) 6038-1.2. 3.4. | " | " 15 |
| 261. | Minami Shinakai Suiroshi (Dai 1 Kan 211) | " | 2 vol. |
| 262. | Malacca Kaikyo Suiroshi (222) | " | 2 |
| 263. | Java Kai Suiroshi (Dai 1 Kan 224) | " | 2 |
| 264. | " (Dai 1 Kan 225) | " | 2 |
| 265. | Bengal Wan Suiroshi (271) | " | 2 |
| 266. | Chosekihyo (44 nenban Dai I kan) | " | 1 |
| 267. | Kaizu 602, 618, 619, 620, 622, 623 669, 678, 704, 719, 731, 732 733, 734, 735, 738, 741, 745 761, 1500, 1501, 1502, 1801 2902, 2903, 2975 Kei 26 shu kaku 2 mai | " | 52 sheets |
| 268. | Kaizu 645 | " | 2 " |
| 269. | Radar Log | " | 1 vol. |
| 270. | Nippon Senpaku Musen Denshin- kyoku Meiroku | " | 1 |
| 271. | Britanica (24 vols) | Suirobu | 1 |
| 272. | Engineering Electronics | Ryder - (Kogakusha) | 1 |
| 273. | Electronics | Millman - (Kogakusha) | 1 |
| 274. | Theory and Application of Industrial Electronics | Cage - (") | 1 |
| 275. | A course in Electrical Engineering Vol. 1 " Vol. 2 | Dawes - (") | 1 |
| 276. | Lent, - Analysis and Design of Mechanisms | Deane Lent (Maruzen) | 1 |
| 277. | Applied Mechanics 2nd ed. in two vols. | George W. Hounsner & Donald E. Hudson (") | 2 vols. |
| 278. | Creative Engineering Analysis | Frederick L. Ryder (") | 1 vol. |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume</u> |
|------------|---|--|---------------|
| 279. | Design of Machine Elements, 2nd ed. | M.F. Spotts (Maruzen) | 1 vol. |
| 280. | Engineering Statistics | Albert H. Bowker & Gerald J. Liederman (Maruzen) | 1 |
| 281. | Introduction to Complex Analysis | Zeev Nahari (Maruzen) | 1 |
| 282. | Kinematics of Machine, 2nd ed. | Rolland T. Hinkle (Maruzen) | 1 |
| 283. | Laplace Transformation, 2nd ed. | William T. Thomson (Maruzen) | 1 |
| 284. | Numerical Methods for Science & Engineering | Ralph G. Stanton (Maruzen) | 1 |
| 285. | Reliability Theory and Practice | Igor Bazorsky (Maruzen) | 1 |
| 286. | Analytical Thermodynamics | S.L. Soo (Maruzen) | 1 |
| 287. | Nonlinear Automatic Control | Gibson (") | 1 |
| 288. | Modern Control Theory | Tou (") | 1 |
| 289. | Machine Design 2/e | Black (") | 1 |
| 290. | Testing and Inspection of Engineering Materials 3/3 | Davis (") | 1 |
| 291. | Mechanical Metallurgy | Dieter (") | 1 |
| 292. | Mechanical Engineering Design | Shigley (") | 1 |
| 293. | Standard Hand Book for Mechanical Engineers, 7/e | Baumeister(") | 1 |
| 294. | Machine Tool Operation, Part 1 5/e | Burghardt (") | 1 |
| 295. | Machine Tool Operation, Part 2 4/e | " (") | 1 |
| 296. | Mechanism 5/e | Faires (") | 1 |
| 297. | Internal-Combustion Engines, 6/e | Lichty (") | 1 |
| 298. | Internal-Combustion Engines, 2/e | Maleeo (") | 1 |
| 299. | Automatic Control Engineering, 2/e | Roven (") | 1 |
| 300. | Mechanical Refrigeration, 2/e | Sporks (") | 1 |
| 301. | Engineering Mechanics, 4/e | Timoshenko(") | 1 |
| 302. | Basic Engineering Thermodynamics | Zemansky(") | 1 |
| 303. | Except from Radio Regulation | Denpa Shinkokai | 1 |
| 304. | Electronic and Radio Engineering | McGraw-Hill (Kogakusya) | 1 |
| 305. | Electronic Measurement | " (") | |
| 306. | Fundamentals of Electron Device | " (") | 1 |
| 307. | Vacuum Tubes | " (") | 1 |
| 308. | Radio Engineering Hand Book | " (") | 1 |

| <u>No.</u> | <u>Title of Book</u> | <u>Author & Publisher</u> | <u>Volume--</u> |
|------------|---|-------------------------------|-----------------|
| 309. | Basic Electrical Engineering | McGraw-Hill (Kogakusya) | 1 vol. |
| 310. | Communication Engineering | " (") | 1 |
| 311. | Radio Electronics | " (") | 1 |
| 312. | Elements of Radio Servicing | " (") | 1 |
| 313. | Introduction to the Theory of Statistics | Mood (") | 1 |

LIST B

| No. | Items | Description | Quantity | |
|-----|---|---|-----------|---|
| 1. | Twist Inspection Machine | 1) Three core Twist Tester Model SS | 1 set | * |
| | | 2) Micrometer Model M110 0-25 mm | 3 pcs | * |
| 2. | Reading microscope | 0.01, 40x | 1 set | |
| 3. | Strain meter | 1) Dynamic Strain Amplifier Type D36/MT/6 | 1 " | |
| | | 2) Pen Writing Oscillograph Type WTB211-6C | 1 " | |
| | | 3) Inverter for Pen Writing Oscillograph (6 ch) Type H | 1 " | |
| | | 4) Vacuum-tube Voltmeter Type 117A | 1 " | |
| | | 5) Automatic Null Balancing Indicator Type AS4/FT | 1 " | |
| | | 6) 4-points Switch Box | 1 ea. | |
| | | 7) Tension Load Cell Type LT/10T | 1 " | |
| | | 8) Tension Load Cell Type LT/5T | 1 " | |
| | | 9) Tension Load Cell Type LT/1T | 1 " | |
| | | 10) Tension Load Cell Type LT/100K | 1 " | |
| | | 11) Accessory | 1 set | |
| 4. | Automatic tension meter | 1) 0-2t Paper Feeding Speed 5mm/min | 2 sets | |
| | | 2) 0-0.5t Paper Feeding Speed 5mm/min | 2 " | |
| | | 3) Recording Paper | 200 rolls | |
| 5. | Current Meter | Model CM-1S with counter and spare battery. | 1 set | * |
| 6. | 35mm Camera for Water Tank Experiment and its accessories | ASAHI PENTAX MOTOR DRIVE SET 36 | | |
| | | 1) Camera, Asahi Pentax Sportmatic Motor Drive Fl. 4.50mm | 1 ea. | |
| | | 2) Motor Drive Unit (with 1m cord) | 1 " | |
| | | 3) Battery Crip (with Terminal Cap) | 1 " | |
| | | 4) Nicad Battery 10/500 FZ | 1 " | |
| | | 5) Charge Pack (AC220V) | 1 " | |
| | | 6) Battery Checker | 1 " | |
| | | 7) Cord 10m | 2 " | |
| | | 8) Relay Pack | 1 " | |
| | | 9) Soft Leather Case for Motor Drive 36 | 1 " | |
| | | 10) Battery Loader | 1 " | |
| | | 11) Lens, Supper-Takumar 28mm F3.5 | 1 " | |
| | | 12) Lens, Supper-Takumar 35mm F3.5 | 1 " | |

| No. | Items | Description | Quantity |
|-----|---|---|--|
| 6. | 35mm Camera for Water Tank Experiment and its accessories | 13) Lens, Supper-Takumar 135mm F3.5 14) Close up Lens 15) Auto Extension Tube Set 16) Copy Stand II 17) Bellows II 18) Slide Copier 19) Refconverter 20) Cable-Release II 21) Microscoope Adapter II 22) Oscilloscope Unit 75mm 23) Strobo, Super Light 24) Accessory Clip II 25) Filter Y2 49mm 26) Filter UV 49mm 27) Filter PL 49mm 28) Exposure Meter, Sekonic View Meter L-206 29) Exposure Meter Sekonic View Meter L-164 30) Exposure Meter Sekonic View Meter L-28 31) Tripod, Silk Master Deluxe Elevator 32) Air Release 6m 33) Reflector Lamp Flood 500W-220V 34) Reflector Lamp Spot 500W-220V 35) Eye Lamp Holder F-10 36) Eye Lamp Holder S 37) Eye Lamp Guard S 38) Marine Case | 1 ea. 1 " 1 " 1 " 1 " 1 e" 1 " 2 " 1 " 1 " 1 " 1 " 2 " 5 " 2 " 1 " 1 " 1 " 1 " 10 " 6 " 10 " 10 " 10 " 1 set |
| 7. | 16mm undereater movie camera | 1) Canon Scopic Set 16 (16 Main Body, Lens Cap, Lenshood, Spool, Battery Charager, Battery, Set Case) 2) Elmo Zoom Eight C-200 (with Single Eight Magazine and super Eight Magazine) 3) Tripod for 16mm Movie Camera 4) Filter UV 72mm | 1 " 1 " 1 ea. 1 " 1 " |

| No. | Items | Description | Quantity | |
|-----|---|---|----------|---------|
| 7. | 16mm Underwater Movie Camera | 5) Filter ND x 4 72mm | 1 ea. | |
| | | 6) Marine case Canon | 1 set | * |
| 8. | 8mm 16mm projector | 1) Projector, Elmo AR-16 (220V) | 1 set | |
| | | 2) Projector, Elmo ST-8 (220V) | 1 " | |
| | | 3) Splicer for 16mm | 1 ea. | |
| | | 4) Splicer for 8mm | 1 " | |
| | | 5) Reel, Elmo Reel for 120m | 20 " | |
| | | 6) Reel, Elmo Reel for 480mm | 13 " | |
| | | 7) Reel, Elmo ST-8 for 30m | 5 " | |
| | | 8) Reel, Elmo ST-8 for 60m | 5 " | |
| | | 9) Reel, Elmo ST-8 for 90m | 5 " | |
| | | 10) Reel, Elmo ST-8 for 120m | 5 " | |
| | | 11) Viewer Editor, Minette S-16 | 1 set | |
| | | 12) Viewer Editor, Minette S-1 | 1 " | |
| | | 13) Spare Lamp, Elmo 16mm Projector (750W-220V) | 3 " | |
| | | 14) Spare Lamp, Elmo ST-8 (150W-220V) | 3 " | |
| | | 15) Screen, Kikuchi SL-V (120 x 90cm) | 5 " | |
| | | 16) Screen, Kikuchi Giant-G (240 x 240 cm) | 1 " | |
| 9. | 35mm projector | 1) Projector, Super Cabin II (220V) | 1 set | |
| | | 2) Signal Head | 1 ea. | |
| | | 3) Spare Magazine, 50sh | 1 " | |
| | | 4) Halogen Lamp | 1 " | |
| | | 5) Projecter, Ace Cabin (220V) | 2 sets | |
| | | 6) Spare Lamp for Super Cabin | 3 ea. | |
| | | 7) Spare Lamp for Ace Cabin | 5 " | |
| | | 8) Slide Talkie, Sony TC-100A | 1 set | |
| | | 9) Cassette Tape C-60 | 20 ea. | |
| | | 10) Silica-gel | 1 " | |
| 10. | Diving Apparatus and High Pressure Compressor | Aqualung and Compressor | | |
| | | 1) Compressor with engine YS-55 60 liter/min | 1 | 1 set * |
| | | 2) Twin Tank Block 9.5 liter x 2 | 1 | |
| | | 3) Regulator | 1 | |
| | | 4) Mask | 1 | |
| | | 5) Swim Fin | 1 | |
| | | 6) Snorkel | 1 | |

| No. | Items | Description | Quantity | * |
|-------------------------|--|--|----------|---|
| 10. | Diving Apparatus and High Pressure Compressor | 7) Agnament Suit | 1 | |
| | | 8) Weight Belt with 6 kg. lead | 1 | |
| | | 9) Depth Gauge | 1 | |
| | | 10) Pressure Gauge | 1 | |
| | | 11) Life Jacket with knife and guide compass | 1 | |
| 11. | Underwater Illuminator | Model WL-2 | 1 set | * |
| 12. | Instrument for Biological experiment | 1) Dissection Apparatus Set | 1 set | * |
| | | 2) Dissection Plate (with enamel coating) | | |
| | | 22 x 17 x 3 cm | 5 pcs | * |
| | | 42.5 x 35 x 5 cm | 5 " | * |
| | | 74 x 42.5 x 11 cm | 5 " | * |
| | | 3) Belt Type Meat Grinder Dia. 32 | 2 sets | * |
| | | 4) Bottom Sampler CapacityN 50 g Running speedN 200cm/sec. | 1 set | |
| | | 5) Sampler | 1 " | |
| | | 6) Ekman-Berge Dredge 15 cm sq. with messenger & lead | 1 " | |
| | | 7) Balance 250 kg | 1 pcs | * |
| | | 8) Balance 50 kg | 1 " | * |
| | | 9) Balance Table 10 kg | 1 " | |
| | | 10) Balance Table 100 kg | 1 " | * |
| | | 11) Balance Microchemical 20g 1/1000mg | 1 " | * |
| | | 12) Balance Table 1 kg | 1 " | |
| 13) Balance Table 5 kg | 1 " | * | | |
| 14) Balance Table 10 kg | 1 " | | | |
| 15) Balance Table 20 kg | 1 " | | | |
| 13. | Shadowgraph | Profile Projector Olympus UP-350-1 Type with standard accessories and the following special accessories | 1 set | * |
| 14. | Air-adjusting facilities and small type compressor for small type rearing tank | 1) Water Bath 1,500m/m x 300m/m x 600m/m with a lid | 1 set | |
| | | 2) IWAKI LABO PUMP 25W with transformer | 1 " | |
| | | 3) Filter | 1 " | |

| No. | Items | Description | Quantity | |
|-----|--------------------------------------|--|-----------|---|
| 26. | Station pointer | 1) Outside Diameter of Circle 24.5cm | 1 set | |
| | | 2) Outside Diameter of Circle 15cm | 2 sets | |
| 27. | International Signal Plag | | 1 set | * |
| 28. | Gloves | 1) Celestial Globe 32cm (English) | 1 set | * |
| | | 2) Terrestrial Globe 45cm (English) | 1 " | * |
| | | 3) Star Chart 20.5 cm dia. (Planisphere) | 15 pcs | * |
| 29. | Net moniter | Koden Net Monitor Model NM-850 | 1 set | |
| | | 1) Detecting Transmitter | 1 | |
| | | 2) Submerged Receiver | 1 | |
| | | 3) Recorder | 1 | |
| | | 4) Spare Parts | 1 | |
| 30. | Knot meter | Tohodentan Model KM-2 with 20 meter cable | 1 set | |
| 31. | Depth recorder | 1) Self-recording net depth meter 0-250m | 1 " | |
| | | 2) Self-recording net depth meter 0-100m | 3 sets | |
| | | 3) Self-recording net height meter | 1 set | |
| | | 4) Recording chart | 200 rolls | |
| | | 5) Reading magnifier | 2 ea. | |
| 32. | Attraction lamp and its acces-sories | 1) Fishing Lamp on the Sea Type 200W(E)-220V | 4 sets | |
| | | 2) Fishing Lamp Six Lamp Type 200W-220V Colour Red | 1 set | |
| | | 3) Fishing Lamp Hanger Type 200W-220VPS | 5 sets | |
| | | 4) Fishing Lamp Hanger Type 500W-220VPS | 5 " | |
| | | 5) Under Water Fishing Lamp | 3 " | |
| | | 6) Spare Bulb | | |
| | | a) PS220V-200W Colour-Transparency | | |
| | | b) " " -Red | 5 " | |
| | | c) " " -Daylight | 5 " | |
| | | d) PS220V-500W " -Transparency | 13 " | |
| | | e) " " -Red | 2 " | |
| | | f) " " Daylight | 10 " | |
| | | 7) Reflector Lamp RM-1,000 Type | 1 set | |
| | | 8) Spare Bulb for Reflector Lamp | 5 PCS | |
| | | 9) Portable Receptacle | 4 sets | |
| | | 10) Denmer Slidax | 1 set | |
| | | 11) Distribution Board for Fishing Lamp | 1 " | |
| | | 12) Generator 1kw | 1 " | |
| | | 13) Generator 2kw | 2 sets | |

| No. | Items | Description | Quantity |
|-----|--------------------------|--|---|
| 33. | Fish finder | 1) JRC Fish Finder (1) Fish-Finder Model NJA-171 Complete with standard accessories Depth range: 20 meters (2) Transducer with 200 meter cable and matching box (3) Recording paper for NJA-171 2) Kodex Echo Sounder (1) Echo Sounder Model SR-655 Complete with standard accessories Depth range: 50 meters (2) Sideboard type transducer 3) Furuno Echo Sounder (1) Echo Sounder Model FM-22B Complete with standard accessories Depth range: 100 meters (2) Transducer | 1 set 1 " 50 rolls 1 set 1 " 1 " |
| 34. | Clearger | Silicon Rectifier Model KE35-2C AC. 220V, 3 phase DC. 35V, 20A | |
| 35. | Block, Chain and Tackles | 1) Iron Block 65m/m x 1 2) " 75m/m x 2 3) " 90m/m x 1 4) " 100m/m x 2 5) " Hook Type 65m/m x 1 6) " " 75m/m x 2 7) " " 90m/m x 1 8) " " 100m/m x 2 9) " Snatch 65m/m 10) Iron Block Snatch 90m/m 11) " " 100m/m 12) Block with Shackle 13) Wooden Block 130m/m x 1 14) " " 130m/m x 2 15) " " 150m/m x 2 16) " " 150m/m x 1 17) " " 180m/m x 1 18) Wooden Snatch Block 150m/m x 1 19) " " 180m/m x 1 20) Block 360m/m 21) " 480m/m 22) Brass Block 25 m/m 23) " 38 m/m 24) " 45 m/m 25) Chain Block 1/2 ton 26) " 2 ton 27) " 5 ton 28) Fuji Pulley 1.5 m | 5 pcs 5 " 5 " 5 " 5 " 5 " 5 " 5 " 10 " 10 " 10 " 1 " 5 " 5 " 5 " 5 " 5 " 5 " 5 " 5 " 5 " 2 " 2 " 5 " 5 " 5 " 1 " 1 " 1 " 1 " |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|---|--|
| 36. | Fishing Gears and Their Accessories | 1) Four Seams Type Trawl Net Complete Set (Diagram A-1) 2) Two Seams Type Trawl Net Complete Set (Diagram A-2) 3) Otter Board Vertical Type (Diagram A-3-2, A-3-3) 4) Otter Board Horizontal Type (Diagram A-3-1, A-3-3) 5) Ground Rope (1) Complete Set (Diagram A-4) (2) Materials (") (3) " (") 6) Otter Pendant & Hand Rope for Vertical Otter Board (Diagram A-3-3) 7) Otter Pendant & Hand Rope for Horizontal Otter Board (Diagram A-3-3) 8) Spare Netting: Polyethylene (1) 400D/90 160m/m 100m.d. x 100m.l. (2) 400D/72 120m/m 100m.d. x 100m.l. (3) 400D/60 120m/m 100m.d. x 100m.l. (4) 400D/60 100m/m 100m.d. x 100m.l. (5) 400D/72 60m/m 100m.d. x 100m.l. (6) 400D/60 60m/m 100m.d. x 100m.l. (7) 400D/45 120m/m 100m.d. x 100m.l. (8) 400D/45 100m/m 100m.d. x 100m.l. (9) 400D/45 60m/m 100m.d. x 100m.l. 9) Wire Rope (1) 18m/m dia. 200m coil (2) 16m/m dia. 200m coil (3) 14m/m dia. 200m coil (4) 12m/m dia. 200m coil 10) Synthetic Fibre Rope : Polyethylene (1) 20m/m dia. 200m coil (2) 18m/m dia. 200m coil (3) 16m/m dia. 200m coil 11) Quarter Rope : U-tex Compound Rope 22m/m dia. 50cm coil * wire core : 4m/m dia. 12) Accessories : (1) Bracket Metal (2) Delta Plate 300m/m (3) Swivel (two eyed) 25m/m (4) 8 (eight) Ring 28m/m (5) Attaching Shackle for Otter Board 28m/m (6) Otter Board Stopper Hook 5 (7) Manila Hemp Marline 375gr coil | 1 set " 2 pairs 1 pair 2 sets 2 " 2 " 1 set 1 " 2 pcs 4 " 6 " 4 " 4 " 4 " 4 " 4 " 4 " 4 " 8 " 1 coil 1 " 1 " 1 " 5 coils 5 " 5 " 3 coils 8 pcs 4 " 4 " 3 " 3 " 2 " 5 coils |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|---|----------|
| 36. | Fishing Gears and Their Accessories | (8) Synthetic Float 210m/m dia. for 500 m depth | 100 pcs |
| | | (9) Synthetic Float 240m/m dia. for 500 m depth. | 50 " |
| | | (10) Vinylon Twine 2.3 Monme (8.6 gr/m) 2.5 kg coil | 30 coils |
| | | (11) Manila Hemp Twine 2.3 Monme (8.6 gr/m) 2.5 kg coil | 30 " |
| | | (12) Polyethylene Twine 400D/45 2.5 kg coil | 10 " |
| | | (13) Polyethylene Twine 400D/60 2.5 kg coil | 15 " |
| | | (14) Polyethylene Twine 400D/72 2.5 kg coil | 10 " |
| | | (15) Polyethylene Twine 400D/90 2.5 kg coil | 5 " |
| | | (16) Synthetic Float 210m/m for 500 m Deep | 20 pcs |
| | | (17) Synthetic Float 300m/m for 500 m Deep | 20 " |
| | | (18) Iron Sinker Ball Type 300m/m dia. | Total |
| | | (19) Iron Sinker Ball Type 200m/m dia. | 50 pcs |
| | | (20) Wooden Sinker with Iron Band 120m/m x 150m/m (L) | 50 " |
| | | (21) Wire Clip 22m/m | 100 " |
| | | (22) Chain 8m/m dia. 50m length | 1 pc |
| | | (23) Rubber Sinker 80m/m x 40m/m | 200 pcs |
| | | (24) Brass Ring 25m/m x 250m/m | 50 " |
| | | (25) Fish Tackle Double Off Type 5# load | 2 " |
| | | (26) Fish Tackle Double Hook Type 5# load | 2 " |
| | | (27) Fish Tackle Single Off Type 5# load | 1 pc |
| | | (28) Fish Tackle Single Hook Type 5# load | 1 " |
| | | (29) Snatch Block 3# load | 2 pcs |
| | | (30) Anchor Shackle 3/4 load | 10 " |
| | | (31) Anchor Shackle 1 load | 2 " |
| | | (32) Square Head Shackle 25m/m | 30 " |
| | | (33) Square Head Shackle 22m/m | 40 " |
| | | (34) Square Head Shackle 16m/m | 50 " |
| | | (35) Swivel 7/8" | 10 " |
| | | (36) Swivel 5/8" | 10 " |
| | | (37) Stopper Hook 3# load | 4 " |
| | | (38) Stopper Hook 5# load | 4 " |
| | | (39) Stopper Hook 1# load | 8 " |
| | | (40) End Ring 25m/m | 6 " |
| | | (41) Ring 25m/m | 4 " |
| | | (42) Joining Block Middle Type 50m/m | 3 " |
| | | (43) Vinylon Compound Rope 16m/m 200m coil | 1 coil |
| | | * Wire Core: 4m/m dia. | |
| | | (44) Vinylon Rope 9m/m dia. 200m coil | 1 " |

| No. | Items | Description | Quantity |
|---|-------------------------------------|---|----------|
| 36. | Fishing Gears and Their Accessories | 13) Two Boats Type Trawl Net Complete Set (Diagram B-1) | 1 set |
| | | 14) Ground Rope Material (Diagram B-3) | 1 " |
| | | 15) Synthetic Float 210m/m for 500m depth | 55 pcs |
| | | 16) Shrimp Trawl Net D.R. System (Diagram B-2) | 2 sets |
| | | 17) Otter Board for Shrimp Trawl (Diagram B-5) | 2 pairs |
| | | 18) Swivel with Ball Bearing For Shrimp Trawl | 6 pcs |
| | | 19) Small Otter Trawl Net Complete Set (Diagram B-4) | 1 set |
| | | 20) Otter Board for Small Otter Trawl (Diagram B-6) | 1 pair |
| | | 21) Nylon Spare Netting (Dyed) | |
| | | (1) 21 OD/12 40m/m 100m.d. x 100m.l. | 10 pcs |
| | | (2) 21 OD/12 45 " 100 " x 100 " | 10 " |
| | | (3) 21 OD/15 38 " 100 " x 100 " | 10 " |
| | | (4) 21 OD/15 40 " 100 " x 100 " | 10 " |
| | | (5) 21 OD/15 45 " 100 " x 100 " | 10 " |
| | | (6) 21 OD/15 50 " 100 " x 100 " | 10 " |
| | | (7) 21 OD/30 50 " 100 " x 100 " | 10 " |
| | | (8) 21 OD/30 65 " 100 " x 100 " | 10 " |
| | | 22) Polyethylene Spare Netting (Greyed) | |
| | | (1) 40OD/15 40m/m 100m.d. x 100m.l. | 10 " |
| | | (2) 40OD/15 45 " 100 " x 100 " | 10 " |
| | | (3) 40OD/21 40 " 100 " x 100 " | 10 " |
| | | (4) 40OD/21 45 " 100 " x 100 " | 10 " |
| | | (5) 40OD/21 50 " 100 " x 100 " | 10 " |
| | | (6) 40OD/30 50 " 100 " x 100 " | 10 " |
| | | (7) 40OD/30 65 " 100 " x 100 " | 10 " |
| (8) 40OD/45 50 " 100 " x 100 " | 10 " | | |
| (9) 40OD/45 60 " 100 " x 100 " | 10 " | | |
| (10) 40OD/45 70 " 100 " x 100 " | 10 " | | |
| 23) Tuna Long Line Complete Set | 50 sets | | |
| <u>Specification of one set</u> | | | |
| Main Line :Vinylon 20s/55 x 3 x 3 50M x 6 pcs | | | |
| Branch Line:Polyester 90,000d (250d/40 x 3 x 3) 12M x 5 pcs | | | |
| Buoy Line :Vinylon 20d/55 x 3 x 3 20M x 1 pc | | | |
| 24) Tuna Long Line Incomplete Set | 150 sets | | |
| Main Line :Vinylon 20s/55 x 3 x 3 5M x 6 pcs | | | |
| 25) Radio Buoy | 2 " | | |

| No. | Items | Description | Quantity | |
|-----|-------------------------------------|---------------------------------------|--------------------------|-------|
| 36. | Fishing Gears and Their Accessories | 26) Light Buoy | 10 sets | |
| | | 27) Battery for Radio Buoy | 2 " | |
| | | 28) Antenna for Radio Buoy | 3 pcs | |
| | | 29) Battery for Light Buoy | 20 " | |
| | | 30) Bulb for Light Buoy | 8 doz | |
| | | 31) Seamen Socket for Light Buoy | 10 pcs | |
| | | 32) Glove Packing for Light Buoy | 15 " | |
| | | 33) Rubber Plate for Light Buoy | 10 " | |
| | | 34) Electric Cord for Light Buoy | 10 " | |
| | | 35) Tank Packing for Light Buoy | 30 " | |
| | | 36) Metal Cover for Light Buoy | 5 " | |
| | | 37) Charging Clip for Light Buoy | 15 " | |
| | | 38) Glass Glove for Light Buoy | 10 " | |
| | | 39) Distilled Water for Light Buoy | 2 cans | |
| | | 40) Sulphuric Acid for Light Buoy | 1 pc | |
| | | 41) Large Flag for Bamboo Pole | 3 sets | |
| | | 42) Rubber Ring for Line Hauler Large | 20 pcs | |
| | | 43) " " Small | 20 " | |
| | | 44) Vinylon Twine #5 | 7.5kgs | |
| | | 45) Stainless Snap | 1,000 pcs | |
| | | 46) Lon Yan | 2,125 m | |
| | | 47) Wire Clipper | 1 pc | |
| | | 48) Wire Clip | 4,000 pcs | |
| | | 49) Rubber Ring for Net Hauler | | |
| | | | (1) Large | 5 pcs |
| | | | (2) Small | 5 " |
| | | 50) Wire Cutter | 10 " | |
| | | 51) Spike | 30 " | |
| | | 52) Pincer | 30 " | |
| | | 53) Scissors for Cutting Rope | 50 " | |
| | | 54) Scoop Square Type | 7 " | |
| | | 55) Hand Hook Short Handle 330m/m | 50 " | |
| | | 56) Long Hand Hook 900m/m | 50 " | |
| | | 57) Fish Hook | 10 " | |
| | | 58) Dissection Knife | | |
| | | | (1) One side Blade 21cm | 20 " |
| | | | (2) Both side Blade 21cm | 20 " |

| No. | Items | Description | Quantity |
|------------------------|-------------------------------------|----------------------------------|----------|
| 36. | Fishing Gears and Their Accessories | 59) Fish Brush (Nylon) | 30 pcs |
| | | 60) Beam Scale | |
| | | (1) 150 kgs | 1 pc |
| | | (2) 50 " | 1 " |
| | | 61) Harpoon Head | 10 pcs |
| | | 62) Bamboo Pole | 10 " |
| | | 63) Saw for Nose Cutting | 2 " |
| | | 64) Lead Roller | 1 set |
| | | 65) Wire Cutter B-32 | 1 " |
| | | 66) Four Hook | |
| | | (1) Large | 2 pcs |
| | | (2) Small | 2 " |
| | | 67) Wooden Hammer | 1 pc |
| | | 68) Hatchet | 3 pcs |
| | | 69) Rod for Bonito | 20 sets |
| | | 70) Rod for Mackerel | 10 " |
| | | 71) Squid Fishing Gears | 10 " |
| | | 72) Horse Mackerel Fishing Gears | |
| | | (1) Large | 10 " |
| | | (2) Small | 10 " |
| | | 73) Sea Bream Trawling | 10 pcs |
| | | 74) Bonito Trawling | 10 sets |
| | | 75) Tuna Trawling | 10 " |
| | | 76) Horse Mackerel Trawling | 10 " |
| | | 77) Bass Trawling | 10 " |
| | | 78) Red Snapper Long Line | 100 " |
| | | 79) Horse Mackerel Long Line | 100 " |
| | | 80) Sea Bream Long Line | 100 " |
| | | 81) Flat Trawling | 10 " |
| | | 82) Marine Rod | |
| | | (1) A | 5 pcs |
| | | (2) B | 5 " |
| | | (3) C | 5 " |
| | | 83) Trawling Rod | 3 " |
| | | 84) Harpoon Handle Rod | 3 " |
| 85) Reel | | | |
| (1) Strong 60S | 3 " | | |
| (2) No. 93 Left | 3 " | | |
| (3) " Right | 2 " | | |
| (4) Mizet 150 | 3 " | | |
| (5) Minibest Right | 3 " | | |
| (6) Harpoon Handle 500 | 3 " | | |

| No. | Items | Description | Quantity |
|-----|---------------------------------------|--|----------|
| 36. | Finishing gears and their accessories | <p>86) Fishing Line</p> <p>(1) #1, #2, #3, #5, #6, #8, #10, #12 1 each</p> <p>(2) Three Colour #3 150M 2 rolls</p> <p>(3) " #6 " 2 "</p> <p>(4) " #8 " 2 "</p> <p>(5) Four Colour #8 400M 2 "</p> <p>(6) " #10 " 2 "</p> <p>(7) " #12 " 2 "</p> <p>87) Lead</p> <p>(1) Egg Plant Type #1 30 pcs</p> <p>(2) " #3 30 "</p> <p>(3) " #5 30 "</p> <p>(4) " #10 30 "</p> <p>(5) Odaware Type #15 10 "</p> <p>(6) " #120 10 "</p> <p>(7) " #25 10 "</p> <p>(8) Long Regg Plant Type #20 15 "</p> <p>(9) " #25 15 "</p> <p>(10) " #30 15 "</p> <p>(11) " #50 15 "</p> <p>(12) " #80 15 "</p> <p>(13) " #100 15 "</p> <p>88) One side Balance with Weight</p> <p>(1) #5 10 "</p> <p>(2) #10 10 "</p> <p>(3) #15 10 "</p> <p>(4) #20 10 "</p> <p>(5) #25 10 "</p> <p>89) Round Type Balance with Weight</p> <p>(1) #6 5 "</p> <p>(2) #10 5 "</p> <p>(3) #15 5 "</p> <p>(4) #20 5 "</p> <p>(5) #25 5 "</p> <p>(6) #30 5 "</p> <p>90) Atami Float</p> <p>(1) L 5 "</p> <p>(2) M 5 "</p> <p>(3) S 5 "</p> <p>91) Cooler</p> <p>(1) No. 38DX 2 "</p> <p>(2) No. 50DX 1 pc</p> <p>(3) No. 62DX 1 "</p> <p>92) Octopus Trawling with Lead Hook & Fishing Line</p> <p>(1) 2.5 100 pcs</p> <p>(2) 3.0 100 "</p> <p>(3) 3.5 100 "</p> <p>(4) 5.5 100 "</p> | |

| No. | Items | Description | Quantity |
|-----|---------------------------------------|--|---|
| 36. | Finishing gears and their accessories | 93) Octopus Trawling with Lead (1) 2.5 (2) 3.0 (3) 3.5 (4) 5.5 94) Squid Trawling with Lead (1) 2.5 (2) 2.8 (3) 3.7 (4) 5.0 95) Sardine Trawling with Lead (1) 2.5 (2) 3.0 96) Sardine Trawling with Lead & Hook 3.5 97) Bait Plate 98) Ace Wire (1) #36 1 x 7 400m/coil (2) #34 " " " (3) #32 " " " (4) #30 " " " 99) Soft Wire (1) #36 1 x 7 400m/coil (2) #34 " " " (3) #32 " " " (4) #30 " " " 100) C Ring 101) Hack for Branch Line 102) Swivel (1) 2.5m/m (2) 3 " (3) 4 " (4) 5 " (5) 6 " 103) Plastic (1) #1 (2) #2 (3) #3 104) Wet Stone for Hook (1) Large (2) Medium (3) Small 105) Flat for Fishing (1) #10 (2) #12 (3) #13 | 10 bags 10 " 10 " 10 " 10 " 100 pcs 100 " 100 " 10 bags 400 m 400 " 400 " 400 " 400 m 400 " 400 " 400 " 50 pcs 50 " 20 " 20 " 20 " 20 " 20 " 50 " 50 " 50 " 3 " 3 " 3 " 100 " 100 " 100 " |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|--------------------------------------|----------|
| 36. | Fishing Gears and Their Accessories | 106) Hook for Bonito | |
| | | (1) #8 | 100 pcs |
| | | (2) #9 | 100 " |
| | | 107) Albacore Trawling | |
| | | (1) #26 | 100 " |
| | | (2) #32 | 100 " |
| | | 108) Spanish Mackerel Fishing | |
| | | (1) Large | 100 " |
| | | (2) Medium | 100 " |
| | | (3) Small | 100 " |
| | | 109) Mackerel Fishing 16 | 100 " |
| | | 110) Scombrops Fishing | |
| | | (1) #26 | 100 " |
| | | (2) #30 | 100 " |
| | | 111) Horse Mackerel | |
| | | (1) #1 | 100 " |
| | | (2) #4 | 100 " |
| | | 112) Yang Bass Fishing 17 | 100 " |
| | | 113) Scabbard Fish Large | 50 " |
| | | 114) Hata #25 | 100 " |
| | | 115) Squid Square | |
| | | (1) Day-time | 100 " |
| | | (2) Night-time | 100 " |
| | | 116) Diving Plate | |
| | | (1) A-85 | 10 " |
| | | (2) A-90 | 10 " |
| | | (3) A-100 | 10 " |
| | | 117) Plastic Diving Plate | |
| | | (1) P-45 | 10 " |
| | | (2) P-50 | 10 " |
| | | (3) P-60 | 10 " |
| | | (4) P-65 | 10 " |
| | | (5) P-70 | 10 " |
| | | (6) P-80 | 10 " |
| | | (7) P-90 | 10 " |
| | | 118) Rubber Swivel | |
| | | (1) 2 m/m | 20 " |
| | | (2) 2.5 m/m | 20 " |
| | | (3) 3.0 " | 20 " |
| | | (4) 4.0 " | 20 " |
| | | (5) 5.0 " | 20 " |
| | | (6) 6.0 " | 20 " |
| | | 119) Brass Barrel Swivel | |
| | | 4/0, 3/0, 2/0, 1/0, 1, 2, 3, 4, 5, | each |
| | | 10, 11, 12 | 144 pcs |
| | | 120) Brass Box Swivel | |
| | | 5/0, 4/0, 3/0, 2/0, 1/0, 1, 2, 3, 4, | each |
| | | 5, 6, 7, 8, 9, 10 | 144 pcs |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|---|---|
| 36. | Fishing Gears and Their Accessories | 121) Tuna Brass Swivel (1) No. 10 (2) No. 13 122) Brass Three Way Swivel 5/0, 4/0, 3/0, 2/0, 1/0, 1, 2, 3, 4, 5, 6, 7, 8, 9 123) Swivel with Snap 5/0, 4/0, 3/0, 2/0, 1 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 124) Safety Snap 1, 2, 3, 4, 5, 6 125) Leaf Swivel 126) Heavy Swivel 4m/m, 5m/m, 6m/m, 7m/m, 9m/m, 12m/m 127) Iron Scissors 240m/m 128) Pincer 129) Side Cutting Plier 7m/m 130) Nipper 5m/m 131) Cold Chisel Flat 25m/m 132) Hammer 2 lb 133) File 50, 75, 100, 125m/m 134) Set File 135) File Round, Halfround, Square, Flat, Triangle 136) Vise 4, 5 137) Pipe Wrench 300m/m 138) Adjustable Angle Wrench 250m/m 139) Open Ended Spanner with Double End Type 140) Cape Chisel 141) Solder Tools 142) Iron Saw 143) Oil Stone M 144) Wire Gauge BWB 145) Close Wire Socket 16m/m, 18m/m, 20m/m 146) Swivel (1) 9m/m (2) 12m/m (3) 16m/m (4) 19m/m | 144 pcs 144 " each 144 pcs each 144 pcs each 144 pcs 144 pcs each 288 pcs 3 pcs 20 pcs 4 pcs 4 pcs 5 pcs 3 pcs 1 set 2 sets 2 sets each 1 set 2 pcs 2 pcs 2 sets 20 pcs 2 sets 1 set 3 pcs 2 pcs each 1 pc 3 pcs 3 " 5 " 4 " |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|---|---|
| 36. | Fishing Gears and Their Accessories | 147) Wire Rope Sekimaki Machine 148) Chisel Anvil 149) Electric Plane 150) Plane 151) Saw #7, #9, #1, #1.1 152) Gimlet 153) Chisel 154) Wooden Hammer M 155) Pincer 450m/m 156) Hammer Large 157) Wet Stone 158) Vernier Caliper 300m/m 159) Micro Meter 0-25 160) Palm 161) Mallet 162) Fid 163) Pricker 164) Ponch 165) Eyelet 166) Eyelet & Ponch 167) Sail Twine 168) Wax for Sail Twine 169) Sail Needle #12, #14, #15 170) Knife 171) Scissors 172) Netting Needle 2, 3, 4, 5, 6, 7, 10, 12, 14, 16 173) Scissors (Japanese type) 174) Electric Iron 175) Spanner 6" 176) Knife 177) Wooden Spike 250m/m 178) Iron Spike (1) 250m/m (2) 400m/m | 1 set 2 pcs 2 sets 5 pcs each 1 pc 1 set 1 " 3 pcs 3 " 5 " 6 " 2 " 2 " 5 " 5 " 5 " 5 " 3 " 1G 1 set 5 balls 1 pc each 10 pcs 5 " 5 " each 100 " 30 " 5 " 5 " 30 " 20 " 20 " 20 " |

| No. | Items | Description | Quantity | |
|------------------------------------|-------------------------------------|-----------------------------------|------------------------|--------|
| 36. | Fishing Gears and Their Accessories | 179) Screwdriver Plus, Minus, Box | each 3 sets | |
| | | 180) Side Cutting Plier | 20 pcs | |
| | | 181) Nipper 5" | 20 " | |
| | | 182) Plier | 10 " | |
| | | 183) Jointed Rule | 10 " | |
| | | 184) Tape Measure | 10 " | |
| | | 185) Scissors | 20 " | |
| | | 186) Cargo Hook | 10 " | |
| | | 187) Tairyo Daia | 90 kgs | |
| | | 188) Paint | | |
| | | | (1) Gray 2kg/can | 1 can |
| | | | (2) Sky Blue " | 1 " |
| | | | (3) Yellow " | 1 " |
| | | | (4) Green " | 1 " |
| | | | (5) Brown " | 1 " |
| | | | (6) Black " | 1 " |
| | | | (7) Red " | 1 " |
| | | | (8) Dark Blue " | 1 " |
| | | | (9) Red 5kg/can | 8 cans |
| | | | (10) For wooden boat " | 8 " |
| | | 189) Bond | | |
| | | | (1) for Wooden 3kg/can | 1 can |
| | | | (2) for Clothes " | 1 " |
| | | | (3) for Leather " | 1 " |
| | | | (4) for Iron " | 1 " |
| | | 190) Paint Splay | | 1 set |
| | | 191) Paint | | |
| | | | (1) White Zine 2L/can | 1 can |
| | | | (2) White for Under " | |
| | | | (3) Gray " | 1 " |
| | (4) Blue " | 1 " | | |
| | (5) Yellow " | 1 " | | |
| | (6) Green " | 1 " | | |
| | (7) Brown " | 1 " | | |
| | (8) Black " | 1 " | | |
| | (9) Red " | 1 " | | |
| | (10) Dark Blue " | 1 " | | |
| 192) Anticorrosive Paint | 4kg/can | 5 cans | | |
| 193) White Putty | 30kg/can | 1 can | | |
| 194) Pitch with Rubber | | 1 " | | |
| 195) Paint Brush 24, 30, 45, 60m/m | | each 20 pcs | | |
| 196) Box Rail | 3 tons | 2 sets | | |
| 197) Two Hooks Anchor | 40 kgs | 1 pc | | |

| No. | Items | Description | Quantity |
|--|-------------------------------------|---|----------|
| 36. | Fishing Gears and Their Accessories | 198) One side Hooks Anchor 40kgs | 1 pc |
| | | 199) Four Hooks Anchor 10kgs | 1 " |
| | | 200) Stock less stockless 75kgs | 1 " |
| | | 201) Short Ring Chain | |
| | | (1) 6m/m | 50 m |
| | | (2) 9m/m | 50 m |
| | | (3) 16m/m | 30 m |
| | | 202) Hose Block 16m/m | 1 pc |
| | | 203) Guide Pulley | 3 pcs |
| | | 204) Winch | |
| | | (1) 2 tons | 1 pc |
| | | (2) 3 tons | 1 " |
| | | 205) Wire Reel | |
| | | (1) 12m/m | 2 pcs |
| | | (2) 16m/m | 2 " |
| | | 206) Fair Leather with Roller | 4 " |
| | | 207) Cargo Hook | |
| | | (1) 6m/m | 3 " |
| | | (2) 9m/m | 3 " |
| | | (3) 13m/m | 3 " |
| | | 208) Swivel U Type | |
| | | (1) 13m/m | 2 " |
| | | (2) 16m/m | 2 " |
| | | (3) 19m/m | 2 " |
| | | 209) Wire Stopper | |
| | | (1) 16m/m | 1 pc |
| | | (2) 18m/m | 1 " |
| | | 210) Swivel Pipe Type with Rearing 3 tons | 1 " |
| 211) I Type Bolt 9m/m, 13m/m, 16m/m | each 4 pcs | | |
| 212) Course Hook 13m/m, 16m/m, 19m/m, 22m/m, 30m/m | each 50 pcs | | |
| 213) Wire Course 6m/m, 8m/m, 10m/m, 12m/m, 16m/m | each 30 pcs | | |
| 214) D Shackle 8m/m, 9m/m, 12m/m, 16m/m | each 30 pcs | | |
| 215) Chain Shackle 8m/m, 9m/m, 12m/m, 16m/m | each 30 pcs | | |
| 216) B Chain Shackle 8m/m, 9m/m, 12m/m, 16m/m | each 30 pcs | | |
| 217) Anchor Shackle 19m/m, 16m/m | each 5 pcs | | |
| 218) Square Shackle 9m/m, 12m/m | each 5 pcs | | |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|--|---|
| 36. | Fishing Gears and Their Accessories | 219) Turn Buckle (1) 9m/m Hook Type (2) 9m/m Off Type (3) 13m/m Hook Type (4) 13m/m Off Type (5) 16m:m Hook Type (6) 16m/m Off Type 220) Wire Clip 6m/m, 9m/m, 12m/m, 16m/m 221) Ring (1) 28m/m (2) 48m/m (3) 32m/m 222) Handle with Skapper Branch 223) Skapper for Pump 224) Electric Torch Lamp 225) Vise (1) 5cm (2) 10 cm (3) 15cm (4) 20cm (5) 30cm 226) Wagon 227) Roller Way 228) Rubber Hose 13m/m, 19m/m 229) Pikal Paste 230) Asbestos 231) Cotton Packing 232) Grease Packing 233) Working Glove 234) Wooden Plate 235) Drill 12m/m, 15m/m, 18m/m 236) Canvas (1) #3 (2) #4, #6 (3) Water Proof #4 (4) Water Proof #6 237) Patch Rubber Large 238) Electric Torch | 20 pcs 20 " 20 " 20 " 20 " 20 " each 50 pcs 200 pcs 100 " 100 " 5 " 5 " 1 p'c 30 pc 30 " 20 " 20 " 10 " 1 set 5 m each 30 m 30 pcs 2 balls 500 monme 2 kgs 200 pairs each 1 sheet each 1 pc 2 pcs each 1 pc 2 pcs 1 pc 1 can 3 pcs |

| No. | Items | Description | Quantity |
|--|-------------------------------------|--|-----------|
| 36. | Fishing Gears and Their Accessories | 239) Wire Rope | |
| | | (1) 6 x 24 18m/m | 2 coils |
| | | (2) 6 x 24 12m/m | 2 " |
| | | (3) 6 x 24 15m/m | 2 " |
| | | (4) 6 x 37 9m/m | 2 " |
| | | (5) 6 x 37 12m/m | 2 " |
| | | (6) 6 x 37 15m/m | 2 " |
| | | 240) Scale Wire 8m/m | 2 " |
| | | 241) Wire Rope | |
| | | (1) 9m/m | 2 " |
| | | (2) 12m/m | 3 " |
| | | (3) 16m/m | 2 " |
| | | 242) Polyethylene Rope | |
| | | (1) 6m/m | 5 " |
| | | (2) 16m/m | 3 " |
| | | 243) Vinylon Rope | |
| | | (1) 9m/m | 3 " |
| | | (2) 12m/m | 3 " |
| | | 244) Manila Twine | |
| | | (1) 6m/m | 5 balls |
| | | (2) 7m/m | 5 " |
| | | (3) 8m/m | 5 " |
| | | (4) 9m/m | 5 " |
| | | 245) Manila Rope | |
| | | (1) 9m/m | 2 coils |
| | | (2) 24m/m | 2 " |
| | | (3) 36m/m | 2 " |
| | | 246) Waste | 100 kgs |
| | | 247) Nylon Netting for Platou Seine English Knot, Black Resin Treated. | |
| | | (1) 210d/r-L2 25m/m 400md x 151.5m | 30 sheets |
| | | (2) 210d/9-L3 25m/m 400md x 151.5m | 2 " |
| | | (3) 210d/9-L3 25m/m 100md x 151.5m | 4 " |
| | | (4) 210d/18-L3 30m/m 6md x 151.5m | 9 " |
| | | 248) Nylon Netting for Skip-jack Purse Seine English Knot, Black Resin Treated. | |
| | | (1) 210d/12-L3 38m/m 400md x 151.5m | 60 " |
| | | (2) 210d/15-L3 38m/m 400md x 151.5m | 2 " |
| (3) 210d/15-L3 38m/m 50md x 151.5m | 14 " | | |
| (4) 210d/24-L3 44m/m 6md x 151.5m | 21 " | | |
| 249) Nylon Netting for Spanish Mackerel English Knot, Colour No. 33 | | | |
| (1) 210d/6-L3 90m/m 30md x 1,050ml | 5 " | | |
| (2) 210d/9-L3 90m/m 30md x 1,050ml | 10 " | | |
| 250) Nylon Gill Netting for Spanish Mackerel English Double Knot | | | |
| (1) 210d/18 100m/m 150md x 50m | 50 " | | |
| (2) SN/36 100m/m 25md x 50m | 50 " | | |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|---|----------|
| 36. | Fishing Gears and Their Accessories | 251) Nylon Mono-Filament Netting for Spanish Mackerel English Double Knot | |
| | | (1) #2 90m/m 30md x 1,050ml | 5 sheets |
| | | (2) #4 360m/m 5md x 150ml | 40 " |
| | | 252) Nylon Mono-Filament Gill Netting for Spanish Mackerel English Double Knot (#16 100m/m 150md x 50m) | 20 " |
| | | 253) Nylon Mono-Filament Gill Netting for Pompano English Double Knot (#5 125m/m 100md x 80m) | 20 " |
| | | 254) Nylon Mono-Filament Netting for Sweeping Trammel Net English Knot (#2 8 ply 360m/m 5md x 54m) | 40 " |
| | | 255) Nylon Gill Netting for Spanish Mackerel English Double Knot | |
| | | (1) 210d/18-L6 100m/m 150md x 50m | 20 " |
| | | (2) SN/36-L3 100m/m 25md x 50m | 20 " |
| | | 256) Nylon Gill Netting for Shrimp English Knot 210d/2-L2-L2 46m/m 100md x 80m | 20 " |
| | | 257) Nylon Gill Netting for Gray Mullet English Knot 210d/4-L2 40m/m 100md x 80m | 10 " |
| | | 258) Nylon Bottom Gill Netting for Red Snapper English Knot 210d/15-L3 180m/m 25md x 37.5m | 20 " |
| | | 259) Nylon Netting for Sweeping Trammel English Knot | |
| | | (1) 210d/6-L3 60m/m 45md x 94.5m | 5 " |
| | | (2) 210d/6-L3 75m/m 36md x 94.5m | 5 " |
| | | (3) 210d/6-L3 90m/m 30md x 94.5m | 5 " |
| | | (4) 210d/9-L3 90m/m 30md x 94.5m | 5 " |
| | | 260) Nylon Netting for Bottom Gill (Genshiki) English Knot | |
| | | (1) 210d/6-L3 43m/m 25md x 150m | 5 " |
| | | (2) 210d/4-L2 28m/m 200md x 150m | 5 " |
| | | (3) 210d/6-L3 28m/m 100md x 150m | 5 " |
| | | (4) 210d/4-L2 28m/m 200md x 150m | 5 " |
| | | 261) Nylon Raschell Netting | |
| | | (1) 210d/4 150/50cm 1,200md x 100m | 2 " |
| | | (2) 110d/4 160/50cm 1,200md x 100m | 2 " |
| | | (3) 110d/4 200/50cm 1,200md x 100m | 2 " |
| | | (4) 210d/4 180/50cm 1,200md x 100m | 2 " |
| | | (5) 210d/4 120/50cm 1,200md x 100m | 2 " |
| | | (6) 210d/4 90/50cm 1,200md x 100m | 2 " |
| | | 262) Nylon saran mixed Gill Netting for Flat Fish English Knot (SN/8 80m/m 50md x 75m) | 5 " |

| No. | Items | Description | Quantity |
|---|-------------------------------------|--|----------|
| 36. | Fishing Gears and Their Accessories | 263) Nylon saran mixed Netting for stick Held dip Net | |
| | | (1) SN/4 18.2m/m 100md x 160m | 2 sheets |
| | | (2) SN/6 15.6m/m 100md x 170m | 1 sheet |
| | | (3) SN/9 37.5m/m 40md x 50m | 1 " |
| | | 264) Nylon saran mixed Netting for 4 Boats Lift Net English Knot | |
| | | (1) SN/12 20m/m 100md x 151.5m | 3 sheets |
| | | (2) SN/24 20m/m 100md x 151.5m | 0.5 " |
| | | (3) SN/15 30m/m 100md x 151.5m | 3 " |
| | | (4) SN/18 50m/m 100md x 151.5m | 2 " |
| | | (5) SN/24 75m/m 100md x 151.5m | 2 " |
| | | (6) SN/45 75m/m 100md x 151.5m | 0.5 " |
| | | 265) Polyethylene Netting for Set Net English Knot | |
| | | (1) 400d/21-L3 38m/m 100md x 50m | 2 " |
| | | (2) 400d/12-L3 38m/m 100md x 100m | 2 " |
| | | (3) 400d/ 9-L3 38m/m 100md x 51.5m | 12 " |
| | | 266) Nylon Twine for Platou Purse Seine Black Resin Treated | |
| | | (1) 210d/4-L2 | 20 kgs |
| | | (2) 210d/9-L3 | 20 " |
| | | (3) 210d/18-L3 | 10 " |
| | | (4) 210d/30-L3 | 10 " |
| | | 267) Nylon Twine for Skip-jack Purse Seine Black Resin Treated | |
| | | (1) 210d/12-L3 | 30 " |
| | | (2) 210d/15-L3 | 20 " |
| | | (3) 210d/24-L3 | 10 " |
| | | (4) 210d/45-L3 | 15 " |
| | | 268) Nylon Twine for Spanish Mackerel Colour No. 33 | |
| | | (1) 210d/ 6-L3 | 5 " |
| (2) 210d/ 9-L3 | 5 " | | |
| (3) 210d/30-L3 | 5 " | | |
| 269) Nylon Twine for Spanish Mackerel Netting | | | |
| (1) Colour Brown 210d/18-L3 | 5 " | | |
| (2) Colour Blue 210d/18-L3 | 5 " | | |
| (3) Colour Red 210d/18-L3 | 5 " | | |
| (4) Colour Gray 210d/18-L3 | 5 " | | |
| (5) Colour White 210d/18-L3 | 5 " | | |
| (6) Colour No. 23-B | 5 " | | |
| (7) Colour No. 33 | 5 " | | |
| (8) Colour No. 34 | 5 " | | |
| (9) Colour No. 50 | 5 " | | |
| 270) Nylon Mono-Filament Yarn for Spanish Mackerel Netting Colour No. 33 #2 8 ply | 5 " | | |

| No. | Items | Description | Quantity |
|--|-------------------------------------|--|----------|
| 36. | Fishing Gears and Their Accessories | 271) Nylon Mono-Filament Yarn for Pompano Netting Colour Light Green #5 | 5 kgs. |
| | | 272) Nylon Mono-Filament Yarn for Spanish Mackerel Netting | |
| | | (1) Colour White #16 | 2 " |
| | | (2) Colour No. 23B #16 | 2 " |
| | | (3) Colour No. 33 #16 | 2 " |
| | | (4) Colour No. 34 #16 | 2 " |
| | | (5) Colour No. 50 #16 | 2 " |
| | | 273) Nylon Twine for Spanish Mackerel | |
| | | (1) Colour White 210d/18-L6 | 2 " |
| | | (2) Colour No. 23-B | 2 " |
| | | (3) Colour No. 33 | 2 " |
| | | (4) Colour No. 34 | 2 " |
| | | (5) Colour No. 50 | 2 " |
| | | 274) Nylon Twine for Gill Net | |
| | | (1) Colour White 210d/2-L2 | 10 " |
| | | (2) Colour White 210d/3-L3 | 10 " |
| | | (3) Colour White 210d/4-L2 | 10 " |
| | | (4) Colour White 210d/6-L3 | 10 " |
| | | (5) Colour White 210d/9-L3 | 10 " |
| | | (6) Colour White 210d/12-L3 | 10 " |
| | | (7) Colour White 210d/15-L3 | 10 " |
| | | (8) Colour White 210d/18-L3 | 10 " |
| | | (9) Colour White 210d/21-L3 | 10 " |
| | | (10) Colour White 210d/24-L3 | 10 " |
| | | (11) Colour White 210d/27-L3 | 10 " |
| | | (12) Colour White 210d/30-L3 | 10 " |
| | | (13) Colour White 210d/36-L3 | 10 " |
| | | (14) Colour White 210d/45-L3 | 10 " |
| | | (15) Colour White 210d/60-L3 | 10 " |
| | | (16) Colour White 210d/90-L3 | 10 " |
| | | 275) Nylon saran mixed Twine for Stick Held Dip Net | |
| | | (1) Colour Brown SN/4-L2 | 5 " |
| (2) Colour Brown SN/6-L3 | 5 " | | |
| (3) Colour Brown SN/9-L3 | 5 " | | |
| 276) Nylon saran mixed Twine for Set Net | | | |
| (1) Colour Brown SN/15-L3 | 20 " | | |
| (2) Colour Brown SN/18-L3 | 20 " | | |
| (3) Colour Brown SN/24-L3 | 20 " | | |
| 277) Nylon saran mixed Twine for Spanish Mackerel Gill Net | | | |
| SN/36-L3 | 20 " | | |
| 278) Vinylon Twine (Colour White) | | | |
| (1) for Shrimps Gill Net 20S/6-L3 | 10 " | | |
| (2) for Gray Mullet Gill Net 20S/9-L3 | | | |
| (3) for Gray Mullet Gill Net 20S/12-L3 | 10 " | | |
| (4) for Stick Held Dip Net 20S/15-L3 | 10 " | | |
| (5) for Sweeping Trammel Net 20S/18-L3 | 10 " | | |

| No. | Items | Description | Quantity |
|-----|-------------------------------------|--|---|
| 36. | Fishing Gears and Their Accessories | <p>278) Vinylon Twine (Colour White)</p> <p>(6) for Sweeping Trammel 20S/21-L3</p> <p>(7) for Sweeping Trammel 20S/24-L3</p> <p>(8) for Platou Purse Seine 20S/30-L3</p> <p>(9) for Spanish Mackerel Gill Net 20S/36-L3</p> <p>(10) for 4 Boats Lift Net 20S/45-L3</p> <p>(11) for Gray Mullet Gill Net 20S-60-L3 (Hank)</p> <p>(12) for Skip-jack Purse Seine Net 20S/90-L3 (Hank)</p> <p>279) Vinylon Twine Hard Laid</p> <p>(1) Colour White 20S/24-L3 (Hank)</p> <p>(2) Colour White 20S/24-R3 (Hank)</p> <p>(3) Colour White 20S/36-L3 (Hank)</p> <p>(4) Colour White 20S/36-R3 (Hank)</p> <p>(5) Colour White 20S/45-L3 (Hank)</p> <p>(6) Colour White 20S/45-R3 (Hank)</p> <p>(7) Colour White 20S/60-L3 (Hank)</p> <p>(8) Colour White 20S/60-R3 (Hank)</p> <p>(9) Colour White 20S/90-L3 (Hank)</p> <p>(10) Colour White 20S/90-R3 (Hank)</p> <p>(11) Colour White 20S/120-L3 (Hank)</p> <p>(12) Colour White 20S/120-R3 (Hank)</p> <p>280) Spun Pylene Rope for Pompano Netting</p> <p>(1) 4m/m 3strs. L. Laid N. Color</p> <p>(2) 4m/m 3strs. R. Laid N. Color</p> <p>281) Spun Pylene Rope for Platou Purse Seine Spanish Mackerel Gill Net & Pompano Net</p> <p>(1) 6m/m 3strs. L. Laid No. Color</p> <p>(2) 6m/m 3strs. R. Laid N. Color</p> <p>282) Spun Pylene Rope for Skip-jack Purse Seine Red Snapper Gill Net</p> <p>(1) 12m/m 3strs. L. Laid N. Color</p> <p>(2) 21m/m 3strs. R. Laid N. Color</p> <p>283) Spun Pylene Rope for Spanish Mackerel Net Sweeping Trammel Net</p> <p>(1) 8m/m 8strs. Natural Color</p> <p>(2) 6m/m 8strs. Natural Color</p> <p>(3) 8m/m 8strs. Natural Color</p> <p>284) Nylon Rope for Platou Skip-jack Purse Seine</p> <p>(1) 20m/m 8strs. N. Color</p> <p>(2) 24m/m 8strs. N. Color</p> <p>285) Tetoron Rope for Spanish Mackerel Net Sweeping Trammel Net</p> <p>(1) 6m/m 8strs. N. Color</p> <p>(2) 8m/m 8strs. N. Color</p> <p>(3) 10m/m 8strs. N. Color</p> | <p>30 kgs</p> <p>30 "</p> <p>30 "</p> <p>60 "</p> <p>30 "</p> <p>20 "</p> <p>20 "</p> <p>5 "</p> <p>5 "</p> <p>10 "</p> <p>10 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>20 "</p> <p>5 coils</p> <p>5 "</p> <p>65 "</p> <p>60 "</p> <p>18 "</p> <p>12 "</p> <p>11 "</p> <p>11 "</p> <p>15 "</p> <p>7 "</p> <p>2 "</p> <p>4 "</p> <p>14 "</p> <p>2 "</p> |

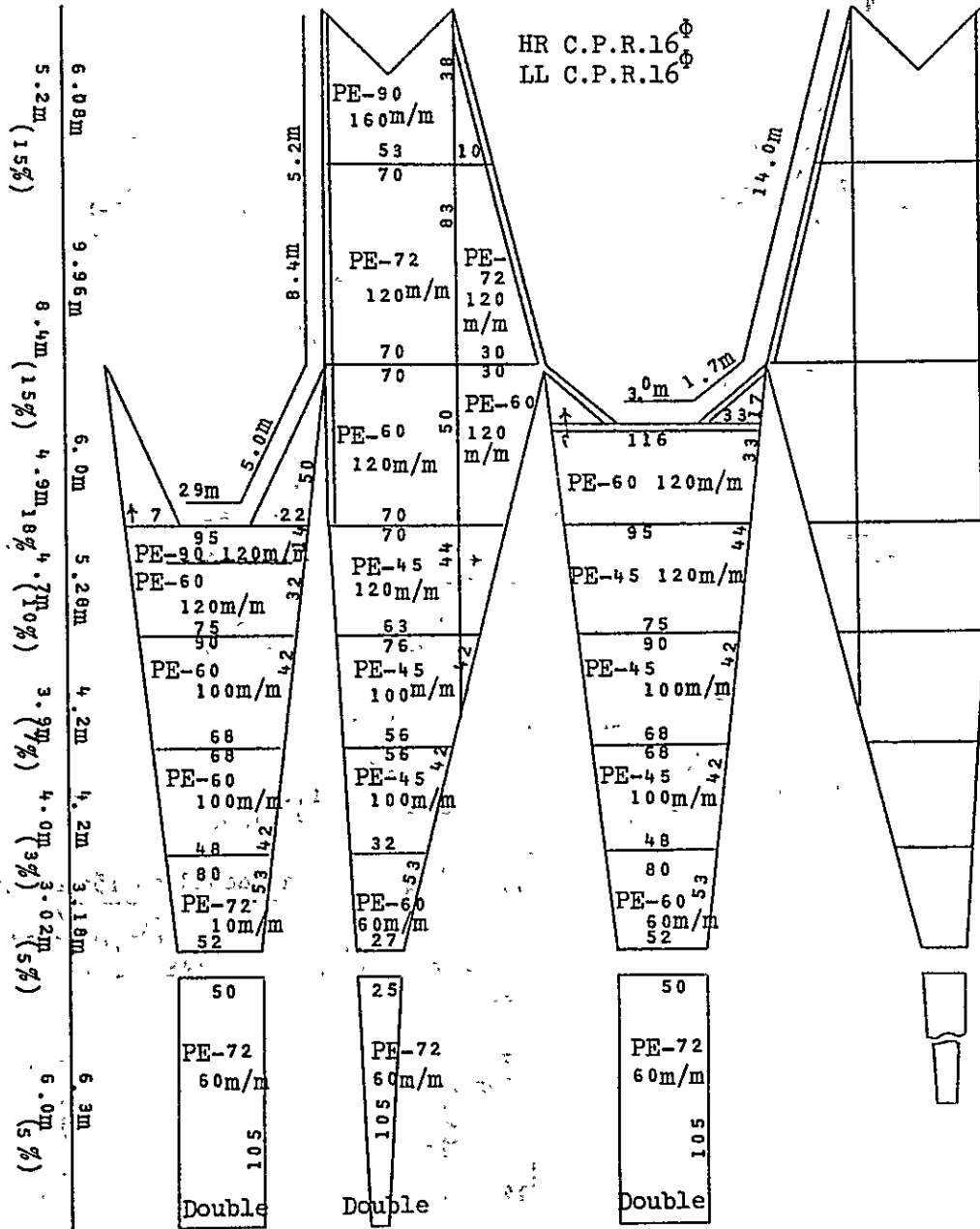
| No. | Items | Description | Quantity |
|--|---|---|----------|
| 36. | Fishing Gears and Their Acces- sories | 286) Polyethylene Rope for Stick Held Dip Net 12m/m 8strs. Brown | 9 coils |
| 287) Polyethylene Rope for Spanish Mackerel Net & Pompano Net 3m/m 3strs. Blue | | 62 " | |
| 288) Polyethylene Rope for Red Snapper & Sweeping Trammel Net 3m/m 3strs. Brown | | 23 " | |
| 289) Polyethylene Rope for Bottom Gill Net 4m/m 3strs. L. Laid Brown | | 5 " | |
| 290) Polyethylene Rope for Bottom Gill Net 4m/m 3strs. R. Laid Brown | | 5 " | |
| 291) Polyethylene Rope for Set Net (1) 9m/m 3strs. L. Laid Brown (2) 9m/m 3strs. R. Laid Brown | | 10 " | |
| | | 10 " | |
| 292) Polyethylene Rope for Set Net (1) 10m/m 3strs. L. Laid Brown (2) 10m/m 3strs. R. Laid Brown (3) 12m/m 3strs. L. Laid Brown (4) 12m/m 3strs. R. Laid Brown | | 8 " | |
| | | 8 " | |
| | | 8 " | |
| | | 8 " | |
| 293) Vinylon Rope (1) for Stick Held Dip Net 6m/m 8strs. Natural Color | | 1 coil | |
| | | (2) for Spanish Mackerel Net 8m/m 8strs. Natural Color | 15 coils |
| (3) for Red Snapper Net 3m/m 3strs. L. Laid Color | | 3 " | |
| (4) for Red Snapper Net 3m/m 3strs. R. Laid Color | | 3 " | |
| (5) for 4 Boats Lift Net 5m/m 3strs. L. Laid Color | | 2 " | |
| (6) for Red Snapper Net a) 6m/m 3strs. L. Laid Color b) 6m/m 3strs. R. Laid Color | | 11 " | |
| | | 11 " | |
| (7) for 4 Boats Lift Net a) 9m/m 3strs. L. Laid Color b) 15m/m 3strs. L. Laid Color | | 2 " | |
| | | 3 " | |
| 294) Float | | | |
| (1) for Platou Purse Seine No.3 | | 1,400 pcs | |
| (2) for Skipjack Purse Seine 8-S | | 2,200 " | |
| (3) for Spanish Mackerel Net 119 | | 3,000 " | |
| (4) for Spanish Mackerel Net No. 7 | | 400 " | |
| (5) for Spanish Mackerel Net 33 | | 600 " | |
| (6) for Spanish Mackerel Net 15 | | 100 " | |
| (7) for Red Snapper Net 17 | | 800 " | |
| (8) for Flat Fish Gill Net 22-3 | | 300 " | |
| (9) for Sweeping Trammel Net 119 | 3,000 " | | |

| No. | Items | Description | Quantity |
|---|-------------------------------------|---|-----------|
| 36. | Fishing Gears and Their Accessories | 294) Float | |
| | | (10) for Bottom Gill Net 17-1 | 1,800 pcs |
| | | (11) for Set Net 16-H | 1,000 " |
| | | (12) for Spare 42-S | 20 " |
| | | (13) for Spare 43-S | 20 " |
| | | (14) for Spare 43-T | 10 " |
| | | (15) for Spare PF-47 | 10 " |
| | | (16) for Spare 50 | 10 " |
| | | 295) Ring | |
| | | (1) for Platou Purse Seine 100m/m x 79m/m 0.5 kg | 600 " |
| | | (2) for Skip Jack Purse Seine 125m/m x 100m/m 0.5 kg | 400 " |
| | | (3) for Spanish Mackerel Net 150m/m 1.5 kgs | 60 " |
| | | (4) for Stick Held Dip Net 50m/m | 40 " |
| | | 296) Swivel | |
| | | (1) for Platou Purse Seine 2 tons | 4 " |
| | | (2) for Skip-jack Purse Seine 2 tons | 4 " |
| | | 297) Iron Anchor for Set Net | |
| | | (1) 6.0 kgs | 12 " |
| | | (2) 9.3 kgs | 8 " |
| | | 298) Round Sinkers for Platou Purse Seine | |
| | | (1) 8m/m 0.25 kg | 100 " |
| | | (2) 8m/m 0.35 kg | 100 " |
| | | (3) 8m/m 0.50 kg | 100 " |
| | | 299) Lead Sinkers for Platou Purse Seine | |
| | | (1) 100 kgs | 2 " |
| | | (2) 50 kgs | 2 " |
| | | 300) Round Sinkers for Skip-jack Purse Seine | |
| | | (1) 14 or 15m/m 0.35 kg | 250 " |
| | | (2) 14 or 15m/m 0.50 kg | 250 " |
| | | 301) Plate Lead for Spanish Mackerel Net | |
| | | (1) 1m/m x 20m/m | 200 kgs |
| | | (2) 15m/m x 30m/m | 20 " |
| | | 302) Lead Sinkers for Spanish Mackerel Net | |
| | | (1) 9m/m 37.5 g | 400 pcs |
| | | (2) 9m/m 56 g | 600 " |
| 303) Lead Sinkers | | | |
| (1) for Red Snapper Net 375 g | 800 " | | |
| (2) for Sweeping Trammel Net 9m/m x 37.5g | 3,000 " | | |
| (3) for Sweeping Trammel Net 2kgs | 2 " | | |
| 304) Chain for Sweeping Trammel Net 6m/m | 60 m | | |
| 305) China Sinkers for Bottom Gill Net | | | |
| (1) 7m/m 18.75g | 7,240 pcs | | |
| (2) 18m/m 150 g | 300 " | | |

| No. | Items | Description | Quantity |
|-----|--|---|--|
| 36. | Fishing Gears and Their Accessories | 306) Lead Sinker (1) for Stick Held Dip Net a) 6kgs b) 8kgs c) 17m/m 0.3kg (2) for 4 Boats Lift Net 11m/m x 0.1kg (3) for Flat Fish Gill Net 8m/m x 0.015kg | 4 pcs 2 " 100 " 5,000 " 200 " |
| 37. | Slide | 1) HEMMI No. 260 2) HEMMI No. 266 | 2 ea. 1 " |
| 38. | Stop watch | | 10 " |
| 39. | Hardness Tester | Shore, Model SH-D | 1 set |
| 40. | Planimeter | Compensation Planimeter with accessories and case | 1 " |
| 41. | Abacus | | 6 ea. |
| 42. | Nissin Refrigeration Equipments for Training | Condensing Unit with motor Model 6W-15, 1.5 kw x 200V x 50 HZ Valve Panel Model EX-D-01 Cooling Coil Panel 20A x 1.5 M x 20 stages Control Panel Cooling Water Pump with motor Model 32 LPGD, 0.4 KW Connection Piping Materials and Miscellaneous Materials Spare Parts and Chemicals | 1 set 1 " 1 " 1 " 1 " 1 " 1 " 1 " |

FOUR SEAMS TRAWL NET FOR TRAINING VESSEL

Diagram A-1

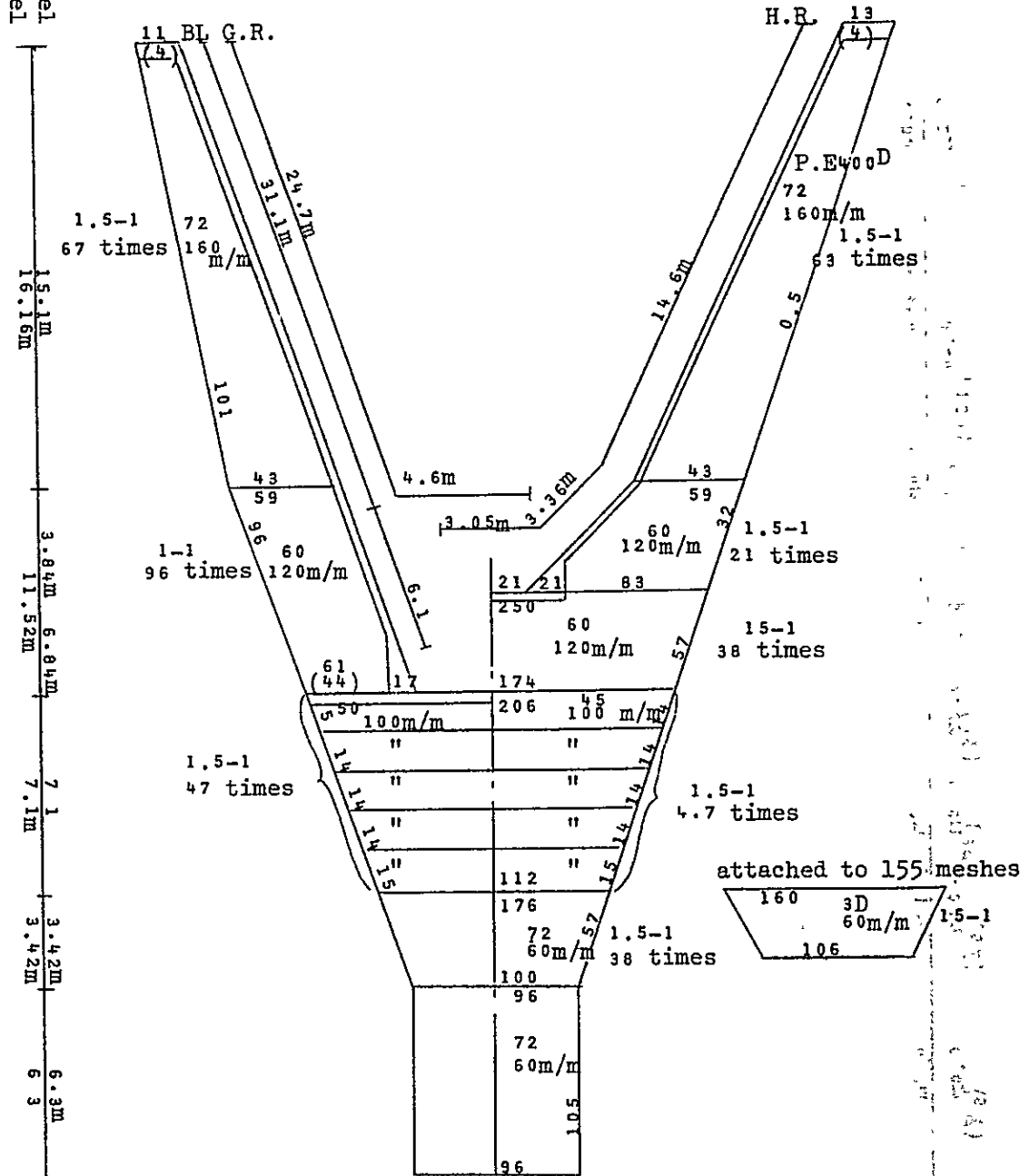


TWO SEAMS TRAWL NET

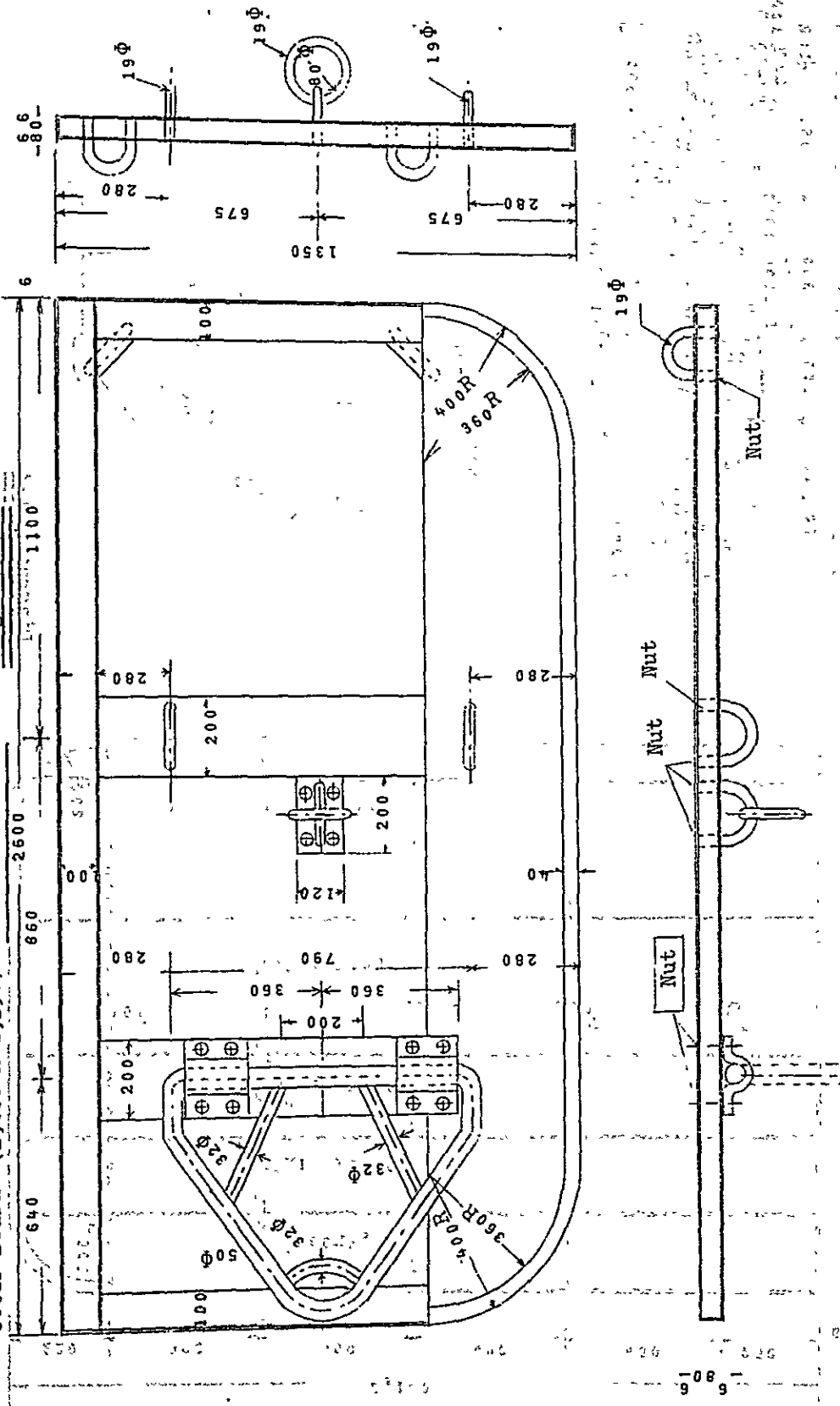
H.R. 39m
G.R. 54m

Diagram A-2

Net Length
of Upper Panel
Lower Panel



Otter Board (2,600 x 1,350) HORIZONTAL TYPE Diagram A-3-1



355

Otter Board (1,400 x 2,100)
Vertical Type

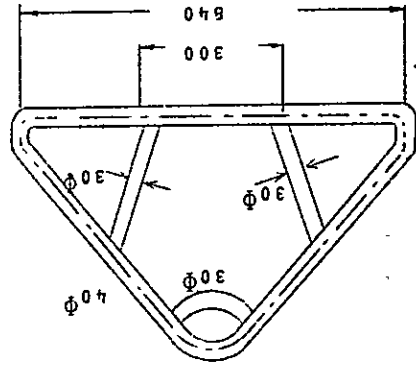
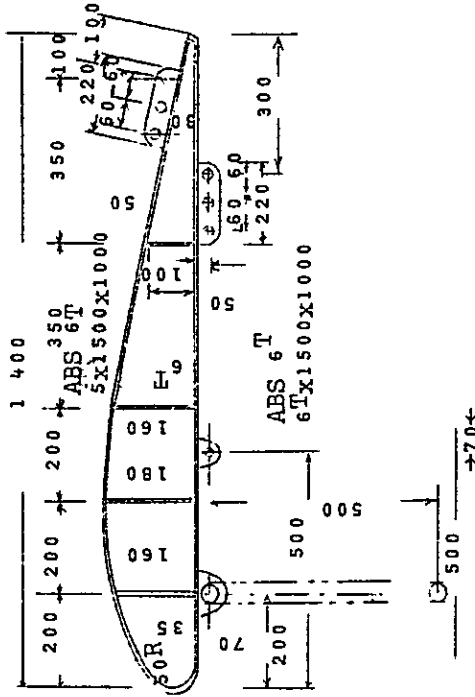


Diagram A-3-2

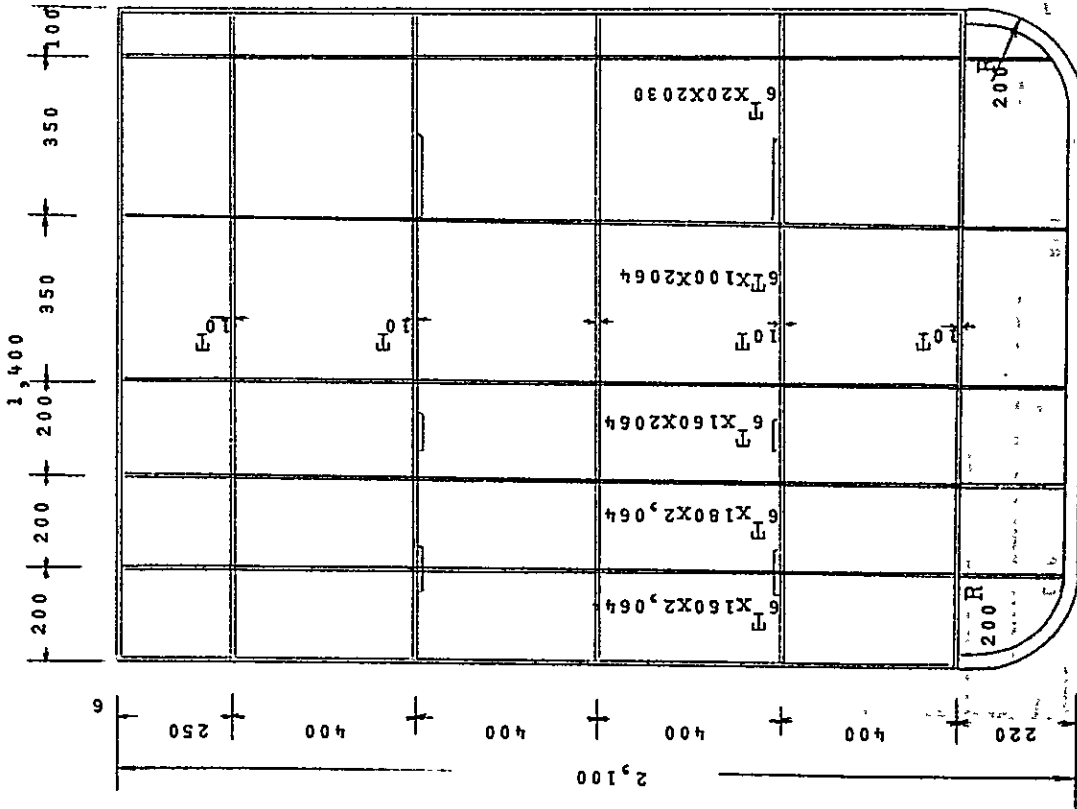
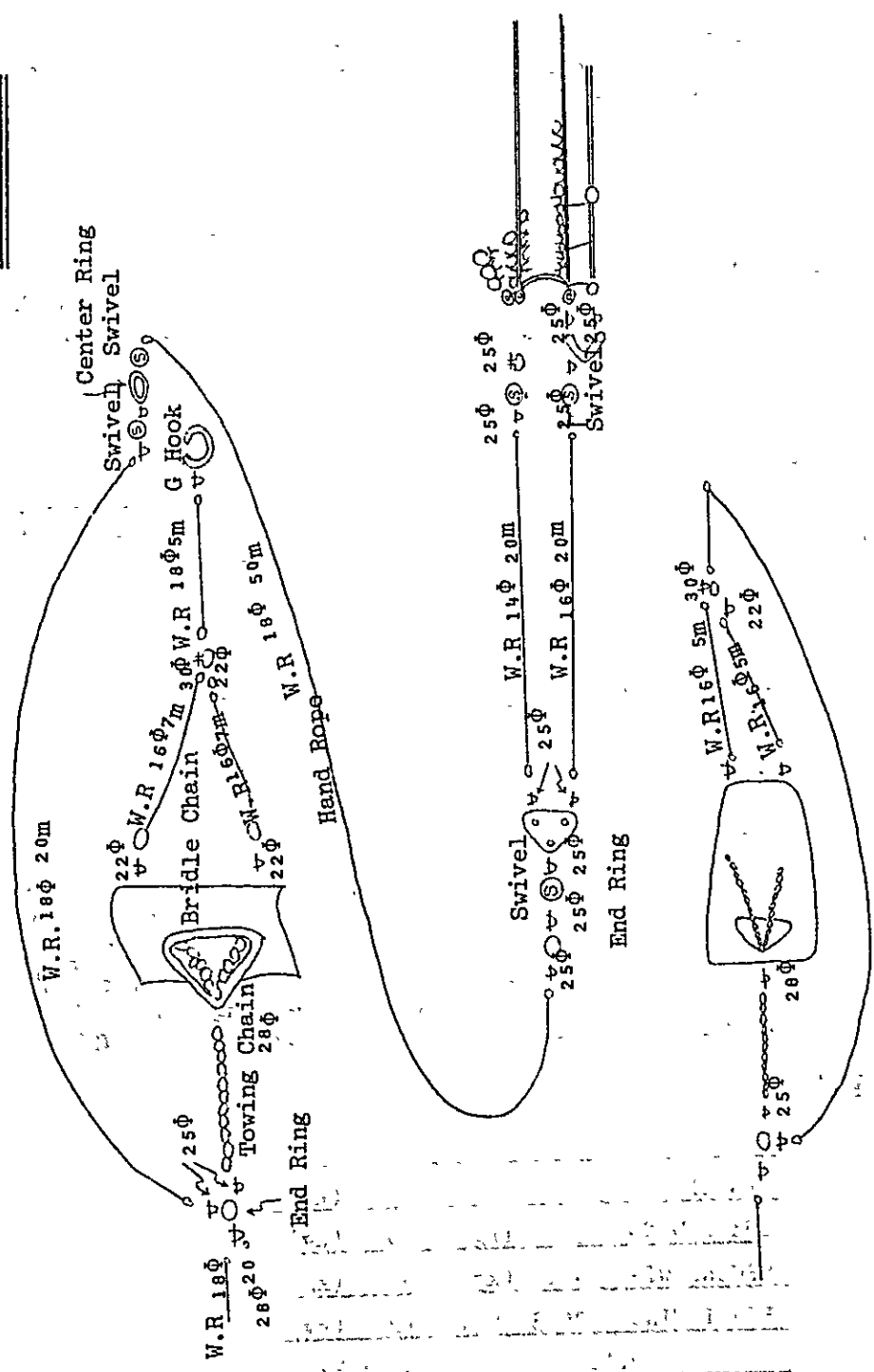


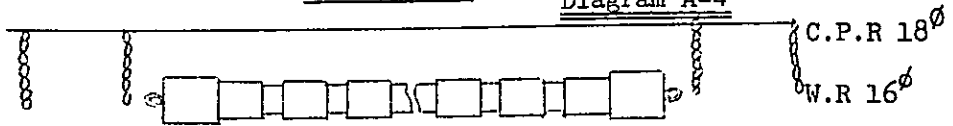
Diagram A-3-3



CENTER 2.9^m

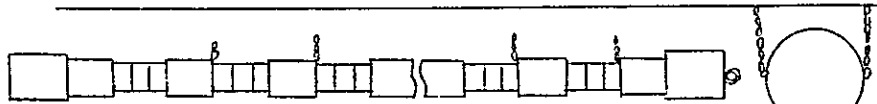
GROUND ROPE

Diagram A-4



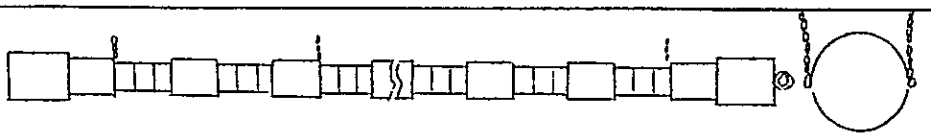
- | | | | |
|---|---|---|---|
| Iron Ball 300 ^φ | 2 | Rubber Sinker 80 ^φ 80 ^L | 4 |
| Rubber Sinker 150 ^φ 200 ^L | 2 | Hanging Chain 9 ^φ 5 ^{LS} | 6 |
| Wooden Sinker 120 ^φ 150 ^L | 5 | Wire Clip 22 ^φ | 3 |

THIRD WING

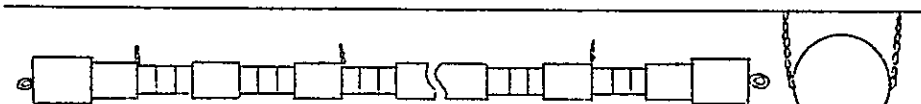


- | | | | |
|---|-------|---|--------|
| Iron Ball 200 ^φ | 2 x 2 | Rubber Sinker 80 ^φ 80 ^L | 24 x 2 |
| Rubber Sinker 150 ^φ 200 ^L | 2 x 2 | Hanging Chain 9 ^φ 5 ^{LS} | 10 x 2 |
| Wooden Sinker 120 ^φ 150 ^L | 9 x 2 | Wire Clip 22 ^φ | 5 x 2 |

SECOND WING 2.4^m



- | | | | |
|--|--------|---|--------|
| Iron Ball 200 ^φ | 2 x 2 | Rubber Sinker 80 ^φ 50 ^L | 50 x 2 |
| Rubber Sinker 150 ^φ | 2 x 2 | Hanging Chain 9 ^φ 5 ^{LS} | 16 x 2 |
| Wooden Sinker 120 ^φ 17 ^L | 17 x 2 | Wire Clip 22 ^φ | 8 x 2 |



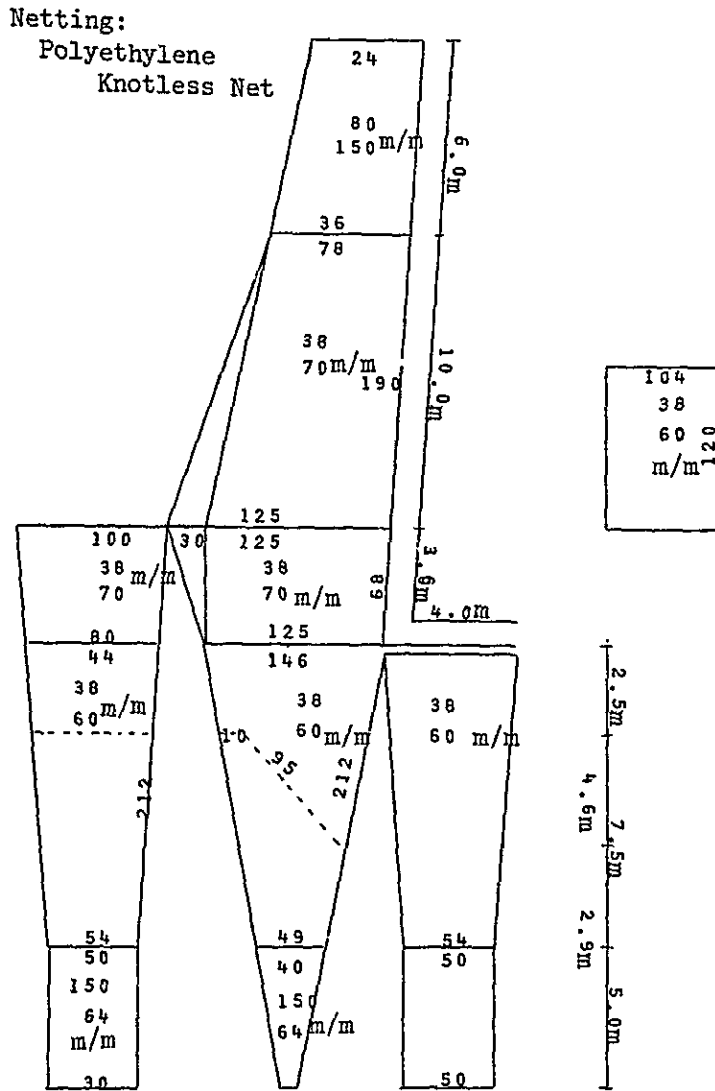
- | | | | |
|---|--------|---|--------|
| Iron Sinker 200 ^φ | 2 x 2 | Rubber Sinker 80 ^φ 80 ^L | 26 x 2 |
| Rubber Sinker 150 ^φ 200 ^L | 2 x 2 | Hanging Chain 9 ^φ 5 ^{LS} | 10 x 2 |
| Wooden Sinker 120 ^φ 150 ^L | 17 x 2 | Wire Clip 72 ^φ | 5 x 2 |

WEIGHT IN WATER

| | | |
|-------------|-----------|-----------|
| CENTER | | 53.2 (kg) |
| THIRD WING | 34.9 (kg) | 69.8 (kg) |
| SECOND WING | 47.3 (kg) | 94.6 (kg) |
| FIRST WING | 36.3 (kg) | 72.6 (kg) |
| TOTAL | | 290.3 kg |

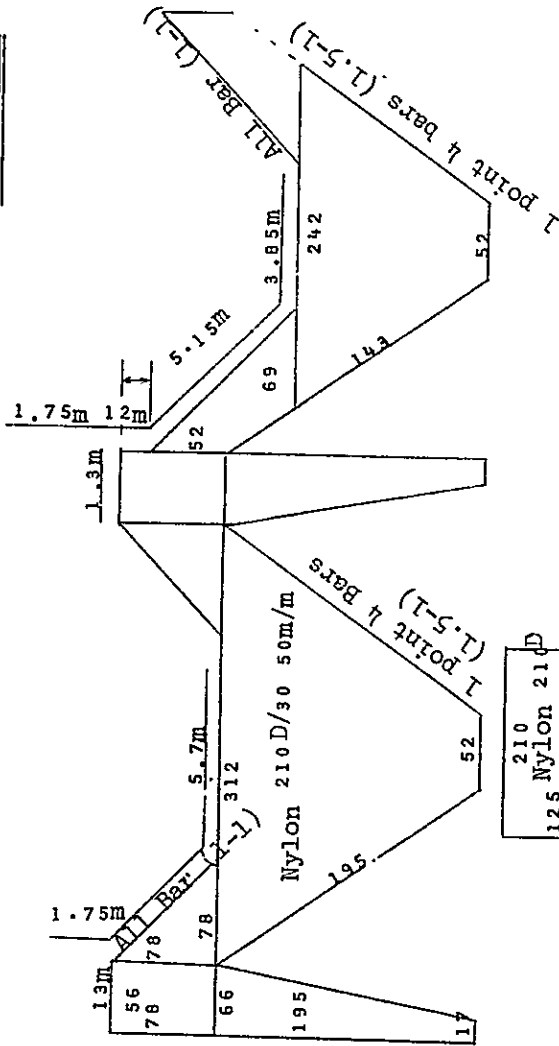
Small Trawl (TWO BOATS TYPE)

Diagram B-1



Small Trawl (60 & 200 F)

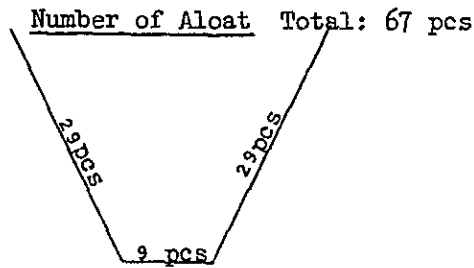
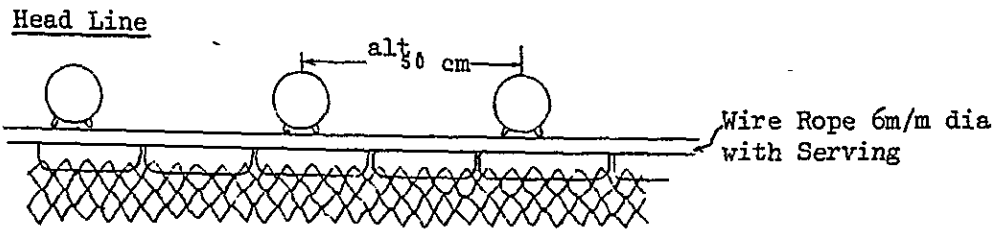
Diagram B-2



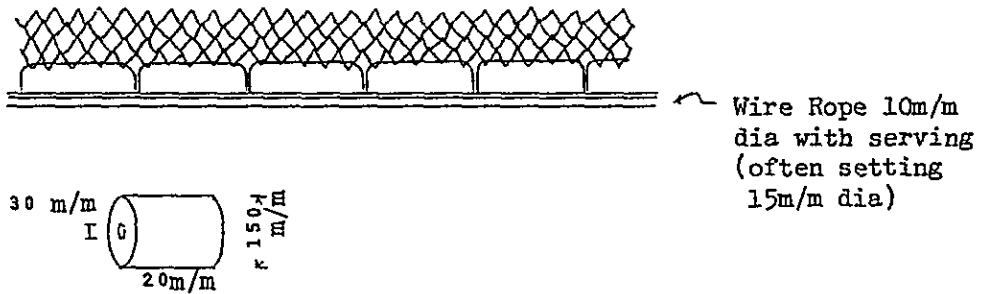
- Head Rope : Wire Rope 10φ (Serving) 16.7m
- Sinker Line : Wire Rope 10φ (") 20.05m
- Sinker : Shain 9φ 27.6m
- Float : Synthetic 4 Sun 6
- Tackle Chain : Chain 9φ 18m
- Quarter Rope : U-tex Rope 12φ 21.4m
- Iron Ring : 9φ 50m/m 24
- Wing Adjusting Line: U-tex Rope 13m x 2

Small Trawl

Diagram B-3



Ground Rope

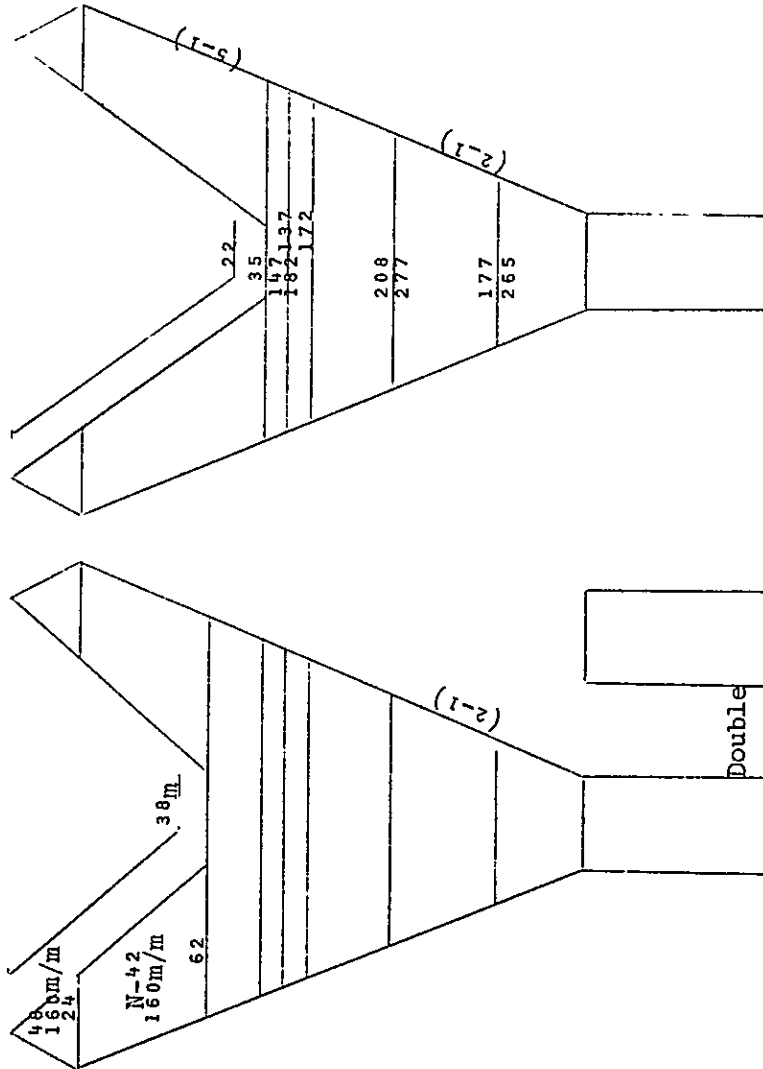


Weight : 4 kg in Air
Distance Each abt 40 cm (Total: 100 pcs)

Small Trawl

Diagram. B-4

Ground Rope : Wire Rope 10 ϕ
 Serving
 Lacing Line : Wire Rope 10 ϕ
 Serving
 Head Rope : Wire Rope 6
 Serving
 Float : Synthetic
 67 pcs.
 Sinker : Rubber Sinker
 100 pcs.



REMARKS: Sinker is not attached
 in delivery time of this
 complete set.

(4) ADDITIONAL TRAINING EQUIPMENT

| No. | Items | Description | Quantity |
|-----|---------------------------|---|--|
| 1. | Gylot 103 | Gylot Stand BH Repeater with Stand Repeater Motor | 1 set 1 1 |
| 2. | Electric thermo- meter | MK-21 Thermo Recorder HK(b) Element Vinyl Cord Joint Box Standing Spare Parts | 1 set 1 1 1 1 |
| 3. | Ricopy | HS-2 Type Ricopy Sensitization paper Hand tool Negative paper | 1 pcs 4 bag 1 set 10 bag |
| 4. | Accessories for rader | for FRA-50 (Details as per attached) for LC-2 (Details as per attached) | 1 set 1 " |
| 5. | Spare Parts for engine | 1) For Main engine 6M28DHS Cylinder cover Cylinder liner Piston Exhaust valve 2) For Auxiliary engine K6BM Fuel pump Cylinder cover Cylinder liner Exhaust valve | 1 pce 1 " 1 " 2 " 1 pce 1 " 1 " 2 pcs |
| 6. | Welding machine | 3) Propeller Blade Transformer, 220V 200 A Captyre cord Safty holder Glove Mask Earth clip Terminal Hand Tool | 1 pce 1 pce 50 m 1 pce 1 " 1 " 1 " 2 pcs 1 pce |

| No. | Items | Description | Quantity |
|---------------------------|-------------------------------|---|----------|
| 7. | Net for trawl | Hisex nets | |
| | | 400D 3/72 160m/m 100 50m | 1 pce |
| | | 400D 3/72 60m/m 100 50m | 1 " |
| | | 400D 3/60 120m/m 100 50m | 1 " |
| | | 400D 3/60 100m/m 100 50m | 1 " |
| | | 400D 3/60 80m/m 100 50m | 1 " |
| | | 400D 3/60 60m/m 100 150m | 1 " |
| | | 400D 3/60 40m/m 100 100m | 1 " |
| | | 400D 3/60 100m/m 100 50m | 1 " |
| | | 400D 3/60 80m/m 100 150m | 1 " |
| | | 400D 3/60 60m/m 100 150m | 1 " |
| 8. | Laboratory & field instrument | KITAHARA'S Plankton net | 2 pcs |
| | | Larva net | 2 " |
| | | Balance | 1 pce |
| | | Azimuth circle | 1 " |
| | | Deflector | 1 " |
| | | Azimuth mirror | 1 " |
| | | Clinometer | 1 " |
| 9. | Fish tank | | 2 sets |
| 10. | Mesh stretching machine | 1) Amita depth stretching machine | 1 set |
| | | 2) Amita boiling apperatus | 1 " |
| 11. | Three Point roller | (KOOYOO) for three ton. Load cell is not included. | 1 set |
| 12. | Small motor | 220V, 50c/s, Single phase 1) 1/4 HP | each |
| | | Power source 220V, 50c/s 2) 1/2 HP 1 HP | 1 set |
| 13. | Camera | Asahi Pentax type with SP 1.8 35m/m | 1 set |
| 14. | Dyestuff | 1) Dyes for nylon fishing-net | |
| | | Acid dyes, yellow, No. 190 | 2 kg |
| | | Acid dyes, blue No. 111 | 2 kg |
| | | 2) Dyes for tetron and vinylon fishing net | |
| | | Diverse Dyes, Yellow | 2 kg |
| Diverse Dyes, Blue No. 56 | 2 kg | | |

| No. | Items | Description | Quantity |
|-----|----------------------|---|--|
| 14. | Dyestuff | 3) Dyes for cotton cutch Reactive dyes, yellow, No. 24 " orange, No. 7 1. Dystuff 1) Lanaperl Fast Red 5B 2) Polyamido-Fast Black G 3) Samaron Yellow 6GSL 4) " Red 2BSL 5) " Red HBL 6) " Blue HBL 7) Remazol Brill Blue B 8) " Yellow GR | 2 kg 2 kg 2 kg 2 " 2 " 2 " 2 " 2 " 2 " |
| 15. | Laboratory equipment | 1) Glassware Beaker, 500 cc " 1,000 cc " 2,000 cc Flat-bottomed flask, 500 cc Flat-bottomed flask, 1,000 cc Measuring Pipette, 20 cc Rod, 90 m/m Evaporative dish, 120 m/m Evaporative dish, 75 m/m Thermometer, -20 - 100 C " 0 - 200 C " 0 - 300 C Wooden case for the above 2) Analytical balance, 0.1 - 100g Analytical balance, 0.5 - 1,000g 3) Gas burner Hose for the above Tripod for burner 4) Litmus paper | 10 pcs 10 " 10 " 10 " 10 " 5 " 5 " 2 " 2 " 20 " 10 " 10 " 10 " 10 " 1 set 1 " 2 sets 10 m 2 pcs 2 boxes |
| 16. | Lead mould | 1) Salmon-trout lead type 100g, 13m/m in diameter 200g, 14m/m in diameter 2) Weight type with house with rings and holes, 100g, 3m/m in diameter | 1 pc 1 " 1 pc |
| 17. | Lathe | LB8-4B type bench lathe. Swing over the bed: 230 m/m Center distance: 205 m/m Conversion rate of main shaft rotation speed: 3 Power source: 220V, 50c/s Standards accessories: Box spanner Tool holder main shaft nose cover Hexagonal spanner Collet chuck blank | 1 set 1 pc 1 " 7 pcs 1 pc |

| No. | Items | Description | Quantity |
|-----|------------------------------|--|---------------------------|
| 18. | Long-line for tuna fishing | Finished products 1) Main line, Kuremona, 20S/55 x 3 x 3 50m x 6, resin treatment 2) Branch line, Tetron, 30S/40 x 3 x 3 22m x 5, resin treatment 3) Buoy line, Kuremona, 20S/55 x 3 x 3 20m x 1, resin treatment 4) Ganging wire #28/3 x 3 (Kuremona winding, 8.5 m x 5), resin treatment 250 pcs 5) Leader wire #29/3 x 3, 2.2 m x 5 250 pcs 6) Hooks, 5cm, 5 each 250 pcs 7) Synthetic buoy, 300 m/m, tested to a pressure of 30 kg 50 pcs 8) Bamboo and flag for flag buoy 50 pcs 9) Twisting rod, buoy type, 250 pcs 10) Spring KANSEKI, 250 pcs 11) Kuremona yarn, No. 6, 1 kg 12) Fishing banner, (plastic) 50 pcs | 50 baskets |
| 19. | Snapper for tuna fishing | (Yamashita Fishing Gear) B type, 3.2 m/m in diameter | 1,000 pcs |
| 20. | Materials of twine for trawl | Polyethylene, 400D blue 1) 30 yarns 2) 90 yarns 3) 150 yarns | 100 kgs 200 " 100 " |
| 21. | Buoy for purse seine | 15-H, cylinder type | 1,000 pcs |
| 22. | Dadio buoy | with batteries and antenna | 2 sets |
| 23. | Radio | Star-SR-300K type, 3 tube | 6 " |
| 24. | Radio tool kit | (Hosan) S-53 type, for family use | 15 " |
| 25. | Small line hauler | 1) Model 4, with water-proof motor and speed variator 2) type Samper type with a 5" Pulley | 1 set 1 " |
| 26. | Small net hauler | 1) Ball-roller type 150m/m type with gasoline engine Flexible shaft | 1 " 1 pc |
| 27. | Binocular | Nikon 7 x 50 magnification, completely water- proof, with leather case | 2 pcs |

| No. | Items | Description | Quantity |
|-----|--|--|---|
| 28. | Rod type water temperature gage | Mercury thermometer, with steel frame | 10 pcs |
| 29. | Read-out lupe | for inversion thermometer | 3 pcs |
| 30. | Accessories of steering gear | (Tokyo Keiki Instrument) 1) Sensitive gyrot, 103-41B 2) Solenoid valve with coils 3) Limit switch in follow-up device 4) P-4 control panel (Including resistance diode panel) 5) Oscillator printing board 6) Amplifier printing board | 1 set 1 " 2 pcs 1 pc 1 " 1 " |
| 31. | Accessories of pressure log | (Hokushin Electric Works) Speed transmission and receiving selsyn | each 1 set |
| 32. | Typewriter | (Olivetti) MS 32 (E-P) | 1 set |
| 33. | Transceiver | Approved type, with carrying case antenna wattage: 0.5W Antenna: Rod antenna Receiving sensitivity: S/N 10 db Power: Dry battery, AC 220V | 1 " |
| 34. | Electric adding machine | (Olivetti) MC 20 QR: | 1 pc |
| 35. | Accessories of air compressor | (Matsushita Iron Works) MS 42A: 1) Crank pin metal 2) Cooling water pump, complete | 2 sets 1 set |
| 36. | Accessories of auxiliary engine (130 PS) | (Niigata Engineering) KCBM type 130 ps 1) Tachometer with engine 200 - 900 rpm 2) Crank pin metal 3) Governor microswitch 4) Lubricating pump, complete 5) Sea water pump impeller | 2 sets 2 sets 2 pcs 1 set 1 pc |
| 37. | Accessories of air conditioner (AH 1050-D) | (Nissin Kogyo) 1) Packing of various types for compressor 2) Thermostat SEBZ 608 | 2 sets 1 pc |
| 38. | Accessories of refrigerating machine (7W-5K) | (Nissin Kogyo) Electromagnetic valve, RMV 303B Power source : 220V; 50c/s | 1 pc |

| No. | Items | Description | Quantity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|--------------------------|--|---|--------|-----------|---------------|--------|--|-----|---|-----|-----|----|---------|---|---|-----|-----|----|-----|-----|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|---|---|-----|-----|----|-----|--|
| 39. | Rope | Wire 20m/m x 1,000 m | 1 set | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40. | Fine Nets for Experiment | Material: Nylon 210 Denier English Knot, colored | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>Denier</th> <th>Number</th> <th>Mesh size</th> <th>No. of meshes</th> <th>Length</th> <th></th> </tr> </thead> <tbody> <tr> <td>110</td> <td>2</td> <td>1.0</td> <td>100</td> <td>75</td> <td>1 sheet</td> </tr> <tr> <td>"</td> <td>2</td> <td>1.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>210</td> <td>2</td> <td>1.0</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>2</td> <td>1.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>2</td> <td>2.0</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>3</td> <td>1.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>3</td> <td>2.0</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>3</td> <td>2.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>4</td> <td>1.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>4</td> <td>2.0</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>4</td> <td>2.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>6</td> <td>1.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>6</td> <td>2.0</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> <tr> <td>"</td> <td>6</td> <td>2.5</td> <td>100</td> <td>75</td> <td>1 "</td> </tr> </tbody> </table> | Denier | Number | Mesh size | No. of meshes | Length | | 110 | 2 | 1.0 | 100 | 75 | 1 sheet | " | 2 | 1.5 | 100 | 75 | 1 " | 210 | 2 | 1.0 | 100 | 75 | 1 " | " | 2 | 1.5 | 100 | 75 | 1 " | " | 2 | 2.0 | 100 | 75 | 1 " | " | 3 | 1.5 | 100 | 75 | 1 " | " | 3 | 2.0 | 100 | 75 | 1 " | " | 3 | 2.5 | 100 | 75 | 1 " | " | 4 | 1.5 | 100 | 75 | 1 " | " | 4 | 2.0 | 100 | 75 | 1 " | " | 4 | 2.5 | 100 | 75 | 1 " | " | 6 | 1.5 | 100 | 75 | 1 " | " | 6 | 2.0 | 100 | 75 | 1 " | " | 6 | 2.5 | 100 | 75 | 1 " | |
| Denier | Number | Mesh size | No. of meshes | Length | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | 2 | 1.0 | 100 | 75 | 1 sheet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 2 | 1.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 210 | 2 | 1.0 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 2 | 1.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 2 | 2.0 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 3 | 1.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 3 | 2.0 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 3 | 2.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 4 | 1.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 4 | 2.0 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 4 | 2.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 6 | 1.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 6 | 2.0 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " | 6 | 2.5 | 100 | 75 | 1 " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41. | Sprinkler device | <p>1) Sprinkler pump for bonito fishing (with self plunger pump engine) Aperture: 80m/m, E-4 type Engine with Robin ET-180 Capacity: 60m³/h x 32m x 3.7 kw x 4,000 rpm</p> <p>2) Sea Water Circulating Pump, Direct coupling type of gun metal Aperture: 50m/m Capacity: 15m³/h x 5m x 0.75 kw x 1,500 rpm</p> <p>3) Vinyl bellow hose for suction side 3" diameter x 6 m with suction valve</p> <p>4) Pressure resistant vinyl hose for discharge side 3" diameter x 1.5 m 2.5" diameter x 1.5 m 2" diameter x 1.5 m</p> <p>5) Rubber hose with diameter corresponding to outside diameter of nozzle 1" x 40 m</p> <p>6) Cheese cloth 3/4" x 3" x 3" " 3/4" x 2-1/2" x 2-1/2" " 3/4" x 2" x 2"</p> | <p>1 set</p> <p>1 "</p> <p>1 pc</p> <p>15 pcs 15 " 15 "</p> <p>1 pc</p> <p>15 pcs 15 " 15 "</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| No. | Items | Description | Quantity |
|-----|--|--|----------|
| 41. | Sprinkler device | 7) Nozzle (vinyl) | 40 pcs |
| | | Vinyl (gun metal) | 10 " |
| | | 8) Stop valve | 10 " |
| | | 9) Split band, 3" | 30 " |
| | | " 2-1/2" | 30 " |
| | | " 2" | 30 " |
| | | 10) Hexagon nipple, 3/4" | 55 " |
| | | 11) Threaded hose fittings, 3" | 32 " |
| | | " 2-1/2" | 30 " |
| | | " 2" | 30 " |
| | | " 3/4" | 40 " |
| | | 12) Brush, 3" x 2-1/2" | 1 pc |
| | 2-1/2" x 2" | 1 " | |
| 42. | Rader Scanner Motor (Furuno Denki) | PRA-50C Type | 1 set |
| 43. | Dissectiong Instrument | 1) Scissor 14 cm sharp | 20 pcs |
| | | 2) Scissor 14 cm round | 20 " |
| | | 3) Pin, Wooden haft | 20 " |
| | | 4) Dissecting blade | 20 " |
| | | 5) Pincette 15 cm | 20 " |
| 44. | Electric Saw | (Hitachi) KS-4-2 type with a transformer and a plastic saw | 1 set |
| 45. | Movie Film | Kuroshio no Nihonjin 16 m/m | 1 pc |
| 46. | Stepless Variable Speed | (Zeromax) | |
| | | 1) JK - 1 type | 1 set |
| | | 2) JK - 2 type | 1 " |
| 47. | Practical Operation set for Navigation | 1) French Curve accylic 18 cm x 12 pcs | 20 sets |
| | | 2) Divider | 20 " |
| 48. | Apparatus for Dark Room | 1) Safety Bag | 1 pc |
| | | 2) Developing Tank for 35m/m Film | 1 " |
| | | 3) Thermometer | 1 " |
| | | 4) Measure Cup 1,300 cc | 1 " |
| | | 5) Photo Sponge | 2 pcs |
| | | 6) Chemical storage Tank 650 cc | 1 pc |
| | | 7) Chemical Storage Tank 1,000 cc | 1 " |
| | | 8) Film Clip | 4 pcs |
| | | 9) Negative Photo Album | 1 pc |

| No. | Items | Description | Quantity |
|-----|-------------------------|--|---|
| 48. | Apparatus for Dark Room | 10) Enlarger, Lucky 70-M 11) Easel Mask, 10 x 12 IN 12) Enlarging Lens, Lucky 50 MM. F: 4.5 13) Enlarging Lens, Lucky 75 MM. F: 4.5 14) Safe light 15) Safe Light Glass, No. 0 for Paper 16) Safe Light Glass, No. 4 for Film 17) Chemical Storage Tank, 1,000 cc 18) Thermometer 19) Measure Cup, 1,300 cc 20) Tray, 10 x 12 IN 21) Tray 8 x 10 IN 22) Tray 5 x 7 IN 23) Pinset 24) Print Dryer, 400 W. 10 x 12 IN 25) Forrotype Plate 26) Rubber Roller (Double) 27) Wooden Paper Cutter 10 x 12 IN 28) Photo Sponge 29) King Film Dryer Mini | 1 pc 1 " 1 " 1 " 1 " 1 " 1 " 2 pcs 1 pc 1 " 3 pcs 2 " 3 " 3 " 1 pc 1 " 1 " 1 " 1 " 1 " |
| 49. | Detecting - Transmitter | (Koden) Net Monitoring Equipment, Model: MU-850 type | 1 pc |

(5) RESEARCH EQUIPMENT

LIST A

| No. | Items | Description | Quantity |
|-----|--|---|---|
| 1. | Transparent water bottles | Kitahara's water bottle, type B | 2 ea. |
| 2. | Shadowgraph | Main Body, Nikon Model 6CT 230V Profit Lens 10 x " " 20 x " " 50 x " " 100 x Condenser Lens 10 x for 20 x to 100 x Stage, Model L Micrometer Stage, Model A2 Pedestal Cabinet Reading Scale Surface Illuminator Protractor Screen | 1 set 1 ea. 1 " 1 " 1 " 1 " 1 " 1 set 1 " 1 " 1 pc. 1 set 1 " |
| 3. | Stereo-Microscope (Binocular Microscope) | Stereoscopic Microscope Nikon Model SMZ Diascopic Base for Transmitted - light Inspection 230 V Attachment for oblique Surface Illumination | 3 sets 3 " 3 ea. |
| 4. | U C E Microscope | Nikon Microscope Model SBR Universal Microscope Lamp 230 V | 1 set 1 " |
| 5. | Polarization | Nikon Microscope Model SUR-Ke 230 V Polarizing Apparatus for Models | 1 " 3 sets |
| 6. | Microphotographic Apparatus | Nikon Microscope Model SBR-Ke 230 V Photomicrographic Attachment, Model EFMF Eyepiece Micrometer Disc Stage Micrometer | 1 set 1 " 3 ea. 1 " |
| 7. | Dissecting Microscope | Nikon Microscope Model SKK-A 20 x 230 V | 3 sets |
| 8. | Dissecting Instrument | Dissecting Instruments Dissecting Trays, Enamelled 22 x 117 x 3 cm 28 x 22 x 45 cm 42.5 x 35 x 5 cm 74 x 42.5 x 11 cm Fish Measuring Board | 3 " 3 " 3 " 3 " 3 " 3 " 3 " |
| 9. | Balance | Automatic Platform Scale Capacity 250 Kg " 50 Kg Home Scale Capacity 5 Kg " " " 1 Kg Torsion Balance Capacity 1,000 mg | 1 set 1 " 2 sets 2 " 1 set |

| No. | Items | Description | Quantity |
|-----|-----------------------------------|---|--|
| 10. | Scale Reader | Nikon Microscope Model SBR-Ke with Transformer 230 V Nikon Projection Screen | 1 set 1 " |
| 11. | Soft X-ray Producing Apparatus | Super Soft X-ray Apparatus Type EMB with 2 spare X-ray tubes | 1 " |
| 12. | Camera Lucida | Nitrical Monocular for Photomicrography Abbe Drawing Apparatus Eyepiece 10 x | 3 ea. 3 sets 3 ea. |
| 13. | Preserving Tank | Sekisui Plastic Ware Container A - 90 Poly Pail # - 88 | 3 ea. 2 " |
| 14. | Camera | Nikomats FTn with 50mm F/1.4 lens | 2 sets |
| 15. | Accessories for Camera | Lens Hool Filter (Y2, UV, PL) Close up Lens (No. 1, No. 2) Zoom Nikkro-Auto 43mm-86mm Elevator Tripod 3 Sections Electronic Flash Model Sunpack Electronic Flash Ring Type DC unit Canon Kalverset with Film Magazine 230 V | 1 ea. 3 " 2 " 1 " 1 set 1 " 1 " 1 " |
| 16. | Enlarger | Fuji Enlarger Type A-69 230 V | 1 " |
| 17. | Slide Projector | Projector Elmo Auto-Slide 230 V | 1 " |
| 18. | Projector Screen | 180 x 150cm Roller Blind with Stand | 1 " |
| 19. | Underwater Camera | Underwater Camera Nikon with 35mm F/2.5 Lens | 1 " |
| 20. | 16mm Movie Camera | Canon Scupic 230 V | 1 " |
| 21. | 16mm Projector | 16mm Sound Projector Elmo- F16-1,000 230V | 1 " |
| 22. | Attachments for taking Microfilms | Retro-Copy Outfit Model TF Bellows Focusing Attachment Model III Extending Ring Model K | 1 " 1 " 1 " |
| 23. | Apparatus for Dark Room | Safelight Lamp Rouse: 1 Window $6\frac{1}{2} \times 4\frac{3}{4}$ Safelight Glasses 13 x 18cm (Promide, Panchromatic and X-ray) Chemical Bottle 650cc Chemical Bottle 2,000cc Bamboo Tong: Length $9\frac{1}{2}$ Enamelled Steel Tray 14 x 12" Metal Enlarging Easel: 14 x 12" Roll Film Clip: 6 x 6cm Roll Film Clip: (35 mm) Photo Sponge | 3 ea. 6 ea. 5 " 4 " 1 " 1 " 1 " 1 " 1 " 5 " |

| No. | Items | Description | Quantity |
|-----|-------------------------|---|--|
| 23. | Apparatus for Dark Room | Measuring Cylinder 600cc " " 1,000cc Plastic Deep Tank for 35mm Roll Film Developing Tank for 35mm Film Clip Photo Thermometer Balance 200 g Ferrottype Plate 14 x 12" Rubber Roller Double Type $6\frac{1}{2}$ x $4\frac{3}{4}$ " Printdryer 14 x 12" Double Face Dark Room Watch Dark Room Instruments (Hammer, Cutting Plier, Pincers, Soldering Copper) Wooden Printer 14 x 12" Foot Switch | 2 ea. 2 " 1 " 2 " 5 sets 2 ea. 1 set 2 ea. 1 ea. 1 set 1 ea. 1 set 1 " 1 ea. 2 " |
| 24. | Drawing Instrument | Drawing Instruments B.S.D. Drafting Machine | 2 sets 1 set |
| 25. | Pantograph | 84 cm | 1 " |
| 26. | Station Pointer | Micrometer 0 Type | 2 sets |
| 27. | Triangle | Inoue Type | 2 " |
| 28. | "T" Square | 90 cm | 1 set |
| 29. | Drawing Board | 90 cm x 120 cm | 2 ea. |
| 30. | Drawing Table | S - 2 - 5 Type | 2 " |
| 31. | Integrator | | 1 " |
| 32. | Electronic Computer | Olivetti Programma 101 | 1 set |
| 33. | Electronic Calculator | Olivetti Divisumma 24 | 1 " |
| 34. | Adding Machine | Olivetti Quanta MC-209 | 3 sets |
| 35. | Slide Rule | | 2 " |
| 36. | Counter | | 3 " |
| 37. | Stop-Watch | 1/10/sec. | 3 ea. |
| 38. | Lettering Set | | 1 set |
| 39. | Punch (for card) | Toho TK Type | 2 ea. |
| 40. | Electric Typewriter | Olivetti Tekne 3 | 2 sets |

| No. | Items | Description | Quantity |
|-----|-------------------|---|-----------|
| 41. | Dymo Typewriter | | 1 set |
| 42. | Copier | Ricopy Separate | 1 " |
| 43. | Electronic Copier | Electronic Ricopy BS-2 | 1 " |
| 44. | Tape Recorder | Akai x-v | 1 " |
| 45. | Transceiver | Toshiba Type 501 A | 3 sets |
| 46. | Stocker | Toshiba CR 520 SC | 1 set |
| 47. | Compressor | Iwata 16 "Minicon" SS-021BR with 3ps Engine | 1 " |
| | | Iwata "Minicon" SU-221 with 0.2 KW Motor | 1 " |
| 48. | Rearing Tank | Teijin Paurite STC Tank M500 | 3 sets |
| | | " " STC Vat M30 | 15 " |
| | | Vinyl Tube 4 x 6 mm | 200 m |
| | | Air Stone Round | 50 ea. |
| | | " " Air Curtain | 20 " |
| | | Brass Valves 3 Way Parallel Type | 10 " |
| | | " " 3 Way with Cock | 10 " |
| | | " " 4 Way Parallel Type | 10 " |
| | | " " 4 Way with Cock | 10 " |
| | | Air Stopper | 10 " |
| | | Becker 500cc | 10 " |
| | | Bottom Filter 39cm | 10 " |
| | | " " 60cm | 4 "" |
| | | Aqua Pump p 815 230 V | 2 " |
| | | " " p 3035 230 V | 2 " |
| | | Tokainet 1 mm | 10 meters |
| | | " 0.5 mm | 10 " |
| | | " 0.2 mm | 10 " |
| | | " 0.1 mm | 10 " |
| 49. | Salinometer | Auto Lab 0 - 42 % S | |
| 50. | Books | Details as per attached sheet | |

ATTACHED SHEETS

| No. | Title of Book | Author and Publisher | Volume |
|-----|--|--|---------|
| 1. | Suisangaku Zenshū (Zen 25 kan) exclude Vol. 4, 12, 16, 21 | Koseisha | 21 vol. |
| 2. | Sekai Daihyakka Jiten (Zen 26 kan) | Heibonsha | 26 |
| 3. | Gyorui no Keitai to Kensaku (Zen 3 kan) | Ishizaki Shoten | 3 |
| 4. | Suisan Hando Bukku | Tōyō Keizai Shinposha | 1 |
| 5. | Coral Fishes | Revensdale, T. | 1 |
| 6. | Fish Handling and Processing | HMSO | 1 |
| 7. | Fisheries Hydrography | Hela, I.- | 1 |
| 8. | F.A.O. World Fisheries Abstracts | | 1 |
| 9. | Nanyō Shotō Shizen to Shigen | Taiheiyo Kyōkai | 1 |
| 10. | Shinkyū. Eidoku Taihyō Kijun Gakujutsu Yogō Jiten | Seibundō Shinkōsha | 1 |
| 11. | Dōbutsu Seitai-gaku nyūmon | Yoshiaki Ito | 1 |
| 12. | Dōbutsu Jikken Kaibō no Shishin | Okayama | 1 |
| 13. | Genshoku Gyorui Kensaku Zukan | Muneaki Abe | 1 |
| 14. | Nippon Suisan Dōbutsu Zushū I. II. | Dainippon Suisankai | 2 |
| 15. | Genshoku Sekai Kairui Zukan | | 1 |
| 16. | Genshoku Dōbutsu Daizukan II | Toyama, Abe, Tokioka | 1 |
| 17. | Suisan Shigengaku Soron | Hiroaki Aikawa | 1 |
| 18. | Suisangaku Gairon | Yoshio Hiyama | 1 |
| 19. | Katsuo. Maguro Soran | Shōichi Masuda | 1 |
| 20. | Magurorui to sono Gyogyō | Kōji Nakamura | 1 |
| 21. | Katsuo. Maguro Gyogyō | Morinsho | 1 |
| 22. | Parao Shotō Gyorui Saishu Hōkoku | Hakubutsu Zasshi 72 go | 1 |
| 23. | Kaitei Gyoruigaku | Yasuo Suehiro | 1 |
| 24. | Gyorui, Enkōrui, Tosokurui | Keitarō Uchida | 1 |
| 25. | Sunda Rettō Seigan-iki no Kaikyō | Takerō Satō | 1 |
| 26. | Kaijō Kishogaku | Kazuhiko Terada | 1 |
| 27. | Mimami Shinakai · Higashi Shinakai | Jūkichi Tsukuda | 1 |
| 28. | no Kokai Kishozu Taiheiyo no Nettai Teikiatsu | Fisher Kisho Gakkaiyaku | 1 |
| 29. | Sokobikiami no Amime no Sentaku Sayo (Seikaiku Suisan Kenhō 18- go) | Tsuneo Akiyama | 1 |
| 30. | Sokobikiami no Sentakusayo to sono Isēsokobikiami Gyogyō Shigenkanri eno Ōyo | Tsuneo Akiyama (Nishikaiku Suisan Kenkyūho 23go) | 1 |

| No. | Title of Book | Author and Publisher | Volume |
|-----|---|-------------------------------------|---------|
| 31. | Gyogu Sokuteiron | Masachika Hamuro | 1 vol. |
| 32. | Saishin Gyōrogaku | | 1 |
| 33. | Sokobiki Gyōgyō to sono Shigen | Shin Touchi | 1 |
| 34. | Beishiki Kinchakuami Gyōgyō | Suisan Kenkyukai | 1 |
| 35. | Suisan Kōza Gyōgyōhen | | 1 set |
| 36. | Indo no Kurumaebi Gyōgyō ni Kansuru Shiryo | Eiichi Taketomi | 1 vol. |
| 37. | Kakkoku Gyōgyō no Ugoki No. 1-16 (Ketsu No. 8) Kaigai Shiryo No. 1-17 (Ketsu No. 7) | Kaigai Gyōgyō Kyōryokukai | 1 set |
| 38. | Gyosen Kenkyū Gihō No. 1-16 | Suisancho Gyosen Kenkyushitsu | 16 vol. |
| 39. | Nanyō Guntō Kagaku Bunkenshu | Fujio Utsumi | 1 |
| 40. | Daisangokai no Shizen | : Yaichiro Okada Yaku | 1 |
| 41. | Taiwan Kinkaisan Magurorui | Koji Nakamura | 1 |
| 42. | Taiwan Kinkaisan Hatauorui | " | 1 |
| 43. | Showa 6-8 Nendo Nanpō Gyōgyō Chōsa Hokokusho | Nōrinshō Suisankyoku | 1 set |
| 44. | Nipponsan Gyōrui Bunken Mokuroku | Okada, Matsubara | 1 vol. |
| 45. | Nippon Gyōrui Kensoku | " " | 1 |
| 46. | Nippon Gyosen Sengu Zuhyō | Suisancho | 1 |
| 47. | Nippon Kaiyō Shigen Bunken Shorokushu | Kagaku Gijutsucho Shigenkyoku | 1 |
| 48. | Sekai Kaiyōgaku Gakujutsu Bunken Mokuroku | Kokusai Kaiyo Kaihatsu Jochi Iinkai | 1 |
| 49. | Nature and Life in Southeast Asian | | 1 |
| 50. | The demersal fishes found in the water of Japan | Aoyagi, H.- | 1 |
| 51. | Plankton and Productivity in the Oceans | Raymont, J.- | 1 |
| 52. | Suisan Pokketo Bukku | Suisansha | 1 |
| 53. | Nippon Kaiyō Plankton Zukan | Hoikusha | 1 |
| 54. | Dōbutsu no Jiten | Tōkyōdō | 1 |
| 55. | Kishō no Jiten | " | 1 |
| 56. | Sekaikagaku no Jiten (Zen 6 kan) | Rironsha | 6 |
| 57. | Shinpan Zenten Kōseizu | Seibundō | 1 |
| 58. | Sūchi Yohō Shinkō | Chijin Shokan | 1 |
| 59. | Kishōgaku | " | 1 |
| 60. | Tokeiteki Hoho (Snedekka) | Iwanami Shoten | 1 |

| No. | Title of Book | Author and Publisher | Volume |
|-----|---|---------------------------|--------|
| 61. | Shinhen Suchihyō | Gakkensha | 1 vol. |
| 62. | Kyoritsu Sugaku Koshiki | Kyoritsu Shuppan | 1 |
| 63. | 7 keta taisuhyō | Maruzen | 1 |
| 64. | Rika Nenhyō | " | 1 |
| 65. | Shin-Eiwa Daijiten | Kenkyūsha | 1 |
| 66. | Shin-Waei Daijiten | " | 1 |
| 67. | Nippon Gyomei no Kenkyū | Kasokawa Shoten | 1 |
| 68. | Nanyō Suisan Shigen (1-4 kan) | Nanyo Kyōkai Taiwan Shibu | 1 |
| 69. | Nanyō Yūdoku Gyorui Chōsa Hōkoku | Nippon Suisan Kenkyūjo | 1 |
| 70. | Kaiyō Kagaku (Zōteiban) | Kanji Suda | 1 |
| 71. | Nendo Kagaku no Shinpo 4 shu | Gihōdō | 1 |
| 72. | " 5 shu | " | 1 |
| 73. | Dōbutsu Keitō Bunruigaku Dai 1 kan Soron | Nakayama Shoten | 1 |
| 74. | Dōbutsu Keitō Bunruigaku Dai 6 kan Kankei Dobutsuhoka | " | 1 |
| 75. | Dōbutsu Keitō Bunruigaku Dai 7 Kan (I) Sessoku Dōbutsu I | " | 1 |
| 76. | Dōbutsu Keitō Bunruigaku Dai 7 kan (I) Sessoku Dōbutsu (IIa) | " | 1 |
| 77. | Dōbutsu Keitō Bunruigaku Dai 7 kan (II A) Sessoku Dōbutsu (IIb) | " | 1 |
| 78. | Dōbutsu Keitō Bunruigaku Dai 8 kan (I) Genko Dōbutsu Shokushu Dōbutsu | " | 1 |
| 79. | Koshō Chōsahō | Kokin Shoin | 1 |
| 80. | Marine Fishes of New Zealand | Reed | 1 |
| 81. | Studies on Oceanography | Tōkyō Daigaku Shuppankai | 1 |
| 82. | Fishing Boats and Equipment | Burgess, J.- | 1 |
| 83. | Underwater Observation Using Sonar | Tuker, G.- | 1 |
| 84. | Developments in Handling and Processing Fish | Burgess, G H O | 1 |
| 85. | Fish and Fisheries in Australia | Roughley, Angus & R. | 1 |

LIST B

| No. | Items | Description | Quantity |
|-----|-----------------------------------|---|----------------------------|
| 1. | Nansen Bottle | Reversing Water Bottle Nansen Type 1) with a Holder for 2 Thermometers 2) with a Holder for 3 Thermometers | 10 sets 5 " |
| 2. | Protected Reversing Thermometer | 1) -2°C - +20°C in 0.1°C 2) +10°C - +30°C in 0.1°C 3) -2°C - +35°C in 0.1°C | 3 pcs 10 " 2 " |
| 3. | Unprotected Reversing Thermometer | -2°C - +30°C in 0.1°C | 5 " |
| 4. | Bathythermograph | 1) FA-190032 Type 2) FA-190020 Type | 1 set 1 " |
| 5. | Enlarger for BT | 1) BT Slide Enlarge Viewer 75 m/m 230 V 150 W 2) Spare Lamps | 1 " 10 pcs |
| 6. | Thermometer | | 2 " |
| 7. | Depressor | 17 kg | 1 set |
| 8. | Standard Water Color Set | Forel Type | 2 sets |
| 9. | Visibility Disc | White Color | 2 pcs |
| 10. | Clinometers for Sounding Wire | | 2 " |
| 11. | Lead | 1) 12.8 kgs (plumbum) 2) 6.4 kgs (plumbum) 3) 1.5 kgs (cast iron) | 1 pc 1 " 5 pcs |
| 12. | Salinometer | ESL type with 100m cable | 1 set |
| 13. | SK type dredge | | 1 " |
| 14. | Underway Bucket for Surface Water | Made of Double Rubber Walls 1) R. Type 600cc 2) T.S. Type 170cc | 2 pcs 1 pc |
| 15. | Plankton Net | 1) Kitahara Quantitative Plankton Net (Nylon) (1) for Phytoplankton XX13 (2) for Zoo Plankton GG54 2) Plankton Net (Nylon) North Pacific Standard Type 3) MARUKAWA's Medium-Layer Plankton Net (Nylon) with a Tripping Device and a Messenger | 2 pcs 2 " 2 " 2 " |

| No. | Items | Description | Quantity |
|-----|-------------------------------|---|--|
| 15. | Plankton Net | 4) 130cm Dia Plankton and Larva Net (cremona) 5) Strainer Net (silk GG54) for Larva Net 6) Nylon Cloth (1) NXX13 30cm per roll (2) NGG28 " " " (3) NGG38 " " " (4) NGG54 " " " 7) Minnow Netting 4 x 4 x 220 (cremona, resin treatment) 8) Tamura Underway Surface Plankton Sampler (brass made) 9) Bucket (plastic) for Plankton Net 10) Flow Meter Upto 10,000 revolutions 11) Tripping Device with a messenger 12) Motoda Plankton Catcher | 2 pcs 2 " 1 roll 1 " 1 " 1 " 1 " 1 pc 10 pcs 2 " 5 " 2 sets |
| 16. | Akanuma's Hydrometer | | 1 set |
| 17. | Sea Water Thermometer | 1) -5°C - +30°C in 0.1°C 2) Electric Thermometer Type MK-21 | 10 pcs 1 set |
| 18. | Suction pump | Model PCD-060 60L./min. AC 230V | 1 " |
| 19. | Chemical balance | Circular Type Weight Weighing Capacity 200g Sensitivity: 1mg | 1 set |
| 20. | Automatic indicating balance | Automatic Direct Reading Balance Capacity: 200g Sensitivity: 1mg | 2 sets |
| 21. | PH meter | Model HM-5A AC 230V | 1 set |
| 22. | Distiller | Automatic EC-5 Type electrically heating, copper made 5L./hr. AC 230V | 1 set |
| 23. | Water purifier | FURUKAWA Model SV-10 AC 230V | 1 set |
| 24. | Photoelectric colorimeter | Shimazu spectronic 20 type | 1 " |
| 25. | Automatic titration apparatus | | 1 set |
| 26. | Chlorine content analyser | Chlorinity Determination Apparatus <u>Specification of one set</u> Knudsen Burette 30cc in 0.1cc | 1 " 1 pc |

| No. | Items | Description | Quantity |
|-----|---|---|--|
| 26. | Chlorine content analyser | Knudsen Pipette 15cc Burette stand Bottle for silver nitrate solution 5L. Glass cup, thick wall Enamelled tray Container for potassium chromate solution Narrow mouthed bottle 1L. Glass tube, light brown color Glass rod, pinch cock, rubber tubing silver nitrate Potassium chromate | 1 pc 1 " 1 " 1 " 1 " 1 " 1 " 5 feet 1 set 500g 25g |
| 27. | Dissolved Oxygen Analyser | Dissolved Oxygen Meter Model TP-4T AC 100V, D.O. ± 0.1 ppm | 1 set |
| 28. | Micro Kjeldahl nitrogen Determination Apparatus | 1) Nitrogen Distilling Apparatus gas heated 2) Nitrogen Digesting Apparatus gas Heated 3) 30 ml Flask | 1 set 1 " 16 pcs |
| 29. | Electric Centrifuge | Centrifuge Tripod Suspension Type AC 230V Model B | 1 " |
| 30. | Outfit for Quantitative Determination of Plankton | 1) Sea Water Bottle 10L. 2) Kokubo's Settling Tube 1,000cc 3) Stand | 1 pc 1 " 1 " |
| 31. | Ranging Pole | Light Alloy, 2 Meters Long, Two Sections | 3 pcs |
| 32. | Ranging Staff | 3 meter long | 1 pc |
| 33. | Measuring Rope | KAMIYA's Measuring Rope 100m | 1 " |
| 34. | Transit | 1) with a Tripod 2) Presice Model ZU-2 with Optical plummet | 1 set 1 " |
| 35. | Plane Table Outfit | 1) with a board (41 x 51cm), tripod centering device and alidade 2) with a Board (40 x 50cm), tripod centering device, and Alidade | 1 " 1 " |
| 36. | Sextant | with a Light Bulb | 2 sets |
| 37. | G.E.K. | Geomagnetic Electro Kinetograph Riken Type | 1 " |
| 38. | Canvas Tank | Capacity Approx. 1,000L | 3 sets |

| No. | Items | Description | Quantity |
|-----|---|---|--|
| 39. | Micro-Film Reader | 1) Mini-Copy Reader Printer 2) Lens Fujiner M50mm, F4.5 3) Lens Fujiner M25mm, F2.8 4) Quick Copy Processor Type II 5) External Transformer 240V - 100V 6) Accessories | 1 set 1 pc 1 " 1 set 1 1 set |
| 40. | Hydrophone | ST-6501 Type with an Amplifier, 30m Cable and Battery | 1 " |
| 41. | Fishing Gears and Their Accessories (1) | 1) Four Seams Type Trawl Net Complete Set (Diagram A, C) 2) Wing Net Complete Set with H.R. Wire 18m/m 3) Cod End Complete Set 4) Ground Rope Complete Set 5) Side Net 6) Baiting 7) Belly 8) Baiting 4 Sections 9) Triangle Net for Belly 10) Outside False Belly 11) Inside False Belly 12) Polyethylene Twine (1) 400d/57 2.5 kg Ball (2) 400d/72 " " (3) 400d/120 " " (4) 400d/210 5.0 kg Ball 13) U-Tex (Vinylon, Polyethylene Mixed) Twine (1) 7.5gr/m 2.5kg Ball (2) 10gr/m 2.5kg Ball (3) 25gr/m 5.0kg Ball 14) Vinylon Twine 5's/150 5.0kg Ball 15) Manila Twine 10gr/m 2.5kg Ball 16) Polyethylene Rope 18m/m 200m coil 17) Vinylon Rope (1) 19m/m (soft Twist) 200m coil (2) 9m/m (Medium Twist) 200m coil 18) Manila Rope 16m/m 200m Coil 19) Wire Rope (1) 6 x 24 22m/m 200m Coil (2) " 18m/m " " (3) " 16m/m " " 20) Wire Rope with Serving on Vinylon 16m/m 200m Coil 21) U-Tex Compound Rope 3 Strand 48m/m 200m Coil 22) Otter Board Complete Set (Diagram B-1, B-2) 23) Otter Board Accessory (Diagram B-2, B-3) (1) Sho | 2 sets 2 " 1 set 1 " for 2 sets for 1 set for 3 sets for 1 set 4 pcs 1 pc 1 " 10 balls 15 " 10 " 10 " 15 balls 15 " 10 " 5 " 10 " 1 coil 1 " 2 coils 1 " 6 " 2 " 1 coil 1 " 2 pairs 2 pairs |

| No. | Items | Description | Quantity |
|---|---|--|----------|
| 41. | Fishing gears and their accessories (1) | (2) Bracket Metal | 2 pairs |
| | | (3) Towing Chain | 2 " |
| | | 24) Accessory: | |
| | | (1) One Eyed Swivel | |
| | | a) 32m/m | 4 pcs |
| | | b) 25m/m | 8 " |
| | | (2) Square Head Shackle | |
| | | a) 32m/m | 10 " |
| | | b) 28 " | 20 " |
| | | c) 25 " | 20 " |
| | | d) 22 " | 20 " |
| | | e) 19 " | 20 " |
| | | (3) Adjustable Shackle for Towing Chain and Other Board | 2 " |
| | | (4) Adjustable Shackle for Bridge Chain 25m/m dia. | each |
| | | Length 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120 | 2 pcs |
| | | (5) Delta Plate for G.R. and Top Wing Net | 2 " |
| | | (6) Delta Plate for H.R. and Net Pendant | 2 " |
| | | (7) End Ring with Ditch 28m/m Dia. | 8 " |
| | | (8) G Hook 28m/m | 5 " |
| | | (9) Ground Course | |
| | | a) 22m/m | 40 " |
| | | b) 19m/m | 40 " |
| | | (10) Dog Hook | |
| | | a) 5 $\frac{3}{8}$ load | 4 " |
| b) 3 $\frac{3}{8}$ Load | 4 " | | |
| (11) Warp Ring 28m/m | 12 " | | |
| (12) 8 Type Ring 25m/m | 8 " | | |
| (13) Kite Double Plate | 1 pc | | |
| (14) Stopper Hook 3 $\frac{3}{8}$ load | 4 " | | |
| (15) Stopper Pin for 3 $\frac{3}{8}$ load | 6 " | | |
| (16) Dog Hook 3 $\frac{3}{8}$ Load | 2 " | | |
| (17) Synthetic Float 240m/m Dia. 500m Depth | 130 " | | |
| (18) Iron Spike | | | |
| a) 500m/m | 4 " | | |
| b) 400m/m | 4 " | | |
| c) 300m/m | 4 " | | |
| (19) Wooden Spike 400m/m | 2 " | | |
| (20) Crocodile Spanner 500m/m | 2 " | | |
| (21) Pipe Wrench | | | |
| a) 900m/m | 1 pc | | |
| b) 600m/m | 1 " | | |
| (22) Monkey Wrench 375m/m | 1 " | | |
| (23) Cutting Pliers | 3 pcs | | |
| (24) Netting Needle | | | |
| a) No. 2 | | | |
| b) No. 3 | | | |
| c) No. 6 | 15 " | | |

| No. | Items | Description | Quantity |
|-----|---|---|----------|
| 41. | Finishing Gears and Their Accessories (1) | <p>(25) Wire Cutter B-32 1 set (26) Wire Cutter Spare Blade 1 Pc (27) Hand Hook 20 pcs (28) Vinyl Tape Measure 30m 1 pc (29) Bar Measure 2m 1 " (30) Folding Scale 1m 5 pcs (31) Wooden Block for 16m/m Rope 2 " (32) Second-Hand a) 24m/m Chain 25m 1 " b) 22m/m " " 1 " c) 18m/m " " 2 pcs (33) Hanging Chain L-170m/m 9m/m dia. 60 " (34) Iron Ball Sinker 200m/m dia. 4 " (35) Wooden Sinker 120m/m x 150m/m(L) 95 " (36) Rubber Bobbin 80m/m x 40m/m 180 " (37) Wire Clip 22m/m 25 " (38) Let go Bar 1,200m/m(L) 2 " (39) Messenger Hook 24m/m 1 pc (40) Box Spanner 22m/m 2 pcs (41) Vinylon Strop 24m/m 4m cut 8 " (42) Wire Strop 18m/m 4m Cut 2 "</p> <p>25) Tuna Long Line Complete Set 200 sets <u>Specification of One Set</u> Main Line: Vinylon 20s/55 x 3 x 3 50M x 6p'cs Branch Line: Polyester 90,000d (250d/ 40 x 3 x 3) 12M x 5p'cs Buoy Line: Vinylon 20d/55 x 3 x 3 20M x 1p'ce</p> <p>26) Radio Buoy 2 sets 27) Light Buoy 10 " 28) Battery for Radio Buoy 2 " 29) Antenna for Radio Buoy 3 pcs 30) Battery for Light Buoy 20 " 31) Bulb for Light Buoy 8 doz 32) Seamen Socket for Light Buoy 10 pcs 33) Glove Packing for Light Buoy 15 " 34) Rubber Plate for Light Buoy 10 " 35) Electric Cord for Light Buoy 10 " 36) Tank Packing for Light Buoy 30 " 37) Metal Cover for Light Buoy 5 " 38) Charging Clip for Light Buoy 15 " 39) Glass Glove for Light Buoy 10 " 40) Distilled Water for Light Buoy 2 cans 41) Sulphuric Acid for Light Buoy 1 p'ce 42) Large Flag for Bamboo Pole 3 sets 43) Rubber Ring for Line Hauler (1) Large 20 pcs (2) Small 20 " 44) Vinylon Twine #5 7.5 kgs 45) Stainless Snap 1,000 pcs 46) Lon Yan 2,125 m</p> | |

| No. | Items | Description | Quantity |
|-----|---|-----------------------------------|-----------|
| 41. | Finishing Gears and Their Accessories (1) | 47) Wire Clipper | 1 pc |
| | | 48) Wire Clip | 4,000 pcs |
| | | 49) Rubber Ring for Net Hauler | |
| | | (1) Large | 5 " |
| | | (2) Small | 5 " |
| | | 50) Wire Cutter | 10 " |
| | | 51) Spike | 30 " |
| | | 52) Pincer | 30 " |
| | | 53) Scissors for Cutting Rope | 50 " |
| | | 54) Scoop Square Type | 7 " |
| | | 55) Hand Hook Short Handle 330m/m | 50 " |
| | | 56) Long Hand Hook 900m/m | 50 " |
| | | 57) Fish Hook | 10 " |
| | | 58) Dissection Knife | |
| | | (1) One side Blade 21cm | 20 " |
| | | (2) Both side Blade 21cm | 20 " |
| | | 59) Fish Brush Nylon | 30 " |
| | | 60) Beam Scale | |
| | | (1) 150kgs | 1 pc |
| | | (2) 50 " | 1 " |
| | | 61) Harpoon Head | 10 pcs |
| | | 62) Bamboo Pole | 10 " |
| | | 63) Saw for Nose Cutting | 2 " |
| | | 64) Lead Roller | 1 set |
| | | 65) Four Hook | |
| | | (1) Large | 2 pcs |
| | | (2) Small | 2 " |
| | | 66) Wooden Hammer | 1 pc |
| | | 67) Hatchet | 3 pcs |
| | | 68) Trawling Set F70 | 1 set |
| | | 69) Fishing Line | |
| | | (1) #80 | 100 m |
| | | (2) #30 | 100 m |
| | | 70) Hook | |
| | | (1) 6cm | 50 pcs |
| | | (2) 7cm | 50 " |
| | | (3) 8cm | 50 " |
| | | (4) 9cm | 50 " |
| | | 71) Swivel | |
| | | (1) 10 x 11 | 50 " |
| | | (2) 9 x 10 | 50 " |
| | | (3) 8 x 10 | 50 " |
| | | 72) Swivel Box Type | |
| | | (1) Large | 10 " |
| | | (2) Small | 10 " |
| | | (3) 2.0cm | 20 " |
| | | (4) 2.5cm | 20 " |
| | | (5) 3.0cm | 20 " |
| | | 73) Diving Plate | |
| | | (1) B Type P70 | 1 pc |
| | | (2) B Type P80 | 1 " |
| | | (3) B Type P85 | 1 " |
| | | (4) A Type 8.5 | 1 " |

| No. | Items | Description | Quantity |
|-----|---|----------------------------|-----------|
| 41. | Finishing Gears and Their Accessories (1) | (5) A Type 9.0 | 1 pc |
| | | (6) A Type 10.0 | 1 " |
| | | 74) Yamashita Pearl | |
| | | (1) with Feather 8 | 10 pcs |
| | | (2) with Feather 9 | 10 " |
| | | (3) with Feather 10 | 10 " |
| | | (4) with Feather 11 | 10 " |
| | | (5) with Feather 13 | 10 " |
| | | 75) Silver Bait | |
| | | (1) 7cm | 5 " |
| | | (2) 9 cm | 5 " |
| | | (3) 10cm | 2 " |
| | | (4) 13cm | 1 pc |
| | | 76) Feather | |
| | | (1) White | 5 bundles |
| | | (2) White and Black | 5 " |
| | | (3) Red | 1 " |
| | | 77) Vinyl Bait Plate | 3 bags |
| | | 78) Hikoki | |
| | | (1) L | 1 bag |
| | | (2) S | 1 " |
| | | 79) Cooler DIWA Type 11 | 1 " |
| | | 80) Octopus Bait | |
| | | (1) with lead 8cm Red | 1 pc |
| | | (2) with Leather 8cm " | 2 pcs |
| | | (3) with Lead 10cm " | 1 pc |
| | | (4) with Leather 10cm " | 2 pcs |
| | | (5) with Lead 12cm " | 1 pc |
| | | (6) with Leather 12cm " | 2 pcs |
| | | (7) with Lead 8cm Pink | 1 pc |
| | | (8) with Leather 8cm " | 2 pcs |
| | | (9) with Lead 10cm " | 2 pcs |
| | | (10) with Leather 10cm " | 1 pc |
| | | (11) with Lead 12cm " | 2 pcs |
| | | (12) with Leather 12cm " | 2 pcs |
| | | (13) with Lead 8cm Orange | 1 pc |
| | | (14) with Leather 8cm " | 2 pcs |
| | | (15) with Lead 10cm Orange | 1 pc |
| | | (16) with Leather 10cm " | 2 pcs |
| | | (17) with Lead 12cm " | 1 pc |
| | | (18) with Leather 12cm " | 2 pcs |
| | | (19) with Lead 8cm Blue | 1 pc |
| | | (20) with Leather 8cm " | 2 pcs |
| | | (21) with Lead 10cm " | 1 pc |
| | | (22) with Leather 10cm " | 2 pcs |
| | | (23) with Lead 12cm " | 1 pc |
| | | (24) with Leather 12cm " | 2 pcs |
| | | (25) with Lead 8cm White | 1 pc |
| | | (26) with Leather 8cm " | 2 pcs |
| | | (27) with Lead 10cm " | 1 pc |
| | | (28) with Leather 10cm " | 2 pcs |
| | | (29) with Lead 12cm " | 1 pc |
| | | (30) with Leather 12cm " | 2 pcs |

| No. | Items | Description | Quantity |
|-----|---|--------------------------------|----------|
| 41. | Finishing Gears and Their Acces- sories (1) | (31) with Lead 8cm Half Red | 1 pc |
| | | (32) with Leather 8cm " | 2 pcs |
| | | (33) with Lead 10cm " | 1 pc |
| | | (34) with Leather 10cm " | 2 pcs |
| | | (35) with Lead 12cm " | 1 pc |
| | | (36) with Leather 12 " | 2 pcs |
| | | (37) with Lead 8cm Half Pink | 1 pc |
| | | (38) with Leather 8cm " | 2 pcs |
| | | (39) with Lead 10cm " | 1 pc |
| | | (40) with Leaaher 10cm " | 2 pcs |
| | | (41) with Lead 12cm " | 1 pc |
| | | (42) with Leather 12cm " | 2 pcs |
| | | (43) with Lead 8cm Half Orange | 1 pc |
| | | (44) with Leather 8cm " | 2 pcs |
| | | (45) with Lead 10cm " | 1 pc |
| | | (46) with Leather 10cm " | 2 pcs |
| | | (47) with Lead 12cm " | 1 pc |
| | | (48) with Leather 12cm " | 2 pcs |
| | | (49) with Lead 8cm Half Blue | 1 pc |
| | | (50) with Leather 8cm H | 2 pcs |
| | | (51) with Lead 10cm " | 1 pc |
| | | (52) with Leather 10cm " | 2 pcs |
| | | (53) with Lead 12cm " | 1 pc |
| | | (54) with Leather 12cm " | 2 pcs |
| | | (55) with Lead 8cm Ro-14 | 1 pc |
| | | (56) with Leather 8cm " | 2 pcs |
| | | (57) with Lead 10cm " | 1 pc |
| | | (58) with Leather 10cm " | 2 pcs |
| | | (59) with Lead 12cm " | 1 pc |
| | | (60) with Leather 12cm " | 2 pcs |
| | | (61) with Lead 8cm Ni-101 | 1 pc |
| | | (62) with Leather 8cm " | 2 pcs |
| | | (63) with Lead 10cm " | 1 pc |
| | | (64) with Leather 10cm " | 2 pcs |
| | | (65) with Lead 12cm " | 1 pc |
| | | (66) with Leather 12cm " | 2 pcs |
| | | (67) with Lead 8cm Ni-109 | 1 pc |
| | | (68) with Leather 8cm " | 2 pcs |
| | | (69) with Lead 10cm " | 1 pc |
| | | (70) with Leather 10cm " | 2 pcs |
| | | (71) with Lead 12cm " | 1 pc |
| | | (72) with Leather 12cm Ni-109 | 2 pcs |
| | | (73) with Lead 8cm Ni-129 | 1 pc |
| | | (74) with Leather 8cm " | 2 pcs |
| | | (75) with Lead 10cm " | 1 pc |
| | | (76) with Leather 10cm " | 2 pcs |
| | | (77) with Lead 12cm " | 1 pc |
| | | (78) with Leather 12cm " | 2 pcs |
| | | (79) with Lead 8cm To-9 | 1 pc |
| | | (80) with Leather 8cm " | 2 pcs |
| | | (81) with Lead 10cm " | 1 pc |
| | | (82) with Leather 10cm " | 2 pcs |
| | | (83) with Lead 12cm " | 1 pc |
| | | (84) with Leather 12cm " | 2 pcs |

| No. | Items | Description | Quantity |
|-----|---|---------------------------------------|----------|
| 41. | Fishing Gears and Their Accessories (1) | (85) with Lead 8cm Octopus with Scale | 1 pc |
| | | (86) with Leather 8cm " | 2 pcs |
| | | (87) with Lead 10cm " | 1 pc |
| | | (88) with Leather 10cm " | 2 pcs |
| | | (89) with Lead 12cm " | 1 pc |
| | | (90) with Leather 12cm " | 2 pcs |
| | | (91) with Lead 8cm Pearl Pu2 | 1 pcs |
| | | (92) with Leather 8cm " | 2 pcs |
| | | (93) with Lead 10cm " | 1 pc |
| | | (94) with Leather 10cm " | 2 pcs |
| | | (95) with Lead 12cm Pearl 2 | 1 pc |
| | | (96) with Leather 12cm " | 2 pcs |
| | | (97) with Lead 8cm Pearl 5 | 1 pc |
| | | (98) with Leather 8cm " | 2 pcs |
| | | (99) with Lead 10cm " | 1 pc |
| | | (100) with Leather 10cm " | 2 pcs |
| | | (101) with Lead 12cm " | 1 pc |
| | | (102) with Leather 12cm " | 2 pcs |
| | | 81) Squid | |
| | | (1) with Lead 8cm | 3 pcs |
| | | (2) with Leather 8 cm | 3 " |
| | | (3) with Lead 11cm | 3 " |
| | | (4) with Leather 11cm | 3 " |
| | | (5) with Lead 13cm | 1 pc |
| | | (6) with Leather 13cm | 3 pcs |

| No. | Items | Description | Quantity |
|-----|---|---|----------|
| | Fishing gears and their accessories (2) | 1) Hand Hooking gears | |
| | | (1) Main Line Nylon Gut No. 24, 3 braid 100 m | 20 pcs |
| | | (2) Vinylon Fishing Twine 20S/12 L-3 | 3 " |
| | | (3) Vinylon Fishing Nylon Gut #20, 3 Braid 10 m | 50 pcs |
| | | (4) Lead Line Nylon Gut #50, 100 m | 3 " |
| | | (5) Lead Line Nylon But #50, 100 m | 3 " |
| | | (6) Lead Line Nylon Gut #40, 100 m | 2 " |
| | | (7) Branch Line Nylon Gut #50, 1,200 m | 1 pc |
| | | (8) Hook Iron Plated with Zinc 6 cm, 7 cm, 8 cm each 1,000 pcs | 1 set |
| | | (9) Swivel Sarukan Brass 1.5 cm, 3 cm | 50 sets |
| | | (10) Swivel Tri-Forks Sarukan Brass 3 cm | 100 " |
| | | (11) Balance Wire Two Hand Balance Brass Wire 10, 8, 6 70 cm | 1 set |
| | | (12) Balance Wire Single Balance Brass Wire #10, 8, 45 cm | 1 " |
| | | (13) Bait Napkin Wool Cloth 30 cm ² Red Colour | 50 sets |
| | | (14) Lead Sinker Iron 1,130 g. | 100 pcs |
| | | (15) Lead Sinker Iron 1,700 g. | 100 " |
| | | (16) Lead Sinker Iron 2,060 g. | 100 " |
| | | (17) Lead Sinker Lantern Type 1,700 g. | 30 " |
| | | (18) Reel Iron Plated with Zinc (Inside Diameter 8 cm) (Outside Diameter 18 cm) | 10 sets |
| | | 2) Trolling Lines | |
| | | (1) Main Line Nylon Gut #16, 20, 24, 3 3 Braided | 1 set |
| | | (2) Main Line Tetolon #100, 120, 130 | 1 " |
| | | (3) Branch Line Nylon Gut #30, 40, 50, 60, 70, 80 | 1 " |
| | | (4) Yamashita Parl 13mm, 15mm, 17mm, 21mm each 15 pcs | 1 " |
| | | (5) Hook for Squid L, M, S, each 20 pcs | 1 " |
| | | (6) Yumigata with Fly-bait #2, 3, 4 each 10 pcs | 1 " |

| No. | Items | Description | Quantity | |
|-----|--|---|----------|--|
| | Fishing Gears and Their Accessories (2) | (7) Iya Iya Tund 70mm, 8.5mm, 10mm, 13.5mm, 15mm, 17mm, 20mm | 1 set | |
| | | (8) Two Forked Hook 5cm, 4cm, 6cm, 8cm, 10cm, 12cm | 1 " | |
| | | (9) Baby Swivel Brass 12mm, 9mm, 7mm, 6mm | 1 " | |
| | | (10) Snape Swivel 6mm, 8mm, 10mm | 1 " | |
| | | (11) Rubber Swivel 2mm, 3mm, 4mm, 6mm | 1 " | |
| | | (12) Trowing Line Complete Set for Tuna and Sword Fish | 1 " | |
| | | 3) Bottom Long-Line, Complete Set | 100 sets | |
| | | <u>Specification of one set Bottom Long-Line</u> | | |
| | | Main Line Vinylon 20S/24 x 2 x 2 202m | | |
| | | Branch Line Vinylon 20S/18 L-3 90cm x 100 pcs | | |
| | | Hook Zinc Plated, 4.8 cm Jigoku Style Basket Wood 40cm ² | | |
| | | <u>Accessory</u> | | |
| | Weight Iron 1 kg. | 100 pcs | | |
| | Flag and Pole Yellow Colour Cloth | 10 " | | |
| | Flag Bamboo Pole 3m | | | |
| | Buoy Rope Vinylon 20S/24 x 2 x 2 24 kgs | 20 " | | |
| | Buoy Synthetic Resin Float, Ball Type 40 cm | 5 " | | |
| | Polyethylene Float Cylindrical Type 150 cm x 40 cm | 15 " | | |
| | <u>Spare</u> | | | |
| | Hook 4.8 cm | 5,000 pcs | | |
| | Vinylon Fishing Twine 20S/18 L-3 4.5 Kgs | 1 pc | | |
| | 4) Mackerel Drift net, complete set | 30 sets | | |
| | Nylon Net 210D 2/15 125mm, 50 x 125m (30 pcs) | (Diagram D) | | |
| | Nylon Net 210D 2/8 99mm 100 x 135m (30 pcs) | | | |
| | Vinylon Net 20S 3/30 125mm 1 x 125m (30 pcs) | | | |
| | Vinylon Rope 5S L-3 8mm, 76m (30 pcs) | | | |

| No. | Items | Description | Quantity |
|-----|---|--|---------------------|
| | Fishing Gears and Their Accessories (2) | Vinylon Rope 5S R-3 8mm, 76m (30 pcs) | |
| | | Vinylon Rope 5S R-3 6mm, 95m (30 pcs) | |
| | | <u>Spare</u> | |
| | | Nylon Spare Net 210D 2/15 125mm, 50 x 130m | 1 pc |
| | | Nylon Spare Net 210D 2/8 99mm, 100 x 150m | 1 " |
| | | Nylon Twine 210D 2/15, 2 kgs | 1 bale |
| | | Nylon Twine 210D 2/8, 2 kgs | 1 " |
| | | Vinylon Twine 20S 5/12, 2 kgs | 1 " |
| | | Vinylon Twine 20S 3/30, 1 kg | 1 " |
| | | Synthetic Rubber Bobbin | 60 pcs |
| | | Lead Sinker 650g. | 50 " |
| | | 5) Bottom gill net, complete set per set as followed:- | 30 sets (Diagram E) |
| | | Nylon Net 210D 2/8 83mm 44.5 x 75m (1 pc) | |
| | | Nylon Net 210D 2/16 45.5mm 6.5 x 136.6m (1 pc) | |
| | | Nylon Net 210D 2/16 85mm 0.5 x 75m (1 pc) | |
| | | Nylon Net 210D 2/12 85mm 0.5 x 75m (1 pc) | |
| | | Nylon Net 210D 3/30 85mm 0.5 x 75m (1 pc) | |
| | | Spun nylon net 16.5 3/24 85mm 3 x 75m (1 pc) | |
| | | Spun Nylon Net 16.5 3/24 83mm 3.5 x 75m (1 pc) | |
| | | Polyethylene Rope 400D R-3 6mm, 40.5m (1 pc) | |
| | | Polyethylene Rope 400D L-3 6mm, 41.7m (1 pc) | |
| | | Vinylon Twine 20S R, 3/30 100.2m (1 pc) | |
| | | Vinylon Rope 20S L-5 6mm, 43.5m (1 pc) | |
| | | Vinylon Rope 20S R-3 6mm, 147m (1 pc) | |
| | | Vinylon Rope 20S R-3 10mm, 500m (1 pc) | |

| No. | Items | Description | Quantity | |
|-----|---|--|----------|----------------------|
| | Fishing Gears and Their Accessories (2) | Synthetic Resin Float 61g. (58 pcs) | | |
| | | Lead Sinkers 37.5g (236 pcs) | | |
| | | Four-Leg-Anchor 15 kg (4 pcs) | | |
| | | <u>Spare</u> | | |
| | | Nylon Spare Net 210D 2/8 83mm 44.5 x 300m | | 1 set |
| | | Nylon Twine 210D L, 2/8 (5 kgs) | | 1 bale |
| | | Nylon Twine 210D L, 2/16 (1 kg) | | 1 " |
| | | Nylon Twine 210D L, 2/12 (1 kg) | | 1 " |
| | | Nylon Twine 210D L, 2/30 (1 kg) | | 1 " |
| | | Spun Nylon Twine 16.5 L, 3/24 (2 kgs) | | 1 bale |
| | | Vinylon Twine 20S 3/12 (1 kg) | | 1 " |
| | | Synthetic Resin Float and Lead Sinkers each 50 pcs) | | 1 set |
| | | 6) Stick-Held Dip Net, complete set | | 1 set (Diagram F) |
| | | Vinylon Net 20S 3/15 20mm 200 x 80m (4 pcs) | | 8) |
| | | Vinylon Net 20S 3/9 27mm 100 x 126m (6 pcs) | | 1) |
| | | Vinylon Net 20S 3/9 27mm 100 x 62m (2 pcs) | | 2) |
| | | Vinylon Net 20S 3/12 30mm 100 x 31m (2 pcs) | | 3) |
| | | Vinylon Net 20S 3/12 30mm 100 x 26.8m (2 pcs) | | 4) |
| | | Vinylon Net 20S 3/12 30mm 100 x 23.0m (2 pcs) | | 5) |
| | | Vinylon Net 20S 3/18 43mm 50 x 59mm (2 pcs) | | 6) |
| | | Vinylon Net 20S 3/18 43mm 100 x 60m (6 pcs) | | 9) |
| | | Vinylon Net 20S 3/18 37mm 100 x 40m (2 pcs) | | |
| | | Vinylon Net 20S 3/33 43m 10 x 5.9m (2 pcs) | | 7) |
| | | Vinylon Net 20S 3/33 43mm 10 x 36m (1 pc) | | 10-1) |
| | | Vinylon Net 20S 3/33 43mm 10 x 40m (1 pc) | | 10-2) |
| | | Vinylon Rope SS R-3 9mm 140m (2 pcs) | | |

| No. | Items | Description | Quantity |
|-----|---|---|----------|
| | Fishing Gears and Their Acces- sories (2) | Vinylon Rope 5S R-3 5mm 1m (50 pcs) | |
| | | Wire Rope 6 x 24 G/D 8mm 400m (1 pc) | |
| | | Synthetic Resin Float 15cm x 6 15cm x 6cm (20 pcs) | |
| | | Resin Pipe 15cm x 16cm (2 pcs) | |
| | | Lead Sinkers 200kg (80 pcs) | |
| | | Iron Sinkers 20 kg (3 pcs) | |
| | | Iron Sinkers 35 kg (2 pcs) | |
| | | <u>Accessories</u> | |
| | | Under Water Fishing Lamp YM-S Type | 1 set |
| | | Spare Bulb PS 220V 500W Colour Red and Blue | 1 " |
| | | Spare Bulb PS 220V 500W Colour White | 10 pcs |
| | | Spare Cord with Bulb 100m | 1 set |
| | | Spare Bulb PS-220V 500W | 20 pcs |
| | | Under Water Fishing Lamp Four Lamp Type | 1 set |
| | | Spare Bulb PS-220V 500W | 20 pcs |
| | | Winch (Hand Worker) | 1 set |
| | | Mincer (Electro-Motion) 220V 600W | 1 " |
| | | Dencer Slidex AC 220V | 1 " |
| | | Distribution Board Fishing Lamp | 1 " |
| | | Generator AC 220V 1kW | 1 " |
| | | Generator AC 220V 2kW | 1 " |
| | | <u>Spare</u> | |
| | | Vinylon Spare Net 20S 3/15 20mm 200 x 30m | 1 pc |
| | | Vinylon Spare Net 20S 3/9 27mm 100 x 100m | 1 " |
| | | Vinylon Spare Net 20S 3/12 30mm 100 x 100m | 1 " |
| | | Vinylon Spare Net 20S 3/18 43mm 100 x 60m | 1 " |
| | | Vinylon Spare Net 20S 3/18 37mm 100 x 20m | 1 " |
| | | Synthetic Resin Float 15cm x 6cm | 10 pcs |
| | | Vinylon Twine 20S 3/9 | 2 kgs |

| No. | Items | Description | Quantity | |
|-----|---|--------------------------------------|--|----------------------|
| | Fishing Gears and Their Accessories (2) | Vynylon Twine 20S 3/12 | 2.5 kgs | |
| | | Vynylon Twine 20S 3/15 | 0.5 " | |
| | | Vynylon Twine 20S 3/33 | 0.8 " | |
| | | 7) Sardine Purse Seine, Complete set | | 1 set (Diagram G) |
| | | | Nylon Net 210D 3/12 17.8mm 100 x 15m (68 pcs) | 1) |
| | | | Polyester Net 250D 3/9 20.2mm 100 x 15m (73 ") | 2) |
| | | | Polyester Net 250D 3/6 21.6mm 100 x 30m (38 ") | 3) |
| | | | Polyester Net 250D 3/6 23.3mm 100 x 30m (175 pcs) | 4) |
| | | | Polyester Net 250D 3/6 23.3mm 100 x 15m (34 ") | 5) |
| | | | Polyester Net 250D 3/6 21.6mm 100 x 15m (35 ") | 6) |
| | | | Polyester Net 250D 3/9 20.2mm 100 x 15m (68 ") | 7) |
| | | | Polyester Net 250D 3/12 20.2mm 100 x 304m (2 ") | 8) |
| | | | Polyester Net 250D 3/12 20.2mm 100 x 50m (1 pc) | 9) |
| | | | Polyester Net 250D 3/12 20.2mm 100 x 60.6m (1 pc) | 10) |
| | | | Nylon Net 210D 3/30 33mm 100 x 360m (2 pcs) | 11) |
| | | | Nylon Net 210D 3/30 33mm 100 x 64.6m (1 pc) | 12) |
| | | | Nylon Net 210D 3/30 33mm 100 x 64.6m (1 ") | 12) |
| | | | Polyethylene Rope 400D R-3 100mm x 254.4m (1 ") | |
| | | | Polyethylene Rope 400D L-3 9mm x 245.4m (1 ") | |
| | | | Vynylon Rope 5S R-3 10mm x 250m (1 ") | |
| | | | Vynylon Rope 5S L-3 9mm x 250m (1 ") | |
| | | | Vynylon Rope 5S R-3 10mm x 65m (1 ") | |
| | | | Vynylon Rope 5S L-3 8mm x 65m (1 ") | |

| No. | Items | Description | Quantity |
|-----|---|---|------------|
| | Fishing Gears and Their Acces- sories (2) | Vinyon Rope 5S R-3 3mm x 278m | (1 pc) |
| | | Vinyon Rope L-3 3mm x 278m | (1 ") |
| | | Vinyon Rope 5S R3 3mm x 286m | (1 ") |
| | | Vinyon Rope 5S L-3 3mm x 286m | (1 ") |
| | | Vinyon Rope 5S R-3 3mm x 80m | (1 p") |
| | | Vinyon Rope 5S L-3 3mm x 80m | (1 ") |
| | | Vinyon Rope 5S R-3 6mm x 118m | (1 ") |
| | | Vinyon Rope 5S R-3 15mm x 300m | (1 ") |
| | | Float K-7 | (819 pcs) |
| | | Lead Sinkers 200g | (770 ") |
| | | from Ring 15mm x 120mm | (49 ") |
| | | Iron Ring 12mm x 100mm | (10 ") |
| | | Wire Rope 6 x 24 G/D 9mm 400m | (2 coils) |
| | | Synthetic Rubber Bobbin F-1 | (60 pcs) |
| | | Lead Sinkers 650g | (50 ") |
| | | <u>Spare</u> | |
| | | Nylon Spare Net 210D 3/12 17.8mm 100 x 200m | 1 pc |
| | | Nylon Spare Net 210D 3/30 33mm 10 x 151m | 1 " |
| | | Nylon Spare Net 210D 3/60 60mm 10 x 10m | 1 " |
| | | Polyester Spare Net 250D 3/12 20.2mm 100 x 151m | 1 " |
| | | Polyester Spare Net 250D 3/9 20.2mm 100 x 131m | 1 " |
| | | Polyester Spare Net 250D 3/8 21.6mm 100 x 200m | 1 " |
| | | Polyester Spare Net 250D 3/6 23.3mm 100 x 1,200m | 1 " |
| | Nylon and Polyester Twine (14 kgs) | 1 " | |

| No. | Items | Description | Quantity |
|-----|---|--|-------------------------|
| | Fishing Gears and Their Acces- sories (2) | Float K-7 Lead Sinker 200g Vinylon Rope DS R-3 15mm 200m | 50 pcs 50 " 1 set |

Diagram B-2

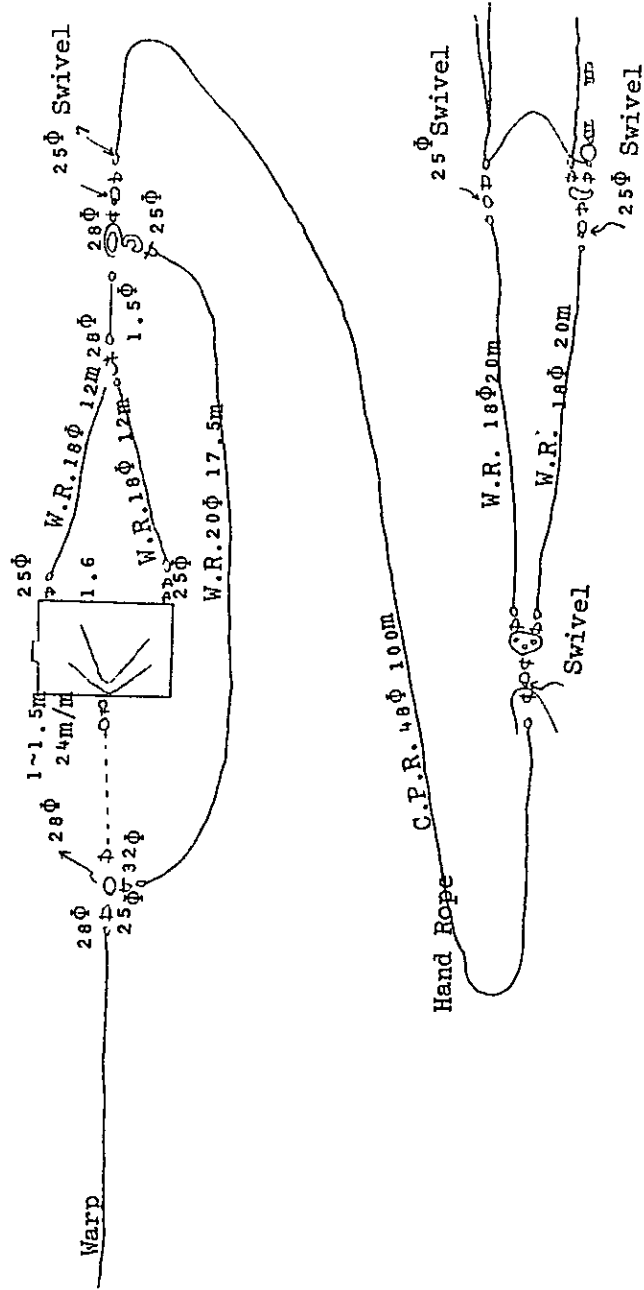


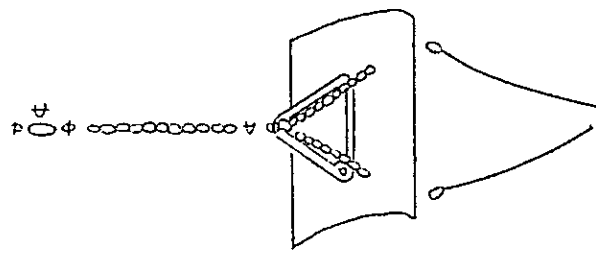


Diagram B-3

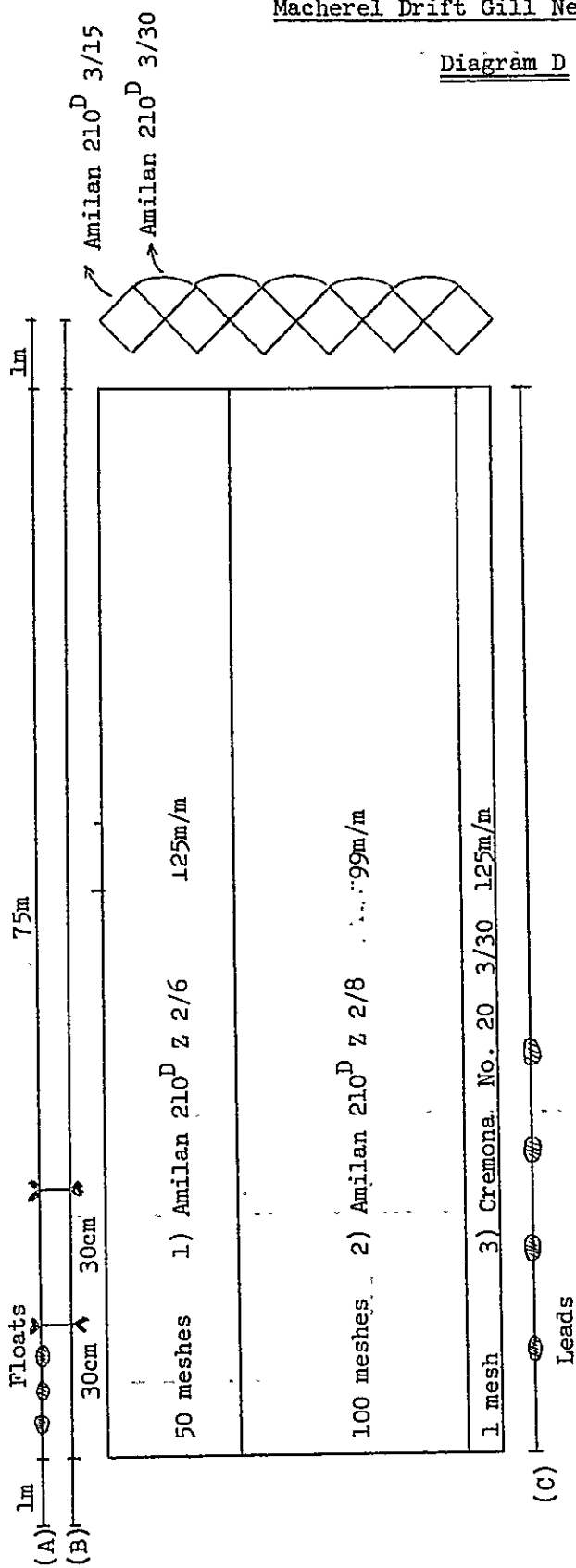
Towing Chain 25Φx45x125 

Bridle Chain 
30Φx90x145 25Φx45x125 25Φx45x125



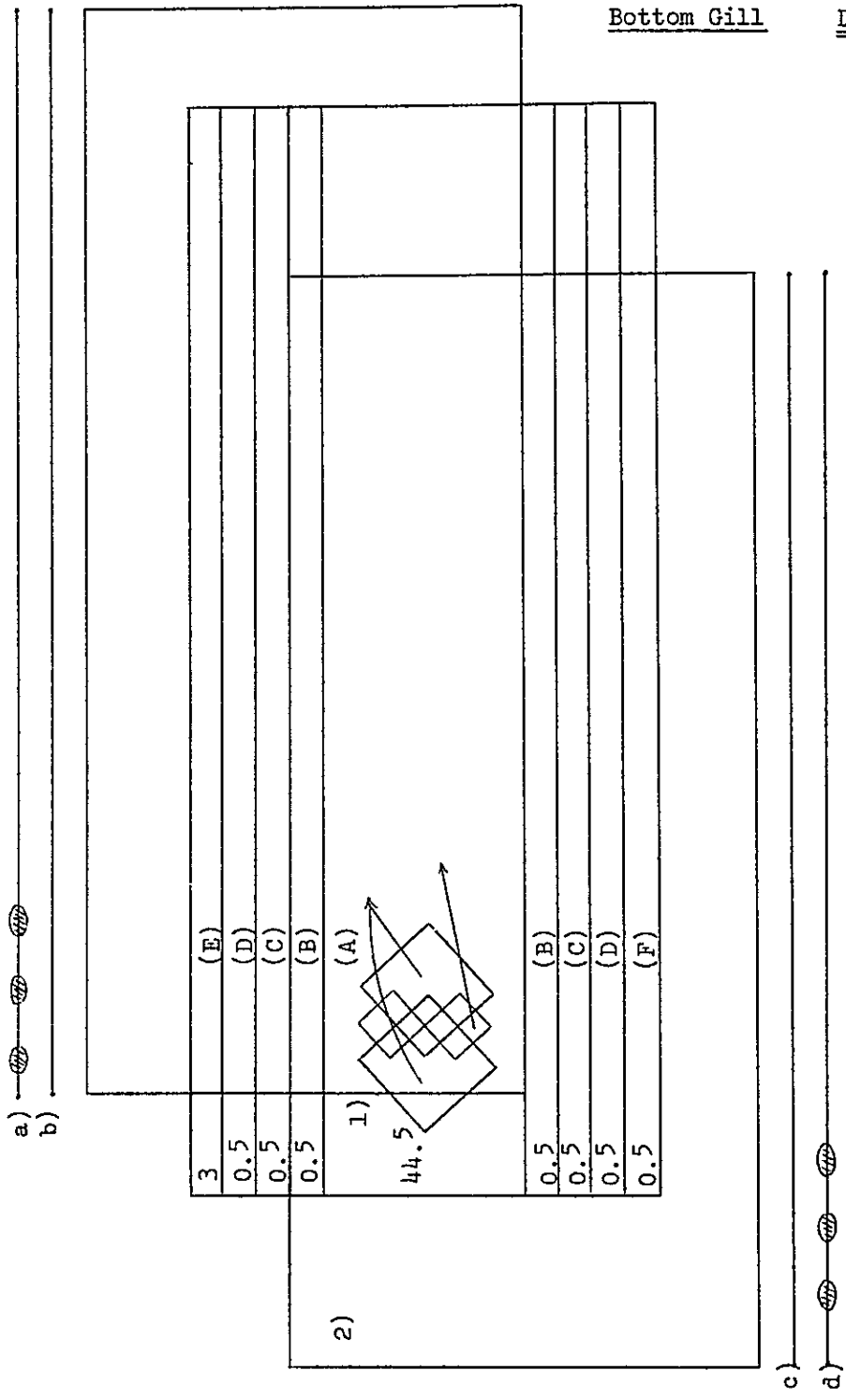
Machereel Drift Gill Net

Diagram D

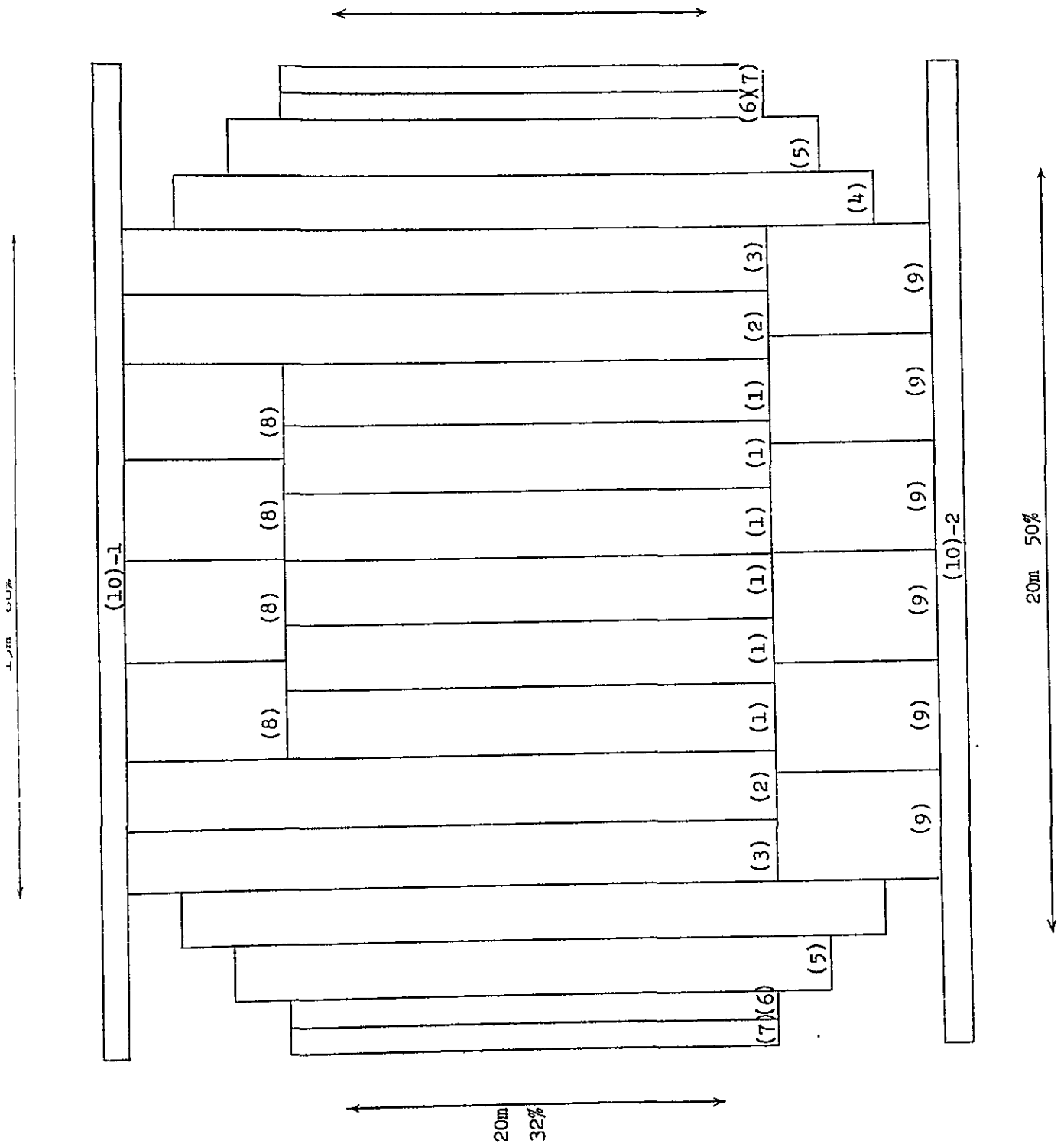


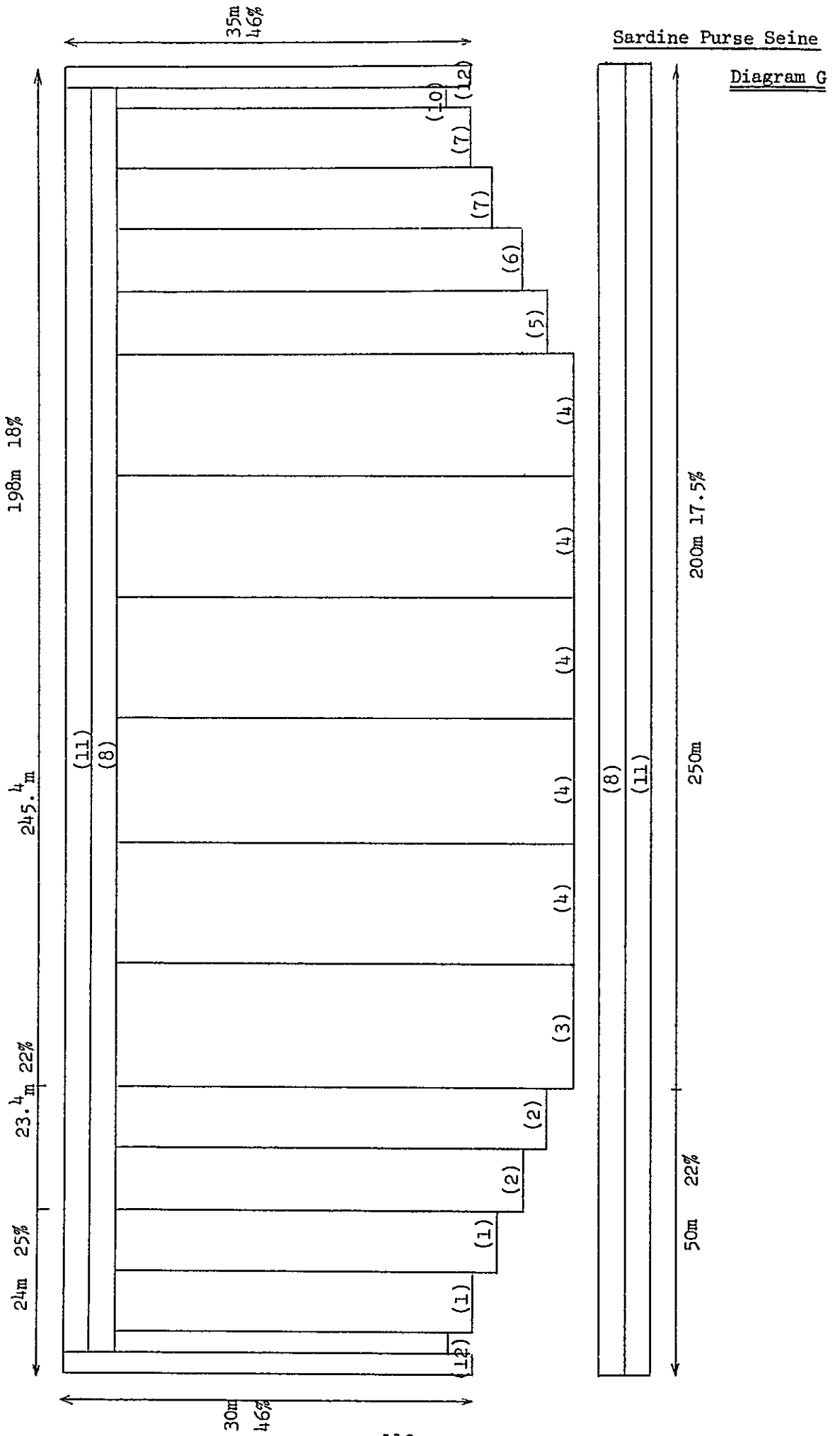
Bottom Gill

Diagram E



Stick-Held Dip Net





(6) ADDITIONAL RESEARCH EQUIPMENT

| No. | Items | Description | Quantity |
|-----------------------|--------------------------|--|--------------------|
| 1. | Transportation Boat | 1) Transportation Boat type YAMAHA FISH 12 | 1 ship |
| | | 2) Outboard Engine Yamaha P-95AS | 1 set |
| | | 3) Oar (for installation) | 1 " |
| | | | 6 pcs |
| | | 4) Fensar a) Rope Fender | 3 " |
| | | b) M Fender | 4 " |
| | | 5) Bilge Pump Hand type | 1 set |
| | | 6) Ignition plug NGK | 2 pcs |
| | | 7) Repair Kit | 1 set |
| | | Polyester Resin | 500cc |
| | | Kayaneck (Sclerotec) | 120g |
| | | Gel-coat | 100cc x 2 |
| | | Paste | 100cc |
| | | Interio Paints | 100cc |
| | | Compound | 100cc |
| | | Cloth E200 | 0.09m ² |
| | | Robing cloth ERS580 | 0.09m ² |
| Mat EM600 | 0.09m ² | | |
| Waterproof Paper #400 | 5 pcs | | |
| Garnet Paper G120 | 5 " | | |
| 2. | Ekman-Berge | 20 cm square with messenger | 1 set |
| 3. | Dredge Freezing Pan | No. 24 Iron Plate Cilt with Zinc | 300 pcs |
| 4. | Spare Net for Trawl | 1) Hizex Float 240m/m dia for 200m | depth 40 pcs |
| | | 2) Polythlene Netting | |
| | | a) 380D/75 150m/m 100MD 200 mesh | 6 pcs |
| | | b) 380D/60 135m/m 100MD 200 mesh | 6 " |
| | | c) 380D/60 120m/m 100MD 200 mesh | 4 " |
| | | 3) Square Head Shackle 18m/m | 20 " |
| | | 4) Top Roller NG-1022 | 1 set |
| 5. | Binoculars | Nikon Tropical 7 x 50 BIF with Cowhide case | 1 " |
| 6. | Electric Welding Machine | 1) Alternating Current Arch Welding Machine 200A.S. phase 220V | 1 " |
| | | 2) Code | 50 m |
| | | 3) Safety Holder | 1 pc |
| | | 4) Clove | 1 " |
| | | 5) Mask | 1 " |
| | | 6) Terminal | 2 pcs |
| | | 7) Earth clip | 1 pc |

| No. | Items | Description | Quantity |
|-----|--------------------------|---|---|
| 6. | Electric Welding Machine | 8) Welding rod 4m/m dia 5m/m dia | 20 kgs 20 " |
| 7. | Engine Spare Parts | Eiigata Diesel 1) For main Engine 6M28KEHS type 1,000PS a) Cylinder Liner b) Cylinder cover c) Piston d) Piston Ring e) Oil Ring f) Suction Valve (Complete) g) Exhaust Valve (Complete) h) Propeller Blade, Kamone 2) For Auxiliary Engine 6L16 type 160 PS a) Fuel pump (Complete) b) Cylinder liner c) Cylinder cover d) Exhaust Valve (Valve only) e) Suction Valve (Valve only) f) Exhaust Valve sheet g) Suction valve sheet h) Valve spring retainer i) Suction and Exhaust Circlip j) Suction and Exhaust Valve spring (Outside) k) Suction and Exhaust Valve spring (inside) l) Valve steam guide m) Cotter | 3 pcs 1 pc 1 " 8 pcs 4 " 3 " 3 " 3 " 2 sets 3 pcs 1 pc 2 pcs 2 " 2 " 2 " 4 " 4 bags 4 pcs 4 " 4 " 4 " |
| 8. | Trawl Nets and Twines | Polyethylene 1) 360 D/72 2-3 120m/m 100 x 100 meshes 2) 360 D/72 2-3 135m/m 100 x 100 meshes 3) 360 D/60 2-3 120m/m 100 x 100 meshes 4) 360 D/60 2-3 135m/m 100 x 100 meshes 5) 360 D/20 2-3 105m/m 100 x 100 meshes 6) 360 D/120 2-3 135m/m 100 x 100 meshes 7) 360 D/210 2-3 90m/m 100 x 100 meshes 8) 360 D/300 2-3 90m/m 100 x 100 meshes 9) 360 D/60 2-3 2.5 Kgs 10) 360 D/72 2-3 2.5 Kgs 11) 360 D/120 2-3 150m/m Triangle | 1 sheet 3 " 1 " 3 " 1 " 4 " 1 " 2 " 1 roll 1 roll 3 sets |
| 9. | Negative Papers | Cabinet Type | 500 sheets |
| 10. | T.S. piston core sampler | Total length: 1.5 m Length of sampling part: 0.75 m Region: 50 % Weight: 45 kg Sampling tubes | 1 set 50 pcs |

| No. | Items | Description | Quantity |
|-----|-----------------------------------|---|---|
| 11. | Fish body length measurement card | Deep-sea trawling, type 25 type 50 | 4,000 sheets 1,000 " |
| 12. | Salinometer | Auto-lab type 0 - 42 ‰ S | 1 set |
| 13. | High sensitive recorder | (Toa Electronics) 1) EPR - 2T type 2) Precision temperature printing box PB-11A 3) Special electrode for the above 4) Recording paper SE-10 5) Mercury battery, M-1Y 6) Red ink With 50 m detection terminal lead Voltage: AC 230V, 50 c/s | 1 sets 2 " 2 pcs 1,000 rolls 10 pcs 50 boxes |
| 14. | Radio buoy | With battery and antenna | 2 pcs |
| 15. | B.T. slide glass | Gold type Smoke type | 700 sheets 1,300 " |
| 16. | Sextant | (Tamaya) MS-1 type | 1 set |
| 17. | Accessories of unit range | (Kyoto Denki Co., Ltd) 1) Door including Hinged section: with Turned edge, installation packing sheet and screws, Complete set 2) Steel frame for heater installation 3) Guide rail, complete 4) Cooking container With 10 m heat resistant extension cord and two type of wire terminal insulators Voltage: 220V, 50 c/s | 1 " 1 pc 1 set 1 " |
| 18. | Oscilloscope | (Iwasaki Tsushinki) Synchroscope SS-3101 type | 1 set |
| 19. | Wire cutter | 900 m/m | 1 pc |
| 20. | Spare parts for engine | (Niigata Engineering) Main: 6M28KEHS type diesel 1) Fuel injection nozzle 2) Exhaust temperature gage (with case) 3) Cylinder cover copper packing 4) Piston ring 5) O-ging for exhaust valve cooling water pipe 6) Oil scraping ring 7) Fuel injection valve (nozzle not included) | 12 pcs 12 " 6 " 24 " 12 " 12 " 3 " |

| No. | Items | Description | Quantity |
|-----|--|---|---|
| 20. | Spare parts for engine | 8) Indicator cock (with safety valve) 9) Cooling water temperature gage 10) Governor ball bearing, #1202 11) Governor thrust ball bearing, #3909 12) Governor weight cotter 13) Governor thrust ball bearing, #3908 14) Governor shifting Ring Auxiliary: 6L 16 type diesel 1) Exhaust temperature gage 2) Piston ring 3) Oil scraping ring (with expander) 4) Oil scraping ring 5) Fuel injection nozzle 6) Pin cutter 7) Cooling water pump impeller 8) Lubricant cooler end plate cover packing 9) CJCLO filter, HDU 38/40 1) Filter element (2 sheets) 2) Filter cover packing 10) CJC filter, HDU 627-54 1) Filter element (6 sheets) 2) Filter packing | 3 pcs 12 " 4 " 1 pc 2 pcs 1 pc 2 pcs 24 pcs 36 " 12 " 12 " 12 " 1 pc 2 pcs 4 sheets 2 sets 2 sheets 1 set 1 sheet |
| 21. | Disc sander | 100V, 1,100 rpm | 2 pcs |
| 22. | Materials of plankton net | 1) NGG 40 2) NGG 64 3) NXX 15 4) NXX 25 5) NXXX 15 6) 130 cm breeding fishing net Diameter of entrance: 130 cm KAE-AMI: 450 cm in side length 7) MOJI-AMI Mesh size is the same as that used for fry net 45 cm x 150 m | 4 m 9 m 4 m 9 m 3 m 3 pcs 1 pc 1 |
| 23. | Accessories of longline for tuna fishing | 1) Ganging wire #28/3 x 3, Kuremona winding, 8.5 m 2) Leader wire #29/3 x 3, 2.2 m with hook (5 cm) | 300 pcs |
| 24. | Mini-copy film | 35m/m | 1 roll |
| 25. | Section paper | 1m/m mesh size blue 1) Vellum A2 2) Tracing A2 3) Vellum Roll 40 cm x 10m 4) Tracing Roll 40 cm x 10m 5) Vellum B4 6) Tracing B4 7) Vellum A3 | 5,500 sheets 1,500 " 5 rolls 5 " 6,800 sheets 2,700 " 600 " |

| No. | Items | Description | Quantity |
|-----|---------------|--|--|
| 25. | Section paper | 8) Tracing A3 9) Vellum A4 50 sheets 10) Tracing A4 50 sheets Semi-logarithmic Blue 1) Vellum B4 2) Tracing B4 3) Vellum A3 4) Tracing A3 5) Vellum A4 50 sheets 6) Tracing A4 50 sheets Both-logarithmic 1) Vellum B4 2) Tracing B4 3) Vellum A3 4) Tracing A3 5) Vellum A4 50 sheets 6) Tracing A4 50 sheets Regular probability B5 50 sheets | 100 sheets 50 volumes 10 " 2,000 sheets 1,000 " 200 " 100 " 25 volumes 12 " 2,900 sheets 1,200 " 200 " 100 " 25 volumes 12 " 20 " |
| 26. | Books | 1) Annual fishcatch statistics 2) Fisheries census 3) Fisheries in Japan 1971 4) Agriculture in Japan | 1 pc 1 " 2 pcs 2 " |
| 27. | Trawl net | Polyethylene net, complete 1) Body net 360 D/60 Z-3 150 m/m - 120 m/m 360 D/702 Z-3 180 m/m - 120 m/m 360 D/120 Z-3 150 m/m - 105 m/m 2) Cod end 360 D/300 Z-3 90 m/m 360 D/210 Z-3 90 m/m 400 D/50 R-2 56 m/m (knotless) 3) Ground rope | 2 sets 2 sets 2 " |

CHAPTER 3 PROGRESS OF THE PROCUREMENT

| <u>Items</u> | <u>Delivery Date</u> |
|---|----------------------|
| 1. Training Vessel | June 30, 1969 |
| 2. Research Vessel | June 20, 1969 |
| 3. Training Equipment | |
| 1) Equipment itemized in Groups A and B. | |
| (1) Almost all the equipment | June 30, 1969 |
| (2) Automatic Tensile Strength Machine | November 30, 1969 |
| 2) Equipment itemized in group C. | |
| (1) Diesel Engine and 102 Items | December 17, 1971 |
| (2) Marine Case and 5 Items | April 18, 1972 |
| 3) Additional Equipment | |
| (1) Gylo Compass and 8 Items | July 27, 1970 |
| (2) Mesh Stretching Machine | July 26, 1970 |
| (3) Three Point Roller and 31 Items | July 27, 1972 |
| (4) Radar Scanner Motor and 3 Items | August 18, 1972 |
| (5) Dyestuff and 9 Items | September 30, 1972 |
| 4. Research Equipment | |
| 1) Equipment enumerated in List A. | November 30, 1969 |
| 2) Equipment enumerated in List B. | |
| (1) Fishing Gears (Trawl, Tuna Long Line and Artificial Bait) and Sea Water Thermometer | July 31, 1969 |
| (2) The Equipment except Salinometer and 9 Items | December 26, 1969 |
| (3) Transit and 3 Items | March 31, 1970 |
| (4) Salinometer and 4 Items | January 28, 1971 |
| (5) Fishing Gears (Sardine Purse Seine and 6 Items) | December 21, 1971 |
| 3) Additional Equipment | |
| (1) Transportation Boat and 5 Items | January 28, 1971 |
| (2) Ship Store | October 10, 1971 |
| (3) Mini-Copy Film and a Item | January 17, 1972 |
| (4) Ekman Berge Dredge | April 11, 1972 |
| (5) Trawl Net and 17 Items | August 26, 1972 |
| (6) Trawl Spare Net | September 30, 1972 |

CHAPTER 4. CONTRACT FOR THE PROCUREMENT OF A TRAINING VESSEL, A RESEARCH VESSEL,
AND EQUIPMENT FOR THE SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER
BETWEEN THE SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER, AND THE
OVERSEAS TECHNICAL COOPERATION AGENCY, JAPAN

THIS CONTRACT shall be executed by and between

The Southeast Asian Fisheries Development Center with head office in Paknam, Thailand (hereinafter referred to as the "Center") and

The Overseas Technical Cooperation Agency (hereinafter referred to as the "O.T.C.A."), established in accordance with the laws of Japan, and whose address is 42, Honmura-cho, Ichigaya, Shinjuku-ku, Tokyo, Japan,

For the objective of procuring in Japan a fully equipped training vessel, a fully equipped research vessel and instruments and equipment required by the Training Department and the Research Department of the Center,

Under such terms and conditions as may hereafter be specified whereby the Center shall entrust the O.T.C.A. with the work of procurement and the O.T.C.A. shall agree to carry out the work of procurement on behalf of the Center.

Article 1 - Purpose of Contract

At the request of the Center and for the Center, the O.T.C.A. will procure in Japan and will deliver to the Center a fully equipped training vessel (hereinafter referred to as the "training vessel") and training instruments and equipment (hereinafter referred to as the "training equipment") for the Training Department located at Paknam, Thailand and a fully equipped research vessel (hereinafter referred to as the "research vessel") and research instruments and equipment (hereinafter referred to as the "research equipment") for the Research Department located as Changi, Singapore.

Article 2 - Amount of Payment

- (1) The Center shall pay, within 10 days after the signing of this contract, to the account of the O.T.C.A. at the Yotsuya Branch of the Mitsui Bank (22, 1-chome, Shinjuku, Shinjuku-ku, Tokyo), the total amount of money (529,746,000 Yen) contributed to the Center and deposited at the Center's non-resident deposit account at the Head Office of the Mitsui Bank (12, 1-chome, Yuraku-cho, Chiyoda-ku, Tokyo) by the Government of Japan, and the total amount of accrued interest derived therefrom.
- (2) The O.T.C.A. shall commence the work of procurement as soon as the entry

into force of this contract.

- (3) Within the amount paid in accordance with paragraph (1) and the amount of accrued interest derived therefrom after such payment, the O.T.C.A. shall bear the expense of the procurement and delivery of the training and the research vessels and equipments and, also within the limit of such amount, it shall carry out the procurement and delivery work.

Article 3 - The O.T.C.A.'s Method of Procurement

The procurement, export and other related procedures for the training and the research vessels and equipments which the O.T.C.A. handles for the Center shall be performed in accordance with the relevant laws of Japan as well as the relevant regulations of the O.T.C.A.

Article 4 - Procurement and Delivery of the Training and the Research Vessels

- (1) In order to place orders for the training vessel for the Training Department and the research vessel for the Research Department, the O.T.C.A. shall prepare required construction specifications and general arrangement on the basis of the principal particulars of the training vessel as described in Annex I and the principal particulars of the research vessel as described in Annex II; and the O.T.C.A. shall obtain approval of the Center for the above specifications and general arrangement immediately. If any subsequent change in the specifications are too minor (but will be to the advantage of the Center) to affect the principal particulars of Annex I and II, it is not necessary for the O.T.C.A. to obtain the approval of the Center for such change. But such change must be immediately informed to the Center.
- (2) Delivery target time of the training vessel to the Training Department shall be set for June 1969; and delivery target time of the research vessel to the Research Department shall be set for June 1969. However, when it becomes apparent during the time of tender that delivery at the respective target time is impossible, due to appropriate reason, the Center and the O.T.C.A. shall, upon consultation, consider extension of the delivery time.
- (3) The O.T.C.A. shall notify to the Center the names of the shipyards and the shipbuilding schedule as soon as the shipbuilders of the training vessel and the research vessel have been selected.
- (4) The training vessel and the research vessel shall be constructed to the Nippon Kaiji Kyokai (NK) classification, NS* and MNS*.
- (5) As regards the supervision of construction of the training vessel and the research vessel, the O.T.C.A. shall, in principle, designate the Nippon

Kaiji Kyokai as building superintendent.

- (6) The training vessel and the research vessel shall receive such necessary test as required in accordance with the Ship Safety Law, the Export Inspection Law and other laws and regulations of Japan. The O.T.C.A. shall submit to the Center certificates of these tests at the time of delivery of the training vessel and the research vessel. The Center shall accept these tests for consideration for the final delivery of such vessels.
- (7) The Center shall proceed with an early application for the procurement of the SOLAS certificate to the Government of Japan in order to accept delivery of the training vessel and the research vessel in time.
- (8) The Center shall proceed with an early application for the procurement of the LLC certificate to the Nippon Kaiji Kyokai in order to accept delivery of the training vessel and the research vessel in time.
- (9)
 - (a) The Center shall take appropriate measures to obtain for the training vessel a provisional nationality of Thailand and to complete necessary procedures for accepting its delivery under Thai laws before its delivery date.
 - (b) The Center shall take appropriate measures to obtain for the research vessel a provisional nationality of Singapore and to complete necessary procedures for accepting its delivery under Singapore laws before its delivery date.
- (10)
 - (a) The training vessel and the research vessel shall be delivered to the Center at the respective builders' ports in Japan.
 - (b) At the time of delivery, the O.T.C.A. shall submit to the Center the following duly authenticated documents in English:
 - (i) Protocol of delivery (issued by shipyard);
 - (ii) As fitted principal particulars;
 - (iii) Results of various tests;
 - (iv) Protocol of inventories of equipment;
 - (v) Finished drawing (as fitted drawing) and instruction book of installed equipment;
 - (vi) List of installed equipment (except those in (iv));
 - (vii) Builder's certificate (issued by shipyard);
 - (viii) Classification certificates^ñ
 - (ix) SOLAS and LLC certificates;
 - (x) Tonnage measurement certificate;
 - (xi) Provisional certificate of nationality;
 - (xii) Safety radio-telegraphy certificate;

- (xiii) Certificate of general sanitary conditions;
 - (xiv) Deratting exemption certificate.
- (11) The O.T.C.A. shall notify to the Center the expected date of delivery 30 days prior to its due date; and the Center shall appoint a person who is duly authorized to accept delivery at the scheduled date.
 - (12) Delivery shall be accepted by the above-mentioned duly authorized person upon examining the training and the research vessels and documents enumerated in paragraph (10) (b).
 - (13) Title to and responsibility for the training and research vessels shall be transferred to the Center when the vessels are respectively delivered to the Center at the Japanese ports.

Article 5 - Homeward Navigation

- (1) The Center shall bear the responsibility of homeward navigation.
- (2) The Center shall employ such experienced crew as may be necessary to man the training and the research vessels for homeward voyage and shall dispatch these crew to Japan one week prior to the delivery of the vessels to the Center so that they can receive required training.
- (3) The following expenditures incurred in connection with the training of crew in Japan and the homeward navigation shall be borne by the O.T.C.A. within the limit of the amount as described in paragraph (3) of Article 2, provided that the training period in Japan shall not exceed four weeks:
 - (a) One-way economy-class air-fare to Japan for those crew dispatched by the Center as mentioned in paragraph (2) above and their overland transportation fare to a designated shipyard in Japan;
 - (b) Acceptable provisions to the receiving crew's dietary custom and fresh water;
 - (c) Fuel oil and lubricating oil;
 - (d) Mooring charges at Japanese ports;
 - (e) Expense for light and heat at Japanese ports;
 - (f) Expense for interpreters required for the training of crew in Japan.
- (4) The training and the research vessels shall sail for their respective destinations soonest after the completion of training for the crew required for homeward navigation.

Article 6 - Equipment

- (1) The O.T.C.A. shall prepare required specifications for equipment on the

basis of the list of training equipment as described in Annex III and the list of research equipment as described in Annex IV and shall send ten copies of the specifications to the Center.

- (2) With reference to the list in Annex III, delivery target time of equipment enumerated in List A to the Training Department shall be set for February 1969; and delivery target time of equipment enumerated in List B to the same Department shall be set for July 1969.
- (3) With reference to the list in Annex IV, delivery target time of equipment enumerated in List A to the Research Department shall be set for November 1968; and delivery target time of equipment enumerated in List B to the same Department shall be set for July 1969.
- (4) With reference to the above paragraphs (2) and (3), when it becomes apparent during the time of tender that delivery at the respective target time is impossible, the Center and the O.T.C.A. shall, upon consultation, set appropriate delivery time.
- (5) Training and research equipments shall receive such necessary tests as required in accordance with the Export Inspection Law and other laws and regulations of Japan. The O.T.C.A. shall submit to the Center certificates of these tests at the time of delivery of the training equipment and the research equipment. The Center shall accept these tests as final tests for these equipments.
- (6) (a) The training equipment shall be delivered to the Center on c.i.f. Bangkok port, whereupon the title to and risk of the equipment shall be transferred to the Center.
(b) The research equipment shall be delivered to the Center on c.i.f. Singapore, whereupon the title to and risk of the equipment shall be transferred to the Center.
- (7) Notwithstanding the provisions of paragraph (6), fishing gear which is included in the list of equipments mentioned in paragraphs (2) and (3) shall in principle be delivered to the Center simultaneously with the delivery of the training vessel and the research vessel, whereupon the title to and risk of such fishing gear shall be transferred to the Center.

Article 7 - Delay in Delivery

- (1) When the delivery of the training and the research vessels and equipment or the homeward navigation of the training and the research vessels are delayed due to war, civil commotion, natural calamity, fire or other causes beyond control or by force majeure, the O.T.C.A. shall advise the Center the reason

and the period of delay.

- (2) When the delivery of the training and the research vessels and the equipment or the homeward navigation of the training and the research vessels (including training of crew for such navigation) are delayed, due to causes attributable to the Center or the O.T.C.A., the O.T.C.A. and the Center shall do their best through consultations to resolve the resultant losses.

Article 8 - Alteration of Provisions of the Contract

By agreement between the Center and the O.T.C.A., the provisions of this contract as well as annexes thereto can be altered in part or in entirety.

Article 9 - Settlement of Disputes

This contract shall be implemented in mutual trust and confidence between the Center and the O.T.C.A. Should any doubt or dispute arise in connection with its interpretation or implementation, it shall be settled amicably through mutual consultations.

Article 10 - Matters not included in the Contract

With regard to matters not included in this contract, the Center and the O.T.C.A. can decide such matters separately through consultations as may be required.

Article 11 - Financial Report

A final financial report shall be submitted to the Center by the O.T.C.A. immediately after the completion of the procurement and delivery and their related work for the Center.

Article 12 - Entry into Force

This contract shall enter into force as from the date of its signature.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be duly executed by the authorized representatives of the Center and the O.T.C.A.

Done in duplicate at Bangkok in English on this fifth day of July, 1968.

For the Southeast Asian Fisheries
Development Center:

For the Overseas Technical Cooperation
Agency:

Tuanthai Bamrajarinpai
Secretary-General,
Southeast Asian Fisheries
Development Center,
Paknam, Thailand

Shin-ichi Shibusawa
Director General,
Overseas Technical Cooperation Agency,
42, Honmura-cho, Ichigaya, Shinjuku-ku,
Tokyo, Japan

Annex I

PRINCIPAL PARTICULARS OF THE TRAINING VESSEL

1. Purpose

- 1) To train trainees with the fishing operation of stern trawl, tuna long line and drift net;
- 2) To train trainees with navigation and the handling of engine, wireless and refrigeration;
- 3) To conduct research and study on fishing ground, oceanography and biology;
- 4) To train trainees with the handling of fish catch on board.

2. Fishing ground, fishing gear and method

1) Fishing ground

Distance to fishing ground; 1,500 miles.

2) Fishing gear and method

a. Tuna long line

Days for staying in fishing ground; 10 days.

Gear; Japanese type 200 baskets.

Sharp freezing; semi-air blast system 1 ton/day.

b. Stern trawl

Days for staying in fishing ground; 6 days.

Sharp freezing; semi-air blast type using pan with cover.

c. Drift net

Line hauler head may be exchangeable for net hauler one.

3. Tonnage and capacity

1) Gross tonnage; 350 tons or more.

2) Capacity

Fuel oil tank; about 100m³.

Fresh water tank; about 65 m³ (with fresh water generator).

Fish hold; 25 m³ or more, temperature -40°C,

Provision store; consumption 17 liters or more/head/day.

4. Accommodation

1) Complement

Deck part 17 (Captain, 3 officers, 1 purser, 2 operators, 1 boatswain, 2 coxens, 2 sailors, 3 stewards, 1 boy and 1 manurse).

Engine part 8 (Chief engineer, 2 officers and 5 oilers).

Special part 1 (Master fisherman).

Instructor 2

Trainee 25

Spare 1

Total 54 beds

2) Facilities

a. Bed size; 2.00 m x 0.70 m or more.

Passage between beds; 0.70 m min.

b. Room height; 1.90 m (Clear)

c. Air conditioning; Central unit system, only for cooling.

5. Propulsion system and others

1) Cruising speed; about 10.5 knots.

2) Propulsion engine; Diesel engine 1,000 ps 1 set.

3) Propeller; controllable pitch propeller.

Annex II

PRINCIPAL PARTICULARS OF THE RESEARCH VESSEL

1. Purpose

- 1) To develop the fishing ground in Southeast Asia by experimental fishing, stern trawling, long lining and drift netting, etc;
- 2) To study the fishing gear and method of the above mentioned fisheries;
- 3) To do research on fisheries resources, biology, oceanography and handling of fish at sea;
- 4) To train staffs who study the subjects mentioned in 1), 2) and 3).

2. Fishing ground, fishing gear and method

1) Fishing ground

- a. Cruising range target; 7,000 miles.
- b. Maximum time interval of supply; 40 days.

2) Fishing gear and method

a. Tuna long line

Gear; Japanese type 200 baskets.
Sharp freezing; semi-air blast type 1 - 2 tons/day.

b. Stern trawl

Trawl winch; 6 tons x 60 m/min.
warp; 22 mm^φ x 1,500 m.
Sharp freezing; semi-air blast system using pan with cover.

c. Drift net

Line hauler head may be exchangeable for net hauler one.

3. Gross tonnage and capacity

1) Gross tonnage; 350 tons or more.

2) Capacity

Fuel oil tank; more than 120 m³.

Fresh water tank; consumption 40 liters or more/head/day (with fresh water generator).

Fish hold; storage about 45 m³, temperature -40°C, cold sea water tank (live fish tank) 5 - 10 m³.

Provision store: consumption 17 liters or more/head/day.

4. Accommodation

1) Complement

Deck part 16 (Captain, 3 officers, 1 purser, 2 operators, 4 sailors,
2 stewards, 2 boys and 1 mannurse)

Engine part 7 (Chief engineer, 2 officers and 4 oilers)

Special part 2 (Master fisherman and counterpart master fisherman)

Scientist 5

Trainee 4

Spare 1 (VIP room)

Total 35 beds

2) Facilities

a. Bed size; 2.00 m x 0.70 m or more.

b. Room height; more than 1.90 m (clear)

c. Air conditioning; Central unit system, only for cooling.

d. Fixture grade of spare room; to be able to use as VIP room.

5. Propulsion system and others

1) Cruising speed; to aim at 12 knots as much as possible.

2) Propulsion engine; Diesel engine more than 1,000 ps 1 set.

3) Propeller; controllable pitch propeller.

6. Research and study room and others

1) Research and study room; wet, dry and dark rooms.

2) Navigational instrument

Full navigational and radio communication and fish detection equip-
ments to be installed.

(To consider room for setting sonar in future.)

Annex III

LIST OF THE TRAINING EQUIPMENT

LIST A

1. Automatic tensile strength machine 2 gr - 200 kg
2. Drag equipment for tank experiment 1 set
 Wire pulling system is adapted as
 the equipment of dragging on rail
 Tank used; 50 x 3.5 m
3. Apparatus for dark room 1 set
4. Steering equipment 1 set
5. Practical operation set for radio and navigation
 Morse code printer, communication practical equipment, Small type
 model of transmitter. Meters, Signal generator and Others.
 Drawing instrument and its accessory, Sliderule, Drafter. Sextant,
 Bearing compass, Deviation scope and Others.
6. Diesel engine; About 200 p.s.
7. Meters for engine practice
 Compression indicator, Thermometer, PI meter, Tachometer, Pressure indi-
 cator and others.
8. Work shop instrument and Tools
 Lathe, Drilling machine, Grinder and General Tools.
9. Fishing gears and their accessories
 Gill nets;
 Spanish mackerel, Shrimp, Lobster, Bonito, Tuna, Pomfret, Sea-bream,
 Crab and Others.
 Small type trawl nets;
 Small otter trawl, eam trawl, Shrimp trawl and Others.
 Pole and line;
 Red seabream, Squid and Miscellaneous fishes.
 Fishing gear accessories;
 Nets (a part), Ropes (a part) and instruments for netting.
10. Fishing machinery;
 Power block by oil pressure system,
 V roller, Baby hauler and Angling machinery.
11. Transceiver 27 MC
12. Electronic computer

13. Adding machine
14. Autofax
15. Paper cutter
16. Range finder
17. Books; References for making textbooks.

Items 1, 2, 4, 6 and a part of 8 would be necessary to have special basement on site.

LIST B

1. Twist inspection machine Distance: 0 - 500 mm
2. Reading microscope 0.01 mm, 40 x
3. Strain meter
 - Load cell (100 kg lt, 5t, 10t)
 - Automatic balance strain indicator
 - Junction box, Penoscillator
4. Automatic tension meter
 - 0 - 4 t 2 sets
 - 0 - 1,000 kg 2 sets
5. Slow speed current meter for water tank experiment 5 cm/s - 200 cm/s
6. 35 mm camera for water tank experiment and its accessories
7. 16 mm underwater movie camera
8. 16 mm projector
9. 35 mm projector
10. Tape recorder
11. Diving apparatus and high pressure compressor
12. Underwater illuminator 1 - 100,000 lux
13. Instruments for biological experiment
 - Dissecting instrument, Meat grinder, Dredge, Platform scale and Balance
14. Microscope
15. Shadowgraph
16. Air-adjusting facilities and Small type compressor for small type rearing tank
17. PH meter
18. Dissolved Oxygen meter
19. Salinometer
20. Propeller type reverse thermometer
21. Electric thermometer for water temperature
22. Angle gauge
23. Colorimeter
24. Hydrometer
25. Electric anemometer
26. Model nets of various kinds of fishing gear for water tank experiment and demonstration
27. Models of various kinds of navigation instrument
 - Anchors, Rudders, Nautical mark, Ropes, Prevention of collision and Others.

28. Log
29. Station pointer
30. National signal flag
31. Celestial glove, Terrestrial glove and Star glove
32. Net monitor Tele-meter type 200 KC
33. Knot meter
34. Depth recorder 0 - 100 m recording type 4 sets
35. Attraction lamp and its accessories
36. Fish finder
37. Battery, Charger and Generator
38. Blocks, Chain block and Tackles
39. Fishing gears and their accessories
 - Trawl net for stern trawl; About 40 m head rope with otterboards;
2 sets
 - Purse seine; 250 m x 50 m
 - Surrounding gill net; Mullet, Pla-thu (Rastrelliger)
 - Tuna long line with radio buoy; 200 baskets
 - Lift net; Philippine type lift net
 - Small type set net (tate-ami); Simple set net used in swift current.
 - Pole and line; Groupers, Bonito, Mackerel, Horse mackerel, Spanish
mackerel and Others.
 - Trolling line; Bonito, Tuna, Spanish mackerel, Mackerel, Skipjack,
Horse mackerel, Hair tail and Others.
 - Vertical line; Red seabream
 - Small type long line; Red sea-bream, Octopus trap and Red snapper
 - Fishing gear accessories; Net, Ropes, Wood-working Tools, Metal-working
Tools, sail working tools, Current parachute, Floats, Sinkers,
Dyestuffs, Paints, Binding agent and Others.
40. Electric typewriter
31. Slide rule
42. Stop watch
43. Hardness tester
44. Planimeter
45. Abacus

Annex IV

LIST OF THE RESEARCH EQUIPMENT

LIST A

1. Transparent water bottles for 1 L (Plastic)
2. Shadowgraph
3. Stereo-microscope (Binocular microscope)
4. UCE microscope
5. Polarization microscope
6. Microphotographic apparatus
7. Dissecting microscope
8. Dissecting instrument
9. Balance Platform scale (200 kg, 50 kg, 5 kg, 1 kg) and Beam balance.
10. Scale reader (Fish scale reader)
11. Soft X-ray producing apparatus
12. Camera lucida
13. Preserving tank 100 L
14. Camera Mono-Flex
15. Accessories for camera
16. Enlarger
17. Slide projector
18. Projector screen $1.5^m \times 2^m$
19. Underwater camera
20. 16 mm movie camera
21. 16 mm projector
22. Attachments for taking microfilms
23. Apparatus for dark room
24. Drawing instrument
25. Pantagraph
26. Station pointer
27. Triangles (Inoue type)
28. "T" square
29. Drawing board
30. Integrater
32. Electronic computer
33. Electric calculator
34. Adding machine

35. Slide rule
36. Counter
37. Stop-watch
38. Lettering set
39. Punch (for card)
40. Electric typewriter
41. Dymo tapewriter
42. Copier
43. Electronic copier
44. Tape recorder
45. Transceiver 27 M.C.
46. Stocker 200 L -20°C
47. Compressor
48. Rearing tank 1,000 L 40 L
49. Salinometer (Auto Lab.)
50. Books

LIST B

1. Nansen bottle
2. Protected reversing thermometer
3. Unprotected reversing thermometer
4. Bathythermograph (Wallace & Tiernan)
5. Enlarger for B T
6. Thermometer reader
7. Depressor
8. Standard water color set
9. Visibility disc
10. Clinometers for sounding wire
11. Lead
12. Salinometer (Auto Lab.)
13. SK Type dredge
14. Underway bucket for surface water
15. Plankton net;
Quantitative & qualitative plankton net, Highspeed plankton collector,
Larvae nets, Filter net and Flow meter
16. Akanuma's Hydrometer
17. Sea Water Thermometer (authorized)
18. Suction pump
19. Chemical balance
20. Automatic indicating balance
21. PH meter
22. Distiller
23. Water purifier
24. Photoelectric colorimeter
25. Automatic titration apparatus
26. Chlorine content analyser
27. Dissolved oxygen analyser
28. Hydrogen-ion analyser for sea water
29. Electric centrifuge
30. Outfit for quantitative determination of plankton
31. Ranging pole
32. Ranging staff
33. Measuring rope
34. Transit
35. Plane table outfit

36. Sextant
37. G E K
38. Canvas tank 1 x 1.5 x 0.5 m
39. Micro-film reader
40. Hydrophone
41. Fishing gears and their accessories
 - Trawl net for stern trawl; About 40 m head rope with otterboards, 2 sets
 - Mid-water trawl net; About 60 m head rope with otterboards.
 - Drift net; Spanish mackerel.
 - Bottom gill net; Snapper, Yellow-tail and Lobster.
 - Purse seine; 250 m x 50 m
 - Tuna long line with radio buoy; 200 baskets
 - Long line; Snapper, Groupers and Sea breams.
 - Hooking; Bonito and Snapper.
 - Other subsidiary fishing gears.
 - Fishing gear accessories;
 - Net, Ropes, Wood-working tools, Metal-working tools,
 - Sail working tools, Current parachute, Floats,
 - Sinkers, Dyestuffs, Paints, Binding agent and Others.

(Confidential)

Bangkok, July 5, 1968

Dear Mr. Tuanthai,

With respect to the Contract for the Procurement of a Training Vessel, a Research Vessel, and Equipment for the Southeast Asian Fisheries Development Center between the Southeast Asian Fisheries Development Center and the Overseas Technical Cooperation Agency, Japan, signed on July 5, 1968, I should like to confirm the following understanding concerning the future expenditure from the accrued interest derived from the amount of money referred to in paragraph (1) of Article 2, provided that such expenditure become possible within the limit of available interest as stipulated in paragraph (3) of Article 2, and the Japanese authorities would approve the alteration of the relevant provisions of the Contract accordingly:

1. With reference to paragraph (3) of Article 5, it is the intention of the OTCA to bear the insurance premium of the training and the research vessels covering the period of training of crew in Japan and the homeward navigation, in the event that the Center or any other organization assisting the work of the Center cannot pay for such insurance premium.
2. In case there is an amount of interest left after necessary payments are made to cover expenses of the whole procurement and delivery work as envisaged in paragraph (3) of Article 2, the OTCA and the Center will enter into consultation with a view to providing additional equipment for the Training Department and the Research Department.

I should be grateful if you would be good enough to confirm the above-mentioned understanding.

Yours sincerely,

TAKEO IGUCHI
Chief of Planning Section,
General Affairs Division,
Overseas Technical Cooperation Agency

Mr. Tuanthai Bamrajarinpai,
Secretary-General,
Southeast Asian Fisheries
Development Center,
Paknam, Thailand.

(Confidential)

Bangkok, July 5, 1968

Dear Mr. Iguchi,

I wish to acknowledge receipt of your letter dated today containing the understanding concerning the future expenditure from the accrued interest derived from the amount of money referred to in paragraph (1) of Article 2 of the Contract for the Procurement of a Training Vessel, a Research Vessel, and Equipment for the Southeast Asian Fisheries Development Center between the Southeast Asian Fisheries Development Center and the Overseas Technical Cooperation Agency, Japan, signed today.

I wish to confirm the understanding contained in the said letter.

Yours sincerely,

Tuanthai Bamrajarinpai
Secretary-General,
Southeast Asian Fisheries
Development Center

Mr. Takeo Iguchi,
Chief of Planning Section,
General Affairs Division,
Overseas Technical Cooperation Agency,
Tokyo, Japan.

CHAPTER 5. LETTERS

SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

P.O.Box 2-124, Bangkok, Thailand

Telephone: 815577
Cables : SEAFDEC BANGKOK

Reference: 104/1

Offices: Department of Fisheries
Ministry of Agriculture
Rajdomnern Avenue,
Bangkok, Thailand.

6th January 1970

Dear Mr. Ozaki,

Following our brief discussions concerning the shipment of the equipment and instruments for the Training Department to Bangkok I would like to reiterate to you our present difficulties. Firstly each item of the equipment will be taxed in accordance with the local customs regulations while the legal status of the Center has not yet been recognized by the Thai Government. This would result in unnecessary expenditure to the Center. Secondly our storage space at present is very limited since the construction of the Training Department has not yet been completed.

Therefore, I should be most grateful if your organization could further delay the shipment of equipment and instruments to the Center until we are in a position to receive them.

We sincerely hope that you understand our difficulty in connection with this matter.

With best wishes.

Yours sincerely,

Tuanthai Bamrajarinpai
Secretary-General

Mr. K. Ozaki, Chief
Fisheries Center Office OTCA
Ichigaya-Honmuracho, Shinjuku-ku,
Tokyo, Japan.

January 24, 1970

Dear Mr. Tuanthai,

I acknowledge the receipt of your letter dated January 6, 1970.

I understand the difficulty with which your department is now facing. Though we have agreed each other to postpone the delivery target time of the equipment and instruments under Category C, for your department until August 1970 by your letter of June 3 and the OTCA's letter of June 21, 1969, I agree to your present proposal concerning the postponement of the shipment of the said equipment and instruments to the Center until you will be a position to receive them.

Although I further think there are some of the equipment and instruments under Category C, that should be delivered to the Center so as to fit the progress of the construction of your building, I hope you will propose your convenient time to our Agency when the delivery of all the equipment and instruments under Category C, including those afore-mentioned, should be made.

Sincerely yours,

Katsunari Ozaki
Chief of Procurement Office for
Southeast Asian Fisheries Development
Center

Mr. Tuanthai Bamrajarinpai
Secretary-General
Southeast Asian Fisheries
Development Center,
Six Floor, Rajsubhamitra Hotel,
No. 269, Larn Luang Road,
Bangkok, Thailand

SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

P.O. Box 2-124, Bangkok, Thailand

Telephone : 814 802
Cables : SEAFDEC BANGKOK.

Offices: R.S. Hotel
Larn Luang Road
Bangkok, Thailand.

Reference : 100

April 22, 1970

Mr. K. Tatsuke
Director-General
Overseas Technical Cooperation Agency
Tokyo, Japan

Dear Sir,

As for additional instruments and equipment listed in Annexes 3 and 4 of the Contract of the procurement of a training vessel, a research vessel and equipment for SEAFDEC between the Center and OTCA, I would like to add the items as shown on the attached sheets, both for the Training and Research Departments respectively.

I shall be most grateful if you would kindly arrange to send them to the respective departments in due time.

With best regards,

Yours sincerely,

Tuanthai Bamrajarinpai
Secretary-General

SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

P.O. Box 2-124, Bangkok, Thailand

Telephone: 814802
Cables : SEAFDEC BANKGKOK.

Offices: R.S. Hotel
Larn Luang Road
Bangkok, Thailand.

Reference: 100

1 Additional Articles for Training Department:

| No. | Name | Note | No. |
|-----|----------------------------------|--|---------|
| 1 | Gyro Compass | Tokyo Keiki Co. Jairot 103 form | 1 set |
| 2 | Electric Thermometer | Murayama Denki Co. MK-21 | 1 set |
| 3 | Ricopy | Highstart 2 | 1 set |
| 4 | Accessory for Radar | Furuno Denki FRA-50 LC-2 | 1 set |
| 5 | Spare parts for Engine | | 1 set |
| 6 | Electric Welding Machine | Alternating current Arch Welding Machine 100A, 3 phase 220V. | 1 set |
| 7 | Net for Trawl | | 7 kinds |
| 8 | Laboratory and field instruments | (Kitahara plankton net, larval fish net, automatic balance, Azimuth Mirror, Azimuth Circle, Deflector, Dipping Needle) | 2 sets |
| 9 | Fish Tank | National Marine Plastic KK 1.8 x 1.8 x 0.75 | |

2 Additional Articles for Research Department:

| No. | Name | Note | No. |
|-----|--------------------------|--|--------|
| 1 | FRP Boat | for 8 people 115 p.s. 5.15 x 2.00 x 0.83 | |
| 2 | Spare net for Trawl | | 1 set |
| 3 | Binoculars | Nikon 7 x 50 | 1 pair |
| 4 | Electric Welding Machine | Alternating current Arch Welding Machine 100 A, 3 phase 220 V. | 1 set |
| 5 | Spare parts for Engine | | 1 set |
| 6 | Wireless | 150 MC 3 w. | 2 sets |

May 23, 1970

Dear Mr. Tuanthai,

I acknowledge receipt of your letter dated April 22, 1970.

I approve of your request concerning the procurement of the additional instruments and equipment for the Training and the Research Departments listed in the attached sheet of your letter mentioned above and wish to inform you of sending them as follows:

- 1) Additional instruments and equipment for the Training Department are scheduled to be sent to the Training Department with the Training Vessel in June of this year.
- 2) Additional instruments and equipment for the Research Department are scheduled to be shipped for Singapore by the end of this August.

Sincerely yours,

Keiichi Tatsuke
Director General,
Overseas Technical Cooperation Agency

Mr. Tuanthai Bamrajarinpai
Secretary-General,
Southeast Asian Fisheries
Development Center
R.S. Hotel,
No. 269, Larn Luang Road,
Bangkok, Thailand

SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

P.O. Box 2-124, Bangkok, Thailand

Telephone: 814802
Cables : SEAFDEC BANKGKOK

Offices: R.S. Hotel
Larn Luang Road
Bangkok, Thailand.

Reference: 100/1 - 2/70

September 1, 1970

Mr. Keiichi Tatsuke
Director-General
Overseas Technical Cooperation Agency
42, Honmura-cho, Ichigaya
Shinjuku-ku
Tokyo, Japan

Dear Mr. Tatsuke,

I would like to refer to my letter to the OTCA dated June 3, 1969, with respect to the postponement of the shipment of various equipment and instruments of the Training Department of the Center of Thailand until August 1970.

Since the contract between the Thai Government and the contracting firm which will undertake the construction of the building was signed in July 1970, and the construction is expected to be completed in December 1971, I shall be most grateful if the OTCA will consider postponing the shipment until December 1971. I shall inform you well in advance if there is any changes in the schedule.

I sincerely hope that my request will receive your kind attention.

With best wishes,

Yours sincerely,

for Tuanthai Bamrajarinpai
Secretary-General

October 12, 1970

Dear Mr. Tuanthai,

I acknowledge the receipt of your letter No. 100/1-2/70 dated September 1, 1970.

I agree to your proposal concerning the postponement of shipping equipment under Category C for Training Department until December 1971.

In accordance with Article 8 of the Contract for the Procurement of a Training Vessel, a Research Vessel and Equipment for the Southeast Asian Fisheries Development Center between the Southeast Asian Fisheries Development Center and the Overseas Technical Cooperation Agency, Japan, your letter No. 100/1-2/70 dated September 1, 1970 and our reply shall form an agreement to amend the delivery target time of the said equipment.

Sincerely yours,

for Kei-ichi Tatsuke
Director General,
Overseas Technical Cooperation Agency

Mr. Tuanthai Bamrajarinpai
Secretary-General,
Southeast Asian Fisheries
Development Centre,
R.S. Hotel, 269 Larn Luang Road,
Bangkok, Thailand

ERRATA CORRIGENDUM

| <u>Pages</u> | <u>Lines</u> | <u>Wrong</u> | <u>Correct</u> |
|--------------|--------------|---------------------------|-------------------------------------|
| Contents | 24 | 136 | 138 |
| 7 | 4 | long | line |
| 9 | 31 | howler | hauler |
| 10 | 4 | live | line |
| " | 11 | 6M28DHS | 6M28KEHS |
| 13 | 4 | Daviation | Deviation |
| 14 | 38 | Sarface | Surface |
| 16 | 35 | Chiesel | Chisel |
| 17 | 12, 13 | Vartical ~ collets | Drill chuck and 3 items |
| " | 36 | Bits | Bites |
| 29 | 5 | Comple | Complex |
| 32 | 30 | Marine Case 1 set | Marine case 1 set * |
| " | 31 | Undereater | Underwater |
| 35 | 11 | cl 5-190/oo | E.S.L. Type MC5 |
| " | 44 | Neavigation | Navigation |
| 43.44, | 2 | Finishing gears | Fishing gears |
| 43 | 19 | Long Regg Plant | Long Leg Plant |
| 67 | | Alt, Number of Aloat | Aft, Number of Float |
| 79 | 34 | 1/10/sec | 1/10 sec |
| 80 | 29 | 0 ~ 42 % S | 0 ~ 42 ‰ S |
| 85 | 22 | Theremometer | Thermometer |
| 86 | 19 | Kyeldahl | Kjeldahl |
| 89-92 | 2 | Finishing Gears | Fishing gears |
| 91 | 19 | Vinyle | Vinyl |
| 95 | 2 | Tund | Tuno |
| " | 10 | Trowing | Trolling |
| 98 | 22 | Vinulon | Vinylon |
| 100 | 20 | from Ring | Iron Ring |
| 109 | 1 | <u>Stick-Held Dip Net</u> | <u>Stick Held Dip Net Diagram F</u> |
| 111 | 5 | Outboart | Outboard |
| " | 7 | Fensar | Fender |
| " | 25 | depth 40 pcs | depth 40 pcs |
| 112 | 4 | Eiigata | Niigata |
| 121 | 35 | the research vessles | the research vessels |
| 136 | 16 | coverin g | covering |
| 17 | 9 | Model MS-P | Model KUD-550 |

