**(2) Minutes of Discussion between the Study Team and the District Government of East Flores**

MINUTES OF MEETINGS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES
IN THE REPUBLIC OF INDONESIA

Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team (hereinafter referred to as "the Team"), headed by Mr. SHIMIZU Tsutomu, to the Republic of Indonesia from Jul. 5 to Aug. 2, 2006 for the purpose of discussing the framework of the Project for the Promotion of the Sustainable Coastal Fisheries (hereinafter referred to as "the Project").

During the stay in the District of East Flores, the Team and the District Government of East Flores (hereinafter referred to as "District Government") had a series of discussions and confirmed on the matters attached hereto.

Larantuka, July 28, 2006

| | |
|---|---|
| Tsutomu Shimizu<br>Leader<br>Basic Design Study Team<br>Japan International Cooperation Agency | Simon Hayon<br><br>Head<br>District Government of East Flores |

ATTACHMENT

1. Demarcation of the District Government and the National Government on the Project

The both sides agreed that the demarcation of the District Government and the National Government on the Project is as attached as ANNEX based on "the major undertakings by the Indonesian side" confirmed on the Minutes of Discussions signed by the Preliminary Study Team and the Ministry of Marine Affairs and Fisheries on January 30, 2006 in Jakarta.

Further discussion on this matter will be held at the joint meeting in Jakarta on July 31 and August 1, 2006 with the participation of the Ministry of Marine Affairs and Fisheries.

2. Matters to be dealt by the District Government

The Team requested the District Government to deal with the matters, identified as "To be covered by District Government" on ANNEX, and the matters bellow for better and smooth implementation of the Project.

2-1. Land Reclamation

The District Government explained that the contract on the land reclamation will be signed on 22 August, 2006. The District Government agreed to submit the copy of detailed schedule of land reclamation works, which will be prepared by the contractor, to JICA Indonesia Office promptly after received. The District Government agreed to make the best effort to complete the land reclamation works by the end of October, 2006.

2-2. Removal of Sunken Boats and a Cottage

The District Government agreed to remove two sunken boats and a cottage of the ethnic group in the Project site by the reclamation works' initiation with its own expenses, and to report the completion of the removal works to JICA Indonesia Office promptly.

3. Compensation for Land Utilization Rights

The District Government explained that the compensation for the land utilization rights for 5 persons has already finished on 17 July, 2006 and the land transfer has already certified by the organization concerned.

4. Components of the Project

The District Government requested to include the measures to strengthen the existing walls around the reclamation area, drainage (pipe culvert) and consultant services for the issues on operation and maintenance of the facilities as the soft component of the Project. The Team

explained that the components of the Project will be decided after further studies in Japan.

5. Stakeholder Meeting

The District Government provided the Team with the outline of the stakeholder meetings held in 2005. Besides that, the District Government agreed to have an explanation session for the private fishing companies for their better understandings of the Project.

6. Organization for Operation and Management of the Facilities

The Team presented recommendations on the organization for operation and management of the facilities. The District Government understood it and agreed to have internal meeting on the recommendations with the participation of stakeholders on the Project, and let JICA Indonesia Office know the results by the end of September, 2006.

7. Signer on the Minutes of Discussions

The District Government agreed to appoint an officer to attend the joint meetings on July 31 and August 1, 2006 in Jakarta, and the officer would discuss on the matters concerning to the Project and sign on the Minutes of Discussions as a representative of the District Government.

END

ANNEX Demarcation of the District Government and the National Government on the Major Undertakings by the Indonesian Side on the Project

ANNEX-1

**Demarcation of the District Government and the National Government on the Major Undertaking by the Indonesian Side on the Project**

| No. | Items | To be covered by District Government | To be covered by National Government |
|---|---|---|---|
| 1 | To secure land | • | |
| 2 | To clear level and reclaim the site when needed | • | |
| 3 | To construct gates and fences in and around the site | • | |
| 4 | To construct roads outside the site | • | |
| 5 | To provide facilities for the distribution of electricity , water supply , drainage and other incidental facilities | • | |
| | 1) Electricity | | |
| | a) The distributing line to the site | • | |
| | 2) Water Supply | | |
| | a) The water distribution main to the site | • | |
| | 3) Drainage | | |
| | a) The drainage main(for storm sewer and others to the site) | • * | |
| | 4) Gas Supply | | |
| | a) The gas main to the site | • | |
| | 5) Telephone System | | |
| | a) The telephone trunk line to the main distribution frame/panel (MDF) of the building | • | |
| | 6) Furniture and Equipment | | |
| | a) General furniture | • | |
| 6 | To bear the following commissions to the Japanese foreign exchange banking services based upon the B/A | | • |
| | 1) Advising commission of A/P | | • |
| | 2) Payment commission | | • |

* The District Government requested drainage (pipe culvert) to include in the Project Component.

| | | | |
|---|---|---|---|
| 7 | To ensure unloading and customs clearance at port of disembarkation in recipient country | | • |
| | 1) Tax exemption and custom clearance of the products at the port of disembarkation | | • |
| 8 | To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contact such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of the their work | | • |
| 9 | To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts | | • |
| 10 | To maintain and use properly and effectively the facilities contracted and equipment provided under the Grant | • | |
| 11 | To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment | • | |

## 4-2 Minutes of Discussion during the Explanation on Draft Final Report

MINUTES OF DISCUSSIONS
ON BASIC DESIGN STUDY ON
THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES
IN THE REPUBLIC OF INDONESIA
(EXPLANATION ON DRAFT REPORT)

From July to August 2006, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for the Promotion of the Sustainable Coastal Fisheries (hereinafter referred to as "the Project") to the Republic of Indonesia (hereinafter referred to as "Indonesia"), and through discussion, field survey, and technical examination of its results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Government of Indonesia on the components of the draft report, JICA sent to Indonesia the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is managed by Mr. Satoru Hagiwara, Group Director, Project Management Group III, Grant Aid Management Department, JICA, and headed by Mr. Shin Maruo, and is scheduled to stay in Indonesia from 9th December 2006 to 19th December 2006.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Jakarta, 19th December, 2006

Satoru Hagiwara

Draft Report Explanation Team
Japan International Cooperation Agency

Saifuddin
Director
Planning and Foreign Cooperation Bureau
Secretariat General
Ministry of Marine Affairs and Fisheries

Yakobus Kabellen
On Behalf of
the District Government of East Flores
Head
District Marine Affairs and Fisheries Office
District Government of East Flores

Nilanto Perbowo
Secretary for Directorate General of
Capture Fisheries
Ministry of Marine Affairs and Fisheries

1

ATTACHMENT

1. Components of the Draft Report

The Indonesian side agreed and accepted in principle the components of the draft report explained by the Team including obligations of the recipient country which are mentioned in Chapter 3 of the draft report.

2. Japan's Grant Aid scheme

The Indonesian side understood the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Indonesia as explained by the Preliminary Study Team and described in Annex-IV of the Minutes of Discussions signed between the Indonesian side and the Preliminary Study Team on 30th January, 2006.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Indonesia by March 2007.

4. Other relevant issues

4-1. Land Reclamation

The Indonesian side explained that the land reclamation works had not been completed yet, even though it was confirmed to be completed by the end of October, 2006 on the Minutes of Discussions signed on 1st August, 2006 due to shortage of soil material at the initial soil collection site.

Besides, the Indonesian side explained that holy stones had been found at the reclamation site and reclamation works on the stones had been prohibited by the local authority. The Indonesian side provided the Team with the measures for the holy stones as ANNEX-I and explained that the measures and the layout plan had been accepted by the heir of King of Larantuka, as ANNEX-II, who had requested to take necessary measures for the holy stones.

The Team expressed concern over the delay of the works and the bearing capacity of the reclaimed land. The Indonesian side agreed that land reclamation works would be completed by the end of December, 2006 with enough bearing capacity for implementation of the Project as well as appropriate measures for the holy stones. And Indonesian side agreed to submit to JICA Indonesia

Office by the end of January, 2007, a report of the completion of work, the land ownership certificate of the reclaimed area and a declaration letter for guarantee of the bearing capacity of the land. And the Team requested to the Indonesian side to conduct soil bearing capacity test as ANNEX-III.

The Indonesian side agreed to take necessary measures for the drainage (pipe culvert) flowed into the Land Reclamation site by its own expenses.

4-2. Operation and Management of the Facilities

For maximizing the benefit from the consultant services as mentioned on the chapter 2.4.8 of draft report, the Team strongly requested the Indonesian side to establish the organization for operation and management of the facilities prior to the commencement of the Project. The Indonesian side agreed to the request and provided the plan of the budget and the organization for operation and management of the facilities as ANNEX-IV based on the results of internal meeting, mentioned on the Minutes of Discussions, signed on 1st August, 2006.

The Indonesian side agreed to repair defect of the facilities, such as on-premise paving, rainwater drainage and so on, caused by landfill settlement as a part of operation and maintenance of the facilities. The Team explained that the method for repair and maintenance of them would be described in the final report of the Project.

4-3. Necessary Permissions for the Project

The Indonesian side agreed to obtain necessary permissions for the Project based on the detail design by the commencement of the Project and the Indonesian side shall report the results to JICA Indonesia Office prior to the commencement of the Project.

4-4. Basic Infrastructure Preparation

As agreed on the Minutes of Discussions signed on 1st August, 2006, the Indonesian side agreed to provide basic infrastructure such as electricity, water supply, etc. for the Project site before the construction of facilities would be completed.

4-5. Removal of Sunken Boats and a Hut

The Indonesian side explained that the removal works of a hut and one sunken boat in the reclamation area had been completed out of three items. The Indonesian side agreed to remove remaining sunken boat promptly and to report to JICA Indonesia Office by the end of January,

2007.

4-6. Stakeholder Meeting

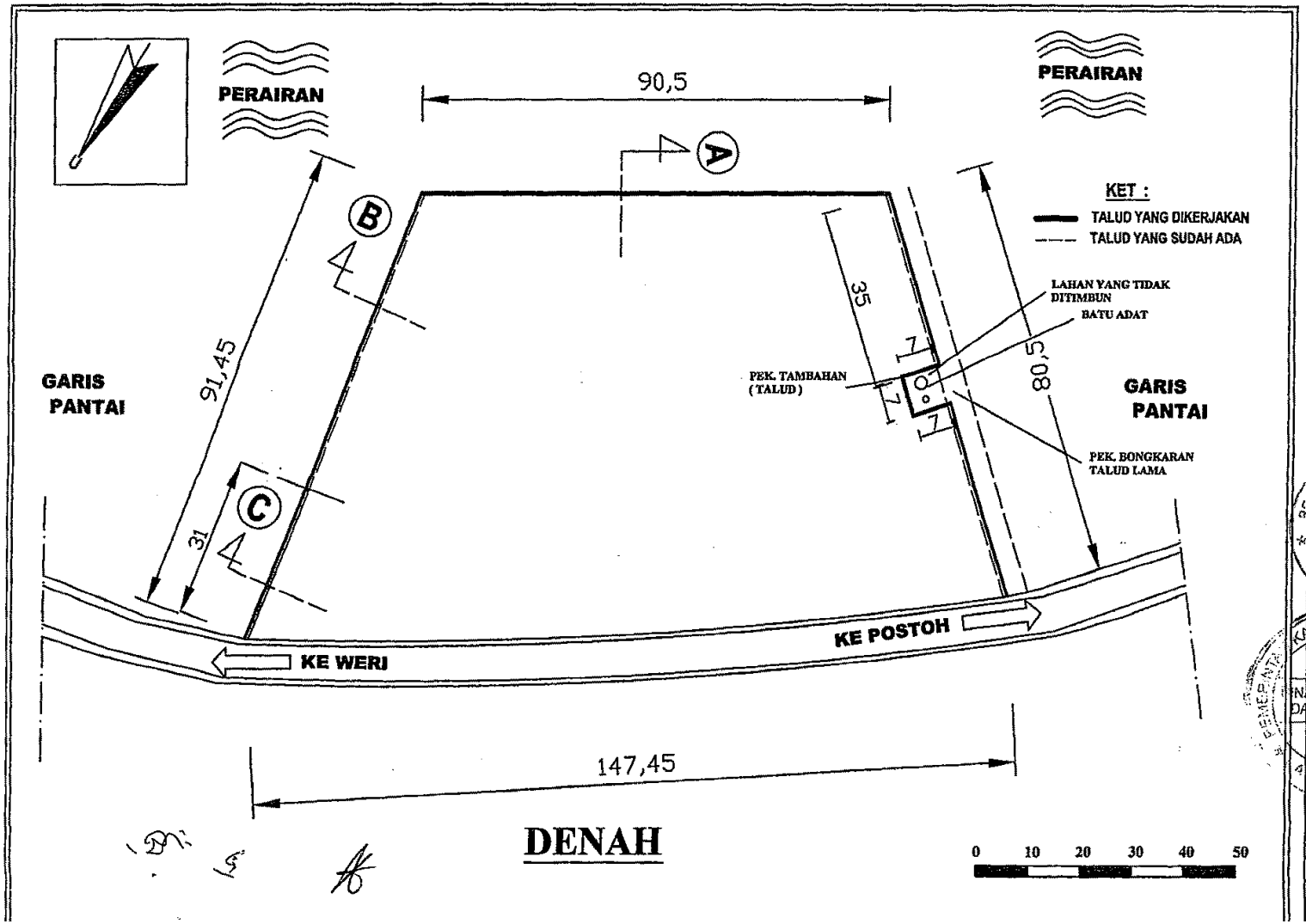
The Indonesian side informed that a stakeholder meeting with the participation of private fishing companies would be held on 22nd December, 2006 and agreed to inform the results of it to JICA Indonesia Office by the end of January, 2007.

4-7. Management of Drainage beside the Project Site

The Team confirmed that the drainage at the northwest of the Project site was inappropriate from hygienic point of view. The Team suggested the Indonesian side to take necessary measures to keep the drainage in a better condition. The Indonesian side agreed to take necessary measures for the suggestion before the commencement of the Project.

| | |
|---|---|
| ANNEX I | Measures for the Holy Stones in the Land Reclamation Site |
| ANNEX II | Letter from the heir of King of Larantuka |
| ANNEX-III | Request for Soil Bearing Capacity Test at the Site for the Project |
| ANNEX-IV | Plan of Budget and Organization for Operation and Management of the Facilities |

ANNEX - I




| | |
|---|---|
| Nama Proyek | |
| PEMBANGUNAN PPI<br>Tahun Anggaran 2006 | |
| Lokasi | |
| KELURAHAN AMARAGAPATI<br>KECAMATAN LARANTUKA | |
| PEKERJAAN | |
| PENYIAPAN LAHAN<br>PEMBANGUNAN PPI | |
| REVISI | TANGGAL |
| ○ BATU ADAT | |
| ○ PEK. TAMBAHAN (TALUD) | |
| □ LAHAN YANG TIDAK DITIMBUN | |
| ○ PEK. BONGKARAN TALUD LAMA | |
| PERENCANA | TANGGAL |
| TIM PELAKSANA | |
| Mengetahui : | TANGGAL |
| An. Kepala Dinas Pekerjaan Umum<br>Ka. Sie. Perwujudan dan Penataan Ruang<br>Kabupaten Flores Timur<br>FREDERICUS EDDY SAYD | |
| Disetujui : | TANGGAL |
| Kepala Dinas Perikanan<br>Kabupaten Flores Timur<br>Ir. YAKOBUS KABELEN | |
| NAMA GAMBAR | SKALA |
| REVISI PELAKSANAAN PEKERJAAN | 1 : 1000 |
| NO LEMBAR / KODE GAMBAR / JUMLAH LEMBAR | |
| 1 / PPI | |

ANNEX - II

# SURAT PERNYATAAN

Saya yang bertanda tangan dibawah ini :

Nama : Don Martinus DVG
Jabatan : Pewaris Kerajaan Larantuka
Alamat : Larantuka

Sebagai pewaris keturunan Raja Larantuka menyatakan bahwa sesungguhnya pada lokasi Project For Promotion of the Sutainable Coastal Fisheris in the Republic of Indonesia ( Lokasi Pembangunan Pangkalan Pendaratan Ikan – PPI di Kelurahan Amagarapati ) terdapat situs adat berupa 2 ( dua ) buah batu yaitu Batu Baun dan Batu Perseja.

Demi kepentingan umum terkait pembangunan PPI Amagarapati yang dilengakapi sarana pendukung yang memadai, maka saya tidak berkeberatan apabila disekitar tempat situs adat tersebut diletakkan beberapa bangunan yang diperlukan.

Hal yang kiranya diperhatikan adalah agar persyaratan keberadaan kedua batu tersebut perlu dijaga serta untuk tidak mengurangi luas lahan PPI Amagarapati sehingga semua sarana yang diperlukan dapat dibangun sekaligus berada dalam satu hamparan yang terpusat di lokasi tersebut.

Demikian surat pernyataan ini saya buat untuk dipergunakan seperlunya.

Larantuka, 14 Desember 2006
Yang Membuat Pernyataan,

**Don Martinus DVG**

Mengetahui :
**Bupati Flores Timur,**

**Drs. Simon Hayon**

(tentative translation)

**To whom it may concern**

I am undersigned below:

| | |
|---|---|
| Name | : Don Martinus DVG |
| Position | : The Heir of King of Larantuka |
| Address | : Larantuka |

As the heir of King of Larantuka, I stated in truth that on the location of the Project for Promotion of the Sustainable Coastal Fisheries in the Republic of Indonesia (Location of fish landing port - PPI at Amagarapati Village) exist an Adat Sites in form of 2 (two) stones named Batu Baun and Batu Perseja.

For the importance of public interest, in conjunction with the development of Amagarapati Fish Landing Port (PPI) which completed with proper supporting infrastructures, therefore, I herewith state that I have no objection to some necessary buildings being built around the adat site.

The attention should be given in order to preserve and to protect the existence of both holy stones without reducing the size of the area of Amagarapati Fish Landing Port and therefore all necessary infrastructures can be built all together at one area at the location.

This letter of statement is made to support the Amagarapati Fish Landing Port development.

Larantuka, Dec. 14, 2006
Made by Don Martinus DVG
(signature)

Approved by
Head of District Government of East Flores
Drs. Simon Hayon
(signature)

ANNEX- III

Mr. Simon Hayon
Head of District Government of East Flores

**Request for Soil Bearing Capacity Test at the Site for the Project for Promotion of the Sustainable Coastal Fisheries in the Republic of Indonesia**

Dear Mr. Simon

Regarding to the above mentioned Project, we would like to request you to conduct soil bearing capacity test based on the attached paper and to let JICA Indonesia Office know the results by the end of March, 2007.

As the project site is reclaimed land, the soil bearing capacity is very important for us to consider about the implementation of the Project.

Thank you for your understanding and cooperation.

Sincerely yours,

Jakarta, 19th December, 2006

for

Satoru Hagiwara
Draft Report Explanation Team
Japan International Cooperation Agency

CC:
Mr. Saifudin, Director, Planning and Foreign Cooperation Bureau, Secretariat General, Ministry of Marine Affairs and Fisheries
Mr. Nilanto Perbowo, Secretary for Directorate General of Capture Fisheries, MMAF
Mr. Yakobus Kabellen, Head of District Marine Affairs and Fisheries Office, District Government of East Flores
Mr. Isao Koya, expert for MMAF
JICA Indonesia Office

Attachment: Contents of Soil Bearing Capacity Test

Methods of Soil Investigation (Bearing Capacity Test)

1. Methods

The Standard Penetration Test (SPT) or Cone Penetration Test (CPT) are recommended to measure the strength or bearing capacity of soils.

2. Field Test

2.1 In case of Standard Penetration Test (SPT)

The Standard Penetration Test (SPT), in accordance with ASTM D-1586-99 shall be carried out at 1.0 m intervals at each location.

2.2 In case of Cone Penetration Test (CPT)

The Cone penetration test (CPT), in accordance with ASTM D-3441-2004 shall be carried out up to 4.0m depth from surface at each location.

3. Location

The test will be carried out at the locations as shown in below figure.

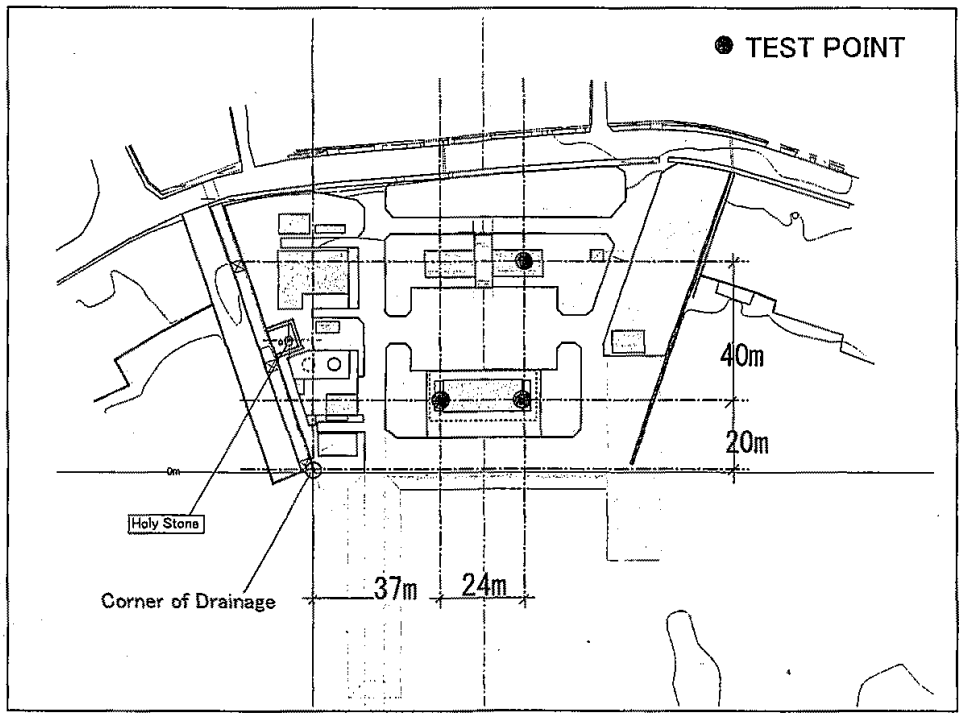
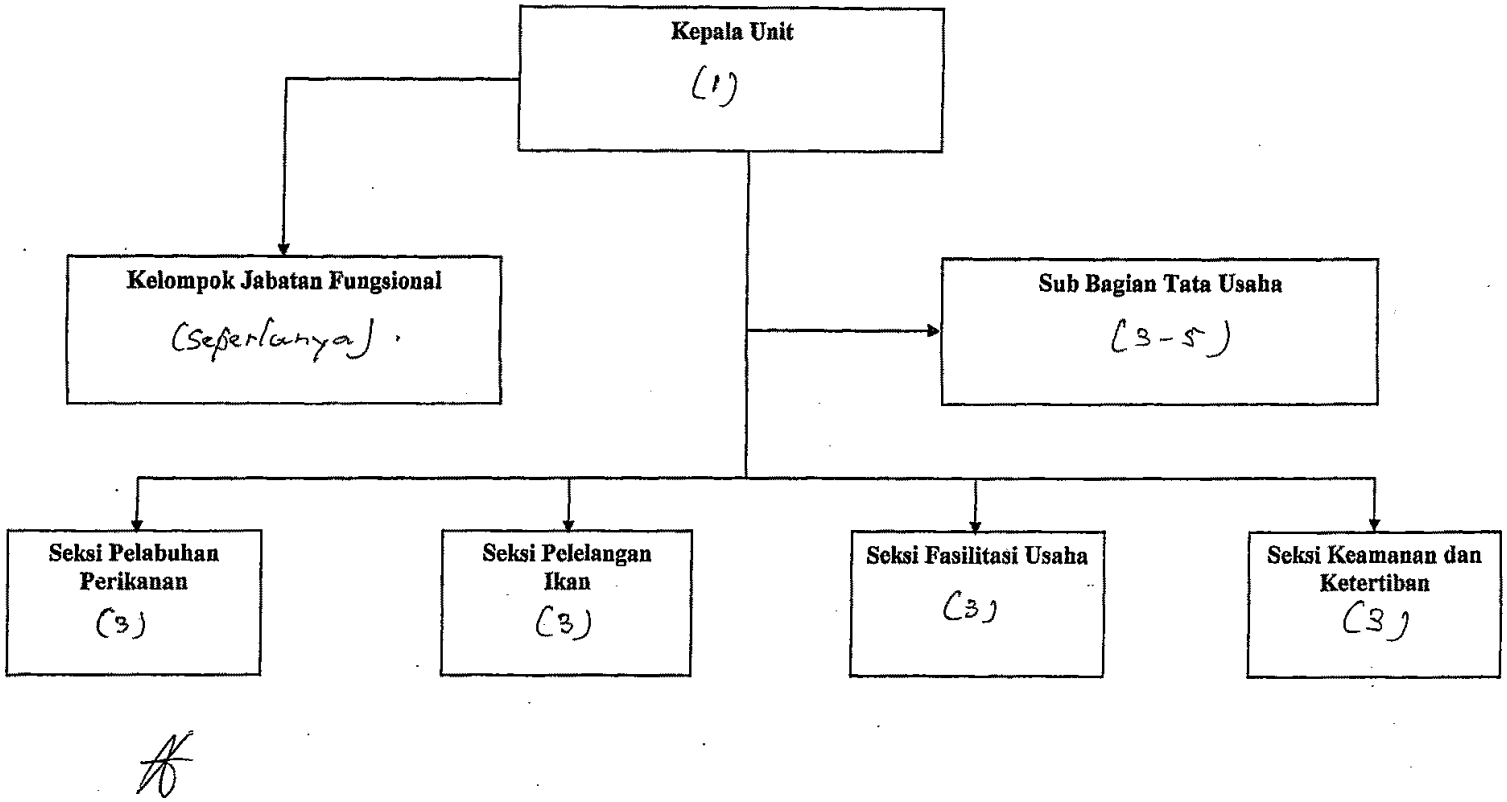



Figure: Location of test points

ANNEX-IV

## STRUKTUR ORGANISASI PENGELOLA PPI AMAGARAPATI



## PERUBAHAN RENCANA ANGGARAN BIAYA

( RAB ADDENDUM / CCO )

KEGIATAN : PENYIAPAN LAHAN PANGKALAN PENDARATAN IKAN ( PPI )
( PENGURUGAN LOKASI PPI AMAGARAPATI )
PEKERJAAN : PEMBANGUNAN TALUD DAN REKLAMASI
LOKASI : KELURAHAN AMAGARAPATI - LARANTUKA
KABUPATEN FLORES TIMUR
TAHUN ANGGARAN : 2006
PELAKSANA : PT. TIMOR FOMENI

( Versi Kadis KP )

| NO | URAIAN PEKERJAAN | SATUAN | Kontrak awal | | | CCO | | | Pekerjaan Tambah | | | Pekerjaan Kurang | | | KET. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) | VOLUME | HARGA SATUAN (Rp.) | JUMLAH HARGA (Rp.) | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | 7 |
| 1 | Pekerjaan Persiapan | Ls | 1.00 | 8,944,000.00 | 8,944,000.00 | 1.00 | 8,944,000.00 | 8,944,000.00 | - | 8,944,000.00 | - | - | 8,944,000.00 | - | |
| 2 | Pekerjaan Galian Tanah untuk Pondasi Talud | $M^3$ | 141.68 | 38,500.00 | 5,454,680.00 | 170.24 | 38,500.00 | 6,554,240.00 | 28.56 | 38,500.00 | 1,099,560.00 | - | 38,500.00 | - | |
| 3 | Pekerjaan Pasangan Batu untuk Talud | $M^3$ | 451.17 | 487,320.00 | 219,865,299.86 | 547.01 | 487,320.00 | 266,570,048.66 | 95.84 | 487,320.00 | 46,704,748.80 | - | 487,320.00 | - | |
| 4 | Pekerjaan Urugan Tanah | $M^3$ | 22,441.90 | 47,304.87 | 1,061,611,213.63 | 22,285.10 | 47,304.87 | 1,054,193,809.65 | - | 47,304.87 | - | 156.80 | 47,304.87 | 7,417,403.98 | |
| 5 | Pekerjaan Urugan Tanah untuk Tangga | $M^3$ | - | - | - | 1.13 | 47,304.87 | 53,217.98 | 1.13 | 47,304.87 | 53,217.98 | - | 47,304.87 | - | |
| 6 | Pasangan Batu untuk Tangga | $M^3$ | - | - | - | 0.45 | 487,320.00 | 219,294.00 | 0.45 | 487,320.00 | 219,294.00 | - | 487,320.00 | - | |
| 7 | Rabat Beton untuk Tangga ( t = 10 cm) | $M^3$ | - | - | - | 1.95 | 433,600.00 | 845,520.00 | 1.95 | 433,600.00 | 845,520.00 | - | 433,600.00 | - | |
| A | Nilai Konstruksi | | | | 1,295,875,193.49 | | | 1,337,380,130.29 | | | 48,922,340.78 | | | 7,417,403.98 | |
| B | Fee Kontraktor ( 10% ) | | | | 129,587,519.35 | | | 133,738,013.03 | | | 4,892,234.08 | | | 741,740.40 | |
| C | Jumlah Total ( A + B ) | | | | 1,425,462,712.83 | | | 1,471,118,143.32 | | | 53,814,574.86 | | | 8,159,144.37 | |
| D | PPN ( 10% ) | | | | 142,546,271.28 | | | 147,111,814.33 | | | 5,381,457.49 | | | 815,914.44 | |
| E | Jumlah Total ( C + D ) | | | | 1,568,008,984.12 | | | 1,618,229,957.65 | | | 59,196,032.35 | | | 8,975,058.81 | |
| | Dibulatkan | | | | 1,568,000,000.00 | | | 1,618,220,000.00 | | | 59,200,000.00 | | | 8,980,000.00 | |
| | Terbilang : | | Satu Milyar Lima Ratus Enam puluh Delapan Juta Rupiah | | | Satu Milyar Enam Ratus Delapan Belas Juta Dua Ratus Dua Puluh Ribu Rupiah | | | | | | | | | |

Catatan :
Penambahan Dana : Rp 1,618,220,000.00 - Rp 1,568,000,000.00 = Rp 50,220,000.00

Larantuka , Desember 2006.

Diketahui
Kepala Dinas Perikanan
Kabupaten Flores Timur

Ir. YAKOBUS KABELEN
Pembina Utama Madya
Nip. 620 010 821

Mengetahui
An. Kepala Dinas Pekerjaan Umum
Ka. Bid. Permukiman dan Penataan Ruang
Kabupaten Flores Timur

FREDRICUS EDDY SAYD
Nip. 620 014 934

**PERHITUNGAN BIAYA OPERASI PPI AMAGARAPATI**
**KEC. LARANTUKA - KABUPATEN FLORES TIMUR**
**UNTUK SATU TAHUN ANGGARAN**

| NO | URAIAN BAGIAN KELOMPOK JENIS DAN RINCIAN KEGIATAN | | | | | | PENERIMA | | PENGELUARAN (Rp) | | SALDO (Rp) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | | | | | 3 | | 4 | | 5 |
| | **PENERIMAAN** | | | | | | **Rp** | **1.000.000.000** | | | |
| | a. Subsisdi Pemda Flores Timur | | | | | | Rp | 1.000.000.000 | | | |
| | b. Baiya Berlabuh Kapal Nelayan | | | | | | | | | | |
| | - Diatas 16 GT | | | | | | Rp | 5.120.000 | | | |
| | - 10 Gt s/d 15 Gt | | | | | | Rp | 16.800.000 | | | |
| | - 7 Gt s/d 9 Gt | | | | | | Rp | 5.600.000 | | | |
| | - 3 Gt s/d 6 Gt | | | | | | Rp | 25.200.000 | | | |
| | - 2 Gt s/d Kebawah | | | | | | Rp | 5.600.000 | | | |
| | c. Penjualan Es | | | | | | Rp | 691.220.000 | | | |
| | d. Pelelangan / Penjemuran | | | | | | Rp | 2.250.000.000 | | | |
| | e. Penerimaan dan Pengiriman Berita SSB Radio | | | | | | Rp | 19.880.000 | | | |
| | f. Pemanfaatan Balai Pertemuan | | | | | | Rp | 16.000.000 | | | |
| | g. Pelayanan Dok. Kapal Nelayan | | | | | | Rp | 60.000.000 | | | |
| | h. Penggunaan Motor Boat | | | | | | Rp | 3.500.000 | | | |
| | i. Penggunaan Mobil Es | | | | | | Rp | 180.000.000 | | | |
| | j. Penjualan Air | | | | | | Rp | 7.920.000 | | | |
| | k. Penjualan BBM | | | | | | Rp | 10.000.000.000 | | | |
| | **Jumlah** | | | | | | **Rp** | **13.286.840.000** | | | |
| | **PENGELUARAN** | | | | | | | | | | |
| | 1. Gaji dan Tunjangan | | | | | | | | | | |
| | a. Direktur | : 1 | x | 12 | x | Rp | 2.500.000 | | Rp | 30.000.000 | |
| | b. Sub Bagian / Seksi | : 5 | x | 12 | x | Rp | 1.500.000 | | Rp | 90.000.000 | |
| | c. Urusan / Sub Seksi | : 10 | x | 12 | x | Rp | 1.000.000 | | Rp | 120.000.000 | |
| | d. Jabatan Fungsional | : 17 | x | 12 | x | Rp | 750.000 | | Rp | 153.000.000 | |
| | **Jumlah I** | | | | | | | | **Rp** | **393.000.000** | |
| | 2. Belanja Barang dan Jasa | | | | | | | | | | |
| | a. Belanja Barang dan Jasa | | | | | | | | | | |
| | - Alat Tulis Kantor | | | | | | | | | | |
| | - Peralatan Kantor | | | | | | | | Rp | 10.000.000 | |
| | - Meja Staf | : 23 | x | | | Rp | 750.000 | | Rp | 17.250.000 | |
| | - Kursi Staf | : 23 | x | | | Rp | 250.000 | | Rp | 5.750.000 | |
| | - Kursi Plastik | : 100 | x | | | Rp | 75.000 | | Rp | 7.500.000 | |
| | - Meja Pertemuan | : 4 | x | | | Rp | 1.000.000 | | Rp | 4.000.000 | |
| | - Komputer | : 4 | Unit | @ | | Rp | 20.000.000 | | Rp | 80.000.000 | |

| 1 | 2 | | | | | | | 3 | 4 | | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | - Warles | : | 2 | Unit | @ | Rp | 2.500.000 | | Rp | 5.000.000 | |
| | - Megafon | : | 2 | Unit | @ | Rp | 750.000 | | Rp | 1.500.000 | |
| | - Toa | : | 2 | Unit | @ | Rp | 500.000 | | Rp | 1.000.000 | |
| | - Lemari | : | 4 | Buah | @ | Rp | 2.500.000 | | Rp | 10.000.000 | |
| | - Brankas | : | 2 | Buah | @ | Rp | 2.500.000 | | Rp | 5.000.000 | |
| | - Filing Kabinet | : | 5 | Buah | @ | Rp | 2.500.000 | | Rp | 12.500.000 | |
| | - Papan Tulis | : | 2 | Buah | @ | Rp | 150.000 | | Rp | 300.000 | |
| | - Papan Datar | : | 10 | Buah | @ | Rp | 150.000 | | Rp | 1.500.000 | |
| | - Over Lead | : | 1 | Buah | @ | Rp | 3.500.000 | | Rp | 3.500.000 | |
| | - Tustel Camera | : | 2 | Buah | @ | Rp | 1.500.000 | | Rp | 3.000.000 | |
| | - Hendi Camp | : | 1 | Buah | @ | Rp | 15.000.000 | | Rp | 15.000.000 | |
| | **Jumlah II** | | | | | | | | **Rp** | **182.800.000** | |
| | b. Belanja Jasa Pengadaan | | | | | | | | | | |
| | - Pembelian BBM | | | | | | | | Rp | 9.500.000.000 | |
| | - Listrik | | | | | | | | Rp | 240.000.000 | |
| | - Listrik | | | | | | | | Rp | 60.000.000 | |
| | - Air | | | | | | | | Rp | 100.000.000 | |
| | - Telepon | | | | | | | | Rp | 50.000.000 | |
| | - Biaya Pemeliharaan Gedung / Kantor dan Fasilitas PPI | | | | | | | | Rp | 50.000.000 | |
| | - Biaya Pemeliharaan Alat Angkutan Operasional | | | | | | | | Rp | 30.000.000 | |
| | - Kendaraan Roda 4 ( 2 Unit ) | | | | | | | | Rp | 1.000.000 | |
| | - Kendaraan Roda 2 ( 2 Unit ) | | | | | | | | Rp | 1.000.000 | |
| | - Motor Boat | | | | | | | | Rp | 10.000.000 | |
| | - Pemeliharaan Komputer | | | | | | | | Rp | 12.000.000 | |
| | - Biaya Transportasi Dan Akomodasi Lokal | | | | | | | | Rp | 12.000.000 | |
| | **Jumlah III** | | | | | | | | Rp | 10.066.000.000 | |
| | **TOTAL KESELURUHAN** | | | | | | | **Rp 14.286.840.000** | **Rp** | **10.641.800.000** | **Rp 3.645.040.000** |

Keterangan : Rp
Penerimaan : Rp 14.286.840.000
Pengeluaran : Rp 10.641.800.000
Saldo : Rp 3.645.040.000

Larantuka, 14 Desember 2006

**Kepala Dinas Perikanan Dan Kelautan**

**Kabupaten Flores Timur**

**Ir. YAKOBUS KABELLEN**
**Pembina Utama Muda**
**Nip. 620 010 821**

**Mengetahui**
**Bupati Flores Timur,**

**Drs. SIMON HAYON**

## Appendix 5　Soft Component (Technical Assistance) Plan

### (1) Background

Although a program of decentralization of government authority was begun in 1999 to eliminate skewed levels of economic development among regions, the goal of establishing self-sufficient district governments remains distant due to insufficient sources of revenue and lack of human resources.

The Project site is located in East Nusa Tenggara Province, which is one of the most economically disadvantaged provinces in Indonesia. The Project aims to establish port facilities for small fishermen in Larantuka sub-district of East Flores district where the latent potential for fishery development is high.

Because around 10,000 tons of catch are landed at the target port, it falls within the class-D of smallest scale ports in Indonesia under its fishing harbour classification standard. As a result, port operation is under the jurisdiction of the district government. Furthermore, because no fishery production infrastructure projects have been carried out within East Flores, site survey revealed that district agencies lack both manpower and know-how in this sector. Accordingly, a minimum of technical assistance with regard to fishing port operation, maintenance and management is necessary.

Also, the existing fishermen cooperative (KUD : Mina Gonzalu Raya) active in Larantuka sub-district has been designated as a group (only six such fishermen's groups nationwide) to be supplied with an unlimited amount of cheap fuel beginning in 2005 for fishing operations under an agreement between the Ministry of Marine Affaires and Fisheries and PERTAMINA. However, because the fishermen cooperative has no independent fuel supply tank, fuelling activities are limited. With the establishment of fuelling facilities under the Project, it is anticipated that service to provide inexpensive fuel to fishing boats using the port will be possible by the fishermen's cooperative.

### (2) Soft component effect

The following direct impacts are anticipated as a result of the implementation of soft components under the Project:

- －Organizational, facility and accounting procedures will be formulated for operating a small-scale fishing port.
- －In the process of formulating the above, operational technology will be transferred to the candidate for fishing port director, and the department of fisheries.
- －The operational structure for the port will enable the participation of the existing fishermen's cooperative in a portion of operational activities at the port (i.e. re-supply servicing for fishing vessels).

### (3) Confirming Project achievements

Criteria for assessing the degree of Project achievement will be as follows.

- － The procedural rules for organizational structure, facility management and accounting as formulated under the Project soft component are effectively applied, and port operation commences.
- －Port operation begins with the included participation of the existing fishermen's cooperative in carrying out re-supply servicing.

**(4) Soft component activities**

An overview of activity content in this regard is as in the table 2.4.2.

**Table 2.4.2 Overview of activity content by soft component**

| Item | Japanese side | Local side |
|---|---|---|
| Implementation period | Approx. 1 month, to be carried out three months prior to completion of second phase construction. | Same as left. |
| Essential technology | Fishing port operation and fishermen's cooperative activity experience can be conveyed in English. | - |
| Present level of technology | - | No fishing port operational experience. Fishermen's cooperative activities are limited to extending micro-credit, and operating kiosks. |
| Target group | - | Port director candidates nominated by the district government, and the existing fishermen's cooperative (KUD Mina Gonzalu Raya). |
| Implementation method | 1) After analyzing operation at similar facilities, operational rules for the Project port will be drafted. This activity will be carried out on a one-to-one basis with the port director candidate.<br>2) Discussion will be held with the fishermen's cooperative in order to draft operational by-laws for collaboration with the cooperative in carrying out re-supply servicing.<br>3) A workshop on Project achievements will be held within the department of fisheries. | Same as left. |
| Dispatched personnel | Personnel with fishermen's cooperative extension experience, middle-level employment experience within the Zengyoren (Nationwide Federation of Japan Fisheries Cooperatives), etc. Must be able to communicate in English. | - |
| Number of persons dispatched | One person | - |
| Assignment period | Approx. 1 month | - |
| Output | Procedural rules for organization management, facility operation and accounting. | - |

**(5) Procuring resources for implementing the Project soft component**

Similar fishing ports inspected during field survey (i.e. Oeba port, Tenau port and Maumere port) were assessed as not being operated properly due to the following reasons.

- －Although a port management office was present, the office was essentially without staff.
- －Transactions between fishermen and middlemen are carried out on the landing wharf. Accordingly, basic administrative tasks such as recording catch sizes, collecting facility use fees, etc. are not carried out.
- －There is absolutely no transfer of fresh catches from the landing wharf to the fish handling shed. Instead, the fish handling shed has been turned into a repository used by middlemen to temporarily store already purchased fish. Specifically in the case of Maumere, the fish handling shed has been converted into a retail market.
- －With regard to re-supply servicing, only ice provision is operating at Oeba port. Transaction slips are not issued.
- －Garbage disposal and facility cleaning are not adequately carried out, resulting in overall unsanitary conditions.

Accordingly, because the factors gleaned from operational status for similar port facilities are mainly negative, it is concluded that local human resources cannot be effectively adopted for soft component implementation pertaining to fishing port operation.

Furthermore, it is envisioned that the existing fishermen's cooperative will assume responsibility for a portion of boat re-supply servicing to be established under the Project. Accordingly, it is recommended that personnel to be assigned to implementing soft components have the necessary experience to place an appropriate emphasis on fishing port operation and fishermen's cooperative activities. Because case examples of fishermen's cooperatives taking control of fishing port operation are mainly limited to Japan, it is recommended that soft component assistance be directly provided by a Japanese consultant. Personnel to be assigned in this regard will be selected on the basis of experience in fishing port operations and fishermen's cooperative extension works, as well as an ability to communicate effectively in English.

**(6) Soft component implementation schedule**

Implementation schedule for local works is shown in the Table 2.4.3 below. In the case of Japanese experts, this entails a three-day period inside Japan prior to departure and a two-day period after return to home office.

**Table 2.4.3 Soft component implementation schedule**

| Work item | First week | Second week | Third week | Fourth week | Fifth week |
|---|---|---|---|---|---|
| 1) Travel / inspection of site conditions | (4 days) | | | | |
| 2) Similar case analysis ・Maumere fishing port operated by East Nusa Tenggara Province | | (4 days) | | | |
| 3) Drafting procedural rules for organization management | | | (6 days) | | |
| 4) Drafting procedural rules for facility management | | | | (4 days) | |
| 5) Drafting bylaws for collaboration with the fishermen's cooperative | | | | (3 days) | |
| 6) Drafting accounting procedural rules | | | | | (3 days) |
| 7) Workshop within the department of fisheries | | | | | (1 day) |
| 7) Travel, administrative reports, return to home country | | | | | (3 days) |

**(7) Soft component outputs**

Outputs are as follows:

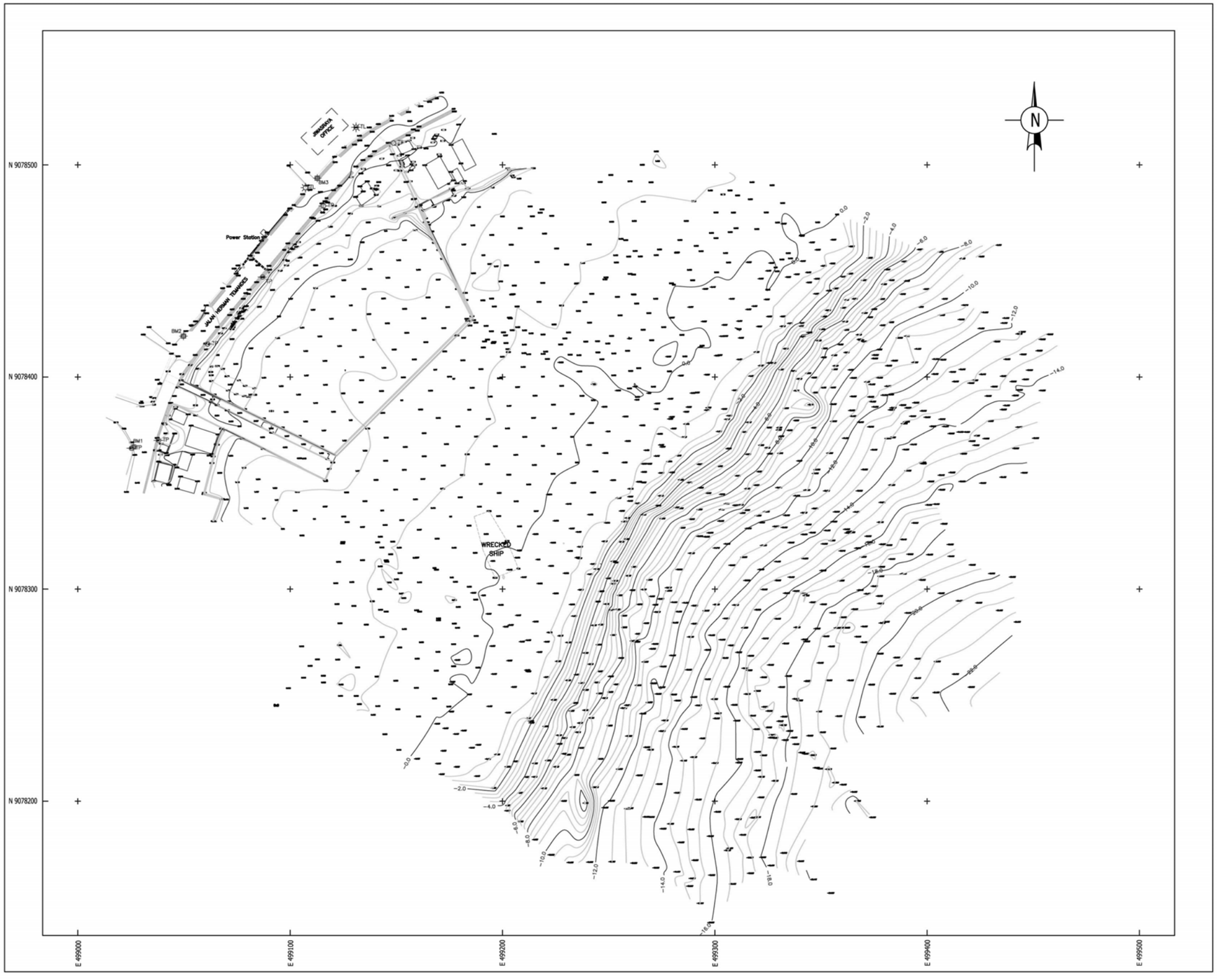
- Soft component final report (in both Japanese and English)
- As attached material, the follow are appendixed: (i) analysis of similar facility operation, (ii) draft proposal for organizational operation, (iii) draft proposal for facility operation, (iv) draft proposal for accounting procedural rules, and (v) draft proposal for operational tie-up with the fishermen's cooperative.

**(8) Responsibilities of the recipient country's executing agency**

In implementing the soft components under the Project, the recipient country's executing agency (i.e., the district government) is to bear the following responsibilities:

- Nominate a target group of port director candidates three months before the completion of construction.
- Issue travel permits (*slat jalan*) to dispatched expatriate experts.
- The district fisheries department is to bear travel expenses to Maumere for port director candidates.

## 6-1 Topographic Survey Drawing




NOTE

THIS MAP WAS BASED ON THE FIELD SURVEY CONDUCTED ON JULY 2006
FOR THE SURVEY REFERENCE, THE FOLLOWING PARAMETER ARE ADOPTED

1. HORIZONTAL CONTROL
FOR THE HORIZONTAL CONTROL POINTS, UTM (WGS'84) COORDINATE SYSTEM WAS ADOPTED
THE REFERENCE POINTS IS BM1 AND BM3
WITH COORDINATES AS FOLLOWS

| NO | CODE | NORTHING (Y) | EASTING (X) | ELEV |
|---|---|---|---|---|
| 1 | BM1 | 9078367.04 | 499026.240 | 6.302 |
| 2 | BM2 | 9078419.257 | 499049.768 | 5.418 |
| 3 | BM3 | 9078493.680 | 499112.790 | 5.348 |

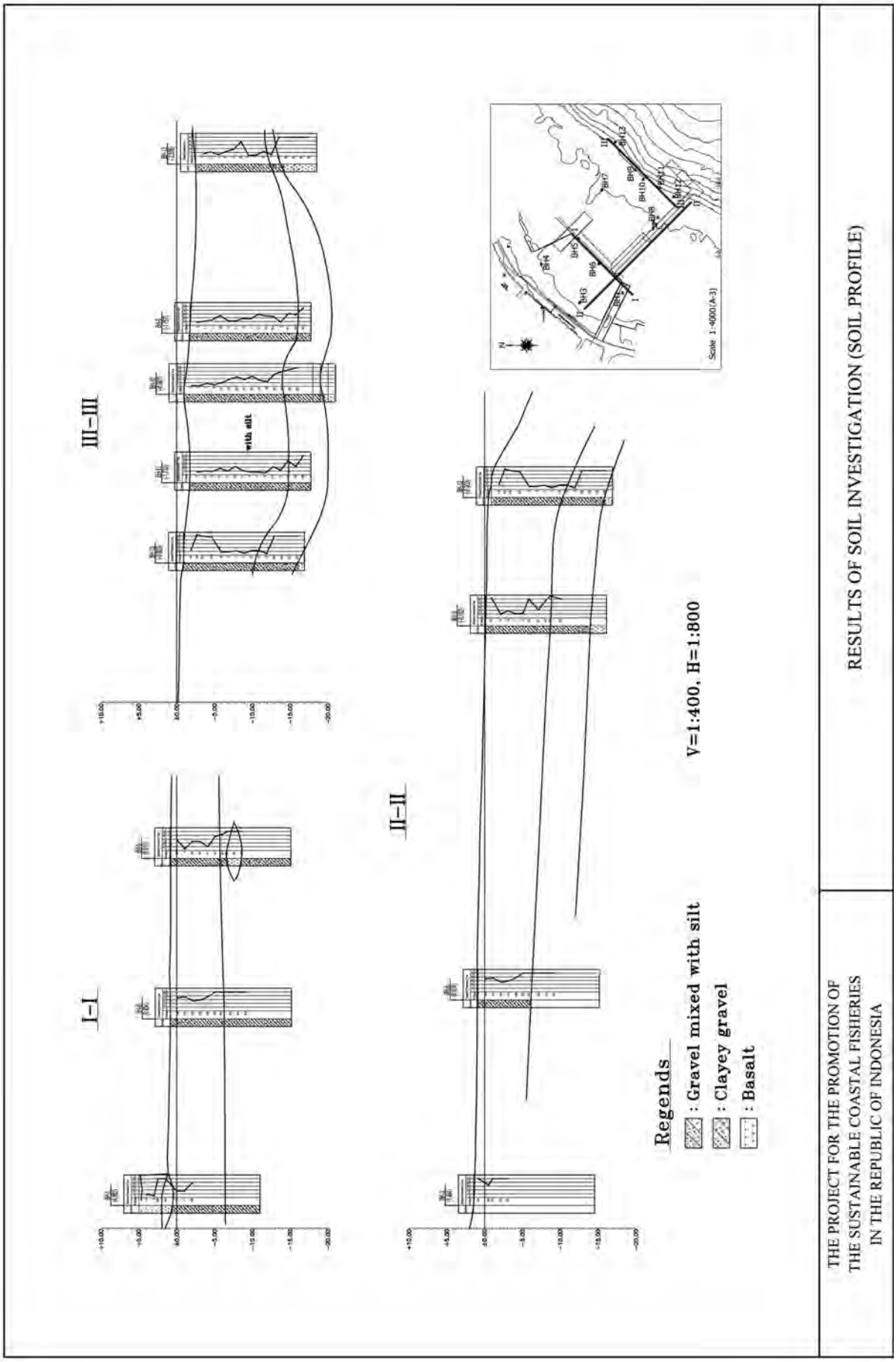
2. VERTICAL CONTROL
ALL ELEVATION WAS STARTED FROM BM PELB,
WITH ELEVATION = 5.279

LEGEND

- BM = BENCH MARK
- = ROAD
- = DRAINAGE
- TP = TELEPHONE POLE
- TL = ELECTRICAL POLE
- = CONTOUR LINE
- 100.00 = SPOTHEIGHT
- = MANHOLE
- = BORE HOLE
- = SEABED, SEAWATER

| | |
|---|---|
| THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES IN THE REPUBLIC OF INDONESIA | Results of Topographic & Bathymetric Survey (Existing Condition) |

## 6-2 Summary of Soil Investigation



## 6-3 Simulation of Production and Storage under 3 Cases

**Case-1:** (large ice making machine and small ice storage):

6.0 ton ice making machine ＋ 19 ton storage capacity (4 days worth of production)

**Case-2:** (smaller ice making machine and larger ice storage):

5.0 ton ice making machine ＋ 35 ton storage capacity (7 days worth of production)

**Case-3**: (case 2 by 2 ice production lines, more flexible production system):

2.5 ton ice making machine × 2 lines ＋ 35 ton storage capacity (7 days worth of production)

(Case 1)

| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Monthly balance | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Moon age | | | | New moon | | | | | | Intermediate | | | | | Full moon | | | | | Intermediate | | | | | | | New moon | | | | | | |
| Daily ice demand | | | | 6806kg | | | | | | 806kg | | | | | 81kg | | | | | 806kg | | | | | | | 6806kg | | | | | | |
| | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 806 | 806 | 806 | 81 | 81 | 81 | 81 | 81 | 81 | 806 | 806 | 806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 127830 | A |
| 6.0t production | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | | | | | | | | | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 132000 | B |
| | | | | | | | | | | | | | | stop operation | | | | | | | | | | | | | | | | | | |
| Total production | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 132000 | D |
| Ice balabce | -806 | -806 | -806 | -806 | -806 | -806 | -806 | -806 | -806 | 5194 | 5194 | -806 | -81 | -81 | -81 | -81 | -81 | -81 | -806 | 5194 | 5194 | -806 | -806 | -806 | -806 | -806 | -806 | -806 | -806 | -806 | 4170 | E |
| | | | | | | | | | | | | | | | Storage period of ice | | | | | | | | | | | | | | | | | |
| | | | | | -7254 kg | | | | | | | | | | 18678 kg | | | | | | | | | | | -7254 kg | | | | | | |

(Case 2)

| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Monthly balance | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Moon age | | | | New moon | | | | | | Intermediate | | | | | Full moon | | | | | Intermediate | | | | | | | New moon | | | | | | |
| daily ice demand | | | | 6806kg | | | | | | 806kg | | | | | 81kg | | | | | 806kg | | | | | | | 6806kg | | | | | | |
| | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 806 | 806 | 806 | 81 | 81 | 81 | 81 | 81 | 81 | 806 | 806 | 806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 127830 | A |
| 5.0t production | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | | | | | | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 130000 | B |
| | | | | | | | | | | | | | | stop operation | | | | | | | | | | | | | | | | | | |
| Total production | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 0 | 0 | 0 | 0 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 130000 | D |
| Ice balance | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | 4194 | 4194 | 4194 | 4919 | -81 | -81 | -81 | -81 | 4919 | 4194 | 4194 | 4194 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | 2170 | E |
| | | | | | | | | | | | | | | | Storage period of ice | | | | | | | | | | | | | | | | | |
| | | | | | -16254 kg | | | | | | | | | | 34678 kg | | | | | | | | | | | -16254 kg | | | | | | |

(Case 3)

| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Monthly balance | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Moon age | | | | New moon | | | | | | Intermediate | | | | | Full moon | | | | | Intermediate | | | | | | | New moon | | | | | | |
| Daily ice demand | | | | 6806kg | | | | | | 806kg | | | | | 81kg | | | | | 806kg | | | | | | | 6806kg | | | | | | |
| | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 806 | 806 | 806 | 81 | 81 | 81 | 81 | 81 | 81 | 806 | 806 | 806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 6806 | 127830 | A |
| 2.5t production | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 75000 | B |
| | | | | | | | | | | | | | | | Non- stop operation | | | | | | | | | | | | | | | | | |
| 2.5t production | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | | | | | | | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 55000 | C |
| | | | | | | | | | | | | | | | stop operation | | | | | | | | | | | | | | | | | |
| Total production | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 130000 | D |
| Ice balance | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | 4194 | 4194 | 4194 | 2419 | 2419 | 2419 | 2419 | 2419 | 2419 | 1694 | 1694 | 4194 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | -1806 | 2170 | E |
| | | | | | | | | | | | | | | | Storage period of ice | | | | | | | | | | | | | | | | | |
| | | | | | -16254 kg | | | | | | | | | | 34678 kg | | | | | | | | | | | -16254 kg | | | | | | |

## 6-4 Unit Values of Target Boat Shapes, Daily Fish Catch Volume and Daily Demand of Re-supply Services

### 1. Unit values of target fishing boat which will use the planned facility

Unit values of typical local fishing boat which will use the planned facility are shown in the table .

- Shapes of typical local fishing boats are figured out based on the registration record of motorized boats in the East Flores District (District Fishery Office, 2006) and the interview survey results on non-motorized boats activities (Basic Design Team, 2006). Average values were taken as unit values of total length and width instead the maximum value was taken as the unit value of the draft. The power of engine of the typical boat was set with reference to the said registration record.
- No. of clue is set based on the interview survey result (Basic Design Team, 2006).
- Daily landed quantity by type of boat was set based on the landed quantity per operation by type of boat in the year 2004 and the average monthly operation days in the peak season.
- Ice demand by type of boat was calculated from the ice use rate and the ice fish rate by type of boat based on the interview survey on fishing activities (Basic Design Team, 2006). Ice use rate of target non-motorized boat (25 boats) is only 2% and their total ice demand was calculated at only 1.5kg/day. Accordingly. This ice demand was neglected from calculation of ice demand determination.
- Fuel demand was set based on the scale of engine and operating time per operation by type of boat.
- Fresh water is used for drinking and cooking on the boat. The demand was calculated by the no. of clue and the average consumption/clue/operation obtained from the interview survey result (Basic Design Team, 2006).
- Rice is consumed on the boat. The average consumption is estimated at 0.5kg/clue/operation.

Unit values of fishing boat which will use the planned facility is indicated in table A-6.4.1 and A-6.4.2.

**Table A-6.4.1 Unit values of fishing boat which will use the planned facility*1**

| Type of boat | No. | Typical shape (L x W x Dm) | Power of engine (HP) | No. of clue | Landed q'ty/day (kg/boat) | Supply volume/day | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Ice (kg/boat) | Fuel (L/boat) | Water (L/boat) |
| -Type A (Skipjack pole and line) | 13 | 18.0x3.75x2.0 | 150 | 20 | (○)*2 28kg | ○ 400 | ○ 214 | ○ 80 |
| -Type B (Skipjack pole and line) | 8 | 12.0x1.25x1.0 | 15 | 8 | (○)*2 7kg | ○ 100 | ○ 34 | ○ 32 |
| -Type C (Tuna vertical line) | 7 | 7.0x1.25x1.0 | 7.5 | 2 | x | ○ 25 | ○ 17 | ○ 8 |
| -Type D (Vertical/trolling) | 22 | 7.0x1.0x0.6 | 7.5 | 2 | x | ○ 25 | ○ 17 | ○ 8 |
| -Type E (Round haul netter) | 37 | 15.0x1.25x1.0 | 25 | 9 | ○ 200kg | x | ○39 | ○ 36 |
| -Type (Gill netter) | 36 | 7.0x1.0x0.6 | 7.5 | 2 | ○ 30kg | △ 15 | ○ 14 | ○ 8 |
| -Type G (Blanket netter:) | 1 | 14.0x10.5x1.0 | 20 | 3 | x | x | ○ 31 | ○ 12 |
| -Type H (Non-motorized) | 25 | 4.0x0.6x0.4 | - | 2 | ○ 6kg | x | x | ○ 8 |
| (合計) | 149 | - | - | - | - | - | - | - |

Remark*1 : ○ means that the port will be used by all target boats, △ means used by partial no. of boat and × means not be used.

*2 : Fish catch by type A, B, C and D is basically sold to existing fish trading companies. However, approx. 71tons will be landed annually to the planned facility by the target skipjack pole and line boats. These landings are done informally when they come to the port to get re-supply services. Accordingly, these landing activities are not counted for determining the planned berth length.

**Table A-6.4.2 Calculation of Unit values of fuel consumption by type of boat**

| Type of boat | Power of engine (HP) | Operating time schedule | Calculation: (HP x fuel consumption rate x operating rate x operating time)*1 | Fuel consumption (L/boat) |
|---|---|---|---|---|
| -Type A (Pole and line) | 150 | 17:00-12:00 (19) | 150x0.15x0.5x19=213.7 | 214 |
| -Type B ( Pole and line) | 15 | 17:00-12:00 (19) | 15x0.2x0.6x19=34.2 | 34 |
| -Type C (Tuna vertical line) | 7.5 | 17:00-12:00 (19) | 7.5x0.2x0.6x19=17.1 | 17 |
| -Type D (Vertical/trolling) | 7.5 | 17:00-12:00 (19) | 7.5x0.2x0.6x19=17.1 | 17 |
| -Type E (Round haul netter) | 25 | 17:00-6:00 (13) | 25x0.2x0.6x13=39.0 | 39 |
| -Type F (Gill netter) | 7.5 | 17:00-6:00 (13) | 7.5x0.2x0.7x13=13.7 | 14 |
| -Type G (Blanket netter:) | 20 | 17:00-6:00 (13) | 20x0.2x0.6x13=31.2 | 31 |

Remark*1: Fuel consumption rate and operating rate are based on "Guideline of Fishing Port Planning", Japan Fishing Port Association

*2: Round haul netter and blanket netter that engage in night time operation, will consume kerosene at average 10L/operation/boat as well as diesel oil.

**2. Fish landing time by target boats**

**(1) Assumption:**

1) For fish landing, fishermen will put their fish into round shaped plastic containers (fish tubs) with its

capacity of 30kg and lift them up to the crown top of the landing jetty or revetment for stair-landing, and then transport them by push carts up to the fish handling shed.

2) Required time to transport fish up to the fish handling shed is set based on the transport time by single pushcart even though in the case they will use pushcarts more than one (assuming that they will transport fish at the same time).
3) Pushcart capacity: 4 tubs/layer, 2 layers (120kg/cart)
4) Assumed required time for fish transport (including time for loading and unloading fish tubs to /from pushcart)

**Case 1**: From jetty to fish handling shed (200m)
= 4 minutes for traveling + 4 minutes for loading /unloading
= 8 minutes/cart

**Case 2**: From jetty to fish handling shed (50m)
= 1 minutes for traveling + 4 minutes for loading /unloading
= 5 minutes/cart

5) Net lifting up time/fish tub
= average 3 minutes for putting fish of 30kg from fish hold to a fish tub + average 1 minute for lifting up to the crown
= 4 minutes

**(2) Calculation of fish landing time**

1) Required fish landing time in case 1 (landing at jetty):
= Lifting up time + transport time
= Average fish catch (kg) ÷ (4 minutes /30kg) x 1.5 + 8 (minutes)
Remark: The actual lifting up time should include the time for approaching and leaving from/to jetty and waiting. It is assumed the actual lifting up time is set at 1.5 x net lifting up time.

Required fish landing time at jetty by type of boat is shown in the table A-6.4..3 bellow.

**Table A-6.4.3 Unit values of fish landing at jetty by type of boat**

| Type of boat | Average catch / operation (kg) | Calculation<br>Average fish landing (kg) ÷ (4min/30kg) x 1.5＋8 (min) | Fish landing time (min/boat) |
|---|---|---|---|
| -Type A (Skipjack pole and line) | 250 | Not land fish | - |
| -Type B (Skipjack pole and line) | 100 | - ditto - | - |
| -Type C (Tuna vertical line) | 25 | - ditto - | - |
| -Type D (Vertical/trolling) | 25 | - ditto - | - |
| -Type E (Round haul netter) | 200 | 200÷4/30x1.5+8=48.0 | 48 |
| -Type (Gill netter) | 30 | 30÷4/30x1.5+8=14.0 | 14 |
| -Type G (Blanket netter:) | 150 | - ditto - | - |
| -Type H (Non-motorized) | 6 | - ditto - | - |

2) Required fish landing time in case 2 (landing at wharf for small boats):
= Lifting up time + transport time
= Average fish catch (kg) ÷ (4 minutes /30kg) × 1.5 ＋ 5 (minutes)

Remark: The actual lifting up time should include the time for approaching and leaving from/to jetty and waiting. It is assumed the actual lifting up time is set at 1.5 x net lifting up time.

Required fish landing time at wharf by type of boat is shown in the table A-6.4.4 bellow.

**Table A-6.4.4 Unit values of fish landing at wharf for small boat by type of boat**

| Type of boat | Average catch / operation (kg) | Calculation: Average fish landing (kg)÷ (4min/30kg) x 1.5＋5 (min) | Fish landing time (min/boat) |
|---|---|---|---|
| -Type A (Skipjack pole and line) | 250 | Not land fish | - |
| -Type B (Skipjack pole and line) | 100 | - ditto - | - |
| -Type C (Tuna vertical line) | 25 | - ditto - | - |
| -Type D (Vertical/trolling) | 25 | - ditto - | - |
| -Type E (Round haul netter) | 200 | 200÷4/30x1.5+5= 45 | 45 |
| -Type (Gill netter) | 30 | 30÷4/30x1.5+5 =11.0 | 11 |
| -Type G (Blanket netter:) | 150 | - Not land fish | - |
| -Type H (Non-motorized) | 6 | 6÷4/30x1.5+5=6.2 | 6 |

**3. Required re-supplying service time for target boat**

**(1) Assumption:**

1) Fishermen will procure necessary material/food for their next operation from planned facility such as fuelling shed, ice making plant, water supply shed and kiosk. Required demand per boat is based on unit values indicated in the above tables
2) Re-supplied material/food will be transported to each boat by following forms:
   - Fuel : 20L plastic container (p. can)
   - Ice : Naked ice block (25kg/block)
   - Fresh water : 20L plastic container (p. can)
   - Food : Not fixed
3) Contents of re-supply works and average re-supply time

Re-supply works are composed of net time for re-supply, time for application and waiting time. Contents of re-supply and average re-supplying time is assumed as shown in table A-6.4.5.

**Table A-6.4.5 Contents of re-supply and average re-supplying time**

| Contents of re-supply | Contents of works | Average net re-supply time + time for application /waiting |
|---|---|---|
| Fuel | Empty container is refueled in each time. | Average refueling time: 2 minutes/container<br>Application/waiting time:5 minutes |
| Ice | Ice block is handed by manual from ice storage. | Handed time: 1 minute/block<br>Application/waiting time:5 minutes |
| Water | Empty container is refilled in each time. | Average refilling time: 2 minutes/container<br>Application/waiting time:5 minutes |
| Food | Purchased at the kiosk in the site. | Time for order/receiving: 5 minutes |

4) Required time to transport material/food up to each boat is set based on the transport time by single pushcart even though in the case they will use pushcarts more than one (assuming that they will transport material/food at the same time).
5) Pushcart capacity: 8 containers (20L/container)/pushcart

6) Assumed required time for material/food transport (including time for loading and unloading material/food to /from pushcart)

**Case 1**: From re-supply shed to jetty (200m) = 4 minutes for traveling + 4 minutes for loading /unloading = 8 minutes/cart

**Case 2**: From re-supply shed to landing wharf (50m) = 1 minutes for traveling + 4 minutes for loading /unloading = 5 minutes/cart

In case the transport volume is less than 20kg (1 plastic container), loading/unloading time is not counted because push cart will not be used.

**(2) Calculation of re-supply service time**

1) Required re-supply service time in Case 1 (Re-supply up to landing jetty):

(a) Ice supply

Re-supply service time/boat

= Net working time corresponding to re-supply quantity + transport time up to jetty

= Required no. of ice blocks x average working time/block + time for slip issue/waiting time + transport time by push cart

Calculation of re-supply service time for ice is indicated in the table A-6.4.6:

**Table A-6.4.6 Re-supply service time for ice by type of boat up to jetty**

| Type of boat | Ice Re-supply Q'ty (kg/operation) | Calculation: (Required no. of ice blocks x average working time/block + time for slip issue/waiting time + transport time by push cart) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 400 (16 blocks) | =16 block x 1 min/block + 5 min + 8 min<br>=29 min | 29 |
| -Type B (Pole and line) | 100 (4 blocks) | =4 block x 1min/block + 5 min+ 8 min<br>=17 min | 17 |
| -Type C (Tuna vertical line) | 25 (1block) | =1 block x 1 min /block + 5 min + 8 min<br>=14 min | 14 |
| -Type D (Vertical/trolling) | 25 (1block) | =1 block x 1 min /block + 5 min + 8 min<br>=14 min | 14 |
| -Type E (Round haul netter) | Not required | - | - |
| -Type (Gill netter) | 15 (0.6block) | =0.6 block x 1 min/block + 5 min+ 4 min=9.6 min | 10 |
| -Type G (Blanket netter:) | Not required | - | - |
| -Type H (Non-motorized) | Not required | - | - |

(b) Fuel supply

Re-supply service time/boat

= Net working time corresponding to re-supply quantity + transport time up to jetty

= Required no. of p. cans x average working time/block + time for slip issue/waiting time + transport time by push cart

= Re-supply quantity ÷ 20L/p. can × 2 min/p. can + 5 min + 8 min

Calculation of re-supply service time for fuel is indicated in the following table A-6.4.7:

**Table A-6.4.7 Re-supply service time for fuel by type of boat up to jetty**

| Type of boat | Fuel re-supply Q'ty (no. of P. can) | Calculation: (Required no. of p. can x 2 min /p. can + 5 min + 8 min) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 214 L/operation (10.7) | ＝10.7 p. can x 2 min/p. can + 5 min+8 min<br>＝34.4 min | 34 |
| -Type B (Pole and line) | 34 L/operation (1.7) | ＝1.7 p. can x 2 min/p. can + 5 min+8 min<br>＝15.4 min | 15 |
| -Type C (Tuna vertical line) | 17 L/operation (0.85) | ＝0.85 p. can x 2 min/p. can + 5 can+4 min<br>＝10.7 min | 11 |
| -Type D (Vertical/trolling) | 17 L/operation (0.85) | ＝0.85 p. can x 2 min/p. can + 5 min+4 min<br>＝10.7 min | 11 |
| -Type E (Round haul netter) | 39 L/operation (1.95) | ＝1.95 p. can x 2 min/p. can + 5 min+8 min<br>＝16.9 min | 17 |
| -Type (Gill netter) | 14 L/operation (0.70) | ＝10.7 p. can x 2 min/p. can + 5 min+4 min<br>＝10.4 min | 10 |
| -Type G (Blanket netter:) | 31 L/operation (1.55) | ＝1.55 p. can x 2 min/p. can + 5 min+8 min<br>＝16.1 min | 16 |
| -Type H (Non-motorized) | Not required | - | - |

(c) Fresh water supply

Re-supply service time/boat

= Net working time corresponding to re-supply quantity + transport time up to jetty

= Required no. of p. cans x average working time/block + time for slip issue/waiting time + transport time by push cart

= Re-supply quantity ÷ 20L/p. can × 2 min/p. can + 5 min + 8 min

Calculation of re-supply service time for fresh water by type of boat is indicated in the table A-6.4.8:

**Table A-6.4.8 Re-supply service time for fresh water by type of boat up to jetty**

| Type of boat | Water re-supply Q'ty (no. of p. can) | Calculation: (Required no. of p. can x 2 min /p. can + 5 min + 8 min) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 80 L/operation (4.0) | 4.0 p. can x 2 min/ p. can + 5 min +8 min<br>＝21.0 min | 21 |
| -Type B (Pole and line) | 32 L/operation (1.6) | 1.6 p. can x 2 min / p. can + 5 min +8 min<br>＝16.2 min | 16 |
| -Type C (Tuna vertical line) | 8 L/operation (0.4) | 0.40 p. can x 2 min / p. can + 5 min +4 min<br>＝9.8 min | 10 |
| -Type D (Vertical/trolling) | 8 L/operation (0.4) | 0.40 p. can x 2 min /p. can+ 5 min +4 min<br>＝9.8 min | 10 |
| -Type E (Round haul netter) | 36 L/operation (1.8) | 1.80 p. can x 2 min / p. can + 5 min +8 min<br>＝16.6 min | 17 |
| -Type (Gill netter) | 8 L/operation (0.4) | 0.40 p. can x 2 min / p. can + 5 min +4 min<br>＝9.8 min | 10 |
| -Type G (Blanket netter:) | 12 L/operation (0.6) | 0.60 p. can x 2 min / p. can + 5 min +4 min<br>＝10.2 min | 10 |
| -Type H (Non-motorized) | Not required | - | - |

(d) Food re-supply

Re-supply quantity of rice is below 20kg/operation/boat in any type of boat. Accordingly, It is assumed a push cart will not be used for rice transport.

Re-supply service time/boat

= Net purchasing time at kiosk+ transport time up to jetty (approx. 300m)

= 5 min + 8 min = 11 min

Re-supply service time for rice by type of boat is indicated in the table A-6.4.9:

**Table A-6.4.9 Re-supply service time for rice by type of boat up to jetty**

| Type of boat | Rice re-supply Q'ty (kg/operation) | Calculation: Net purchasing time at kiosk+ transport time up to jetty (approx. 300m) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 10 | 5 min＋6min ＝11min | 11 |
| -Type B (Pole and line) | 4 | - ditto - | 11 |
| -Type C (Tuna vertical line) | 1 | - ditto - | 11 |
| -Type D (Vertical/trolling) | 1 | - ditto - | 11 |
| -Type E (Round haul netter) | 4.5 | - ditto - | 11 |
| -Type (Gill netter) | 1 | - ditto - | 11 |
| -Type G (Blanket netter:) | 1.5 | - ditto - | 11 |
| -Type H (Non-motorized) | Not required | - | - |

(e) Total re-supply service time by type of boat at jetty

Total re-supply service time of (a) ~ (d) is indicated in the table A-6.4.10.

**Table A-6.4.10 Total re-supply service time by type of boat at jetty**

| Type of boat | Ice | Fuel | water | Food | Total |
|---|---|---|---|---|---|
| | (min/boat) | | | | |
| -Type A (Pole and line) | 29 | 34 | 21 | 11 | 95 |
| -Type B (Pole and line) | 17 | 15 | 16 | 11 | 59 |
| -Type C (Tuna vertical line) | 14 | 11 | 10 | 11 | 46 |
| -Type D (Vertical/trolling) | 14 | 11 | 10 | 11 | 46 |
| -Type E (Round haul netter) | - | 17 | 17 | 11 | 45 |
| -Type (Gill netter) | 10 | 10 | 10 | 11 | 41 |
| -Type G (Blanket netter:) | - | 16 | 10 | 11 | 37 |
| -Type H (Non-motorized) | - | - | - | - | - |

2) Required re-supply service time in Case 2 (Re-supply up to landing wharf)

The difference from the Case 1 is as follows:

- Non-motorized boat will get the re-supply services at this wharf.
- Pole and line boats will not have the re-supply services at this wharf because their bows are too high to get the services from the stair of the wharf.
- The difference of re-supply time from that of the case 1 is caused only by the difference of the transport distance.

The calculation result based on the above assumption is shown in the table A-6.4.11~6.4.14.

(a) Ice supply

**Table A-6.4.11 Re-supply service time for ice by type of boat up to wharf**

| Type of boat | Ice Re-supply Q'ty (kg/operation) | Calculation: (Required no. of ice blocks x average working time/block + time for slip issue/waiting time + transport time by push cart) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | Not required | - | - |
| -Type B (Pole and line) | - ditto - | - | - |
| -Type C (Tuna vertical line) | 25 (1block) | ＝1 block x 1 min /block + 5 min + 5 min ＝11 min | 11 |
| -Type D (Vertical/trolling) | 25 (1block) | ＝1 block x 1 min /block + 5 min + 8 min ＝11 min | 11 |
| -Type E (Round haul netter) | Not required | - | - |
| -Type (Gill netter) | 15 (0.6block) | ＝0.6 block x 1 min/block + 5 min+ 1 min ＝6.6 min | 7 |
| -Type G (Blanket netter:) | Not required | - | - |
| -Type H (Non-motorized) | Not required | - | - |

(b) Fuel supply

**Table A-6.4.12 Re-supply service time for fuel by type of boat up to wharf**

| Type of boat | Fuel re-supply Q'ty (no. of P. can) | Calculation: (Required no. of p. can x 2 min /p. can + 5 min + 8 min) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | Not required | - | - |
| -Type B (Pole and line) | Not required | - | - |
| -Type C (Tuna vertical line) | 17 L/operation (0.85) | ＝0.85 p. can x 2 min/p. can + 5 can+1 min ＝7.7 min | 8 |
| -Type D (Vertical/trolling) | 17 L/operation (0.85) | ＝0.85 p. can x 2 min/p. can + 5 min+1 min ＝7.7 min | 8 |
| -Type E (Round haul netter) | 39 L/operation (1.95) | ＝1.95 p. can x 2 min/p. can + 5 min+5min ＝13.9 min | 14 |
| -Type (Gill netter) | 14 L/operation (0.70) | ＝10.7 p. can x 2 min/p. can + 5 min+1 min ＝7.4 min | 7 |
| -Type G (Blanket netter:) | 31 L/operation (1.55) | ＝1.55 p. can x 2 min/p. can + 5 min+5 min ＝13.1 min | 13 |
| -Type H (Non-motorized) | Not required | - | - |

(c) Fresh water supply

**Table A-6.4.13 Re-supply service time for fresh water by type of boat up to jetty**

| Type of boat | Water re-supply Q'ty (no. of p. can) | Calculation: (Required no. of p. can x 2 min /p. can + 5 min + 5 min) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 80 L/operation (4.0) | - | - |
| -Type B (Pole and line) | 32 L/operation (1.6) | - | - |
| -Type C (Tuna vertical line) | 8 L/operation (0.4) | 0.40 p. can x 2 min / p. can + 5 min +1 min ＝6.8 min | 7 |
| -Type D (Vertical/trolling) | 8 L/operation (0.4) | 0.40 p. can x 2 min /p. can+ 5 min +1 min ＝6.8 min | 7 |
| -Type E (Round haul netter) | 36 L/operation (1.8) | 1.80 p. can x 2 min / p. can + 5 min +5 min ＝13.6 min | 14 |
| -Type (Gill netter) | 8 L/operation (0.4) | 0.40 p. can x 2 min / p. can + 5 min +1 min ＝6.8 min | 7 |
| -Type G (Blanket netter:) | 12 L/operation (0.6) | 0.60 p. can x 2 min / p. can + 5 min +1 min ＝7.2 min | 7 |
| -Type H (Non-motorized) | Not required | 0.40 p. can x 2 min / p. can + 5 min +1 min ＝6.8 min | 7 |

(d) Food re-supply

**Table A-6.4.14 Re-supply service time for rice by type of boat up to jetty**

| Type of boat | Rice re-supply Q'ty (kg/operation) | Calculation: Net purchasing time at kiosk+ transport time up to jetty (approx. 300m) | Required time (min/boat) |
|---|---|---|---|
| -Type A (Pole and line) | 10 | Not required | - |
| -Type B (Pole and line) | 4 | - ditto - | - |
| -Type C (Tuna vertical line) | 1 | 5 min＋3min ＝8min | 8 |
| -Type D (Vertical/trolling) | 1 | - ditto - | 8 |
| -Type E (Round haul netter) | 4.5 | - ditto - | 8 |
| -Type (Gill netter) | 1 | - ditto - | 8 |
| -Type G (Blanket netter:) | 1.5 | - ditto - | 8 |
| -Type H (Non-motorized) | 1 | - ditto - | 8 |

(e) Total re-supply service time by type of boat at landing wharf

Total re-supply service time of (a) ~ (d) is indicated in the table A-6.4.15.

**Table A-6.4.15 Total re-supply service time by type of boat at landing wharf**

| Type of boat | Ice | Fuel | water | Food | Total |
|---|---|---|---|---|---|
| | (min/boat) | | | | |
| -Type A (Pole and line) | - | - | - | - | - |
| -Type B (Pole and line) | - | - | - | - | - |
| -Type C (Tuna vertical line) | 11 | 8 | 7 | 8 | 34 |
| -Type D (Vertical/trolling) | 11 | 8 | 7 | 8 | 34 |
| -Type E (Round haul netter) | - | 14 | 14 | 8 | 36 |
| -Type (Gill netter) | 7 | 7 | 7 | 8 | 29 |
| -Type G (Blanket netter:) | - | 13 | 7 | 8 | 28 |
| -Type H (Non-motorized) | - | - | 7 | 8 | 15 |

**4. Utilization time of planned facility by total target boats**

The mooring time by type of boat is assumed to be the total time for catch landing and for re-supply service that will be executed in the same time zone in the landing facility.

Based on the calculation results of 1～3, the mooring time by type of boat at jetty and landing wharf is summarized in the following table A- 6.4.16~ 6.4.17..

(a) Mooring time by type of boat at jetty

**Table A-6.4.16 Mooring time by type of boat at jetty**

| Type of boat | No.of boat | Time zone of use | Landing time (min) | Re-supply time (min) | Mooring time /boat (min) | Total mooring time (hr) |
|---|---|---|---|---|---|---|
| -Type A (Pole and line) | 13 | 12～17 | - | 95 | 95 min | 1,235 min = 20.6hrs |
| -Type B (Pole and line) | 8 | 12～17 | - | 59 | 59 min | 472 min = 7.9 hrs |
| -Type C (Tuna vertical line) | 7 | 12～17 | - | 46 | 46 min | 322 min = 5.4 hrs |
| -Type D (Vertical/trolling) | 22 | 12～17 | - | 46 | 46 min | 1,012 min = 16.9 hrs |
| -Type E (Round haul netter) | 37 | 5:30～7:30 | 48 | 45 | 93 min | 3,441 min = 57.3 hrs |
| -Type (Gill netter) | 36 | 5:30～7:30 | 14 | 41 | 55 min | 1,980 min = 33.0 hrs |
| -Type G (Blanket netter:) | 1 | 5:30～7:30 | - | 37 | 37 min | 37 min = 0.6 hrs |
| -Type H (Non-motorized) | 25 | 5:30～7:30 | - | - | - | - |

(b) Mooring time by type of boat at landing wharf

**Table A-6.4.17 Mooring time by type of boat at at landing wharf**

| Type of boat | No. of boat | Time zone of use | Landing time (min) | Re-supply time (min) | Mooring time /boat (min) | Total mooring time (hr) |
|---|---|---|---|---|---|---|
| -Type A (Pole and line) | 13 | 12～17 | - | - | - | - |
| -Type B (Pole and line) | 8 | 12～17 | - | - | - | - |
| -Type C (Tuna vertical line) | 7 | 12～17 | - | 34 | 34 min | 238 min = 4.0 hrs |
| -Type D (Vertical/trolling) | 22 | 12～17 | - | 34 | 34 min | 748 min = 12.5 hrs |
| -Type E (Round haul netter) | 37 | 5:30～7:30 | 45 | 36 | 981min | 2,997 min = 50.0 hrs |
| -Type (Gill netter) | 36 | 5:30～7:30 | 141 | 29 | 40 min | 1,440 min = 24.0 hrs |
| -Type G (Blanket netter:) | 1 | 5:30～7:30 | - | 28 | 28 min | 28 min = 0.47 hrs |
| -Type H (Non-motorized) | 25 | 5:30～ 7:30 | 6 | 15 | 21 | 525 min = 8.8 hrs |

**5. Daily operation schedule of planned facility**

**(1) Operation time zone of jetty and landing wharf**

Utilization time of landing jetty and stair-landing facility by the target fishing boats is divided into following two zones:

- Landing/re-supply works by round haul netters, gill netters and non-motorized boats for 2-3 hours in the core morning time of 5:30~7:30.
- Re-supply service works by skipjack pole and line boats in the afternoon time of 12:00~17:00.

Accordingly, the operation time of landing jetty is for 12 hours from 5:00~17:00. The staff in charge of catch landing /handling works are obliged to engage in only during this time zone. With regard to the afternoon works, only the staff belonging to the facility for re-supply servicing will engage in. The landing jetty and stair-landing facility is taken care by fishermen themselves. Overall facility in the afternoon is periodically checked by security guard.

**(2) Operation time zone of fish handling shed**

The works of fish handling shed is composed of fish display by tub, trading, shipment by middlemen and temporary fish stock using insulated boxes. Retail activities will not be allowed. The works in this place need to be executed quickly to keep quality control of fish principally within 2 hours concurrent with catch landing works. As for temporary fish stock works, these will not have any time restriction because they will be done under the responsibility of middlemen. Time allowance for 30 minutes is to be secured to engage in preparation works and others such as data arrangement, cleaning, etc. by the relevant staff before and after the core working time of 2 hours. Accordingly, the working time of fish handling shed is set for three hours.

**(3) Operation time zone of overall port facility**

The operation time of overall port facility is set for 12 hours because the re-supply servicing activities will be daily for 12 hours even though the landing /handling works is finished in the morning. The time shift system should be introduced to the works of the re-supply works and security works.

**(4) Holiday**

The port will not have any holiday. The staff will take holiday alternately.

## 6-5 Breakdown of Income and Expenditure

### (1) Breakdown of expected income

Operating income is broadly categorized into facility use fees (wharf berthing fees, fish handling shed use fees) and re-supply fees (ice, fuel, water, rice, etc.). Unit costs are set as follows.

- Berthing fee:

  This will be RP 1,500/month which is the same fee levied by commercial ports for skipjack pole and line class boats. Within the targeted boats, only 9 will be from outside the district (this type of boat operates 9.5 months per year).

- Ice price:

  Same price (RP 8,000/25kg block; production cost = RP 5,400) as that levied by the existing fish purchasing companies.

- Fuel price:

  Same price as that at nearby city gas stations (RP 4,500/L equivalent to the PERTAMINA price charged to fishermen's cooperatives)

- Water price:

  An approximate 20% surcharge is added to the purchase price (RP8.2/L) from the local water utility (PDAM) branch. (Because paid amount is small, an easily calculated unit cost has been set).

- Rice price:

  Although various sundry items are sold at the kiosk, only rice sales are computed as port income. Other sales profit is returned to the fishermen's cooperative. A 2.5% (RP 75/kg) surcharge is attached to the prevailing market price of RP 3,000/kg.

Details of planned income are shown in the table Table A-6.5.1.

**Table A-6.5.1 Details of planned income**

| | | | | | | |
|---|---|---|---|---|---|---|
| Berthing fee | | | | | | |
| | Type of fishing boat | No. of boats | Months/year | | RP/month | Subtotal (RP/year) |
| | Skipjack pole and line | 9 | 9.5 | | 15,000 | 1,282,500 |
| | Subtotal (RP/year) | 9 | - | | - | **1,282,500** |
| Fish handling shed use fees | | | | | | |
| | Type of fishing boat | Kg/day | Days/year | Kg/year | RP/kg | Subtotal |
| | Skipjack pole and line | 420 | 171 | 71,820 | 180 | 12,927,600 |
| | Tuna vertical line | - | 200 | - | | - |
| | Vertical line and trawling | - | 240 | - | | - |
| | Round haul netter | 6,100 | 210 | 1,281,000 | | 230,580,000 |
| | Gill netter | 790 | 200 | 158,000 | | 28,440,000 |
| | Blanket netter | 0 | 181 | 0 | | - |
| | Non-motorized | 150 | 250 | 37,500 | | 6,750,000 |
| | Subtotal | 7,460 | - | 1,548,320 | - | **278,697,600** |
| Ice sales | | | | | | |
| | Type of fishing boat | Block/month | Months/year | | RP/block | Subtotal |
| | All targeted types | 4,500 | 9.5 | | 8,000 | 342,000,000 |
| | Subtotal | 4,500 | - | | - | **342,000,000** |
| Fuel sales | | | | | | |
| | Type of fishing boat | L/day | Days/year | L/year | RP/L | Subtotal |
| | Skipjack pole and line | 3,054 | 171 | 522,234 | 4,500 | 2.350,053,000 |
| | Tuna vertical line | 119 | 200 | 23,800 | 4,500 | 107,100,000 |
| | Vertical line and trawling | 374 | 240 | 89,760 | 4,500 | 403,920,000 |
| | Round haul netter | 1,443 | 210 | 303,030 | 4,500 | 1,363,635,000 |
| | Gill netter | 504 | 200 | 100,800 | 4,500 | 453,600,000 |
| | Blanket netter | 31 | 181 | 5,611 | 4,500 | 25,249,500 |
| | Subtotal | 5,525 | - | 1,045,235 | - | **4,703,557,500** |
| Water sales | | | | | | |
| | Type of fishing boat | L/day | Days/year | L/year | RP/L | Subtotal |
| | Skipjack pole and line | 1,296 | 171 | 221,616 | 10 | 2,216,160 |
| | Tuna vertical line | 56 | 200 | 11,200 | 10 | 111,200 |
| | Vertical line and trawling | 176 | 240 | 42,240 | 10 | 422,400 |
| | Round haul netter | 1,332 | 210 | 279,720 | 10 | 2,797,200 |
| | Gill netter | 288 | 200 | 57,600 | 10 | 576,000 |
| | Blanket netter | 12 | 181 | 2,172 | 10 | 21,720 |
| | Non-motorized | 200 | 250 | 50,000 | 10 | 500,000 |
| | Subtotal | 3,360 | - | 664,548 | - | 6,644,680 |
| Kiosk (figures are for rice only) | | | | | | |
| | Type of fishing boat | Kg/day | Days/year | Kg/year | RP/kg | Subtotal |
| | Skipjack pole and line | 162 | 171 | 27,702 | 75 | 2,077,650 |
| | Tuna vertical line | 22 | 240 | 5,280 | 75 | 396,000 |
| | Vertical line and trawling | 166 | 210 | 34,860 | 75 | 2,614,500 |
| | Round haul netter | 36 | 200 | 7,200 | 75 | 540,000 |
| | Gill netter | 2 | 181 | 362 | 75 | 27,150 |
| | Blanket netter | 25 | 250 | 6,250 | 75 | 468,750 |
| | Non-motorized | 420 | - | 83,054 | - | **6,229,050** |
| **Total income** | | | | | | **5,338,411,330** |

### (2) Breakdown of probable expenditure

Expenditure is broadly categorized into operational costs and maintenance costs. In addition to daily expenditures including personnel cost, office consumable cost, telephone cost, etc., operational costs include remuneration to members of the operation and management committee as well as fishermen's cooperative related fees.

－Personnel cost: Salary levels for district government workers will be applied in determining remuneration for port staff.

－Gratuity: Although members of the operation and management committee are in effect volunteers, a per person sum of RP 15,000 is envisioned to cover tri-monthly meeting participation cost.

－Fuel purchase price: This is based on the wholesale price by PERTAMINA (RP 4,200/L) to fishermen's cooperatives.

－Electricity: Because ice making operations continue for 10 months out of the year, the cost for this electricity consumption is calculated separately from general electricity use.

－Water: Because ice making operations continue for 10 months out of the year, the cost for this water consumption is calculated separately from general water use.

－Fishermen's cooperative related fees: 50% factored to profit from fuel sales.

－O&M: This does not include equipment replacement. Operation and maintenance cost is estimated at a yearly 0.1% of direct construction cost.

－Equipment replacement cost: A portion of monthly operating income is set aside for this purpose. A minimum of saving to cover five years of equipment replacement cost is necessary.

Breakdown of probable expenditure is shown in the table A-6.5.2.

**Table A-6.5.2 Breakdown of probable expenditure**

| Personnel costs | | RP/month | Months/year | No. of persons | Subtotal (RP) |
|---|---|---|---|---|---|
| | Port authority director | 2,000,000 | 12 | 1 | 24,000,000 |
| | Secretary | 1,000,000 | 12 | 1 | 12,000,000 |
| | Section chief | 1,500,000 | 12 | 2 | 36,000,000 |
| | Chief accountant | 1,000,000 | 12 | 1 | 12,000,000 |
| | Maintenance chief | 1,000,000 | 12 | 1 | 12,000,000 |
| | On-premise administrative chief | 1,000,000 | 12 | 1 | 12,000,000 |
| | On-premise administrative assistant | 600,000 | 12 | 3 | 21,600,000 |
| | Landing and fish handling chief | 1,000,000 | 12 | 1 | 12,000,000 |
| | Landing and fish handling assistant | 750,000 | 12 | 4 | 36,000,000 |
| | Ice production engineer | 1,000,000 | 12 | 1 | 12,000,000 |
| | Ice production assistant | 600,000 | 12 | 2 | 14,400,000 |
| | Re supply servicing chief | 1,000,000 | 12 | 1 | 12,000,000 |
| | Re supply servicing assistant | 600,000 | 12 | 3 | 7,200,000 |
| | Subtotal | 13,050,000 | - | 22 | **223,200,000** |
| Direct costs | | RP/month | Months/year | No. of persons | Subtotal (RP) |
| | **Operational cost:** Office consumables | 1,000,000 | 12 | | 12,000,000 |
| | Telephone | 500,000 | 12 | | 6,000,000 |
| | Computer related | 100,000 | 12 | | 1,200,000 |
| | Transportation | 2,625,000 | 12 | | 31,500,000 |
| | Remuneration to operation and management committee members | 480,000 | 4 | | 1,920,000 |
| | Fuel for fishing operations | 410,437,000 | | | 4,389,987,000 |
| | Electricity (ice production) | 17,673,000 | 10 | | 176,730,000 |
| | (Other) | 5,483,000 | 12 | | 65,796,000 |
| | Water (ice production) | 2,451,000 | 10 | | 24,510,000 |
| | (Other) | 857,000 | 12 | | 10,284,000 |
| | Fishermen's cooperative related fees | - | - | | 156,785,000 |
| | O&M cost: Facility O&M cost | 5,000,000 | 12 | | 60,000,000 |
| | Subtotal | | | | **4,936,712,000** |
| Total | | 459656000 | | | **5,159,912,000** |

### 6-6 Proposed Repair and Maintenance method for Inter-locking block pavement

The Project site is a reclaimed land that was formerly a beach used for fish landing and mooring boats. Prior to the commencement of the reclamation works by the Indonesian side, the Basic Study Team checked this beach conditions and observed there were several small holes of water outpour in the ground. Accordingly, there is concern about localized subsidence or surface settlement in this land fill area due to leakage of reclaimed material in consequence of this water outpour or residual water by tidal fluctuation, etc. Under such conditions, it is necessary to maintain planned facilities such as inter-locking block pavement, rainwater drainage, etc. Proposed methods for these repair and maintenance of pavement by using local technology are shown below.

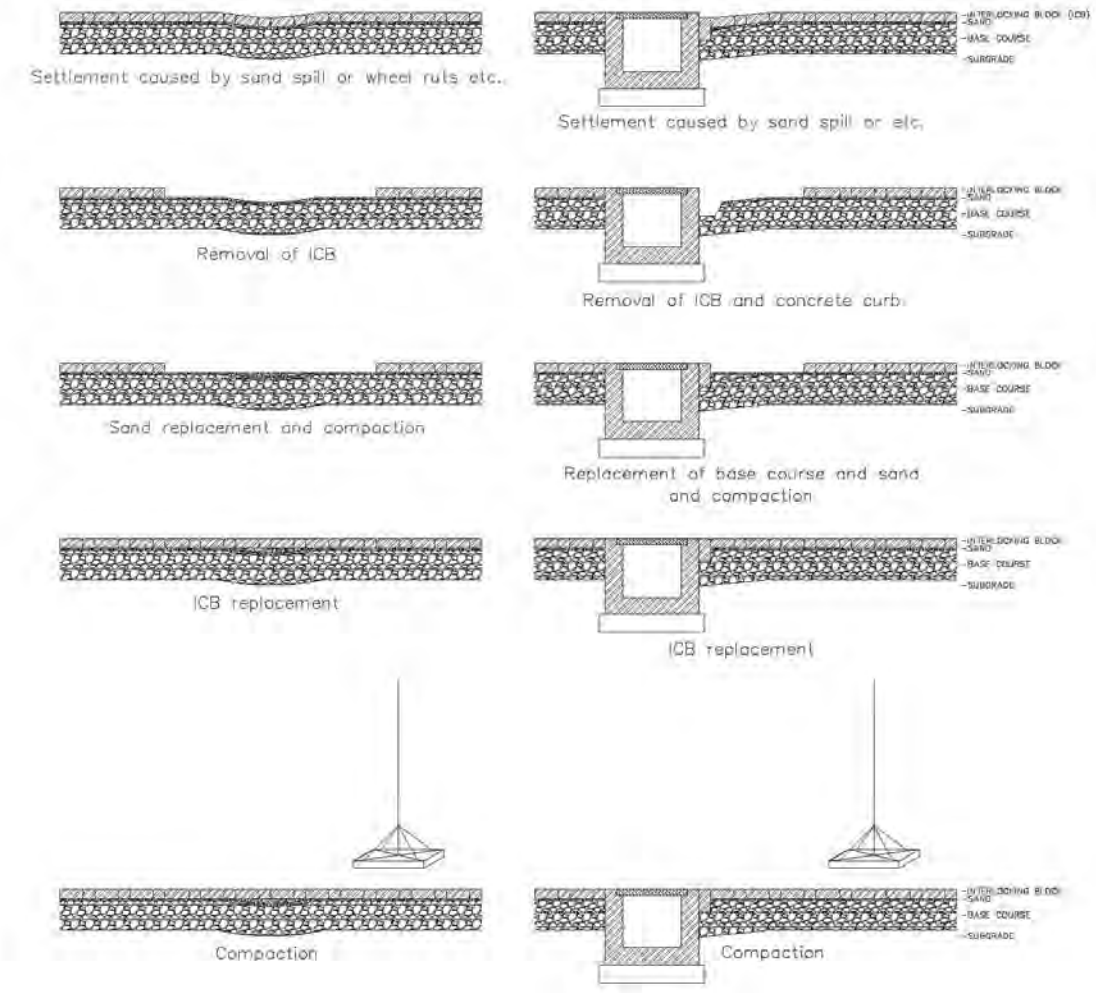
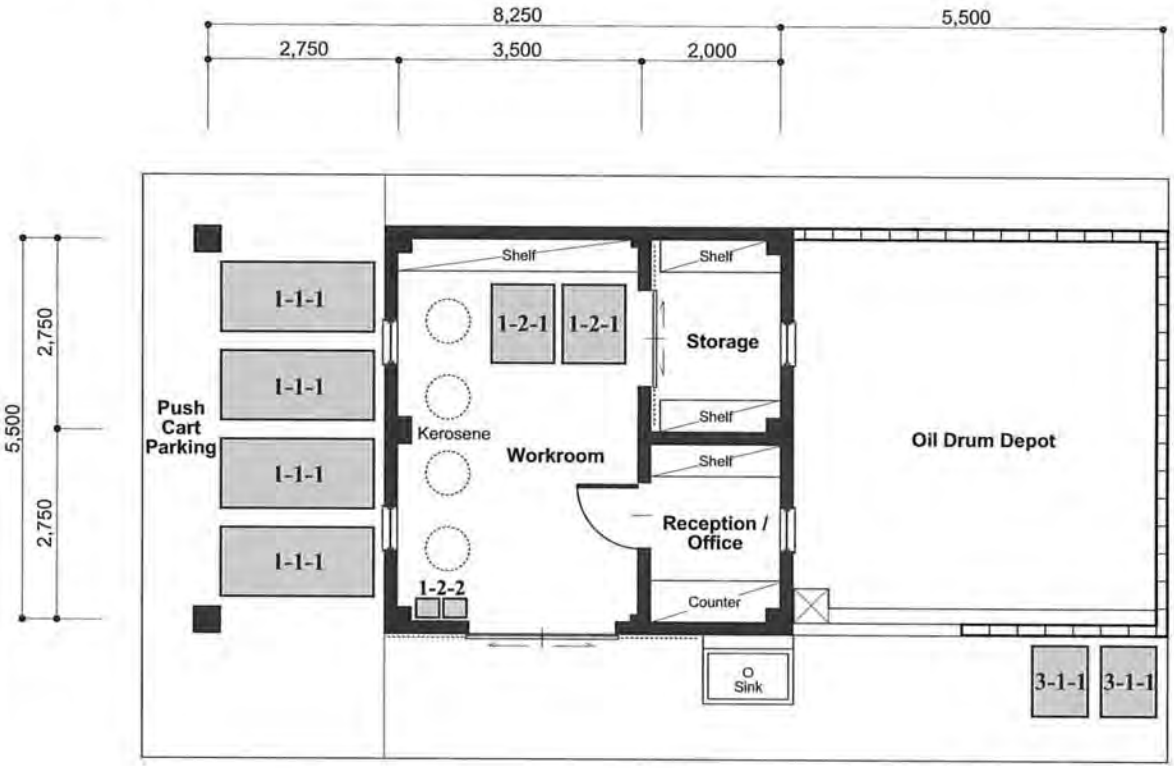



**Figure The proposed repair and maintenance method**

## Appendix 7 Equipment Layout Plan

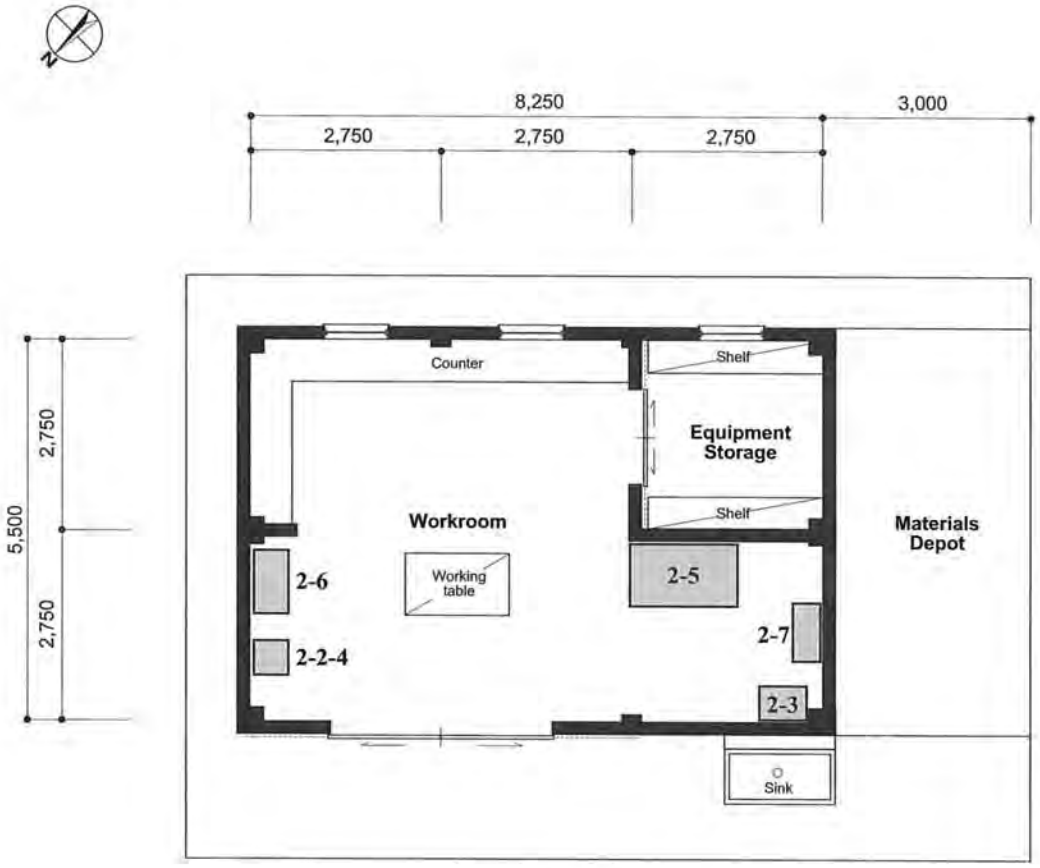



**PLAN**

**Fuelling Shed**

| No. | Equipment Name | Q'ty |
|---|---|---|
| 1-1-1 | Torolley | 4 |
| 1-2-1 | Carrier for Oil Drum | 2 |
| 1-2-2 | Manual Pump | 2 |
| 3-1-1 | Extinguisher with Wheel | 2 |

| | | |
|---|---|---|
| THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES IN THE REPUBLIC OF INDONESIA | Equipment Layout /Fuelling Shed | S = 1 : 100 |

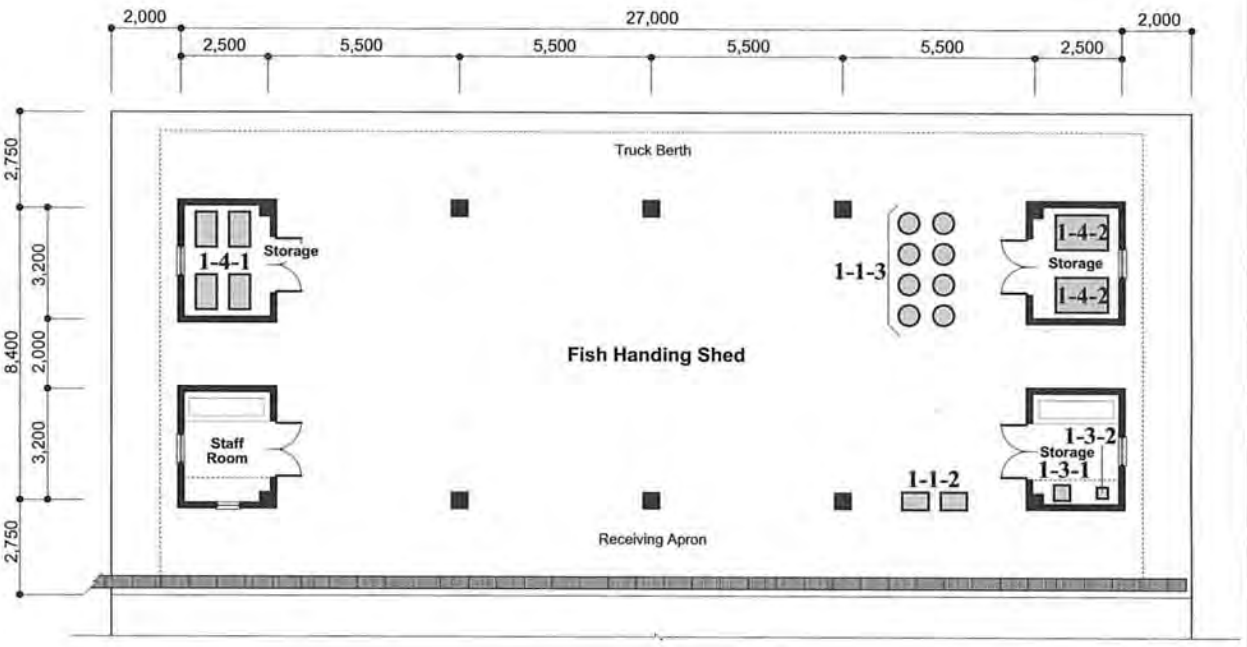



**PLAN**

**Workshop**

| No. | Equipment Name | Q'ty |
|---|---|---|
| 2-1-1 | Electric Circular Saw | 1 |
| 2-1-2 | Electric Jig Saw | 1 |
| 2-1-3 | Electric Dill for Wood | 1 |
| 2-2-1 | Vice | 1 |
| 2-2-2 | Electric Disc Grinder | 1 |
| 2-2-3 | Table-top Electric Grinder | 1 |
| 2-2-4 | Drilling Press | 1 |
| 2-3 | Engine Welder | 1 |
| 2-4 | Work Bench | 1 |
| 2-5 | Movable Chain Block | 1 |
| 2-6 | Sink | 1 |
| 2-7 | Engine Compressor | 1 |
| 3-1-2 | Portable Extinguisher | 2 |

| | | |
|---|---|---|
| THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES IN THE REPUBLIC OF INDONESIA | Equipment Layout /Workshop | S = 1 : 100 |

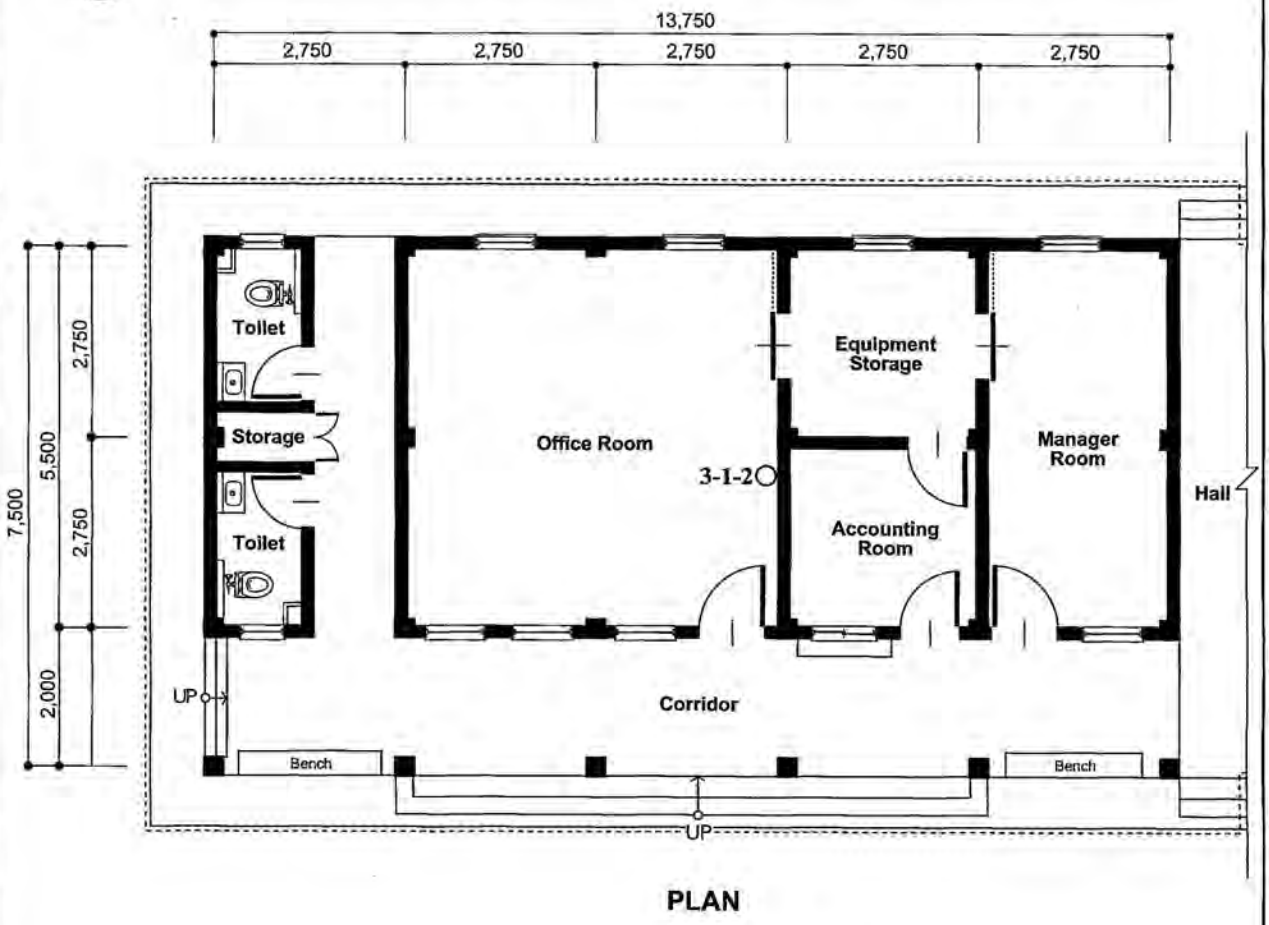



**PLAN**

**Fish Handing Shed**

| No. | Equipment Name | Q'ty |
|---|---|---|
| 1-1-2 | Fish Box | 20 |
| 1-1-3 | Bucket | 392 |
| 1-3-1 | Platform Scale (100kg) | 1 |
| 1-3-2 | Weighing Scale (30kg) | 1 |
| 1-4-1 | Cool Box A | 4 |
| 1-4-2 | Cool Box B | 2 |

| | | |
|---|---|---|
| THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES IN THE REPUBLIC OF INDONESIA | Equipment Layout /Fish Handing Shed | S = 1 : 200 |




**PLAN**

**Administration Building**

| No. | Equipment Name | Q'ty |
|---|---|---|
| 4-1-2 | Portable Extinguisher | 2 |

**Ice Making and Storage Plant**

| No. | Equipment Name | Q'ty |
|---|---|---|
| 3-1-2 | Portable Extinguisher | 2 |

| | | |
|---|---|---|
| THE PROJECT FOR THE PROMOTION OF THE SUSTAINABLE COASTAL FISHERIES IN THE REPUBLIC OF INDONESIA | Equipment Layout /Administration Building, Ice Making and Storage Plant | S = 1 : 100 |

## Appendix 8 References

| No. | Title | Form Book/ Video Map/ Photos | Original/ Copy | Publisher | Issued in |
|---|---|---|---|---|---|
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| 3 | STATISTIK INDONESIA 2004 | Book | Original | Badan Pusat Statistik, Jakarta - Indonesia | 2005 |
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| 7 | PERATURAN BUPATI FLORES TIMUR NOMOR 8 TAHUN 2006 TENTANG RENCANA PEMBANGUNAN JANGKA MENENGAH KABUPATEN FLORES TIMUR TAHUN 2005-2010 | Book | Copy | PEMERINTAH KABUPATEN FLORES TIMUR | 2006 |
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