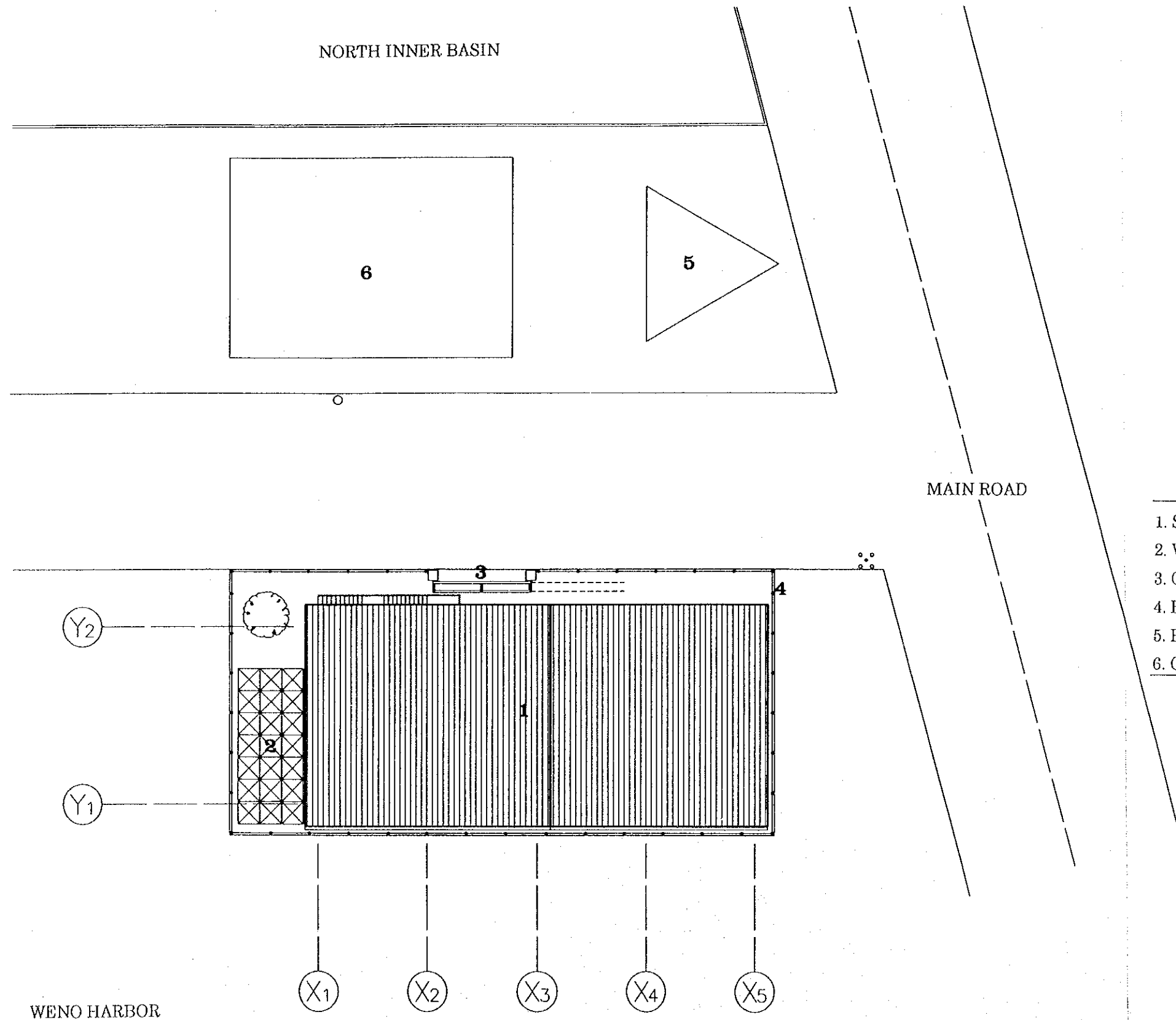


## **4.5 Basic Design Plan**







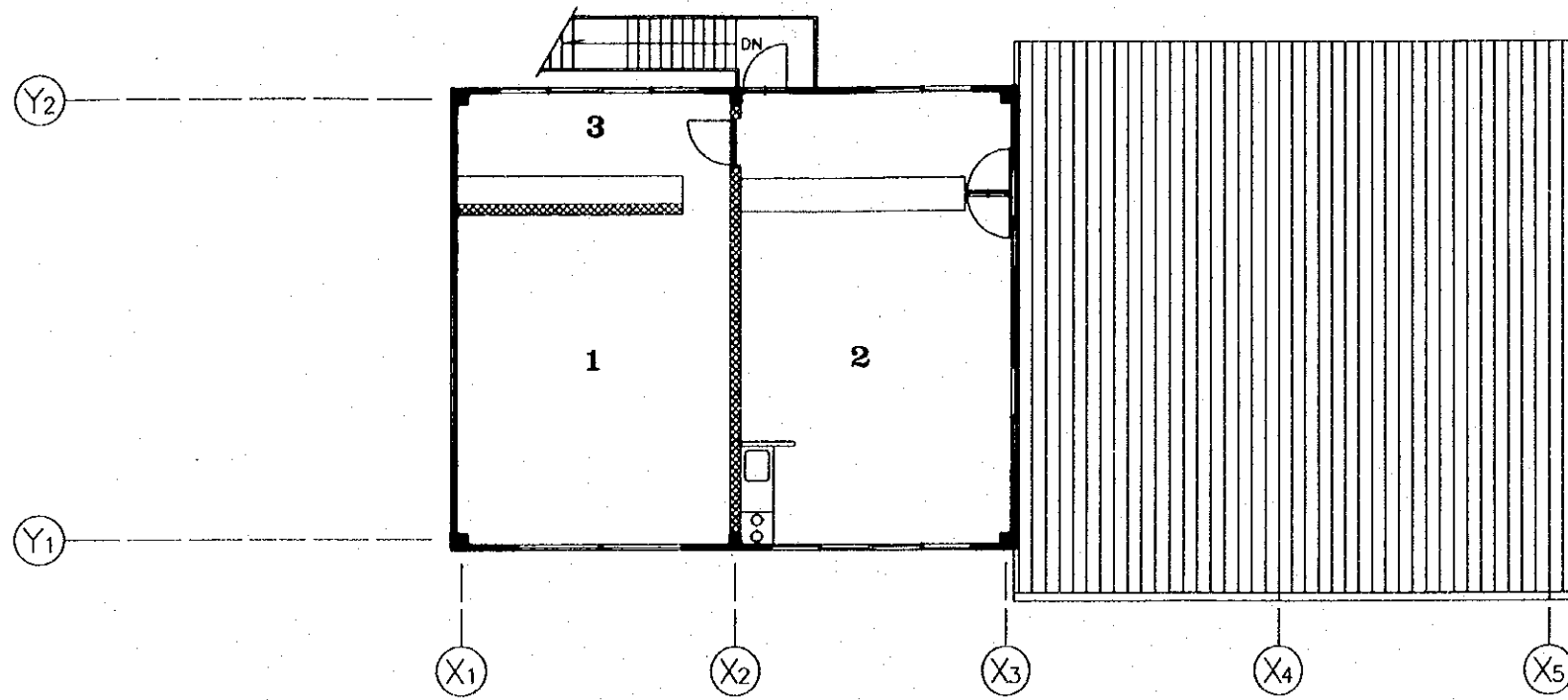
1. SUPPORT STATION BUILDING
2. WATER CATCHMENT TANK
3. GATE
4. FENCE
5. PUBLIC MARKET
6. CHUUK FEDERATION OF FISHING COOP BLDG.

0 1 2 3 4 5 10m

LAYOUT PLAN



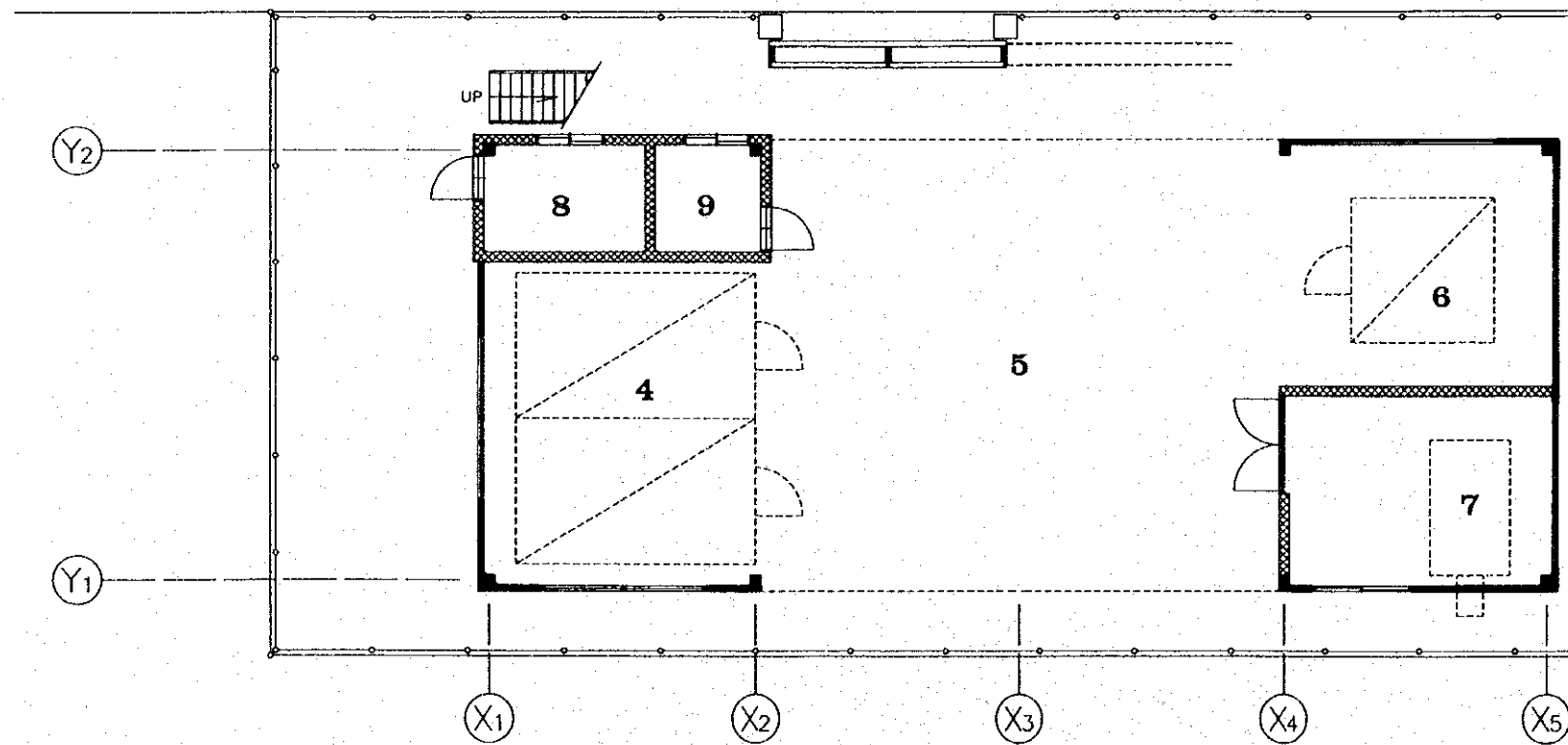




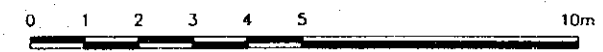
**SECOND FLOOR PLAN**

**SUPPORT STATION BUILDING**

- 1. ICE MAKING MACHINE ROOM
- 2. OFFICE
- 3. STORAGE
- 4. ICE STORAGE
- 5. WORKING SPACE
- 6. CHILLING STORAGE
- 7. GENERATOR
- 8. TOILET
- 9. SALES OFFICE



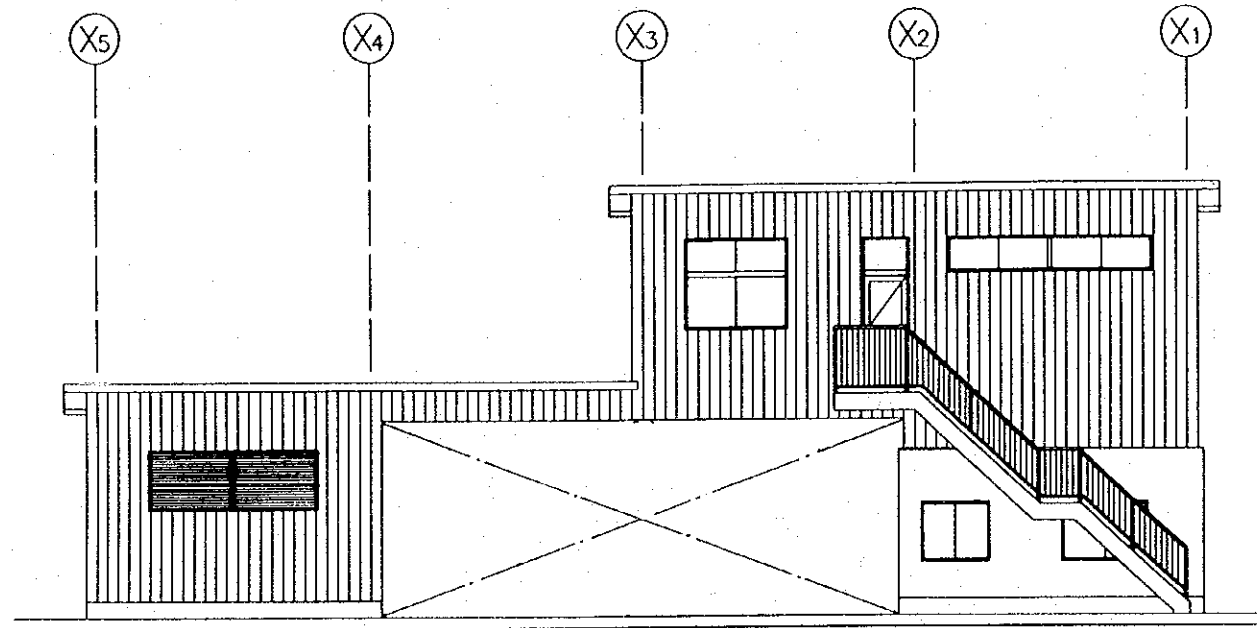
**FIRST FLOOR PLAN**



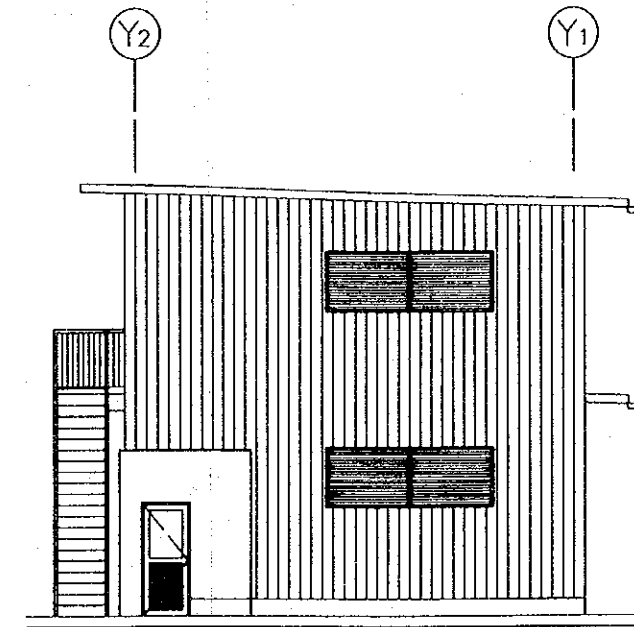




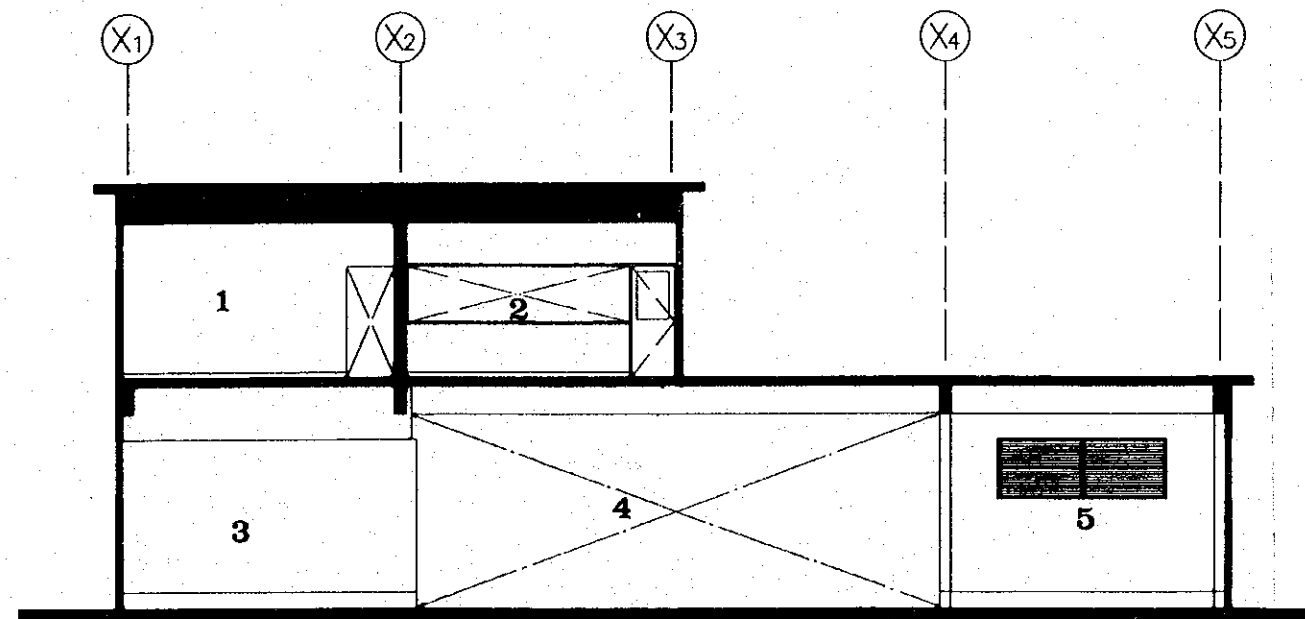




ELEVATION



EAST ELEVATION



SECTION

- SUPPORT STATION BUILDING
- 1. ICE MAKING MACHINE ROOM
  - 2. OFFICE
  - 3. ICE STORAGE
  - 4. WORKING SPACE
  - 5. CHILLING STORAGE









## **4.6 Construction Plan**

### **4.6.1 Guidelines :**

The Plan facility will be a steel frame building, with a partial second floor and a floor area of 240m<sup>2</sup>. While the construction period should be relatively short for this type of construction, the construction process will be subject to various constraints imposed by the Government of Japan in connection with grant –aid projects. A minimum of two vessels per month make scheduled trips from Japan to Weno, including container vessels. The main materials for this project, which will all be sourced in Japan, include structural steel frames, roofing and wall materials, finishing materials, electrical materials and equipment components, ice –makers, insulation panels, and a pontoon (small floating jetty). While Weno enjoys more favorable transportation access than most other Pacific island countries, the construction plan will nevertheless have to be prepared with great care.

### **4.6.2 Special Aspects :**

The construction phase of the Plan comprises building construction. Small buildings in Weno, the State capital, such as homes and stores, are mainly of block construction, using local building methods. While steel frame construction is also found in warehouses and other wide –span structures, all public buildings, such as government offices, hotels, and libraries, are built by foreign contractors. As to building materials, such primary products as gravel and sand as well as wood and other secondary materials are available locally, but finishing materials are used in only small quantities in Weno, making them difficult to procure locally within the short construction period. Accordingly, considering the tight construction deadline and other factors, steel frames and other key materials for the Plan facility will all be sourced in Japan.

### **4.6.3 Construction Method :**

The construction process will progress sequentially in the following stages : temporary construction, foundation work, framing, equipment work, finishing work, and equipment delivery and installation. The following aspects were considered in connection with the construction plan :

- (1) Unskilled labor is readily available in the area.
- (2) Since the bulk of the materials will be procured in Japan, careful advance planning will be

required in connection with their procurement and shipment as well as during the construction process to insure smooth implementation at each stage.

#### **4.6.4 Supervision Plan**

Plan implementation will proceed as follows. Following the Exchange of Notes between the Government of Japan and the Government of the Federated States of Micronesia, based on the detailed procedures set forth in the Memorandum of Understanding (which is included as an Appendix to the Exchange of Notes), the Japan International Cooperation Agency (JICA) will recommend a Consultant to the FSM government to prepare the implementing Detail Design and exercise construction supervision. The FSM government and the recommended Consultant will conclude a Consulting Agreement, whereby the Consultant undertakes to prepare detailed designs, specifications, project cost estimates, and tender documents, as required for Plan implementation. Then, subject to the approval of the FSM and Chuuk State governments, the Consultant will, as proxy, conduct bidder evaluations and complete the tender process. In accordance with JICA guidelines for grant -aid cooperation, the Consultant will evaluate the technical content and price of the tender submitted by the lowest bidder, and, if no problems are encountered, will recommend that firm to the FSM government as project Contractor. The FSM government will then sign a contract with the recommended firm, which will come into force upon verification by the Government of Japan.

After the construction contract has been signed, the Consultant will approve the construction plans in Japan and inspect the equipment being built there, while exercising continuing supervision over the construction work in Weno so as to insure proper progress and accuracy. However, considering the small scale of the project and the fact that the work involves no special engineering methods, the Consultant will make field inspections only for the foundation check, interim inspection, and final inspection and will also be present during equipment turnover.

#### **4.6.5 Equipment and Material Procurement by Area :**

##### **(1) Building Materials :**

Building materials for this Plan will, in principle, be procured in Chuuk State wherever possible. Locally available items include sand, gravel, concrete blocks, wooden materials, and cement. All other materials will presumably be sourced in Japan. Since the building site is on the seashore, all materials will be fully protected against corrosion and other damage from sea winds. The procurement breakdown, by country of origin, for the main building and equipment

materials is shown below.

<u>Main building materials</u>	<u>Country of origin</u>
Sand	Chuuk State
Gravel	Chuuk State
Cement	Chuuk State
Reinforced concrete (Re -bars)	Chuuk State
Wood and veneers	Chuuk State
Paint	Chuuk State
Steel frames	Japan
Sheet metals	Japan
Interior finishes	Japan
Fixtures and fittings	Japan

#### **Main Equipment Materials**

Emergency generator	Japan
Electric wires	Japan
Lighting fixtures	Japan
Switches and sockets	Japan
Switchboards	Japan
Water and drainage pipes	Japan
Sanitary fixtures	Japan
Water intake (catchment) tank	Japan

#### (2) Equipment :

The personal computer for use in processing catch statistics, facsimile, copier, and cash register, for which servicing is a prime consideration, will all be procured in the Plan area from among brands handled by local dealers or agents. All other items of equipment, such as the ice - makers, ice transport vehicle, and pontoon, will be procured in Japan.

#### **4.6.6 Implementation Process :**

In connection with the implementation process, construction responsibility will be divided as follows between Japan and the FSM.

#### (1) Responsibilities to be assumed by the Government of Japan :

Assuming that the subject Plan is carried out under a grant -aid from Japan, the Government of Japan will be responsible for the following items :

##### 1) Construction of the Plan facilities



2) Equipment procurement and installation

3) Consulting services in support of the Implementation Design and tender process, together with construction supervision.

(2) Responsibilities to be assumed by the FSM government :

Assuming that this project is carried out under a grant -aid from Japan, the FSM government will be responsible for the following items :

1) Securing the Plan site and performing all necessary landscaping and gardening work after completion.

2) Obtaining all approvals relative to the construction work and other permits required for Plan implementation.

3) Expediting customs clearance for all equipment and materials imported into Weno (Chuuk State) for Plan purposes and arranging duty exemptions therefor.

4) Exempting Japanese nationals residing in FSM to render project services from all taxes and surcharges.

5) Issuing of payment authorizations and defraying payment commissions, pursuant to banking arrangements with a Japanese foreign exchange bank.

6) All other items required for Plan implementation not included in the obligations assumed by the Government of Japan.

In the past, FSM has consistently provided duty exemptions on equipment and materials imported under foreign aid programs. However, in anticipation of the termination of the Compact of Free Association with the U.S. in 2001, in order to buttress Federal finances and insure that aid programs will be implemented in order of priority, the FSM government is presently considering levying a 3% import duty on products used in aid projects, which would be paid either by the direct beneficiary of the aid program or via appropriate budgetary arrangements. If this new tax becomes law, in the case of the subject Plan, the Chuuk State government would presumably be liable for the 3% duty, which is estimated to run in the order of \$20,800.

On the basis of the division of project responsibility outlined above, the implementation phases for the construction Plan may be classified into: implementation design, including tenders; facility construction; and equipment supply. In light of the strict requirements governing the construction phase under Japan's grant -aid system, the procurement plan for materials and labor, and the natural conditions prevailing in the Plan area, the construction process will be divided into the following three main stages :

- 1) Foundation work
- 2) Construction and finishing
- 3) Supply and installation of equipment and materials (installation of the ice -making facilities and small pontoon jetty).

The construction phase, including both preparations in Japan and on -site construction time, may be estimated at 6 months. Among the equipment items, the longest procurement lead time will be that for the ice -making facilities to be sourced in Japan, for which about 4 months are anticipated. Time must also be allowed for installation, adjustment and test runs on the ice -making and chilling storage equipment. The pontoon will have to be installed locally, and we are estimating about 3 weeks for this work. After duly considering these various conditions and circumstances, we have prepared the following Project Progress Chart, which we feel is optimum in terms of the construction period and costs.

### Implementation Progress Chart

Plan Month	01	02	03	04	05	06	07	08	09
<b>Detail Design</b>		Preliminary study		Work in Japan ▼ Tender Orientation ▼ Tender ▼ Construction Contract					
<b>Construction Work</b>		Preparation & manufacture in Japan		Shipment Foundation		Structural work	Finishing Equipment ▼ Delivery		
<b>Equipment Procurement</b>	Manufacture					Shipment	Installation ▼ Delivery		

## SECTION FIVE: PROJECT EVALUATION AND RECOMMENDATIONS

### 5.1 Project Benefits:

The subject plan is designed to provide a support station for developing artisanal fisheries in Chuuk State, comprising an ice –making facility, ice storage, chilling storage, working area, and other facilities at Weno, the state's largest fish consuming area.

Artisanal fishery development has been severely handicapped by a chronic shortage in the supply of ice, which constitutes the most basic means of freshness retention for these small –scale fisheries.

Implementation of this project will stabilize ice supply, thereby encouraging fresh fish consumption in Weno. In addition, by making ice available to the outer islands beyond the Chuuk Lagoon, the Plan can also be expected to contribute to fishery development on these outer islands. On another level, the Plan facilities will function as a fish distribution base, which should facilitate statistical operations, enabling the State authorities to gain a more objective grasp of artisanal fishing operations, and thereby contribute to the formulation of future management policies for fishery resources within the Chuuk Lagoon.

We have summarized in Table 5.1 the key problem areas facing the artisanal fisheries in Chuuk State, which this Plan is expected to solve, along with the effects and scope of the benefits to be derived from project implementation.

Table 5.1 Current condition / problems and Plan impact

Current condition and problems	Countertmeasures under this Plan	Plan impact: Degree of improvement
As a result of the aging of the existing ice –making facilities, a serious ice shortage has developed in Weno, the largest fish market in Chuuk State. Since the fish retailers in Weno cannot obtain sufficient quantities of ice, fresh fish sales are severely limited, while commercialization of catches from the outer islands is also gravely handicapped.	<ul style="list-style-type: none"> <li>–A flake ice plant will be installed, with a daily capacity of 10 tons.</li> <li>–An ice storage compartment will be provided with a storage capacity of 20 tons</li> <li>–A pickup truck will be furnished, equipped with an insulated container.</li> </ul>	Ice supply capability, which is presently down to only about 0.5 ton / day will be increased, meeting the ice demand from the 20 fish retailers in Weno. Since a maximum of 20 tons of ice can be stored, based on weekend and holiday operations, ice will also be available for supply to the outer islands as well as for use on fish brought to Weno from these outer islands. On this basis, 18,000 residents of Weno and 10,000 on the outer islands will derive indirect benefits from this Plan.

Current condition and problems	Countermeasures under this Plan	Plan impact: Degree of improvement
<p>Owing to the lack of public chilling storage facilities for use by artisanal fisheries, these fishermen are experiencing a serious freshness loss on fish shipped to Weno, and the resulting drop in commercial value imposes a dangerous financial burden on them. In addition, since fresh fish for the export market have no access to chilling storage facilities, air shipments cannot be made efficiently.</p>	<p>A prefabricated refrigerator will be installed with a floor area of <math>7.3m^2</math>.</p>	<p>Despite its small size, the new chilling unit will be capable of storing about 300 tons of fresh fish annually, thereby providing chilling storage for a portion of both the export fish and the fish landed at Weno from the outer islands. On this basis, even when fishermen lack personal channels for marketing their catches, the extent of damage incurred, based on a loss of freshness, will be far less than under present conditions, while fresh fish will become available on a stable basis.</p>
<p>In the absence of fish distribution channels, fishermen must currently sell their catches through a variety of low -volume channels, making use of individual connections such as relatives and persons representing the interests of their home ports or islands. Under these circumstances, statistical programs are making very little headway, making it extremely difficult for even the DMR to keep track of developments in the artisanal fisheries. It is feared that this problem will obstruct the future drafting of resource management policies within the Chuuk Lagoon.</p>	<ul style="list-style-type: none"> <li>-A working (handling) area will be built with an area of <math>80m^2</math>.</li> <li>-Statistical equipment will be provided to help monitor fish catches.</li> </ul>	<p>Since an area will be provided under this Plan not only to expedite ice supply but also to enable the fishermen themselves to sort and process the catches they have brought to Weno, it is felt that the Plan facilities will be able to assume a portion of the functions of a fish distribution network, which the State government plans to establish in the future. With the establishment of such distribution points, it will become possible to gradually develop various types of fishery data that will facilitate, in particular, resource management programs for reef species inside the Chuuk Lagoon, which are highly sensitive to increases in fishing pressure. In this way, the foundation would be laid for activating policies for achieving sustained utilization of marine resources in Chuuk State and the nation as a whole.</p>

Current condition and problems	Countermeasures under this Plan	Plan impact: Degree of improvement
<p>The majority of the small boats that come to Weno for commuting, school, or business purposes are moored in the North Inner Basin in Weno Harbor. Although the Plan facilities will be built on a site adjacent to the mooring basin (only about 15 m away), the shorefront is not yet equipped with a convenient facility for boarding or debarking from these small boats. While it is hoped that a comprehensive plan will eventually be developed for this mooring basin, under present conditions, heavy articles, such as insulated containers packed with ice, cannot be safely loaded by hand onto these small boats.</p>	<p>-A Pontoon will be installed with a width of 2.5 m and a length of 10 m.</p>	<p>While this pontoon facility cannot be expected to have a major impact in terms of relieving congestion in the small boat mooring basin, it will make possible safe and efficient ice loading and other operations. Since this mooring area is located in the center of the Weno Commercial Port area, it is used by at least 50 small vessels a day. Accordingly, on an annual basis, a substantial number of small boats will clearly benefit from the Plan facilities.</p>

## 5.2 Verification of Plan Appropriateness :

The Plan facilities have been positioned as a support station for the artisanal fisheries of Chuuk State and include primarily a flake ice -making plant, with a daily production capacity of 10 tons; a chilling storage unit, with a storage capacity of  $10m^3$  at a temperature of  $-5^{\circ}C$ ; and an  $80m^2$  working (handling) area. The facilities will provide 1,100 tons of ice together with chilling storage for some 300 tons of fish per year. Based on Plan implementation, a stable supply of fresh fish will be made available at Weno, the urban center of Chuuk State, with a high population density. The provision of ice and chilling storage for freshness retention will also stimulate the commercial development of the artisanal fisheries on the outer islands beyond the Chuuk Lagoon, where opportunities for employment and cash incomes are poor. Thus, the Plan can be expected to contribute to improved living standards for both urban and outer island residents. In addition, since the facilities will also serve as a fish distribution point, the collection of fishery statistics will be facilitated, thereby contributing to the formulation of effective, fine -tuned resource management policies designed to achieve sustained utilization of fish resources within the Chuuk Lagoon in the years ahead.

The Plan site is located within the Weno Commercial Port, occupying a corner of an area that is presently being used for cargo handling operations. It faces the main highway, adjoining the North Inner Basin, which is the mooring area for the small boats that are to receive ice supplies from the Plan facilities. Electricity, water, sewage, and other amenities are already in place.

Owned by the State government, the Plan site is level, having been reclaimed during the early 1960s. The Plan facilities and construction program pose no threat to the natural or social environment in the vicinity.

The implementing body for the Plan is the State Department of Marine Resources (DMR). This Department had a staff of 81 persons, as of December, 1994, and has had ample experience in operating its existing ice production installations, while refrigeration technicians have also been trained. Thus, the organization is fully capable of running the Plan facilities. Five full-time employees will be required for the new facilities, but this need can be met by reassigning present DMR employees to the Plan facilities. It is anticipated that operating costs can be covered fully out of operating income, so that operations should be self-supporting without having to seek fiscal support from the State government.

The FSM economy relies heavily on financial assistance from the United States, based on the Compact of Free Association. However, this treaty will come to an end in 2001, and so the country is under considerable pressure to cultivate viable domestic industries by that date if it is to attain a reasonable degree of economic self-sufficiency. In this connection, the highest priority in industrial development has been assigned to the fishery sector, which is endowed with a huge resource base. In Chuuk State too, 12 of the projects contained in the State Development Plan for 1992~1996 relate to the fisheries field. Air shipments of fresh tuna are to be expanded with a view toward earning additional sources of foreign exchange and generating new employment opportunities. At the same time, on the domestic level, recognizing the need to create a proper fish distribution infrastructure and commercialize the artisanal fisheries on the outer islands, the State also plans to establish public fish markets and organize a distribution network for reef species.

The subject Plan incorporates a portion of the State's macro program for developing the artisanal fisheries and, as such, supports the developmental goals set forth by the State government relating to the cultivation of industries utilizing domestic resources. In order to achieve this goal, the State keenly recognizes the need to reshape a society in which both human and economic resources have tended to concentrate excessively in state organizations as a byproduct of the government's policy of recycling to the people the financial aid received to date under the Compact for Free Association, and to transfer these resources to independent entities that can more effectively use them. Thus, the Plan facilities, which have important public service dimensions and are expected to be self-supporting, imposing no fiscal burden on the State, can be said to clearly respond to the above objectives as well.

The subject Plan, which would be implemented under a grant –aid from Japan, fully conforms to the system established by the Government of Japan for grant –aid cooperation in terms of its objectives, beneficiaries, framework, construction period, and the range of responsibilities to be assumed by the counterpart government. Its implementation, therefore, has been deemed appropriate under these criteria.

### **5.3 Conclusions and Recommendations**

As a result of Plan implementation, it is expected that stable distribution of fresh fish will be achieved in the densely populated Weno area and that opportunities for earning cash income, based on the utilization of domestic resources, will broaden through the commercial development of artisanal fisheries on outer islands beyond the Chuuk Lagoon. If these goals are fulfilled, improvements can be anticipated in the living standards of both urban and outer island residents. We have concluded, therefore, that there is ample significance in implementing this project under a grant –aid from Japan.

While no problems are foreseen in terms of personnel or maintenance in operating the new facilities, we feel that even better results could be achieved by adopting the following recommendations in connection with Plan implementation.

#### **(1) Making the Operating Organization Self –supporting:**

Five regular employees of the DMR are to manage the Plan facilities on a full –time basis. Although their status will continue to be that of State employees, as previously discussed in connection with the Operating Plan, their salaries can be expected to be fully covered by the income generated from ice sales and storage fees at the Plan facilities. The only certainty in FSM's immediate future is the pressing need, in preparation for the termination of the Compact of Free Association with the U.S. in 2001, to develop domestic industries using national resources. However, both the Federal and State governments are well aware of the difficulties in rapidly cultivating new industries without somehow reforming the country's social makeup, wherein an undue proportion of the nation's limited manpower resources is currently concentrated in the civil service. The Plan facilities will function as a support station for the artisanal fisheries and, as such, will have strong public service overtones in terms of the government's expectation that they will become a key fish distribution base in the future. In this context, while it is certainly fitting that DMR staff members be placed in charge of Plan



operations, once these operations are on track, consideration should be given to gradually increasing the autonomy of the operating organization, with a view toward eventually building it into an independent and self-supporting public corporation. In this way, the efficiency of facility operations can be further enhanced and the scope of activities expanded so as to more effectively contribute to the development of the nation's fishing industry, which has been accorded the highest priority from the standpoint of its immense resource base.

#### (2) The Importance of Technical Training :

Since 5~6 technicians on DMR's 81 man staff have already acquired skills in operating and maintaining refrigeration equipment, few technical problems are anticipated in running the Plan facilities. While the shortage of technicians constitutes a major bottleneck in the development of Micronesia's domestic industry, the fact is that many trained technicians leave the country to seek employment overseas, owing to the lack of suitable opportunities at home. In terms of Plan operations as well, there will be a need to nurture technicians from a long-term perspective on the basis of a continuing effort to secure technically qualified personnel by taking full advantage of the resident training programs offered by JICA in Japan as well as training opportunities elsewhere.

#### (3) Special Provision for Emergency Repairs:

Although normal maintenance of the Plan facilities and equipment is expected to be fully covered by income from ice sales and chilling storage, it will be necessary for the Chuuk State government to adopt special measures for dealing with unforeseen damage caused by sudden disasters and accidents to prevent protracted disruptions in the vital role these facilities are destined to play in the future development of the State's artisanal fisheries. Considering also the fact that the opening surplus from facility operations will constitute a continuing source of State revenue, the Chuuk government has every reason to attach a high priority to making emergency budgetary provisions for the speedy restoration of the damaged facilities in such an eventuality.

## Annex

- I. Members of the Basic Design Study Team**
- II. Survey Itinerary**
- III. Discussants**
- IV. Minutes of Discussions**
- V -1. Meteorological Data in Weno Island (1992)**
- V -2. Breakdown of Opeartion Costs**
- V -3. Breakdown of Operation Revenue**



## I . Members of the Basic Design Study Team

<b>Assignment</b>	<b>Name</b>	<b>Organization</b>
Leader	Noboru TAZOE	Senior Technical Official, Office of Overseas Fisheries Cooperation, Fisheries Agency
Project Coordinator	Akira MAEKAWA	Training Officer, Training Division, Kanagawa International Fisheries Training Centre, Japan International Cooperation Agency
Fisheries Engineer	Yasuhide KOMOTO	Senior Technical Official, Fishing Port Construction Division, Fishing Port Department, Fisheries Agency
Fish Marketing Planner	Takafumi TOSHIHARA	Fisheries Engineering Co., Ltd.
Equipment Planner	Naohiko NAKAJIMA	Fisheries Engineering Co., Ltd

## II. Survey Itinerary

Day	Date	Itinerary	
	Dec. 1994		
01	10 Sat.	Lv. Tokyo (10:00)→ Ar. Guam (15:50),	
02	11 Sun.	Lv. Guam (07:10)→ Ar. Pohnpei (11:50), Visit fishery related facility	
03	12 Mon.	Courtesy visit to Dept. of External Affairs, Dept. Resources and Development and explanation on Inception Report and Questionnaire	
04	13 Tue.	Visit to Pohnpei Support Station and discussion with Marine Resources Div., Pohnpei State, Lv. Pohnpei (14:40)⇒Ar. Chuuk (14:55), Visit to proposed site	
05	14 Wed.	Courtesy visit to Chuuk State Govt., Governor and explanation on IC/R, Survey of proposed site	
06	15 Thu.	Survey on proposed sites in Weno island, Meeting with State Govt.	
07	16 Fri.	Discussion of Minutes draft with Chuuk State Govt.	
08	17 Sat.	Visit to Tonowas island and Truk Lagoon, Visit to Chuuk Fresh Tuna Inc.(CFTI)	
09	18 Sun.	Lv. Chuuk (09:35)⇒Ar. Pohnpei (11:50), Team meeting	
10	19 Mon.	Discussion and presentation of Minutes draft with FSM National Govt., Signing of Minutes	
11	20 Tue.	Team meeting (Flight canceled due to typhoon)	
12	21 Wed.	<b>Tazoe, Maekawa, Komoto</b> Lv. Pohnpei(14:40)→Ar. Guam (17:05)	<b>Toshihara, Nakajima</b> Lv. Pohnpei(14:40)⇒Ar. Chuuk(14:55) Report to Chuuk State Govt. Survey on site condition
13	22 Thu.	Visit to Japanese Consulate General Lv. Guam(16:10)→Ar. Tokyo(18:45)	Survey of fishing condition and marketing condition
14	23 Fri.		Site survey and construction cost
15	24 Sat.		Survey on construction companies
16	25 Sun.		Lv. Chuuk (09:35)⇒Ar. Pohnpei (11:50)
17	26 Mon.		Collection of FSM Govt. related information
18	27 Tue.		Final discussion with FSM Govt. Lv. Pohnpei(14:40)→Ar. Guam(17:05)
19	28 Wed.		Lv. Guam (06:00)→Ar. Tokyo (08:40)

### III . Discussants

Name	Title and Organization
(FSM National Government) John A. Mangefel Lorin Robert Larry Raigetel Asterio R. Takesy Moses Nelson Eugene R. Pangelinan Timothy S. Semuda	Deputy Secretary, Department of External Affairs (D.E.A.) Deputy Assistant Secretary, D.E.A. Foreign Service Officer, D.E.A. Secretary, Department of Resources and Development (D.R.D.) Administrator, Division of Marine Resources, D.R.D. Deputy Director, Micronesia Maritime Authority Chief of Statistics, Office of Planning and Statistics
(Chuuk State Government) Sasao H. Goulard Marcelino Umuech Mark Mailo Myron I. Hashiguchi George Soewin Kresio Billy Marion Henry Thomas R. Narruhn Minoru Mori	Governor Lieutenant Governor Director, Department of Marine Resources (D.M.R.) Deputy Director, D.M.R. Economist, Consultant, D.M.R. Director, Department of Planning and Statistics Director, Department of Commerce and Industry Director, Department of Transportation Chairman, Chuuk Utility Corporation
(Pohnpei State Government) Valentin A. Martin Hilary Conrad	Chief, Division of Marine Resources, Department of Conservation and Resource Surveillance Executive Director, Economic Development Authority
(Consulate-General of Japan) Rensho Izawa Takashi Matsumura Takashi Matsumura Kiyoshi Nisikawa	Consulate General Consul Consul Charge d' Affairs a.i. of Japan in FSM

#### IV. Minutes of Discussions

##### MINUTES OF DISCUSSIONS

##### BASIC DESIGN STUDY ON THE PROJECT FOR THE DEVELOPMENT OF ARTISANAL FISHERIES IN CHUUK STATE OF THE FEDERATED STATES OF MICRONESIA

In response to a request from the Government of the Federated States of Micronesia (hereinafter referred to as "FSM"), the Government of Japan decided to conduct a basic design study on the Project for the Development of Artisanal Fisheries in Chuuk State (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to FSM a study team, headed by Mr. Noboru TAZOE, Senior Technical Official, Office of the Overseas Fisheries Cooperation, Marine Fishery Department, Fisheries Agency, and is scheduled to stay in the country from December 11 to December 27, 1994.

The team held discussions with the officials concerned of the Government of FSM and Chuuk State Government and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.

Pohnpei, December 19, 1994

Noboru TAZOE  
Leader,  
Basic Design Study Team,  
JICA

John A. Mangefel  
Deputy Secretary  
Department of External Affairs  
Government of FSM

## ATTACHMENT

### 1. OBJECTIVES OF THE PROJECT

The objective of the Project is to improve the existing artisanal fishery activities by providing shore-based facilities and relevant equipment in Chuuk State of FSM.

### 2. PROJECT SITE

The Project site is located at the Northeast corner of the existing cargo handling yard of the Department of Transportation, Weno Harbor, Chuuk State, FSM, which is newly proposed by the Government of Chuuk State, as shown in Annex- I. The Chuuk State Government has confirmed that the site has been owned by the State.

### 3. PROJECT RESPONSIBLE & EXECUTING ORGANIZATION

The Department of Marine Resources of the Government of FSM is responsible for coordination of the Project. The Chuuk State Government, particularly the Department of Marine Resources, is responsible proponent for the administration and execution of the Project.

### 4. ITEMS REQUESTED BY THE GOVERNMENT OF FSM

After a series of discussions with the Team, the items listed in Annex II were finally requested by the Government of FSM for Japan's Grant Aid. However, the contents of the Project, which are to be recommended in the Basic Design Study Report, will be finalized after further studies.

### 5. JAPAN'S GRANT AID SYSTEM

The Government of FSM has understood the Japan's Grant Aid Scheme explained in Annex- III.

### 6. FURTHER SCHEDULE OF THE STUDY

- 1) The JICA's consultant team will proceed to further studies in Micronesia until December 27, 1994.
- 2) Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the Basic Design Study Report and send it to the Government of FSM by the end of March, 1995.

### 7. PARTICULAR MEASURES TO BE TAKEN BY THE GOVERNMENT OF FSM

The Government of FSM has further agreed to take the following measures other than those described in Annex- III.

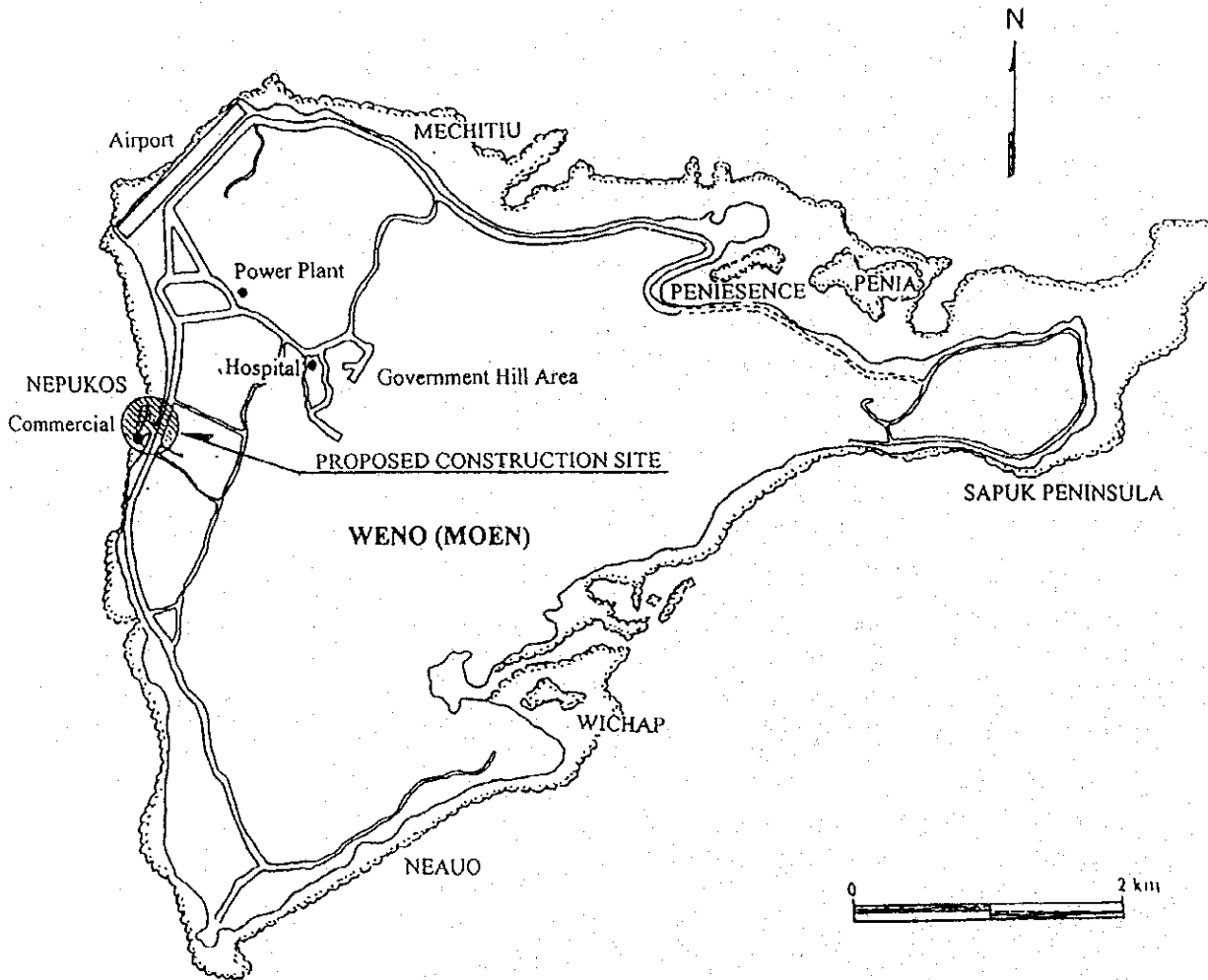
- 1) to ensure the operation budget and staffing required for the Project.
- 2) to establish the rational linkage among the past Japan's Grant Aid projects, particularly extended to Chuuk State, so as to enhance the effectiveness of the Project.

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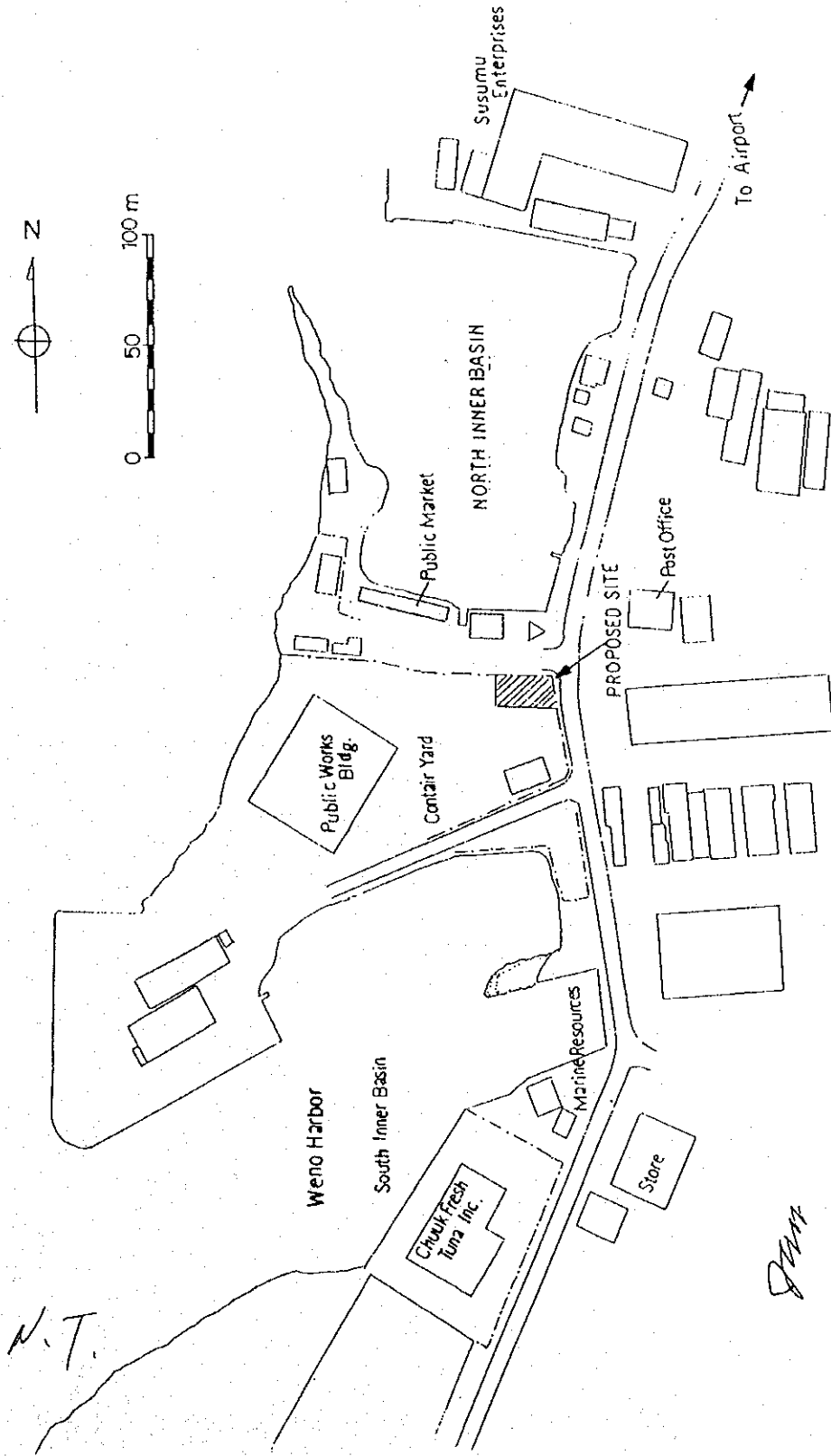
Location of the Project site

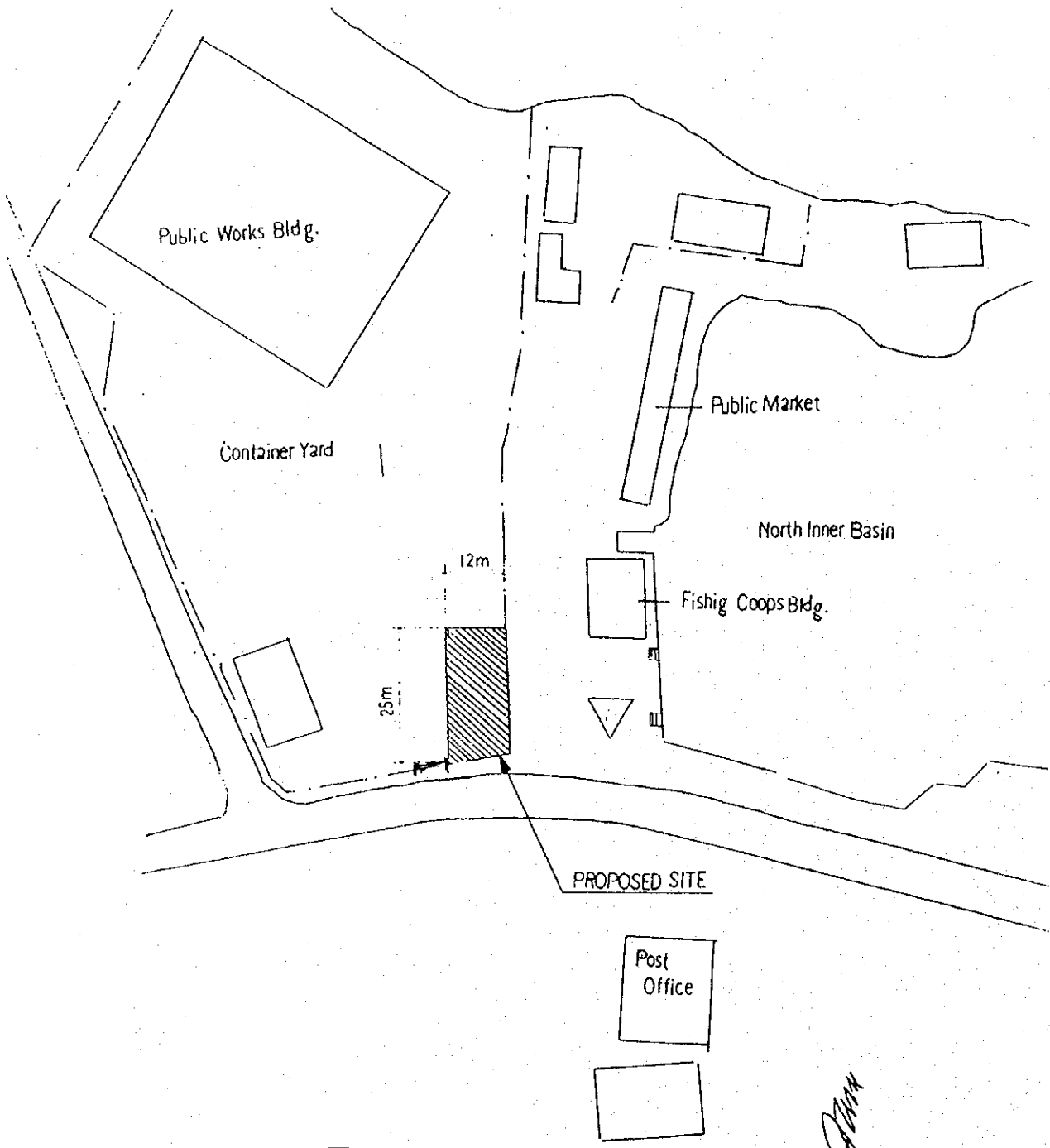


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LOCATION PLAN OF PROJECT SITE





**DETAILED LOCATION PLAN OF CONSTRUCTION SITE**

Annex- II

**ITEMS REQUESTED BY THE GOVERNMENT OF FSM**  
**FOR JAPAN'S GRANT AID**

The items requested by the Government of Micronesia are listed below.

1. Support station building

The following facilities and equipment will be arranged in the building:

- 1) Ice making machine
  - 2) Ice storage
  - 3) Chilling storage
  - 4) Fish handling space
  - 5) Office
  - 6) Storage
  - 7) Toilet
2. Emergency Generator
  3. Transport vehicle (Insulated truck)
  4. Ice handling equipment (ex. ice chest, push-cart, scale)
  5. Water catchment tank
  6. Pontoon (North Inner Basin)
  7. Equipment for statistical work

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Annex- III

Japan's Grant Aid Scheme

1. Grant Procedures

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of	(The Note exchanged between the Governments of Japan Implementation and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study reported by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

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## 2. Basic Design Study

### 1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- a) Confirmation of the background, objectives, and benefits of the requested project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- b) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- c) Confirmation of items agreed on both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project
- e) Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

### 2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry (ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid undue delay in implementation should the selection process be repeated.

## 3. Japan's Grant Aid Scheme

### 1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

### 2) Exchange of Notes (E/N)

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Japan's Grant Aid is extended in accordance with the Notes exchanged by two Government concerned, in which the objectives of the Project, period of execution, condition and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Government deem it necessary, the Grant Aid may be used for the purchase of products or services of a third country.

However, the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

#### 5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

#### 6) Undertaking required of the Government of the Recipient Country

In the implementation of the Grant Aid projects, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply, drainage, and other incidental in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading customs clearance at port of disembarkation and internal transportation of the products purchased under the Grant.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

#### 7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this

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operation and maintenance as well as to bear all the expenses other than those covered by the Grant.

8) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

9) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

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V-1. Meteorological Data in Weno Island (1992)

**Precipitation (mm)**

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Month	122	69	42	129	191	320	272	482	307	336	201	196	2,667
Man x 24hrs	43	17	9	49	61	61	92	122	83	75	70	82	122

**Average Temperature (°C)**

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Monthly	27.4	27.3	27.9	28.2	28.4	28.1	27.9	27.4	27.8	28.0	27.7	27.3	27.8
Day max.	31.1	30.6	31.7	32.2	32.8	32.8	32.2	32.8	32.8	32.8	32.2	31.1	30.7
Day min.	21.7	23.3	22.8	23.9	22.8	23.3	23.3	23.3	21.7	23.3	22.2	22.8	24.9

**Average Relative Humidity (%)**

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
04:00	81	76	77	89	81	84	87	88	86	89	87	82	83
16:00	75	71	71	73	76	79	80	79	75	78	77	76	76

## V-2. Breakdown of Operation Costs

### (1) Electricity charge for Ice making machine, Chilling storage and others

#### a. Ice making machine

Main part of machine	30 kw x 2 units x 10 hrs. x 0.7 (average load)	=420 kwh
Other part of machine	5kw x 10hrs.	= 15 kwh
Total	435 kwh/day x 260days x \$0.17/kwh	= \$19,227 / year

b. Chilling storage 2 kw x 2 units x 10 hrs. x 0.5 (average load) = \$884 / year

c. Air-conditioner 1.8 kw x 2 units x 0.8 (average load) x 260 day = \$1,273 / year

#### d. Lighting

Day time 0.5 kw x 0.4 (average load) x 10 hrs. x 260 day = 520 kwh

Night time 1.0 kw x 1.0 (average load) x 14 hrs. x 365 day = 5,110 kwh

Total 5,630 kwh x \$0.17/kwh = \$957 / year

Total \$24,128 / year

### (2) Water charge

Annual water consumption 1,100 ton x 1.2 (waste ratio) = 1,322 ton

Water source 40% from city water 1,322 ton x 0.4 x \$1.6/ton = \$853

40% from truck delivery 1,322 ton x 0.4 x \$8/ton = \$4,262

20% from rain water = \$0

Total \$4,688 / year

### (3) Fuel cost for transport vehicle

Ice transport vehicle 4 lit./hr. x 3 hrs./day x 260 day x \$0.3/ lit. = \$963 / year

### (4) Maintenance cost

#### Building

0.5% of direct construction cost = \$1,970 / year

#### Equipment

2% of Ex-go-down prices of ice making machine, chilling units, generator and computer = \$5,860 / year

### (5) Personnel expense (Annual salary, including social affair fare)

Staff	Manager	x 1	\$10,000
	Technician	x 1	7,000
	Clerk	x 1	5,000
	Labor	x 2	8,000 (\$4,000 x 2)
Temporary	Watchman	x 2	8,000 (\$4,000 x 2)
			<u>\$38,000 / year</u>

### V-3. Breakdown of Operation Revenue

#### (1) Ice sales

Ice price:  $\$0.1/\text{kg} = \$100/\text{ton}$

$1,110 \text{ ton} \times \$100/\text{ton} = \$111,000 / \text{year}$

#### (2) Rent fee for chilling storage

Annual handling of fish: 290 ton (2days stock)

Stocking charge:  $\$10 / \text{ton} / \text{day}$

$290 \text{ ton} \times 2 \text{ days} \times \$10 / \text{ton} = \$5,800 / \text{year}$







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