

# **Chapter 3**

## **Implementation Plan**

## Chapter 3 Implementation Plan

### 3-1 Implementation Plan

#### 3-1-1 Implementation Concept

If this project is implemented, the implementation concept will be as follows:

##### (1) Basic concept

- 1) The process and implementation plan shall be made under Grant Aid scheme.
- 2) The Consultant shall affirm and supervise how the successful bidder is constructing the Project Vessel in accordance with the working schedules, specifications, and quantities stipulated in the tender documents, and shall, if necessary, give regular reports of those to JICA and the FSM government.
- 3) Technical transfer shall be made to the FSM counterparts before delivery of the vessel by utilizing opportunities in the equipment checks and the trial operation of the vessel carried out to confirm how effectively the navigation and communication equipment, engines, generators, etc., are running.
- 4) The Consultant shall affirm that the Project Vessel is delivered to the FSM as stipulated after completion, and give regular reports of the delivery situation to JICA and the FSM government, if necessary. After the Project Vessel arrives at the destination, the Consultant shall confirm in witness how smoothly and effectively the vessel and its equipment aboard are running.
- 5) Necessary inter-bank arrangements for payment of the vessel will be made, and the paperwork for the payment shall be finalized before the fixed date.
- 6) The final report shall be made and submitted to JICA.

##### (2) Construction concept

- 1) This Project Vessel shall be constructed in Japan.

A survey was also conducted to confirm capability to construct the Vessel in dockyards in the Marshall Islands and Guam in the neighborhood of the FSM. There is a joint venture dockyard with the USA in the Marshall Islands, but no prospective appraisal of its construction results and experience was made. In Guam, the private dockyard is a repair facility exclusively for the US Navy. Further, any construction of the vessel would clearly be difficult in the neighboring areas. Among the ten (10) vessels managed by the FSM government, including the Existing Vessel, five (5) were constructed in Japan. In addition to the fishing vessels provided under Japan's Grant Aid Scheme, fishing vessels made in Japan are now also operating in the FSM.

The FSM government counterparts are well aware of the existing vessels and fishing vessels made in Japan, and they are familiar with handling of the equipment installed on those vessels, most of which is also made in Japan. They have confidence in such grades of the equipment, and particularly hope to have project vessel

constructed in Japan. There are express requirements in the special specifications pertaining to items such as the bow door, bottom materials and structure, and there are requirements in special techniques for construction of the Project Vessel as a landing-craft type vessel. It is planned, therefore, that the Project Vessel will be constructed and provided with necessary equipment in Japan in order to ensure effective supervision of the implementation process.

#### 2) Dispatch of technical experts

It has been 20 years or more since the Marine Division of the FSM government's Department of Transportation & Communications helped put the last landing-craft type vessel into service, and according to present plans, technical experts will be dispatched there after delivery of the Project Vessel to assist the start-up preparation in running the vessel to facilitate its smooth operation.

Under consignment of the Consultant, three (3) experts selected mainly on the basis of their areas of expertise will be included among the basic design survey team.

#### 3) Delivery of the Project Vessel

As the Project Vessel is designed to have the capability of approx. 20 consecutive days of international voyage, the vessel will cruise by itself to the FSM (the voyage from Japan takes approx. 9 days).

### 3-1-2 Implementation Conditions

The Project Vessel will be constructed in Japan, and the FSM has thoroughly instituted the Maritime Act in regard to vessel construction, as well as arrangements to deal with international conventions and its own environmental protection rules.

As mentioned in subsection 1-3, the Basic design international conventions concerned will be applied in the construction of the project vessel to ensure its safety. In order to secure an appropriate grade of vessel, the Project Vessel will be registered in the international classification, as suitable to its voyages, by undergoing various inspections during the construction process. Full attention will be given to supervision of implementation by arranging for those inspections in the presence of the Consultant and/or providing experts for inspection of construction works.

During the construction period, a field superintendent will be stationed at the dockyard to affirm the specification plans and work contents, and the staff in charge of design and supervision will attend all inspections at the respective manufacturer's sites in the process of outfit works to ensure prudential construction. Further, for technical transfer, the FSM officers may have the opportunity to engage in desk study and accumulate experience in the prior practical embarkation on the Project Vessel during the trial operation and delivery cruising.

### 3-1-3 Scope of Works

If this Project is implemented under Japan's Grant Aid scheme, the two governments will share the necessary items in the implementation as follows:

- (1) The scope to be borne by the Japanese Government
  - 1) Construction of the Project Vessel, and all related expenses necessary for inspections in Japan.
  - 2) Spare parts, drawings and instruction books to be provided incidental to the Project Vessel.
  - 3) Consultant's works such as the implementation design, assistance to the tender business, and supervision of construction.
  - 4) Insurance for implementation of delivery and transportation of the above items 1) and 2).
  
- (2) The scope to be borne by the Government of FSM
  - 1) To acquire every approval and permission necessary for possession of the Project Vessel and for implementation of this Project.
  - 2) To ensure prompt customs clearance of the Project Vessel and every article of equipment on it to be delivered to the FSM in connection to this Project, and to pay every expense incurred from the above.
  - 3) To pay every expense incurred by FSM government staff present at inspections during construction and at completion of the Project Vessel.
  - 4) Any other items necessary for implementation of this Project and not contained in the scope borne by the Japanese Government.
  - 5) Insurance coverage of the Project Vessel after it arrives at the FSM port.

### 3-1-4 Consultant Supervision

#### (1) Basic concept

Considering that it will be necessary to pay special attention to technical aspects in the design and implementation of the Project Vessel, a landing-craft-type vessel, through each process of construction, and, further, considering that this construction shall be completed within a fixed time limit, the Consultant shall make the construction work schedules and supervision plan in conformity with the Grant Aid scheme, and affirm and supervise that all construction works are performed according to the construction period, specifications, and quantities stipulated in the tender documents. Supervision will be carried out on the basis of the following basic concept for concrete works:

#### Basic work concept in Consultant supervision

##### 1) Approval of drawings and specifications

After examining the work plans, schedules, and construction drawings for the Project Vessel submitted by the constructor to confirm their conformance with the contract

drawings and specifications, the contractor shall, if appropriate, approve them. Care shall be taken to promptly reply to any questions and inquiries in order the construction period.

**2) Supervision of the work schedules**

The contractor shall receive from the constructor reports on the progress of the construction and shall give instructions, if necessary, to the constructor to ensure completion of the construction within the construction period.

**3) Quality inspection**

The Consultant shall inspect, at the constructor's site, the accuracy of the works, equipment, and outfitting works to confirm their conformance with the contract drawings and specifications. Equipment and construction works which, according to the stipulation of the Classification Society, require inspection, shall be inspected in the presence of the Consultant according to the inspection standards. Any items other than the above shall also be inspected in the presence of Consultant according to the constructor's internal quality inspection standards.

**4) Trial run at sea**

After various tests, the Project Vessel's trial run at sea will be carried out in the presence of the Consultant to prepare the official data.

**5) Completion and delivery of the Project Vessel in Japan**

Construction of the Project Vessel shall be completed when the Consultant and the representatives of the FSM implementing agency affirm that all of the construction works and various tests have come to an end. After completion, necessary documents and certificates will be issued to acquire the provisional nationality for the vessel, and the vessel will then be delivered to the FSM government counterparts.

**6) Sea transportation**

After the delivery of the Project Vessel has been completed, necessary procedures for export and sea transportation will be promptly carried out to enable the vessel to run by itself back to the Port of Pohnpei in the FSM.

To escape potential damage and/or contamination of the hull, the crew will be instructed to exercise due caution regarding weather and sea conditions. At the departure of the vessel, the Consultant shall be present at the port and affirm the clearance documents from Japan.

**7) Delivery of the Project Vessel at the FSM and assisting works by the dispatched experts**

After arriving at the FSM, the Project Vessel will be tested in the presence of the dispatched experts and delivered to the FSM.

The experts will assist the FSM personnel in handling and operation of the vessel to ensure smooth commencement of operation.

**8) Submission of reports**

After checking the monthly reports, finalization, documents, and photographs prepared by the constructor, the Consultant will submit them to the FSM government and JICA. In consequence of final delivery of the Project Vessel in the FSM and the Consultant's works, a general report on the Project will be prepared and submitted to JICA.

**(2) Supervision setup**

A "Project team for implementation design and supervision" will be organized in the stages of implementation design and supervision. The team will be comprised of the core members from the basic design survey team, who will be responsible for the following respective works:

**1) Project team for implementation design**

As this Project is a construction project to construct a landing-craft-type cargo vessel with a special hull form, the hull design will be separately made for the bow section containing the bow door and inner door, a section which requires expertise, and for the general hull. Since Project Vessel is designed with twin-engines and twin-line-shafting, the experts in charge of the engine design and schedule supervision will have thorough experience in the same areas. Electricity, electronic equipment, cargo gear, air conditioning, freezers, inboard outfits, drawing, and cost estimation will be dealt with mainly by individual experts with respective types of expertise.

Chief Technical Expert:

Chief Consultant in charge of:
Operation plan
Vessel construction plan
Outfit and engine plan
Equipment plan

**Technical Experts with Respective Types of Expertise:**

<b>Works in Design</b>	<b>Capacity</b>
Hull design (general hull)	Consultant engineer
(bow section)	Consultant engineer
Engine design (main/auxiliary engines, propulsion)	Consultant marine engineer
Electric design (generator, switchboard, motor)	Consultant marine engineer
Design of electronic equipment (radio and navigation instruments)	Consultant marine engineer and Radio engineer
Design of loading and hydraulic equipment	Consultant engineer
Design of air-conditioning and freezing equipment	Consultant marine engineer
Design for outfits in accommodation section	
Drawings and cost estimations	

**2) Project team for supervision**

In addition to the fact that the Project Vessel will be a landing-craft-type cargo vessel with a special hull form, the design sections of the vessel will be highly diversified, so it will be necessary for the aforementioned experts in charge of design to be further appointed for the supervision works in order to ensure that each construction process is reasonably supervised.

After checking the implementation drawings submitted by the constructor to confirm whether or not they differ from the tender specifications, each expert shall verify the works under construction with the drawings in important matters along each process. A field superintendent will be stationed at the constructor's site during hull and outfit works to ensure effective supervision of implementation and schedules.

The field superintendent will have discussion step by step with each expert in charge during the schedule supervision for quality control and efficiency in the works.

Supervision setup is shown as follows:

<b>Chief Technical Expert:</b>	<b>Chief Consultant in charge of:</b>
	Operation plan
	Vessel construction plan
	Outfit and engine plan
	Equipment plan

**Technical Experts with Respective Types of Expertise:**

<b>Works in Supervision</b>	<b>Capacity</b>
Field superintendent (Whole process of construction)	
Hull design (general hull)	Consultant engineer
(bow section)	Consultant engineer
Engine design (main/auxiliary engines, propulsion)	Consultant marine engineer
Electric design (generator, switchboard, motor)	Consultant marine engineer
Design of electronic equipment (radio and navigation instruments)	Consultant marine engineer and Radio engineer
Design of loading and hydraulic equipment	Consultant engineer
Design of air conditioning and freezing equipment	Consultant marine engineer
Design for outfits in accommodation section	
Drawing and cost estimation	

**3-1-5 Procurement Plan**

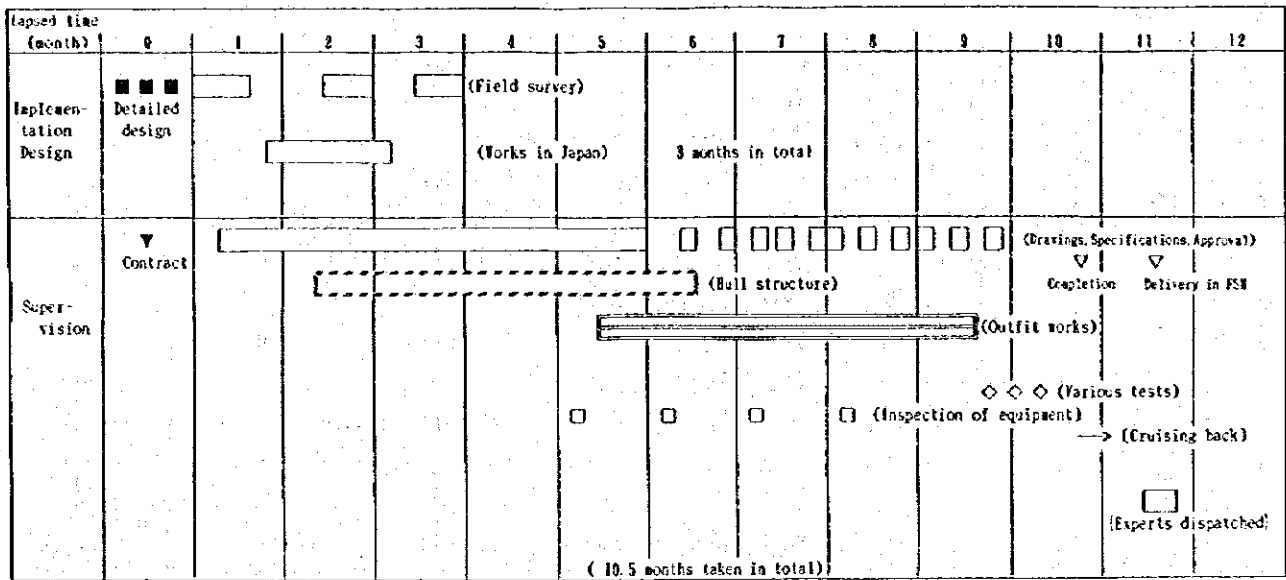
If this Project is implemented, the Project Vessel of the Department of Transportation & Communications will be constructed in Japan, and subsequently, the Technical Branch of the Marine Division and the Project Vessel's crew will handle repair and maintenance services for the vessel, as there are neither adequately arranged repair facilities nor agents of equipment in Pohnpei, the site of this Project. The Project Vessel will be installed with reasonable kinds of spare parts and supplies in proper quantities for equipment, instruments, and materials, most of which are to be made in Japan, within the limit of the estimated gross purchase amount of those equipment, etc., in the cost calculation. According to plans, the types of equipment installed will be selected in view of the availability of spare parts and supplies supported by arranged service networks.

**3-1-6 Implementation Schedule**

If this Project is implemented, it will take approx. 12 months from the implementation design, after the construction is contracted, through construction and delivery of the vessel to the FSM, as indicated in Table 3-1.



Table 3-1 Implementation schedule



3-1-7 The Undertakings Required of the FSM government

If this Project is implemented under Japan's Grant Aid scheme, the FSM government will be required to undertake the following necessary measures:

- (1) To secure a safe mooring facility for the Project Vessel and the deposit of spare parts, etc., provided.
- (2) To make necessary arrangements to exempt the Project Vessel and its equipment and spare parts provided under the Grant Aid from customs duties, and to ensure prompt admittance and customs clearance procedures for them.
- (3) To exempt Japanese nationals and/or members of Japanese body corporate whose service and equipment may be provided under the verified contract from customs duties, internal taxes, and other fiscal levies imposed in the FSM.
- (4) To accord Japanese nationals and/or members of Japanese body corporate whose services may be required in connection with the supply of the services under the verified contracts, facilities which may be necessary for their entry into the FSM and stay therein for the performance of their work.
- (5) To acquire in advance the nationality certificate, the radio call sign, and permission necessary for import and operation of the Project Vessel for implementation of this Project.
- (6) To acquire approval for the Project Vessel's usage and qualification at the registry port immediately after the vessel's arrival in the FSM, and to promptly carry out conventional procedures such as customs clearance, registration, insurance coverage, etc.
- (7) To use and maintain the Project Vessel, other equipment, and spare parts provided in this project, properly and effectively.
- (8) To bear every expense arising from the Project Vessel's cruise back to the FSM, and

import, if any, not covered by Grant Aid.

- (9) To try to settle by itself any dispute arising with a third party on its own self-responsibility.
- (10) Banking Arrangements (B/A)
- The FSM government or its designated authority should open an account in the name of the Government of Federated States of Micronesia in an authorized foreign exchange bank in Japan.
  - Authorization to pay should be issued by the Government of Federated States of Micronesia or its designated authority.

### 3-2 Operation and Maintenance Plan

#### (1) Maintenance and administration system

As mentioned before, in implementation of this Project, the Marine Division in the FSM government's Department of Transportation & Communications will plan the operation schedules of the Project Vessel on the basis of requests by users such as the FSM government, the states, the rural fishing communities in the outer islands, and the private sector, just as the operation schedules had been planned for the Existing Vessel. The Project Vessel will be operated under this planning, and the five (5) members of the Marine Division of the Department of Transportation & Communications will be responsible for the maintenance and administration of the vessel.

The Marine Division will perform the following works under the aforementioned operation plan:

- 1) Operational administration for various procedures for the Project Vessel's entry to and departure from ports, etc., and communications with the vessel at sea.
- 2) Management of supplies such as procurement of fuel and ship supplies
- 3) Labor management such as planning for the manning of the Project Vessel and wage-related jobs.
- 4) Repair and maintenance of the vessel such as purchase of repair services and supplies, and scheduling and arrangements for docking.
- 5) Follow-up works such as rescheduling of operation or coordination of users in the event of any change in the operation plan due to the vessel's engagement in a disaster-relief mission.
- 6) Preparation of a draft budget of the Project Vessel's operation and maintenance.

#### (2) Trial calculation of the Project Vessel's operation costs

This trial calculation of the operation costs is made on the basis of the operation plan of the Project Vessel made by the Marine Division indicated in Table 3-3. The calculation offers reference data for the budget allotment of operation and maintenance of the Project Vessel in conformance with the specifications described

in subsection 2-3-2.

Table 3-3 Operation plan for the Project Vessel

	Yap		Chuuk		Pohnpei/FSM		Kosrae		Total	
	Voyage	Days	Voyage	Day	Voyage	Days	Voyage	Days	Voyage	Days
Cruising days	9	80	8	69	11	51	2	10	30	210
(1) Cruising	Main/Auxiliary engines running									210 days
(2) Berth in ports	107 days in Base Port, 30 days in calling ports									137
	Main engine suspended, Auxiliary engine running									
(3) Dry dock	Main/Auxiliary engines suspended									18
Total (days)										365

Thirty voyages of the Project Vessel are planned on the basis of the present requests by the users, which forecasts a more precise shipping schedule than the average annual number of voyages scheduled for the past 5 years, that is, 9 voyages.

The Project Vessel will operate at a higher working rate. If efficiency, decrease in the mooring days for repair, and the Marine Division's (Department of Transportation & Communications) self-directed operation planning for the Project Vessel are realized, that voyage number will be ideal. It is anticipated, however, that the operation schedule may be changed somewhat due to incidental activities for disaster relief or emergency first aid.

#### Preconditions

- (1) In the operation costs, the fuel cost is allotted in the budget only while the Project Vessel is in port, just as it is in the existing budget allotment for the Existing Vessel, and the cost at sea will be borne by users.
- (2) Crew wages are determined on the basis of the data provided by the Department of Transportation & Communications, and the subsistence is determined on the basis of the budget of the Existing Vessel. The wage raise shall be at an annual rate of 3.5% in light of the average for the past years.
- (3) Costs of dry dock, supplies, and repairs are dealt with in view of the spare parts to be provided when the Project Vessel is put in service.
- (4) Insurance is determined on the basis of the present coverage conditions in the FSM. No appraisal values of hull and engines, however, are available, and three sample values are taken for reference.
- (5) The administration cost is the same as that in the present budget.
- (6) The estimated budget is for the year of 1999, i.e., the year preceding the year when the Project Vessel will be rendered. No raise of commodity prices is contained, but the crew's wage raise is based on the above (2).

#### Estimation of operation and maintenance costs

① Personnel plan, wages, and subsistence

Composition, roles, and wages of crew on the Project Vessel are as follows:

Personnel (crew only) plan, roles, and wages			(US\$)
Crew	No.	Roles	Annual wages
Captain	1	Responsible for overall control of Vessel(except engine)	14,300 (Master III)
Officers	3	Responsible for deck watches administration	29,900 (for 3)
Chief Engineer	1	Responsible for whole control of engine operation	13,100
Engineers	3	Responsible for engine room watches administration	27,200 (for 3)
Bosun	1	Responsible for deck works	6,800
Steward	1	Responsible for inboard cooking	7,100
Deckhands	6	Deck and loading works	37,400 (for 6)
Assistant engineers	5	Handling of engine room equipment and loading works	31,200 (for 5)
Cooks	2	Cooking	11,700 (for 2)
Subtotal	23		178,700
		Welfare expenses (5% of wages)	8,900
Total	23		187,600

Subsistence to crew: US\$69,000 calculated on the basis of 1997 budget, US\$60,000 (for 20 persons), that is, 60,000 x 23/20

② Dry dock, supplies, and repairs

Dry dock is performed once every two years, and funded with a half of an estimated amount. The estimated dry dock cost, based on the actual cost in 1996, is US\$360 thousand, US\$180 thousand per one dock.

In view of the stock provided with the Project Vessel and its age, costs for supplies and repairs, including ship chandlery, are estimated at US\$25,000, a half of the 1997 budget for the Existing Vessel.

③ Maritime insurance

The insurance premium is divided into 3 types, namely hull insurance, liability insurance, and passengers insurance, according to the same division used by the FSM government for its administered ten (10) vessels. Hull appraisal, the base of the hull insurance, is taken up on cases such as US\$10 million, \$5 million, and \$2 million, the highest appraisals for the existing vessels. The premium rate is 3%.

(US\$)

Hull appraisal	Premium			Total
	Hull	Liability	Passengers	
10,000,000	320,000	4,000	3,000	327,000
5,000,000	160,000	4,000	3,000	167,000
2,000,000	64,000	4,000	3,000	71,000

## ④ Fuels in port

As shown in Table 3-3, berth in port is for 107 days in the base port, Pohnpei, and 30 days in the calling ports, so the total number of days, 137, equals the number of voyages.

Auxiliary engine power 210PS → 155 kW	
Auxiliary engine running hours, powers in port	
1. For loading and anchoring:	4hr/24hr (at load factor of 50% for 2 units = 210 PS)
2. For general works, cooking:	6hr/24hr (at load factor of 50% for 1 unit = 105 PS)
3. Waiting without works:	14hr/24hr (at load factor of 50% for 1 unit = 63 PS)
	24hr/24hr = 2,352PS/24hr
F.O. consumption rate:	170gr/PS · hr
F.O. specific gravity:	0.85kg/ℓ
F.O. consumption:	2,352PS/24hr x 0.170kg/PS ÷ 0.85kg/ℓ = 470.4 ℓ /day For 137 days: 470.4 ℓ /day x 137 days = 64,445Kℓ
F.O. cost:	64,445Kℓ x \$244.35/kℓ = US\$15,747
L.O. cost:	64,445Kℓ x 1.5% x \$1,402/kℓ = US\$1,355
Blended oil for boat while the vessel in port:	5 ℓ /day \$1/day x 137 days = US\$150
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Total fuel cost	US\$17,250

## ⑤ Annual operation costs for the Project Vessel

i) Annual operation costs for the Project Vessel are compared with those for the existing vessel in the following chart:

Project Vessel		Caroline Islands budget 1997	
1. Administration	8,000	1. Administration	8,000
2. Crew's wage (23)	187,000	2. Crew's wage (20)	162,000
3. Subsistence	69,000	3. Subsistence	60,000
4. Insurance		4. Insurance	38,000
Hull appraisal:		Hull appraisal:	
1) \$10 million	( 327,000 )	\$0.9 million	
2) \$5 million	( 167,000 )		
3) \$2 million	( 71,000 )		
5. Supplies and repairs	25,000	5. Supplies and repairs	50,000
6. Dry dock	180,000	6. Dry dock †	340,000
7. Fuels in port	17,250	7. Fuels in port	28,000
Total	1) 813,850	Total	686,000
	2) 653,850		
	3) 557,250		
Total (excluding insurance and docking costs)		308,850	
	306,850		308,000

The Project Vessel's operation costs will vary remarkably depending on the hull appraisal adopted. The cost for wages on the Project Vessel cost is higher than that on the existing vessel because of increases in the number of person, wage raise and subsistence, but the Project Vessel's costs are somewhat less in the line items other than the insurance. With the exception of the dry dock cost, both operation costs can be considered similar, as indicated in the following. If the dry dock cost is included, the Project Vessel's costs will be approx. US\$160 thousand less than those of the existing vessel.

Therefore, it will be necessary to deal with the budget allotment of the Project Vessel by setting a proper insurance.

(US\$)		
Cost Comparison between P. V. and E. V.	P. V.	E. V.
Total costs excluding dry dock and insurance	306,850	308,000
Total costs with dry dock, excluding insurance	486,850	648,000

P.V. : The Project Vessel

E.V. : The Caroline Islands, the existing vessel

ii) The fuel costs borne by the beneficiaries are estimated on the following conditions:

Main engine 1,000PS x 2 units = 2,000 PS  
 Generator 210PS x 2 units = 420 PS

	Main engine	Generator
Cruising a) Cruising b) At berth Waiting c) At mooring Total	210 days 85%(1,700PS) 30 days 240 days	50% of 1 unit(105PS)
Power used	1,700 PS	105 PS
F.O. consumption rate	145gr/PS · hr	170gr/PS · hr
F.O. specific gravity	0.85kg/ℓ	0.85kg/ℓ
F.O. consumption ℓ/day	$1,700\text{kI} \times 0.145 \div 0.85$ $\times 24 = 6,960$	$105 \times 0.17 \div 0.85 \times 24$ $= 504$
Main + Auxiliary	7.464Kl	
F.O. cost US\$/day	$7.464\text{Kl} \times \$244.35/\text{Kl}(\text{duty-free}) = \$1,824$	
L.O. cost US\$/day	$7.464\text{Kl} \times 1.5\% \times \$1,402.74(\text{duty-free})$ $= \$157$	
Total fuel cost US\$/day	$\$1,981 \approx \$2,000$	
Fuel cost at sea	$\$2,000/\text{day} \times 210\text{days} = \$420,000$	
For reference	Caroline Islands fuel cost/day (consumption 7.114Kl/day)	
Total Fuel cost US\$/day	$\$2,000 \times 7.114\text{Kl}/7.464\text{Kl} \approx \text{US\$1,900}$	

As described above, the fuel cost borne by the users is expected to be increased by approx. US\$100/day (5%). In spite of the main engine power increase of approx. 11% (1,800PS to 2,000PS), the Project Vessel will have only an approximately 5% increase in the fuel cost because of the power-saving-type engine adopted.

The operation-related costs for the Project Vessel are estimated as mentioned above, and the operation costs borne by the FSM government will vary depending upon the insurance set up upon the hull appraisal. The total costs excluding the insurance will presumably be less than the average actual costs of the Existing Vessel for the past two years. The fuel cost borne by the users will exceed the cost in the case of the Existing Vessel by only about US\$100 or less per day.

# **Chapter 4**

## **Project Evaluation and Recommendations**





## Chapter 4 Project Evaluation and Recommendations

### 4-1 Project Effects

This Project has the objective of supplying alternative ships to replace the FSM's Existing Vessel, which is prone to many problems due to their advanced ages. The Project Vessel will ultimately improve the sea transport system run by the FSM government, providing the people of the fishing villages in the outer islands with a more efficient and better public transportation. To add to this expected effect, as the implementation of this Project could bring out the increased possibility of materialization and expansion of development-related projects as well as a broadening of these projects' subject areas, a further promotion of development could also be expected in these villages.

Effects expected from implementing this Project are described below.

#### (1) Continued Service and Improved Efficiency of Public Transportation

Through this Project, a public transportation service for the fishing villages in the outer islands can be safely maintained. Currently, the vessels in use are old and the registrations of their classifications have already been invalidated in all cases. Furthermore, concern for the service's sustained operation is mounting due to the refusal by the FSM Congress to agree to the docking appropriation in the next fiscal year budget.

The annual operating days of these existing vessels have been 170 days for the last 5 years. The days they remained idle due to breakdowns and repair works brought on by their old age increased from 8 days in 1993 to 36 days in 1995. The Project Vessel will improve not only this kind of situation, but also navigation capabilities, transport, and cargo works. For example, their operating days are set at 210 days, which is an improvement of over 20%.

This in turn will make it possible to assign a more sufficient number of the vessels to more states and more outer islands. As this would give the FSM government a better transportation means for The Capital Improvement Project (the actual development and promotion projects planned for the outer island communities) this should contribute further to the more efficient services of the FSM government for the public. The Capital Improvement Project is an integral part of the Public Sector Investment Program, which the FSM government considers as its national development project.

#### (2) Improved Safety

For this purpose, a safety design will place a rampway in a vessel's bow section above a full-load water line according to the current international ship classification standards. Also, equipment stipulated in the international rules for safety with comparatively tougher safety standards than those applied to the Existing Vessel will be installed to guarantee the safety of passengers, crews, and cargoes. Another measure for safety is a device to lift and lower work boats at difficult berthing ports in some of the outer islands. This should make loading and unloading of both passengers and cargoes easier.

### (3) Improved Economy of Navigation & Maintenance Costs

The Project Vessel can drastically lower the costs from the amounts spent now for the Existing Vessel not only for docking, but also for the spare parts and repairs needed in normal maintenance works. Thus, the total costs for both navigation and maintenance for the Project Vessel excluding insurance fees, are estimated to be about US\$160,000 or less. As for fuel costs, with the more energy-efficient engines & equipment installed on the Project Vessel, the cost burden on the operators of the Project Vessel will remain almost unchanged despite the 10% increase in their horse power. However, the combined use of GPS and an auto pilot system should enable setting of the shortest navigation routes possible, thereby actually attaining a reduction in fuel costs.

### (4) Contribution to Social & Economic Activities in the Outer Islands

The capacity and efficiency of the transportation between the outer islands will be greatly improved by the introduction of the Project Vessel. In other words, the Project Vessel will provide them with more frequent use of the improved transport system for the transport of not only daily commodities such as food and medicines, but also the fuel, fishing tool, and equipment necessary for their livelihood, fishing. In addition, they will also be able to transport construction equipment for the construction of infrastructure and fishing facilities. Further as the improved transportation service could be used to carry the cash products such as copra and processed marine products to markets accessible to the resource-poor fishing villages in the outer islands, yet another expected effect is the promotion of a more vigorous society and economy for these villages. The Project Vessel is also likely to be utilized in the other various projects which the FSM Ministry of Resources Development is studying for the development and promotion of marine-related products.

### (5) Expected Benefits from this Project

#### 1) What Benefits

A more direct benefit will be for the FSM Government, who will have a strengthened function and role in the improved sea transport system. Others benefits are the reduced costs for navigation and maintenance, and improved quality and efficiency of the public transport service for the people living in the outer islands.

#### 2) Who Will Benefit Directly

About 50,000 villagers living in some 65 outer islands are to benefit from this Project. This figure excludes villagers living in the main islands located in the capital.

#### 3) Who Will Benefit Indirectly

As the Project Vessel will also be used for other purposes, all 100,000 citizens of the FSM will benefit somewhat indirectly from this Project. The Project Vessel will serve as substitute for cruise boats at times of emergency, transportation back-up for the delivery of relief supplies during disasters, and other particular works (such as setting of channel marks, which presently only the Project Vessel is capable of).

## 4-2 Tasks & Recommendations

Once this Project is implemented, the considerable effects and benefits described above can be expected. At the same time, the implementation will also contribute to the improved supply to meet the basic human needs for the people of the FSM in a far-reaching way. For these reasons, the grant aid for implementing this Project is considered to be quite fair. Further, the FSM government side cannot be foreseen to have any problems with the actual operation and management of this Project in terms of staff and funds. However, there are several concerns mentioned below which require attention. If these concerns, enumerated below, are heeded, this Project implementation has every likelihood of proceeding smoothly without any troubles.

### (1) Tasks

#### 1) Securing Budget for Navigational & Maintenance Costs for the Project Vessel

Once the Project Vessel is introduced, it will be, as in the case of the current vessels in use, part of the public transport service provided by the FSM government. Therefore, the FSM government is required to secure a minimum of about US\$500,000 in the government budget as a fiscal expenditure. With continued economic aid such as the Compact Grant from the US still uncertain after the year 2001, a more prioritized effort for securing a sustained budget appropriation is critical for the implementation of this Project in its present form.

#### 2) Cooperation & Collaboration with the Ministry of Transport & Communications and the Ministry of Resources & Development

As it was stated before, this Project will contribute to a more vigorous society and economy on the outer island villages. For this expected effect, the Ministry of Resources & Development, as an implementing agency for the efficient and effective development and promotion of those islands, will act as a coordinating body for this Project by giving advice in the planning of the navigation and the allocation of the Project Vessel. However, many states and outer island communities are already requesting the limited number of allocation of the Existing Vessel. To work out this problems of this type and concurrently carry out the Ministry's own pet projects efficiently without any delay, the implementing agency for this Project, Ministry of Transport & Communications, and the coordinating agency for this Project, the Ministry of Resources & Development, must remain in close contact for cooperation and collaboration.

#### 3) Reviewing Fares

Transportation fares and charter fares for private citizens other than for public officials have remained unchanged for the last ten years or so and now need to be reviewed to help finance the operational costs.

## (2) Recommendations

### 1) Measures for Reduction in Navigation & Maintenance Costs

#### (i) Docking Plan

Currently, docking is being carried out once every two years in either Japan or Korea. However, this practice is regarded as somewhat disadvantageous not only in terms of maintaining the good condition of the vessel itself, but also in terms of the costs needed for the docking. In order to improve this situation and also reduce the long-term costs for maintenance and docking works, annual works to clean the bilges, repaint with anti-corrosive zinc dust, and check-up engines and other facilities is recommended. The FSM's neighboring country, the Republic of Marshall Islands, has a ship yard with a floating dock system in Majuro, which seems suitable enough for a bilge clean-up.

Its proximity makes the docking expenses cheaper than those in Japan. Also, with the possible future export of copra to Majuro, future docking in Majuro seems worth studying.

#### (ii) Establishing Appropriate Vessel Evaluation for Marine Insurance

Premium for the marine insurance on the Existing Vessel is 3.2% of the vessel's evaluated value. If the evaluated value of the Project Vessel was same as the operating cost for this Project at the time of its implementation, it could amount to as high as US\$300,000, which would be beyond the possible annual budget allocation for the Ministry of Transport & Communications. Thus, we recommend that it be kept it within the range of an obtainable budget.

### 2) Operational Aspect of the Project Vessel (Installation spot of a rampway in a bow section and building of beaching facilities)

To conform to the rules of the international ship classification standards the rampway in the bow section of the Project Vessel will be situated about 1.4 meters higher than those of the old one. As a result, the new rampways may not be able to touch the grounds at two beaches in the outer islands where the Existing Vessel is currently handling works such as loading and unloading of construction equipment without any trouble. To solve this possible future problem, two measures are recommended. One is to conduct a careful study on a design for a Vessel bottom at the time of this Project implementation for an easier access to those beaches. Another is to have the Ministry of Transport & Communications instruct those islands to build simple dock site facilities (e.g., a bank of piled rocks) for the Project Vessel.

## **Appendices :**

- 1 Member List of the Survey Team**
- 2 Survey Schedule**
- 3 List of Party Concerned in the FSM**
- 4 Minutes of Discussion**
- 5 References**



## 1. Member List of the Survey Team

### 1-1 Survey Team for Basic Design Study

Mr. SAITOU, Haruo	Team Leader	Fishing Boat Inspector, Oceanic Fisheries Department, Fisheries Agency, Ministry of Agriculture, Forestry and Fisheries (MAFF)
Mr. SUGIYAMA, Shunji	Coordinator	Second Project Design Division, Grant Aid Project Design Department, Japan International Cooperation Agency
Mr. NAKAMURA, Shinichi	Technical Advisor	International Affairs Division, Fisheries Agency, MAFF
Mr. TOYONAGA, Mikio	Chief Consultant Ship Operation Planner	Manager, New Business Affairs Direction Kyokuyo Co., Ltd.
Mr. KOYANAGI, Yasunari	Ship Building Engineer	Technical Advisor, New Business Affairs Direction, Kyokuyo Co., Ltd.
Mr. KITAMURA, Michio	General Equipment Planner	Technical Advisor, New Business Affairs Direction, Kyokuyo Co., Ltd.
Mr. TAKAHASHI, Kuniaki	Fisheries/ Survey Equipment Planner	Director, Chief of Planning Management, Fisheries Engineering Co., Ltd.
Mr. TOBARI, Masao	Fisheries/ Survey Equipment Planner	Assistant Manager, New Business Affairs Direction, Kyokuyo Co., Ltd.



1-2 Survey Team for Explanation of the Outline of Basic Design

Mr. IWAMOTO, Yasuaki	Team Leader	Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs (MFA)
Mr. UOYA, Toshinori	Technical Advisor	International Affairs Division, Fisheries Agency, MAFF
Mr. TOYONAGA, Mikio	Chief Consultant Ship Operation Planner	Manager, New Business Affairs Direction Kyokuyo Co., Ltd.
Mr. KOYANAGI, Yasunari	Ship Building Engineer	Technical Advisor, New Business Affairs Direction, Kyokuyo Co., Ltd.

2 Survey Schedule  
2-1 Survey Schedule for Basic Design Study

Official members		Consultant members		Activities		Accommodation		No.
No.	Date	Movement	Accommodation	Activities	Accommodation	Activities	No.	
1	18/8 (Sun.)	Narita to Guam	Guam	Departure: 20:55(C0960) Arrival: 02:40	Guam	Same with Official Members Narita to Guam	1	
2	19/8 (Mon.)	Guam to Pohnpei	Pohnpei	Departure: 08:20(C0956) Arrival: 12:50 Courtesy calls on Embassy of Japan and Departments concerned. Explanation of Inception report, etc	Pohnpei	Same with Official Members Guam to Pohnpei	2	
3	20/8 (Tue.)	Pohnpei	Pohnpei	Discussion with Department of Transportation & Communications and Department of Resources & Development	Pohnpei	Submission of the questionnaire	3	
4	21/8 (Wed.)	Pohnpei	Pohnpei	Simulation navigation of the Caroline islands	Pohnpei	Simulation navigation to Ant Atoll Mr. TAKAHASHI Narita to Guam Arrival: 15:50 (C0962) Guam to Pohnpei Arrival: 22:45 (C0958)	4	
5	22/8 (Thu.)	Pohnpei to Chuuk	Chuuk	Morning: Supplementary discussion, and studies Afternoon: Movement to Chuuk Departure: 16:55 Arrival: 17:10 (C0957)	Chuuk	Same with Official Members	5	
6	23/8 (Fri.)	Chuuk	Chuuk	Study of the Chuuk agencies concerned	Chuuk	Same with Official Members Study of Weno Port situations and the Caroline Islands agents	6	
7	24/8 (Sat.)	Chuuk	Chuuk	Study of the rural fishing villages in Chuuk (Surveying by the chartered boat the touch-down beaches in the outer islands)	Chuuk	Study of the bank facilities on an island in a lagoon. Chuuk, for Caroline Islands to touch down	7	

No.	Date	Movement	Accommodation	Activities	Accommodation	Activities	No.
8	25/8 (Sun.)	Chuuk to Pohnpei	Pohnpei	Movement to Pohnpei Departure: 09:35 Arrival: 11:50 (C0956) Meeting in the Team	Pohnpei	Same with Official Members  Meeting in the team	8
9	26/8 (Mon.)	Pohnpei	Pohnpei	Discussion with Department of Resources & Development (DRD) and Department of Transportation & Communications (DTC) Study of Pohnpei Government	Pohnpei	Same with Official Members	9
10	27/8 (Tue.)	Pohnpei	Pohnpei	Discussion with the DRD and the DTC  Supplementary studies and discussion	Pohnpei	Same with Official Members Study of the Caroline Islands agents  Mr. KITAMURA and Mr. TAKAHASHI leave Pohnpei for Guam Departure: 16:55 (C0957) Arrival: 19:20	10
11	28/8 (Wed.)	Pohnpei	Pohnpei	Discussion of the draft minutes (with Department of External Affairs and the DTC)	Pohnpei	Same with Official Members	11
12	29/8 (Thu.)	Pohnpei	Pohnpei	Signature of Minutes Report of the Survey to Japanese Embassy	Pohnpei	Mr. KITAMURA and Mr. TAKAHASHI leave Guam for Yap Departure: 7:45 (C0951) Arrival: 9:15 Study of Yap agencies concerned Same with Official Members	12
13	30/8 (Fri.)	Pohnpei to (Guam)	in Airplane	Movement to Pohnpei Departure: 23:40 (C0959)	Pohnpei	Mr. KITAMURA and Mr. TAKAHASHI study the outer islands (Ulithi) by the chartered Beach Craft Discussion with the DTC Study of the sites for Caroline Islands to touch down	13

No.	Date	Movement	Accommodation	Activities	Accommodation	Activities	No.
13					Yap	Mr. KITAMURA and TAKAHASHI study the demand for carriers.	13
14	31/8 (Sat.)	Guam to Narita		Movement to Tokyo (via Guam) Arrival at Guam: 02:10 Departure: 16:10 (C0967) Arrival: 19:55	Pohnpei Yap	Studies in the vicinity Putting materials in order Mr. KITAMURA and Mr. TAKAHASHI study the Caroline Islands agents, and the vicinity of Colonia Port	14
15	01/9 (Sun.)				Pohnpei Pohnpei	Meeting in the members Mr. KITAMURA and Mr. TAKAHASHI move to Pohnpei	15
16	02/9 (Mon.)				Kosrae Pohnpei	Departure: 12:55 (C0952) Arrival: 22:45 (C0958) via Guam Movement (Pohnpei to Kosrae) Departure: 13:25 (C0956) Arrival: 14:30 Discussion with Kosrae agencies concerned Mr. KITAMURA and Mr. TAKAHASHI Study of the actual operation data of Caroline Islands	16
17	03/9 (Tue.)				Pohnpei Pohnpei	Studies of Kosrae port situation, etc. Movement (Kosrae to Pohnpei) Departure: 15:20 (C0957) Arrival: 16:20 Studies of engine and fitting-out of the Project Vessel	17
18	04/9 (Wed.)				Pohnpei	Report in the Member about studies results in Kosrae and Yap. Confirmation of the reply to the questionnaire, and putting the supplementary questions. Mr. Tobari leaves for Majuro.	18
19	05/9 (Thu.)				Pohnpei	Hearing for study from Caroline Islands crew. (Mr. Tobari studies the dock yard repair facilities in Majuro)	19

No.	Date	Movement	Accommodation	Activities	Accommodation	Activities	No.
20	06/9 (Fri.)				Pohnpei	Discussion with the DTC about the specifications of the Project Vessel (Mr. Tobari studies agents in Majuro)	20
21	07/9 (Sat.)				Pohnpei	Putting materials in order Supplementary studies (Mr. Tobari returns to Pohnpei)	21
22	08/9 (Sun.)				Pohnpei ----- Guam	Meeting in the members ----- Mr. TAKAHASHI leaves Pohnpei for Guam  Departure: 12:30 (C0957) Arrival: 15:00	22
23	09/9 (Mon.)				Pohnpei -----	Discussion with the DTC about the operation plan of the Project Vessel and the other matters ----- Mr. TAKAHASHI Movement (Guam to Narita) Departure: 15:20 (JL942) Arrival: 17:55	23
24	10/9 (Tue.)				Pohnpei	Studies of the local agents, work-shops, and repair shops. Visit to Mobil to study the fuel oil components	24
25	11/9 (Wed.)				Pohnpei	Discussion with the DTC about the operation plan of the Project Vessel Visit to NOAA office to collect the the climatological and tidal data	25
26	12/9 (Thu.)				Pohnpei	Meeting for confirmation with the DTC about the results of studies, consideration and analysis of the Project Vessel Discussion with the DTC about the draft specification and design of the Project Vessel (Mr. Tobari leaves for Guam)	26

No.	Date	Movement	Accommodation	Activities	Accommodation	Activities	No.
27	13/9 (Fri.)				Pohnpei	Confirmation of the draft specification of the Project Vessel Report to Embassy of Japan (Mr. Tobari studies Guam agents)	27
28	14/9 (sat.)				Pohnpei	Putting materials in order, and supplementary study for confirmation (Mr. Tobari studies workshops and repair shops in Guam)	28
29	15/9 (Sun.)					Meeting in the Team Putting in order the outline of the field survey (B/D) results. Movement (Pohnpei to Guam) Departure: 12:30 (C0957) Arrival: 15:00 (Mr. Tobari arrives at Narita(JL942))	29
30	16/9 (Mon.)					Movement (Guam to Narita) Departure: 06:00 (NW061) Arrival: 08:40	30

2-2 Survey Schedule for Explanation of the Outline of Basic Design

Official members		Consultant members	
No.	Date	Schedule	Accommodation
1	30/10(Wed.)	Narita to Pohnpei via Guam	Pohnpei
2	31/10(Thu.)		Pohnpei
3	1/11(Fri.)		Pohnpei
4	2/11(Sat.)		Pohnpei
5	3/11(Sun.)		Pohnpei
6	4/11(Mon.)	Holiday for F.S.M. Independence Day	Pohnpei
7	5/11(Tue.)		Pohnpei
8	6/11(Wed.)		Pohnpei
9	9/11(Thu.)		Chuuk

No.	Date	Activities
1	30/10(Wed.)	Departure: 10:50(C0962) Arrival: 02:40
2	31/10(Thu.)	Courtesy calls on Embassy of Japan and F.S.M. Department of External Affairs and the DTC Explanation and discussion with both Departments about the outline of basic design
3	1/11(Fri.)	Discussion with the DTC about the outline of basic design and the specification of the Project Vessel
4	2/11(Sat.)	Study and inspection of Caroline Islands and the other facilities under the Japan's Grant Aid Scheme in the fisheries
5	3/11(Sun.)	Putting materials in order, and meeting in the Team
6	4/11(Mon.)	Hearing from OFCF experts about the situations of the outer islands' fishing Supplementary study of the base port of the Project Vessel, etc.
7	5/11(Tue.)	Discussion with the DRD about the utilization plan of the Project Vessel, and then discussion with the DTC about the Vessel's specification
8	6/11(Wed.)	Morning: Further discussion with DTC about the specification of the Project Vessel Afternoon: Discussion with the Departments concerned for the minutes, and sign of the minutes
9	9/11(Thu.)	Report to Embassy of Japan Movement to Chuuk because of Guam Air Port closing for the typhoon Departure from Pohnpei 16:55 (C0957) Arrival at Chuuk 17:00

No.	Date	Schedule	Accommodation	Activities
10	10/11(Fri.)		Guam	Investigation of the facilities under Japan's Grant Aid Scheme in the fisheries (Chuuk) and the facility provided in the general sector of the Scheme (Weno Port)  Movement from Chuuk to Guam Departure: 17:45 (CO957) Arrival: 19:30
11	11/11(Sat.)		Guam to Narita	Movement: Departure: 06:00 (NW062) Arrival: 08:30



### 3. List of Parties Concerned in the FSM

#### 3-1 Basic Design Study

{The FSM government}

##### Department of External Affairs

Mr. Asterio Takesy	Secretary
Mr. Lorin Robert	Assistant Secretary
Mr. Larry Raigetel	Foreign Service Officer, Asian Affairs

##### Department of Transportation & Communications

Mr. Lukner B. Weilbacher	Secretary
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##### Division of Marine transportation

Mr. Weiner H. Hadley	Administrator of the Division of Marine transportation
Mr. Matthias J. Ewarmai	Manager, Sea Transportation System Development Branch
Mr. Matthias R. Mangmog	Manager, Marine Safety & Inspection Branch
Mr. Reedson F. Edwin	Manager, Operation Branch
Mr. Kim Young Po	Manager, Technical Branch

##### Caroline Islands

Mr. Hideo Noah	Captain
Mr. Mariano Gilmete	Chief Engineer

##### Department of Resources & Development

Mr. Sebastian Anefal	Secretary
Mr. Francis I. Itimai	Fisheries Development Specialist, Division of Marine Resources

##### Office of the President

Mr. John A. Mangefel	
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##### National Oceanic and Atmospheric Administration, FSM

Mr. Akira J. Suzuki	
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##### State of Pohnpei

##### Bureau of Public & Governmental Relations

Mr. Tiha J. Killeng	Deputy Chief
Mr. Roonie Phillip	Manager, Ship Operation

##### Department of Resource Management and Development

Mr. Valentin A. Martin	Division of Resource management
------------------------	---------------------------------

Economic Planning Commission  
Mr. Dison H. Gideon

Fisheries Development Specialist

Private Sector  
Agents in Pohnpei Harbour  
Mrs. Petra Christian  
Mr. Joe Vitt

General Manager, Seair Shipping Agency  
General Manager, Pohnpei Utility Corporation

Workshop  
Mr. Largo Edwin

General Manager, Pohnpei Utility Corporation

Representative in Micronesia for Japan Fisheries Association and other Japanese Fisheries Associations

Mr. Yuzo Akinaga

Chief Representative

Mobil Oil  
Mr. Lance Meteolechol

Manager, Mobil Oil Pohnpei

#### State of Chuuk

Office of the Governor  
Mr. Marcelino Unwech  
Mr. Wilfred Robert

Governor  
Administrative Officer

Department of Transportation  
Mr. Thomas R. Narruhn  
Mr. Inoske S. Fiti

Former Director  
Assistant, Port Operation

Department of Marine Resources  
Mr. Romio Ostena  
Mr. Chuneo Ephini

Chief, Fisheries Research and Development  
Administrated Officer

Municipalities in the outer islands  
Mr. Elliot Phillip  
Mr. Eigolt Ftema

Mayor, Oneop Island  
Chief, Fefen Island

Private Sector  
Agent for Caroline Islands  
Mr. Sabino S. Asor

General Manager, Truk Transportation Company

#### State of Yap

Office of the Governor  
Mr. Vincent Figir  
Mr. Matthias Kuor

Governor  
Lt. Governor

Mr. John Lingmar Special Assistant for Outer Island Affairs

Department of Public Utilities and Contracts

Mr. Moses Marpa Manager, Transportation

Department of Resources and Development

Mr. Andy Tafleichig Chief, Yap Marine Resources

Department of Resources and Development

Mr. Patrick Peckalibe Assistant General manager, Yap Fishing Authority

Municipalities in the outer islands

Ulithi atoll

Mr. Phillip Yatch Chief, Falalop Island

Mr. Anhono Taidow Chief, Mogmog Island

Mr. Iacc Langel Elder of the Island, Asor Island

Private Sector

Agent for Caroline Islands

Mr. Cyril Chugrad General Manager, Waab Transportation Co., Inc.

State of Kosrae

Office of the Governor

Mr. Gaius Nedlic Director, Department of Administration

Department of Transportation & Utility

Mr. Robert Weilbacher Director

Mr. Raimond Tuhensru Division of Airport/dock and Harbor

Department of Fisheries and Marine Resources

Mr. Dais Aloka Director

Mr. Mitchuo Timothy Administrative officer

Mr. Tony Braham Chief, Division of Fisheries & Surveillance

Mr. Rooston Abraham Fisheries Specialist

Mr. Killion Isisaki Fisheries Technician

Development Review Committee

Mr. Simpson K. Abraham Administrator

Republic of Marshall Islands

La Force Shipyard Inc. (Joint Venture Company)

Mr. Chales Domnic Representative for Marshall partner of the J/V

Pacific International Inc. (Tobolar)  
Mr. Jerry Kramer                      General Manager

**Guam**

Agent for Kyokuyo's vessels  
Mr. Gabriel Ko                      Manager, Guam Shipping Agency

**Workshop**

Mr. Conrado G. Gauyan              Manager, Casamar (Guam), Inc.  
Pacific Welding Company

**National Federation of Fisheries Co-operative Associations (Guam)**

Mr. Michio Shimizu                  Overseas Business section of Petroleum & Fishing  
Materials Dept.

Mr. Shingo Ishiyama                -- do --

**Embassy of Japan in the FSM**

Mr. Kiyoshi Nishikawa              Charge d'Affaires ad interim

Mr. Susumu Nakazawa              First Secretary

Ms. Kayo Tsusaka                  First Secretary

Mr. Yasuyuki Ozaki

**Fisheries Experts**

Mr. Masato Ouishi                  OFCF

Mr. Ryota Nakamura                OFCF

Mr. Shin Sasao                      OFCF

**Japan Overseas Cooperation Volunteers**

Mr. Hironobu Motoki                Department of Transportation & Utility, Kosrae

Ms. Akiko Ikeguti                  Department of Fisheries & Marine Resources, Kosrae

Ms. Kumiko Okamoto                Department of Fisheries & Marine Resources, Kosrae

**3-2 Explanation of the Outline of Basic Design**

**The FSM government**

**Department of Transportation & Communications**

Mr. Lukner B. Weilbacher          Secretary

**Division of Marine transportation**

Mr. Weiner H. Hadley                Administrator of the Division of Marine transportation

Mr. Matthias J. Ewarmai             Manager, Sea Transportation System Development  
Branch

Mr. Matthias R. Mangmog            Manager, Marine Safety & Inspection Branch

Mr. Kim Young Po

Manager, Technical Branch

**Department of Resources & Development**

Mr. Sebastian Anefal

Secretary

Mr. Moses Nelson

Administrator, Marine Resources Division

**Department of External Affairs**

Mr. Lorin Robert

Assistant Secretary

Mr. James Lukan

Deputy Assistant Secretary

Mr. Larry Raigetel

Foreign Service Officer, Asian Affairs

**Embassy of Japan in the FSM**

Mr. Kiyoshi Nishikawa

Charge d'Affaires ad interim

Mr. Susumu Nakazawa

First Secretary

Mr. Yasuyuki Ozaki

**Fisheries Experts**

Mr. Masato Ouishi

OFCF

**JOCV**

Mr. Kazuo Nishida

Department of Resource Management and  
Development, Pohnpei

4. Minutes of Discussion

MINUTES OF DISCUSSIONS

BASIC DESIGN STUDY

ON THE

PROJECT FOR CONSTRUCTION OF INTER-ISLAND VESSEL IN THE FEDERATED STATES OF MICRONESIA

In response to the request from the Government of the Federated States of Micronesia (FSM), the Government of Japan has decided to conduct a basic design study on the Project for Construction of Inter-Island Vessel (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA)

JICA has sent to FSM a basic design study team headed by Mr. Haruo SAITO, Fisheries Agency, Ministry of Agriculture, Forestry, and Fisheries, and the Team is scheduled to stay in the country from August 19 to September 15, 1996.

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

In the course of the discussions and the field survey, both parties have confirmed the main items described on the attached sheets. The team will proceed to further work and prepare the basic design study report.

Pohnpei, 29 August, 1996

Haruo SAITO  
Leader  
Basic Design Study Team  
JICA

Lofin ROBERT  
Assistant Secretary  
Department of External Affairs  
The Government of the Federated States of  
Micronesia

## ATTACHMENT

### 1. Objective

The objective of the Project is to improve the transportation capability, operational efficiency and cost effectiveness of the national sea transportation services by providing a replacement vessel of the MS Caroline Islands so as to contribute to lifting social and economic standard of inhabitants of the outer islands as well as development of fisheries as a target industry of the area.

### 2. Project Site

The vessel will be based in the Port of Pohnpei.

### 3. Executing Agency

Department of Transportation & Communications (DTC) is responsible for administration and execution of the project.

### 4. Coordinating Agency

Department of Resources & Development (DRD) will be the coordinating agency of the project since coordination between DTC and DRD in the process of planning operation of the vessel is important in order to achieve an ultimate goal of the project, namely to promote social and economic development of the outer islands.

### 5. Items requested by the Government of FSM

One landing craft type vessel with such specifications as stated below is requested by the Government of FSM.

- The basic feature of the vessel is of landing craft type cargo carrier.
- The service speed is about 10.5 knots.
- The complement of the vessel contains maximum 23 crew and 12 passengers.
- Type of the cargo handling system is preferably union purchase system.

Principal particulars and other aspects of specifications of the vessel will be determined after further studies.

### 6. Japan's Grant Aid System

- 1) The Government of FSM has understood the system of the Japan's Grant Aid explained by the Team. The main feature of the system is described in ANNEX I.
- 2) The Government of FSM will take necessary measures described in ANNEX II for the smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

**7. Operation & Maintenance**

DTC shall secure sufficient budget and assignment of appropriate number of crew necessary for proper operation and maintenance of the vessel.

**8. Further Schedule of the Study**

- 1) Several members of the team will proceed further studies in FSM until September 15, 1996
- 2) JICA will prepare the draft basic design of the project and dispatch a mission in order to explain its contents around the end of October 1996.
- 3) In case that the contents of the design is accepted in principle by the Government of FSM, JICA will complete the basic design study report and send it to the Government of FSM by the end of February, 1997.



## ANNEX I: JAPAN'S GRANT AID SCHEME

### 1. Grant Aid Procedure

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

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan 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 to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

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 report prepared 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.

### 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 Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the 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 the technical, social and economic points of view;

- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- 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 through 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 the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participate the Study and prepare a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

## 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)

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

- 3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors 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, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the 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 the 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 of Japanese taxpayers.

- 6) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses other than those covered by the Grant Aid, necessary for the Project.

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 the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

8) "Re-export"

The products purchased under the Grant Aid shall 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 (A/P) issued by the Government of recipient country or its designated authority.

## ANNEX II: UNDERTAKINGS BY THE GOVERNMENT OF FSM

1. To secure a lot of land necessary for the Project
2. To clear, level and reclaim the site for the Project prior to the commencement of the construction.
3. To provide a proper access road to the Project site
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary.
5. To ensure prompt unloading, tax exemption and customs clearance at ports of disembarkation in FSM and internal transportation therein of the products purchased under the Japan's Grant Aid.
6. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in FSM with respect to the supply of the products and services under the verified contracts.
7. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into FSM and stay therein for the performance of their work.
8. To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (B/A).
9. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.
10. To ensure that the facilities constructed and equipment purchased under the Japan's Grant Aid be maintained and used properly and effectively for the Project.
11. To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

MINUTES OF DISCUSSIONS  
BASIC DESIGN STUDY  
ON  
THE PROJECT FOR CONSTRUCTION OF INTER-ISLAND VESSEL  
IN  
THE FEDERATED STATES OF MICRONESIA  
( Consultation on the Draft Basic Design )

In August 1996, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study Team on the Project for Construction of Inter-Island Vessel (hereinafter referred to as "the Project") to the Federated States of Micronesia. As a result of series of discussions, field survey in FSM, and technical assessment conducted in Japan, JICA prepared the Draft Basic Design of the Project.

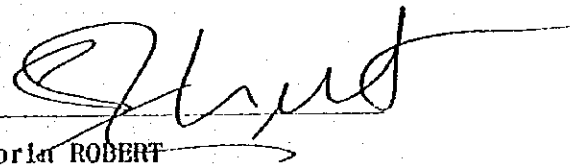
In order to explain and consult the FSM side on the components of the Draft Basic Design of the Project, JICA sent to FSM the Study Team headed by Mr. IWAMOTO, Yasuaki, Grant Aid Division, Ministry of Foreign Affairs. The team stayed in FSM from October 30 to November 7, 1996 and submitted the draft basic design of the Project to the FSM side on October 31, 1996.

As a result of discussions, both sides in principle agreed to recommend the main items of the Project described in the attached sheets to their respective governments. The Team will proceed to further works and finalize the Basic Design Study Report.

Pohnpei, November 6, 1996

岩本泰明

IWAMOTO, Yasuaki  
Leader  
Basic Design Study Team  
JICA



Lorla ROBERT  
Assistant Secretary  
Department of External Affairs  
The Government of the Federated States  
of Micronesia

## ATTACHMENT

### 1. Participants in the Discussions

During the team's stay in FSM from October 30 to November 7, 1996, Japanese and FSM sides had a series of discussions on the Draft Basic Design of the Project. List of participants in the discussions is shown in ANNEX I.

### 2. Draft Basic Design of the Project

The Government of FSM has in principle accepted the Draft Basic Design of the Project, namely the draft basic design of the project vessel, proposed by the team with some alterations. The design confirmed by both sides is shown in ANNEX II.

### 3. Japan's Grant Aid System

1) The Government of FSM has understood the system of the Japan's Grant Aid explained by the team; the main feature of the system is described in ANNEX III.

2) The Government of FSM will take necessary measures, described in ANNEX IV for smooth implementation of the Project if the Grant Aid Assistance by the Government of Japan is extended to the Project.

### 4. Further Schedule

JICA will finalize the Basic Design Study Report in accordance with the confirmed components of the Project, and send it to the Government of FSM by the end of February, 1996.




ANNEX 1: LIST OF PARTICIPANTS IN THE DISCUSSIONS

1. Japanese Side

- Mr. Yasuaki IWANOTO Leader Basic Design Study Team  
Grant Aid Division, Economic Cooperation Bureau,  
Ministry of Foreign Affairs.
- Mr. Toshinori UOYA Technical Adviser  
International Affairs Division, Fisheries Agency,  
Ministry of Agriculture, Forestry and Fisheries.
- Mr. Mikio TOYONAGA Chief Consultant Ship operation planner  
Kyokuyo Co., Ltd.
- Mr. Yasunari KOYANAGI Ship building engineer  
Kyokuyo Co., LTD.

2. FSM Side

- Mr. Lukner B. WEILBACHER Secretary  
Department of Transportation & Communications.
- Mr. Sebastian ANEPAL Secretary  
Department of Resources & Development.
- Mr. Lorin ROBERT Assistant Secretary  
Department of External Affairs.
- Mr. James LUKAN Deputy Assistant Secretary, Asian Affairs  
Department of External Affairs.
- Mr. Larry RAIGETAL Foreign Service Officer, Asian Affairs  
Department of External Affairs.
- Mr. Weiner H. HADLEY Administrator, Division of Marine Transportation  
Department of Transportation & Communications.
- Mr. Matthias J. EWARMAI Manager, Sea Transportation System Development  
Branch, Division of Marine Transportation, Department of T. & C..
- Mr. Matthias R. MANGMOG Manager, Marine Safety & Inspection Branch,  
Division of Marine Transportation, Department of T. & C..
- Mr. KIM YOUNG PO Manager, Technical Branch,  
Division of Marine Transportation, Department of T. & C..
- Mr. A. Moses NELSON Administrator, Division of Marine Resources  
Department of Resources & Development.

  
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**ANNEX 11: THE DRAFT BASIC DESIGN OF THE PROJECT**

1. **Component of the Project**  
One inter-island transport vessel
  
2. **Principal particulars of the vessel**  
Type of vessel: a landing craft type  
Length overall: App. 57.0 m  
Breadth: App. 11.0 m  
Draft: App. 3.75 m  
D/W tonnage: App. 850 tons  
D/W cargo: App. 1210 m<sup>3</sup>  
Cruising speed: App. 10.5 knots  
Main engine: 1000 ps × 2  
Complement: Crew 23 p,  
Passenger 12 p



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## ANNEX III: JAPAN'S GRANT AID SCHEME

### 1. Grant Aid Procedure

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

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

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 to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

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 report prepared 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.

### 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 Government of Japan.

The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the 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 the technical, social and economic points of view;
  - c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
  - d) preparation of a basic design of the Project; and
  - 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 through 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 the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participate the Study and prepare a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

## 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 (B/N)

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

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors 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, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the 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 the 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 of Japanese taxpayers.

6) Undertakings required to the Government of the recipient country

- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
- c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
- d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
- e) to accord Japanese nationals whose services may be required in

connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;

- f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
- g) to bear all the expenses other than those covered by the Grant Aid, necessary for the Project.

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 the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

8) "Re-export"

The products purchased under the Grant Aid shall 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 (A/P) issued by the Government of recipient country or its designated authority.



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ANNEX IV: UNDERTAKINGS BY THE GOVERNMENT OF FSM

1. To secure a lot of land necessary for the Project.
2. To clear, level and reclaim the site for the Project prior to the commencement of the construction.
3. To provide a proper access road to the Project site.
4. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary.
5. To ensure prompt unloading, tax exemption and customs clearance at ports of disembarkation in FSM and internal transportation therein of the products purchased under the Japan's Grant Aid.
6. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in FSM with respect to the supply of the products and services under the verified contracts.
7. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into FSM and stay therein for the performance of their work.
8. To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (B/A).
9. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary.
10. To ensure that the facilities constructed and equipment purchased under the Japan's Grant Aid be maintained and used properly and effectively for the Project.
11. To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

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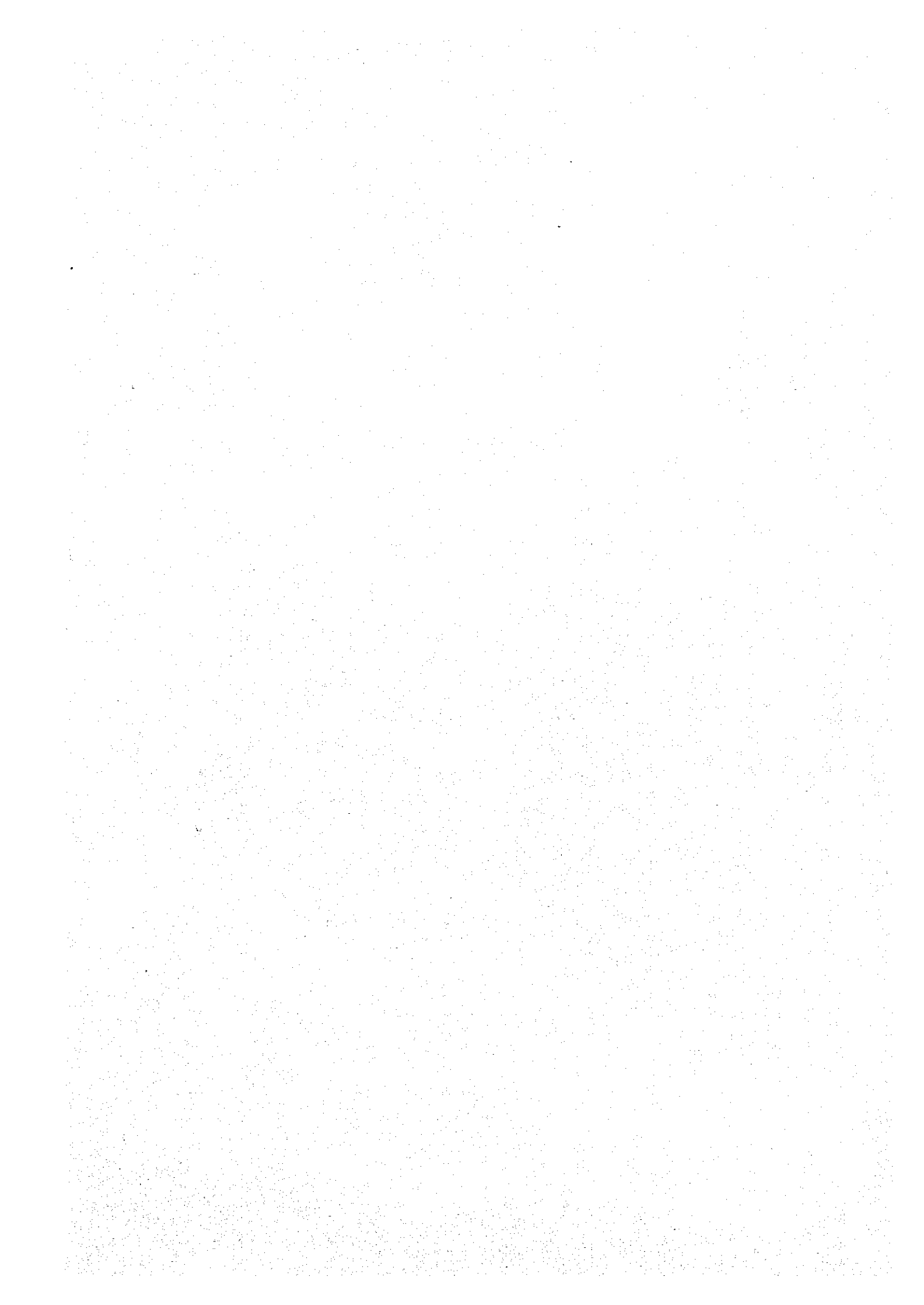
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