CHAPTER 3

IMPLEMENTATION PLAN

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3-1 Implementation Plan

3-1-1 Implementation Concept

(1) Basic Concept

a) For the implementation of the Project for Construction of Vieux Fort Fishery Complex, after the Exchange of Notes (E/N) is signed between the Government of Japan and the Government of St. Lucia, a contract for undertaking consulting services will be concluded between the Government of St. Lucia and the Japanese Consulting Firm.

b) The Consulting Firm will prepare all the documents required for the tender and concluding the contract such as the drawings of the complex facilities, technical specifications, cost estimations and so forth. After the approval of these documents by the Government of St. Lucia, the contractor for this project will be selected from among Japanese construction companies by examining their pre-qualifications and tender procedures.

c) The construction work will be performed by the selected construction company in accordance with the construction contract concluded between the Government of St. Lucia and the construction company.

d) The construction period is expected to last for phase-1, 9 (nine) months, and phase-2, 12 (twelve) months, totally 21 (twenty one) months taking into considerations the scale and complexities of the Project as well as the site conditions.

(2) Implementation concept

a) The Vieux Fort Fishery Complex to be built by the Project is a typical fishing port to be built on the reclaimed land in the waterfront. The construction of wharves, breakwaters and revetment will form the major components of the project in the port. Utmost efforts will be made to minimize the cost and shorten the construction period. Since a relatively soft sand layer is presented in the seabed layer, measures against land subsidence on the reclaimed area are described in Appendix-10.

b) Since construction companies in St. Lucia have hardly had any experience in undertaking large scale projects, particularly on marine construction, a Japanese company will be responsible for construction work by providing skilled engineers

and the relevant machinery. However, some works such as the pavement of roads, the installation of furniture, electrical wiring , water supply and laying sewage pipelines will be undertaken by local firms.

c) Since St. Lucia has limited experience in the field of site investigation, som of the works such as sounding surveys for environmental monitoring will be consigned to local firms, as was already done during the basic design study. Such work will be carried out under the instruction of the Japanese consultant firms

d) The cold storage, ice making/storage equipment, and quick freezers will be procured from Japan and assembled in St. Lucia under the instruction and supervision of Japanese experts.

(3) Executing agency in the Government of St. Lucia

Agencies which will be involved in the project on the part of the Government of St Lucia will be as follows.

a)Responsible agency: Ministry of Agriculture, Forestry, Fisheries and Environment

b) Responsible agency for project implementation: Ditto

c) Responsible agency for the supervision of construction work: Department of Fisheries

d) Management authority of the complex

Fishing Port Facilities : Department of Fisheries

Fish Marketing Facilities : St. Lucia Fish Marketing Corporation (FMC)

Fuel service, sale of fishing gear, maintenance of rocker rooms and fishing boats : Cooperative

3-1-2 Conditions for Implementation

(1) Conditions for Construction

1) Construction Company

Construction companies of St. Lucia may be assigned as sub-contractors under the supervision of the Japanese construction company.

2) Construction machinery

Construction machinery such as backhoes, tire shovels, bulldozers, dump trucks, etc. will be available in St. Lucia. The Project will require heavy equipment such as large sized barges, tugboats, crawler cranes, truck cranes from neighboring countries.

The equipment which cannot be made available from the neighboring countries will be procured from Japan.

3) Labor

Skilled experts will be required for the construction of cold storage facilities and ice making plants. Japanese experts will be dispatched to St. Lucia to undertake this responsibility.

4) Goods and materials to be imported

Aggregate materials for road and concrete and blocks for construction are made available in St. Lucia, while other materials such as cement, sand, iron bars, will be imported from neighboring countries. However cold storage equipment, ice making machines and ice storage equipment will be imported from Japan. The quality and durability of such equipment and materials will be carefully examined when importers are selected. There might be other materials and equipment which will be procured from local factories, agents and shops, although the stocks of these goods may not be always available and adequate. Therefore a stock control will be carefully carried out in close consultation with local agents to ensure their stable procurement.

5) Safety control

This project will construct a new fishing port in front of the town. For the construction of breakwaters it is necessary to clearly mark the construction area and the site with buoys and other signs to secure the safe navigation of fishing boats. For the construction of land facilities, the roads and routes which will be used for the transport of material and equipment should be clearly indicated to avoid to give any nuisance to the city residents.

(2) Care for construction work

a) An appropriate construction plan will be prepared taking into account the natural conditions at the sites, especially sea conditions.

b) Dispatch of the Japanese experts will be planned carefully in respect of the number of persons, the timing and duration in accordance with the progress of work.

c) Local equipment and material will be used as much as possible to minimize the the cost for the procurement of such material and equipment from foreign countries.

d) The project will involve a long term construction work and therefore special attention will be paid to fishing boats navigating in the construction sites.

3-1-3 Scope of Works

Scope of work to be undertaken by the Government of Japan

(1) Scope of work to be undertaken by the Government of Japan

1) Phase-1

a) Construction of breakwaters
b) Construction of a landing wharf
c) Construction of a slipway
d) Construction of revetment
e) Reclamation of coast area

2) Phase-2

a) Construction of concrete pavement
b) Construction of administration office
c) Construction of cold storage facilities
d) Construction of fish handling shed
e) Construction of a fish market
f) Construction of a workshop and coop retail shop
g) Construction of locker rooms
h) Construction of toilets and shower rooms
i) Construction of sub-stations
j) Construction of ice-making/storage facilities
k) Construction of light systems for security purposes
l) Construction of the pavement within the fishery complex.

3) Equipment (Phase-2)

a) 5 (five) FRP vessels of 30 ft long, equipped with two 75 HP engines
b) Fishing gears consisting of long lines, trolling lines, surface gill net and Payao equipment
c) Fork lift of 2 tons
d) 270 (two hundred and seventy) fish pallets
e) 2 (Two) ice making machine of 4 tons/day
f) Ice storage of 16 tons
g) Equipment for fish processing and fish handling shed
h) Equipment for work shop
i) 1 (one) insulated truck of 4 tons
j) 1 (one) generator (250KVA)

(3) Scope of work to be undertaken by the Government of St. Lucia

Provision of services will be made available which will include utilities, e.g. electricity, water, telephone lines connected to the project site.

3-1-4 Consultant Supervision

It is the policy of the government of Japan that a grant aid project will be implemented under the strict supervision of the Consulting Firm is fully aware of technical details of work during the whole period of the project. The Consulting Firm will supervise the construction work through the close contact and communications with local engineers with regard to the design, inspection and schedule of work.

(1) Supervisory policies

a) The time frame of the work will be strictly observed by establishing close contact and communications with the persons and organizations concerned on the part of St. Lucia to prevent any delay of work.

b) Provision of prompt and appropriate guidance and advice will be essential for the contractor as to the construction of the facilities in compliance with the drawings and specifications agreed upon.

c) High priority will be accorded to the utilization of local materials and technologies.

d) The project will ensure to promote the transfer of technology in the course of the construction and engineering work.

e) The project will ensure to provide adequate advice and guidance regarding the maintenance of equipment and material delivered for the work.

(2) Supervisory work

a) Preparation of a contract

Provision of services will be provided by the Consulting Firm in relation to the selection of a contractor, determining the type of the contract, drafting the contract documents, evaluating the bills, and holding a contract awarding ceremony.

b) Evaluation and approval of the drawings of retail shops.

Evaluation will be carried out as to the drawings of a retail shop, materials to be used, and equipment.

c) Instruction on construction work

Reviewing construction plan and schedules, provides constructions to the contractor and reporting the progress of work to the Government of St. Lucia.

d) Process of payment

Evaluation and approval of the bills for the payment to the contractor during the

work will be carried out taking into account the progress of work and upon completion of work.

e) Inspection and witness

The Consulting Firm will inspect, when necessary, the work in progress and give appropriate instructions to the contractor. The Consulting Firm, having confirmed that the work has been completed and the contract fulfilled, will witness the delivery of the Project and confirm the government's acceptance.

The consultant will also report to the Government of Japan on the progress of work, payment procedures and status, and the delivery of facilities completed.

3-1-5 Procurement Plan

In the process of procuring materials and equipment necessary for the project, special attention will be paid to the following.

(1) Procurement Policy

Priority should be given to the use of locally available material and equipment if the quality and quantities should meet the need of the project work. In this way the procurement cost from Japan would be minimized.

1) Procurement from Japan

A detailed procurement and transport schedule must be prepared well in advance for the material and equipment to be made available from Japan. This normally will take a long period of time before the manufacture, packing and shipment of goods are completed. Construction machinery will have to be procured from Japan when they are not available in the country.

2) Local Procurement

Rubble stones and aggregates which can be locally procured should be carefully examined as to the quarry site, quality and transport capacities.

3) Cost

The cost is an important element to be taken into account in the selection of materials from local sources, neighboring countries and Japan. It should be borne in mind that the prices of procurement from Japan will include the charges for packing, transport, insurance, while port charges and taxes are to be exempted. On the basis of the above principles and rules, the following plans will be established for the procurement of construction materials and equipment.

(2) Procurement Items

1) Materials

From local source	:	rubble stones, aggregates, timbers, cement, steel bars, materials for water supply and discharge, material for power supply, steel piles for building foundation:
From Japan	:	fenders, navigation lights, steel sheet piles, equipment for cold storage, quick freezers, ice making and storage plants, insulated truck, fork lift, fishing gears and other equipment:
From third countries	:	FRP fishing boats.

2) Machinery

From local source	:	dump trucks, crawler barges:
From Japan	:	anchor boats, pile driving machine, concrete mixing plant:
From third countries	:	crawler cranes, bulldozers, backhoes.

3-1-6 Implemention Schedule

Japan's grant aid program will follow normal project implementation schedule. After the Exchange of Notes (E/N) is signed between the two countries, a Japanese Consulting Firm will be appointed by the government of St. Lucia and the consulting contract will be concluded between the Government and the consulting firm.

E/N will give details on the tender procedures, supervising and construction work. The project will be implemented in accordance with the conditions stated in the E/N.

(1) Preparation of Detailed Design Document

After the consulting contract has been concluded between the executing agency of St. Lucia and the Japanese Consulting Firm, the contract will be verified by the government of Japan and the consultant will draw up detailed designs. In the detailed design the tender documents consisting of design drawings, technical specifications, instruction to tenderers, etc. will be prepared on the basis of the Basic Design Study. In the meantime, consultations will be held with the Government of St. Lucia regarding the details of the complex facilities will be held and eventually the tender documents will be approved by the Government of St. Lucia. About 4 (four) months will be required for the preparation of a detailed design for the first and second phase respectively.

(2) Execution of Tender

The contractor (a Japanese construction company) who will be involved in the construction of the project facilities will be selected through the tender. The tender procedures will be as follows: first invitations will be extended to interested tenders; acceptance of the tenders; examination of the pre-qualifications; evaluation of tender documents, submitting the tender, evaluation of the tender, designation of the contractor and conclusion of a construction contract. The whole procedure will take one and half months for each phase.

(3) Execution of Construction Work

Construction work will be started after the conclusion of the contract and verification by the Government of Japan. The construction period is expected to last about 21 months considering the size of the project and its complexities, including the problems relating to the local construction conditions, unforeseen situations which might occur in the course of the work.

Figure-3.1.1 shows the implementation schedule covering from the Exchange of Notes to the completion of Project.

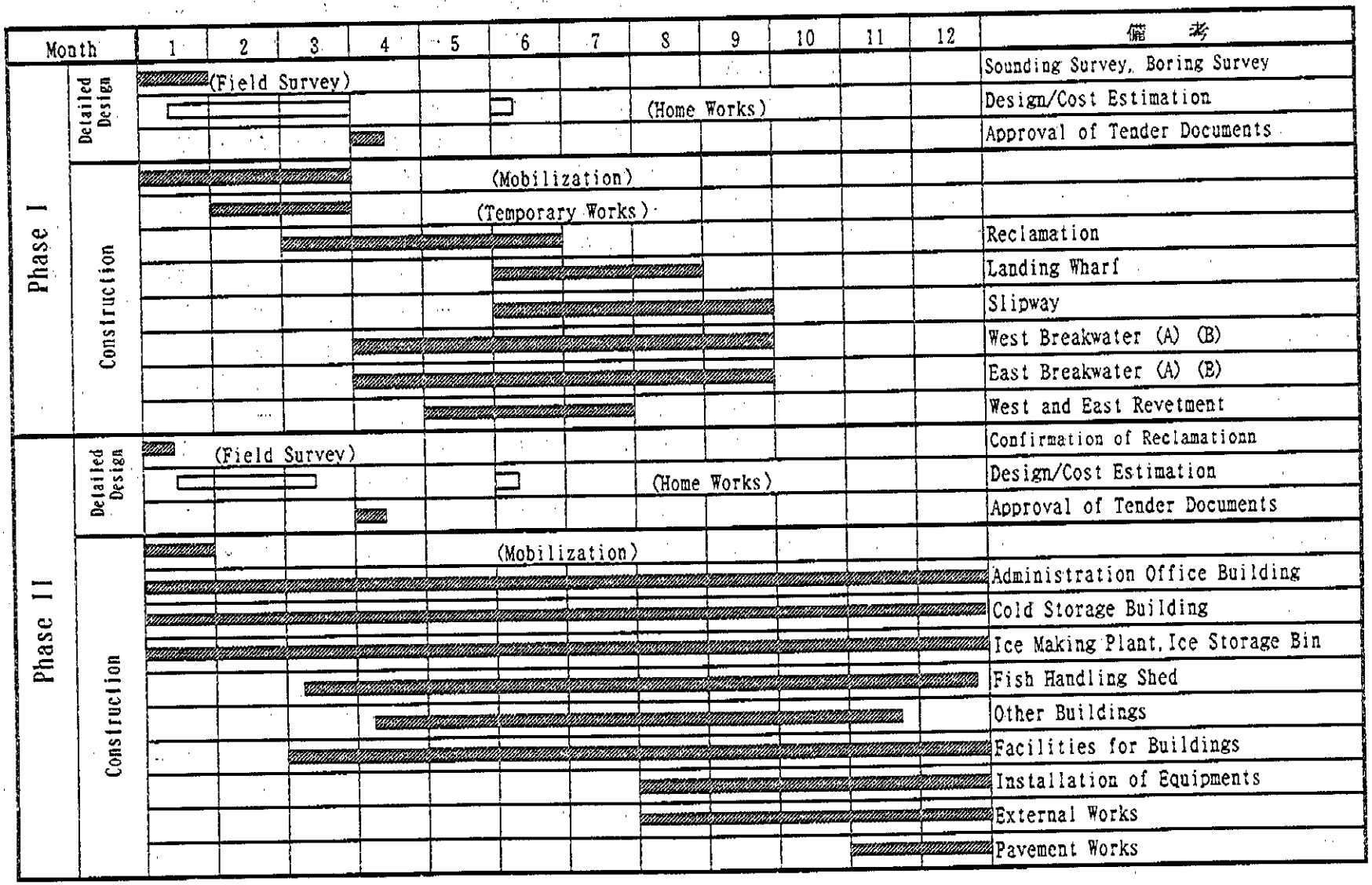

Figure-3.1.1 Implementation Schedule

3-1-7 Obligations of the Recipient Country

The obligations of St. Lucia government were confirmed by the Minutes of Discussions during the Basic Design Study implemented in August/October 1997.

(a) to secure and clean the lot/site to be used by the project (e.g. temporary yard);
(b) to provide proper access roads to the project site;
(c) to provide official permission for quarrying the soil to be used for the reclamation and the stones used for breakwater construction.
(d) to make arrangements for relocation and removal of fishing boats and fishermen from the project site in order to facilitate the construction work;
(e) to provide facilities for distribution of electricity, water supply, telephone trunk line, drainage and other incidental facilities out side the site;
(f) to undertake incidental outdoor works , such as gardening, fencing, exterior lightening, and other incidental facilities in and around the site, if necessary;
(g) to ensure prompt unloading and customs clearance of the products purchased under the Japan's Grant Aid at ports of disembarkation in St. Lucia;
(h) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in St. Lucia with respect to the supply of the products and services under the verified contracts;
(i) to provide 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 St. Lucia stay therein for the performance of the work;
(j) to accord conveniences necessary for entry and stay in St. Lucia to the Japanese experts involved in the implementation of the verified contract and the work concerned with the contract;
(k) to bear commissions, namely advising commissions of the Authorization to Pay (A/P) and payment commissions, to Japanese foreign exchange bank for its banking services based on the Banking Arrangement (B/A);
(l) to provide necessary permissions, licenses and other authorization for implementing the Project, if necessary;
(m) to ensure that the facilities constructed and equipment purchased under the Japanese Grant Aid be maintained and used properly and effectively for the Project;
(n) to bear all the expenses other than those covered by the Japan's Grant Aid, necessary for the Project.

3-2 Operation and Maintenance Costs

3-2-1 Operation and Maintenance Costs

(1) Department of Fisheries (DOF)

The DOF will be responsible for the operation and maintenance of the basic facilities of the fishing port.

a) Income

Registration fees to be paid by fishermen: 8,400EC$

b) Expenditures

Personnel:	56,000 EC$ (4 staff member of DOF are already employed in Vieux Fort)
Electricity:	14,300 EC$
Water:	2,000 EC$
Maintenance:	22,000 EC$
Total:	94,900 EC$

c) Balance:

8,400 - 94,900 = - 86,500EC$

There will be a deficit of 86,500 EC$ and the DOF will have to earmark the said amount to the fiscal budget.

(2) St. Lucia Fish Marketing Corporation (FMC)

FMC will be responsible for the operation and maintenance of cold storage facilities, freezes, ice plants, retail shops, locker rooms, etc. Costs and benefits of FMC can be estimated as follows.

a) Incomes

Sales of fish:	56,000 EC$
Sales of ice:	584,000 EC$
Total:	1,534,000 EC$

b) Expenditures

Personnel:	238,800 EC$
Electricity:	639,000 EC$
Water:	15,400 EC$

Maintenance	44,000 EC$
Total:	937,200 EC$

c) Gross profit:

1,534,000 - 937,200 = 596,8000 EC$

(3) Cooperative

Cooperative will be responsible for the operation and maintenance of five FRP fishing boats. Costs and benefits of cooperative can be estimated as follows.

a) Incomes

Sales of fish:	1,035,000 EC$
Total:	1,035,000 EC$

b) Expenditures

Personnel:	450,000 EC$
Fuel:	400,000 EC$
Baits:	17,000 EC$
Replenishment of fishing gear:	100,000 EC$
Maintenance for boats:	5,000 EC$
Total:	932,500 EC$

c) Gross profit:

1,035,000 - 992,500 = 42,500 EC$

CHAPTER 4

PROJECT EVALUATION AND RECOMMENDATION

Chapter 4 Project Evaluation and Recommendations

4-1 Project Effects

The project site is located in Vieux Fort, the largest fishing base in St. Lucia, where presently 118 fishing boats are based, enjoys the annual production of 357 tons (1996 statistics). In the neighborhood of Vieux Fort there are fish landing places such as Dennery and Micoud on the side of the Atlantic Sea and Laborie, Choiseul and Soufriere on the side of the Caribbean sea. In respect of the distance and hours by land transport Vieux Fort is much more conveniently located to Dennery and Micoud than Castries. On the other hand, Laborie, Choiseul and Soufrier are located close to Vieux Fort, which enable fishing boats from these areas to land directly on Vieux Fort. The total production from these areas represents some 80% of the national output and thus Vieux Fort is conveniently located as a site for collection and distribution of fish catches. Vieux Fort is the second largest city in the country and has a sufficient area of land for future development as compared with Castries which is already congested. The Government is implementing a regional development programme in Vieux Fort for the development of tourism and light industry.

The proposed project is justifiable because Vieux Fort is an active fishing base and has a potential for turning it into the center for fishing industry in the south and also a significant prospect exists for regional development. It is, therefore, of great significance to establish a fishery complex containing components of fishing port, freezing, cold storage and market-related facilities.

The Government accords high priority to fisheries development to increase fish production and restrict the outflow of foreign exchange caused by the import of fish products. It is expected that the project would generate significant effects to facilitate fishing industry development. The project would provide the following benefits.

(1) Construction of breakwaters would provide a safe basin for fishing boats based in the Vieux Fort area. This would also provide an emergency shelter for boats not only from Vieux Fort, but also from neighboring areas when the weather is inclement (e.g. hurricanes).

(2) Construction of landing wharf would improve an efficiency to unload fish from boats, release fishermen from hardship labor and contribute to the improvement of the quality of fish.

(3) Since fishing boats can moor directly to the wharf, it would become more convenient and easier for fishermen to prepare for fishing trips (e.g. supply of water, fuel, ice, etc.).

(4) Installation of freezing and cold storage facilities would considerably increase the capacity of freezing and cold storage, which would make possible to purchase and store surplus fish during the high season. As a result, the following effects can be witnessed.

a) Fish production would increase during the high season, leading to the increase of annual national catches.
b) A stable supply of fish to the market would be made possible throughout the year.
c) Fish prices would become stable. Fishermen would be able to continue to go to fishing without interruptions due to lack of storage capacity. Thus, their income would be increased.
d) Decrease of fish imports can be expected.

(5) Provision of a conference room and locker rooms would improve the working environment of fishermen and provide motivations to them to work. Thus, this might provide a positive factor to increase the number of young fishermen.

(6) Provision of fishing boats and gear would provide a stimulus to initiate the exploitation of offshore tuna fishing grounds.

The above-mentioned effects would generate direct benefits to fishermen and their families residing in the south including Vieux Fort. Strengthening cold storage and market facilities would contribute to solving problems related to the withdrawal from fishing and decline of fish prices during the high season. This would give benefits to all fishermen and their families in St. Lucia. Since a stable supply of fish can be expected during the low season, the entire population of St. Lucia would enjoy the benefits indirectly. It can also be expected that fish imports would decrease, except shrimp, crab, smoked salmon, etc. directed to hotels and restaurants. This would enable the government to save the foreign exchange of around US$150,000. Besides, Vieux Fort would contribute to fisheries development on a nation-wide scale as well as in the south.

4-2 Recommendations

It is recommended that the following action should be taken once the fishery complex is completed in order to make effective use of fishing port, cold storage and market facilities.

(1) Vieux Fort Fishery Complex facilities will be jointly managed and controlled by the Fisheries Department, Fish Marketing Corporation and Goodwill Fishermen's Cooperative. It is necessary to prepare regulations and guidelines for smooth management and supervision of the complex facilities.

(2) Fishermen should be strictly instructed to moor to the landing wharf in a single row for the efficient use of landing wharf: boats without fish should not moor to the landing wharf.

(3) The basin (turning, mooring, anchorage) encircled by the breakwaters is the closed area. Strict control should be enforced to prevent the discharge of water oil from boats, the dumping of disused gear, etc. in the basin to protect the environment and water quality in the basin.

(4) At present, ice is not widely used by fishermen since the quality of fish is not reflected on fish prices even if ice is used. Fishermen consider that there is no change in the quality of fish when they return to the port only in 2-3 hours after haul. They must be educated on the need and merits of the use of ice on board to maintain the quality of fish. This is also important from the viewpoint of effective use of the complex facilities. It may be considered that FMC will offer different prices for fish based on the use of ice, aiming at promoting the export of high quality fish.

(5) Fishing boats and gear will be provided to exploit new fishing grounds of migratory species such as tuna. Fishermen's cooperatives will be responsible for the management and maintenance of the boats and gear under the guidance of the Department of Fisheries. The DOF will maintain close working relationship with fishermen's cooperatives on the conduct of training programmes, control of management funds, etc.

(6) In order to exploit under-utilized tuna resources in offshore waters it is important to carry out training programmes for operations of fishing boats, gear, engines as well as for fishing handling. Training programmes should include lectures and practical training on land, as well as on-the-job training at sea by group of fishermen. At the same time it is essential to demonstrate that tuna fishing will be feasible not only from technical point of view but also from economic viability. The Department of Fisheries and the JICA fisheries expert presently assigned to the country will be responsible for this activity.

(7) Fisheries management should be strengthened not only to maintain the disciplines and order of fishing operations by the national boats and also to prevent conflicts with boats from neighboring countries. In this context, it is necessary to strengthen the deployment of patrol boats and carry out guidance and supervision of offshore-going boats.

(8) It is important to increase the use of ice and to strengthen fishing handling capacity and capabilities to enhance the competitiveness of national fish products so as to cope with the competition with imported fish. Also it is necessary to produce value-added products. In this context, Fish Marketing Corporation needs to be strengthened.

(9) A fish market regulation should be established for the Vieux Fort Fishery Complex to cope with social and economic changes surround fisheries sector taking into account the need to establish the order of fish market, growing awareness to environment, consumers' need for diversification, etc.

(10) It is important to grasp national catches for formulating national fisheries development plans and improve fisheries management systems. In this context, fisheries statistics systems need to be improved. Presently catch data are collected at 12 landing sites out of the existing 24 landing sites. It is recommended that data collection should be carried out in all landing sites and data collection methods should be improved.

(11) Quality control systems need to be improved to strengthen quality assurance aiming at export promotion, meeting consumers' need and improving the quality of imported fish products. The Fish Marketing Corporation should be responsible for revising quality standards, providing new regulations and preparing guidelines for quality standards and implementation.

(12) There is a need to give technical guidance to the Fish Marketing Corporation in order that they will deal with skipjack, flying fish, sardine, jack mackerel, which are rejected by the Corporation on the ground that these species are prone to deteriorate quickly. Also there is a sort of cultural prejudice in handling these species.

(13) Working relationship needs to be strengthened between the Planning Department and the Department of Fisheries in respect of the Vieux Fort Fishery Complex project and the integrated regional development project which is currently envisaged. Exchange of information between the two departments should be enhanced in such a way that linkages may be maintained between them and the synergetic effects be generated.

(14) In order to develop institutional credit systems for fisheries, it is necessary to provide incentives to fishermen and fisheries investors by extending loan periods (presently 6 years for a loan of EC$ 60,000), reducing interest rates (presently 11% per annum) and reducing collateral conditions.

(15) Awareness building among fishermen of the need for resource conservation and sustainable use of resources through training and extension. The Department of Fisheries in collaboration with the JICA expert will be responsible for this activity.

(16) There is a strong need for strengthening fishermen's cooperatives by training the staff of the cooperatives and improving the management of cooperatives. Besides, fishermen cooperatives will take initiatives to prepare plans as to the management and maintenance of fishing boats, engines and gear to be provided by the project in consultation with the Department of Fisheries and JICA expert assigned to the country.