

2-2-4 Implementation and Procurement Plan

2-2-4-1 Implementation Policy

(1) Implementation Plan

- a) The term of works must be strictly observed because the Project is a grant aid program of Japan. A proper progress schedule satisfying the contract conditions within the term of validity of Exchange of Notes will be made.
- b) In order to continue the functions of the existing fish market and the Fisheries Division office during the Project works, it is important to construct a temporary fish market and Fisheries Division office as undertakings to be taken by the SVG side.
- c) The Project site, St. Vincent Island, has the rainy season from June to November. Also the site is under a strong influence of hurricane during this season though no direct attack has been experienced. It is necessary to make a progress schedule to avoid the influence of hurricanes during the renovation/construction works, in particular roofing works, making preparation for adequate countermeasures in case of damage of hurricanes.
- d) The Consultant and the Contractor will fully exchange opinions with the project-related government bodies in SVG, including the Ministry of Agriculture and Fisheries, the Ministry of Finance and Planning, the Ministry of Public Works, the Fisheries Division and the Project Management Office in view of the smooth execution of the Project through good communication and mutual understanding.

(2) Procurement Plan

- a) Kingstown, where the project site is located, is the capital of SVG and it should be relatively easy to recruit labour and to procure the necessary materials. Full consideration will be given to the formulation of an efficient operation plan for the construction machinery and skilled workers, etc. and for the procurement of high quality materials without waste and the recruitment of highly skilled workers.
 - b) Large-scale civil engineering and building work which has so far been conducted in SVG includes that for a passenger boat terminal and a combined government office building. Construction companies with a track record in SVG are a Caribbean company based in Trinidad and Tobago and a US company based in Miami and these companies were involved in the major civil engineering and building work mentioned above. The development of local construction companies in SVG has been slow and there are not many well-trained technicians and skilled workers, making it necessary to consider the recruitment of such personnel from a neighboring country. Meanwhile, a local contractor based in Trinidad and Tobago has a wide range of experience of construction work in both the public and private sectors and has a number of technicians and skilled workers.
- Under these circumstances, a shortage of technicians, the number of which is limited to start with,

may occur if construction work of a similar scale is planned to take place at the same time as the Project. There could also be a shortage and/or price hike of the necessary construction materials. Such a potentiality makes it necessary to fully anticipate the likely situation of the building market at the time of the implementation of the Project.

- d) The main structural materials which are essential for the foundation work and structural work constituting the critical paths for the construction work will be procured locally as much as possible to avoid any delay of their delivery. Moreover, a construction method with a proven record in SVG will be selected to ensure the smooth progress and high quality of the work.

2-2-4-2 Implementation Conditions

(1) Quality Control

- a) The project site is located on the coast and is prone to salt damage. For this reason, the construction materials to be used should be as resistant as possible to salt damage. The aggregate for concrete will be washed if necessary to reduce the salt content below the permissible value.
- b) Salt damage prevention measures will include the coverage of the ice-making machines and other new equipment to be installed indoors with vinyl sheeting so that such equipment and materials will be fully protected during the work period.
- c) On the commencement of the Project, considering the influences to the surroundings, securing alternative site for the continuation of the present activities during construction works, and conditions of removal of functions, the execution method having a working amount as less as possible will be selected so that a high execution precision may be obtained.

(2) Safety During Work Period

- a) As the project site is adjacent to the bus terminal used by some 10,000 people daily, fencing to ensure safety during the work period should be made of an appropriate material, such as steel or galvanised metal sheeting, rather than simple wire entanglement in order to properly separate the project site from the bus terminal area.
- b) In addition, traffic guidance will be provided for the entry to and departure from the project site of trucks and others to ensure the safety of all persons involved.
- c) St. Vincent experiences squalls throughout the year. The average local temperature is 26.7°C and the relatively humidity of 75 – 80% is relatively high all year round. Such climatic conditions mean a rather severe working environment for building workers. Another factor to be considered for the construction schedule is the locally established 5-days-a-week working practice (Saturdays and Sundays are holidays) even at the construction sites of private construction companies. Careful consideration is required to ensure safety and health conditions of the workers during the work period.

2-2-4-3 Scope of Works

Major works to be borne by the SVG side are the electrical connection works, water service connection works, and telephone wiring works. These works must be done before the commencement of the Project works. Other construction works and procurement of equipment/materials are borne by the Japanese side.

2-2-4-4 Consultant Supervision

The Consultant shall conduct the detail design, prepare the necessary tendering documents, and assist at tendering and conclusion of contracts.

After the commencement of the works, the Consultant shall send a proper resident engineer to the Project site for supervision of working progress, security, and so on. In Japan, the Consultant shall give the approval to execution drawings, and investigate the equipment and materials procured in Japan. According to the progress of works, the Consultant shall send the technical experts at need for the attendance in the inspections or guidance of execution of works. The progress of the Project shall be reported to the SVG authorities concerned, the Japanese Embassy at Trinidad and Tobago, and the JICA at the Consultant's discretion.

(1) Execution and Procurement Supervision

1) Policy of supervision

- a) The Consultant should maintain close communication with the Ministry of Agriculture, Land and Fisheries, which is the project implementation agency, and the Ministry of Finance and Planning in accordance with the progress of the work to ensure the smooth implementation of the Project. Detailed discussions on the schedule and requirements will be particularly required in regard to (i) the provision of alternative sites and detours to ensure the continuation of existing public services, (ii) the prohibition of entry to the work site by unauthorised persons and (iii) the levelling and other land preparation work at the site as well as its surrounding area as such work must be coordinated with the work to be undertaken by the Japanese side.
- b) Prior to the commencement of the building work, the Consultant should scrutinize the work execution plan and working drawings submitted by the Contractor to check the suitability of the temporary facilities plan, the schedule plan, the quality of the planned construction materials, the selected construction method and others.
- c) Prior to the handing over of the completed facilities, the Consultant should check the compliance of the completed work with the design specifications. Should any modification be required, the Consultant will give the Contractor appropriate instruction.
- d) The general supervision of the building work will be conducted by a chief supervisor with the

assistance of a building , equipment and facility engineer.

2) Consultant Supervision

The Consultant shall execute the following works.

a) Cooperation for conclusion of construction contract

The Consultant shall make the necessary tendering documents including tender-qualification, technical specifications, drawings, etc., calculate the Project costs, attend the tender and conclusion of agreement, and then, give advice on selection of contractors and contract conditions.

b) Guidance to contractors

The Consultant shall examine the execution plans, and give the contractors appropriate guidance in their executing manners and executing process.

c) Examination and approval of execution drawings and manufacturing drawings

The Consultant shall examine execution drawings, manufacturing drawings, materials, and finish samples, and then give approval to them.

d) Supervision of works

The Consultant shall give approval to the equipment and materials procured, confirm the executing manners, and give guidance in quality control, and installation of machinery.

e) Attendance of inspections

The Consultant shall perform required inspections of construction or manufacturing works at need in the middle of the works, and give approval to them. On the completion of works the completion inspection shall be performed and then the approval shall be given. By the delivery of the equipment and materials, the Consultant shall be present at quantity confirmation or performance testing, and confirm the result of training in operation and maintenance, and then give approval.

f) Reporting

Reporting on the progress of construction works, procurement of the equipment and materials and on the points at issue and their results shall be made to the SVG authorities concerned, the Japanese Embassy in Trinidad and Tobago and JICA.

g) Attendance of delivery

On the completion and delivery of the Project, the Consultant shall present necessary documents for delivery.

h) Assistance of procedure of payment approval

The Consultant shall confirm the amount of work done payable in the contracts, and render help to examine the demand for payment and to take proceedings.

2-2-4-5 Procurement Plan

(1) Building Materials

Building materials which are locally produced are limited to aggregate, sand and gravel, etc. As there is an aggregate supplier controlled by the government, aggregate and fresh concrete can be obtained from this supplier. Cement, reinforcing bars, structural steel and plywood, etc. are mainly imported from Trinidad and Tobago, the US, Suriname, Venezuela, Brazil and others. Reinforcing bars made in Japan may be used depending on the price.

In principle, building materials (cement, reinforcing bars, wooden forms and metal forms, etc.) will be locally procured. Those which cannot be procured locally or those of which the quality and local inventory level are questionable will be procured in a third country or Japan and will be transported to the project site by sea.

Such construction machinery as a large crane and a large backhoe will be procured (leased) from a nearby Caribbean country.

Table 2-22 Procurement List of Materials and Equipments

Item	Procurement Source
Construction machinery	
• Crane truck	SVG
• Backhoe	SVG (a nearby country for a large backhoe)
General construction materials	
• Aggregate	Local products
• Reinforcing bars	Local products
• Concrete blocks	Nearby country
• Cement	SVG
• Panels	Nearby country (through an agent in SVG)
• Roofing materials	Japan or a third country
Building service equipment	Japan or a third country
Freezers and refrigerators	Japan
Distribution equipment	Japan or a third country
Laboratory equipment	Japan and/or a third country

(2) Main Construction Machinery

The construction work of the Project requires no large-sized or special construction machinery. Required major construction machines include the backhoe for foundation work, mixer and welder for reinforced concrete works, loader and dumper for paving works, dump truck for transportation, and crane for elevated water tank works. The construction machinery is widespread in SVG, and these machines are available from contractors in and around Kingstown.

3) Transportation

Among the necessary equipments and materials of the Project, the machinery and apparatuses for refrigeration/cold-storage/ice-making are mainly procured in Japan. These will be transported to Kingstown after transshipment at Miami, USA. The transportation from Japan will take about two (2) months by regular liner. The Project site is at close from the Kingstown Port, and trucks will be used for delivery to the site.

2-2-4-6 Quality Control Plan

(1) Geology

A topography survey, boring survey, and geological survey were performed at the field survey of the Project. According to the survey results, the stratum of the Project site is considered to be almost uniform. The ground from the surface to about 2m below is very solid, while the soil between about 2m and 6m under the surface is more or less soft due to existence of silt. The stratum between 6m and about 12m below the surface is very solid, and its lower layer is a rock bed. The spread foundation will be applied against the surface ground of the newly built processing/hygiene testing facility, and the plate loading test between the surface and 1m below will be performed to confirm the bearing power during the Detail Design.

(2) Concrete work

Mountain sand is used for both sand and light aggregate for construction in SVG, and close attention shall be paid to chloride content, grading, and curing after placing.

(3) Procurement

Among the equipment and materials to be procured from the third countries, the one requiring an expensive transporting cost such as the central laboratory table will be procured in US. Also the information management apparatuses will be procured locally or in US due to maintenance and language. A check list shall be made before delivery, and bodies themselves, accessories, and spare parts shall be confirmed in the presence of the SVG officials. Also a starting test shall be conducted.

(4) Soft Component

No soft component is required because all the facilities and equipment to be introduced by the Project are operable through necessary explanation of handling manners at the initial stage of introduction.

2-2-4-7 Implementation Schedule

In the case of the Project's implementation under the grant aid scheme of the Government of Japan, the Consultant will prepare the tender documents and will provide assistance for the tender to select the Contractor to conduct the building work and for exchange of the contract with the selected Contractor following the exchange of notes (E/N) regarding the implementation of the Project between the Government of SVG and the Government of Japan. The actual work at the site will then commence.

The Project will be implemented in accordance with the following schedule.

1) Detailed Design

Based on the present Basic Design Study Report, the Consultant will conduct the detailed design and will prepare the tender documents for the selection of the Contractor. This work is expected to take approximately two (2) months to complete after the signing of the E/N.

2) Tender

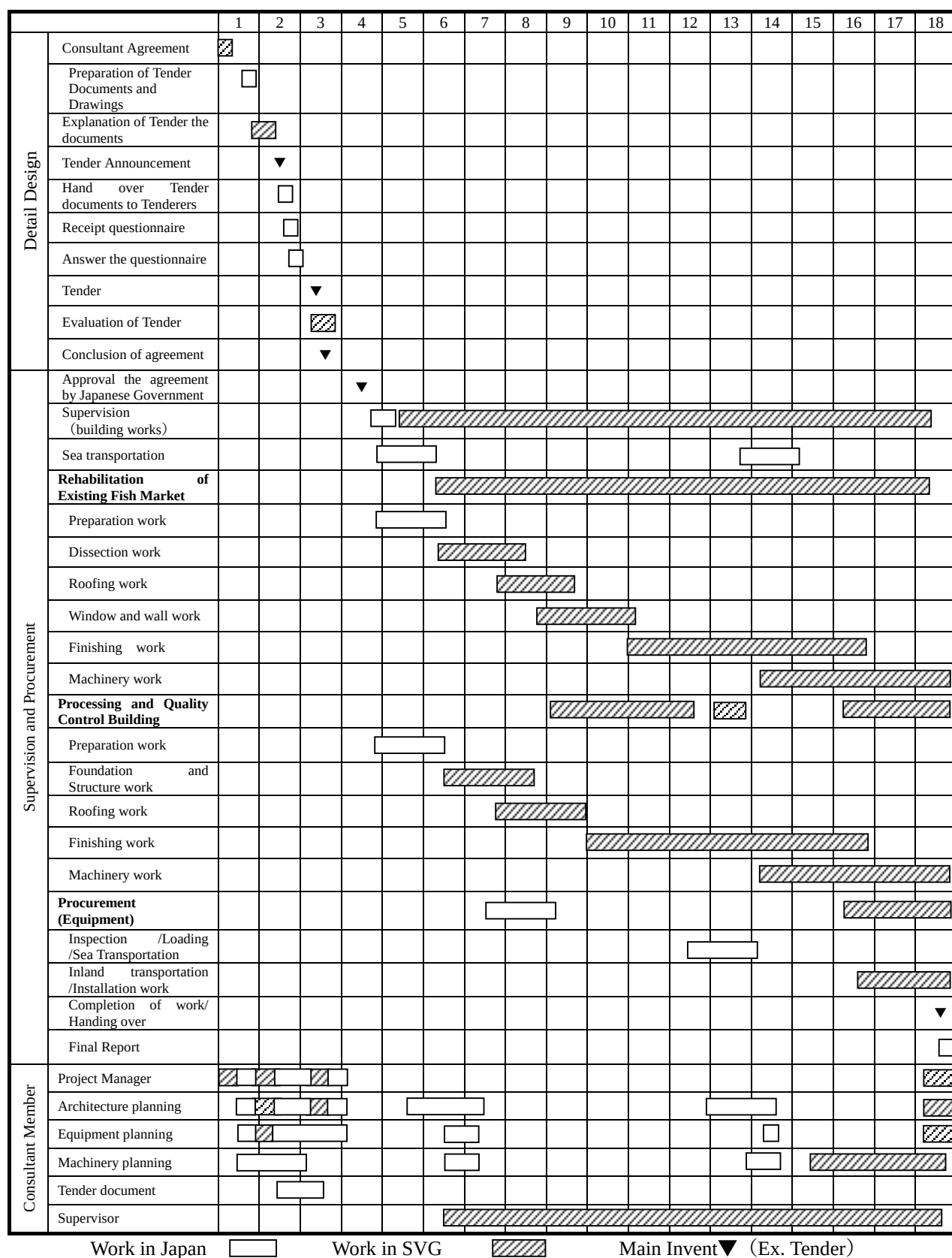
After the completion of the detailed design, applications for the tender for the building work under the Project will be publicly invited and bidders will be selected through pre-qualification of the applicants. These selected bidders will be invited by the project implementation agency to place their bids for the tender which will be witnessed by project-related persons. This process from the public announcement of the tender to approval of the agreement for the building work is expected to take approximately 1.5 months to complete.

3) Building Work

The signing of the agreement for the building work will be followed by certification of the agreement by the Government of Japan and the Project will proceed to the actual implementation stage. Assuming the smooth progress of the work to be undertaken by the SVG side, the building work is expected to take approximately 15 months to complete.

The general implementation schedule for the Project is as followings.

Table 2-23 Implementation Schedule of the Project



2-3 Obligations of Recipient Country

2-3-1 Obligations of Each Side

The obligations of each side under the Project is shown in Table 2-24.

Table 2-24 Obligations of Each Side

Description of Obligation	Japan	SVG
1. Land preparation at the project site (including the removal of the existing retail booths (display shelves)		○
2. Service connection to the project site (power, water and telephone)		○
3. Building work		
(1) Rehabilitation of the existing NKFM building, construction of the new processing/laboratory building and a car park, etc.	○	
(2) Fencing	○	
(3) Creation of a planting space, etc.	○	
(4) Planting		○
(5) Provision of a site to house temporary facilities and payment of the relocation cost		○
4. Import and customs clearance procedures		
(1) Transportation to SVG and domestic transportation	○	
(2) Tax exemption and customs clearance		○
5. Payment of commission to a Japanese foreign exchange bank in accordance with the banking arrangements		○
6. Provision of procedural conveniences for the entry to, stay in and departure from SVG of Japanese nationals involved in the Project		○
7. Appropriate as well as effective operation and management of the facilities provided by grant aid		○
8. Payment of all expenses relating to the construction of facilities, procurement of furniture and transportation as well as installation of equipment which is not included in the grant aid		○
9. Completion of all of the authorization, permission and application requirements regarding the building work		○
10. Exemption of payments for equipment, materials and services which the Contractor for the Project procures in SVG from all domestic taxes, including local taxes		○

The cost estimations borne by the Recipient Country is attached Appendices 5.

2-4 Project Operation Plan

The ownership of the building to be constructed under the Project will be handed over to the Government of SVG and will be registered to the Ministry of Transport, Labour and Housing. Meanwhile, the Fisheries Division of the Ministry of Agriculture and Fisheries will provide a government budget for the maintenance and repair of the facilities on the advice of the Public Labour Division of the Ministry of Transport, Labour and Housing.

From the operational point of view, NKFM Corporation will be responsible for the operation of the ground floor facilities of the new building, the existing fish market and the processing facilities while the Fisheries Division will be responsible for the management of the laboratories, training facilities and data room (library) on the first floor.

2-4-1 Operation of Fish Market and Processing Facilities

The existing facilities are not expected to pose any operational problems as the new operation system will be similar to the current system. In regard to processing, the function of which will be expanded, no problems are anticipated in terms of the operation ability of the staff members who already have experience of the shipment of processed products to a supermarket as well as abroad. For the operation of the new facilities which will incorporate the HACCP method, a firm promise has been given by the Fisheries Division to provide technical advice for the staff members of NKFM Corporation. The operation of the facilities will be conducted by the personnel listed in Table 2-25.

Table 2-25 Personnel Plan

Job Title	Number	Job Description
Market Manager	1	Overall responsibility for the running of the fish market
Administrator	1	Administration and accounting
Market Supervisor	2 (2 shifts)	Market management, recording of landing and cold and chilled storage management
Engineer	1	Equipment management
Cold and Chilled Storage Operator	4 (2 shifts)	Operation of the cold and chilled storages; transportation of fish
Processor	4	Processing of fish; assistance for the transportation of fish
Packer	2	Packing of fish; assistance for the transportation of fish
Deliverer	1	Driving of a delivery vehicle
Money Collector	2 (2 shifts)	Collection of user fee; book-keeping
Cleaner	6 (2 shifts)	Cleaning

2-4-2 Operation of Laboratories and Meeting Room, etc.

The Fisheries Division will be responsible for the replenishment of consumables which are required for laboratory testing and also for the management of the rooms on the first floor.

2-4-3 Maintenance Cost

The estimated revenue and expenditure in the post-project period are shown in Table 2-26 through Table 2-28 below.

(1) Assumptions

Table 2-26 Assumptions for Expenditure Calculation

Expenditure Item	Comparison with Present Situation						
Wages	Increase of two (2) processors and two (2) cleaners: weekly wage of EC\$ 240/person 240 × 4 × 52 weeks Increase of EC\$ 50,000						
Welfare Pension Contribution	Legal requirement to contribute 3.5% of the wages for two (2) extra employees Increase of EC\$ 2,000						
Working Clothes	Increased demand for working clothes to improve the level of hygiene						
Power Bill	The annual power bill is estimated to be EC\$ 518,000 based on the following operation of power equipment						
	Equipment	Real Power Consumption (kW/hr)	Operating Hours/Day	Tariff (EC\$ /kW)	Daily Charge (EC\$)	Operating Days/Year	Annual Power Bill (EC\$ ' 000)
	Air-blast freezer (1 ton)	17.0	18	0.73	223	180	40
	Freezer for block ice (1 ton of fish)	17.0	18	0.73	223	288	64
	Chilled storage	15.0	18	0.73	19 7	365	72
	Cold storage	11.0	18	0.73	145	180	26
	Flake ice-making machine (4 tons)	26.0	24	0.73	456	365	166
	Flake ice-making machine (2 tons)	13.0	24	0.73	228	120	27
	Air-conditioning for sorting area	12.5	11	0.73	100	288	29
	Air-conditioning for new processing building	14.0	6	0.73	61	120	7
	Air-conditioning for processing area	12.8	6	0.73	56	120	7
	Chilled storage	7.7	18	0.73	101	120	12
	Cold storage	16.0	18	0.73	210	120	25
	Lighting	20.0	8	0.73	117	365	43
	Total						518

Expenditure Item	Comparison with Present Situation
Telephone Bill	Increase by EC\$ 1,000 due to increased trading (10% increase)
Water Bill	No increase of the water consumption due to more efficient washing through the use of a high pressure washer, etc.
Refrigerating Machinery Maintenance Cost	Reduced because of the introduction of new equipment
Vehicle Maintenance Cost	No change (for one vehicle)
Welfare Cost	No change
Packing	Increased due to the increasing fish processing volume
Sundry Expenses/ Stationary	No change

Table 2-27 Assumptions for Revenue Calculation

Revenue Source	Revenue Calculation	2002	2005
Sale of Processed Fish	- Sale of frozen fish: 130 tons $\text{EC\\$ } 5/\text{pound} \times 130 \text{ tons} / 0.4536 \times 1,000 \text{ kg}$ $= \text{EC\\$ } 1,433,000/\text{year}$ - Processed fish: 60 tons (0.5 tons $\times$ 120 days) $\text{EC\\$ } 6/\text{pound} \times 60 \text{ tons} / 0.4536 \times 1,000 \text{ kg}$ $= \text{EC\\$ } 794,000/\text{year}$ Sub-Total: $\text{EC\\$ } 2,227,000/\text{year}$ < Purchase Cost of Fish > 190 tons/year at $\text{EC\\$ } 3.8/\text{pound}$ $190 \times 1,000 / 0.4536 \times 3.8 =$ $\text{EC\\$ } 1,592,000/\text{year}$ < Profit from Fish Sale > $\text{EC\\$ } 2,227 - \text{EC\\$ } 1,592 = \text{EC\\$ } 635,000/\text{year}$	130 tons	As left Increase by 60 tons
Sale of Ice	Sale of 1.5 tons of ice/day $1.5 \text{ tons} \times \text{EC\$ } 0.5/\text{kg} \times 288 \text{ days} =$ $\text{EC\$ } 216,000/\text{year}$	1.2 tons	1.5 tons
Wharfage	$\text{EC\$ } 30/1,000 \text{ pounds}$ No change from 2002 $\text{EC\$ } 104,000/\text{year}$	No Change	
Vendor Registration Fee	Revised from $\text{EC\$ } 15/\text{week}$ to $\text{EC\$ } 25/\text{week}$ $\text{EC\$ } 25/\text{week} \times 26 \text{ booths} \times 52 \text{ weeks} =$ $\text{EC\$ } 34,000/\text{year}$	$\text{EC\$ } 15/\text{week} \times 26$	$\text{EC\$ } 25/\text{week} \times 26$
Others	Locker fee, etc. No change from 2002	No change	
Miscellaneous Income	Wharfage from vessels other than fishing boats: no change from 2002	No change	

Table 2-28 Estimated Annual Revenue and Expenditure

(Unit: EC\$ ' 000)

Expenditure Item	2002	2005	Remarks
Wages	266	316	Increase of four employees
Welfare Pension Contribution	9	11	For four new employees
Working Clothes	5	10	
Electric Bill	344	518	
Telephone Bill	9	10	
Water Bill	27	27	
Refrigerating Equipment Maintenance Cost	56	30	
Vehicle Maintenance Cost	4	4	
Welfare Cost	2	2	
Packing Materials Cost	26	60	
Sundry Expenses/Stationary	39	39	
Expenditure Total	787	1,027	

Revenue Item	2002	2005	Remarks
Fish Sale (A)	252	635	Increase of four employees
Ice Sale	203	216	1.5 tons/day
Wharfage	104	104	
Vendor Registration Fee	26	34	Increase from EC\$ 15/week to EC\$ 25/week
Others (Cold Storage Charge, etc.)	28	28	
Miscellaneous Income	35	35	
Sub-Total (B)	39 6	417	
Revenue Total (A) + (B)	648	1,052	
Balance	-139	25	

Based on the above estimation results, the operation of the NKFM will produce a profit due to (i) the fall of the maintenance cost through the renewal of equipment and (ii) increased income from the sale of processed fish. Moreover, NKFM Corporation receives an annual subsidy of EC\$ 160,000 (¥7.2 million) from the Fisheries Division. There should, therefore, be no financial problems for the operation of the market provided if the equipment is properly managed. The above estimation assumes that the processing area will operate for 120 days a year. A further increase of the profit can be achieved by increasing the production volume of processed fish through expansion of the relevant market.

2-5 Other Relevant Issues

In order to utilize the facilities more effectively, the followings shall be taken into consideration after the introduction of the equipment and materials.

(1) Improvement of the System for Daily Management and Periodical Maintenance

In order to maintain the performance of the equipment and materials to be introduced by the Project, a daily maintenance is essential. A daily running logbook and a operation record shall be arranged, and a periodical maintenance shall be given.

(2) Monitoring

The degree of freshness of fish shall be seized by a freshness check. The needs of consumers shall be grasped by periodical questionnairing.

(3) Operation Manual

An operation manual on cleaning of facility, handling of fish, processing methods, quality evaluation, etc. shall be prepared. The NKFM must make the manual known to vendors and its staff without exception.

(4) Development of the Market

Fish products produced at the facility will be exported to foreign countries and also sold to restaurants and hotels in SVG. The development of the market shall be continued. Also it is important to strive to improve the quality of products based on comments on or demands for products from customers.

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Effects of the Project

Local people utilizing the fish market, artisanal fishers, and residents of Kingstown, totaling some 40 thousand people, would be direct beneficiaries of the Project. Besides, the entire people of SVG, some 110 thousand, would indirectly benefit by the activation of fish distribution and improved distribution system through the improvement of the only fish distribution center in SVG.

The Project including the renovation of the existing market facilities and the construction of new facilities is expected to produce the following benefits. From the viewpoint of the expected profound effects, it is judged that the Project deserves to be implemented as a Grant Aid Project.

(1) Direct Benefits

- 1). The improvement of sanitary hardware to upgrade hygienic condition of the existing facilities will make it possible to supply high quality and safe fresh fish to consumers.
- 2). Repairs and modification of inclination of the floor will make it possible to wash it easy, resulting in diminishing various bacteria, the breeding of flies and mosquitoes will be prevented, and the production of foul smell will be controlled.
- 3) Relocation of the managing room to the ground floor will make the management and administration more efficient.
- 4) Efficiency of facilities for refrigeration/cold-storage/ice-making will be improved by the replacement of the existing old facilities, and thus electric charges will be decreased.
- 5) Efficient processing work, accurate bacteriological examination, and strict quality testing will produce wholesome, safe foodstuffs.

(2) Indirect Benefits

- 1) Upgraded hygienic condition produced by the renovation of the existing old facilities will make it possible to supply safe protein nutrients to customers.
- 2) Possible diversification of fishery processed goods will increase consumption of fishery products.
- 3) Fishery products will be supplied stably through improved facilities for storage of fish.
- 4) Following the improvement of the safety of fish, incomes of fishers are expected to be increased through enhanced value-added of fishery products and processing goods.
- 5) Export of wholesome fish products satisfiable various foreign export standards will be accelerated, and consequent increase of exports will contribute to the improvement of substantial trade deficits.
- 6) Activation of fish distribution and an increase of both domestic consumption and exports can be expected through the improvement of the fish distribution center. By this, a decrease of the number

of days for production adjustment through raising purchasing price of fish during the high fishing season will be made possible and incomes of artisanal fishers will be stabilized, resulting to their standard of living elevated.

The following table shows the problems in the current situation and the improvements by the Project.

Table 3-1 Problems and Improvements

Current Situation and Problems	Remedies to be Take by the Project	Effect and Improvements
In terms of function, the 15 years old fish market cannot meet both the demands for safe and high quality fish and the change of the times.	The renovation of the retail area and the replacement of the cold storage/ice-making facilities shall be made to strengthen the fish storage function so that fresh fish can be supplied.	Improvement of freshness of retailing fish. (The actual organoleptic test marks of 18.5 in 2003 March before the Project starts are expected to rise to 22.0. The organoleptic test is performed for 6 items, giving a full mark of 30.0. Marks of 5 steps for each item are given by 10 experienced persons, and the result is shown by average marks of 10 times for 10 days.)
According to the interview surveys, many customers made complaints about the bad smell and poor drainage, demanding improvement of hygienic condition.	Replacement of vendors' counters, repairs of the floor, and improvement of drainage ways shall be made to maintain a healthful environment so that an increase in the number of customers can be expected.	A favorable turn of appraisal of hygienic condition by customer. (The actual appraisal marks of 1.9 in 2003 March before the Product starts are expected to rise to 3.0. Appraisal marks are given by using an interview sheet with a full mark of 5.0, and the result is shown by average marks of 100 customers interviewed.)
Exports of fishery products are decreasing due to the strict export standards of Europe.	The facilities satisfying the European export standards shall be provided.	The ratio of total fishery production to exports is expected to rise from 16% in 2002 (before the Project) to 19 %
Sales of processing products are sluggish due to poor processing facilities.	The renovation of processing facilities and improvement of processing process shall be made so that wholesome and safe processing products can be produced.	Yearly sales of processing products to the supermarket are expected to increase from 16 tons in 2002 (before the Project) to 60 tons.

3-2 Recommendations

Taking into consideration that the most important matter for the project is realization and maintenance of its effects, the following recommendations are made on the implementation of the Project.

(1) Fostering Personnel Required

In order to improve the distribution system of fishery products and to supply high value-added fishery products through improvement of hygienic condition in production and distribution, it is necessary for the SVG side, in particular, to establish a maintenance/management system of the refrigeration/ice-making facilities to be newly installed. Even today there are problems to be resolved such as inadequate operation logbooks and running records and delayed arrangement of spare parts during trouble. Also the refrigeration-related facilities are the biggest electricity-consuming units in the fish market, their electric charges may amount to a half of the working expenses of the fish market, exerting a great influence on the operation of it. In order to address these problems, it is necessary to educate the present operators and to elevate their management senses. The Fisheries Division has sent one trainee to Japan in 2003 July. It is to be desired that the SVG side should give personnel required on-the-job training during installation works and test running and establish a system for continuation of training in Japan.

(2) Preparation of Funds Necessary for Replacement

The working expenses of the Project facilities are estimated at some EC\$ 1.03million a year, while the business incomes generated by selling of ice, rentals and so on is expected to be about EC\$ 1.05 million. By this, the facilities being operated now in the red because of the public-interest-oriented policy that the rentals should be restricted to a lower level may keep the balance in the black. However, all facilities and equipment have their useful life, and so, it is to be desired that the SVG side should accumulate funds necessary for replacement of unserviceable facilities and equipment.

(3) Disposal of Waste

At present, waste from the fish market is collected at a dumping ground for a garbage truck. Usually fishers gut larger fish on board just after catching, but the fish caught just before they return to port are landed whole at the jetty, gutted there, and the guts and viscera are thrown away in the sea. They contaminate the sea water badly around the jetty. Also washing water on the floor in the fish market is draining to the sea directly. Since, in the Project, entire waste water will be collected in the septic tank and led to the sewerage after treatment in the renovated and newly built facilities, contamination by drainage will never take place, but it is necessary to establish a usual practice to collect the viscera on the jetty for disposal. It is necessary to make consideration to utilize the small refrigerator which will be no use after implementation of the project, for keeping viscera to preventing the smelling.