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ABBREVIATIONS

CARICOM	Caribbean Community
CDB	Caribbean Development Bank
CDL	Chart Datum Level
CIDA	Canadian International Development Agency
CIF	Cost Insurance & Freight
CUBiC	Caribbean Uniform Building Code
FOB	Free On Board
FRP	Fiber Reinforced Plastic
GCFL	Grenada Commercial Fisheries Limited
GDP	Gross Domestic Product
GRENLEC	Grenada Electricity Service Ltd.
GT	Gross Tonnage
HACCP	Hazard Analysis Critical Control Point
HWL	High Water level
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
LWL	Low Water Level
MHHWL	Mean High High Water Level
MLLWL	Mean Low Low Water Level
MSL	Mean Sea Level
OECS	Organization of East Caribbean States
PC	Precast Concrete
PIMU	Project Implementation Management Unit
RC	Reinforced Concrete
VIF	Venezuela Investment Fund

Summary

Summary

Grenada is an island nation consisting of three main islands of Grenada, Carriacou and Petit Martinique in the Windward Islands in the southern part of the Lesser Antilles Islands. According to a recent statistics, Grenada has a population of about 97,000 and its gross domestic product is US\$366 million. The GDP per capita is US\$3,630 (according to an estimate in 1999.)

Main industries of the country are traditionally conducted agriculture, fisheries and tourism. Main crops are such spices as nutmeg, cinnamon, ginger and black pepper. In addition, banana and cocoa are produced. The nation's economy was severely hit in early 1990s with its growth rate dropped to two percent due to a huge drop in financial aids from the United States and other foreign countries combined with bad agricultural production. The government carried out a three-year structural adjustment starting in 1992. Although it yielded some positive effects by successfully reducing the number of public employees and debts, there was not enough effect for economic growth, resulting in rises in unemployment and prices. Prices of food and fuel in 1996 were up 4.5 percent and 7.6 percent, respectively, from a year earlier. Such price rise pressed the people's family budget and the nation's economy fell into a severe condition again.

In such a severe economic condition, Grenada government compiled a Mid-term Economic Strategic Paper aiming at an increase in public investment, strengthening international competitiveness, lowering unemployment, improvement of welfare and environmental conservation, and it has worked to reconstruct its economy. As a result of such efforts, the economic growth rate recovered to 6.2 percent in 1999. Currently, the fourth Mid-term Economic Strategic Paper (2000-2002) is being implemented. Although fisheries account for about 1.2 percent of the GDP, it accounts for about 20 percent of agricultural, forestry and fisheries exports, and thus the industry is regarded as an important sector in the nation's economy with great potential of industrial promotion.

Waters around Grenada is part of the route of high migration fish including tunas that migrate along the South Equator Current. The waters are known as a good fishing ground from January to June. The continental shelf around the Grenada Island is the size of 3,100 km², which is bigger than that of the neighboring country of St. Vincent at 1,800 km², yielding a wide variety of demersal fish resources. Because of the good fishing condition, Grenada nationals eat a lot of fish and the people are estimated to consume about 20 to 27 kg of fish annually per capita. However, there is a huge gap in the fish production between the high fishing season (January through May) and low fishing season (July through November.) Partly because of an increase in demand for fish for tourism in accordance with an increase in tourists, supply of fresh seafood for general consumers is in short chronically. A total of 400 to 500 tons (about one quarter of the domestic production) of high valued demersal fish such as groupers and sea

breams, high migration fish including tunas and such shellfish with high demand for tourism as conch are exported annually, while 500 to 700 tons of marine products (dried salted products such as salted cod and processed marine products such as canned fish), which exceeds the amount of export, is imported to satisfy the domestic demand.

The government of Grenada intends to implement a well-balanced fisheries development policy of decreasing the post-harvest loss of marine products by promoting the improvement of the domestic distribution system of such products and satisfy national and tourism demand by increasing the substantial domestic supply of such products while promoting exports of such products. However, in order to promote such well-balanced fisheries development policy based on the sustainable and effective use of fisheries resources, promotion of fisheries in the eastern coast, which is less developed than the western coast of the Grenada Island, is essential. Effective promotion is a primal issue. Grenville situated along the east coast is an active city with the biggest fish landings and a large number of fishermen in the nation, accounting for 25 to 30 percent of the total of domestic fish production. There are many young successors of fishing business in the city. In spite of such a favorable condition, the Grand Etang Road that runs across the island from east to west and is the shortest route to the market of the metropolitan area is not in good condition, the function of the fish market facility that was built nearly 30 years ago has been greatly deteriorated, and proper sales route to markets other than the local market has yet to be developed. Because of such conditions, a large portion of catches especially during the high fishing season from February to April is not used effectively, wasting fishermen's production activities. This is partly because the existing Grenville fish market facility is superannuated and space for fish retailing is not sufficient enough to handle all the products brought in. Another reason is that the Grand Etang Road running through the mountainous area in the central island is rather dangerous as being very narrow with many steep gradients and sharp curves, which makes it hard to drive commercial trucks that transport fisheries and local products and materials for the production of such products.

Prompt construction work of the Grand Etang Road to improve the access to the metropolitan market and communication of information as well as work to upgrade the Grenville fishery center (fish market) is an extremely critical and urgent issue for promoting the distribution of local products centering fisheries products of the island's eastern coast, mainly of Grenville, and promote the local economy.

Against the backdrop, the government of Grenada compiled the "the Project for Improvement of Fish marketing for Grenville" that aims to improve the marketing system of fisheries products centering Grenville in the east coast that is less developed than the west coast of the Grenada Island, for sustainable and effective use of fisheries resources and correction of regional developmental gap between eastern and western parts of the island by constructing the Grenville fish market and other fisheries-related facilities and improving the Grand Etang Road and bridges that connect the metropolitan area with Grenville.

The government requested Japan to provide a Grant Aid to implement the project. In response, the government of Japan decided to conduct a survey, and JICA dispatched a study team to the island to conduct a preparatory study and a basic design study as follows.

Preparatory Study : March 22 - April 10, 2000

Basic Design Study : June 27 - August 16, 2001

Explanation of the Draft Basic Design Study: October 25 - November 4, 2001

In the preparatory study, the study team checked the fishing industry and road conditions of Grenada and the marketing system of fisheries products between Grenville and the metropolitan area and examined whether the project site is reasonable and it is necessary to conduct the project under the Grant Aid scheme, which was then followed by the basic design study. After the field trips and analysis in Japan, the background and contents of the project, natural conditions, maintenance and management system and construction conditions were examined and the proper contents and size of the project with a Grant Aid were decided as follows.

Scale and contents on planned facilities

Items	Contents	Quantity
<Facility>		
Fish landing jetty	Required length: Approx. 130m, Depth 1.5m Pile type platform	1 unit
Fish market facility		
-1 Fish market building	Fish market building, one-storied building Area Approx. 770 m ²	1 unit
-1. Retailing area	228 m ² Retailing booth × 15, Sink × 6, Processing table Sink for scalers × 4	1 unit
-2. Ice making/storage plant	33 m ² Ice making capacity 2.0 ton/day(1 ton × 2 units) Storage capacity 4 tons(Ice storage for 2 days)	1 unit
-3. Cold storage	49 m ² Approx. 1.2 tons (Divided into 2 compartments)	1 unit
-4. Store facility	36 m ²	1 unit
-5. Fish processing room	66 m ²	1 unit
-6. Fish handling area	159 m ² Including passage space for handling work, weighing work, gutting work	1 unit
-7. Sanitary room	54 m ² Shower, toilet and locker room for vendors	1 unit
-8. Administration office area	77 m ² Supervisor office × 1、 34 m ² Administration office × 1、 43 m ²	1 unit
-9. Distribution panel room area	11 m ² Receiving panel and distribution panel room	1 unit
-10. Other facilities	Drainage and sewage facility (Toilet & Shower, fish handling area, etc) Preserver tank (For rain water approx. 10 tons) Radio antenna tower (Approx. 12m height)	1 unit each
-2 Workshop	54m ² For marine engine maintenance Slipway (Utilizing present beach in front of workshop)	1 unit
-3 Fishermen's store (Fishermen's locker)	294m ² 30 rooms 264m ² Toilet and shower room Approx. 30 m ²	1 unit

Items	Contents	Quantity
External facilities		
-1. Parking lots and access space	For 30 cars (Asphalt, partly concrete pavement)	1 unit
-2. Lighting	400W 8 lights	1 unit
<Road>		
Road Improvement		
-1 Hairpin curve section	Road length L=380m, Total width 6.50m (carriageway 6.00m) Asphalt pavement, Retaining wall: Crib type, Stone masonry, Drainage: U-shaped, Guard Fence	1 unit
-2. Approach roads of Vendome Bridge	Road length L=104.6m, Total width 8.00m (carriageway 6.00m) Asphalt pavement, Retaining wall: Stone masonry, Drainage: Unsupported ditch, Guard Fence	1 unit
-3. Approach roads of Birch Grove Bridge	Road length L=86.5m, Total width 7.50m (carriageway 6.00m) Asphalt pavement, Retaining wall: Gravity type, Detour Road: Road 50m (including a 32m temporary bridge)	1 unit
-4. Approach roads of Balthazar Bridge	Road length L=194m, Total width 7.50m (carriageway 6.00m) Asphalt pavement, Retaining wall: Unsupported ditch, Drainage: L-shaped, Guard Fence	1 unit
Bridge Improvement		
-1 Birch Grove Bridge	Superstructure Type: Two Spans PC Continuous T-Shaped Girder Bridge, Substructure Type: Two reversed T-type abutment, One wall type pier Bridge Length L= 31m, Width 8.30m (carriageway 3.0m×2), Railing: Concrete railing + steel railing Revetment Protection: Stone Masonry, River-bed Protection: Stone masonry concrete	1 unit
-2. Balthazar Bridge	Superstructure Type: Two Spans PC Continuous T-Shaped Girder Bridge, Substructure Type: Two reversed T-type abutment, One wall type pier Bridge Length L= 41m, Width 8.30m (carriageway 3.0m×2), Railing: Concrete railing + steel railing Revetment Protection: Stone Masonry, River-bed Protection: Stone masonry concrete	1 unit
-3. St. Cyr Great River Bridge	Improvement of existing bridge Improvement: Concrete (24N/mm ²) 6.2m ³ , River-bed Protection: Concrete (18N/mm ²), 63.0 m ³ Erosion protection (Stone+concrete) 96.0 m ³	1 unit

Scale and contents on planed facilities

Items	Specification	Quantity	Purpose
Seawater pump	Throwing type Approx. 0.2m ³ /min, (Including accessory)	1 unit	For washing bottom of boats
Pushcarts	Loading capacity 300 kg(Max 500 kg)	5 units	For transportation of fish, ice and materials in the facilities
Insulated boxes and fish boxes	Insulated box, 750 liters type Fish box: 720 mm × 480 mm × 200 mm	2 units 65 units	For cold/chilled storage
Scales	For retailing: Desktop scale type, 0 ~ 20 lbs For ice and fish: Platform scale type, 0 ~ 200 lbs	17 units 2 units	For fish retailing For fish handling
Radio sets	For marine band, VHF For marine band, SSB	1 unit 1 unit	For communicating with fishing boats (Safety at sea, exchanging fish catch information, etc)
Repair kit for workshop	Repair kit: 1 unit (Repair kit for small engine, Drilling machine, Vise, Hydraulic press, Electric grinder, Chain block, etc.)	1 unit	For repairing small engines

The project will require one year and 11 months to be completed when conducted as one with a Grant Aid from the Japanese government.

A total of EC\$193,500 (EC\$1 = ¥45.10 in November 2001) is expected to be required annually for the maintenance and management of the Grenville fisheries complex. The costs are believed to be covered with fees to use the facility, including fees to use fish retailing booths and cold storage facility. A total of EC\$27,000 is also expected to be required annually for the maintenance of the sections of the Grand Etang Road and bridges where the construction work is conducted. The costs will be covered with the budget for road-related works of the PIMU of the Ministry of Works.

The implementation of the project is expected to bring the following effects and thus it is considered to be a reasonable and meaningful project with a Grant Aid.

(1) Direct effect

1) Grenville fisheries facility

- a) Improvement of landing wharf will enable fishermen to prepare for sailing out for fishing, land their catches and moor their boats without being in water. Time required for these works on a daily basis will be also shortened.
- b) New opening of a Grenville fisheries complex is expected to have the following effect.
 - Increasing the number of booths for fish retailing from six (6) to fifteen (15) will solve monopoly and free competition of fish trading will be encouraged and services will be improved.
 - Installation of an ice making plant that can produce two tons of ice per day necessary for trading, shipping and distribution of fish at the Grenville fish market as well as a cold storage facility in which fish can be stored in fish boxes will promote the use of ice, which will lead to the improvement of product quality.
 - The existing fish market was constructed 30 years ago and there is not enough space to handle all fish brought in to the market. Under the project, constructing an appropriate fish handling facility for such works as receiving, weighing and gutting, and building toilets and shower for office workers, market-related workers and fishermen separately will help improve the food sanitary condition.
- c) Construction of new workshop will eliminate the need to transport fishing equipment to other areas such as the capital of St. George's. Fishing boats, outboard motor and fishing gears can be repaired there, facilitating the maintenance of the boats.

2) Grand Etang Road

Because the Grand Etang Road runs across the mountainous area 600 to 700 meters above sea level in the central Grenada Island, there are many sections difficult to drive due to narrow parts, steep gradients and sharp curves. It is a bottleneck for commercial vehicles that transport fisheries and other local products and materials for the production of such products. The project aims to improve the access to the

metropolitan area by conducting construction works to improve sections of the road most difficult to drive and replacing bridges with new ones.

(2) Indirect effect

1) Correction of gap between the western and eastern part of the island

When the project is implemented, promotion of the fishing industry in the eastern coastal area, which has been a problem of the nation's fishing industry, is expected, which will also lead to an increase in fishermen's income and improvement of their living conditions and correction of the gap between the western and eastern part of the island.

2) Improvement of fishermen's living conditions

By improving a fisheries facility and road that runs across the island, sustainable and effective use of fisheries resources will be promoted. This will further contribute to the improvement of fishermen's techniques, more stable fish production and living conditions as well as to the improvement of poverty and people's welfare and a decrease in unemployment.

We suggest that the following issues be dealt with for the effective use of the facility and equipment after the construction of the facility and acquisition of related equipment under the project.

(1) Allocation of staff

In order to use the facility effectively and achieve the goal of the project, a cooperative system with fishermen who directly benefit from the project and fishermen's association should be established and staff should be allocated appropriately for the maintenance and management of such facility as landing wharf and fishermen's lockers that are to be newly constructed as well as the maintenance and management of the Grenville fish market on which the government of Grenada has achieved some success in the past.

(2) Securing budget

Because the durability of the facility and equipment is limited and thus they need to be renewed sooner or later, it is important to accumulate funds with part of business profits. The government of Grenada needs make a plan to secure budget for the maintenance of the facility and equipment and the road and bridges.

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Chapter 1 Background of the Project

Chapter 1 Background of the Project

1-1 Current situation and problems of the concerned sector

Grenada is an island nation consisting of three main islands of Grenada (latitude 12 degrees 07 minutes north and longitude 61 degrees 40 minutes west), Carriacou and Petit Martinique in the Windward Islands in the southern part of the Lesser Antilles Islands in the eastern Caribbean Sea. It became independent in 1974 as a British Commonwealth. It has a population of about 100,000 and it covers an area of about 344 km². The continental shelf around the nation is the size of about 3,100 km², greater than that of the neighboring nation of St. Vincent and the Grenadines whose total is the size of 1,800 km². The central part of the island is mountainous with mountains 600 to 700 meters above sea level. The country has a tropical climate. It is dry from December to May and wet from June to November. The precipitation in the mountainous area largely differs from that in the coastal area. In the mountainous area, there is a huge gap in the precipitation between the dry and rainy seasons. The wet season in the mountainous area tends to be longer than the coastal area. Grenada basically belongs to breeze zone in the tropics. The prevailing wind direction is east throughout the year and the wind tends to be strong during the day and weaken from night to the following.

The main industries of the country are agriculture, fisheries and tourism. Although fisheries account for about 1.2 percent of the GDP, it accounts for about 20 percent of agricultural, forestry and fisheries sector exports, and thus the industry is regarded as an important sector in the nation's economy with great potential of industrial promotion.

The current situation, problems, development plans and socio economic conditions of the country are described in the following.

1-1-1 Current situation and problems

(1) Current situation and problems of fishing industry

The country's fishing can be divided into three types, traditional coastal fishing, commercial long line tuna fishing in the Grenada Island and coastal fishing in the outer islands such as Carriacou and Petit Martinique.

The continental shelf around the country is relatively extensive with the size of 3,100 km² as mentioned above, and it yields a wide variety of demersal fish resources. However, there is a significant decline in such fish resources as higher quality demersal fish of groupers and sea breams, and high valued shellfish of conch and lobster. Fishing methods need to be changed and resources should be protected urgently.

As of the pelagic fish resources, because tunas migrate along the South Equator Current in waters off

Grenada, the waters are known to be a good fishing ground from January to June. Long line tuna fishing that started in mid 1980s has made great contribution to the export of fisheries products and promotion of commercial fishing of Grenada thanks to the good exports of yellowfin tuna. However, because the east coast of the Grenada Island faces the Atlantic, the waters are rough and long line fishing there is much less prevalent than in the western coastal area.

The main fishing method in the eastern coastal area is trolling line fishing with a small outboard motor fishing boat. Because there is no such facility as landing wharf and proper types of boat are yet to be introduced, fishermen continue to depend on the traditional fishing method. Bottom line fishing and dive fishing of conch and lobsters are also conducted.

Catches by fish species from 1990 to 2000 are as follows.

Table 1-1 Trend of fish catches by fish species (1990-2000)

Fish species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tunas	620	714	639	813	814	707	764	477	803	754	822
Other pelagic fish	227	269	353	254	228	279	277	277	373	388	440
Coastal fish	436	355	454	539	287	182	207	207	207	191	210
Demersal fish	135	137	98	92	80	112	110	108	103	184	161
Others	352	499	495	393	215	199	207	201	213	103	54
Total	1,769	1,975	2,038	2,090	1,624	1,479	1,565	1,269	1,699	1,620	1,687

Source: Fisheries Division, Ministry of Agriculture, Land, Forestry and Fisheries

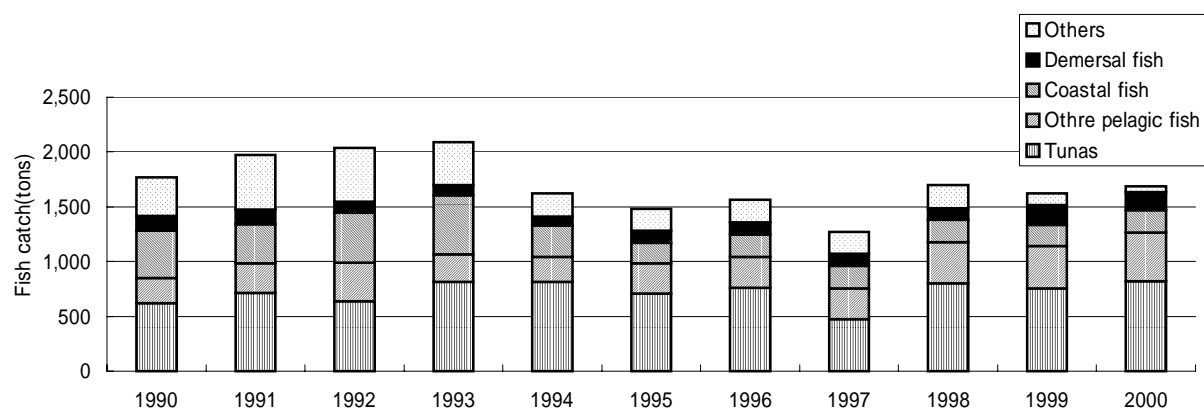


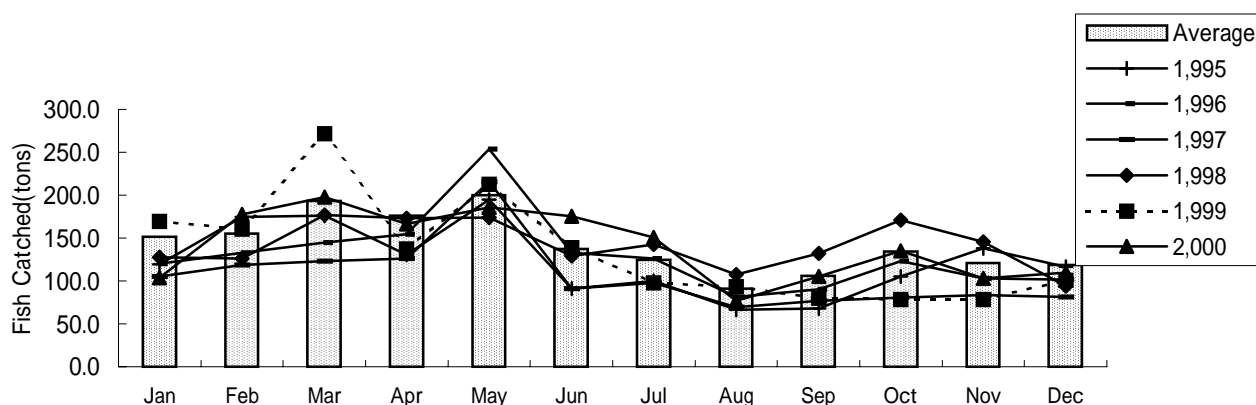
Figure 1-1 Trend of fish catches by fish species (1990-2000)

Table 1-2 Fish catches by month (1995-2000)

Months	1,995	1,996	1,997	1,998	1,999	2,000	Average*
January	119.0	120.0	104.9	127.4	169.6	103.9	151.1
February	174.4	133.0	118.5	125.8	160.5	177.6	154.9
March	175.9	144.8	122.8	177.1	271.9	197.6	193.4
April	130.8	154.3	126.4	173.1	137.0	166.5	175.8
May	194.6	253.8	215.4	173.8	212.6	185.7	200.2
June	91.4	132.9	91.3	129.4	139.0	175.7	137.2
July	99.7	126.3	97.8	142.3	97.9	150.7	124.9
August	66.6	81.6	69.6	107.7	93.2	76.7	91.2
September	67.6	90.2	76.6	131.7	80.2	105.4	106.3
October	104.9	123.2	80.9	170.8	78.3	135.1	134.2
November	137.8	102.9	83.9	145.9	78.5	103.0	121.1
December	116.8	101.8	81.2	94.3	101.0	109.6	119.0
Total	1,479.4	1,564.9	1,269.3	1,699.3	1,619.6	1,687.4	

Note: *The average in the table is that of years from 1989 to 2000. It is the same in the case of the Figure 1-2.

Source: Fisheries Division, Ministry of Agriculture, Land, Forestry and Fisheries

**Figure 1-2 Fish catches by month (1995-2000)**

The basic policy of fisheries development of Grenada is to use fisheries resources in waters off the country in a sustainable and effective manner. In order to promote the fishing industry based on the policy, the mass of fisheries resources need to be found out, fishing methods that includes fishing gear should be modernized, new fisheries resources need to be developed, fishing technique of the nation's 1,700 coastal fishermen should be improved, 39 landing sites that scattered across the nation need to be put into groups and rational fishing infrastructure in each regional base needs to be reorganized and improved.

(2) Current situation and problems of distribution of fisheries products

There are very few organizations of fish retailers, wholesalers, intermediate wholesalers and others

related to the distribution of fisheries products. However, fish retailers at the fishery center (fish market) in each region managed by the Fisheries Division and scalers who are doing preparatory works of removing fish scales and gutting near the center are mainly family members, relatives and acquaintances, and thus they form groups when engaged in work and help each other in buying and selling fish. It is necessary to improve public infrastructure for the distribution of fisheries products including superannuated fish market, organize groups of those involved in the distribution and provide hygienic and comfortable market space one after another in each region.

Because many fishermen in the western coast of the Grenada Island catch big migratory pelagic fish such as tunas, fish production volume varies greatly seasonally. It is necessary to stabilize supply and demand of fisheries products throughout the year. The Grenada Commercial Fisheries Limited (GCFL) exports tunas, and freezes and stores part of fish purchased at its freezing facility, and sells its frozen fish at shops under its direct management domestically. It is becoming harder and harder to buy the catches in the west coast year after year, and thus the east coast centering Grenville is playing a bigger role. There is a call for the establishment of a buffer stock system of circulating fish caught in the high fishing season to the low fishing season. It is believed that this will replace the imported marine products and thus help save foreign currencies. However, because majority of imported marine products is salted cod, which is traditionally eaten in the region and part of their diet, it is in fact difficult to cut the import soon. It is more important to establish a distribution system of fresh fish from the market to dining table and develop processed fish products that can replace imported salted fish products than improving a supply system of frozen fish, which is costly. Promotion of fisheries in the east coast centering Grenville and improvement of the distribution of fisheries products are of urgent need.

General fishermen in the east coastal area centering Grenville mainly use the trolling line fishing method on a fishing boat with an outboard motor. It is difficult to catch fish with the method unless migratory fish approaches near the coast. Fishermen mainly conduct one-day fishing in waters of coastal region, and they fish short hours from early in the morning to before the noon. They have very little idea of using ice to keep the freshness of their catches. Therefore, there is little space for fish boxes on the fishing boat and they hardly use ice. However, there is an urgent need to supply fresh fish for outside areas including the metropolitan area, and it is becoming extremely important to have fishermen use ice.

Some fisheries experts point out that migratory fish leaving the waters off the island led fishermen to have low fishing season. The Fisheries Division is requested to conduct resources study and provide training on fishing techniques for the stable operation of fishing and distribution of fresh fish throughout the year.

The government of Grenada recognizes the fisheries promotion with two pillars of "replacement of imported fish" by stably supplying fish for the domestic market and the contribution to tourism and

"acquisition of foreign currencies" by exporting high valued fish and shellfish as well as roles of the each to make contribution to the nation's economy. The government promotes proper development and management of limited fisheries resources in the nation's exclusive economic zone for its sustainable use. It works hard with a basic goal of securing optimal socio economic benefits for the people of Grenada. All those who are involved in the fishing industry are very interested in keeping the freshness of fish. Organizations of producers, fish retailers, distribution mediators, processors and exporters should be formed and leaders of such organizations should be trained as important part of fisheries promotion.

The following shows the supply-demand balance of fisheries products in Grenada, which is the basis of the project.

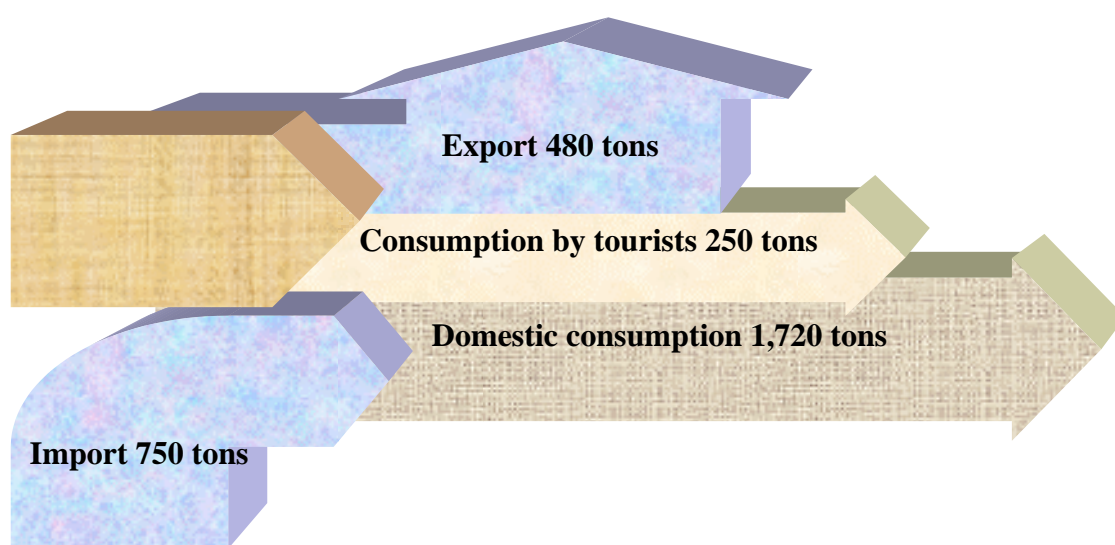


Figure 1-3 Supply and demand of fish

(3) Transportation and traffic conditions

1) Road conditions

In Grenada, roads have been developed to secure traffic for plantations and protect the country from foreign invaders. However, the mountainous area in the central island hinders the traffic from east to west and thus there are only two roads that run cross the island from east to west: Grand Etang Road, on which the study for the project was conducted, connecting St. George's and Grenville, and the other that connects Gouyave and Lower Capitol situated along the Grand Etang Road. Of the two, only the Grand Etang Road is classified as a class 1 main road. However, its function is limited because of a lot of hairpin curves and steep gradients.

The Grand Etang Road and roads that run along east and west coastal lines can be said to be only roads that connect main cities in Grenada. Other roads were developed as collector roads that connect state



Figure 1-4 Network of main roads in Grenada

capitals (parish capitals) and areas in the parishes, especially plantations and distribution centers. Thus roads in Grenada are rather industrial and agricultural roads, and people have not formed communities but residential areas have been formed along the roads. Illegal entry into land for roads, sharp grade and cross-sectional crossing angles, small widths, precipices, breakwaters, rain drainage facility, bridges, hairpin curves and designing are the road problems in Grenada. Although these problems are due to the nation's topography and climate and people's attitude toward road development, it is important to examine the cause of the problems substantially to reflect it to the suggestion in conducting the study.

2) Transportation conditions

Roads are the main means of transportation in Grenada, and public transportation services are provided by private business operators, taxi and mini-bus companies. Of about 12,000 motored vehicles registered in 1995, 71 percent were cars and jeeps, 14 percent were pickup trucks, eight percent were buses and seven percent were trucks. Small type trucks and buses are prepared in Grenada. Most of the trucks are 3-ton trucks and most buses have seats for about 15 people. Used cars from Japan have been increasingly imported recently.

3) Industry and road use

Main industries in Grenada are fisheries, agriculture and tourism. All cargos for agricultural and fisheries products are transported on road and thus roads are highly important.

As described earlier, most marine products are mainly transported via the Grand Etang Road and west coastal road that connects fish landing sites. However, drivers tend to avoid the Grand Etang Road in spite of the short distance because of the grade and vertical lines and closure of the road due to flood, and they frequently take the east coastal road that have been improved recently.

Agricultural products including banana transported from the central part of the island to St. George's are damaged in large quantities

due to the bad road condition. About 10 percent of bananas returned at the port are believed to be because of the bad road conditions. Because 20 percent of all bananas brought to the port are returned, about two percent (160 tons) of all the bananas are returned due to the bad road conditions, which was equivalent of EC\$ 114,000 at export price in 1992.

Agricultural products are produced in the inland area and transported to processing plants in Grenville and Gouyave, which are then transported to St. George's via west and east coastal roads and the Grand Etang Road. The figure above (upper right) shows production sites of main agricultural products and transportation routes. Cocoa is grown in areas at 100 to 300 meters above sea level throughout the island and nutmeg is grown throughout the island.

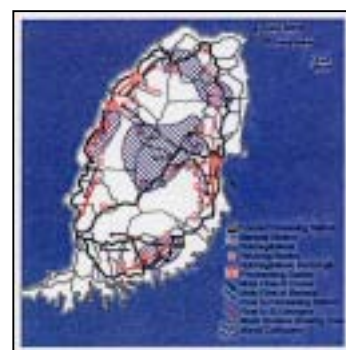


Figure 1-5 Distribution route of main products

4) Road construction, maintenance techniques

Lack of road construction techniques is pointed out in many reports. This is because road construction and repair works were conducted under the direct control of the Ministry of Public Works until recently and the involvement of private companies in such works were limited to supply of equipment and materials for the construction. However, the situation has been improved because works of the Road Division of the ministry were shifted to the PIMU (Project Implementation Management Unit) in 2001 and actual engineering works are ordered to private firms. Although there are mere 15 road engineers, most of them have been involved in road construction projects with the aid from foreign countries and international organizations and are very skillful. However, still, there is no other way but to depend on foreign construction companies in conducting large-scale shore protection works and road works. Training of human resources, organizational reform and effective use of equipment and tools related to road works are necessary to establish a firm road maintenance system.

1-1-2 Development plan

(1) Plan with priority

The Grenada government announced the Mid-term Economic Strategic Paper in 1994 and has promoted a national development policy focusing on improvement of poverty and unemployment rate and people's welfare and living conditions for sound economic growth. The basic policy related to the fishing industry in the mid-term economic strategy includes promotion of bigger contribution to the national economy, satisfaction of domestic demand for fisheries products, increase in cash income from the industry or related industries, provision of more employment opportunities in local regions and participations of the people in commercial fishing. Based on the policy, the government has worked earnestly to promote the implementation of more realistic fisheries promotion project closely related to fishermen's life with a key of sustainable and effective use of fisheries resources. Efficient implementation of road improvement works is important and indispensable for the sound growth of the national economy by promoting the country's main industries of fisheries, agriculture and tourism and local economy for the improvement of people's welfare and living conditions.

The following is an outline of the plan with priority related to this requested project and development plan of the concerned sector.

1) National development plan

The "Medium-term Economic Strategy Paper" is the national development plan of Grenada. The first stage of the plan was conducted from 1994 to 1996, the second stage, from 1996 to 1998, and the third, from 1998 to 2000. Its fourth 2000-2002 stage is now under implementation. Grenada is trying to

internationalize itself, liberalize trade and eliminate poverty as an island nation. As the world economy is establishing new order, the survival of an island nation depends on whether it can strengthen its international competitiveness in the provision of goods and services and create proper market. In order to reconstruct the national economy and improve quality of people's living conditions, the nation needs to further diversify its economy, strengthen competitiveness and shift it to the one based on accumulated knowledge. The mid-term economic strategy has eight developmental goals in the following, which include sound economic growth, measures for recovery from disasters and disaster prevention and improvement of poverty and reduction of unemployment rate.

- a) Sound economic growth
- b) Implementation of measures for recovery from disasters and disaster prevention
- c) Improvement of poverty
- d) Reduction of unemployment rate
- e) Creation of a high quality medical system
- f) Development of human resources
- g) Modernization of national mechanism
- h) Implementation of new environmental management policy

Increases in national savings and total capital ratio are important factors for sound economic growth, which is one of government's pledges. Improvement of social infrastructure such as roads and water supply facility is the focal point of the public investment, which, the government believes, will trigger private investment. Therefore substantial consideration is required to the management and improvement of efficiency of the public investment plan. Because of the bad yields of traditionally exported products of banana, cocoa, nutmeg and mace, agriculture, forestry and fisheries sector has made less contribution to the nation's economy. However, it is recognized as an extremely important sector for local economy and social life. The government's long-term goals of the sector are sustainable growth and promotion of local economy, and the government intends to improve fisheries infrastructure, modernize agricultural land use and establish an effective market development strategy in a mid-term period. Support from foreign countries and international organizations are needed to implement plans. The Grenada government plans to conduct economic development in a mid- to long-term perspective, and the basic policies related to agriculture, forestry and fisheries are as follows.

- a) Improvement in the people's nutritional intake and self-supply of food
- b) Promotion of the production of cash crops
- c) Securing employment in suburban farming
- d) Improvement in agricultural production base
- e) Improvement of agricultural productivity
- f) Satisfying domestic demand for fisheries products
- g) Increase in cash income in fisheries

- h) Promotion of commercializing artisanal coastal fishing
- i) Increase in employment in fishing and related industries in local areas

2) Development plan of the fishing industry

Based on the mid-term economic strategy, the Fisheries Division of the Ministry of Agriculture, Land, Forestry and Fisheries has made a development plan in the fishing industry. The Fisheries Division has included the seven issues in the plan, which includes the improvement of infrastructure of the fishing industry, protection and control of fisheries resources, as in the following, and it is working hard in promoting specific fisheries development projects with its focus on the issues.

- a) Improvement of fishery centers (fish market) in Grenada and improvement in the facilities in Gouyave and Grenville
- b) Management of fisheries resources with the participation by fishing villages and other local fishing communities
- c) Protection of marine life and promotion of resources management
- d) Promotion of responsible fisheries and effective use of fishing techniques and opportunities
- e) Promotion of fisheries development and implementation of fishing management plans
- f) Development of fish farming as an alternative means of ocean fishing
- g) Strengthening of a management system of fisheries administrative system

3) Road and related plan

Road construction projects are considered as indispensable projects for promotion of fisheries, agriculture and tourism that are key industries of the country.

Goals of the projects include "improvement of existing road network," "establishment and enforcement of a system to implement road works projects" and "promotion of the involvement of private companies in road works projects."

Specifically, restoration and repair works of the main road along the west coast, the Carenage Road in the capital of St. George's and the Hillsborough Road in the Carriacou Island, which were greatly damaged by big waves caused by hurricane Lenny in November 1999 are given priority. Repair works of several superannuated bridges in the country are also given priority. Large-scale and intensive repair works of rural roads conducted during the last four years have greatly contributed to the creation of employment opportunities, improvement of quality of living conditions, increase in the production of local products and revitalization of economic activities in areas benefited from the works. Grenada government regards road works projects as essential for the development of local economy as well as the development of key industries, and intends to implement such projects intensively. The government is now implementing a five-year road construction project (covering a total length of 146 km with the total budget of EC\$ 188.5 million) from 1998 to 2002. About a quarter of the project is completed. The improvement works of the Grand Etang Road discussed here is part of the five-year project.

(2) Standing of the requested project

As described earlier, the government of Grenada plans to implement a well-balanced fisheries development policy under which it intends to promote export of fisheries products and decrease post-harvest loss and increase substantial domestic supply of such products by improving infrastructure for the domestic distribution system of such products to meet the domestic and tourism demand for the products. Particularly, promotion of the fishing industry in the east coast that is less developed than the west coast where the capital of St. George's is situated, is an important issue.

The east coast centering Grenville has 25 to 30 percent of the nation's total fish production. The fishing industry is a main industry and there are many fishermen. There are also many young successors and it has extremely good conditions for fishing. In spite of such good conditions, a big portion of catches during the high fishing season from February to April is not used effectively because of lack of appropriate marketing route. People of Grenada, an island nation, likes fish very much with an estimated annual consumption of fish per capita standing at about 20 to 27 kg. However, as mentioned earlier in the description of monthly fish production, there is a huge gap in the fish production between the high fishing season (February to May) and low fishing season (June to November.) Partly because of an increase in demand for fish for tourism in accordance with an increase in tourists, supply of fresh seafood for general consumers is in short chronically.

This requested project includes a plan of improving the Grenville fisheries center (fish market) in the east coast of the Grenada Island and constructing a landing jetty and other facilities for the fisheries center. The project is regarded as an indispensable one to overcome the current situation mentioned above and to implement the fisheries development policy steadily.

As mentioned earlier, Grenada government fully recognizes the importance of the improvement of road network for improving the living standard of islanders, creating employment opportunities and revitalizing local economy. The fourth Mid-term Economic Strategy (2000-2002) recognizes the positive result of the intensive implementation of road works projects during the last four years and clearly states the policy to continue the works for the promotion of key industries and local economy. Improvement of road network makes great contribution to the promotion of local economy, enabling to increase the distribution of fisheries and local products in the Grenada Island to market, revitalize economy and increase distribution of goods and people-to-people exchange. However, a mountainous area with the height of 600 to 700 meters above sea level is situated in the central part of the island. The circumferential road of the island is well developed recently. The Grand Etang Road that traverses the island is narrow and has many steep gradients and sharp curves as it runs through the mountainous area, and works need to be done urgently to improve its safety. The construction works on the Grand Etang Road to "improve its safety," which has been untouched, is extremely important and needs to be urgently conducted for promoting the distribution of fisheries and local products in the east coast of the island centering Grenville and thus it is one of the components of the requested project.

If the project is implemented, fish market of Grenville, the second largest city in the country next to the capital of St. George's, and the fisheries facility that will serve as a main one in the east coast will be improved, and the Grand Etang Road that connects the eastern and western parts of the island will be improved. As a result, fisheries facilities constructed with support from Japan, which tend to concentrate in the west coast, including Melville Street fish market, will be used more effectively and it will make contribution to a comprehensive fisheries development including the improvement of fish marketing throughout Grenada. Because the scale of the market of catches will become much bigger, Grenada people will recognize the promotion to implement the well-balanced fisheries development policy for the whole island and they will feel the policy is related to themselves.

As described earlier, the project is to contribute to the promotion of export of fisheries products by the GCFL and private business operators and secure stable and economical distribution route of catches of coastal fishermen in the Grenada Island. The project will also enable more efficient use of fisheries resources and contribute to the development of coastal and commercial fisheries in and outside the country in a well-balanced manner.

1-1-3 Socio economic conditions

Grenada economy is supported by its key industries of traditional agriculture and fisheries and tourism. The GDP per capita was about US\$3,600 in 1999. The nation's economy was severely hit in early 1990s with its growth rate dropped to two percent due to a huge drop in financial aids from the United States and other foreign countries combined with worse agricultural production. The government carried out a three-year structural adjustment starting in 1992. Although it yielded some positive effects by successfully reducing the number of public employees and debts, there was not enough effect for economic growth, resulting in rises in unemployment and prices. Prices of food and fuel in 1996 rose significantly by 4.5 percent and 7.6 percent, respectively, from a year earlier. Such price rise pressed the people's family budget and the nation's economy fell into a severe condition again.

In such a severe economic condition, Grenada government compiled a Mid-term Economic Strategic Paper in 1994 aiming at an increase in public investment, strengthening international competitiveness, lowering unemployment, improvement of welfare and environmental conservation, and it has worked to reconstruct its economy. As a result of the efforts, the economic growth rate recovered to 7.5 percent in 1999. The fourth stage of the mid-term economic strategy (2000-2002) is now being carried out.

(1) Basic indexes of Grenada economy

The GDP of Grenada was US\$366 million and the GDP per capita was US\$3,630 in 1999. The

following shows basic indexes of Grenada economy.

Table 1-3 Basic economic indexes (1999)

Item	Figure
GDP:	US\$366 million
GDP per capita	US\$3,630
GDP growth rate	7.5%
Population growth rate	0.6%
Price rise rate	1.1%
Unemployment rate	14.0%
Total exports	US\$74.3 million
Total imports	US\$184.1 million

Source: IMF Country Report No 01/122, July 2001

(2) Industrial structure

Main industries of Grenada are agriculture, fisheries and tourism. As the following table of ratio of main industries to the GDP shows, the ratio of the primary industry to the GDP is decreasing, while that of the secondary industry is slightly increasing. As a whole, service industries including tourism account for 70 percent of the GDP, leading the nation's economy.

Table 1-4 Ratio of industries to the GDP of Grenada

Item	Ratio to GDP (%)				Notes
	1996	1997	1998	1999	
Primary industry (agriculture and fisheries)	9.1	8.5	8.4	8.5	Agriculture (banana, cocoa, nutmeg and mace), fisheries (groupers, sea breams and tunas)
Secondary industry (manufacturing, construction)	19.6	20.3	21.0	22.2	Construction, clothing, furniture, etc.
Tertiary industry (wholesale and retail, hotels and restaurants, transport and telecommunications, etc.)	71.3	71.2	70.6	69.3	Tourism, telecommunications, public services, etc.

Source: IMF Country Report No. 01/122, July 2001

(3) Trade

Exports and imports of Grenada are as follows. Grenada is called a spicy island, and it has mainly exported agricultural products to foreign countries and most of industrial products, fuels and food are imported, just like other island nations. Although the trade balance has been gradually improved because of an increase in export of tunas and other fisheries products as well as a recent increase in export of electronics components, the ratio of exports and imports to the GDP in 1999 was 19.7 percent and 48.7 percent, respectively, and there still is a huge gap.

Table 1-5 Grenada's exports in value (FOB) (Unit: US\$ million)

Exported items	1996	1997	1998	1999	Notes
Total of exports	20.7	29.8	41.6	69.5	
Total of re-export	1.4	2.3	2.9	3.6	
Total exports of domestic products	19.3	27.5	38.7	65.9	
Banana	0.5	0.0	0.0	0.1	
Cocoa	2.6	1.9	2.1	1.4	
Nutmeg	4.2	6.9	8.7	14.9	
Mace	0.8	1.2	1.4	1.9	
Marine products	3.2	3.6	3.4	3.1	
Subtotal (primary products)	11.3	13.6	15.6	21.4	
Paper products	1.3	1.4	1.8	2.0	
Flour	1.8	1.8	2.8	3.5	
Electronics components	---	3.9	11.9	31.9	
Others	5.0	6.9	6.7	6.9	
Subtotal (Industrial products)	8.1	14.0	23.2	44.3	

Source: IMF Country Report No. 01/122, July 2001

Table 1-6 Grenada's imports in value (CIF) (Unit: US\$ million)

Imported items	1996	1997	1998	1999	Notes
Total of imports	152.2	172.5	203.7	205.5	
Food	36.4	37.2	37.4	37.3	
Beverages and tobaccos	2.6	2.4	3.3	3.8	
Raw materials	4.9	5.4	5.0	5.6	
Fuel	15.1	13.6	11.3	18.5	
Oils and fats	0.6	0.7	0.6	0.5	
Chemicals	12.2	12.7	14.3	14.6	
Industrial products	29.0	32.1	50.4	38.2	
Construction machinery and transportation equipment	33.7	44.6	58.6	59.6	
Other industrial products	17.6	23.8	22.9	27.4	

Source: IMF Country Report No. 01/122, July 2001

(4) Other economic indexes

The following are four factors related to the balance of whole economy including sustainable development of the nation's economy and the ratio of each of the four factors to the GDP is as follows. The four factors are: 1) investment and savings, 2) government finance, 3) money market and 4) international balance of payments.

Table 1-7 Other economic indexes

Items	Comparative figures	Notes
1) Investment and savings	Ratio of investment to GDP: -- Ratio of savings to GDP: 4.8% Ratio of the gap between investment and savings to the GDP: --	Within 0 to 6% for the last five years
2) Government finance	Ratio of annual expenditure to GDP: 31.6% Ratio of annual revenue to GDP: 28.1%	
3) Money market	Increase/decrease in the consumer price index from the previous year: 0.5-3.0% Ratio of the volume of currency supply to GDP and its increase/decrease from the previous year: 6.7% (1998), 6.3% (1999); decrease of 6.0% Long-term interest rate: 9.5-10.5%	1996-1999
4) International balance of payments	Ratio of current balance to GDP: 1.0% Ratio of capital balance to GDP: 17.0% Ratio of balance of foreign debts to GDP: 26.3% DSR: 5.7%	

Source: IMF Country Report No. 01/122, July 2001

1-2 Background, history and outline of the request for a Grant Aid

1-2-1 Background and history of the request

Grenada government's fisheries developmental goals include sustainable use of fisheries resources, stabilization of fish production, improvement of the fish marketing system and securing fishermen's safety at sea, with the basic policy of bigger contribution of the industry to the nation's economy and promotion of employment.

The government intends to implement a well-balanced fisheries development policy under which it intends to promote exports of fisheries products to acquire foreign currencies and decrease post-harvest loss by promoting the improvement of domestic fish marketing facility, which will increase substantial domestic supply of fish.

Based on the policy, the government is implementing fisheries projects with support and cooperation from foreign countries aimed to promote sustainable and effective use of fisheries resources. It also considers that promotion of the fishing industry as a local industry is important for the promotion of key industries including the fishing industry, and thus it believes that promotion of smooth implementation of efficient improvement works of the road network connecting the metropolitan area and local regions and urgent establishment of a maintenance system of the network is a precondition for promotion of local economy and well-balanced development of the fishing industry.

However, promotion of fisheries in the east coast that is less developed than the west coast where the capital of St. George's is situated is indispensable for promoting the well-balanced fisheries development policy. Its effective promotion is important.

The east coast centering Grenville that generates about 25 to 30 percent of total fish production has many fishermen and young successors. In spite of such a favorable condition, a large portion of catches in the high fishing season from February to April is not used effectively because of lack of appropriate sales route and distributing system.

A mountainous area at the height of 600 to 700 meters above sea level is situated in the central part of the island. The circumferential road of the island is well developed. However, the Grand Etang Road that crosses the island from east to west is narrow and has many steep gradients and sharp curves as it runs through the mountainous area, and it is extremely dangerous for drivers to drive commercial trucks to transport fisheries and local products and materials. "Improvement of safety" by urgently conducting improvement works of the Grand Etang Road is extremely important for promoting the distribution of such products in the east coast centering Grenville and promoting local economy.

Continuous aid from Japanese government to the fishing industry in Grenada has made great contribution to the promotion of the fishing industry in the country, and investment from the private sector mainly in kinds of fish (tunas) that are exported is rapidly increasing. As a result, fish production in the west coast

of the Grenada Island is being developed significantly.

However, because local promotion of such fishing activities may lead to excessive fishing in waters off the west coast and destroy the domestic supply-demand balance, it is necessary to disperse fishing activities and diversify fish species to be exploited. Development of waters off the east coast centering Grenville is important for utilizing offshore resources, and thus it is a developmental goal with priority in the fishing industry. Promotion of fish marketing between the east and west resulting from the improvement of the road network connecting the two areas is important for promoting fisheries in the east coast centering Grenville. As clearly seen in the monthly fishing production data, it is necessary to stabilize the fish catches that vary greatly by season.

Against this backdrop, Grenada government made the "Project for Improvement of Fish Marketing for Grenville " aimed to improve the fish distribution and marketing system in the east coast of the Grenada Island centering Grenville in St. Andrew's parish, which is the nation's second biggest city next to the capital of St. George's, and it requested to the Japanese government for a Grant Aid to carry out the project.

In response, Japanese government dispatched a team to conduct a preparatory study in March 2000 to examine whether the project is consistent with Grenada's fisheries development plan. The team examined the reasonability of the construction site and necessity of the project. Japanese government concluded that the "the Project for Improvement of Fish Marketing for Grenville" is highly necessary and it is reasonable to conduct it with a Grant Aid and decided to conduct a basic design study. Contents of the request related to the improvement of the road is part of the plan made in JICA development study in 1997 (whose report was compiled in January 1998.)

The following is an outline of the request from Grenada government related to the "Project for Improvement of Fish Marketing for Grenville".

1-2-2 Outline of request

The project requested from Grenada government recognizes the positive results and what needs to be improved of the past fisheries projects, and aims to improve the fish distribution and marketing system in Grenville to improve the domestic fish marketing system. Grenville has the second biggest population in the country next to the capital of St. George's and main landing site in the east coast with the biggest catches in the country.

In order to achieve the goal, it is necessary to build a new Grenville fisheries center (fish market) and related facilities. The current market used by local residents regularly as the only public fish market in the city is superannuated. It is also necessary to improve the Grand Etang Road that connects east and west coasts between the capital of St. George's and Grenville as well as bridges on the road. The project

consists of two main components: (A) construction of Grenville fisheries complex and (B) repair and improvement work of the Grand Etang Road.

(A) Grenville fisheries complex: Landing jetty, fish market, exterior work, equipment, etc.

(B) Grand Etang Road: Grand Etang Road (length of 21.7km, including four bridges)

The following table shows facility and equipment required in the project. In the preparatory study, the landing wharf was requested to be replaced with a landing jetty and it was done so at the stage of basic designing as described in the request contents in Chapter 2 and contents of agreement and the result of the basic design.

Table 1-8 Main components of requested project

Category	Requested facilities and equipment	Scale, Quantity	Notes
(A) Fisheries			
i) Facilities	a) Landing wharf (Note: In the discussion in the preparatory study, it was confirmed that a landing jetty was to be requested instead of a jetty.)	1 unit	It is due to the result of the discussion in the preparatory study
	b) Fish market facility (Retailing booths, ice making & storage plant, cold storage, fishermen's lockers, fish handling facility, sanitary room, workshop, water tank, fuel/oil tank, fishery development center)	1 unit	
	c) Exterior works (Parking lots, lighting, sewage and drainage, paving works)	1 unit	
ii) Equipment	a) Seawater pump	1 set	
	b) Pushcarts	As needed	
	c) Insulated boxes and fish boxes	As needed	
	d) Weighing scales	As needed	
	e) Radio set	1 set	
(B) Roads			
i) Road sections	a) Section I Section I-1: Melville/River-Mt. Gay Junc. Section I-2: MT. Gay Junc.-Vendomme B.	1 unit (7.3km) 1.4km 5.9km	Priority D A
	b) Section II Section II-1: Vendomme B.-Seven Sisters Section II-2: Seven Sisters-BirchGrv B	1 unit (7.0km) 4.7km 2.4km	D B
	c) Section III Section III-1: BirchGrv B.-St. Cyr B. Section III-2: St. Cyr B.--Bhola Junc.	1 unit (7.4km) 5.0km 2.3km	C C
	a) Bridges in Section II Section II-2: St. Margaret Section II-2: Birch Grove	Total 2 bridges 1 bridge (9m) 1 bridge (32m)	Priority B B
	b) Bridges in Section III Section III-1: Balthazar Section III-2: St. Cyr	2 bridges 1 bridge (40m) 1 bridge (42m)	A B

Note: The degree of priority in the Notes is from JICA's preparatory study report in May 2000.

1-3 Aid from Japan to Grenada

Japan is Grenada's biggest aid provider, accounting 71.1 percent of all aid from overseas in 1999. Because of its size with a population of about 100,000, Japanese government has mainly provided fisheries grants aid and technical support.

1-3-1 Grant aid project

Japan has provided Grenada with grants to support the development of the fishing industry of the country.

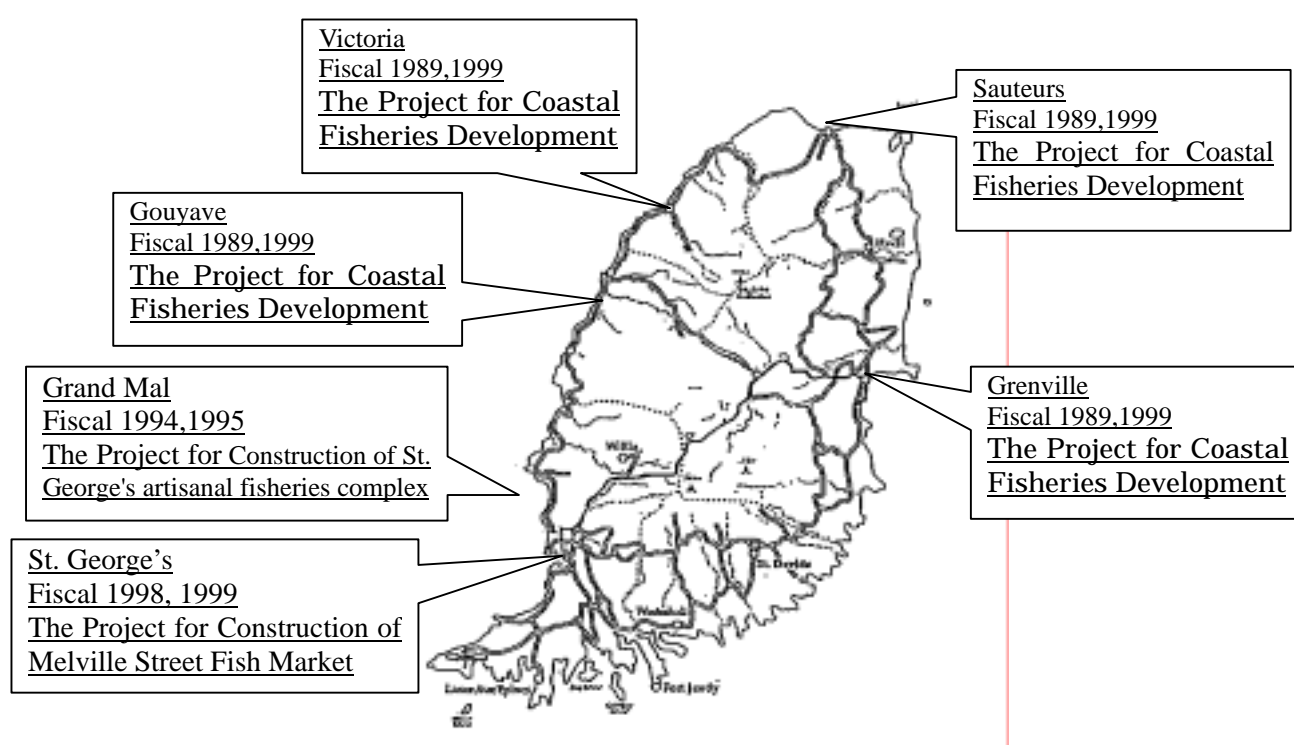


Figure 1-6 Site of Japan's aid projects

(1) Fiscal 1989: The Project for Coastal Fisheries Development (First stage)

Small jetty: Gouyave, Grenville

Slipway for fishing boats: Victoria

Insulated fish box maker and materials for water facility: Cariste (St. George's)

(2) Fiscal 1990: The Project for Coastal Fisheries Development (Second stage)

Fishermen's center: Gouyave, Grenville

Ice making and cold storage facility: Gouyave, Grenville

Fishermen's lockers: Gouyave, Grenville, Victoria, Sauteurs

Fishing boats, etc.: various locations

(3) Fiscal 1994: The Project for Construction of St. George's artisanal fisheries complex (First stage): Grand Mal

Landing jetty, shore protection works, improvement works of premise ground, etc.

(4)Fiscal 1995: The Project for Construction of St. George's artisanal fisheries complex (Second stage) : Grand Mal

Fisheries facilities including ice making and ice storage facility, freezer and refrigerator facility and processing facility

Vehicles including refrigerated trucks, trucks and forklifts, materials for fish processing including fish boxes and carts, and building (some fish boxes and carts were also distributed to Gouyave and Grenville.)

(5) 1998: The Project for Construction of Melville Street Fish Market (First stage)

Reclamation, shore protection works, jetty, etc.

(6) 1999: The Project for Construction of Melville Street Fish Market (Second stage)

Construction works of fish market, ice making and ice storage facility, cool storage facility, equipment (insulated boxes, fish boxes, carts, radio set, etc.)

1-3-2 Technical cooperation

As the table below shows, Japan accepted trainees and dispatched experts as part of technical cooperation until fiscal 1999. The development study in the table is a feasibility study related to main road improvement project in the Grenada Island.

Table 1-9 JICA's technical cooperation in the past

Items		Total until fiscal 1999
Costs for technical cooperation (100 million yen)		7.58
Type	Acceptance of trainees (person)	56
	Dispatch of experts (person)	5
	Dispatch of study teams (person)	64
	Dispatch of cooperation team (person)	0
	Provision of equipment (million yen)	63.9
Development study (case)		1
Project-style technical cooperation (case)		0

Source: Japan International Cooperation Agency Annual Report 2000 (excerpt from page 703)

Experts in fisheries sector have been continuously dispatched since 1989 as shown in the following. Trainees in the same sector were accepted as follows: two trainees in 1989, three in 1991, one in 2000 and one in 2001.

1989-1995: Two experts in fisheries and machinery

November 1995-January 1999: One expert in fisheries management and marketing

2000- : One expert in fisheries and fisheries resources

1-4 Aid from other countries and international organizations

Aid Grenada has received for its fishing industry from other countries and international organizations is as follows. In the 1970s and 1980s, Canada's Canadian International Development Agency (CIDA) provided support. From 1981 to 1988, the International Fund for Agricultural Development (IFAD) and Venezuela Investment Fund (VIF) provided extensive support to fish landing sites throughout the country for improving infrastructure, distributing fisheries products at home and overseas, training human resources and organizing fishermen's cooperatives and associations. Projects for regional fisheries promotion and prevalence of fisheries techniques were implemented under the instruction of the Fisheries Unit of the Organization of East Caribbean States (OECS.)

On-going aid projects in the sector include the Valorization and Protection of Reef (EC\$ 250,000) by France, the Fishing Industry Fund (EC\$ 60,000) by Taiwan(ROC) and the CFRAM Project (EC\$ 15,000) by CARICOM. These projects have no direct relations with the requested project discussed here and thus there is no reason for competition.

As described earlier, Grenada government is conducting road construction works to improve its road network under a five-year road improvement project with support from foreign countries and international organizations including the Caribbean Development Bank (CDB), Kuwait and Taiwan(ROC).

The following shows recent support provided by foreign countries and international organizations.

Table 1-10 Aid from foreign countries other than Japan

Support provider	Contents of support
France	a) Project name: "Valorization and Protection of Reef" b) Project costs: 8 million yen c) Duration: 1998 - present d) Project site: Hog Island in the south coast and Flamingo Bay in central west coast
Caribbean Development Bank	a) Project name: "Road Improvement and Maintenance Project" b) Project cost: 1.713 billion yen c) Duration: 1997--1999 d) Project site: Airport road, etc. (12.1km)
Kuwait	a) Project name: "Shore Protection Improvement Project" b) Project cost: 749 million yen c) Duration: 1999--present d) Project site: Road between Queens Park and Gouyave (12.5km)
Taiwan(ROC)	a) Project name: "Multipurpose Project (PH2)" b) Project cost: 929 million yen c) Duration: 2000 - present d) Project site: St. David State, etc. (22.1km)