FISHERIES SITUATION IN DOMINICA
Interregional Project for the Development of Fisheries in the Western Central Atlantic

Fisheries Situation in Dominica

by

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The Interregional Project for the Development of Fisheries in the Western Central Atlantic (WECAF), which was initiated in March 1975, entered its second phase on 1 January 1977. Its objectives are to assist in ensuring the full rational utilization of the fishery resources in the Western Central Atlantic through the development of fisheries on under-exploited stocks and the promotion of appropriate management actions for stocks that are heavily exploited. Its activities are coordinated by the Western Central Atlantic Fishery Commission (WECAFPC) established by FAO in 1973. The Project is supported by the United Nations Development Programme (UNDP) and the Food and Agriculture Organization of the United Nations as the Executing Agency.

As in the initial phase, two series of documents will be prepared during the second phase of the Project to provide information on activities and/or studies carried out. This document is the eleventh of the series WECAF Reports. The other series of documents is entitled WECAF Studies.

W.F. Doucet
Programme Leader
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1. Conclusions

Although on the face of things the prospects for fisheries development in Dominica are not too promising, it is obvious that the industry should contribute to the country's economy to the maximum extent possible. In the Development Plan prepared for 1977-81, two of the main objectives were import substitution and dietary improvement and they are likely to remain as basic aims for the new plan which is in course of preparation. However, there is a lack of much basic information about the real circumstances of the industry and it is felt that every effort should be made to use some of the consultant man months of the existing UNDP Project in Dominica to finance a fisheries expert to make a detailed study of the situation. Associate Experts will also be available who could be used to carry out surveys in the numerous fishing villages. The expert might find it useful to visit Martinique and Guadeloupe to establish why the industry seems to be in a much more healthy state in those islands compared to Dominica.

(a) Improvement of Inshore Fishing

In the main the fishing activities in Dominica will continue to be based on the use of small vessels powered by outboard engines, whose range is very limited. Every effort should be made, therefore, to see whether their productivity can be increased through the introduction of new techniques of a relatively unsophisticated nature. One example might be the use of hand reels for catching snapper and grouper on the steep slopes of the banks where fish traps cannot be used. Possibly the coastal pelagic species also offer opportunities for the introduction of improved fishing methods. At the same time, consideration should be given to the management of the existing trap fishery, for which a study would be required to determine the most effective mesh size.
Also, the introduction of zinc anodes would result in an extension in the life of the traps used and a consequent reduction in annual costs.

(b) Development of an Offshore Fishery

Since the Dominican continental shelf is so restricted, it is logical to look for further development through the exploitation of more distant resources. However, this poses some problems. First, the Government is anxious to see that any development does not prejudice the situation of the small-scale fishermen. With the relatively low level of current landings, any significant increase might well cause a sharp drop in fish prices which could seriously affect the earnings of the artisanal fishermen. Secondly, there are relatively few areas available to Dominican fishermen, even if supplied with larger boats, where catches of demersal fish can be made. One possibility would be the Macouba Bank, which is a maximum of 50 mi away, but this is understood to be fairly heavily fished already by the Martinique fishermen. The alternative is to concentrate on pelagic species but much more information is needed on the size and seasonal variations of any potential resource before any decisions can be made about the possibilities of such a development. Hopefully, such information will become available if CIDA decides to go ahead with plans to survey the available resources in the Leeward and Windward Islands.

Two years ago, Dominica was interested in making an arrangement with Guyana which would have involved the exploitation of that country's demersal resources. So far, nothing has come of this but consideration might still be given to the possibility of operating one or two trawlers on the Guyana banks, paying Guyana an annual licence fee. Recently a St. Lucia vessel was given permission to do this, paying a less-than-normal licence fee. Obviously, the various implications of such an exercise would have to be carefully studied but it might offer one solution to the problems caused by Dominica's own lack of fishery resources.
(c) Development of Inland Fisheries

By reason of its rugged and mountainous nature, it is doubtful whether Dominica can achieve much through the development of inland fisheries. However, it seems quite probable that the UK Ministry of Overseas Development will finance a pilot prawn farming operation. Whilst such a project, if it proved economically viable, would eventually help to balance her trade deficit, one wonders whether an operation which provided fresh fish for the local population would not be more in keeping with Dominica's defined development objectives of import substitution and dietary improvement. Suitable areas for fish farming are limited and in most cases are already being used for agricultural production. Also, there is a problem of land tenure, as much of the flat, flood plain land is in the hands of large landowners or in Government control. Although the possibilities are not too great, any development plan for Dominican fisheries should give due consideration to aquaculture and/or mariculture. In addition to the flood plains, there are a few freshwater lakes situated at relatively high altitudes which might be suitable for stocking with food fish resistant to low temperatures or with species intended for sport fishing. The latter would depend on Dominica's ability to develop a tourist industry. Being deficient in sandy beaches, tourism in Dominica has to be built around the attractions of her tropical forests, mountain trails and lakes, and opportunities for sport fishing would be an obvious advantage.

(d) Improved Fisheries Administration

One of the pre-requisites for fisheries development in Dominica is the establishment of a sound administrative structure for the Fisheries Division. The present staff are inadequate in numbers and in training. A suitable individual must be found and trained to fill the post of Fishery Officer. Whilst the CIDA offer to train a marine biologist should be taken up, it does not
follow that this would be the correct person to be the head of the Division. Possibly somebody trained in fisheries management in the UK would be more appropriate but, in any event, without an adequate head the Division will never function effectively.

Recommendations for fisheries development should, therefore, include proposals for a restructured Fisheries Division. As soon as possible, a start should be made on collecting basic data on production and marketing and distribution. Workshop services should be improved and expanded; mechanics should be trained and the problem of spare parts dealt with. The need for extension officers must be examined and appropriate training facilities located. All this, of course, will not be possible unless adequate budgetary provision can be made for the Division in future, and it is a matter of some urgency, therefore, that detailed proposals be prepared so that the necessary funds are made available for the next financial year.
2. **Background Information**

Dominica has an area of 305 square miles, 60 percent of which is unsuitable for agriculture because it is very mountainous. The only relatively flat areas are the flood plains of the major rivers, where the average gradient is 1 in 40 to 1 in 100. The tidal range is just under two feet. Rainfall is heavy, with an annual average of 100 in on the west coast and 300 in in the mountainous centre of the country. The dry season is from February to May. Temperatures and humidity are also high.

Road conditions are generally poor though the UK Government is assisting with an extensive repair programme. A new deep-water port has been constructed at Roseau but this can handle only one or two vessels at a time and unloading of some vessels is still carried out by means of lighters. Electricity and water services are reasonable.

In 1975 the population was estimated at 75,000, with an estimated labour force of 34,000 of which 30/40 percent were thought to be unemployed. It was forecast that by 1980 the labour force will have increased to 41,000. A sample survey carried out in 1976 suggested a total labour force of 25,150, of which 65.3 percent were employed, 22.7 percent unemployed and 12.0 percent underemployed. Unemployment is mainly in the 15 to 20 age group and the agricultural labour force is estimated to comprise 41.8 percent of the total. Traditionally, emigration has slowed down the increase in population but this has now become more difficult. Education has been hampered by a shortage of teachers and there is no institute for training students in agriculture or fisheries.

Politically, since 1967 Dominica has been associated with Britain and has been self-governing in internal affairs. Full independence was planned for 1 November 1977 but has not yet been achieved.
Economically, Dominica has serious problems, with a surplus of imports over exports of around EC$ 20 million in 1975 and 1976. (1 US$ = 2.7 EC$). The Gross National Product at market prices was estimated in 1976 to be only US$ 26.9 million. Agricultural products comprised 96.4 percent of exports and 48 percent of imports in 1975. The traditional export crops are bananas (which account for 60 percent of Dominica's foreign exchange earnings), limes, grapefruit and cocoa. A Development Plan was prepared for the period 1977-81 but could not be initiated because of financial constraints. A new plan is being prepared, to commence in 1979.

3. The Fishing Industry

(a) Fishing Grounds

Dominica has a very limited continental shelf. In the south and west the 100 fath line is about 3/4 mile offshore, although on the east coast north of Castle Bruce it extends to 4 miles. Because of the small size of the fishing vessels used, operations are basically limited to the reef areas, with some fishing for pelagic species in the channels between Dominica and Martinique and Guadeloupe.

(b) Production

There are no official figures for fish landings in Dominica but it is estimated that they are between 1.5 and 2.0 million lbs (700-900 t). There is no information on the species composition.

(c) Boats, Fishermen and Gear

It is estimated that there are some 1,500 fishermen, mostly working on a part-time basis. They operate around 720 log canoes, of which 1/3 are powered with outboard engines. The vessels vary in length between 14 and 25 ft. The hulls cost between EC$ 300 and EC$ 1,000, plus the expense of bringing them down from the forest. A 6 HP outboard engine costs around EC$ 1,700. It is thought
that perhaps only about 15 percent of the boats are owned by the fishermen themselves. There are nearly 40 fishing beaches around the island, from which vessels are operated, the most important of which are Portsmouth, Marigot, Roseau and St. Joseph. There are virtually no landing facilities and launching and beaching the vessels is often carried out under great difficulties. A variety of gear is used, including fish traps, hand-lines and gill-nets.

(d) Fishermen's Cooperative

A fishermen's cooperative exists which was started in 1963. In 1975 it had 345 members, a share capital of EC$ 21 314, annual sales of EC$ 87 548 and loans outstanding of EC$ 33 926. Its turnover now is in the region of EC$ 100 000. The cooperative has helped the fishermen buy outboard engines on easy terms and imports fishing gear which it then sells to the fishermen. It has had a lot of financial problems and it is difficult to get supplies of gear because of credit restrictions. Although the cooperative sells to the general public, it gives a rebate to its members who now number 367. It used to provide gasoline to the fishermen but now has problems with its petrol pumps.

(e) Fish Imports

Dominica is importing substantial quantities of fish and fish products. Details for 1974 and 1975 are given below:

<table>
<thead>
<tr>
<th></th>
<th>1974</th>
<th>1975</th>
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<tbody>
<tr>
<td></td>
<td>lbs</td>
<td>EC$</td>
</tr>
<tr>
<td>Fresh, chilled and frozen</td>
<td>711 572</td>
<td>384 434</td>
</tr>
<tr>
<td>Codfish</td>
<td>510 248</td>
<td>664 935</td>
</tr>
<tr>
<td>Mackerel</td>
<td>20 384</td>
<td>17 136</td>
</tr>
<tr>
<td>Pickled herring )</td>
<td>84 220</td>
<td>83 701</td>
</tr>
<tr>
<td>Smoked herring )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other dried and salted fish</td>
<td>55 114</td>
<td>57 573</td>
</tr>
<tr>
<td>Canned fish</td>
<td>185 592</td>
<td>231 968</td>
</tr>
<tr>
<td>Other products</td>
<td>716 1</td>
<td>490 24</td>
</tr>
<tr>
<td>Total</td>
<td>1 512 787</td>
<td>1 383 778</td>
</tr>
</tbody>
</table>
As can be seen there was an appreciable reduction in the volume of imports, whilst the average cost of most showed a substantial increase. For comparison purposes, the imports of fresh and salted meats and poultry in 1974 were 2,098,321 lbs costing EC$ 1,519,725. Total imports in 1975 were EC$ 45,086,400 so that fish and fish products accounted for 4.0 percent.

(f) Fish Marketing

Although there is a covered market in the capital Roseau (population c 15,000), it appears that very little fish is actually sold there. Since normally it is in short supply, the bulk of the fish sales are carried out on the landing beaches and on the roads leading to the main centres of consumption. As overnight storage facilities are not available to most fishermen, some losses and discards occur in glut seasons. Dominica still has a system of maximum retail prices for fish, though it is doubtful whether they are adhered to. The prices are EC$ 1.00 for quality fresh fish and almost EC$ 3.00 for salted cod.

(g) Role of Government

The Fisheries Division is the responsibility of the Ministry of Agriculture, Fisheries and Lands. The establishment consists of a Fisheries Officer (this post is at present unfilled), an Extension Officer, a Mechanic and two Assistant Mechanics. The total established personnel for this ministry is 137 so that the Fisheries Division accounts for less than 4 percent. The total for all government departments is 2,303. The 1977-78 budget allocation for the Division is EC$ 46,940, of which salaries account for EC$ 22,440. Provision is made for operating the Government boat to the extent of EC$ 20,000. As regards the post of Fishery Officer, the Government would like to train someone but they need to be sure of his motivation since trained and qualified people commonly leave the island for posts abroad.
The Government assists the industry by permitting all motors, equipment, gasoline, etc., purchased through the cooperative to be obtained free of duty. It has also been providing a free service to fishermen for the repair of their outboard engines, the fishermen providing the parts. This service has been experiencing problems of management, the necessary tools are not available, spare parts are difficult to obtain and the workshop buildings are not adequate.

During the period 1972-74 Dominica had a Fishery Officer from the UK. At the same time, a second-hand vessel was purchased for training and deep sea fishing. Unfortunately, the Fishery Officer contributed very little during his stay to the development of fisheries and the boat, which has remained the responsibility of the Government, is now in a very bad state of repair. During 1976 there was an offer from the British Government to finance fishing trials on some of the more distant banks. In the early part of 1977 trials were carried out but there were many problems, technical and human, and the experiment proved to be a failure.

Apart from the retail price control mentioned above, it would seem that there are no regulations currently in force relating to the fishing industry.

Although the Government is anxious to develop the industry, it has obviously experienced difficulties in identifying how this should be done. For instance, the IBRD prepared a list of ongoing projects for the period 1978-81, amounting to US$ 13.6 million and a similar list of new projects estimated to cost US$ 25.6 million but fisheries did not appear in either.

(h) Financial Institutions

Two private banks are established in Dominica as well as the Cooperative Bank, the Agriculture Industrial Development Bank and numerous Credit Unions. The Cooperative Bank seems to have had little impact but the Credit Unions
flourish in the country. At the end of 1975, they had a membership of 14,474, share capital of EC$ 2,884,000 and loans outstanding of EC$ 2,773,000. For the small operator, the usual way to obtain a loan is through a credit union. The AID Bank receives financing from the Caribbean Development Bank. Its conditions include minimum and maximum loans and loan periods. The interest rate is 6 percent and a grace period may be granted up to one-third of the loan period. This bank would be the obvious channel through which to seek a loan where substantial investment was involved.

4. Current Developments of Interest to Fisheries

(a) UNDP Project for Socioeconomic Development Planning (DMI/76/00D)

This is a three-year project being executed by the Office of Technical Cooperation. The UNDP contribution of US$ 424,290 includes provision for 13 man-months of consultancies. The Project Manager, who is in the process of preparing a new Five-Year Development Plan to begin in 1979, is anxious to see that the fishery sector is adequately covered and is willing to use one or two months for a fisheries specialist who could prepare the section on fisheries. He will also be assisted by some associate experts, who would be able to carry out a survey of the existing situation in the numerous fishing villages.

(b) Freshwater Prawn Farming Study

The Ministry of Overseas Development has financed a study carried out by Kelvin-Hughes Aquaculture Services on the feasibility of establishing freshwater prawn farming in Dominica. The team of experts has selected a possible site and its recommendations include the establishment of a hatchery and a 10 acre pilot farm to prove the technical and economic viability of the project. It seems likely that the UK Government will offer to finance this scheme.
5. **Constraints to Fisheries Development**

(a) **Resources**

Since there is no detailed information available about the current level of landings, it is difficult to describe the resources available to Dominican fishermen but it seems obvious that the shallow reef area is already heavily exploited. The only possibilities for further development, would appear to be:

- hand reel fishing for snapper and grouper on the steeper slopes of the reefs (this may offer only limited possibilities);
- the use of larger vessels to fish the Macouba Banks which lie some 20-50 mi from Dominica (these are believed to be fairly heavily exploited by fishermen from Martinique) and to exploit pelagic species.

(b) **Vessels and Gear**

The vessels in use at present are capable of only limited operations. Although no detailed information is available, there appear to be no boats larger than 25 ft in length apart from the Government-owned M/V Pilgrim which is some 45 ft in length. However, through neglect, this vessel is no longer in a seaworthy condition. Most fishermen do not own the boats they work and the cost of even a small canoe with an outboard engine is beyond their reach. Gear is also expensive and not always easy to obtain because of credit problems. Insurance of vessels is also not possible since, apparently, the insurance companies will consider only vessels fitted with inboard engines. By contrast, the fishermen in Martinique and Guadeloupe have bigger boats, the cost of their gear is subsidized and they are able to insure their vessels.

(c) **Service Facilities**

Although the Government operates a repair service for outboard engines, this is not functioning satisfactorily. The fishermen have to provide their own spares,
which creates problems for them, and the workshop in Roseau is hampered by lack of space and shortage of the necessary tools, though in the latter case some help is being given by USAID. As regards landing facilities, these are virtually non-existent and only in Roseau would it be possible to operate a limited number of larger vessels.

(d) Marketing and Distribution

There does not seem to be any organized marketing system but the present limited landings hardly justify it. There is a chill room at the market in Roseau but it is not used for fish because there is no need. The regulations which fix prices for quality fish also act as a deterrent to development. The current prices came into force when the price of petrol was 79 cents a gallon. It is now around EC$ 2.70 a gallon and oil costs EC$ 3.10 a quart. Naturally, it is difficult to ensure that these price regulations are not abused. At the same time, most of the population have only limited purchasing power which also limits the prices which can be charged. In Martinique, the fishermen benefit from the much higher prices paid for fish, said to be around 15 francs (EC$ 8.0) per kilo.

(e) Fisheries Administration

It is appreciated that the present fisheries administration is not providing effective support to the industry and that some reorganization is desirable. At the same time, financial restraints make it difficult to expand the staff of the Division significantly. An offer has been made by CIDA to provide training for a first degree in marine biology for a suitable individual who could then be expected to fill the vacant post of Fishery Officer but more than this is needed if the Fisheries Division is to function efficiently.


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