

Fisheries Progress in Colombia

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Abstract

Colombia of all the South American countries has the unique characteristic of having coasts on both the Atlantic and the Pacific. The coastlines are approximately 650 and 700 miles respectively. The country is irrigated by a complex and extensive network of rivers, lakes, and marshes which provide abundant fishing areas.

In spite of this, fish is a luxury in Colombia, and the per capita consumption is just over one pound per annum. This situation is particularly significant considering that the Colombian diet is extremely deficient in protein. This fact is born out by studies of the National Institute of Nutrition and the figures published by the Institute of Technological Investigation, which report a deficit of 80,000 tons of protein per year.

The fisheries are considerably underdeveloped and constitute little more than a generalized subsistence activity. The exception is the shrimp fishery which, using stateside methods, is capable of exporting 90% of its production.

The main reasons which have retarded the development of a sound fishing industry are lack of knowhow, credit, working capital, good transportation and marketing, cold storage and ice near the fishing areas, government guidance and leadership. A further factor might be the low demand for fishery products, which is influenced by the high prices and ignorance regarding preparation techniques and the quality of fish as a food.

INTRODUCTION

COLUMBIA DOES NOT HAVE a fishing industry tradition, and the present state of the industry reflects only a few isolated efforts to improve upon the subsistence type fisheries which have prevailed. On both coasts there is considerable fishing effort. Production, however, is not consistent with the effort because of the use of primitive gear and methods.

A peculiar situation exists in regard to the supply and demand of fishery products. In spite of the acute deficiency of protein in the Colombian diet and the apparent large demand, stocks of fish are often left unsold in the large cities in the interior. Several factors cause this anomaly. The cost is probably the most significant, followed by the poor quality, lack of knowledge about preparation of fish, and tradition and education in recognizing fish as a wholesome food. The cost of fish is three to four times higher than beef and twice the price of pork and poultry. On this basis fish becomes a last choice for the housewife, who believes that more people can be fed on a pound of meat than on one of fish.

Reasons for the high price of fish are poor handling practices resulting in losses of up to 50% in fresh fish and 30% in frozen, cost of transportation which is mostly by air due to the lack of refrigerated transportation equipment, inefficient marketing practices, and the disproportionate profits made by some dealers.

Fish processing facilities are to be found only in the three large coastal cities. Barranquilla has the largest installations and handles the majority of the fish from the area. Cartagena has a ten-ton freezer and Santa Marta only a small cannery.

The area of Cartagena offers the greatest potential for developing a year-round fishery.

On the Pacific coast, Buenaventura has an active shrimp fishery and processing facilities. Tumaco and Bahía Solano have only small fisheries in spite of the fact that both towns are located near potentially rich fishing grounds.

Fishing Areas of the Atlantic Coast

GUAJIRA: The continental shelf off Guajira is the widest on the Caribbean coast of Colombia. The 100 fathom curve is from one to thirty miles offshore.

Most of the fishing activities in Guajira are at the subsistence level. The area is populated mostly by Indians who live in primitive conditions. Fishing activities are conducted from small dugouts or from the beaches. The most common gear is hook and line but some nets and beach seines are also used.

No preservation is used for the fish, although the dry climate and the existence of marine salt mines would favor the establishment of a dry-salting operation.

There is an incipient fishing industry in Riohacha, the capital of the territory. Some 75 to 80 full time fishermen work in town. In addition to the native fishermen, there are 12 to 15 motor vessels from Venezuela and the Netherlands Antilles. These boats are working under contract with two small fishing companies. Catches are landed in Riohacha, Cartagena, or other coastal cities.

The motorboats are 30 to 45 feet long. They have an insulated hold with a capacity of three to four tons. Their trips last up to 15 days and cover the area off Guajira as well as the islands off the coast of Cartagena. Drift bottom fishing is used for the most part.

The only land installations for the fishing industry are a 6 ton ice plant and a small walk-in freezer. Frozen fish is flown to Barranquilla (approximately two hours) in boxes and bags without refrigeration or insulation.

Cabo de la Vela has a spiny lobster fishery on the north end of the peninsula. Lobsters are caught by diving or using a gig.

The lobster production of the area was estimated at one and a half tons per week during the month of January. Lobsters are boiled in seawater, frozen, and shipped by air to Barranquilla.

Southwest of Riohacha in the lagoons and sandy beaches there is a small shrimp fishery. Shrimp are caught with cast nets. The natives cook and sun dry the whole shrimp. The product is heavily salted and shipped to the interior.

SANTA MARTA: The area near Santa Marta is characterized by a narrow shelf and a very steep continental slope appearing as the continuation of the nearby Sierra Nevada.

Santa Marta has some 150 full time fishermen. The major gear available is the beach seine. The larger seines are 60 to 70 fathoms and are fished by 14 men. The catches run about 700 pounds in a good day. The dugout canoes are 30 feet long and have a single sail.

The public market has a fish section where several species are sold. The most common are mullet, snook, mojarra, croaker, mangrove snapper, barracuda, mackerel, and various herring-like fishes. Smaller quantities of fresh and

dry shrimp, oysters, clams, and mussels are also available. Not all the fish is sold in the market since a good share is peddled on the streets or sold directly off the boats.

Santa Marta has a small cannery with obsolete equipment, and poor sanitation. The production is 2,000 to 5,000 8-ounce cans per day. Mullet, herring-type fishes, bonito, and oysters are the principal products.

Santa Marta is the only city on the Caribbean coast linked to the interior by railroad. There are also roads to the interior as well as air service.

BARRANQUILLA: This is the largest port of Colombia. It is seven miles from the ocean on the Magdalena River. A trawlable bottom exists, mostly of sand and silt. There is, however, the hazard of drift wood and the strong current reported to be five to six knots. Some of the sturdier boats fish with hook and line in these waters and have found large concentrations of sharks.

Barranquilla should not be classified as a real fishing port. Vast quantities of fish are brought into the city from Cienaga Grande and the other cienagas where more than 1,000 fishermen work. The Magdalena river provides several commercially important species. Fish are also brought from Cartagena and the islands of Rosario and San Bernardo as well as from Guajira.

Barranquilla has three small canneries. Two of them have a capacity of about 5,000 cans per day; the third one is smaller. The operation is not steady because of a shortage of raw material. None of the canneries own boats nor have fishermen working for them under contract. Fish is supplied mostly by native fishermen who work erratically.

Cold storage available for fish is about 120 tons. Fish is frozen in fillets or in the round. Fillets are packed in non-waxed cartons in the round, sometimes they are placed in polyethylene bags. The quality of the fish is poor. Three or four dealers ship their products to Bogota and other centers. Since no insulation is used invariably the cargo thaws out in transit. The fish are refrozen or sold as "fresh".

CARTAGENA: The area of Cartagena offers the greatest variety of fish habitats in Colombia. The coast is low with alternating sandy beaches and mangrove swamps and has several bays and brackish water lagoons. Offshore are two groups of islands and coral reefs. Oceanic conditions are also found not far from Cartagena.

The boats, gear, and methods of fishing are primitive, as is the case in the other areas. Perhaps a factor which has contributed to the active fishing effort and better organization of the fisheries' activities here is the enthusiasm and drive of the Fisheries Officer. This is the only office which has collected statistics for the last 10 years. It is reported that 60% of the fishermen supply landing information. The general production area is also recorded, but no fishing effort data has been obtained.

Most of the fish for local consumption is landed in the public market. This fish market is the largest in Colombia.

The town has two ice plants and one assembly plant for refrigerators.

CARTAGENA TO URABA: This area south of Cartagena, the Gulf of Morrosquillo, has possibilities for the development of a fishing operation, including trawling.

The island and the coral reefs of San Bernardo are just off the coast north of Tolú. These islands are frequented by the fishermen from Curaçao and Venezuela who work under the contract with the Guajira companies. Sizable

quantities of snapper and grouper are obtained. Lobsters from this area supply the Cartagena market.

ISLANDS OF SAN ANDRÉS AND PROVIDENCIA: Approximately 120 miles east of Nicaragua and 400 miles northwest of the Colombian mainland are a group of islands and reefs, of which San Andrés is the largest.

No organized fishery exists in the islands, and only a few fishermen are active. Most of these are probably descendants of settlers of the Grand Cayman. They retain English as their native language and use fish pots which are unknown anywhere else in Colombia. Most of their younger people show no interest in fishing.

San Andrés has been expanding as a tourist attraction since it became a free port. Most of the fish consumed is imported or brought in from the mainland. The small production of fish in the islands contrasts with the results obtained by the Jamaicans. Exploratory fishing conducted by these people in the same general area have produced up to 1,000 pounds in a three day period.

Lobsters are reported to be abundant in some reefs, but no fishery has been established. Only one of the restaurants in town serves lobsters regularly and these are caught by the owner.

Fishing Areas of the Pacific

BAHÍA SOLANO: This is perhaps the best natural harbor on the Pacific coast. There is virtually no continental shelf in this area. Two to three miles away from the shore are depths of 40 to 150 fathoms. Forty miles north northwest of Solano is Cabo Marzo, an area which features a coral reef and rocky bottom. This has been a productive fishing ground.

Most of the species landed in Solano are pelagic, including tuna, mackerels, dolphin, and sharks.

During the last three months a fishing operation was started in Solano. A ten-ton ice plant and two five-ton freezers were installed. Four fishing boats equipped with 12 hp. inboard diesels have been built, and two more are under construction. The boats are provided with an insulated fish hold and carry ice.

The only transportation to the interior is by air.

BUENAVENTURA: This is the largest port on the Pacific. The most important activity is the shrimp fishery. Approximately 64 trawlers are working out of Buenaventura. Fourteen of these are Colombian and the rest are foreign. Some of the boats are equipped with the "double rig", and their fishing methods are comparable to those used in the Gulf of Mexico. Fishing takes place during the day. Generally, the trawlers fish near the coast in six to twelve fathoms. The species caught include *Penaeus occidentalis*, which predominates, *P. stylirostris*, *Trachypeneus byrdi*, and the sea bob, *Xiphopenaeus riveti*.

Most of the boats have installed a refrigerated seawater system to preserve the shrimp. Their trips last about 15 days, including eight to twelve hours traveling to the grounds. The shrimp landed were in excellent condition, and the incidence of melanosis was very low. It was not possible to ascertain exactly the keeping conditions, but there was evidence that the cargo had been frozen or kept near the freezing point. The shrimp seen in Buenaventura in September ranged in size from 10 to 30 count heads off. Production at the time was 1,500 to 2,500 pounds per boat per trip.

Fishing for other species is a considerably smaller operation. There are four motor boats, including an old purse seiner. The species most frequently landed

are snapper, grouper, grunts, jacks, bonito, tuna, mackerels, and seatrout. The seine boat which recently started to work has produced anchoveta, thread herring, and similar species. The captain of the seine boat reports catches of four to ten tons per night, in spite of his gear limitations. He also reports having found several schools in which he estimated 60 to 100 tons of fish.

Recently two U.S. tuna boats were granted permission to fish in Colombian waters, but no reports are available on their operation.

Two canneries are packing "sardines" and tuna. Their equipment is obsolete and their production low.

TUMACO: This is the southernmost port on the Pacific. The most productive shrimp grounds are just north of Tumaco. Approximately 20 miles northwest of the port is Tumaco Bank, a productive fishing area which is frequented by U.S. tuna boats.

General Appraisal of Fisheries

Some observers have pointed out that southern Caribbean waters are impoverished. One of the reasons given is the mechanism of plankton distribution which is affected by the South Equatorial current. It is believed that nutrients carried by this drift enrich the waters between Venezuela and Trinidad and that little are transported to the Colombian coast.

No serious studies have ever been made of Colombian waters. Nothing is known about oceanographic, biological, or ecological conditions. Not even the species available are fully known. In addition to these investigations, a sound program to develop the fisheries is urgently needed, perhaps sooner than the former. A carefully planned fisheries operation, including some exploratory work, gear development, and the collection of reliable statistical data, would certainly increase production and set the basis for later research and management of fisheries.

The handling, processing, distributing, and marketing of fish is an improvised and haphazard operation. Improvement in technology and good business practices are needed to gain the confidence of the consumer.

Government guidance and leadership are lacking in the fishing industry. In spite of the good efforts of some government employees, the importance and the requirements of a national fisheries program are ignored by the higher levels in government. Colombia, being an agricultural country, seems to devote most of its efforts towards these activities.

It is believed that Colombia has an attractive potential to develop its fisheries. It certainly could supply its domestic market, whose potential saturation is far greater than present levels. In supplying its own protein demands such as fish, Colombia would take a significant step forward in improving the diet of its people and their sociological status.

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A Look At the Fisheries Potential of Panama

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Abstract

The very word "Panama" is significant as it means, in the Indian language, "abundance of fish". Over the years there have been a number of surveys to establish the kind and degree of these fisheries resources. Most of these were based largely on interviews, with some degree of at-sea effort, and perhaps a considerable modicum of hope. This paper is a report of the most recent effort to assess the fisheries resources of Panama, with its 1,200 miles of coastline, and to make certain recommendations aimed at realization of the oft-forecast but not yet adequately realized promise of "abundance of fishes".

The paper will include a brief description of the findings of this study, the recommendations for action, and perhaps most significant — the status of actions being taken by Panama to make fuller use of these fisheries resources.

Introduction

PANAMA'S FISHERIES POTENTIAL is not a subject of recent interest. In fact, the observed abundance of fish was instrumental in the naming of that country by early explorers. "Abundance of fish" is the literal translation of the name "Panama" from the Indian language. Despite this situation, it has only been in relatively recent times that the annual production from these resources has reached approximately 22 million pounds, made up of 12 million pounds of shrimp (largely exported) and 10 million pounds of anchovetas and threadfin herring now used in the manufacture of fishmeal and oil. With respect to finfish for human food there were no statistics available. Based on observation at typical fish market centers, the annual landings for this purpose were estimated at not over 4 million pounds.

For a country with approximately 1,200 miles of seacoast, this low level of production invites thoughts of what might be done to increase fish production. Perhaps this thought impelled the Panamanian Government to request the assistance of the U.S. Agency for International Development (AID) late in 1960 in a survey of the fishery resource. In any case, AID did contract with BCF for a two month project on this subject. Stewart Springer and Charles Butler conducted the study during May and June of 1961. This paper deals with the conduct and findings of the study, the recommendations for follow-up action programs, and the status of all programs undertaken to the time of writing.