Fish By-Catch . . . Bonus From The Sea
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Fish By-Catch... 
Bonus from the Sea

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At the request of Latin American countries, the Inter-American Development Bank began financing fishery-development projects with the aim of improving and, where necessary, establishing the entire infrastructure for producing, processing, and marketing fish. The main reason that the IDB has moved in this direction is that it sees fishery development as offering the greatest potential for expanding protein sources for local populations. By-catch and aquaculture projects are receiving particular attention.

Twelve years ago, the Inter-American Development Bank (IDB) initiated a program to promote fishery development in Latin American countries. In 1980, the fishery production in these countries amounted to $9 \times 10^6$ t, with an overall landed value of about $3$ billion. An estimated 2 million persons are engaged in fishing activities; the majority are coastal fishing personnel whose annual rate of productivity averages 3 t/worker. Theoretically, the supply of fish in these countries is 28 kg/person, but the actual human consumption is about 8 kg/person. The difference, 20 kg, is either exported or processed for animal or industrial use. These figures do not include the losses due to the lack of infrastructure (30% of the total catch in some countries) or to inappropriate handling ($\sim 3-5 \times 10^5$ t of shrimp by-catch).

It is estimated that Latin America has an annual animal-protein deficit of $2 \times 10^6$ t. This represents about $20 \times 10^6$ t of edible meat. Fish — probably the cheapest source of protein — is the only possible solution to this problem. If 25% of the protein deficit in Latin America were to be satisfied by fish products, an additional $5 \times 10^6$ t would have to be produced. This would require a 75% increase in regional fishery production and investments of about $3$ billion, but it would generate new employment opportunities for about 500,000 people.

The complexity and diversity of factors involved in the food-supply problem of developing nations make long-term projections difficult. Because the socioeconomic structure and the technological advances are essentially dynamic, no one can forecast the population growth or the migration trends from rural to urban areas, for the next 15 or 20 years. It is even more difficult to anticipate income levels, purchasing power, and individual preferences.

The development of food technology in the last decades has mainly focused on food production for high-income markets whose consumers normally eat more than they need. There are not enough well-equipped institutions dedicated to developing production techniques for unsophisticated foodstuffs destined for developing countries. Fishery development must be planned throughout all stages, with emphasis being given to low-cost techniques that maximize the use of local resources normally underutilized.

Latin America has an additional potential of $7-8 \times 10^6$ t/year of unexploited marine resources. This amount only applies to species for which there exist reliable data that could help in projecting annual catch rates. It does not include species that are being evaluated (e.g., Antarctic krill) or resources that are being categorized (e.g., squid and octopus).

In addition to unexploited marine resources, aquaculture offers an opportunity for increasing production through diversification of agricultural activities, low-capital projects, high productivity, easy market access, self-supply of protein for isolated human settlements, etc. The problem encountered in the implementation of aquaculture-development policies is mainly of a managerial and operational nature. Latin America has but a few aquaculture experts and seriously needs...
additional extension personnel. Land tenure is an obstacle for loans to small fish farmers because they frequently do not own land.

**Objectives**

Because Latin American countries have expressed an interest in fishery development, IDB is providing assistance to identify priority areas and to establish specific investment projects to be financed by international lending institutions.

One of the objectives is to promote integrated sectoral projects, e.g., port infrastructure, fishing fleets, processing plants, marketing systems, training centres, and research programs. The purpose is to eliminate the bottlenecks that would arise if boats did not have port facilities, processing plants, or marketing networks.

A second objective is to create, on the basis of the projects, new development-minded fisheries institutions. At present, the fishery administrations of most countries are nothing more than small scientific and statistical units.

Third, priority is given to projects with high socioeconomic impact. They normally encounter many difficulties, cannot be implemented rapidly, and are not attractive to the private sector. A case in point is the development of coastal artisanal fisheries to produce fish for local consumption.

Another objective is to design structures that could be used to expand the goals of a project by adding new investment outlets to the original framework. For example, integrated programs based on fishery cooperatives or on fishing industries could be expanded to incorporate new groups.

New production projects could be implemented either through cooperatives of coastal fishing personnel or through fishing companies. However, in some cases, they would have to be set up through state corporations, until the sector becomes stable enough for the participation of private investors.

Intermediate, labour-intensive technologies should be selected when feasible, so that resources are devoted to low-cost final products that can be made available to the majority of consumers.

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1. A regional training centre is starting operation in Brazil through an FAO/UNDP project and an IDB fellowship program.

**Performance**

By October 1981, IDB had promoted and financed 36 fishery-development projects and 40 technical-assistance programs. Twenty-one countries have benefited from these projects.

The fishery projects under way represent a total investment of U.S. $764 million and involve financing in the amount of $296 million. Projected production is $5 \times 10^6 t/year, and this figure represents an increase of 100% in the regional supply of fish for human consumption.

One important side-effect of the projects has been the creation of development institutions. Independent executive bodies have been organized and are gradually acquiring managerial capacity for decision-making, although considerable time will elapse before they operate efficiently.

Because the fishing industry in many Latin American countries was at an incipient stage of development, the problem of dealing with established structures, vested interests, or complex political implications has not been a limiting factor. However, it does constitute a constraint in the sense that public and private support for fishing projects has been weak because of the lack of political priority for fishery projects within government plans. When problems — no matter how insignificant compared with those in other sectors — arise during the execution of a project, the authorities tend to become discouraged and are reluctant to pursue the task. A program of hemispheric scope, such as this one, involving a sector with little experience or tradition, is bound to have areas of weakness where mistakes are made. However, the mistakes will be increasingly fewer, as countries develop programs and expand their pool of skilled personnel.

The experience of IDB in supporting the development of the fishery sector in the vast continent of Latin America has indicated that development-financing agencies can make substantial contributions to the general progress of some new areas at regional levels. The main ingredients for an efficient policy are a global and accurate diagnosis about the problems and components of the sector, including natural and human resources, institutions, government policies, infrastructures, and production capacities; reasonable projections for development, divided in
stages with specific targets; a flexible but aggressive policy for the achievement of the projected targets; the resources to offer convenient technical cooperation in strengthening the executing agencies; and a suitable monitoring system for both the follow-up of the project implementation and, later, the evaluation of results.

The past 30 years of fishery development in Latin America have shown that when there is a choice between moving ahead, even at the risk of unforeseen problems, and waiting until nearly perfect theoretical projects can be designed, one must go ahead. Unless the first step is taken, nothing will be done.