DEVELOPMENT OF THE PHILIPPINE TUNA INDUSTRY

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FOREWORD

At its inaugural meeting in Pago Pago in 1981, the Pacific Islands Development Program was directed by the Standing Committee of the Pacific Islands Conference to evaluate the potential beneficial role of multinational corporations in the Pacific islands region. In 1984 the Standing Committee again addressed the question of multinational corporations and approved that this study be undertaken on a sectoral basis, with the tuna industry being the first sector to be examined.

The tuna industry was selected as the first sector for investigation by the Standing Committee because the tuna fishery and industry in the Pacific islands region affects all countries and territories. The broad objectives of the tuna sectoral study are (1) to analyze the current and future role of multinational corporations in the tuna industry in the Pacific islands region, and (2) to evaluate the potential contribution these corporations could make to industry development in the region. This is the first time that a comprehensive study of the tuna industry in the Pacific islands region will focus on regional and international issues affecting the industry from the perspective of all island countries.

A proposal outlining the tuna sectoral study was drawn up in 1984. This was done in consultation with the Forum Fisheries Agency and research commenced in January 1985. The study will produce a range of technical reports that will address issues critical to the development, management and expansion of tuna industries in the Pacific islands region.

This report, prepared by Dr. Jesse Floyd, traces the evolution, expansion and decline of the tuna industry in the Philippines. The industry in the Philippines is important for Pacific islands countries for two reasons. Firstly, it is a competing industry for Pacific island countries and changes in the Philippines' industry could affect investment and marketing opportunities for industries in the Pacific islands. Secondly, the reasons for the decline of the Philippines' industry could provide policy guidance for island countries in developing and managing their industries.

This report will be complimented by two other similar studies dealing with the development and current status of the tuna industries in Mexico and Thailand.

The Pacific Islands Development Program's tuna study is financially supported by the East-West Center, the United Nations Development Programme and the Australian Development Assistance Bureau.

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ABSTRACT

In the second half of the 1970s the Philippines' tuna fishery emerged as the largest and most valuable fishery in the country. Total production of tuna and tuna-like species increased from less than 25,000 metric tons (mt) in the early 1970s to over 200,000 mt in the 1980s. Approximately one-half of the tuna catch consists of skipjack (Katsuwonus pelamis) and yellowfin (Thunnus albacares) and one-half of frigate tuna (Auxis thazard) and eastern little tuna (Euthynnus affinis). Several other tuna and tuna-like species are occasionally caught in Philippine waters, but they are not landed in commercial quantity and are not distinguished in Philippine fisheries statistics.

Tuna-fishing operations are undertaken by both the small-scale and commercial fishing sectors. Small-scale fishermen operate boats less than 3 gross tons (gt), most of which are wooden double-outrigger canoes known as bancas. Although they have traditionally accounted for the majority of tuna production, the small-scale fishermen's share of the catch has declined steadily since 1977. Landings by commercial operators, however, have increased rapidly as a result of the successful introduction of large-scale tuna purse-seining operations in combination with fish-aggregating devices, locally known as pavaos. This has been accompanied by dramatic increases in frozen and canned tuna exports that exceeded US$90 million at their highest level in 1980 and 1981.

Since 1981 frozen tuna exports have declined, and permits have been granted for importing tuna to meet the demands of the local processing industry. The need to import tuna is the culmination of several problems that have plagued the Philippine tuna industry and contributed to its recent decline. These problems include overfishing, resource depletion, and overcapitalization in the industry. They have resulted in fish supply shortages and increasing competition among operators in the industry. This situation has been exacerbated by increased operating costs and taxes for both producers and processors and by deteriorating economic conditions in the Philippines generally. In addition, Philippine tuna exporters have been confronted by external problems over which they had little control. The major external problems are poor international market conditions for tuna commodities, higher import duties on canned tuna imports to the United States, and increased competition from other tuna-processing nations, particularly from Thailand.
Terms of Reference

CASE STUDY: TUNA INDUSTRY IN THE PHILIPPINES

The major purpose of the case study is to describe and analyze the importance of the tuna industry in the Philippines. Particular attention shall be focused on, but not limited to, the following six themes. Where applicable these themes shall be discussed in relation to their effect on, and implications for, tuna operations in the Pacific islands region.

1. Industry Overview. This section shall describe tuna operations in the Philippines and establish the importance of the industry in regard to its role in the international tuna industry. To meet these objectives, this section shall cover, among other things:

   (a) the nature of the tuna industry in the Philippines, including domestic and overseas tuna-fishing operations and marketing and processing operations;

   (b) production trends and catch-per-unit-of-effort (CPUE) by fishing gear since 1975; and

   (c) infrastructure development for tuna operations.

2. Government Policy. This section shall address:

   (a) government policy in the fishing industry generally and in the tuna industry in particular;

   (b) government interests in the tuna industry;

   (c) incentives for domestic and foreign investors; and

   (d) the extent of foreign investment in the industry.

Particular attention shall be focused on any changes in government policies and investment incentives that were made to facilitate and promote tuna industry operations.

3. Major Tuna Operators. This section shall:

   (a) indentify the major tuna operators in the Philippine tuna industry;

   (b) examine the nature and extent of their relationship with overseas operators in the international tuna industry;

   (c) assess their contribution to national development.

Emphasis shall be placed on the relationships with overseas operators active in the tuna industry in the Asia and Pacific regions.
4. **International Trade.** This section shall:

(a) review the volume and value of international trade in tuna commodities to and from the Philippines since 1975;

(b) establish the importance of tuna trade from the Philippines with regard to its role in the international tuna industry;

(c) identify the Philippines' major trading partners and the pattern of trade for both the import and export of tuna commodities; and

(d) examine the contribution of international tuna trade to the national economy.

5. **Development Problems.** This section shall focus on identifying and analyzing the internal and external factors which have accelerated and/or impeded the development of the tuna industry in the Philippines. The section shall cover, among other things:

(a) tuna resource availability;

(b) cost of labor and processing materials;

(c) credit limitations and domestic economic conditions;

(d) competitive advantage vis-a-vis other competing nations in the region;

(e) trade relations with the United States and other major importing nations; and

(f) the effects of world market conditions on the domestic tuna industry.

6. **Development Potentials.** This section shall review the findings of the case study and assess the development potential of the Philippine tuna industry. Emphasis shall be placed on:

(a) analyzing the impact of Thailand's tuna operations on tuna operations in the Philippines; and on

(b) investigating prospective development problems as a result of the economic and political crisis in Philippines.
INTRODUCTION

During the second half of the 1970s the Philippines a major tuna-producing nation. The Philippine tuna industry's success was due to improved catching methods, which, in turn, were accompanied by improved preservation and storage facilities and by modern processing techniques. The overall result was dramatic increases in the export trade of frozen and canned tuna commodities from the Philippines. In terms of foreign exchange earnings, however, the Philippine tuna industry appears to have peaked in 1980-81. Since then the annual value of exports has declined, and the total volume of frozen tuna exports has decreased. Deteriorating conditions in overseas markets have contributed to the decline of the Philippine tuna export industry, but internal factors have had a more significant impact on the industry's development potential.

This paper examines the rapid development and the subsequent decline of the Philippine tuna industry. It is divided into five major sections. The first section focuses on tuna production trends in the Philippines and describes the nature of tuna-fishing operations. The next section analyzes government policies in the fishing sector, particularly policy changes that were made by government to facilitate and accelerate development in the tuna industry. The third section identifies major tuna operators and examines the extent of foreign investment in the industry. The following section looks at the volume and value of Philippine tuna commodity exports and at the pattern and direction of international tuna trade. The internal and external factors underlying the decline of the Philippine tuna industry since 1981 are addressed in the fifth section. The conclusion takes stock of the present status of the Philippine tuna industry.
1. TUNA-FISHING INDUSTRY

The tuna fishery emerged as the Philippines' largest fishery sector during the five-year period from 1976 to 1980. As shown in Table 1, total (recorded) production of tuna and tuna-like species increased from less than 25,000 mt in the early 1970s to over 200,000 mt in 1980. Since 1980, the total tuna production has consistently exceeded 200,000 mt. It reached its highest level of 242,000 mt in 1983 and then declined seven percent in the following year to 226,000 mt.

Almost one-half of the tuna catch in the Philippines consists of skipjack (Katsuwonus pelamis) and yellowfin (Thunnus albacares) (Table 1). These tuna are in high demand on international markets, and they are an important export commodity from the Philippines. Frigate tuna (Auxis thazard) and eastern little tuna (Kethyphorus affinis) are equally abundant, but they are lower-value species, generally sold as fresh fish on the local market, and they are not in demand in export markets. In addition to these four species, several other tuna and tuna-like species are occasionally caught in Philippine waters. The most important of these is big-eye tuna (Thunnus obesus), which is often caught in small quantities with yellowfin. Big-eye tuna is not distinguished from yellowfin in Philippine fisheries' statistics.

Tuna-fishing operations are undertaken by both the municipal and commercial fishing sectors. The distinction between the two sectors is made solely on the basis of vessel size. Municipal operations involve small-scale artisanal fishermen operating boats less than 3 gt, most of which are wooden double-outrigger canoes known as bancas, 4-11 meters (m) in length. Accurate data on the number of municipal vessels are not available, but it is estimated that there are about 110,000 motorized bancas, typically equipped with 10-16 hp inboard gasoline engines, and 90,000 non-motorized bancas. All fishing boats over 3 gt are classified as commercial vessels and require an operating license from the Bureau of Fisheries and Aquatic Resources (BFAR). In 1981 at the peak of the tuna industry, there were 2,349 registered commercial fishing vessels and 675 accessory vessels. The majority of the commercial fishing vessels were small purse seiners, ringnetters, bagnetters, and trawlers less than 20 gt. Among the larger fishing boats, 131 were over 100 gt, 89 were purse seiners operating primarily in the offshore tuna fishery, and 25 were trawlers. Most of the accessory vessels were fish carriers.

Municipal operations

Tuna-fishing operations in the municipal sector occur year round, but the fishing effort and production vary in different regions of the country at different times of the year. The major factor governing operations is the prevailing monsoon. During the northeast monsoon from November through March, strong winds and heavy rains restrict fishing operations on the east coast. At this time, fishing activities intensify on the west coast where coastal fishing areas are protected. During the southwest monsoon from June to October, operations shift back to the east coast because fishing is difficult and productivity low on the western side of the islands.
The most common fishing gears used by municipal tuna fishermen are hand-liners, gill nets, and ringnets. The most productive of these gears is the hand-line. It accounted for 80 percent of skipjack and yellowfin production by municipal fishermen in 1981 and 60 percent of total municipal tuna production. Gill nets accounted for 10 percent of skipjack and yellowfin production and 20 percent of total municipal tuna production. Ringnets accounted for the majority of the remaining municipal tuna catch, but a variety of other gears such as the long-line, troll line, and fish corral were also used. Although the BFAR compiles some data on the total number of municipal fishermen and bancas per region and on tuna production by region, the data do not indicate the number of fishermen, boats, and units of gear involved in catching tuna on a full-time or part-time basis, and it is not possible to estimate the catch-per-unit of effort.

Municipal handline operators frequently catch large, deep-sea yellowfin tuna as well as some big-eye tuna and billfish. These operations occur throughout the year with a peak season during the summer months from March to June. They are particularly common in the Moro Gulf and the Sulu Sea, the most productive tuna fishing grounds in the Philippines (Figure 1). In General Santos City in South Cotabato, for example, about 40 mt of large yellowfin tuna, weighing from 30 to 80 kilograms (kg) each, are landed daily by municipal handline fishermen operating approximately 6,000 bancas during the height of the tuna-fishing season. The fish are purchased by local tuna-exporting companies and either frozen for further processing or packed in ice for immediate air transportation to the Japanese fresh fish market. These procedures are duplicated in Zamboanga and Davao, and to a lesser extent in Cagayan d'Oro on the northern side of Mindanao and in Puerto Princessa on Palawan, where tuna-exporting companies have representatives and where freezing facilities are available. Some tuna-exporting companies also operate a fleet of ships (up to 300 gt each) that purchase tuna from municipal fishermen on the fishing grounds to insure adequate supply, proper handling, and the quality of the product. In many instances, however, municipal landing sites are isolated and lack suitable preservation and storage facilities. As a result, much of the tuna landed by the municipal sector is consumed by communities in the vicinity or transported to regional marketing centers for local consumption.

Despite the nature of their gear and the limited size and range of their fishing vessels, municipal fishermen have consistently accounted for the majority of tuna production in the Philippines. In 1976, the first year for which data are available, the municipal sector landed 85 percent of total tuna production and 65 percent of skipjack and yellowfin production (Table 2). Since then the proportion of tuna landings by municipal fishermen has declined as a result of the rapid development of
the commercial tuna-fishing industry. Municipal fishermen landed 51 percent of total tuna production in 1982 and approximately 50 percent of the skipjack and yellowfin production from 1982 to 1984.9

Commercial operations

The development of the commercial tuna fishery into an industrial-scale industry has its roots in the late 1960s. At that time a handful of operators were engaged in buying yellowfin tuna from small-scale fishermen in the Palawan area and the Sulu Sea for export to and processing in Japan. Although production from these activities amounted to less than 2,000 mt, their success generated interest in the tuna export industry and concentrated attention on meeting the quality control standards necessary for export markets.10

The commercial tuna-fishing industry grew rapidly in the 1970s as Philippine producers developed the capacity for export operations in response to the increasing demand for tuna on the international market. Most of the growth was the result of increased production by small purse-seine and ringnet operators fishing at night with drifting bamboo rafts, locally known as pavaos. (Some major features of Philippine pavaos are discussed in Appendix 1.) The success of these operations prompted the FAO-sponsored South China Sea Fisheries Development and Coordinating Programme (SCSP) to conduct fishing surveys in late 1974 aboard the chartered vessels Southward Ho and Royal Venture. These surveys confirmed that tuna resources were substantial in Philippine waters and that bamboo rafts could be modified and used for commercial operations as fish-aggregating devices. The SCSP survey team estimated that the potential catch of seiners such as the Southward Ho or Royal Venture (420 gt and 283 gt, respectively) would be at least 1,500 mt. if they fished commercially in Philippine waters for 25 days per month, 10 months a year.11

Two Philippine private companies, RJL Martinez Fishing Corporation and Philippine Tuna Venture Inc., spearheaded tuna purse-seining with pavaos shortly after the successful completion of the SCSP fishing surveys. These companies were soon joined by others who responded to Presidential Decree No. 704 "to keep the fishery resources of the country in optimum productive condition . . . [and to achieve] the maximum utilization of its fishery resources." Promulgated in 1975, the decree also established the Fishery Industry Development Council (FIDC) to create "a healthy investment climate for the development of the fishery industry." The proclamation of a 200-mile Exclusive Economic Zone (EEZ) by the Philippine government on 11 June 1978 (Presidential Decree No. 1599) further intensified interest in the tuna industry.

Both the effectiveness of pavaos in increasing the production of tuna purse-seining operations and the government's incentives to induce investment in the Philippine fishing industry fueled the rapid expansion of the commercial tuna sector. Commercial production of skipjack and yellowfin tuna increased from 13,000 mt in 1976 to its highest level of 63,000 mt in 1983 (Table 2). As a result of this success and the
continuing high levels of production by the municipal sector, the Philippines became one of the top five producers of albacore, yellowfin, skipjack, big-eye, and bluefin tuna in the world in the second half of the 1970s. As shown in Table 3, Japan has consistently been the largest producer of these tuna in the world, followed by the United States, South Korea, and the Philippines. In 1983, the last year for which data are available, the Philippines surpassed South Korea and became the fourth largest producer of albacore, yellowfin, skipjack, big-eye, and bluefin tuna in the world.
The introduction of the purse-seine fishing method in combination with payaos has been accompanied by two important sets of changes in Philippine government policies. The most important set of changes in fisheries' development policy occurred as a result of Presidential Decree No. 704. A second and related set of policy changes is reflected in Philippine investment incentives legislation. Both sets of policy changes have played a critical role in the rapid expansion of the Philippine tuna industry.

Prior to 1975, operations in the Philippine commercial fishing industry were governed by Republic Act No. 3512. This act was legislated by the Fifth Congress of the Republic of the Philippines on 20 March 1963. The act declared it the "national policy to encourage, promote and conserve national fishery resources to insure a steady and sufficient supply of fish and other fishery products for the increasing population and to minimize fish importations and help stabilize the national economy." Presidential Decree No. 43, issued on 9 November 1972, reaffirmed the government's policy emphasis on self-sufficiency and called for the integrated development of the fishery resources of the country.

Presidential Decree No. 43 and earlier laws relating to the fishing industry were superseded three years later by Presidential Decree No. 704. Issued on 16 May 1975, Presidential Decree No. 704 revised and consolidated all laws and decrees affecting the Philippine fishing industry. The decree also changed the emphasis and direction of fisheries development policy by focusing attention on the economic contributions of the fishing industry and by declaring the industry "a preferred area of investment." In addition, the decree made it a government policy to "encourage and promote the exportation of fish and fishery/aquatic products to enable the fishing industry to contribute positively to the development and growth of the national economy." Although Presidential Decree No. 704 acknowledges "the compelling need to increase the production of fish to bring down its price to a level that will be within the reach of our people," no explicit reference is made to the policy emphasis on self-sufficiency contained in earlier fisheries' legislation.

Presidential Decree No. 704 currently provides the basis for all government policies and programs in the Philippine fishing industry. It also authorizes foreign investment in the fishing industry in contrast to earlier legislation that limited the exploitation of the country's marine resources to Filipino citizens and corporations. According to Section 21, Citizens of the Philippines and qualified corporations or associations engaged in commercial fishing may, subject to the approval of the Minister, enter into charter contracts, lease or lease-purchase agreements of fishing boats, or contracts for financial, technical or other forms of assistance with any foreign person, corporation or entity for the production, storage, marketing and processing of fish and fishery/aquatic products: Provided that the foreign crew members of the foreign fishing boat shall not exceed seventy-five per cent of the
complement of the boat . . . [and] that it shall be a condition in all charter contracts, lease or lease-purchase agreements that Filipino seamen and fishermen shall be given instruction and training by the foreign crew members in the operation of the fishing boat and the use of fishing gears and after two years shall replace all foreign crew members.17

Changes in fisheries' development policy have been complemented by changes in Philippine investment incentives legislation. Investment incentives in the Philippines are prescribed by the Investment Incentives Act of 1968 (Republic Act No. 5186) and the Export Incentives Act of 1971 (Republic Act No. 6135). The objectives of these acts are (1) to encourage Filipino and foreign investors to develop projects in fisheries, agricultural, mining, and manufacturing industries and (2) to actively encourage, promote, and diversify export services and manufactures.18 Commercial deep-sea fishing, fish canning, and the export of frozen and processed fish are specifically addressed in this legislation. Under the Investment Incentives Act of 1968, however, only corporations organized under Philippine laws (as opposed to completely foreign-owned firms existing under Philippine laws or joint-venture corporations formed for the specific purpose of engaging in fisheries activities) are eligible for investment incentives.19

The Investment Incentives Act of 1968 was amended on 3 June 1977 by Presidential Decree No. 1159, otherwise known as the Agricultural Investment Incentives Act. The purpose of the decree was to foster foreign participation and investment in the Philippine fishing industry by making joint-venture corporations and foreign-owned firms incorporated in the Philippines eligible for the investment incentives offered under Republic Acts No. 5186 and No. 6135 and by extending additional incentives for investors in agricultural and fisheries activities. Under the provisions of the Agricultural Investment Incentives Act, individuals, partnerships, and domestic corporations whose voting capital stock is 60 percent owned by Philippine nationals, cooperatives, and other entities organized and existing under Philippine laws may qualify for investment incentives.20 The investment incentives available to qualifying enterprises under all three pieces of legislation are listed in Appendix 2. The major incentives applicable to fishery enterprises include: (1) duty-free entry of boats and gear; (2) tax deductions for pre-operating expenses and approved training costs; (3) net operating loss carry-over; (4) accelerated depreciation on boats, and (5) for exported products: tax credit for taxes and duties paid on supplies, such as fuel, and tax reduction for five years for the cost of local labor and materials.21

The policy changes in fisheries development policy and investment legislation contained in Presidential Decrees No. 704 and No. 1159 have enhanced business opportunities for both local and foreign investors in the Philippine tuna industry. This led to a growing number of operators in the tuna industry in the late 1970s and early 1980s and to rapid increases in commercial tuna production and export trade. The policy have also influenced investment patterns in the tuna industry and resulted in the
diversification of export trade from frozen tuna to higher-value product forms such as canned tuna.22
Prior to 1976 the Philippine commercial tuna-fishing industry and the fresh and frozen tuna export industries were unstable. The supply of export quality tuna from the municipal fisheries sector was irregular and limited, and the quality of the fish was unreliable because of the inadequate fish preservation and handling system. In the mid 1970s the situation changed. Attractive export prices and growing demand for cannery-grade tuna in overseas markets, in combination with government policy changes and incentives to increase investment in the tuna industry, prompted several fishing and exporting companies to expand their business operations and to establish freezing and processing facilities capable of meeting the quality control standards in export markets. Export operations initially depended on tuna production purchased from municipal handline fishermen, but improved financial returns as a result of better post-harvest handling techniques and increased tuna production from the purse-seine/payao fishing method soon led to a proliferation of companies in the frozen tuna and canned tuna export industries.

**Frozen Tuna Exporters**

The potential of tuna as a major export commodity in the Philippines prompted representatives and officials of several tuna-exporting companies to found the Philippine Tuna Producers and Exporters Association (PTPEA) in November 1973. The principal objectives of the PTPEA were to establish confidence in the quality of Philippine tuna products in foreign markets, to foster fair and friendly competition among members, and to promote cooperative studies with government and international agencies for the effective development and exploitation of the fisheries' resources of the country. The original members of the association were Dole Philippines Inc., Ephirol Enterprises Inc., Judric Seafoods Company, Lindamar Corporation, Manteri Fishing Company, Mar Fishing Company Inc., Oceanic Fisheries (Philippines) Inc., Pure Foods Corporation, P.R. Garcia & Sons Development Corporation, RJL Martinez Fishing Corporation, Ricsan Development Corporation, and South Pacific Export Corporation. Five of the founding members stopped their tuna export operations before 1979. The others were still active in the tuna industry and members of the association in 1982-83: Dole, Ricsan, and RJL exported frozen tuna; Judric, South Pacific, and Pure Foods canned tuna for export markets; and Mar Fishing was engaged in integrated fishing and canning operations.

The total membership of the PTPEA included 22 companies in 1982-83. (Appendix 3 lists the name and address of each member.) All the major tuna purse-seine and long-line operators and four of the most important tuna canners were members of the association, but several other companies were exporting tuna that were not members. At the peak of the frozen tuna export industry in 1980, for example, up to 30 companies were exporting frozen tuna from the Philippines. Twelve companies, all of which were members of PTPEA except Glory Fishing & General Merchandise, accounted for 95 percent of the volume and value of frozen tuna exports in 1980. Brief profiles of the PTPEA member companies and their actual and potential production capacities in 1980 are presented in Table 4. In the industry as
a whole, 42 purse seiners and 12 tuna longliners were operating in 1980, compared with 20 purse seiners and 4 longliners the previous year. 25

Frozen tuna exports declined in 1981 despite an increase in total tuna production and a larger number of companies exporting tuna. In 1981 there were 35 companies exporting fresh and frozen tuna, operating a total of 80 purse seiners, 14 of which were over 500 gt, and 56 longliners were between 20 and 79 gt. The companies listed in Table 4 (apart from Mar Fishing, which exported only canned tuna in 1981) accounted for approximately 85 percent of the volume and value of frozen tuna exports in 1981 and handled 52 of the purse-seine vessels operating in the tuna fishery. 26 Eight of the purse seiners in excess of 500 gt were managed by Philippine Tuna Venture, five by RJL Martinez, and one by Fortuna Mariculture. 27 R & VT Fisheries and Development Corporation and Frabelle Fishing had large purse-seine fishing fleets, but their vessels were comparatively small (Table 5).

Five of the major frozen tuna exporters in 1981 were officially recognized as joint ventures. They were Philippine Tuna Venture, Peninsula Fishing Corporation, Fortuna Mariculture Corporation, Eastship Fishing Corporation, and World Marine & Development Corporation. 28 Each of these companies was classified as a joint venture and registered with the Fishery Industry Development Council because they involved charter agreements to lease foreign fishing vessels. Dole Philippines Inc., a wholly owned American company, was the second largest exporter of frozen tuna in 1981, but it is not classified as a joint venture by Philippine fishery authorities. 29 As a group, these six companies exported 12,943 mt of frozen tuna worth US$15.8 million in 1981, approximately 36 percent of the total volume and value of Philippine frozen tuna exports. 30

The downward trend in frozen tuna exports in 1981 continued into 1984, forcing six of the eleven tuna exporters listed in Table 4 to cease operating. Bonaventure Fishing, Eastgate Export Corporation, Fortuna Mariculture, and RJL Martinez Fishing, the second largest in the industry and its subsidiary, Peninsula Fishing, all went out of business in 1983. 31 Ricsan Development Corporation stopped operations in 1983 and was declared insolvent in 1984 by the Davao City regional trial court with outstanding liabilities of 167 million pesos (US$10 million) and assets of only 81 million pesos (US$5 million). 32 The closures were attributed to four factors: (1) depletion of tuna resources in the country, (2) high fuel costs aggravated by the ban on fishing within seven kilometres from the shoreline, (3) depressed market conditions for tuna in the United States due to the recession, and (4) declining world fish prices.

Those companies that remained active in the tuna industry were also affected by the downward trend in Philippine frozen tuna exports. Some companies such as Orient Marine shut down their fishing operations and engaged only in buying tuna from small-scale fishermen, while others reduced their operations by putting some of their fishing vessels up for sale. Philippine Tuna Venture, for example, sold two of its five vessels, the Jasna and the Hornet (593 gt and 779 gt, respectively), to Frabelle Fishing for a total of US$1-1.2 million. 33 Frabelle Fishing also acquired
the San Juan (850 gt) from RJL Martinez, which increased the number of purse seiners in its fleet that could be put into operation to ten. Five of these vessels have been fitted with two nets so that they can be used during the tuna-fishing season from March to June as well as during the mackerel-fishing season that follows from June to October.34

R & VT Fisheries has followed a similar strategy and diversified its fishing operations, but it has not been as successful Fraballe Fishing. R & VT Fisheries operates a fleet of 12 purse seiners (80-120 gt) in the tuna and mackerel fisheries in the waters off northern and western Luzon. The performance of these vessels in exploiting tuna, however, is reported to be poor because of the vessels' limited range and lack of freezing facilities and because of inferior tuna-fishing conditions in the waters off Luzon compared to fishing in the southern Philippines.

In addition to Fraballe and R & VT Fisheries, only two other companies had sizable purse-seine fleets operating in the Philippine tuna fishery in 1985. RBL Fishing had six vessels, and Mar Fishing had six vessels, one on charter from the defunct Fortuna Mariculture and five vessels that it had built in Canada. Each company, however, only operated three vessels in the Philippine tuna fishery in 1985. These six vessels were reportedly joined by four vessels from Fraballe, twelve vessels from R & VT Fisheries, and four to five other purse seiners less than 200 gt owned by at least three different companies. The total number of purse seiners in the Philippine tuna fishery in 1985, therefore, was 26 or 27 vessels.35 This compares with 80 purse seiners operating in the Philippine tuna fishery in 1981 and with reports of only 25 operating in 1982.36 Market conditions in the Philippines improved in 1983, and 50 purse-seine vessels were believed to be operating that year and in the first half of 1984. The improved conditions were due to the rapid expansion of the canned tuna industry, which absorbed an estimated 90 percent of the purse-seine catch in 1983-84.37

Distant-water fishing operations

Several of the purse-seine operators still active in the Philippine tuna industry have dealt with the problems of excess fishing capacity, resource depletion, and financial losses by extending the range of their fishing operations through fisheries' access arrangements with neighboring countries. Such access arrangements date back to 1981 when Fraballe and Ricsan each sent one purse seiner to Palau to explore the area's fishing potential. Neither agreement was renewed, and Fraballe's venture is known to have been an economic failure. Rebecca Fishing and RJL Martinez had agreements with the state of Sabah to fish in its waters off western Borneo in 1982 and 1983, and Mar Fishing paid a license fee of approximately US$10,000 for one of its boats to operate in Papua New Guinea's waters for two months beginning in August 1984. Mar Fishing also had agreements with the Federated States of Micronesia (FSM) in 1983 and 1984, but it operated only in 1983 and only in the open seas bordering the country's 200-mile EEZ. James Chiongbian, owner of Philippine Tuna Venture and Eastship Fishing, paid license fees to fish in FSM waters but never took advantage
of the opportunity. The reason that Chiongbian did not operate his
fishing vessels is not available.

Despite the number of access agreements between Philippine tuna
operators and neighboring countries, provisions in Philippine law have
hampered the growth of distant-water fishing operations. The
provision—which has been most detrimental—requires that Philippine-flag
vessels operating outside Philippine waters to pay import duty on that
portion of their production landed in the Philippines. For example, a
Philippine-flag vessel with an access agreement to operate in Papua New
Guinea's waters must pay a one percent import duty on the total value of
fish brought back to the Philippines by carrier vessel or landed in the
Philippines by the fishing vessel itself. The import duty, however, was
lifted on 7 August 1985 by virtue of Executive Order No. 1047. The order
also granted incentives for distant-water fishing operations by allowing
the duty drawback on fuel oil used by fishing vessels operating outside
Philippine territorial waters and by reducing the work force requirements
for fishing vessels in non-Philippine waters.

Executive Order No. 1047 has had a significant effect on the
Philippine tuna industry in the short period since its implementation. It
has led to the intensification of ongoing distant-water fishing operations,
and it has generated new interest in negotiating fisheries' access
agreements. Mar Fishing, for example, operated three of its purse seiners
in Papua New Guinea for five months in 1985, and RBL Fishing registered two
of its purse seiners with the Malaysian government and deployed them in
Sabah. Fraballe Fishing also operated in the waters off Sabah in 1985
and is actively seeking access agreements with other neighboring nations.
And Chiongbian has investigated the possibility of a joint venture with
Kiribati and is currently negotiating with Papua New Guinea and
Indonesia. Although neither the production of these activities nor the
potential of proposed activities is available, there is no doubt that
increasing Philippine distant-water fishing efforts will be necessary for
the continued survival of the Philippine canned tuna industry.

Canned tuna exporters

The Philippines has processed and exported canned tuna since the early
1970s, but the volume and value of exports were quite small until 1978
(Table 2). That year Judric Canning Corporation, became fully operational
and began processing tuna exclusively for export markets. Judric's entry
into the Philippine canned tuna industry motivated other established
canners to intensify their tuna processing operations, and by 1980 export
production amounted to over 11,000 mt and almost US$30 million.

In 1980 five canners were active in the Philippine canned tuna export
industry besides Judric: Century Canning Corporation, Premier Industrial &
Development Corporation, Pure Foods Corporation, South Pacific Export
Corporation, and Santa Monica Canning Corporation. Judric was the
largest producer of canned tuna by far, accounting for almost one-half of
the estimated total export volume in 1980. Judric was initially
established by Richard M. Fowler (80 percent ownership) and SAFCOL Holdings Ltd. (20 percent), but SAFCOL acquired full ownership in late 1982. Pure Foods was the next largest producer and accounted for 19 percent of the estimated export volume. Twenty percent of its capital stock is owned by the American Hormel International Corporation; most of the remainder is held by the Ayala Corporation, a Filipino-Japanese joint venture. Century, the largest locally owned corporation in the industry, accounted for 13 percent of the estimated canned tuna export production in 1980, Santa Monica nine percent, Premier Industrial six percent, and South Pacific five percent.43

In 1981 four more companies entered the Philippine canned tuna export industry. Philippines Tuna Canning Corporation (PTCC) and Mar Fishing Company, Inc. were the largest of these new companies. Philippines Tuna was owned by Richard M. Fowler (60 percent), Tony Curatolo (20 percent), and SAFCOL Holdings (20 percent) at the time of its establishment. In late 1982, however, SAFCOL acquired 100 percent equity in PTCC. Mar Fishing is a joint venture between British Columbia Packers of Canada (30 percent equity ownership) and Marcopper Mining Corporation (70 percent), itself a joint venture between Placer Development Ltd. of Canada (40 percent) and local Filipino interests (60 percent). These two companies, in combination with Judric and Pure Foods, accounted for 44 percent of the reported 1.72 million standard and institutional cases of canned tuna exported in 1981 (Table 6).44 The other companies entering the canned tuna export industry in 1981 were Standard Food Products and Majescan Manufacturing Corporation. Each of these companies is owned by Filipino shareholders, and each canned other fish species for local markets prior to 1981. Their combined canned tuna export production was insignificant, amounting to less than 1 percent of the total in 1981.

Canned tuna exports increased by 150,000 cases over the previous year and totaled an estimated 1.86 million cases in 1982. Fifty-one percent of the total export production consisted of standard cases compared with 64 percent the previous year.45 The decline in retail production in 1982 probably indicates an increasing number of contract sale agreements between Philippine processors and large overseas buyers and institutional distributors.46 The decline in retail production may also reflect a lack of confidence in the quality of Philippine canned tuna and its acceptance in overseas retail markets or a lack of confidence in being able to meet the tight shipment schedules customary with retail orders. The overall result was a sharp decline in the average unit value of Philippine canned tuna exports, which fell from roughly US$25.00 per retail case in 1981 to US$19.50 in 1982.47 The decrease in unit value affected all producers worldwide and was, of course, due to other factors such as dull international market conditions and reduced consumption in the United States because of unreasonably high retail prices.48

Deteriorating conditions in overseas markets in the early 1980s had a serious impact on Philippine canned tuna operations. All of the 17 domestic fish canners that had intended to diversify their production and enter the canned tuna export industry in 1982-83 cancelled their plans. Some companies such as Standard Foods and Majescan stopped processing tuna

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for overseas markets in 1982. Others reduced their Manila-based operations because of tuna supply shortages and higher fish prices and decentralized their activities by either building new canning facilities or expanding their existing facilities in the southern Philippines. Both Pure Foods and Santa Monica, for example, established new plants in General Santos City in order to be closer to the fishing grounds and to maintain fish supplies and cut transportation costs. (The differential in wage rates in provincial areas, as opposed to wage rates in Manila or other urban areas, was not a factor as it frequently is in other developing countries.) Safcol followed a similar strategy. After closing the Judric plant in September 1984, SAFCOL transferred some of its equipment from the Judric plant in Manila to its PTCC plant in Zamboanga.

The adjustments made by processors in the canned tuna industry and the expansion of facilities in the southern Philippines led to further increases in Philippine canned tuna exports in 1983. That year canned tuna exports increased to their highest level of 2.07 million cases, 72 percent of which were retail cases and 28 percent institutional (Table 7). If it is assumed that one mt of tuna yields 50 standard cases and that there are 113 cases in each mt, the total volume of tuna processed for export amounted to roughly 53,000 mt in 1983 compared with only 255 mt in 1977. The result was a tremendous increase in the volume of Philippine canned tuna exports from only 113 mt in 1977 to its highest level of 23,000 mt in 1983 (Table 2).

Part of the reason behind the rapid expansion of Philippine canned tuna exports and the number of exporters in the industry was the ban on canned mackerel and sardine imports in August 1983. The ban was imposed by government as a means of conserving foreign exchange. But it also had the beneficial effect of encouraging processors, which previously had canned tuna only for export markets to diversify their production and canned mackerel and sardines for the local market without competition from overseas processors, primarily from Japan. Mar Fishing was the only company not to take advantage of the import ban, while most of the other canners found themselves processing more mackerel and sardines than tuna. This trend has continued into 1984 and 1985, and it has sustained the Philippine canned tuna industry at a time when exporters are facing depressed prices on international markets and increasing competition from other tuna-processing nations such as Thailand.

Although the import ban has had a positive effect, conditions have not improved for the Philippine canned tuna industry. Exports declined in 1984 to 1.85 million cases, approximately the same level as 1982, and the industry utilized only 40-45 percent of its estimated 110,000 mt processing capacity. Those canners active in the tuna industry in 1984-85 and included in the estimate of the industry's total capacity are listed in Table 8. Eight of the canners have been major producers since 1981. Insular, Kingston, Philsunrise, and Tresco have had limited production and have not participated in the industry on a regular basis. Diamond Seafoods was the only other canner in the tuna industry. It began operations in February 1983, but it operated ten days and canned less than 10 mt of fish before defaulting on its $38 million (US$2.3 million) loan from the

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Development Bank of the Philippines (DBP). The vice president in charge of operations at Century Canning leased the foreclosed Diamond Seafoods cannery from DBP in 1985, but there is reportedly no affiliation between Diamond and Century.
I. INTERNATIONAL TRADE IN TUNA COMMODITIES

The proliferation of companies entering the Philippine tuna industry since the introduction of industrial tuna purse seining in 1976 has resulted in the rapid expansion of international trade in tuna commodities. As shown in Table 2, exports of frozen skipjack and yellowfin tuna increased from only 5,735 mt and US$3.6 million in 1976 to 47,290 mt and US$65.2 million in 1980. Roughly 41,000 mt of export production in 1980 was skipjack and yellowfin weighing 2-8 kg, 4,000 mt was yellowfin 10-40 kgs, and 1,000 mt was yellowfin and big-eye tuna greater than 40 kgs.

Increasing exports of frozen tuna in the late 1970s were accompanied by exports of dried and smoked tuna. Virtually all of the production was exported to Japan where it was marketed as shaved katsuobushi and used as a food additive. Bonito and undersized skipjack weighing less than 1.5 kg are generally used for katsuobushi because of their lower oil content, which facilitates drying during the manufacturing process.

Exports of katsuobushi reached their highest level in 1980, totaling 608 mt and US$2.6 million. At that time 18 companies were active in the katsuobushi industry. The largest company, accounting for approximately one-third of the volume and value of exports, was Orient Marine & Fishing Resources. In 1981 production declined by almost 50 percent to 341 mt and US$1.2 million, and the number of major companies in the industry fell to six.

The following year the industry declined further, and exports amounted to only 193 mt and US$0.5 million.

Frozen tuna exports also declined dramatically in 1981 and 1982 from its highest level in 1980 to only 17,731 mt and US$15.9 million in 1982 (Table 9). Although exports increased by a small margin in 1983 to 18,559 mt and US$21.2 million, they declined to their lowest level since 1976 of 13,759 mt in 1984. Nine percent of the export volume in 1983 (1,742 mt) was sashimi-grade yellowfin destined for fresh fish markets in Japan, 20 percent (3,774 mt) was frozen skipjack, and 70 percent (13,043 mt) was yellowfin suitable for canning.

The composition of frozen tuna exports in 1983 reflects both a steady increase in the volume and proportion of sashimi-grade exports since 1980 and a general decline in the proportion of frozen skipjack in total exports.

The United States has consistently been the largest importer of Philippine frozen tuna in terms of volume. As shown in Table 9, the United States imported 23,536 mt of frozen tuna worth US$20.4 million from the Philippines in 1979. This amounted to 72 percent of the total volume and 64 percent of the total value of Philippine exports that year. In 1980 and 1981 the volume of frozen tuna exports to the United States remained fairly stable, but the proportion of Philippine exports destined for the United States decreased due to the overall increase in the volume of exports. In 1983 Philippine frozen tuna exports to the United States declined to its lowest level since the mid-1970s and amounted to only 4,796 mt and US$2.6 million, or 26 percent of the export volume and 12 percent of the export value.
As the proportion of exports to the United States has declined, the role of Italy and Japan as trading partners has increased. In 1983, the last year for which data are available, Italy imported 45 percent of the volume and 49 percent of the value of Philippine chilled/frozen tuna exports. Most of the exports to Italy were frozen yellowfin tuna suitable for canning. Japan imported 26 percent of the volume and 36 percent of the value, approximately one-third of which was sashimi-grade tuna.

One reason behind the decline in Philippine frozen tuna exports has been the rapid expansion of the canned tuna industry. In just four years, canned tuna exports increased to such an extent that they surpassed frozen tuna exports as the most valuable Philippine fishery export commodity, growing from 113 mt and US$238 thousand in 1977 to over 18,000 mt and US$51.7 million in 1981. Canned tuna exports increased to 19,411 mt the following year, but the value declined to US$42.7 million. As shown in Table 10, the United States has been the major importer, accounting for more than two-thirds of the volume of Philippine canned tuna exports from 1979 to 1982. During the same period the Philippines increased its market share in the United States from 13 percent of all canned tuna imports to 32 percent, making it the largest importer to the United States in 1981 and 1982.59 Thailand replaced the Philippines as the largest canned tuna exporter to the United States in 1983 even though the total volume of Philippine export production increased to its highest level of 23,537 mt.

The rapid expansion of the Philippine tuna canning industry has been accompanied by frozen tuna imports since 1981. That year and as a result of pressure from the International Monetary Fund, the government deleted several commodities including frozen fish from the existing import ban and applied a 100 percent ad valorem customs duty on frozen fish imports. But in response to demands from the local processing industry, the BFAR, the BOI, and the Central Bank, in cooperation with the Tariff Commission, initiated a permit system authorizing a limited amount of frozen fish imports at a reduced duty of 5 percent ad valorem.

The first of these permits was granted to Mar Fishing in December 1981, and it imported 5,000 mt of frozen tuna worth US$2.85 million from Indonesia to meet the operational requirements of its plant in Zamboanga.60 In 1982 another ad hoc interagency committee, which included the Ministry of Natural Resources as well as BFAR, BOI, and the Federation of Fishing Associations (FFAP), granted fish canners the authority to import 14,000 mt of frozen tuna worth US$10.5 million for processing and re-export.61 The level of imports was increased and the import permits were granted because of the local processors' inability to satisfy the canners' raw material requirements, particularly during those months when tuna and mackerel production is low. But according to preliminary BFAR data, frozen tuna imports to the Philippines amounted to only 348 mt in 1982. Industry sources estimate that imports were 1,500 mt, still much less than the import authority that the industry was granted.

The agreement among government officials and industry representatives to allow annual frozen tuna imports of 14,000 mt has been in effect since 1982. In April 1985, however, the Tuna Canning Association of the

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Philippines (TCAP) requested that the government increase the level of imports to 30,000 mt annually to reflect more recent increases in the industry's capacity. According to the TCAP processors, 30,000 mt represents the difference between the industry's operating capacity (approximately 110,000 mt) and the volume of fish available for processing (70-80,000 mt). But the industry's request for an increased level of tuna imports seems unwarranted in view of the industry's failure to take advantage of the tuna import permits. BFAR preliminary data show that there were no frozen tuna imports in 1983, and industry sources indicate that there were only 2,000 mt of imports in 1984. Also there were no tuna imports in 1985.

Several factors account for the industry's failure to take advantage of the tuna import authority. The most important of these is related to the country's lack of foreign exchange and high interest rates. According to some industry representatives, another factor is the bureaucratic time delay involved in actually issuing and implementing the import permit. Increased production of distant-water fishing operations may have also been a factor, but low prices for canned tuna in international markets and a protected domestic market for canned mackerel and sardines have probably been more important factors influencing the industry's decision not to import tuna and to use its excess processing capacity to can mackerel and sardines for the local market.
5. DECLINE OF THE TUNA INDUSTRY

The need to import frozen tuna to meet the raw material demands of the processing industry is the culmination of several problems that have plagued the Philippine tuna industry and contributed to its decline in the 1980s. One major problem is overcapitalization of the industry, which, in turn, has led to overfishing and resource depletion. This has resulted in fish supply shortages and increased competition among operators in the industry. This situation has been exacerbated by higher operating costs and taxes for both producers and processors and by deteriorating economic conditions in the Philippines generally. In addition, Philippine tuna exporters have been confronted by external problems over which they had little control. These problems included poor international market conditions for tuna commodities, higher import duties on canned tuna imports to the United States, and increased competition from other tuna-processing nations.

Internal problems

The FFAP first expressed concern about signs of overfishing and resource depletion in 1981. In a position paper commenting on the rapid expansion of the country's tuna-fishing fleets, an FFAP representative noted that dozens of purse seiners were operating in close proximity with one another in the limited expanse of the Sulu Sea and the Moro Gulf and stated that many boats were reporting low yields and signs of resource depletion. Similar concerns were also expressed by two of the country's largest tuna operators: James L. Chiongbian, president of Philippine Tuna Venture, and Ruben Martinez, head of RJL Martinez Fishing.

In response to the overfishing and resource depletion problems, the FFAP has recommended (1) adopting a policy that would impose a limit on the number of tuna seiners operating in the country at any given time and (2) requiring an operator to phaseout an equivalent older vessel if a more modern vessel is built or imported as a means of maintaining the established tonnage and number limit. No limits were proposed for long-line fishing vessels.

Several factors have contributed to the resource depletion problem. One factor has been the proliferation of companies entering the Philippine tuna industry, as well as the increasing number of large purse-seine vessels over 500 gt operating in the fishery. This has been accompanied by both numerous reports and apprehensions of foreign fishing vessels poaching in Philippine territorial waters. According to Virginia Aprieto, the Philippine Coast Guard apprehended 144 Japanese and Taiwanese fishing vessels for illegal fishing from 1972 to 1977, an average of 2.3 vessels a month. Taiwanese fishery authorities, in turn, acknowledge that five fishermen have been killed and that 53 fishing boats and 167 fishermen have been detained by Philippine authorities. In view of the country's long coastline and the Philippine Coast Guard's limited surveillance and apprehension capability, the actual number of foreign boats engaged in illegal fishing in Philippine waters is presumably quite large. The FFAP
has estimated that the illegal catch may be as high as 50,000 to 100,000 tonnes a year. The FFAP has also called on the government to take a stronger stand against vessels caught fishing illegally in Philippine waters.

Another factor affecting the resource depletion problem has been the introduction and widespread adoption of the purse-seine/payaos fishing method and its apparent effect on the catch of juvenile fish. In General Santos City, for example, about 100 mt of small skipjack, weighing 70-100 grams each, are unloaded daily during the height of the tuna-fishing season from March to June. Available catch reports from commercial export operators also suggest that the Philippine purse-seine tuna fishery is catching a significant quantity of small tuna. Data from four exporters indicate that almost two-thirds of their production in 1981 consisted of undersized tuna. They are undersized from a biological viewpoint in that the tuna have yet to reach first maturity, and from an economic viewpoint in that tuna smaller than 4 pounds do not have the same commercial value as larger tuna because they are not suitable for export as frozen tuna or for processing as canned tuna.

Moreover, it has been claimed by researchers with the former SCSP that more than 95 percent of all skipjack landed in the Philippines are less than 30 centimeters (cm) in length and that fish are routinely landed at a length of 14 cm. The problem is further aggravated by the fact that large numbers of small tuna are not landed but are used as bait for longline and handline fishing around payaos.

Although difficult to enforce, a ban on catching or landing tuna below a certain size or on regulating the use and placement of payaos could alleviate the problem of small tuna landings and could help prevent growth of overfishing—a reduction of catch due to the early capture of recruits. But overfishing, resource depletion, and shortages in supply to the local tuna-processing industry were not the only problems confronting the Philippine tuna industry in the early 1980s. Continued growth in the tuna industry was also constrained by increases in the costs of operation, particularly increases in the cost of fuel, which accounts for between 50 and 60 percent of the total operating costs of distant-water fishing vessels.

The cost of imported fuel to the fishing industry and the industry's right to a subsidy on its fuel expenditures are controversial issues in the Philippines. The controversy arises over the interpretation of Section 106(a) of the Tariff and Customs Code that provides for a refund (drawback) of up to 99 percent of the duty paid on all imported fuels used for the propulsion of vessels engaged in coastal trade. Industry representatives argue that fishing vessels are entitled to the fuel duty drawback and that failure to grant the industry the drawback has prevented the industry from operating at full capacity. The industry's position was endorsed by the former Minister of Natural Resources Jose J. Leido Jr. after review by the FIDC. In his Memorandum to the President of the Philippines dated 29 April 1981, Minister Leido found "legal, economic and policy justifications for granting the instant request [for the fuel duty drawback] to the fishing
The former Minister of Finance Cesar Virata, however, argued that fishing companies are not importers because they purchase fuel from oil companies that import the crude oil from which the fuel is refined. Virata advised the President against approving the fishing industry's request in a Memorandum dated 7 August 1981, and the President denied the industry's request. The former Minister of Finance Cesar Virata, however, argued that fishing companies are not importers because they purchase fuel from oil companies that import the crude oil from which the fuel is refined. Virata advised the President against approving the fishing industry's request in a Memorandum dated 7 August 1981, and the President denied the industry's request.

Another setback for Philippine tuna producers occurred when the Philippine government proposed the imposition of a 4 percent tax on frozen tuna exports. The proposed tax was later reduced to 2 percent, but it was implemented in November 1983 by virtue of Executive Order 920. According to the order, the principal purpose of the export tax was to capture the so-called windfall profits gained by exporters from the devaluation of the peso in October 1983 and not necessarily to capture the resource rent from the exploitation of the country's tuna resources. Naturally the tax was a controversial issue between government and industry, but it also led to a split between the tuna producers and processors who at that time were both represented in the PTPEA. The break occurred because the processors in the newly formed TCAP endorsed the 2 percent tax on exports, while producers felt that the export tax would place them at a disadvantage in negotiating prices with local tuna processors.

The export tax was the first of three taxes levied on exporters by the government in recent years to bolster the troubled Philippine economy. The two other taxes were the result of Presidential Decrees No. 1928 and 1929. The first of these decrees, promulgated in June 1984, imposed an excise tax of 10 percent on the purchase of foreign exchange and payment for freight, interest, and other charges. The second decree established a stabilization tax of 30 percent on the exchange rate differential resulting from the June 1984 peso devaluation. In addition, tuna exporters have had to pay a customary inspection fee to the BFAR equivalent to 0.5 percent of the products' FOB value.

The export, excise, and stabilization taxes were intended to promote economic stability in the Philippine economy by compensating for adjustments in the peso exchange rate. But in the industry's view, the taxes have added to operating costs and undermined the competitiveness of the Philippine tuna industry vis-à-vis other developing countries with tuna processing industries such as Thailand. Moreover, the taxes were imposed at a time when production, manufacturing, and packing costs have been increasing and tuna commodity prices have been declining. In the canned tuna industry, for example, Philippine processors claim that they have lost an average of US$2.49 per case of canned tuna for sales made from November 1983 to August 1984. This figure may overstate actual losses, but there is no escaping the fact that the new taxes and the increased cost of imported goods (i.e., fuel, tin plate, and spare parts) as a result of the successive peso devaluations have had a serious effect on the profitability of tuna operations in the Philippines.

Another factor affecting the operating costs of the Philippine tuna industry is the high cost of freight charges on exports of canned tuna to
the west coast of the United States, the major destination of Philippine tuna products. According to PTPEA representatives, members of the Philippine-North American Conference (PNAC)—American President Lines, Sealand, Barber Blue, Maersk, Hapag Lloyd, and Lyke Lines—charged US$198 per mt for canned tuna freight to the U.S. west coast in 1982, approximately 30 percent of the FOB Manila export price of US$650 per ton. This rate compared with only US$160 per mt from Singapore and Guam to the U.S. west coast and US$95 from Japan. The disparity in freight rates has prompted PTPEA members and officials to claim that commercial freight rates from the Philippines are disproportionately high and that high freight rates have put the Philippine tuna industry in an uncompetitive position on the U.S. market.77

External problems

As if these internal problems were not enough, tuna exporters have faced a number of problems in overseas markets that have affected the profitability of the Philippine tuna industry. The problem receiving the most attention has been the sharp decline in tuna prices on international markets generally and in the United States in particular. For example, the value of frozen yellowfin exports from the Philippines to Japan and Europe fell from US$1,487 per mt in 1980 to US$950 in 1981, and the value of frozen skipjack to the United States fell from US$1,180 per short ton in 1981 to US$450 in 1982.78 Despite recovery from the economic recession experienced in western economies in the early 1980s, international market conditions for frozen tuna have not improved significantly. Oversupply in relation to demand has been the major reason behind the continuing slump of the world tuna market since 1982.79

The glut of frozen tuna on the international market has been accompanied by higher import duties on canned tuna to the United States. Imports of canned tuna to the United States, the major destination of Philippine canned tuna exports and the largest canned tuna market in the world, are subject to a quota established at 20 percent of the previous year's annual domestic production, excluding production in American Samoa. Imports of canned tuna not in oil arriving in the United States before the quota is filled are dutied at 6 percent ad valorem and after at 12.5 percent.80 Given that imports of canned tuna not in oil to the United States have consistently exceeded the quota by progressively larger amounts since 1980, Philippine exporters of canned tuna have had to pay higher duty on an increasing proportion of their canned tuna exports to the United States. This has added to the operating costs of Philippine processors and exporters when they are already disadvantaged by declining prices and weakening consumer demand in the U.S. market.

Besides the U.S. import duty, canned tuna from the Philippines is subject to a countervailing duty. The countervailing duty was imposed in August 1983 by the U.S. government on Philippine canned tuna imports in response to a petition submitted to the U.S. Department of Commerce by the U.S.-based Tuna Research Foundation (TRF) on behalf of the major American tuna processors. The petition successfully argued that the Philippine
government subsidized the local tuna-processing industry by granting investment incentives to export-oriented enterprises; by providing preferential financing benefits for exports; by holding equity participation in at least one Philippine tuna cannery, Diamond Seafoods; and by issuing policies of insurance and certificates of guarantee against credit risks arising out of or in connection with export transactions.81

The petition also called for a 10 percent ad valorem countervailing duty, but the International Trade Administration (ITA) imposed a 0.72 percent duty. After reviewing the case more recently, the ITA instructed the U.S. Customs Service to forego collection of the countervailing duty effective 8 March 1985.82 A deposit is still being collected pending the ITA's final report.

The U.S. countervailing duty was imposed at a time when Philippine canned tuna imports were losing their dominance in the U.S. market. After successfully competing with Japan and Taiwan and becoming the largest canned tuna exporter to the United States in 1981 and 1982, the Philippines fell behind Thailand as the largest exporter to the United States in 1983. That year Thailand exported 33 percent of the total volume of U.S. canned tuna imports, and the Philippines exported 26 percent. The following year Thailand expanded its exports to the United States by 125 percent from 18,108 mt in 1983 to 40,763 mt in 1984 and increased its share of the U.S. canned tuna market to 55 percent. The Philippines' market share declined to 14 percent in 1984, and its exports to the United States dropped from 14,502 mt in 1983 to 10,079 in 1984.83

According to Philippine industry representatives, Thailand has surpassed the Philippines as the most important exporter of canned tuna to the United States for three reasons. The single most important reason is that Thailand can import fish without restrictions. The second reason is that Thai exporters enjoy cheaper packing credit interest rates. And the third is that manufacturing costs, particularly the costs of cans, cartons, and labels, are at least US$1.00 (roughly 5 percent at current canned tuna wholesale prices) less per case in Thailand than they are in the Philippines.

Several other factors have contributed to Thailand's success and enabled it to improve its competitive position vis-a-vis the Philippines in the canned tuna industry. As shown in Table 11, Thai processors are not subject to any import fees, export taxes, or foreign duties. Labor, electricity, and freight charges, as well as can, carton, and label costs are less. Interests rates are lower, and foreign exchange to import items such as tin plate and spare parts, not to mention fish, is more accessible. The only advantage that the Philippines enjoys are less expensive fish prices. However, Philippine tuna producers are more inclined to export their fish to Thailand where prices are higher. Philippine tuna producers must also export some of their production to earn foreign exchange so that they can purchase essential import items not available in the Philippines such as nylon nets, electronic equipment, and spare parts for their vessels.
6. CONCLUSION

The Philippine tuna industry is plagued by numerous problems and is currently struggling for survival. Dwindling tuna resources, escalating costs, increasing taxes, and declining export prices were only some of the problems that Philippine tuna producers and processors faced in 1985. These problems were complicated by the national economic crisis, high interest rates, and the country's lack of foreign exchange; by the continuing slump in international tuna markets; and, perhaps most important, by Thailand's effectiveness in competing in the international canned tuna industry.

The government has responded to the seriousness of the situation by recently taking steps to alleviate some of the problems affecting the industry. Its most decisive action has been the implementation of Executive Order No. 1047 granting incentives for distant-water fishing operations. In addition, the government promulgated Executive Order No. 1016 in April 1985, abolishing the BFAR inspection fee on fishery product exports. Although it was largely ignored, the government reportedly lifted the 2 percent export tax in September 1985. And it also liberalized its policy in 1985 prohibiting the purchase of fishing vessels below 100 gt and more than ten years old by allowing fishing firms to import or charter fishing vessels that were 25-100 gt and 10-15 years old. No efforts, however, have been taken by the government to limit fishing effort, regulate the use of pavaos, or control the number of operators in the tuna industry.

Those measures taken to assist the tuna industry in 1985 are a positive indication of the Philippine government's intentions. Nonetheless, operators in the tuna industry have reason to question the government's good intentions. The taxes that were imposed on Philippine tuna exporters and those still in effect have eroded the industry's competitiveness, weakened its morale, and destroyed any cooperation that may have existed between industry and government. Moreover, the industry's confidence in government has been seriously shaken by the government's failure to grant the duty drawback for fuel oil for all fishing vessels regardless of where they operate. Added to this is the industry's contention that the MAF has purposely delayed issuing tuna import permits.

By far the biggest and most contentious issue looming over the future of the Philippine tuna industry is the government's intention to liberalize trade for several commodities including canned and frozen fish. If the government decides to implement the liberalization plan--whether on its own or as a result of pressure from international lending organizations--and if the plan authorizes the importation of canned mackerel and sardines, Philippine tuna processors will once again have to face competition from cheaper Japanese canned fish imports. This situation will certainly undermine the success that tuna processors have had on the local market since the ban on imported fish products in 1983, and it may spell the end of the Philippine tuna-canning industry because processors now depend on local sales of their canned mackerel and sardine production to sustain
their tuna operations. A decision on whether the liberalization plan will be imposed and whether it will apply to canned fish is expected sometime in 1986.

Government policies and inaction, however, are not the only factors behind the demise of the Philippine tuna industry. Even in the event of a favorable decision on the liberalization plan in the tuna industry’s behalf, it is not likely that the Philippines will be able to regain its position as the major tuna-processing nation in Southeast Asia and the largest exporter of canned tuna to the United States. The industry is overcapitalized, the resource is showing signs of being depleted, and supply shortages are a common complaint of the processing sector. There are also reports that the tuna industry is inefficient and particularly that the yield from processing canned tuna in the Philippines is lower than it is in many other countries. This inefficiency is due to several factors such as the smaller size of fish processed in the Philippines, the lack of motivation among the work force, and the poor quality control at sea and during the manufacturing process. The overall result is a product that many importers feel is inferior to other products on the international tuna market.

Overshadowing the problems brought about by government inaction and industry inefficiency is the general state of the Philippine economy. Economic conditions have deteriorated steadily since the early 1980s, and they are not likely to improve until the current political crisis is resolved. Even then, it will take time before the economy is revived and before local and foreign investors are inclined to renew investment in the tuna industry or the Philippine economy in general.

In view of this situation and the other problems affecting the Philippine tuna industry, it is unreasonable to expect a significant resurgence of the industry in the near future.
ABBREVIATIONS

BFAR  -  Bureau of Fisheries and Aquatic Resources
BOI   -  Board of Overseas Investment
DBP   -  Development Bank of the Philippines
FFAP  -  Federation of Fishing Associations of the Philippines
FIDC  -  Fishery Industry Development Council
FOB   -  Free on-board
gt    -  gross ton
ITA   -  International Trade Administration
kg    -  kilograms
L/C   -  letter of credit
MAF   -  Ministry of Agriculture and Food
mt    -  metric ton
NCSO  -  National Census and Statistics Office
NFA   -  National Food Authority
PNAC  -  Philippine-North American Conference
PPC   -  Philippines Packing Corporation
PTCC  -  Philippines Tuna Canning Corporation
PTPEA -  Philippine Tuna Producers and Exporters Association
SCSP  -  South China Sea Fisheries Development and Coordinating Programme
TCAP  -  Tuna Canning Association of the Philippines
TRF   -  Tuna Research Foundation
Appendix 1

MAJOR FEATURES OF PHILIPPINE PAYAOS

Three types of payaos are commonly used by commercial fishermen in the Philippine tuna fishery: inshore payaos, deep-sea payaos, and steel payaos. Inshore payaos cost approximately US$210 each, are generally used by small ringnettes, and are made of natural fibers and materials. They are anchored in up to 75 meters (m) of water with two concrete sinkers, each with anchor lines of about 120 m. Deep-sea payaos cost up to US$1000 and are generally made of the same materials used for inshore payaos. Often, discarded motor vehicle tires are cut in such a way that they can be used to replace expensive nylon line anchor lines. Both inshore and deep-sea inshore payaos are serviced by their owners' scout boats every two months during the fishing season. Steel payaos can cost up to US$2700; they measure 2.5 m wide, 60 centimeters high, and over 4 m long. They generally need repair only once a year and can withstand heavy seas. Their main disadvantage is that they can be easily sunk with a gun shot, a common practice used to reduce competition in the fishery.

The three types of payaos are approximately the same size. The surface area of the payao does not seem to be a critical factor in inducing schooling. Depth of water is also not considered a critical factor in inducing schooling as Filipino fishermen set payaos in known tuna grounds regardless of depth. The power of lights used to attract small bait fish to the surface during the night and prior to the tuna purse-seine operation, however, is critical. It is also a source of conflict between operators of different scales because stronger lights are able to attract more fish to the surface and often away from other operators in the area. For example, large purse-seine operators use 60-kilowatt bulbs or mercury lamps to attract bait fish around the vessel and the payao. Ringnet operators generally use 10-kilowatt bulbs.

In 1981 up to 2,000 payaos were in place in the Philippines, compared with approximately 900 in 1985. Most of these payaos were located in the Celebes Sea, Mindanao Sea, Moro Gulf, Sulu Sea, and the waters of western Luzon (Figure 1). Because of the cost of setting payaos and their potential to induce schooling, commercial operators have devised rental and commission fees to protect their investment. Rental fees to fish at a sister company's or joint-venture partner's payaos may be as high as US$200,000 a year. Commission fees to fish at a payao owned by another operator ranges up to 10 percent of the net income for the fish caught during a particular operation.

Commercial fishing around payaos is monitored by small-scale fishermen who, in return for their efforts, are permitted to handline around the payao. These fishermen watch for poachers and make free dives at the payao to monitor the amount of schooling. Nonetheless, poaching, vandalism, and violence are quite common. In an effort to curb these problems, the Philippine Tuna Producers and Exporters Association (PTPEA) has agreed to limit the number of payaos to 40 per purse-seine vessel. The PTPEA has
also agreed that the distance between payaos of different owners shall be at least 4 nautical miles. The distance between payaos of the same owner is optional.
Appendix 2

INCENTIVES AVAILABLE TO FISHERY ENTERPRISES IN THE PHILIPPINES

Under the Investment Incentives Act of 1968:

1. Deduction of organizational and pre-operation expenses from taxable income over a period of not more than ten years from start of operation.

2. Deduction of labor-training expenses from taxable income equivalent to 0.5% of expenses but not more than 10 percent of direct labor wage.

3. Accelerated depreciation.

4. Carry-over deduction from taxable income of net operating losses incurred in any of the first ten years of operation deductible for the six years immediately following the year of such loss.

5. Exemption/reduction and/or deferment of tariff duties and compensating tax on importation of machinery, equipment, and spare parts.

6. Tax credit equivalent to 100 percent of the value of compensating tax and customs duties that would have been paid on machinery, equipment, and spare parts (purchased from a domestic manufacturer), had these items been imported.

7. Tax credit for tax withheld on interest payments on foreign loans, provided that such credit is not enjoyed by lender-remittee in his country and that the registered enterprise has assumed liability for tax payment.

8. Deduction from taxable income in the year that reinvestment was made of a certain percentage of the amount of undistributed profits or surplus transferred to capital stock for procurement of machinery and equipment and other expansion.

9. Protection from government competition.

Under the Export Incentives Act of 1971:

1. Additional deduction from taxable income of direct labor cost and local raw materials utilized in the manufacture of export products but not exceeding 24 percent of total export revenues for producers, 10 percent of total export sales for traders; and 50 percent of total export fees for service exporters.
2. Preference in the grant of government laws.
3. Exemption from export and stabilization taxes.
4. Additional deduction from taxable income of 1 percent of incremental export sales.

Under the Agricultural Investment Incentives Act of 1977:

1. Accelerated depreciation of breeding stock. Under this decree, breeding stock is considered fixed asset or capital equipment subject to depreciation.

2. Additional deduction from taxable income of 25 percent of research and development expenses and 25 percent management training expenses of Philippine nationals provided deduction shall not exceed 10 percent of taxable income within seven years from date of registration.

3. Tax exemption on breeding stocks, fish, plants, and genetic materials imported within seven years from date of registration.

4. Additional deduction from taxable income of 30 percent of freight and transportation expenses within 7 years from date of registration of enterprises established in a preferred geographical area for fishery/agricultural development where transport facilities are deficient and such freight and transportation expenses are incurred in the course of transporting registered products from the enterprise's project area to the nearest economic marketing center as determined by the board.

Appendix 3

MEMBERS OF THE PHILIPPINE TUNA PRODUCERS & EXPORTERS ASSOCIATION

1982-83

TUNA PURSE-SEINE OPERATORS

BONAVENTURE FISHING CORP.
Mr. Vicente de Ocampo, Jr.
Operations Manager
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DOLE (PHILIPPINES) INC.
Mr. Luisito Goduco
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Tel. # 881311

FORTUNA MARICULTURE CORP.
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Operations Manager
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Tel. # 868775

FRABELLE FISHING CORP.
Mr. Francisco T. Laurel
President
235 Northbay Blvd.
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Tel. # 231651

MAR FISHING CO. INC.
Mr. Richard Cherry
President
Mr. V. Hizon (Procurement Mgr.)
6th V. Madrigal Bldg.
Ayala Ave., Makati, Metro Manila
Tel. # 8677

ORIENT MARINE & FISHING, RESOURCES
Mr. Johnny Yap Liwag
President
Rm. 211, Fed. of Chinese Chamber of Commerce,
Juan Luna corner Dasmarinas, Binondo Manila
Tel. # 461809

PANGUIL BAY FISHING ENTERPRISES CORP.
Gov. Muhammad Ali Dimaporo
President
Jovan Condominium, Shaw Blvd.
Corner Samat St., Mandaluyong
Metro Manila
Tel. # 794771

PENINSULA FISHING CORP.
Mr. Ruben S. Martinez
President
248 C. Arellano, Malabon
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PHILIPPINES TUNA VENTURE INC.
Mr. James L. Chiongbian
President
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Port Area, Manila
Tel. # 401081 1238/481803

RBL FISHING CORP.
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President
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Tel. # 235647/234051
MEMBERS OF THE PHILIPPINE TUNA PRODUCERS & EXPORTERS ASSOCIATION

1982-83

RJL MARTINEZ FISHING CORP.
Mr. Ruben S. Martinez
President
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RICSAN DEVELOPMENT CORP.
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President
Mr. Domingo Ang
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R & VT FISHERIES & DEVELOPMENT CORP.
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TUNA CANNERS

CENTURY CANNING CORP.
Mr. Richard Po
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JUDRIC CANNING CORP.
Mr. Tony. Curatolo
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Makati, Metro Manila
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SOUTH PACIFIC EXPORT CORP.
Mr. Mario Joaquin
President/Gen. Manager
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PUREFOODS CORP.
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Tel. # 601482/783311

STAR-KIST ASIA, LTD.
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Roxas Blvd.
Manila

Pacific Islands Development Program - 38
MEMBERS OF THE PHILIPPINE TUNA PRODUCERS & EXPORTERS ASSOCIATION
1982-83

TUNA LONG-LINE OPERATORS

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President
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PESCADOR CORP.
Mr. George Pe
President
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Tel. # 355061/352320

SEASCAPES DEVELOPMENT CORP.
Mr. Richard Boneng Ty
President
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Quezon City
Tel. # 604311/603789

WORLD MARINE & DEVELOPMENT CORP.
Dr. Modesto Llamas
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NOTES

1. Part of the reason explaining the rapid increase in total tuna production in the second half of the 1970s is that municipal landings were not recorded by the Bureau of Fisheries and Aquatic Resources (BFAR) prior to 1976.


7. According to an unpublished report by the BFAR, "Status of Philippine Tuna Fisheries," the west, south, and east Sulu Sea (statistical fishing areas) accounted for 30 percent of total tuna production in 1982, and the Moro Gulf accounted for 74 percent. The Bohol Sea accounted for 6 percent of total tuna production in 1982. It was the only other statistical fishing area to account for more than 5 percent of total tuna production.

8. Estimates are not available of the number of municipal hand-line fishermen operating in the tuna fishery and landing their catch in General Santos City.


10. Personal communication with operators in the Philippine tuna industry. Precise data are not available on the extent of the buying operations from small-scale fishermen in the late 1960s and early 1970s.

failures in tuna purse-seine operations were generally believed to be the result of the clarity of the water and the depth of the thermocline.


19. "Incentives for the Fisheries Industry," Asian Fishing & Shipping IV(1) (1979):8-11. According to the article, 56 fishery enterprises were approved by the Board of Investments for investment incentives from 1968 to 1979. Only 42 firms were reported to have operated during the 11 year period: 21 firms in commercial deep-sea fishing, 17 in fish processing, and 4 in fish farming.


22. For a full assessment of the effects of fishery industry development incentives, see MAF, FIDC, Review of Incentives and Industry Burdens For Fisheries, December 1984. (FIDC was located in the Ministry of Natural Resources, but it was abolished by Executive Order No. 967 at the end of 1984. Some former FIDC staff members, however, are still engaged in fisheries policy research at the MAF.)

24. Federation of Fishing Associations of the Philippines (FFAP), "Total Shipments of Frozen Tuna from January to December 1980 from Port of Manila, Davao City, and General Santos," unpublished report. R & VT Fisheries & Development Corporation and RBL Fishing Corporation were the only other PTPEA members active in the frozen tuna export industry in 1980 that were not among the top 12 exporters.

25. Personal communication with representatives of the FFAP.


28. Personal communication with the staff of the FIDC. In addition to the joint ventures operating in 1981, there were a dozen more joint-venture enterprises with approved applications not yet operating and several others with pending applications. Most of the applicants sought entry into the tuna industry.

29. Dole Philippines was granted a permit to process and export tuna in 1976. Although the PTPEA opposed Dole's permit application on the grounds that foreign controlled corporations are prohibited from exploiting Philippine natural resources, the Justice Department ruled in favor of the American transnational corporation and Dole started exporting tuna in 1977. See *Mindanao Report: A Preliminary Report on the Economic and Social Origins of Social Unrest* (Davao City: Afrim Resource Center, 1980), pp. 94-95.


33. The *Jasna* and the *Hornet* were owned by Geronimo Velasco, the former Minister of Energy and James Chiongbian's partner in Philippine Tuna Venture. The other three purse-seine vessels are still owned and operated by Chiongbian.
In addition, Chiongbian owns Eastship Fishing, which has four purse seiners in its fleet. These four vessels were built in France and reportedly financed by Star-Kist. Star-Kist also maintains an open letter of credit for Chiongbian with the Central Bank in the Philippines to facilitate frozen tuna exports.

34. The major difference between a tuna and mackerel net is the mesh size. Tuna nets in the Philippines are generally 3 inches (measured diagonally) in the wings and 2 inches in the back portion; mackerel nets are 1 inch and three-quarters of an inch, respectively.

35. Personnel communication with industry sources in October 1985. The total number of purse seiners in the Philippine tuna fishery in 1985 reported here does not include the seven vessels owned by James Chiongbian's two companies, Philippine Tuna Venture and Eastship Fishing. Although each of these vessels is believed to have fished during 1985, they operated irregularly and their combined production was less than 5,000 mt.


This report probably underestimates the purse-seine fishing effort in view of the substantial increase in total commercial production of skipjack, yellowfin, and big-eye tuna reported between 1981 and 1982 in Table 2.


Total purse-seine catch is not available in the Philippine fisheries statistics or from industry sources. Thus changes in the number of purse seiners operating in the Philippine tuna fishery during the 1980s cannot be compared with the increases in total commercial production of skipjack, yellowfin, and big-eye tuna between 1981 and 1983 as reported in Table 2.

38. Based on formal and informal interviews with Philippine tuna industry representatives in October 1985.


40. RBL Fishing changed its vessels' country of registration to avoid the import duty levied on fish caught by Philippine-flag vessels operating overseas. The production of its Malaysia-registered vessels in the waters off Sabah, however, is generally landed in Zamboanga. This could be viewed as smuggling, but the Philippine government has not taken any action.

41. James Chiongbian operated two or three of his vessels in Papua New Guinea in 1984. Production from these vessels, however, did not enter the Philippines. It was reportedly sold to Star-Kist and transshipped in Guam for canning in one of Star-Kist's canneries in American Samoa or Puerto Rico.
42. According to industry sources, Judric's production capacity in 1980 was optimistically estimated to be 750,000 cases a year, or approximately 40 mt a day (if a yield is assumed of 50 cases per mt of tuna processed and 365 days per year of operation). Santa Monica's rated capacity in 1980 was 600,000 cases a year (33 mt per day), Century's was 300,000 (16 mt), Premier's and Pure Food's were each 240,000 (13 mt), and South Pacific's was 180,000 (10 mt).

43. These estimates are based on a series of unpublished company profile reports by the FFAP staff. According to the reports, total canned tuna production in 1980 was 973,426 cases or 9,743 mt: 58 percent of production were institutional cases (6 x 66.5 ounce cans) destined for food service outlets, and 42 percent were standard cases (48 x 6.5 ounce cans). The total reported by the FFAP in 1980 is 13 percent less than the total quantity of exports reported by the National Census and Statistics Office in Tables 2 and 10.

44. According to industry sources, canned tuna exports totaled 1,718,597 cases in 1981 and 1,862,925 cases in 1982, or 16,449 mt and 18,321 mt, respectively. The value of canned tuna exports is not available.

45. Calculated from Table 6.

46. One major difference between contract sale agreements and consignment sale or lot sale agreements is that the final price is generally established before the product is processed. Such agreements reflect the processor's inability to market the finished product and thus frequently result in a lower price to the processor.

47. Calculated from Table 2 it is assumed that all Philippine canned tuna production use standard cases weighing 19.5 pounds each.


50. The total volume of canned tuna exported reported in Table 7 was 2,065,998 cases in 1983 and 1,851,538 cases in 1984, or 20,403 mt and 17,712 mt, respectively. The 1983 total is 13 percent less than the total volume of canned tuna exports reported in Tables 2 and 10.

51. The estimates of processed tuna reported here are based on total volume of canned tuna exports reported in Table 2. They are only rough estimates because the number of cases from each mt of tuna varies according to the size and quality of the tuna used in processing, the type of product being manufactured (i.e., whether it is flake, chunk, or solid pack), and the efficiency of the
processing operation. The estimate of 50 cases per mt used here is high and probably overestimates the efficiency of most Philippine packers.


53. FFAP, "Tuna Fish Utilization in the Philippines in 1980," unpublished report. The report indicates that approximately 36,000 mt of skipjack, yellowfin, and big-eye production were utilized locally in 1980: 20,000 mt of undersized skipjack (0.5-2.0 kgs) and 4,000 mt of skipjack/yellowfin 2-8 kgs were processed by domestic canners; and 12,000 mt of undersized skipjack and an unspecified amount of large yellowfin (greater than 40 kgs) were sold in the fresh fish market.

No explanation is available for the discrepancy between the total volume of exports in 1980 and the disaggregate FFAP tuna export figures.

54. The katsuobushi manufacturing process entails cutting, splitting, boiling, and boning the fish and repetitions of smoke-drying and cooling in which there is an 80-percent reduction in the live product weight to the finished product weight. Namaribushi is a product that has been boiled only; arabushi is a product that has been smoke-dried; hadakabushi is a product that been planed or dressed; and karebushi is a product that has been molded. This last stage can be repeated up to four times. For more details about the manufacturing process, see Kaoru Fujita, "Manufacturing 'katsuobushi," in Fisheries in Japan: Skipjack and Mackerel (Tokyo: Japan Marine Products Photo Materials Association, 1976), pp. 157-58.


57. The volume of frozen tuna exports in 1984 is an industry estimate. The value of exports in 1984 and data for 1985 are not available.


60. Estrella M. Santos, "BOI Approval of Tuna Fish Importers Hit," Daily Express, 21 December 1981.


68. "Urge More Teeth to Poaching Laws," Bulletin (January-February 1981), p. 7. At the time the article was written and according to BFAR Atty. Arsenio Adriano, 40 cases of illegal fishing were pending in various Philippine courts. Details are not available about the outcome of these cases or about settlements involving the apprehension of illegal operators fishing in Philippine waters.


73. Several frozen tuna exporters have not paid the 2 percent export tax on the grounds that Board of Overseas Investment (BOI)-registered firms are exempted from payment of all export taxes. Others paid in protest while the BOI sought the opinion of the Ministry of Justice, which subsequently found in the exporters' behalf in a decision rendered on 6 August 1984. This decision was overturned on 16 April 1985 after an appeal by the Minister of Finance, and it was ruled that frozen tuna exporters are subject to the export tax. See "Tuna and Shrimp Exports Imperilled: Justice and Finance Ministries Stand on Export Taxes Assailed," Bulletin, Vol. IX, No. 5-6 (May-June 1985):6.

74. The dispute between the fishing companies and processors represented in the PTFEA was also concerned with the importation permits granted to local processors to import tuna, mackerel, and sardines. While the fishing companies had misgivings about importing tuna, they were angered by the canners'
insistence on including 6,000 mt of sardine and mackerel because they felt that
the importation of sardines and mackerel would deflate prices for locally
captured varieties. See "Fish Canners, Commercial Fishers


80. The duty rates cited here refer to nations with most-favored-nation trade status. For a full description of the canned tuna quota regulations, see Jesse M. Floyd, Import Regulations in the United States: A Focus on Tuna Commodities from the Pacific Islands Region, Pacific Islands Development Program, East-West Center, Honolulu, Hawai'i, May 1985.


<table>
<thead>
<tr>
<th>Year</th>
<th>Skipjack</th>
<th>Yellowfin and big-eye</th>
<th>Frigate tuna</th>
<th>Eastern little tuna</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>1970</td>
<td>122 (1)</td>
<td>1,685 (19)</td>
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<td>7,247 (80)</td>
<td>9,054</td>
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<td>3,775 (46)</td>
<td>— b</td>
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<td>131 (1)</td>
<td>1,856 (20)</td>
<td>— b</td>
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<td>6,665 (30)</td>
<td>3,201 (14)</td>
<td>11,071 (49)</td>
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<td>11,415 (45)</td>
<td>2,247 (9)</td>
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<td>3,396 (16)</td>
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<td>28,328 (23)</td>
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<td>63,059 (29)</td>
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<td>50,899 (28)</td>
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<td>48,023 (24)</td>
<td>96,874 (48)</td>
<td>24,730 (12)</td>
<td>200,805</td>
</tr>
<tr>
<td>1981</td>
<td>38,439 (19)</td>
<td>56,176 (28)</td>
<td>78,248 (38)</td>
<td>30,891 (15)</td>
<td>203,754</td>
</tr>
<tr>
<td>1982</td>
<td>50,795 (23)</td>
<td>51,922 (24)</td>
<td>67,363 (31)</td>
<td>46,524 (21)</td>
<td>216,604</td>
</tr>
<tr>
<td>1983</td>
<td>57,151 (24)</td>
<td>62,036 (26)</td>
<td>74,219 (31)</td>
<td>48,880 (20)</td>
<td>242,286</td>
</tr>
<tr>
<td>1984</td>
<td>44,671 (20)</td>
<td>58,924 (26)</td>
<td>80,305 (36)</td>
<td>41,899 (19)</td>
<td>225,799</td>
</tr>
</tbody>
</table>

Source: Philippines, Bureau of Fisheries and Aquatic Resources (BFAR), *Fisheries Statistics of the Philippines*, selected years.

aIncludes production by commercial vessels only.
cPreliminary figures from the BFAR.

Note: Percent totals may not add to 100 percent due to rounding.
Table 2. Tuna production and trade in the Philippines, 1970-84

(Quantity = metric tons, Value = thousand US dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Skipjack, yellowfin and big-eye tuna production(^a)</th>
<th>Chilled/frozen tuna exports</th>
<th>Canned tuna exports (^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Municipal</td>
<td>Commercial</td>
</tr>
<tr>
<td>1970</td>
<td>1,807</td>
<td>--</td>
<td>1,807</td>
</tr>
<tr>
<td>1971</td>
<td>4,000</td>
<td>--</td>
<td>4,000</td>
</tr>
<tr>
<td>1972</td>
<td>1,987</td>
<td>--</td>
<td>1,987</td>
</tr>
<tr>
<td>1973</td>
<td>8,328</td>
<td>--</td>
<td>8,328</td>
</tr>
<tr>
<td>1974</td>
<td>14,176</td>
<td>--</td>
<td>14,176</td>
</tr>
<tr>
<td>1975</td>
<td>12,875</td>
<td>--</td>
<td>12,875</td>
</tr>
<tr>
<td>1976</td>
<td>73,652</td>
<td>50,991 (69)(^d)</td>
<td>22,661 (31)(^d)</td>
</tr>
<tr>
<td>1977</td>
<td>118,119</td>
<td>83,370 (71)</td>
<td>34,779 (29)</td>
</tr>
<tr>
<td>1978</td>
<td>96,759</td>
<td>76,424 (79)</td>
<td>20,335 (21)</td>
</tr>
<tr>
<td>1979</td>
<td>94,308</td>
<td>63,067 (67)</td>
<td>31,241 (33)</td>
</tr>
<tr>
<td>1980</td>
<td>79,201</td>
<td>55,219 (70)</td>
<td>23,982 (30)</td>
</tr>
<tr>
<td>1981</td>
<td>94,615</td>
<td>56,836 (60)</td>
<td>37,779 (40)</td>
</tr>
<tr>
<td>1982</td>
<td>102,717</td>
<td>51,747 (50)</td>
<td>50,970 (50)</td>
</tr>
<tr>
<td>1983</td>
<td>119,187</td>
<td>59,067 (50)</td>
<td>60,120 (50)</td>
</tr>
<tr>
<td>1984</td>
<td>103,595</td>
<td>52,470 (51)</td>
<td>51,125 (49)</td>
</tr>
</tbody>
</table>

Source: Philippines, Bureau of Fisheries and Aquatic Resources (BFAR), *Fisheries Statistics of the Philippines*, selected years; and National Census and Statistics Office (NCSO), "Report Prepared for the Philippine Fish Development Authority (PFDA)," unpublished.

\(^a\)Estimates of the value of municipal and commercial tuna production are not available in the *Fisheries Statistics of the Philippines*.


\(^c\)Export value quoted on an FOB basis.

\(^d\)Includes production by commercial vessels only.

\(^e\)Percent of total skipjack, yellowfin, and big-eye tuna production.

\(^f\)Preliminary figures from the BFAR.

\(^f\)Industry estimate.

-- Indicates that BFAR and NCSO data are not available.
Table 3. Major tuna\textsuperscript{a} producing nations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>Japan</td>
<td>724</td>
<td>669</td>
<td>716</td>
<td>635</td>
<td>668</td>
<td>690</td>
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<td>218</td>
<td>226</td>
<td>222</td>
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<td>South Korea</td>
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<td>125</td>
<td>110</td>
<td>105</td>
<td>108</td>
<td>89</td>
</tr>
<tr>
<td>Spain</td>
<td>100</td>
<td>96</td>
<td>100</td>
<td>114</td>
<td>122</td>
<td>126</td>
</tr>
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<td>97</td>
<td>94</td>
<td>79</td>
<td>95</td>
<td>103</td>
<td>113</td>
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<td>75</td>
<td>64</td>
<td>72</td>
<td>73</td>
<td>60</td>
<td>84</td>
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<td>Papua New Guinea</td>
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<td>27</td>
<td>34</td>
<td>24</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Indonesia</td>
<td>47</td>
<td>61</td>
<td>73</td>
<td>79</td>
<td>90</td>
<td>106</td>
</tr>
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<td>Mexico</td>
<td>26</td>
<td>31</td>
<td>34</td>
<td>68</td>
<td>38</td>
<td>28</td>
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<td>Ecuador</td>
<td>24</td>
<td>34</td>
<td>19</td>
<td>19</td>
<td>21</td>
<td>15</td>
</tr>
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<td>Maldives</td>
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<td>22</td>
<td>28</td>
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<td>20</td>
<td>26</td>
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<td>Solomon Islands</td>
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<td>23</td>
<td>25</td>
<td>20</td>
<td>34</td>
</tr>
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<td>Sri Lanka</td>
<td>16</td>
<td>14</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>16</td>
<td>13</td>
<td>16</td>
<td>16</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Australia</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>18</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Ghana</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Others</td>
<td>224</td>
<td>206</td>
<td>200</td>
<td>202</td>
<td>221</td>
<td>245</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,839</td>
<td>1,714</td>
<td>1,770</td>
<td>1,753</td>
<td>1,763</td>
<td>1,790</td>
</tr>
</tbody>
</table>


\textsuperscript{a}Including albacore, yellowfin, skipjack, big-eye, northern bluefin, and southern bluefin tuna only.

--- Indicates data not available.
Table 4. Profiles of major tuna exporters in the Philippines in 1980

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of employees</th>
<th>Machinery &amp; equipment</th>
<th>Estimated capacity (metric tons)</th>
<th>Production in 1980 (metric tons)</th>
<th>Unutilized Capacity (percent)</th>
<th>Exports in 1980 (metric tons)</th>
<th>Exports in 1980 (percent of production)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonaventure</td>
<td>60</td>
<td>2 Tuna seiners, 1 ref. carrier</td>
<td>5,000</td>
<td>1,500</td>
<td>70</td>
<td>1,300</td>
<td>87</td>
</tr>
<tr>
<td>Dole Phils. Inc.</td>
<td>230</td>
<td>1 Storage plant with a capacity to store 1,000 metric tons a month</td>
<td>10,000</td>
<td>4,700</td>
<td>53</td>
<td>4,700</td>
<td>100</td>
</tr>
<tr>
<td>Eastgate Export Corp.</td>
<td>140</td>
<td>4 Tuna longliners, 3 support crafts, 7 cold storages in 7 buying stations</td>
<td>2,600</td>
<td>1,094</td>
<td>58</td>
<td>1,094</td>
<td>100</td>
</tr>
<tr>
<td>Fortuna Mariculture Corp.</td>
<td>192</td>
<td>2 Ref. carriers, 1 reefer barge, 2 tuna seiners, 3 ice boats, 4 support craft</td>
<td>8,000</td>
<td>2,355</td>
<td>71</td>
<td>1,413</td>
<td>60</td>
</tr>
<tr>
<td>Frabelle Fishing Corp.</td>
<td>2,000</td>
<td>15 Tuna seiners, 8 sardine seiners, 10 ref. carriers, 10 ice boats, 77 support craft</td>
<td>20,000</td>
<td>10,000</td>
<td>50</td>
<td>3,706</td>
<td>37</td>
</tr>
<tr>
<td>Mar Fishing Co. Inc.</td>
<td>100</td>
<td>2 Ref. carriers, 3 ice boats</td>
<td>5,000</td>
<td>1,790</td>
<td>64</td>
<td>1,790</td>
<td>100</td>
</tr>
<tr>
<td>Orient Marine &amp; Fishing Resources</td>
<td>250</td>
<td>5 Tuna seiners, 2 other fish catchers, 4 ref. carriers</td>
<td>12,600</td>
<td>3,559</td>
<td>71</td>
<td>3,559</td>
<td>100</td>
</tr>
<tr>
<td>Peninsula Fishing Co. Inc.</td>
<td>100</td>
<td>3 Tuna seiners, 3 ref. carriers</td>
<td>9,000</td>
<td>5,368</td>
<td>40</td>
<td>5,368</td>
<td>100</td>
</tr>
<tr>
<td>Phil. Tuna Venture Inc.</td>
<td>230</td>
<td>5 Tuna seiners, 2 ref. carriers</td>
<td>25,000</td>
<td>7,773</td>
<td>69</td>
<td>7,573</td>
<td>98</td>
</tr>
<tr>
<td>Ricsan Dev. Corp.</td>
<td>600</td>
<td>3 Tuna seiners, 5 longliners, 5 ref. carriers, 10 support craft, 1 storage plant</td>
<td>21,000</td>
<td>9,854</td>
<td>53</td>
<td>8,968</td>
<td>91</td>
</tr>
<tr>
<td>RJL Martinez Fishing Corp.</td>
<td>1,500</td>
<td>3 Tuna seiners, 6 sardine seiners, 10 ref. carriers, 8 ice boats, 53 support crafts</td>
<td>27,000</td>
<td>11,709</td>
<td>57</td>
<td>5,655</td>
<td>48</td>
</tr>
</tbody>
</table>

Source: FFAP, unpublished company profile reports.
Table 5. Composition of the Philippines tuna fishing fleet in 1981

<table>
<thead>
<tr>
<th>Company</th>
<th>Purse-seine units</th>
<th>Average size (gross tons)</th>
<th>Company</th>
<th>Longline units</th>
</tr>
</thead>
<tbody>
<tr>
<td>R A VT Fisheries</td>
<td>14</td>
<td>135 (11)</td>
<td>Ricean Develop</td>
<td>5</td>
</tr>
<tr>
<td>Rull Martinez/Peninsula</td>
<td>12</td>
<td>1093 (6)</td>
<td>Eastgate Export</td>
<td>4</td>
</tr>
<tr>
<td>Frabelle Fishing</td>
<td>10</td>
<td>277 (9)</td>
<td>Seacapes Develop</td>
<td>8</td>
</tr>
<tr>
<td>Philippine Tuna Venture</td>
<td>9</td>
<td>612 (9)</td>
<td>World Marine</td>
<td>12</td>
</tr>
<tr>
<td>Ricean Development</td>
<td>6</td>
<td>343 (3)</td>
<td>Trans-Ocean Fishing</td>
<td>14</td>
</tr>
<tr>
<td>BBL Fishing</td>
<td>6</td>
<td>220 (6)</td>
<td>ISM Fishing</td>
<td>3</td>
</tr>
<tr>
<td>Fortuna Mariculture</td>
<td>3</td>
<td>424 (3)</td>
<td>AA Export</td>
<td>2</td>
</tr>
<tr>
<td>Mar Fishing</td>
<td>2</td>
<td>456 (2)</td>
<td>Agro Sources Fishing</td>
<td>2</td>
</tr>
<tr>
<td>Orient Marine</td>
<td>2</td>
<td>144 (2)</td>
<td>Murex Development</td>
<td>1</td>
</tr>
<tr>
<td>Bonaventure Fishing</td>
<td>3</td>
<td>191 (3)</td>
<td>Southern Fishing</td>
<td>2</td>
</tr>
<tr>
<td>Pelican Fishing</td>
<td>3</td>
<td>287 (3)</td>
<td>Miroamar</td>
<td>1</td>
</tr>
<tr>
<td>Rebecca Fishing</td>
<td>2</td>
<td>111 (2)</td>
<td>Orient Marine</td>
<td>2</td>
</tr>
<tr>
<td>S &amp; S/Sandovall</td>
<td>2</td>
<td>111 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queens Fishing</td>
<td>2</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Fishing</td>
<td>2</td>
<td>111 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panorama Fishing</td>
<td>2</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>80</strong></td>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>


\(^a\) Taiwanese type, 20-79 gross tons.

\(^b\) Indicates the number of vessels for which information was available to compute the average size of each company's fishing vessels.

\(--\) Indicates data not available.
### Table 6. Philippine canned tuna export production by company, 1981-82

<table>
<thead>
<tr>
<th>Company</th>
<th>Year</th>
<th>United States Retail</th>
<th>United States Food Service</th>
<th>Europe Retail</th>
<th>Europe Food Service</th>
<th>Canada Retail</th>
<th>Canada Food Service</th>
<th>Other Countries Retail</th>
<th>Other Countries Food Service</th>
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</thead>
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<tr>
<td>Century</td>
<td>1981</td>
<td>145,350</td>
<td>120,675</td>
<td>62,200</td>
<td>6,510</td>
<td>1,450</td>
<td>-</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>1982</td>
<td>75,870</td>
<td>199,595</td>
<td>37,900</td>
<td>76,740</td>
<td>-</td>
<td>-</td>
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<td>6,000</td>
</tr>
<tr>
<td>Judric</td>
<td>1981</td>
<td>122,300</td>
<td>146,770</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1982</td>
<td>65,150</td>
<td>74,085</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
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<td>Majescan</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>1982</td>
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<td>3,354</td>
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<td>Pure Foods</td>
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<td>103,050</td>
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<td>-</td>
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<td>45,900</td>
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<td>-</td>
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<td>d</td>
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<td>65,855</td>
<td>125,565</td>
<td>15,765</td>
<td>28,700</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>South Pacific</td>
<td>1981</td>
<td>64,600</td>
<td>-</td>
<td>1,450</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
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<td>1982</td>
<td>22,500</td>
<td>-</td>
<td>348</td>
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<tr>
<td>Standard</td>
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<td>-</td>
<td>7,850</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td></td>
<td>1982</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL e</td>
<td>1981</td>
<td>527,300</td>
<td>464,810</td>
<td>277,600</td>
<td>147,560</td>
<td>275,777</td>
<td>-</td>
<td>25,250</td>
<td>300</td>
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<td></td>
<td>1982</td>
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<td>741,835</td>
<td>159,399</td>
<td>160,648</td>
<td>329,410</td>
<td>-</td>
<td>12,000</td>
<td>60</td>
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</tbody>
</table>

Source: Personal communication with industry representatives.

---

a Accurate estimates of the total value of each company's canned tuna production are not available. One reason such estimates are difficult to obtain is because the value of a case of canned tuna varies according to the type, size, and quality of tuna processed; according to the can size in each case; and according to whether the product is flake, chunk, or solid pack.

b A standard case consists of 48 x 6.5 ounce cans and weighs approximately 19.5 pounds.

c A food service case consists of 6 x 66.5 ounce cans and weighs 24.93 pounds.

d Santa Monica Canning Corporation re-incorporated in 1982 and changed its name to Sancanco in order to qualify for Board of Investment (BOI) incentives.

The annual totals reported here are consistently less than the total volume of canned tuna exports reported by NCSD in Table 2. No explanation is available to explain the discrepancy.
Table 7. Philippine canned tuna export production by company, 1983-84
(cases)\(^a\)

<table>
<thead>
<tr>
<th>Company</th>
<th>Year</th>
<th>United States Retail(^b)</th>
<th>Food service(^b)</th>
<th>Europe Retail</th>
<th>Food service</th>
<th>Canada Retail</th>
<th>Food service</th>
<th>Other Countries Retail</th>
<th>Food service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Century</td>
<td>1983</td>
<td>148,200</td>
<td>171,800</td>
<td>33,555</td>
<td>20,250</td>
<td>3,000</td>
<td></td>
<td>3,680</td>
<td>1,180</td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>114,680</td>
<td>88,260</td>
<td>87,150</td>
<td>41,950</td>
<td>1,500</td>
<td></td>
<td>38,500</td>
<td></td>
</tr>
<tr>
<td>Diamond</td>
<td>1983</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1,322</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1,500</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Judric</td>
<td>1983</td>
<td>161,550</td>
<td>88,061</td>
<td>9,205</td>
<td>4,350</td>
<td>--</td>
<td></td>
<td>27,000</td>
<td>8,800</td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>6,100</td>
<td>16,200</td>
<td>6,000</td>
<td>1,385</td>
<td>1,500</td>
<td></td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Kingston</td>
<td>1983</td>
<td>--</td>
<td>--</td>
<td>29,700</td>
<td>20,000</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Mar Fishing</td>
<td>1983</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>18,672</td>
<td>--</td>
<td>127,568</td>
<td>--</td>
<td>535,576</td>
<td></td>
<td>497,337</td>
<td></td>
</tr>
<tr>
<td>Philippine</td>
<td>1983</td>
<td>26,300</td>
<td>137,850</td>
<td>9,100</td>
<td>--</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Tuna</td>
<td>1984</td>
<td>44,507</td>
<td>72,434</td>
<td>30,380</td>
<td>11,980</td>
<td>2,250</td>
<td>750</td>
<td>13,483</td>
<td>550</td>
</tr>
<tr>
<td>Phia Sunrise</td>
<td>1983</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>1,500</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Premier</td>
<td>1983</td>
<td>14,600</td>
<td>40,045</td>
<td>32,100</td>
<td>32,080</td>
<td>--</td>
<td></td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>16,500</td>
<td>6,140</td>
<td>20,905</td>
<td>53,950</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Pure Foods</td>
<td>1983</td>
<td>57,550</td>
<td>56,100</td>
<td>5,400</td>
<td>18,868</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>61,296</td>
<td>17,650</td>
<td>19,944</td>
<td>1,400</td>
<td>1,500</td>
<td></td>
<td>--</td>
<td>350</td>
</tr>
<tr>
<td>Sancanco(^d)</td>
<td>1983</td>
<td>67,050</td>
<td>210,365</td>
<td>4,250</td>
<td>10,180</td>
<td>--</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>105,700</td>
<td>127,300</td>
<td>6,000</td>
<td>8,350</td>
<td>5,900</td>
<td></td>
<td>1,287</td>
<td></td>
</tr>
<tr>
<td>TOTAL(^e)</td>
<td>1983</td>
<td>475,250</td>
<td>704,251</td>
<td>153,780</td>
<td>151,180</td>
<td>538,576</td>
<td></td>
<td>32,600</td>
<td>10,280</td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>368,755</td>
<td>325,984</td>
<td>375,527</td>
<td>216,165</td>
<td>509,987</td>
<td>750</td>
<td>53,820</td>
<td>550</td>
</tr>
</tbody>
</table>

Source: Personal communication with industry representatives.

\(^a\) Accurate estimates of the total value of each company's canned tuna production are not available. One reason such estimates are difficult to obtain is because the value of a case of canned tuna varies according to the type, size, and quality of tuna processed; according to the can size in each case; and according to whether the product is flake, chunk, or solid pack.

\(^b\) A food service case consists of 6 x 6.5 ounce cans and weighs approximately 19.5 pounds.

\(^d\) A standard case consists of 4 x 6.5 ounce cans and weighs 24.93 pounds.

\(^e\) As of September 5, 1983.

\(^d\) Sancanco, Inc. (formerly Fiesta Foods) re-incorporated in 1982 and changed its name to Sancanco in order to qualify for BDO incentives.

The annual totals reported here are consistently less than the total volume of canned tuna exports reported by NCSO in Table 2. No explanation is available to explain the discrepancy.
Table 8. Capacity of major tuna canneries in the Philippines in 1984-85

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Estimated capacity 8 hour shift (metric tons)</th>
<th>Cold storage Capacity (metric tons)</th>
<th>Operating status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Century</td>
<td>Taguig, Metro Manila</td>
<td>50</td>
<td>200</td>
<td>Largest of the Philippine-owned canneries.</td>
</tr>
<tr>
<td>Insular</td>
<td>Cebu</td>
<td>15</td>
<td>n.a.</td>
<td>Processed tuna in 1985 only.</td>
</tr>
<tr>
<td>Kingston</td>
<td>Zamboanga</td>
<td>10-15</td>
<td>none</td>
<td>Processing primarily mackerel for the local market.</td>
</tr>
<tr>
<td>Mar Fishing</td>
<td>Zamboanga</td>
<td>55-60</td>
<td>1,000</td>
<td>Only canner using two-piece cans and not processing mackerel. Utilized forty-two percent of optimum canning capacity in 1984.</td>
</tr>
<tr>
<td>Philippine</td>
<td>Zamboanga</td>
<td>35</td>
<td>400-600</td>
<td>Cold storage became fully operational in December 1985.</td>
</tr>
<tr>
<td>Philsunrise</td>
<td>Cebu</td>
<td>10-15</td>
<td>n.a.</td>
<td>Processed tuna in 1984 only.</td>
</tr>
<tr>
<td>Premier</td>
<td>Cebu</td>
<td>30</td>
<td>200</td>
<td>--</td>
</tr>
<tr>
<td>Pure Foods</td>
<td>General Santos</td>
<td>30</td>
<td>none</td>
<td>Reportedly for sale.</td>
</tr>
<tr>
<td>Sancanco</td>
<td>General Santos</td>
<td>40</td>
<td>500</td>
<td>Became operational in May 1985.</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>Valenzuela, Metro Manila</td>
<td>40</td>
<td>n.a.</td>
<td>Only major canny not a member of the Tuna Canners Association of the Philippines (TCAF).</td>
</tr>
<tr>
<td>Tresco</td>
<td>Cebu</td>
<td>30</td>
<td>n.a.</td>
<td>Processed tuna in 1985 only. It recently discontinued its tuna operations.</td>
</tr>
</tbody>
</table>

Source: Personal communication with industry personnel.

-- Indicates data not available.
Table 9. Philippine chilled/frozen tuna exports by destination, 1979-82

(Quantity = metric tons; Value = thousand US dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Quantity</td>
<td>Value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>23,536</td>
<td>20,383</td>
<td>26,770</td>
<td>23,616</td>
<td>6,509</td>
</tr>
<tr>
<td>Italy</td>
<td>Q</td>
<td>2,950</td>
<td>9,480</td>
<td>5,651</td>
<td>4,545</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>4,532</td>
<td>15,653</td>
<td>8,412</td>
<td>4,893</td>
</tr>
<tr>
<td>Japan</td>
<td>Q</td>
<td>2,949</td>
<td>1,923</td>
<td>3,710</td>
<td>5,128</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>2,623</td>
<td>2,993</td>
<td>5,810</td>
<td>5,684</td>
</tr>
<tr>
<td>Singapore</td>
<td>Q</td>
<td>1,320</td>
<td>4,138</td>
<td>1,696</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>2,156</td>
<td>6,874</td>
<td>2,407</td>
<td>0</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Q</td>
<td>1,127</td>
<td>1,115</td>
<td>325</td>
<td>1,108</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>1,058</td>
<td>1,715</td>
<td>559</td>
<td>849</td>
</tr>
<tr>
<td>Others</td>
<td>Q</td>
<td>1,060</td>
<td>3,863</td>
<td>831</td>
<td>531</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>1,077</td>
<td>6,313</td>
<td>1,551</td>
<td>382</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Q</td>
<td>32,890</td>
<td>47,290</td>
<td>35,830</td>
<td>17,731</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>31,829</td>
<td>65,240</td>
<td>45,707</td>
<td>15,927</td>
</tr>
</tbody>
</table>


¹BFAR preliminary figures.

Table 10. Philippine canned tuna exports by destination, 1979-82

(Quantity = metric tons; Value = thousand US dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td></td>
<td>3,211</td>
<td>8,217</td>
<td>10,699</td>
<td>13,252</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Q</td>
<td></td>
<td>0</td>
<td>195</td>
<td>1,327</td>
<td>1,368</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>--</td>
<td>--</td>
<td>4,363</td>
<td>3,671</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Q</td>
<td>14</td>
<td>13</td>
<td>1,687</td>
<td>1,268</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>--</td>
<td>--</td>
<td>5,274</td>
<td>3,584</td>
<td></td>
</tr>
<tr>
<td>West Germany</td>
<td>Q</td>
<td>134</td>
<td>1,906</td>
<td>2,990</td>
<td>2,717</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>--</td>
<td>--</td>
<td>8,717</td>
<td>6,115</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Q</td>
<td>670</td>
<td>728</td>
<td>294</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>--</td>
<td>--</td>
<td>701</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Q</td>
<td>50</td>
<td>92</td>
<td>1,306</td>
<td>792</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>--</td>
<td>--</td>
<td>3,374</td>
<td>1,945</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>Q</td>
<td>4,074</td>
<td>11,151</td>
<td>18,033</td>
<td>19,411</td>
<td>23,537</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>6,504</td>
<td>29,486</td>
<td>51,718</td>
<td>42,739</td>
<td>50,725</td>
</tr>
</tbody>
</table>


*Data reported by the NCSO, "Report Prepared for the PPDA," unpublished; and PPDA, "Status of the Philippine Tuna Fisheries," unpublished. Reliable data on the volume and value of export trade in canned tuna are not available in the Philippine Fishery Statistics until 1981.

**NCSO preliminary data. Export data by destination are not available.


--- Indicates data not available.
### Table 11. Cost of tuna canning operations in the Philippines and Thailand, 1984

<table>
<thead>
<tr>
<th>Fish supply:</th>
<th>Philippines</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen fish imports</td>
<td>Seasonal import restrictions. Cannot enter into long-term contracts because there is no guarantee of the continuing availability of foreign exchange or the level of permissible imports. 1 percent BFAR import tax. (Lifted in 1985.)</td>
<td>No restrictions. Long-term contracts available. Importing 3-4,000 tons per week in third quarter of 1984.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Import Fees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing costs:</td>
<td></td>
</tr>
<tr>
<td>Fish prices</td>
<td>US$600 for skipjack 1-1.8kg.</td>
</tr>
<tr>
<td>Labor</td>
<td>£53 per day or US$3.18 (1984 exchange).</td>
</tr>
<tr>
<td>Electricity</td>
<td>$1.87 per kw/hr (approx US$0.11)</td>
</tr>
<tr>
<td>Freight cost to U.S. west coast</td>
<td>US$1300 per container.</td>
</tr>
<tr>
<td>Packing costs:</td>
<td>US$650 FOB/ $720-750 C&amp;F for same product.</td>
</tr>
<tr>
<td>Tin plate supply</td>
<td>US$37 per hr/ $2.96 per day.</td>
</tr>
<tr>
<td>Cans</td>
<td>10-20 percent less.</td>
</tr>
<tr>
<td>Total packing a</td>
<td>Less due to volume discount and more frequent shipping service.</td>
</tr>
<tr>
<td>Interest cost:</td>
<td>No restrictions on imports or L/Cs.</td>
</tr>
<tr>
<td>Packing credits</td>
<td>Approximately 50 percent less.</td>
</tr>
<tr>
<td>Regular interest</td>
<td>US$2.80</td>
</tr>
<tr>
<td>Letters of Credit (L/C):</td>
<td></td>
</tr>
<tr>
<td>Margin</td>
<td>8-9 percent.</td>
</tr>
<tr>
<td>Restrictions</td>
<td>15-18 percent.</td>
</tr>
<tr>
<td>Subject to dollar availability and OB allocation.</td>
<td>Nothing specified.</td>
</tr>
</tbody>
</table>

| Taxes: | |
| Export dollars | Subject to stabilization tax. |
| Outward freight/C&F Exports | Dollars cost $19.80 compared with $16.80 received. |
| Export tax | 2 percent of total FOB value. |
| Export inspection fee | 0.5 percent of total FOB value. |
| Foreign duties: | 0.72 percent U.S. ad valorem countervailing duty on canned tuna. |


aTotal cost of cans, cartons, and labels for a standard case (i.e., 48 cans 1.81 inches high and 3.44 inches wide).
Note: The shaded areas indicate the location of payaos in the Philippines tuna fishery in 1981. The information is based on an untiiled, unpublished report by the Federation of Fishing Associations of the Philippines.
THE EAST-WEST CENTER is a public, nonprofit educational institution with an international board of governors. Some 2,000 research fellows, graduate students, and professionals in business and government each year work with the Center’s international staff in cooperative study, training, and research. They examine major issues related to population, resources and development, the environment, culture, and communication in Asia, the Pacific, and the United States. The Center was established in 1960 by the United States Congress, which provides principal funding. Support also comes from more than 20 Asian and Pacific governments, as well as private agencies and corporations.

Situated on 21 acres adjacent to the University of Hawaii’s Manoa Campus, the Center’s facilities include a 300-room office building housing research and administrative offices for an international staff of 250, three residence halls for participants, and a conference center with meeting rooms equipped to provide simultaneous translation and a complete range of audiovisual services.
PACIFIC ISLANDS DEVELOPMENT PROGRAM

The purpose of the Pacific Islands Development Program (PIDP) is to help meet the special development needs of the Pacific Islands region through cooperative research, education, and training. PIDP also serves as the Secretariat for the 1980 Pacific Islands Conference, a heads of government meeting involving leaders from throughout the Pacific region, and for the Pacific Islands Conference Standing Committee, which was established to ensure follow-up on development problems discussed at the Conference.

PIDP's research, education, and training activities are developed as a direct response to requests from the Standing Committee. PIDP's projects are planned in close cooperation with the Committee to ensure that the focus and the organization of each project address the needs identified by the heads of government on the Committee, a process which is unique within the East-West Center and in other research and educational organizations serving the Pacific.

A major objective of the program has been to provide quality in-depth analytical studies on specific priority issues as identified by the Pacific Island leaders and people. The aim is to provide leaders with detailed information and alternative strategies on policy issues. Each Island country will make its own decision based on national goals and objectives. Since 1980, PIDP has been given the task of research in six project areas: energy, disaster preparedness, aquaculture, government and administrative systems, roles of multinational corporations, and business ventures development and management.