

The Japanese are seeking skipjack tuna in waters that reach halfway around the world.

Japanese Skipjack Tuna Fishery Development in Foreign Areas (Katsuo Kaihatsu—Kaigai Katsuo-zuri Gyogyo)

INTRODUCTION

The first of Japan's postwar foreign-based skipjack tuna fisheries was established in northern Borneo in 1960. The fishery, however, was beset with such problems as mass rioting and attacks which endangered the very lives of staff personnel. It was unavoidable that under these conditions the enterprise had to be suspended. In 1962, a fishing operation began in the Gulf of Guinea from a base in Tema, Ghana. Although problems and obstacles were encountered along the way, the fishery has managed to survive over the past 10 years and in general has done very well.

Joint ventures in foreign countries have become of considerable importance during the last several years, beginning in 1969 when a Japanese private firm submitted an application to participate in the Indonesia Fishery Development Project sponsored by FAO in Sorong, West Irian. This was the beginning of this type of activity. Soon, test fishing off Papua New Guinea began from Kavieng in the Bismarck Archipelago. This was followed by operations from bases in Manus, Madang, and Rabaul, and new enterprises began to increase in numbers.

Next, there was a move into waters of the British Solomons where joint ventures have since been established. In Indonesia, test fishing was conducted in waters of Halmahera Island, the eastern and southern Celebes, Sunda Sea, off southwestern Sumatra, and in West Irian waters. Starting in 1972, there was a significant expansion of activities in the Comores Archipelago by vessels based in Madagascar. Meanwhile, numerous enter-

prises were established to purchase fish in various areas (e.g., Palau, Maldives).

If we stop to consider the reasons for the tremendous development of skipjack tuna fisheries in foreign waters, the following points are evident:

1. In light of the declining tuna longline catch rates, attributable to reduction in resource levels, skipjack tuna have become markedly important as an alternate resource having considerable potential for further development.

2. The mercury-in-canned-tuna problem that arose in the U.S. market in 1970 focused attention on skipjack tuna as the more desirable tuna for canning since this species was found to have relatively low mercury content. The demand for skipjack tuna thus increased substantially.

3. Because of the possibility of harmful aftereffects from synthetic chemical food seasoning, the demand for skipjack as a natural food seasoning has grown.

4. The shortage in Japan of baitfish essential to an expanded skipjack tuna pole-and-line fishery makes it necessary to establish cooperative ventures with foreign coastal countries where baitfish are available.

5. The movement by various countries to establish and to enlarge their territorial seas and fishery zones has threatened Japanese access to areas where baitfish occur.

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and to skipjack fishing grounds as well.

6. The manpower shortages in our fishing industry can be alleviated by hiring in foreign areas where labor is not only plentiful but inexpensive also (e.g., the contracting of Okinawan fishermen and vessels for certain enterprises prior to the reversion of Okinawa to Japan).

7. FAO is assisting developing countries through fishery development, and considers skipjack tuna a primary potential resource. It is conducting feasibility studies in various areas and is also training local personnel in skipjack tuna fishing methods and techniques.

8. Various coastal countries, many of which are in the "developing" category, are interested in receiving financial and technical assistance from Japan in order to promote their fisheries and thereby enlarge their economic base.

9. The tuna trading companies in Japan and the canners in the United States are in need of a steady, dependable supply of raw material. They have been making direct overtures to industry and government people in the various coastal countries with fishery development plans, and such plans have also been forwarded to interested fishing firms in Japan.

10. In addition to the advances of the American purse seiners into the skipjack tuna fishery, our neighboring countries (Republic of Korea and the Republic of China) have also begun to evince great interest in this fishery.

Thus, concerning Japanese investments in foreign areas, there are at present full-scale commercial operations in Papua New Guinea, where there are three jointly owned local corporations. In addition, joint ventures are being negotiated in British Solomons, Indonesia, Madagascar, and Ghana, each with one company involved. In Indonesian waters, there is trial fishing being conducted from bases in Kendari on Celebes Island, and in the Flores Sea. There is a survey underway in the Maldives and a baitfish survey is also planned for Sri Lanka. In addition, FAO has some work underway in Samoa and Fiji. Thus, there is much activity on skipjack tuna development over a very broad area of the Pacific and Indian Oceans.

Before a fishery can be developed, however, there must be studies con-



ducted on baitfish availability, skipjack tuna migration and seasonality, skipjack tuna marketing condition, requirements of the local government pertaining to economic promotion (e.g., economics of processing fish locally, training of local fishermen), and myriad other factors taken into account. This is certainly no overnight task.

PAPUA NEW GUINEA

The skipjack tuna live-bait fishing surveys, as well as the joint ventures which have been subsequently established, produced excellent results at the outset. In January 1967 an inter-governmental meeting was held between Australia and Japan to discuss effects of fishing by Japanese tuna longline vessels in the vicinity of Australia. The meeting was called to determine the actual amounts of fish being taken by the longline vessels within the Australian fishery zone (12 miles). A result of this meeting was the signing of the Japan-Australia Fishery Treaty in November 1968.

The Treaty took effect on August 1969, and one of the provisions was for a positive contribution by Japan toward fishery promotion in Papua New Guinea, with steps to be taken for the establishment of joint ventures. The development of the economy of Papua New Guinea was strongly advocated by the Australian Government, and the Japanese agreement to assist in this development was written into

the Treaty. In this regard, it was agreed that:

1. The Far Seas Fisheries Research Laboratory and the Shizuoka Prefectural Fisheries Experimental Station would utilize their research vessels to conduct surveys on skipjack distribution, fishing grounds, and tuna baitfish in Papua New Guinea.

2. The Japan Fisheries Association (Dai-Nippon Suisan Kai) would conduct a survey to examine the general economic situation of the area and to critically study the various provisions for establishing joint ventures.

3. The Overseas Technical Cooperation Agency (Kaigai Gijutsu Kyoroku Jigyo Dan) would dispatch a survey team to study plans for the establishment of fish processing facilities in Papua New Guinea, among other missions. In addition, various private companies were also to conduct unofficial surveys.

As a result of the above, the following test fishing and the subsequent development into joint ventures have taken place.

Kavieng (New Ireland)

The provision of the Japan-Australia Fishery Treaty that called for the development of the Papua New Guinea fishery served as the background for the initiation of fishing trials. The results showed that waters of New Ireland, New Britain, and the waters north of the Papua New Guinea mainland abounded with skip-

jack tuna and that the resource was essentially unutilized. At the request of local authorities, a very intense survey was conducted in these waters. It was learned that with Kavieng, New Ireland, as the base of operations, it would be possible to exploit the skipjack tuna using baitfish readily obtained locally. Following diplomatic negotiations with the government of Papua New Guinea, an understanding was reached. The joint-venture company known as GKFC, trawling for shrimp in waters off the northern coast of Australia, was called in to conduct a 1-year skipjack fishing trial to begin in February 1970. The method of operation was to use the drive-in net (oikomi ami) for catching baitfish employing Okinawan fishermen (who are particularly adept at this technique), and to use three 39-ton Okinawan skipjack tuna vessels under contract. A 999-ton mother ship from Japan was placed on loan to GKFC, and fish taken by these contract vessels were to be purchased and frozen by the mother ship.

The test fishing began a month later, in March. During 1970, there were three vessels under contract, but in 1971, from January to May, four vessels made up the fleet. The catch through May 1971 was approximately 5,000 metric tons. The average catch per vessel per day was an encouraging 4 tons of fish. The fish, frozen in the round on the mother ship, were exported to Japan.

This trial fishing proved the practicality of developing a full-scale commercial enterprise. However, rather than GKFC, a new joint-venture company, GKNG, was formed, with 55 percent capitalization from a Japanese fishing firm. The company, organized in August 1972, had its main office in Port Moresby. Within a year of commencing operations, an "arabushi" (partially dried skipjack tuna stick) factory was completed in Kavieng. Until the construction of a shoreside freezer plant (planned in 2 years), the freezer mother ship was to be utilized in the same manner as during the trial fishing period. The joint venture began with the services of Okinawan fishermen.

However, toward the end of 1971, and continuing into 1972, the catches fell far short of expectations, and both skipjack tuna and baitfish were found to be greatly reduced in availability. It became an urgent matter to determine the cause of this decline and to develop suitable countermeasures. The surface water temperature in the area was found to be 1.5°-2.0°C lower than the previous year. Furthermore, because skipjack tuna are highly migratory, it was imperative that the mode of operation of a fishery based on such fish be critically reexamined.

Manus (Base Later Shifted to Madang)

With the positive results obtained by GKFC in Kavieng, a negotiation was carried out with Australia to commence test fishing out of Manus, Admiralty Islands. The test fishing started in December 1970 with a plan of operation similar to that of the GKFC.

In Manus, however, a 1,300-ton freezer mother ship was utilized. The mother ship carried two small 19-ton bait-catcher boats on deck. In addition, the fishing fleet consisted of 40-ton Okinawan fishing vessels from which the mother ship purchased the fish. Initially the fleet numbered 4 fishing vessels, but by May 1971 there were 5 vessels, and by the end of 1971, 8 vessels. During 1971, about 4,000 tons of fish were taken; the catch averaged about 3.5 tons per vessel per day.

Following this trial fishing period,

arrangements were begun for investment in a full-scale commercial operation. However, the Australian Government decided to delay the establishment of a joint-venture company and to extend the trial fishing period by another 6 months. This delay was related to the Papua New Guinea Fishery Promotion Plan, which called for the establishment of an integrated fish processing plant in Madang (Papua New Guinea) is stipulated by the Japan-Australia Fishery Treaty. Trial fishing was resumed, but this time not by a properly registered company, and for this reason all fish caught and processed by the fleet were subject to a duty of 10 percent of appraised value. Consequently, a nominal local company (NMP) was provisionally established. This company had its main office at Port Moresby but its operations office and base were located at Madang. Capitalization of 100 percent was provided by three Japanese companies and the corporation was duly registered in December 1971.

Rabaul

The operation at Rabaul, New Britain, was started at the same time as that out of Manus. Using two 940-ton freezer mother ships, two 19-ton bait-catcher boats, and fishing vessels from Okinawa (5 until June 1971, 8 from July to October, 4 between October and December, and 10 after January 1972), the mother ships purchased the catches made by the fishing vessels. Initially, the catches increased as the fishermen adapted themselves to conditions in the area, and by June 1971, they averaged as high as 7 tons per day per vessel. Between January and December 1971, the average catch was 4 tons per day per vessel. During the 18 months of test fishing, the total catch amounted to approximately 12,000 metric tons. However, beginning in December 1971, the fishing condition worsened markedly just as it did at Kavieng and Madang. Under these conditions, the joint venture was established while hopefully awaiting the return of good fishing. In August 1973, the main office of the joint-venture company, CKPN, was established in Rabaul with 75 percent of the capitalization from the Japanese.

Papua New Guinea Canning Company

The Government of Australia and the Administration of Papua New Guinea, in anticipation of the impending independence of Papua New Guinea and to insure its self-sufficiency, actively promoted the economic development of Papua New Guinea. One of the important programs was the establishment of fish processing plants in the area. Even the administrative guidance exercised over the operations of each private company was predicated on the eventual establishment of such processing plants. Guided by test-fishing results, they set an annual goal of 1,000 tons of fish per vessel for each company and provided for an increased proportion of the landings to be made each year by vessels of Papua New Guinea registry. In other words, in the early stages, most of the catches were to be made by vessels of foreign registry, but gradually the fishing would be taken over by their own vessels. At the same time, there would be a gradual shift from foreign fishermen to local fishermen. Concurrently, the plan was to establish shoreside freezer plants, gradually restricting the use of processing mother ships in the operation while increasing the local processing capability and managing exports of frozen round fish from Papua New Guinea locally. These general conditions were basically agreed upon by the various private companies and the Government of Papua New Guinea, which obviously strongly dominates the agreement.

With this background and with the common need to discharge their obligations under the Treaty, the companies decided that it would be wisest to support the interests of the Government of Papua New Guinea by working towards the establishment of a fish canning company. Thus, the three joint-venture corporations took the lead and with Star-Kist Company and the Investment Corporation of Papua New Guinea, jointly established in August 1972 the Papua New Guinea Canning Company (PNGCC). The establishment of this company was based on results of the Papua New Guinea Fishery Promotion Plan sur-

vey (OTCA) conducted in July and August of the previous year with the technical cooperation of the Japanese Government. The PNGCC was established with equal capitalization by the five companies, and the main office was located in Port Moresby.

SOLOMON ISLANDS

In the past, the economy of the British Solomons has been based on direct assistance from Great Britain. However, since the Solomons is destined for independence in 1975, there has been a move afoot to strengthen the local economic base. Fishery development was advocated, with particular emphasis on the development of a skipjack tuna fishery. As a result of negotiations between Japan and the local government, it was agreed that as a preliminary step towards the establishment of a joint-venture operation, trial fishing surveys would begin in June 1971 with the introduction of five 39-ton Okinawan skipjack tuna fishing vessels. The fleet size gradually increased to a maximum of 15 vessels.

One freezer mother ship of the 500-ton class was situated at each of three bases at Shortland Island, Gizo, and Tulagi. With the aim of providing training and employment to local citizens, Solomon Islanders were employed on the vessels as fishermen, and the skipjack tuna catches were purchased by the mother ships.

During the first 6 months of test fishing, the vessels experienced excellent results. More than 5 tons per vessel per day of 3-4 kg skipjack tuna were taken, for a total catch of 4,300 tons. However, beginning in early 1972, the region was plagued with heavy rains and surface water temperature fell about 1.5°C. Live bait was scarce and skipjack tuna landings decreased by about 50 percent. For about 2 months during this period, some oceanographic surveys, skipjack tuna tagging, and other scientific work were conducted in the area. In November 1972, a contract was signed between the local government and a Japanese fishing company for a joint-venture operation to begin in the spring of 1973. Among the important provisions of the contract was the understanding that the Government of the Solomon Islands would own one-

fourth share in the joint venture, gradually assuming control over a period of 10 years in terms of fish production, processing, and export. Fishing vessels were also to change over gradually to those of local registry. In terms of employment of local citizens, establishment of freezer plants and canneries, etc., the contract is quite similar to the one agreed upon in Papua New Guinea.

INDONESIA

Sorong (West Irian)

Before its independence, Indonesia was under Dutch control. The Netherlands Government deposited some funds with the United Nations to assist the developing nation of Indonesia in agricultural and fishery development. The UNDP (United Nations Development Project) decided to utilize a part of the funds to survey the skipjack tuna resources in Indonesian waters and a base was established in Sorong, located in northwestern West Irian. In 1969 Japanese fishing companies were approached to undertake this survey work. Several companies responded with applications and one was selected by UNDP. It commenced survey fishing in October 1969.

This Japanese company operated with 5 of its own 110-ton class skipjack tuna fishing vessels, four 10-ton bait-catcher boats, and a 700-ton freezer mother ship. The baitfish (anchovy) were taken by stick-held dipnet (bo-uke ami) in the vicinity of Sorong, and the skipjack vessels operated within a radius of 250 miles. The skipjack catches were delivered to the mother ship, which remained anchored in Sorong Harbor, and immediately frozen. The operation continued for 18 months, through March 1971.

The survey results are not clear, since FAO was obligated to treat the information in a confidential manner.

Ternate, Kendari

At the conclusion of the FAO-sponsored survey, the Government of Indonesia, a Japanese fishing company, and a Japanese trading company entered into a contract to further survey Indonesian waters as a prelude to

establishing a joint-venture skipjack tuna fishing enterprise. Between April 1971 and September 1971, a survey was conducted from a base in Ternate (Halmahera Island). The catches amounted to an average of 3.5 tons per vessel per day. Subsequently, from October 1971 to January 1973, the base was shifted to Kendari on Celebes Island. The survey operations in waters off southeastern Celebes resulted in catches of more than 3 tons per day per vessel. The survey method and scale of operations were similar to that employed by FAO. Following the end of the survey period, preparations were started to establish a joint-venture company. The Japanese companies entered intensive negotiations with the Indonesian Fishery Department on the conditions of the agreement. The matter of the investment of foreign capital was reviewed by the Foreign Investment Commission and received its approval. In October 1972, the venture received final approval from the administration (presidential approval) and it was decided that a joint-venture operation would begin with 80 percent capitalization by the Japanese companies.

Kendari (Southeastern Celebes)

Based on an agreement similar to the preceding, a skipjack tuna fishery development project was started in Kendari with the aim of establishing a commercial skipjack tuna fishery. A preliminary survey was started in August 1971 with a fleet of five 40-ton skipjack tuna fishing vessels and one each of a storage vessel, a transport ship, and a small bait-catcher boat. The base was established in Kendari and the survey was done in waters southeast of Celebes.

Similar to the operations in Papua New Guinea, the fish were purchased from the Okinawan catcher vessels. Because of the unfamiliar conditions in the area, great difficulty was experienced in obtaining baitfish and in locating skipjack tuna schools. A survey period of 1 year was marked by trial and error.

Afterward, the survey was shifted to waters north of West Irian, but the results were poorer than expected and within 6 months it was discontinued.

West Coast of Sumatra

The survey planned for waters off the west coast of Sumatra in the Indian Ocean from December 1971 to July 1972 had to be aborted because of difficulty in obtaining sufficient quantities of baitfish and because of the generally poor weather conditions. Conducted with a single 190-ton skipjack tuna vessel, it was ended after a few months.

Flores Sea, Makassar Strait

A base was established at Kotabaru on Laut Island (south of Kalimantan, Borneo). One vessel of 190 tons did the test fishing for skipjack tuna in Makassar Strait and in the Flores Sea from May 1972 to December 1972, with the aim of determining the feasibility of a joint-venture enterprise. The results, however, were disappointing. Brief test fishing by a single vessel was deemed inadequate unless preceded by a more comprehensive survey that would enable a vessel to select a suitable fishing season, for example.

MADAGASCAR

Skipjack tuna fishing in waters off Madagascar began in early 1972 with a base in Nosy-Bé Island off northwestern Madagascar. Two skipjack tuna vessels of the 190-ton class and one of 210 tons were in the fleet in addition to a 1,200-ton freezer mother ship. The survey operation was planned for 6 months. For bait, anchovy were taken with the stick-held dipnet in the vicinity of Nosy-Bé. The skipjack tuna vessels fished in the vicinity of Comoro Islands (northwest of Madagascar) with average catches of 7 tons per vessel per day. The excellent results quickly prompted negotiations for a joint-venture fishing operation in the area. The survey period was extended to March 1973, when it was expected that commercial joint-venture operations would begin.

In this area, one other company began fishing in late 1972 with a single 192-ton skipjack tuna vessel. This vessel was operated out of a base at Takotabu (phonetic) located on the eastern side of Nosy-Bé. After capturing live bait here, the vessel fished in waters north of Madagascar. Baitfish were reported to be abundant and

quite effective for skipjack tuna fishing. Excellent results can probably be anticipated, although the great distance between this base and the baiting and fishing grounds is a distinct disadvantage. This second Nosy-Bé operation is planned for a period of 1 year.

OTHER AREAS

Ghana

Japanese skipjack tuna vessels fishing off Ghana in the Gulf of Guinea are based at Tema. The fishery began in 1962 and continued over the years with gradual improvements in bait capture methods, forced circulation of water in baitwells, brine freezing of catch, etc. There are contracts between the Ghanaian Government and the American company, Star-Kist, as well as between Star-Kist and a Japanese fishing company. In order to catch bait in territorial waters of Ghana, the catches of skipjack tuna must be sold to the Star-Kist Company. Initially, the fleet consisted of five skipjack tuna vessels, but by the end of 1972, there were three 240-ton class vessels, six 284-ton class vessels, and one 300-ton class vessel for a total of 10 vessels. Recently, the annual landings have reached approximately 20,000 tons.

Some problems arose recently between the Government of Ghana and Star-Kist because the latter had failed to provide a promised fish cannery and shoreside processing plants. The problem has largely been ameliorated by the fulfillment of the promises by Star-Kist, and conditions further improved by Japanese capital investment in a joint-venture operation. A contract has been renewed and Japanese vessels once again are assured of baiting and fishing rights in the territorial waters. Arrangements are now under way for the establishment of a joint-venture company, and two vessels with 140-ton carrying capacity for use by this new company are now under construction in San Diego, California.

Philippines

A Japanese-Filipino joint-venture company with 30 percent capitalization by the Japanese company was established in the fall of 1972. This company has as its aim the exploitation of skipjack tuna in the Sulu Seas.

The enterprise is based in Jolo Island and in Zamboanga on Mindanao Island. Live bait are caught with former purse seine vessels of about 10 tons imported from Japan, and chartered Japanese vessels do the fishing. The catch is frozen and exported to Japan. Since the latter part of 1972, however, the operation has been in the preparatory stage and a full-scale fishery has not yet started.

Fiji-Samoa

FAO planned a survey of the waters of Fiji in order to develop a skipjack tuna fishery in the area. They issued invitations to various companies interested in undertaking this survey, and finally decided on the charter of a 99-ton skipjack tuna vessel from a Japanese company. In June 1971 the work was begun, but 3 months later the vessel ran aground on a coral reef, halting the survey temporarily. In January 1972, FAO chartered a 39-ton vessel and resumed the survey, planning to run it until March 1973. Up to now, however, the results have not supported the possibility of commercialization, either in terms of bait catches or skipjack tuna fishing. Similarly, FAO is involved in a survey in (Western) Samoa. It is reported that a research vessel has been dispatched to Samoan waters from Hawaii to conduct some research in the area.

Palau

The fish-purchasing operation in Palau was based on skipjack tuna caught by Okinawan vessels. These Okinawan vessels caught skipjack tuna in Palauan waters using live bait taken by the drive-in method (oikomi-ami). The freezer ship dispatched from Japan purchased the frozen fish and transported it back to Japan. This operation was carried out in 1970 and 1971 by two Japanese companies. Initially, it went well enough, but suddenly the catches dropped off, and both companies terminated operations soon after.

Palau is located in the U.S. Trust Territory and the political power is held by the High Commissioner who comes from the United States. Generally, there are rigid restrictions

governing any economic activities by foreigners in the Trust Territory.

Okinawan vessels operate in Palau according to a contractual arrangement begun in 1965 with the American tuna company, Van Camp. The company purchases skipjack tuna as raw material for canning; in 1971, this amounted to approximately 5,000 tons. Thus, the Japanese operation to purchase fish directly from these boats met with severe competition and this also constituted a serious problem for it.

Maldives Islands

The Maldives Trade Corporation, situated in Colombo, satisfied with the reputation of Japanese fishing companies, approached them regarding the formation of a joint-venture tuna fishery utilizing locally-owned vessels. It was the general feeling that the resource of larger tunas was insufficient

for a successful tuna fishery, but there was great interest in the skipjack tuna, which was thought to hold much potential. Several companies responded in favor of entering a joint venture with the Maldives Government.

With the skipjack tuna fishery in mind, negotiations were started between the Japanese and the Maldives Government. The Government indicated that if there were ways of effecting operations that would not harm existing local fisheries unduly, they would be amenable to entering such ventures.

The Federation of Japan Tuna Fisheries Co-operative Associations (Nikkatsuren), with funding from the Ministry of International Trade and Industry (MITI), dispatched a team of six persons to the Maldives to conduct an in-depth survey between 8 and 28 October 1972. The discussion between the survey team and the Government Fishery Department in

the Maldives showed that the latter was greatly interested in receiving the cooperation of the Japanese in developing their fisheries. However, there had been some changes in the situation from the time the joint ventures were first proposed, and no definite conclusions were reached. Agreements were made to begin test fishing operations in local waters to examine bait-fish and skipjack tuna fishing conditions.

Also, in April 1972, a Japanese company and the Maldives Government reached an agreement in which the Japanese company would purchase skipjack tuna taken by local fishermen. The agreement called for the Japanese to purchase 7-9,000 tons of skipjack tuna per year from the local fishermen. For this purpose, the Japanese company agreed to send a 1,000-ton freezership to the area to purchase the catches on a daily basis. This operation is now under way.

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