

Fisheries Weather Hard Times

By Tohru Morikawa

Surrounded by seas, where warm southern and cold northern currents meet, Japan has been able to rely on marine products for its basic food source. In 1991 marine products comprised 40% of the total animal protein consumed and based on production volume, per capita consumption for that year was 66.7 kilograms. With the exception of the sparsely populated nation of Iceland, Japan has by far the largest per capita fish consumption in the world. Thus, fishing is a vital industry for Japan and closely related to its way of life.

Ever receding fisheries

After the Second World War Japanese fisheries constantly expanded production, extending their fishing grounds from inshore to offshore and then to deep-sea areas. By 1984 Japan had become the world's largest marine producer, registering more than 12 million tons. But deep-sea fishing gradually declined as recognition of the 200 nautical mile territorial zone gained ground following the 1977 U.S.-USSR agreement. Thus, Japan is no longer able to fish in other countries' waters and fishermen have been pushed out of the high seas, which had become an alternative fishing ground for them. Growing environmental awareness and

long-term resource management resulted in a ban on drift net fishing.

Fishing within Japan's territorial zone has been relatively poor as the seafloor fish stock has been depleted and the sardine catch, which since 1975 had been high, has declined in recent years. This concern over diminishing resources has led to a decline in total marine products for three consecutive years, down to 9.98 million tons in 1991. This marked the first time production fell below 10 million tons in 20 years, dropping Japan to third among marine producers, behind China and Russia.

An increase in imported marine products, especially high-grade commodities, has been filling the gap between domestic needs and declining production. Marine imports have increased steadily since the 1940s reaching an historic high of 4.32 million tons in 1992, equal to half the domestic production.

The number of fishermen has steadily declined, down to 355,000 in 1991, with 230,000 of them over the age of 40. There are now 180,000 fishing corporations operating 272,000 boats, but only 156,000 of these have inboard driven engines; the rest are fitted with either outboard motors or are not power driven. Only 27 of these boats exceeded 500 tons, a sharp decline

caused by the loss of foreign fishing grounds.

Thus the Japanese fishery industry is operating in a harsh environment. First, self-sufficiency in marine products is no longer a reality as Japan can no longer fish in other nation's waters, deep-sea fishing has been thwarted by international bans on drift net fishing, and domestic fishing grounds are depleted. Second, weak marine product prices and poor profitability caused by a stronger yen has led to an increase in imports of cheap foreign products. Third, younger workers are shunning harsh working conditions and thus are difficult to recruit. Compounded with aging crews, the resultant labor shortage has forced companies to consolidate the number of boats in operation. Coastal fisheries also have been unable to attract younger fishermen thus jeopardizing the generational turn over.

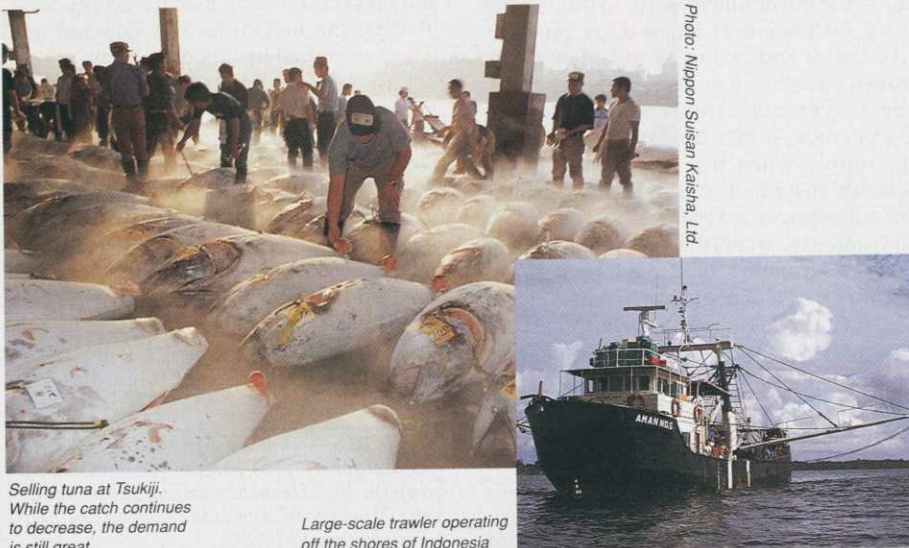
Given this situation, Japanese fisheries need to focus on basic tasks. Domestically proper resource management policies are necessary to recover fish stocks. On the high seas appropriate and positive responses are needed to deal with environmental restrictions. The supply system must also be updated so it can respond to changes in national dietary habits, fishing communities must be revitalized and fishery profitability improved.

Fish farming could revitalize the industry

Although marine production volume continued to decline to 9.98 million tons in 1991, production value kept the previous year's level at ¥2.7155 trillion. The fishing industry is divided into four categories: coastal, offshore, deep-sea and inland (see graph).

1. Coastal

Coastal fisheries include small drag-netting, gill-netting and pole-and-line boats which operate within 12 nautical miles from Japan's coast as well as onshore drag nets, coastal drift nets and sea fish cultivation. In 1991 coastal fisheries produced 3.16 million tons which



Selling tuna at Tsukiji. While the catch continues to decrease, the demand is still great.

Large-scale trawler operating off the shores of Indonesia

Photo: Nippon Suisan Kaisha, Ltd.

Photo: Nippon Suisan Kaisha, Ltd.

accounted for 32% of total marine production. It was valued at ¥1.42 trillion, more than half the value of total fisheries and harvests a higher proportion of middle- and high-priced products in comparison to other types of fisheries. More than 90% of Japanese fishing boats and 82% of the industry work force (290,000) are engaged in coastal fishing.

Coastal fisheries production, with the exception of sea fish cultivation, has managed to maintain production at 2 million tons despite increasingly depleted fishing grounds due to waterfront development and expanded pollution. Also the catch composition has been shifting from high-priced fish like sea bream, flatfish and shrimp to low-priced fish like sardine. To counter this, and take exploitation levels to their maximum, considerable efforts have been expended nationally and the promotion of coastal fish farming has become necessary. There are now 14 national and 47 prefectural fishermen's cooperative farming centers which annually discharge more than 10 million hatchlings of shrimp, sea bream, flatfish, blue crab and abalone into coastal waters; set up artificial fish shelters; develop breeding and cultivating grounds; clean and revitalize the ocean environment; protect the ecological system by conducting strict environmental assessments in advance of waterfront developments; and enforce tight regulations for water waste.

Drift net fishing, inshore cultivation, shellfish and seaweed collection, gill netting and onshore drag netting are conducted under the fishing rights authorized by prefectural governments as stipulated by the fishing law. Together with small fishing boat operations, such as drag netters and pole-and-liners, they are under the auspices of the 2,110 local fishermen's cooperatives. The fish under their control vary widely but make up much of the typical Japanese fish diet: sardines, sea bream, flatfish, inshore bonito and tuna, cod, squid, shrimp, and short-necked clam.

Meanwhile, marine product cultivation gradually increased in volume until 1991 when it leveled at 1.26 million tons, though valued at a record high ¥640.7 billion. Often the catch of cultivated fish outnumbered natural, for example 161,000 tons of cultivated mackerel were caught as compared to the natural catch which was 50,000 tons, or sea bream's



Offshore fishing netted 250,000 tons of mackerel in 1991.

Photo: Dai-Nippon Suisan Kai

60,000 tons to 24,000 tons. Other cultivated marine products included silver salmon at 26,000 tons, *nori* seaweed at 400,000 tons, oyster at 240,000 tons, scallop at 190,000 tons and *wakame* seaweed at 100,000 tons.

2. Offshore

Offshore fisheries comprise 10- to 200-ton fishing boats operating mainly within the 200 nautical mile territorial zone and include medium- to large-sized round haul netters, offshore drag netters, inshore tuna longliners, Pacific saury netters and squid catchers. Offshore fishery production has been declining since 1988 due to a depleted sardine stock. It was 5.44 million tons in 1991 and was valued at ¥704.2 billion, relatively low compared to volume as much of the catch was composed of low-priced bulk fish like sardine. Some 5,600, or 60% of the total, offshore boats are between 10- and 20-ton motored ones and the work force is about 60,000. The catch consists mainly of floaters, the vast majority being sardine, at 3 million tons. Other fish include 310,000 tons of saurel, 250,000 tons of mackerel, 300,000 tons of Pacific saury and 240,000 tons of squid, although the catch varies greatly depending upon ocean environmental factors such as water temperature.

3. Deep-Sea

In the past, Japanese deep-sea fisheries, operating mainly in the North Pacific, produced 4 million tons, mainly Alaskan pollack, salmon and tuna and this accounted for 41% of total sea fishery production. Nearly 90% of the fishing grounds used, however, fell within other countries' 200 nautical mile zones. Global adherence to that nautical boundary has prevented Japan from harvesting in foreign fishing grounds and thus deep-sea



Salmon farm at a Chilean fiord

Photo: Nippon Suisan Kaisha, Ltd.

production fell to 1.15 million tons in 1991 with a value of ¥4 trillion. As a result, major fishing companies have withdrawn from large-scale trawler fishing with only a few small- and medium-sized companies currently engaged in trawler fishing in Canada and Greenland and in joint ventures in the U.S., Chile, Argentina and New Zealand.

The loss of fishing grounds belonging to other countries has forced deep-sea fisheries to shift to high-sea operations in the Bering Sea and high-sea squid drift netting. However, even here Japanese fishing operations are under fire from environmentalists and resource management concerns. For example, offshore salmon and trout fishing has been banned, there is a two year ban on trawling in the Bering Sea (due to severely depleted stocks), as well as a U.N.-imposed ban on high-sea squid drift nets. Regarding the latter, the United Nations purports that drift nets cause serious damage to the ecological system although it has yet to present scientific data.

Currently, the most important high-sea operations are outer sea migratory tuna/bonito longline and round haul net fishing, which together recorded a catch of 760,000 tons in 1991. Half of this came from the high seas and the rest from the Pacific Islands 200 nautical mile zone where fishing fees were paid.

Following the commercial whaling moratorium, promulgated by the International Whaling Committee (IWC) in 1982, Japan has suspended its entire commercial whaling operation. Japan has tried to collect scientific data through whaling for research purposes in hopes of revising the 1991 moratorium and formulating acceptable whale catching quotas by Revised Management Procedure (RMP) for the IWC Science Committee.

At the IWC's 44th annual meeting in 1992, the Science Committee completed the RMP and confirmed there remain 760,000 minke whale in the Antarctic Ocean which can sustain an annual harvest of 2,000 even in worst conditions. However, anti-whaling countries constructed new barriers by asserting that the proposed monitoring system was inadequate and thus revision has been delayed.

Japan is very frustrated by the current situation at the IWC as the original purpose of the organization seems to have been distorted.

Increasing processed imports

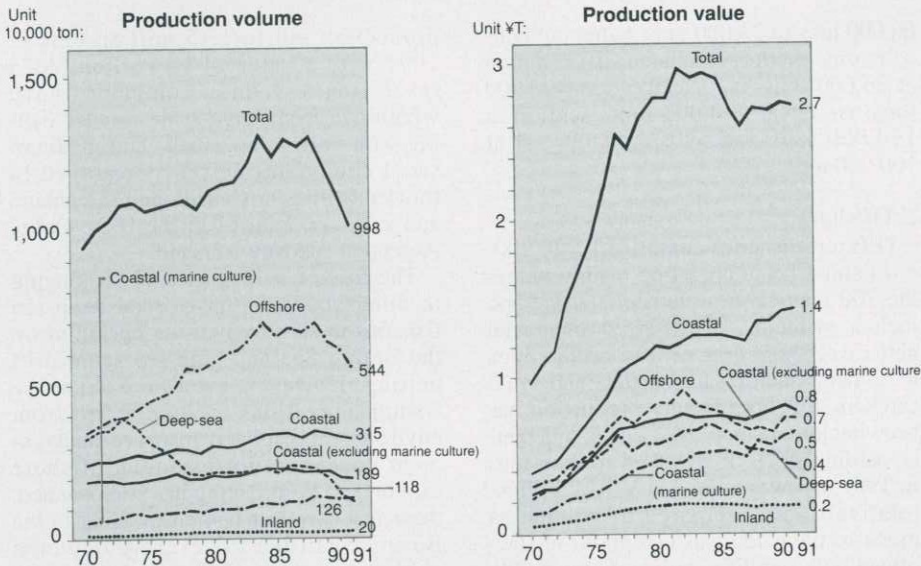
With the exception of canned and frozen marine products, which are con-

sumed internationally, many processed marine products in Japan are indigenous and not eaten elsewhere. This includes fish paste products, dried bonito, dainty bits and salted innards. Recently diminishing offshore stocks and ever tightening international regulations have made it increasingly difficult to secure a stable raw material supply for domestic processors (with the exception of large-catch fish like sardine and Pacific saury). Now approximately 80% of raw material for processing is imported. Also, imports of locally processed products from Southeast Asian countries like Thailand and Malaysia has been increasing as these countries have an abundance of marine products and much cheaper labor costs. In 1991 some 8.16 million tons of processed marine products were imported.

In particular frozen food imports, encouraged by increased demands from restaurants as well as from households which want faster meal preparation, have been increasing, nearly 365,000 tons in 1991. Other processed marine product imports include 874,000 tons of traditional fish paste, 910,000 tons of dried products, and 1.31 million tons of fish oil and fish powder. Canned foods, however, has gradually declined to 194,000 tons because of a higher yen and high wages.

Domestically there are 18,000 processed marine product processors and 60% of these are small operations with fewer than 10 employees. Generally, the industry is weak financially, with the exception of the major marine product and food companies.

Division Breakdown of Fishery Production in Volume and Value



Source: Ministry of Agriculture, Forestry and Fisheries Fishery/Marine Culture Productions Statistics Annual Report

- Note:**
- (1) Deep-sea fisheries comprise mothership-type salmon/trout fisheries, mothership-type trawler net fisheries, distant water trawler fisheries, Western sea trawler net fisheries, distant water bonito pole-and-line fisheries, distant water tuna longline net fisheries, northern sea longline/gill net fisheries, squid drift net fisheries and distant water squid pole-and-line fisheries
 - (2) Coastal fisheries comprise non-boat fisheries, boat fisheries without engines and under 10-ton boats, drift net fisheries, onshore drag net fisheries and marine culture.
 - (3) Offshore fisheries means fisheries other than the above two categories, including offshore trawler net fisheries, medium-to large round haul net fishery (single boat round haul for bonito/tuna operating in central Pacific are included in deep sea fisheries) and inshore tuna longline net fisheries
 - (4) Inland fisheries includes inland fish farming

Per Capita Annual Change in Food Consumption in Real Terms

	1991 spending (yen, nominal)	Year-on-year change (% , real)					
		'87	'88	'89	'90	'91	1-10/92
Food	301,492	0.7	1.7	0.5	1.7	-0.6	1.0
Marine products	39,213	2.2	0.9	-0.4	1.3	-0.2	1.5
Fresh marine products	22,675	4.2	2.5	0.8	-0.3	0.9	5.7
Dried marine products	7,994	0.3	-2.3	-1.3	2.4	0.7	-2.3
Fish paste products	3,784	-3.8	0.4	-2.7	1.9	-6.3	-9.4
Other processed sea food	4,760	1.2	-0.2	-2.5	7.0	-1.6	-1.4
Meat	27,593	0.7	0.1	0.4	0.8	-0.7	-1.1
Ready-made food	23,813	2.2	8.5	4.6	8.0	1.3	2.8
Eating out	49,273	1.0	4.7	-1.9	3.1	1.2	0.6

Source: Ministry of General Affairs Household Survey Annual Report and CPI Annual Report
 Note: 1) The household survey is conducted on households (except agricultural, forestry and fishery) which consist of more than 2 people
 2) Year-on-year change ratios are based on real term spending figures adjusted by the CPI (1990=100)

Diversification is proceeding

Due to the domestic penchant for freshness, the Japanese marine product distribution system is quite advanced relative to other countries. In general, distribution is dominated by the market distribution system—as soon as fishermen bring their catch to the production site market the fish are cold-shipped to consumer markets for auctioning the following morning. Products frozen on fishing boats and imported frozen products can be sold directly to wholesalers, processors, big retailers and major restaurateurs as they are reliable in terms of quality and freshness. Such external distribution has been

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competitor, and the changing of the guard in Washington, the United States has become more inward-looking with the result that its commitment to the security of the Asia-Pacific region and its military presence there could decline.

To avoid this situation, Japan and other Asian countries should increase efforts to undertake a fair share of the responsibilities and burdens with the United States. Japan, whose gross national product is now more than 60% that of the United States, must revise the gross imbalance that exists in the military sphere of Japan-U.S. ties. Furthermore, in principle Japan should allow itself to dispatch Self-Defense Forces overseas to participate in U.N. military operations aimed at maintaining and restoring peace. Isn't this the minimum international contribution that Japan should make to fulfill its role as a member of the international community and to maintain the health of the Japan-U.S. alliance? In addition, Japan should consider ways of providing financial, host-nation and logistic support for U.S. forward deployment strategy, and it should endeavor to modernize its own mili-

tary hardware within the scope of exclusive defense and without upsetting the balance of power.

It will be necessary to make up for the decline in the U.S. commitment and military presence by building a regional international security system based on a multilateral agreement. Such an organization, however, should function not merely as a substitute for a reduced U.S. military presence but also serve as a framework for regional security in the near future. It must be recognized that the conditions for the creation of an Asian version of the Conference on Security and Cooperation in Europe simply do not exist in the Asia-Pacific region. Consequently, instead of an international security system covering the whole of the Asia-Pacific region, we should consider the possibility of subregional confidence-building systems limited, for example, to the Korean Peninsula, the Indochinese Peninsula or the Spratly Islands. Perhaps a forum should be established, embracing China, North Korea, Russia and Vietnam, to promote dialogue and the exchange of information concerning the security of the whole region.

To avoid the occurrence of pointless military competition among certain regional powers that might emerge to fill the vacuum created by the decline of the United States and ex-Soviet Union's military presence, we should seek to establish a very loose security forum. Toward this end, it will be necessary to provide opportunities to discuss security issues by expanding the scope of such forums as ASEAN's expanded foreign ministers' meeting and the Asia-Pacific Economic Cooperation Conference.

Furthermore, in promoting cooperation for security in the Asia-Pacific region, Japan should pay proper consideration to the sentiments of other Asian nations, which harbor bad images of and anxieties toward Japan. Japan should adopt a humble attitude in the face of the lessons of history, and maintain a posture of keeping its military to the minimum required for self-defense. ■

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increasing recently. Meanwhile, new methods such as live fish distribution and fishermen cooperative direct delivery has emerged reflecting consumers' preference for fresher and higher grade fish. Speciality retailers, which formerly accounted for more than 60% of total fresh fish sales in value terms, have decreased by 13,000 over the past 10 years to 40,000. At the same time, volume retailers like supermarkets (excluding department stores and large shops with more than 50 employees) have increased their market share to 60% as they meet consumer needs for a simpler lifestyle through one-stop shopping. Recently distribution costs have increased because of smaller and more varied shipments and more frequent deliveries to match consumer needs. This has put pressure on the profitability of fishing and marine processing businesses.

Filling the demand/supply gap

Recently, marine product imports have increased to make up for limited domestic production in the midst of strong and diver-

sifying demand. The latter reflects not only the traditional fish-based diet, but also growing health concerns which are manifested in the demand for diversified and high-value foods.

In 1991 marine product imports reached 2.85 million tons (4.32 million tons in terms of raw material). This amounted to nearly half the domestic production and in value terms was one-fourth of the world marine product trade, making Japan the world's biggest marine product importer. The main imports were 300,000 tons of shrimp, 258,000 tons of tuna, 205,000 tons of cod, 153,000 tons of salmon, 115,000 tons of crab, 113,000 tons of octopus and 282,000 tons of fish powder. Among major marine products, imports make up more than half of the total supply of clam, shrimp, octopus, crabs, flatfish and eel.

To meet the persistent needs of the population and secure a stable supply, considering the declining domestic catch, imports will become increasingly vital. Considering the exploding world population, especially in the Third World, and the optimum level of marine exploitation worldwide it is important for Japan to establish stable domestic production and a supply system relying largely on the 200 nautical mile

zone. According to government statistics for 1991 the self sufficiency ratio was 86% in volume terms and supply for domestic consumption declined 6.3% from the previous year to 12.2 million tons. This reflects a decline in domestic production due partly to international regulations. Pure food supply, which is calculated by multiplying the 8.28 million tons of gross food supply times the average yield variance of 53.8%, stood at 4.45 million tons and the annual per capita marine food supply declined 3.2% year on year to 35.9 kilogram.

Marine products are an important food based on Japan's geographical reality and a basic component for maintaining the nutritionally balanced "New Japanese Diet" (a calorie balance between protein, fat and carbohydrate at 13:29:58). Thus, the consumption of marine products continues to be strong despite the recent economic slowdown, reflecting consumer preference for healthier, tastier, higher grade and fresher food. The distribution system will respond to this trend towards a simpler dietary life. ■

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