International

FOOD AND AGRICULTURE ORGANIZATION BUDGET FOR 1951: The Food and Agriculture Organization has issued its budget for 1951 (approved by the Conference). The proposed budget for 1951 is US$5,025,000; however, proposed expenditures are proposed on the basis of the first $4,500,000 income and then additional expenditures are proposed if the receipts of the FAO are $5,000,000.

The budget for the Fisheries Division of FAO is as follows:

Expenditure by Functions	1950 Budget Allocation	1951 Proposed Budget	1951 Expenditure on Basis of First $4.5 million Receipts	Additional Expenditure if Receipts are $5 milli
		(in U. S. $)		
Direction	48,800	50,099	43,599	6,500
Economics and Statistics	60,500	51,284	51,284	-
Biology	47,000	44,264	44,764	(plus $500)
Technology	54,500	53,472	53,222	250
Regional Activities:				
Asia and the Far East	29,500	37,669	27,007	10,662
Europe and the Near East	16,700	14,619	14,619	-
Latin America	15,700	16,578	15,528	1,050
Totals	272,700	267,985	250,023	17,962

Aden Protectorate

STATUS OF THE FISHERIES: The basis of the fisheries in the Aden Protectorate are the sardine (mostly Sardinella longiceps) shoals which move close inshore throughout the winter, states an October 24, 1950, American consular dispatch from Aden. The main fishery is from October to December, but the fish may remain until the southwest monsoon breaks in May or June. Initially the oil content of the fis is high, but it falls off as the season advances.

The sardine shoals are accompanied by large fish—the two most important are "deirak" (Scomberomorus commersoni) and "thamed" (tunny—Neothunnus alalunga), but other species of tunny and horse mackerel abound. Sharks are also fairly plentifu at such times but their occurrence in numbers is spasmodic.

The fishery is unreliable since the amount of sardines and their attendant predators vary greatly from year to year. The winter of 1947-48 was exceptionally good but those of 1948-49 and 1949-50 have been the poorest within living memory, barely enough fish being taken to supply local needs.

The main fishery is on the Mahra Coast on either side of Ras Fartak, towards the extreme eastern end of the Protectorate. From there westward the fishery declines in importance, the sardines rarely reaching Aden in any numbers. There is, however, a considerable summer fishery at Aden, mostly for "dairak."

Sardines are taken in cast nets and beach seines and their predators on hand lines and in various forms of gill nets. The boats are either dugout canoes imported from India (to which a strake is added locally) or double-ended surf boats (the planks of which are pegged and sewn together with coir twine). The only larger fishing craft are dhows, up to 60 feet long, which work a number of single-hook shark lines, or others which operate several "deirak" gill nets.

The sardines not locally consumed are either sun-dried to make a very poor and varied product (used as a crop fertilizer, but also eaten by camels and the poorest people) or else they are rotted in heaps to free a putrid oil. Larger fish are salted and dried in various ways for export, mostly through Aden to the Far East and East Africa.

A very rough estimate, made several years ago, reckoned a good year's catch of all species for the whole Protectorate at 50,000 metric tons of fish (landed weight).

The Aden Fishery Department was founded towards the end of 1947. The failure of the following two seasons and mechanical trouble with the Department's fishery vessel, a 50-foot ex-naval craft, have hindered its work considerably; but statistical posts have been established along most of the coast and a new knowledge of the fisheries has been steadily accumulated. The failure of the past two seasons has made it difficult to promote any real developments, but when the sardines return it is hoped that fish meal and oil production may be started. The canning of tunny is another promising development. However, these are left to private enterprise or to one of the British Government Corporations for development. The Aden Government is not constituted to undertake commercial activity and the Fishery Department has a total staff of 2 British and 13 Arabs, including the crew of the fishery vessel and the statistical collectors, all of whom are already fully occupied.

Australia

FIJI-SAMOA TUNA ENTERPRISES' CLIPPER FISHING IN AUSTRALIAN WATERS: Interest in tuna industry posibilities has spread from New South Wales to Western and South Australia since the Senibua, a tuna vessel owned and operated by the company which was organized to catch tuna in Fijian waters,[1] made its first trip pole fishing for tuna off New South Wales in October. On its first cruise in Australian waters, the tuna clipper caught six metric tons of southern bluefin tuna, averaging about 30 pounds each, in 40 minutes, the November 1950 Fisheries Newsletter issued by the Commonwealth Director of Fisheries reported. The fish were taken in mid-October about 10 miles southeast of St. George's Head (adjoining Jervis Bay) in about 80 fathoms. Bad weather caused the Senibua to return to Sydney with only 12 metric tons of tuna.

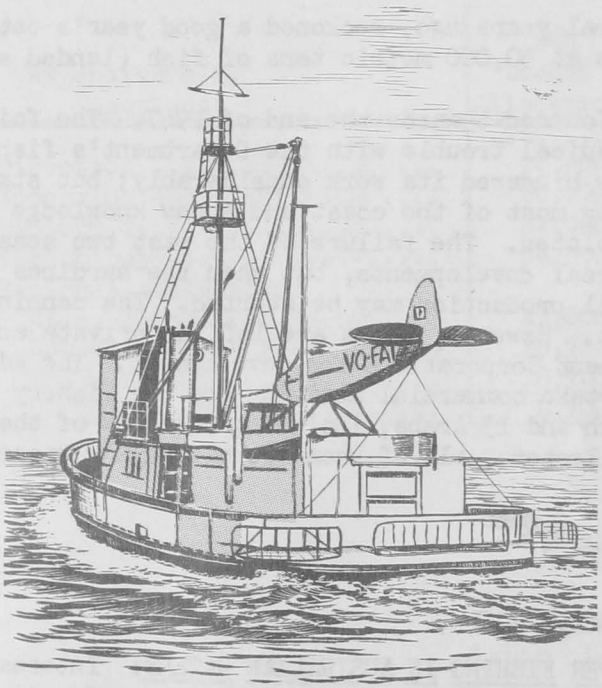
1/ SEE COMMERCIAL FISHERIES REVIEW, OCTOBER 1950, P. 41; SEPTEMBER 1950, P. 52; FEBRUARY 1949, PP. 58-9.

Australian fish canneries have approached the Government for a visit by the Senibua in both New South Wales and Western and South Australia. In Adelaide, an Australian cannery announced at the end of September that it would commence canning tuna in October using a machine with a capacity of 10,000 cans per 8-hour day. The company stated it would concentrate on the Australian market first but would export when the home demand was satisfied. Advance orders had been "received from all parts of the world," according to the statement by the company. Fishermen will be paid 6d. (approximately 5.4 cents) per pound.

The Senibua left Sydney October 9, 1950, for its first cruise. Trolling lines were set out and the first tuna were caught early the next day, 25 miles east of Bateman's Bay. Experienced fishermen on board considered that with proper live bait (which the clipper did not have at the time) 25 tons of tuna could have been landed from the first school encountered. The tuna clipper was successful in taking bait at night with a lampara net and lights. Although the vessel sighted tuna during the first part of the voyage, bad weather hampered operations. On its way north, the Senibua was able to capture 12 tons of tuna.

Three Australian fishermen were signed on the vessel in order to learn tuna pole-fishing techniques.

The Senibua has three live-bait tanks, a spotting plane, six brine wells, two skiffs, as well as fishing gear. The propelling 190-h.p. Diesel unit is controlled from the wheelhouse (also can be controlled from the compressor room and engine room). There is a direction finder in the wheelhouse, and a direct-reading sonic depth finder which measures depths from 50 to 600 feet in feet and fathoms, as well as a transmitting and receiving radiotelephone set. The plane was stowed on top of the live-bait tanks. On this trip the wings of the plane were dismantled because they projected eight feet on each side of the vessel, and if struck by a heavy sea they would be smashed. Normally the plane is shore-based.



STERN VIEW OF SENIBUA SHOWING FISHING RACKS AND LIVE-BAIT TANKS. SPOTTING PLANE FITTED WITH FLOATS ON TOP OF TANKS. VESSEL FISHING FOR TUNA OFF AUSTRALIA.

There is a poop walk from the foredeck to the live-bait tanks so that the crew can get quickly into position during fishing. The live-bait tanks are built on the after part of the main deck. They are fitted with slides so their size can be varied. The forward and midship tanks are fitted with coils so that they can also be used to store tuna. Total capacity of the tanks is 2 tons of live bait or 16 tons of fish. The overflow from the tanks goes out on the starboard side because

this helps to hold the vessel at an angle to the wind. The tanks are serviced by 6-inch pipes and pumps with a capacity of 500 gallons per minute, and are kept lighted all the time bait is in them.

When fishing is about to begin, a section of netting (a crowder) is kept ready beside the tanks for use as soon as fishing begins. The purpose is to crowd the live bait into a smaller space in the tank so that it can be more quickly scooped out by the chummer.

The vessel has six brine wells with a capacity of 52 tons (one on each side of the live bait tanks, and two on each side of the vessel, going forward). All the wells and bait tanks are interconnected, and the two midship wells can also be used for holding bait.

On the top of the live bait tanks on the port side, an 18-foot power skiff is carried, and on the starboard side a bait punt which carries a light when bait is being fished. Lampara nets are used for bait operations, and the Senibua has four of these as well as a beach net.

With seven fishing racks, 22 fishermen can fish at one time. The stern rack takes four men; two corner racks (one on each side of the stern rack) each take three men; and four side racks (two on each side of the vessel) each takes three men. The two corner racks are regarded as the most important and the most skilled fishermen are consequently stationed on them, because the tuna seem to prefer to come at an angle to the vessel.

The Senibua is equipped with two fuel tanks with a total capacity of 4,500 gallons; two ammonia condensers; an electrically driven windlass; two anchors; and numerous other equipment.

Full loaded, the Senibua draws 12 feet. It is 75 feet between perpendiculars, and has an 18-foot beam.

The tuna poles are made of Japanese bamboo, and the one-man pole is 12 feet to 14 feet long, and 2 inches in diameter at the butt tapering to 1 inch at the top.

The Piper Cub spotting plane used is 28 feet long and has a wing spread of 35 feet. It can take off in about 170 yards and has a range of 200 miles. A two-way radiotelephone connects it with the tuna clipper. Flying at 800 feet, the observer who accompanies the pilot of the plane can see birds working over small fish and can identify fish when a school is sighted. Fuel supplies have been arranged for at Sydney, Mallacoota Inlet, Twofold Bay, Narooma, Lake Burrill, and Lake Illawarra so that it can operate from those points.

The company that owns the Senibua is one of two companies organized by Harold Gatty, round-the-world flier. The associated company built a cannery in American Samoa. However, it has been reported that tuna in Fijian waters could not be caught in sufficient quantities. It is also reported that Gatty resigned from both companies in June 1950.

In addition to the Senibua, the tuna fishing company operating out of the Fiji Islands owns two other brine-equipped tuna clippers (Senirosi and Senileba); two live-bait fishing boats (Mere and Sali); and a freezing mothership (Isalei—112 ft. long with three ammonia compressors and a quick freezing section in the brine cooler).

Bermuda

RESEARCH FISHING PROGRAM PLANNED: The methods proposed for the research fishing program contemplated in the waters off Bermuda under the auspices of the Government Aquarium include the long-line fishing method, a January 4 American consular dispatch from Hamilton reports.

It is the general consensus of opinion in Bermuda that every avenue of food supply offered by fishing should be explored, as this might provide much-needed food in times of crisis as well as establish an industry which can be run economically and efficiently with Government support.

However, Louis Mowbray, Curator of the Aquarium, on December 29 issued a warning to the Colony's fishermen and others who may be planning offshore fishing ventures. He feels that everyone interested in commercial fishing should lend their efforts toward the promotion of a carefully planned Government-sponsored research program. The field should be surveyed and fishing grounds mapped within a 20-mile radius of Bermuda, according to him, since the quantities of deep-sea fish of commercial value around Bermuda are not known at present and afford a wonderful field for research.

The Colony's location offers excellent and as yet untapped fishing grounds, but individual persons can waste money and much equipment, states Mowbray, if they drop their nets into the water before research fishing is carried out. He feels that a proper research program would require at least 12 months.

British Honduras

FISHERY DEVELOPMENT DEPARTMENT ESTABLISHED: The British Colonial Authorities have approved the organization of a new department in British Honduras to be known as the "Fishery Development Department." Funds for this Department have been received from the Secretary of State and were appropriated under a Colonial Development and Welfare Grant (£6,172—approximately $17,282), reports a November 9, 1950, American consular dispatch from Belize.

The functions of this Department will be the conservation of existing stocks of fish to prevent depletion through overfishing or improper fishing methods; the carrying out of experimental work for discovering new fishing grounds and the development of the industry; the improvement of present methods of fishing and the curing of fish for the expansion of the Colony's export trade; the enforcement of legislation controlling fishing within the Colony; the improvement of the equipment and status of fishermen (by credit facilities, etc.); and keeping a check on the progress made by an efficient and reliable collection system of collecting statistics (quantity, value, and fishing effort expended).

Canada

EXPANSION OF ATLANTIC COAST TRAWLER FLEET: Canada's Atlantic coast trawler fleet is rapidly expanding as a result of the easing of trawler license restrictions announced a little more than a year ago by the Minister of Fisheries, the December 1950 Trade News of the Canadian Fisheries Department reports. Seven trawlers are at present being built in Canada and three are being built in the United Kingdom for the Canadian fishing industry. All these vessels are in the large dragger category--100 feet or more in length. The seven keels which have been laid in Canada permit, under the new trawler policy, the licensing of the same number of secondhand trawlers if bought either in the United Kingdom or in the United States and registered in Canada after payment of duty. Thus, under the current building program, the Canadian trawler fleet will increase by at least 10 vessels, and licenses could be obtained for seven more.

In addition, the industry is contemplating the construction of two more trawlers in Canada and seven in the United Kingdom. This additional construction, if proceeded with, would add another nine trawlers to the fleet or 11 if advantage is taken of the opportunity to license secondhand vessels from the United States or the United Kingdom.

Of the vessels now under construction, Nova Scotia firms are building six in Canada and two in the United Kingdom, while Newfoundland is building one in Canada and one in the United Kingdom.

Prior to the announcement of the Department's change in policy on Atlantic Coast trawlers, licenses for trawlers were issued only to Canadian-built ships, and with the exception of the number of draggers built under subsidy during the war and in the postwar period, no additions to the Canadian trawler fleet have been made for many years.

The trawler policy was revised to promote an orderly expansion of the Maritime industry's catching facilities so that it could take greater advantage of the stocks available and at the same time to help it meet market demands for fresh and frozen fish.

Costa Rica

HIGHEST COURT RULES COSTA RICAN TERRITORIAL WATERS EXTEND ONLY THREE NAUTICAL MILES: The Sala de Casación, the highest court and the court of last appeal in Costa Rica, has handed down a decision in which it upheld the decision of lower courts to the effect that Costa Rican courts do not have jurisdiction beyond the extent of the country's territorial waters and that those waters, in accordance with the Constitution, extend three nautical miles from the low-water line in accordance with the principles of International Law.

The case arose over the collision of two ships in the Pacific Ocean about 30 miles southwest of Cabo Blanco, a December 28, 1950, American Embassy dispatch from San Jose reports. The Sala de Casación limited its decision to a determination of jurisdiction of Costa Rican courts in it. The court stated that the current Constitution, which became effective on November 8, 1949, limits national sovereignty to the country's territorial waters, and that the extent of those waters, in accordance

with the Constitution and the principles of International Law, is three nautical miles from the low-water line of the coasts.

One of the judges of the court submitted a separate opinion in which he concurred in the findings of the court but expanded on the legal aspects of the decision. He referred to the fact that it had been claimed that Decree Law No. 116 of July 27, 1948,[1/] extended the country's sovereignty to 200 miles from the coast and (thus) extended the territorial waters of Costa Rica to the same distance. He referred to Article 6 of the Constitution which has been referred to above and went on to say that the Constitution, promulgated on November 7, 1949 and effective the following day, through its Article 6 revoked that part of Decree Law No. 116 which refers to sovereignty of the State in its territorial waters not only tacitly by a substantial modification but also in an express manner. The limit of territorial waters at three miles from the low-tide line must be accepted as a principle of International Law he said. He reached the same conclusion as the full court: Costa Rican courts have no jurisdiction beyond the three-mile limit.

1/ SEE COMMERCIAL FISHERIES REVIEW, OCTOBER 1948, P. 41.

Denmark

DANISH FISHERIES FAIR PLANNED: The first Danish Fisheries Fair will be held in the important fisheries base, Frederikshavn, Jutland, July 7-16, 1951, an American Embassy dispatch from Copenhagen dated October 25, 1950, reports.

The Fair will cover a space of 3,300 square meters and will supply a conprehensive picture of Danish fisheries and its affiliated industries. It will be divided into the following five sections:

1. Catches of the fisheries in general, by breeds and quantities; exports; home market comsumption; fisheries propaganda; new export opportunities; demonstration of preparation of fish

2. Fishing-shipyards; engines; catching equipment; salvage equipment

3. All shades of the Danish fisheries industry with working stands

4. Modern fisheries equipment, such as navigation instruments; Decca; echo sounding gear; radio; etc.

5. Pleasure fishing

The Fair is sponsored by the Danish Ministry of Fisheries, two associations of Danish fishermen, the wholesalers' and retailers' organizations, the cannery industry, the Fisheries Propaganda Association, the Danish Biological Station, and the Ministry of Fisheries' Test Laboratory.

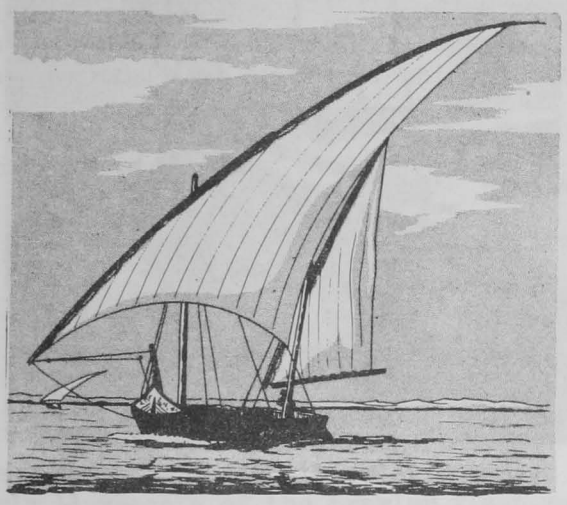
The Fair enjoys the financial support of several of the sponsors, and all entry fees, without any deductions, will accrue to a Fund for Danish Fisheries.

This joint move on the part of all segments of the Danish fisheries is considered an important further expression of a general public and private realization of

the importance of Danish fisheries to the national economy, particularly as an export trade. The first expression of this realization was the separation, in September 1947, of the trade from the jurisdiction of the Ministry of Agriculture and the establishment of an independent Ministry of Fisheries. Since its establishment, this Ministry has made considerable effort to bring about the cooperation of all sections of the industry, and this Fair is one of the results of these efforts.

Egypt

FISHING PORT PLANNED FOR PORT SAID: A fishing port in Port Said at the right of the entrance to Port Said harbor is planned by the Suez Canal Company, reports a November 9, 1950, American consular dispatch from that city. This port will cover an area of 2,000 square meters and will accomodate and provide safe berthing for all fishing and sailing craft, thus leaving the Port free from these craft. The cost of the project is estimated at LE1,000,000 ($2,870,000), and it will take at least two years to complete the port.



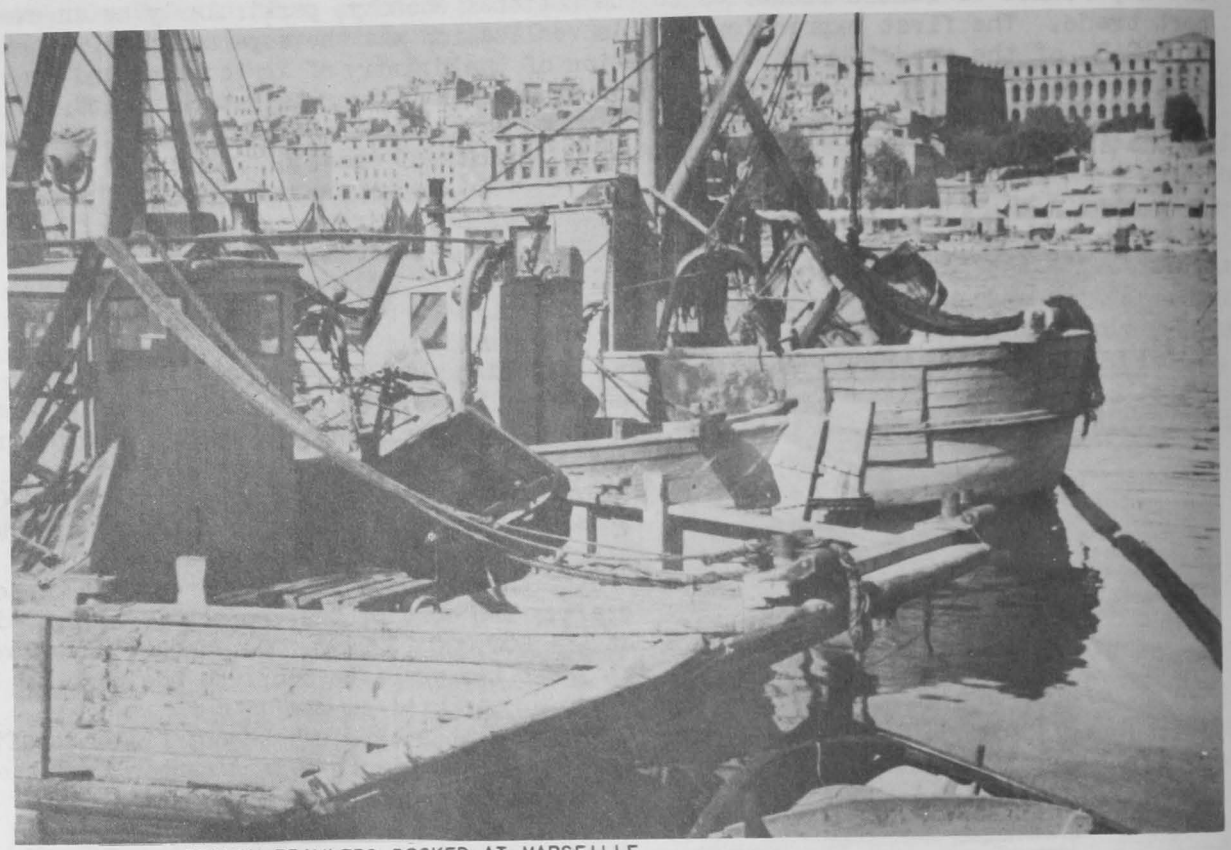
CARGO BOAT ON THE NILE RIVER.

During the sardine season, fishing craft are so numerous in Port Said harbor that they constitute a constant menace and danger to navigation, and it is believed that the new fishing port will eliminate the concentration of fishing vessels in the harbor.

France

FISH CONSUMPTION AND PRODUCTION, 1950: At an international congress (Congres International D'Etude sur Le Role du Poisson dans L'Alimentation) that was held in Paris in October 1950 to study the various aspects of the fishing industry, it was pointed out that the present average consumption of fish per person in France did not exceed 15.4 pounds per year, compared with an average of 19.8 pounds before World War II. It was stated that the French fishing fleet was capable as far as available tonage and equipment is concerned, of supplying enough fish to raise the per capita annual consumption to 26.4 pounds, according to a November 22 American consular dispatch from Paris.

The Comite National de Propagande pour la Consommation du Poisson (A National Fish Consumption Advertising Committee) is continuing its efforts to popularize and increase the consumption of fishery products, and recently recommended that the practice of selling filleted and attractively wrapped fishery products at reasonable prices be introduced with a view to encouraging sales. Attention has also been called in Parliament to the advisability of improving transportation methods for fish, particularly to smaller centers, and providing better facilities for handling and keeping fish in good condition at landing ports.



FRENCH TRAWLERS DOCKED AT MARSEILLE.

France's total fisheries production for 1950 is estimated at approximately 275,000 metric tons, compared with 300,000 tons in 1949 and 310,000 tons in 1948. The decline in fisheries production in 1950 is particularly marked in the case of the tunny fishery in spite of the greater number of vessels engaged in this fishery.

French Morocco

SARDINE PACK UP IN 1950: Figures are not yet available for French Morocco's 1950 fish canning season, which reaches its peak at the end of the year. However, preliminary reports indicate that the 1950 fish catch will exceed 100,000 metric tons (chiefly sardines) as compared with approximately 93,000 metric tons in 1949, reports a December 19 American consular dispatch from Casablanca. It seems probable, therefore, that the sardine canning industry will surpass last year's total of 2,500,000 cases.

Markets are of increasingly greater concern to this industry, which was helped substantially in the current year by a British Government order of one million cases. It is reported that this order will be renewed, however, and in addition the industry hopes for increasing success in the German and United States markets. Sardine exports to the United States will probably exceed $200,000 in 1950 as against less than $50,000 in 1949, and greater attention is now being given to American tastes in labeling and packing.

Iceland

BULK OF TRAWLER FLEET TO FISH FOR ROSEFISH: Excitement has followed reports that there is an active market in the United States for frozen redfish (ocean perch, rosefish) fillets, according to a November 16 American consular dispatch from Reykjavik. Two of the first trawlers to go out after the settlement of the labor dispute on November 6, 1950, brought back good catches of redfish, which have been frozen at the towns of Keflavik and Akranes. Freezing plants in these towns were reported to be working at full blast for the first time in many months.

Following the settlement of the seamen's labor dispute which had immobilized trawlers in Iceland for a little more than four months, a total of 34 trawlers left or were preparing to leave for the fishing grounds in mid-November 1950. These include 33 new (postwar) trawlers and one old trawler--11 perwar trawlers, making up the balance of Iceland's operational trawler fleet, were scheduled to leave in time for the main fishing season which begins in January.

According to the type of fishing, the Icelandic trawler fleet operating in mid-November was divided as follows:

No. of Vessels	Type of Fishing
9	For fresh fish on ice for delivery to Western Germany
2	For fresh fish on ice for delivery to the United Kingdom
23	For redfish (both for freezing and processing into meal and oil)

Because of the limitations placed on the delivery of iced fish to Western Germany and some difficulties experienced in marketing iced fish in the United Kingdom, only 11 vessels of the trawler fleet were sent out to fish for fish to be delivered iced. An increase in the demand for iced fish was reported from the United Kingdom, but Icelandic operators were dubious of marketing possibilities.

The market for redfish meal and oil continues to be favorable. Redfish catches by trawlers operating in this fishery will be processed into meal and oil at a number of plants in southwest Iceland. The most modern fish-reduction plant in Iceland (in Reykjavik) was expected to commence full-scale operations for the first time in November 1950, using redfish.

* * * * *

NEW TRAWLERS FOR ICELANDIC FISHERIES BEING BUILT IN GREAT BRITAIN: The first of the ten new trawlers being built by British shipyards for Iceland on contracts placed in 1948 was delivered late in December 1950. Named Hardbakur by her owners, a company in the north coast town of Akureyri, the vessel is now fishing for the British fresh fish market, states a January 16 American consular dispatch from Reykjavik.

The Hardbakur is a steam trawler of dimensions reported to be similar to those of the Neptunus - a type of trawler delivered by the United Kingdom to Iceland in 1948. The Neptunus is 684 gross metric tons, 183 feet long, 30 feet broad, and has a triple-expansion engine rated at 1,000 h.p.

The nine other trawlers are scheduled to be delivered by British yards in the current year. Two of the ten new trawlers are Diesel-powered, while the others have

steam power. The steam trawlers are reported to be similar in dimensions to the Hardbakur. The two Diesel trawlers are understood to be 20 to 30 gross tons larger than the steam trawlers. The principal difference between the ten new trawlers and Iceland's 33 so-called "reconstruction" trawlers delivered by British shipyards in 1946-48 is that the new trawlers all have fish-meal processing equipment on board. The Hardbakur is the first Icelandic trawler to have such equipment.

The new trawlers are reported to be selling for about 8,500,000 to 9,000,000 kronur (US $520,800 to $551,500). Sales are being handled by the Icelandic Government, which has arranged financing of the construction in British shipyards through loans extended by British banks. The cost of the new trawlers is about three times as high in Icelandic currency as the cost of the trawlers delivered in 1946-1948; those trawlers sold locally for approximately 3,000,000 kronur (which was then equivalent to about US $461,200). There were substantial devaluations of the Icelandic krona in September 1949 and March 1950, which account for the disproportionate increase in the local cost of the new trawlers.

In addition to the high initial cost, other factors make it problematical whether the new trawlers can be operated at a profit. The effect of the 42.6 percent devaluation in March 1950 on the trawler fleet has not yet been fully measured since the trawlers were laid up by a seamen's labor dispute from July 1 to early November 1950. Another question is the increased operating cost resulting from the new wage contracts entered into by trawler crews and operators at the conclusion of the labor dispute last November. Another imponderable is the future of the European iced fish market; Iceland made lucrative deliveries in the United Kingdom and West Germany in 1948, when contracts were let for the 10 new trawlers, but these markets were unsatisfactory in 1950. At one time last year it is understood that the desirability of disposing of the 10 new trawlers outside Iceland was under serious consideration in Iceland.

However, the Icelandic Government is now having little difficulty in selling the new trawlers to Icelandic operators. Seven of the trawlers have already been sold and bids for the three others are now under consideration.

Indonesia

DEVELOPING FISHERIES WITH ECA AID: In an effort to raise the standard of living of her one million regular and casual fishermen, the new Republic of Indonesia is using American aid to supplement her own resources in financing a program designed to increase the country's annual catch of fish, the Economic Cooperation Administration announced on January 5, 1951.

Fishing has long been an important segment of the economy of the Indonesian archipelago with its tens of thousands of square miles of fishing grounds. The Indonesian Government is making a determined effort to step up fish production and simultaneously lift the social and economic status of fishermen. ECA is assisting the program financially and with technical aid. It recently made a thorough survey of Indonesia's fishery potentialities and needs.

Because fish was not a major export crop, and since Indonesia has tin, rubber, pepper, copra, and other valuable products to sell to the world, fishing received little governmental help until less than 50 years ago. By 1939 there were only 32 motorized fishing vessels in the country. There are only 45 today.

Indonesia planned to motorize the fishing fleet when it appeared that World War II might cut off the country's fish imports, but the Japanese occupied the archipelago before the program could be carried out. The Japanese did not build up the fishery industry during their occupation, and submarine activity made fishing very difficult. Many of the fishing vessels were sunk, including every motorized vessel, and others fell into disrepair.

After the war, the Sea Fisheries Service was established as an agency of the government to carry out a fishery program. It plans to enlarge the fishing fleet; motorize fishing boats; establish a fleet of carrier vessels for sea transport from fishing areas to markets, and motor trucks for land transport of fish; establish processing plants for salting and drying fish; and make twine, hooks and other needs of the industry available.

The Sea Fisheries Service has two branches, one concentrating on improving fishing methods and techniques, and the other attempting to improve the economic and social status of fishermen. The operational arm of the service is the Sea Fisheries Institute.

Certain parts of the Indonesian Government's fishery program are already in operation, and will be continued by its own funds. The remainder it proposes to finance with ECA aid or through U. S. Export-Import Bank loans. This program anticipates an immediate increase of about 15,000 metric tons of fish annually, of which 8,100 tons would come from the motorized majang fleet, 4,900 tons from the tuna fleet, and 2,000 tons from use of two carrier vessels.

Expansion of Fishing Fleet: As one step in this program, the Economic Cooperation Administration has approved the Indonesian Government's request to buy 60 small motorized "majang" (local type) fishing boats and 100 new engines for this type boat at a cost of $600,000. The purchase, ECA said, will be made in Japan which has been a principal supplier of these boats and engines.

The 60 new vessels being procured with ECA funds will be powered with 15- to 20-h.p. engines, enabling the fishermen to expand their fishing area and remain at sea for several days at a time.

The engines being procured with ECA funds are of 7, 15, and 20 h.p., some of which will be installed in 35-foot carrier vessels as an experiment. These carriers will collect fish from sailing vessels at sea. The experiment is to determine if the majang boats can increase their catch and remain longer at sea by transferring their fish to the carrier vessels. If the experiment proves uneconomical, these carrier boats are to be converted to majang fishing vessels.

Indonesia has boat-building facilities and has 62 more boats scheduled for domestic construction in addition to the 60 being bought from Japan.

It is planned that about half of the new boats will operate out of Djakarta, more than doubling the number of motorized fishing boats in this area. The rest will be allocated to the fishing ports of Surabaja, Semarang, and Pontianak by the Sea Fisheries Service of the Indonesian Government. The boats are to be sold to individual fishermen, or groups of fishermen organized into cooperatives, and the proceeds in local currency will be used to pay local costs of other Indonesian economic development projects.

The Sea Fisheries Service estimates that some 19,000 craft operated out of Java and Madura last year, compared with 32,000 before the war.

Catch in 1949: The nation's total catch in 1949 was 420,000 metric tons, compared with 472,000 tons in 1940. Fishing has increased, however, in Indonesia's lakes, rivers, swamps, and artificially-made ponds, which yielded 175,000 tons of last year's (1949) total catch—47,000 tons over the 1940 inland catch.

Exports in 1949: Indonesia's exports of fresh, salted, and dried fish in 1949 totaled less than 200 tons, compared with 4,000 tons before the war.

Consumption: Domestic consumption in Java, one of the lowest of any maritime country, was 7.9 pounds per capita in 1949, compared with 14.7 pounds in 1940. These figures do not include the fish consumed by the million fishermen, their families, and others who fish occasionally to obtain a part of their food supply. Many other maritime countries average 33 pounds or more of fish per person annually, and 66 pounds is not unusual.

Although only Java, with its 50 million people, is considered lacking in fish supply, the ECA survey estimated that more than a million tons of fish a year would be required to give the entire country an average of 44 pounds per person. The current consumption of fish by the country's population of about 72,000,000 is only about one-tenth that of the maritime countries of Northern Europe. The annual catch from the sea, currently, is less than 75 percent of prewar. Indonesian authorities, it was reported, believe that their fish development program can produce about 750,000 tons a year, which would be more than 50 percent above the 1940 catch.

Because of the large amount of funds required to finance such an expansion, however, the immediate goal is to equal the 1940 catch of 350,000 tons of salt-water fish.

Marketing: An auction-market system is used throughout Indonesia for selling the fishermen's catch. The market place may be owned by a municipality, or by a fishermen's cooperative organization. They charge a five percent commission. The cooperative movement is growing rapidly among fishermen, it is reported. The co-op owned markets use their commissions to make loans to fishermen to buy supplies or equipment, and even to provide such facilities as free medical service to their members. Some markets deduct ten percent from the gross sales and hold the amount in savings for the seller, giving it to him in a lump sum at the end of the year. Some finance the building of homes for fishermen on long-term payment plans.

Japan

FISHING INDUSTRY IN FINANCIAL STRAITS:[1/] Investigations of the economic conditions of Japanese fisheries by SCAP's Natural Resources Section personnel show that the major portion of the industry is now facing a financial crisis, especially severe in the coastal fisheries which account for the bulk of the fisheries production. Unless these financial problems are overcome, the present upward trend of production will be reversed and many fishermen and cooperatives will be forced out of business.

A combination of factors is responsible for the present unfavorable financial condition of Japanese fisheries. Some of the most important of these factors are:

1. Lack of adequate reserves for operating expenses owing to the large expenditures required to replace facilities and equipment

1/ THIS WAS EXCERPTED FROM A MEMORANDUM ("FINANCING JAPANESE FISHING INDUSTRY," DATED NOVEMBER 6, 1950) PREPARED BY SCAP'S NATURAL RESOURCES SECTION FOR A VISITING UNITED STATES GOVERNMENT OFFICIAL. EXCERPTS APPEARED IN THAT AGENCY'S WEEKLY SUMMARY OF NOVEMBER 25, 1950.

lost or damaged during the war years (World War II). The inflation and high taxes also contributed to the present shortage of reserve funds.

2. There has been a marked decrease in the catch per individual unit despite the fact that present total production compares favorably with prewar production in the same geographical area. The number of fishermen has increased by 20 to 50 percent since the Surrender.

3. There has been a sharp increase in operating expenses owing to doubling and tripling of prices of fishing materials since the removal of government subsidies in April 1950.

4. The price of fish paid the producer has decreased as a result of improvement of the over-all food supply situation during the past year. Lack of experience among new operators in selling on a free market (following a long period of controlled prices and distribution), resulting in inefficient marketing, has temporarily contributed to the decrease in price since government marketing decontrol in April 1950.

Inadequacies of the existing credit structure, which were discussed in detail in the memorandum, are briefed as follows:

1. A more adequate and realistic credit system is needed to enable fishermen to maintain or increase production. At present the Central Cooperative Bank for Agriculture and Forestry is the chief source of credit for the fishermen. Current policy of this and other lending institutions restricts practically all loans to short-term (one year or less) regardless of the purpose or use to be made of the funds. Such restriction has necessitated constant renewal of loans, excessive administrative costs on the part of the loaning institutions, and loss of credit resources through unavoidable delinquencies.

2. The high interest rates required by present loaning institutions result in extreme hardship and numerous delinquencies by fishermen. Interest rates paid on term savings deposits normally average 3 1/2 to 4 percent while interest rates charged on loans are 9 to 10 percent for short-term (one year or less). This operational margin of 4 or 5 percent, or more, used by financial institutions does not appear justified. Furthermore, interest rates are the same within the two general categories of short-term and long-term loans regardless of the risk involved in the enterprise, available security, or repayment plan. Such practice has handicapped the borrower of sound low-risk investment funds in that he must pay interest rates high enough to meet deficits developed from loans to high risk and questionable enterprises. Segregation of loans into categories ranging from "well secured" to "very high risk" should be established with varying rates of interest.

3. In the loaning of funds to fisheries, available security in the form of catch liens and facility mortgages have not been obtained. Such practice has in general weakened the entire credit system in fisheries.

The memorandum listed the funds required by cooperatives and federations for financing short-term (up to one year), medium-term (one to 10 years), long-term (over 10 years), and disaster or relief-type loans during the last half of the 1950 fiscal year[1/] and for the 1951 fiscal year, as estimated by the Fisheries Agency, Ministry of Agriculture and Forestry, on the basis of reports from prefectural credit federations of fisheries cooperatives, as follows:

Estimates of Fisheries Financing Needs

Term	Amount in ¥1,000		Amount in U.S. $	
	FISCAL YEAR			
	Last Half 1950	12 mos.1951	Last Half 1950	12 mos.1951
Short term (up to 1 yr.)	2,285,600	4,488,000	6,348,900	12,466,700
Medium term (1 to 10 yrs.)	2,436,000	6,387,000	6,766,700	17,741,700
Long term (over 10 yrs.)	220,000	507,000	611,100	1,408,300
Disaster and relief type	150,000	275,000	416,700	763,900
Total	5,091,600	11,657,000	14,143,400	32,380,600

The amount for medium term loans does not include approximately four billion yen ($14,349,200) necessary for capitalization of fixed assets which the cooperatives have or will obtain by transfer from the former fisheries associations during 1950 and 1951, including certain necessary refinancing. Of the total loan requirements it is estimated that approximately 20 percent may be obtainable from local credit sources.

Two alternative plans for establishment of adequate credit at the national level are proposed in the memorandum: (1) reorganization of the administrative operations and expansion of resources of the Central Cooperative Bank for Agriculture and Forestry to meet approximately 80 percent of total needs for short-term, medium-term, and long-term loans; or (2) establishment of a new banking facility to handle all types of fisheries loans, not available from present local sources at reasonable interest rates. Either of the above plans will undoubtedly require the support of the central government in making available necessary capital at low interest rates from such funds as the Special Deposit Account, U. S. Counterpart Aid Fund Special Account and direct government subsidies. Fisheries specialists of Natural Resources Section are of the opinion that the Central Cooperative Bank for Agriculture and Forestry can adequately handle the normal credit functions of the fishing industry for short-term, medium-term, and long-term loans if the present policy on terms of loans is changed and certain internal reorganization of operations is carried out. Furthermore, the financing of all three types of loans should be under the same administration in order to insure proper repayment schedules and utilization of loan funds.

The following recommendations are set forth in the memorandum:

1. The Central Cooperative Bank for Agriculture and Forestry should reorganize its administrative operations to conform with sound cooperative banking principles and change its policy regarding terms of loans to meet the needs of the fishing industry. The reorganization should include the providing of staff personnel with experience in fisheries operations and competent to analyze loan applications as to soundness and to provide some supervision to borrowers in carrying out a coordinated plan of repayment.

1/ JAPANESE FISCAL YEAR, APRIL 1, 1950-MARCH 31, 1951.

2. If the Cooperative Bank cannot be reorganized in accordance with paragraph (1) above, a financing institution should be established for fisheries. If a separate bank is established, provisions should be made for short-term, medium-term, and long-term loans, which must be coordinated to insure realistic repayment schedules and proper utilization of loan funds.

3. Interest rates should be established on the basis of a varying scale according to soundness of loan, of risk involved, with the over-all average rates not to exceed 7 1/2 percent on short-term loans and 8 percent on medium- and long-term loans.

4. Disaster and relief type financing should be made available by direct government appropriation in accordance with actual need. Administration of such funds should not be under the general lending institution but under a separate government agency. Financing of this type should be made direct to individual fishermen.

5. Loans to cooperatives and federations should be made on the basis of the following:

   (a) Analysis of loan application by qualified personnel indicates soundness of loan

   (b) Repayment scheduled in accordance with the prospective income from the facility or enterprise and life of the facility, equipment, or materials being financed, and after thorough analysis of all outstanding obligations to be met.

   (c) Available security should be taken in the form of catch liens and assignment of sales for short-term loans and as mortgages on facilities for medium and long-term loans.

   (d) Medium and long-term loans should be based on stabilized security values with provision for refinancing during inflationary period.

   (e) Cooperatives receiving loans should be required to submit regular and adequate financial statements, with annual audits by independent auditors.

   (f) Restrictions regarding maximum capitalization of the banking institution should be sufficiently flexible to meet current normal needs of fisheries.

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STATEMENT ON NEW FISHERY RESEARCH PROGRAM:[1] Fisheries research in Japan is conducted by the central government, the prefectural governments, universities, fishery colleges, and private fishing companies; similar organizations in the United States also conduct fisheries research, but those of Japan are on a much larger scale than is known in the western nations.

1/ A PRESS STATEMENT MADE BY DR. WILLIS H. RICH, VISITING EXPERT CONSULTANT, WHICH APPEARED IN THE DECEMBER 2, 1950, WEEKLY SUMMARY OF SCAP'S NATURAL RESOURCES SECTION.

In the past, the Japanese fisheries research program has been largely devoted to the improvement of fishing and processing methods and the development of new fisheries. The general effect has been to intensify exploitation. The Japanese have paid very little attention to the particular kinds of biological study that are of primary importance in conserving the resources upon which the fisheries industries depend for their raw material. In the western nations, on the other hand, the fisheries research programs, especially of the various governmental organizations, have been directed chiefly toward acquiring the information necessary to maintain the productivity of these resources. In the United States this approach to research has been a part of the great conservation movement that began about 50 years ago. The average American fisherman has learned the importance of fisheries conservation; he realizes that "conservation is wise use" and that without conservation his own future is jeopardized.

It is highly significant that Japan shows a growing realization of the importance of fisheries conservation and a strong trend toward developing the kind of fishery research that is of the greatest importance to the care and maintenance of the fishery resources. Information from this research in the field of fishery biology is absolutely essential if the resources are to be managed so as to provide continually the maximum yield. This change in emphasis in Japanese fishery research has been brought about very largely through the activities of the Fisheries Division, Natural Resources Section of SCAP, and the fine cooperation of officials of the Fisheries Agency of the Japanese Government.

One of the most important moves in this new development has been the establishment of eight regional fisheries research laboratories instead of one single central station which dominated the entire fisheries research program. This new organization has many advantages over the old system. The men working at the regional laboratories gain a more direct knowledge of the practical problems of the fisheries and work more closely with prefectural research men. They become much better acquainted with the methods of the fisheries they are studying, and they make a much closer contact with the fishermen and the men in the industry. All of these factors will help the research men to improve their research greatly and to adapt it better to the conditions and the needs of the fisheries. Another great advantage of the new system lies in the fact that the independence of the new regional laboratories provides an opportunity for the development of new methods and for closer and more friendly contacts among the members of the various staffs.

Japan's future as a great fishing nation will depend much upon the success of the new research program and even more upon the degree to which the need for scientific care of the fishery resources is accepted by administrators, legislators, and fishermen. Fishery research is designed to answer practical questions, but unless the results of research are translated into action it will serve no practical end. By regulations and education based on research, Japan can do much to maintain and improve the productivity of its own fisheries. But this alone is not enough; Japan should also take an active interest in the conservation of fishery resources the world over. None of the world's great fisheries is inexhaustible, and most fishery resources that have been exploited intensively show some effect of that exploitation. The new fishery research program will do much to develop in Japan a realization of the importance of proper care of fishery resources and will lead to better understanding and more cordial relations with the other important fishing nations of the world.

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DIP NETS WITH LIGHTS USED IN SAURY PIKE FISHERY: Before 1948, the Japanese principally used drift nets in the saury pike fishery. However, since then most of the drift nets have been replaced by dip nets operated with lights, the December 23 Weekly Summary of SCAP's Natural Resources Section states.

Fishermen at Onahama report that, for an average month's operation, the catch per boat using dip nets with lights equals the catch of the same size boat using drift nets. However, the boats using a dip net and light operate only during the dark of the moon. Therefore, they remain in port an average of 10 nights per month. The drift nets operate each night for the full 30-day period per month, weather permitting. The operators state that the cost of operations and materials (nets) for the dip-net-and-light method is lower than for the drift-net method.

SPERM WHALING OPERATIONS OF 1950-51 ANTARCTIC WHALING EXPEDITION: The two fleets of the 1950-51 Japanese Antarctic whaling expedition completed sperm whaling operations on December 21, 1950. The fleets took a total of 409 sperm whales, produced 3,799 metric tons of sperm oil, and processed 1,402 metric tons of raw materials for food and industrial use.

On December 22, 1950, the first day of the baleen whaling season in the Antarctic designated by international agreement, the two fleets began baleen whaling operations.

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ORDINANCE TO CONTROL SEA OTTER AND FUR-SEAL PRODUCTS: Action to prohibit and/or restrict the possession of fur seal and sea otter pelts and products manufactured therefrom will be strengthened by the Japanese Ministry of Agriculture and Forestry Ordinance No. 111 promulgated on October 13 and effective October 31, 1950.

The Ordinance provides for carrying out articles of the Law for the Control of Sea Otter and Fur-Seal Hunting. Principal action will be inspection of pelts and manufactured articles to determine whether such items have been procured in accordance with the Law. Legally-obtained pelts and manufactured items therefrom will be marked with an official tag. Illegally-procured pelts and products will be seized, and offenders will be subject to fines and imprisonment, according to the October 28, 1950, Weekly Summary issued by SCAP's Natural Resources Section.

Netherlands

FISHING FOR HERRING FOR SALTING PURPOSES BANNED BECAUSE OF OVERSUPPLY: The Netherlands Fisheries Control Board has placed a ban on fishing for herring for salting purposes, a November 17 American consular dispatch from The Hague states. Fishing vessels at sea, however, were allowed to complete their catch. Fishing for fresh herring does not come under the ban.

In November, the 1950 catch of salt herring totaled about 500,000 barrels (50,000 metric tons), most of which are in stock. The 1949 catch amounted to 425,000 barrels (42,500 metric tons). The season's large catch together with the fact that the late season catch was of poor quality are the reasons given for the ban. Normally the fishing of herring for salting ends about the end of November or the first week in December.

Officials of the Fisheries Control Board expressed the opinion that markets would be found at normal prices for present stocks of salted herring.

Norway

NORWEGIAN RESEARCH VESSEL SEEKING EARLY WINTER HERRING SHOALS: In search of early winter herring shoals off the Norwegian coast, the fisheries research vessel G. O. Sars recently left Bergen, the Norwegian Information Service announced on December 21, 1950.

The fisheries consultant directing the expedition told the press that hardly anything is known concerning the whereabouts of the herring in the period between September and January-February. This is the first attempt of its kind ever made, he states.

Late last summer Norwegian fishermen, vainly trying their luck in Icelandic waters, were tipped off by the Norwegian fisheries consultant that new herring shoals had been discovered about 60 sea miles southeast of the lonely island of Jan Mayen in the North Atlantic. It is reported that fishermen who went to the new location and fished returned to Norway with capacity hauls. With these good results in mind, the Norwegian Iceland Fishermen's Association has named a committee to report on recommendations for processing and marketing of the herring due to be caught off Jan Mayen in 1951.

HERRING PRICES FOR 1951 PROPOSED: The Norwegian Ministry of Finance and the Board of Norway's Herring Sales Organization have approved proposals for State-guaranteed herring prices during the 1951 fishing season. The proposed prices, higher than last year's, are 17 kroner per hectoliter ($1.19 per cwt.) for sloe herring and 14 kroner per hectoliter ($0.98 per cwt.) for spring herring.

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NORWEGIAN-SWEDISH SHRIMP DISPUTE[1]/SETTLED: After months of negotiation, Norway and Sweden have signed an agreement settling the dispute concerning the rights of Swedish shrimpers in Norwegian territorial waters, according to a January 11 news release from the Norwegian Information Service. The agreement, which "regulates conditions of fishing in certain coastal waters belonging to Norway and Sweden," must be ratified by the Swedish and Norwegian Parliaments before it becomes effective.

According to the terms, Swedish fishermen will be permitted to fish in specific waters of the outer Oslofjord. The same rights will be granted Norwegian fishermen in Swedish waters off the coast of northern Bohuslan province. Swedish and Norwegian fishermen, plying their trade in waters belonging to the other country, will have to comply with all laws and regulations applicable to fisheries in those waters. Each nation will have full police and jurisdictional authority over fishermen from the other country, while they are in that nation's waters. The agreement also specifies what type of gear may be used by Norwegian and Swedish fishermen, respectively.

1/ SEE COMMERCIAL FISHERIES REVIEW, OCTOBER 1950, PP. 68-9.

Pakistan

REQUESTS FAO TECHNICAL AID ON FISHERIES: Pakistan has asked for technical advice from FAO on 26 programs, and included among these is one for fisheries, according to a December 6, 1950, American consular dispatch from Karachi. A greater part of the expenditures for the experts to be supplied for the contemplated programs will be borne by the Food and Agriculture Organization. Pakistan will be required to furnish only their board, lodging, and transportation within the country.

Portugal

STATUS OF SARDINE INDUSTRY: After a two-year period of absence, the sardines off the Portuguese coast made their reappearance at the end of July 1950. This promised to end the severe economic hardships caused to the fishing and canning industry by the shortage of sardines, a December 22 American consular dispatch from Lisbon states.

Owing to the small catch of sardines, Portugal had discontinued importation of tin plate in May 1949. Since there is no domestic production, shortly after the reappearance of the sardines an effort was made to acquire tin plate. The agreement to supply the United Kingdom with half a million cases of sardines (which has been completed) had no provision for supply of tin plate. Orders from France for tin plate were not filled, and United States mills were not able to supply any even at sharply increased prices.

The Economic Cooperation Administration authorized and made available to Portugal $433,000 and later $1,367,000 for the purchase of tin plate in the United States of 2,500 and 6,500 tons, respectively (a total of 9,000 tons for $1,800,000) at $200 per ton. However, to date no purchases of tin plate have been reported.

Since the latter part of November 1950, the sardines seem to have again disappeared off the Portuguese coast, with the result that the catch towards the end of 1950 was sporadic and canning and exports were greatly reduced.

Studies for the expansion of Portuguese sardine exports to the United States have been continued and the following suggestions have been considered by the Portuguese Office of Fishery Studies:

1. Grouping of numerous separate shipments to the United States to expedite inspection.

2. Publicity for the marketing of other than skinless and boneless sardines in olive oil; and more attractive labels.

3. Attempting to compete with Norwegian spratt and brisling packed with a large number of fish to the can in inferior oils but in attractive Norwegian-made aluminum cans, and which sell at lower prices than the Portuguese canned sardines. (Portuguese experiments with aluminum containers for sardines have not been successful in the past, according to a Portuguese official, but in light of the Norwegian success they might be resumed).

4. In shipping to the United States in containers of American tin plate, a waiver of part of the American duty on the containers might be obtained as well as an exemption on the Portuguese export tax. (At the moment, however, the Portuguese importer is so concerned with obtaining tin plate that he has not attempted to take advantage of any such possibilities).

Inasmuch as Portugal did not devaluate as much as Great Britain, the former is at a disadvantage in selling its sardines in the sterling areas. Although Great Britain is looking towards Morocco, Yugoslavia, and Japan where more favorable exchange rates can be found, there is no indication that Great Britain will reduce imports of Portuguese sardines.

NORTH SEA CONVENTION RATIFIED BY PORTUGAL: Portugal joined the ratifying nations of the North Sea Convention on July 13, 1950, and the provisions of that Convention were incorporated into and published as Portuguese Decree-law No. 37:983 on September 26, 1950.

Portugal was one of the 12 participating countries in the 1946 London fisheries conference which drew up the "Convention of April 5, 1946 Governing the Fixation of the Mesh-size of Catching Equipment and Size Limits of Fish" (the so-called "North Sea Convention" whose principal purpose was the formulation of measures against overfishing in the North Sea).

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THIRD FISHING CONGRESS HELD: The Third National Fishing Congress convened in Lisbon during December 12-18, 1950, in the presence of the President of the Republic, the President of the Council, the Ministers of Marine, Finance, Public Works, Economy, Colonies and Corporative Bodies, and the Director General of the Marine. The Second Congress was held in 1947.

The work of the Congress was divided as follows: fishing off metropolitan Portugal; other fishing; and fishermen. Discussions in the first two phases were concerned with the problems of the salt-water, river, and sport fishing industries; and also included discussions of naval construction, fishing ports, importation and exportation of salt-water fish, insurance, cooperatives, fishing laws, scientific methods of fishing, refrigeration, taxation, distribution, and marketing. The third phase (fishermen) was principally concerned with social welfare problems, and comprised studies of the living conditions of fishermen, schools, homes and federal housing, cooperatives and mutual assistance, maternity care, nurseries, youth centers, children's vacation camps, hospitals and asylums, collective work contracts, insurance, churches, agriculture, and economic capacity.

Somalia

PROPOSED FISHERIES DEVELOPMENT: In its capacity as administrator of the Territory of Somalia in eastern Africa under United Nations trusteeship, the Italian Government submitted certain proposals to the ECA Mission in Italy, requesting technical assistance in certain specified fields (including fisheries). Two agricultural experts of the ECA Mission in Italy visited Somalia and on September 8, 1950, after examining conditions in that country, submitted a "Preliminary Report on Somalia Agricultural Projects," which included a report on Somalia's fisheries.

The experts in their report on the fisheries project application of the Italian Government pointed out that insofar as the development of local fishing industries in Somalia is concerned "there appear to be an abundance of fish and ample boats and gear to catch them. Such boats and gear may be primitive but the demand for fish is not sufficient to justify any change in the local industry." To their various inquiries, the experts received answers indicating that fish along the Somalia coast are very plentiful, including dentice and palombo, which are very popular in the Italian market. An Italian firm operates a fishing industry out of Mogadiscio and Merca and is apparently able to meet all local demands. This firm also owns a canning factory in north Somalia but at the present time is supplying local demand only as there are no exports. Local belief would indicate that there are sufficient sharks off Merca to create an industry for the extraction of liver oil. Although

there was some discussion concerning the revival of a fish canning industry and the expansion of this industry, with additional canneries to be constructed along the coast, the ECA experts stated that "the availability of fish in paying quantities must first be proved before any assistance can be considered for the construction of canneries."

It is clear that any fishing industry to be developed must sell its catch to countries outside Somalia, the report continues. At the moment it appears that efforts must be concentrated on other than canned fish.

The report also quotes Milo Moore, Fisheries Expert of ECA-Greece, who on July 25, 1950, prepared "A Review of Italian and Territorial Fisheries of Somalia." Moore, in his report, states: "it appears that Italy, as a maritime nation, can develop overseas fishing that will supply the needs of the Italian people. Indications are that fishing activities adjacent to the coast line of Italy are at present exploited to a point of maximum yield and it would not be advisable to encourage greater expansion of the industry here, as such efforts might be detrimental and cause a decline in the abundance of fish in future years." Moore also reported that since tuna sells for about $250 per metric ton in Italy, it would seem that there is a possibility of developing a dollar market if fish can be caught in sufficient quantities. England, Germany, and France would also be good markets.

The ECA-Italy experts who visited Somalia believe that there is sufficient evidence to indicate the possibility of good fishing off the coast of Somalia and there appears to be little doubt that markets are available for the type of fish which can be caught even though these markets are thousands of miles away (Naples is approximately 2,700 miles from Mogadiscio). After the fish are caught, a problem will be presented in transporting the fish these great distances. "We do not believe that a vast expenditure should be made solely for the purpose of carrying on a research program, as tuna, anchovies, sardines, sharks, lobsters, and other species of food fish are already known to inhabit the waters of Somalia.

Italian officials expressed a desire for a modern tuna clipper from the Pacific Coast of the United States with a refrigeration capacity of 300 to 400 tons.

In view of the above, the experts' recommendations with reference to the fisheries project application by Italy for Somalia were as follows:

"1. That a refrigerated boat of about 400-500 ton capacity, complete with trawl winch, small skiffs, nets, lines, and fishing equipment, be purchased in Europe either by building or by converting an existing vessel. A fisheries expert of ECA should assist in the selection of a suitable boat.

"2. That the proposed fishing program in Somalia be essentially an action program with research carried out by two aquatic biologists or other qualified fisheries experts who should accompany the boat during fishing operations. As soon as a decision is made on the purchase of a boat, two experts, preferably from the United States Fish and Wildlife Service, should be recruited for the first voyage.

"3. That the Italian Government enter into an agreement with a reliable, successful fishing company under which the company would furnish a captain to direct actual fishing operations,

a man especially trained in the handling of fishing gear, a man experienced in freezing and caring for fish, plus other personnel as may be required.

"4. That a trip be made from Italy to the fishing grounds with the Italian Government paying all costs with the exception of the salaries of the men furnished by the company. The company to share in the profits of the load brought back to Italy after agreed-upon operating expenses have been deducted.

"5. That after definite information has been obtained, efforts be made to encourage private enterprise to invest capital and expand the industry."

Spain

"PAIRS" EXPANDING FISHING OPERATIONS OFF NEWFOUNDLAND:[1] During the past two years, an ever-increasing number of Spanish "pairs" (Spanish system of drag-net fishing by two vessels) have been leaving their old fishing grounds off the Spanish, French, and Irish coasts and going further afield, particularly to the Newfoundland banks, states a December 29 American consular dispatch from Bilbao. These expeditions have met with such marked success that during this year's Newfoundland fishing season an estimated sixty "pairs" will make the trip from ports situated in the Bilbao district of Spain where most of the operators of this type of fishing are concentrated.

Several of the more important operators of fishing vessels of this type have recently indicated that they are now looking for ways to further augment their catch in those waters, particularly by cutting down on the travel time of the vessels. Whereas large trawlers need make only two trips a year back to Spain from the banks and can do so with relative speed, the pairs must return frequently due to their small storage capacity. Furthermore, their speed being markedly slower than that of the competing trawlers, they spend 10-15 days on the trip. Two methods of remedying this handicap are presently in process of evolution.

Two or more of the local operators are planning to send out motherships with the pairs to periodically gather up the catch of their own vessels and return to Spanish ports from time to time to dispose of it.

Another group is reported to be dickering with the French officials of Saint Pierre-Miquelon for rights to establish a storage depot on the former island which is conveniently situated near the fishing grounds. Under such an arrangement, the member vessels of this group of the fishing fleet would store up to 5,000 metric tons of fish on the island and these deposits would be drawn upon from time to time by a Spanish freighter chartered expressly for the purpose which would make periodic trips to and from Spain. Should such an arrangement as envisaged be concluded with the authorities of Saint Pierre, a considerable portion of the reportedly lucrative business of purveying the usual supplies and services to the vessels of the Spanish fishing fleet in that area would in all likelihood be transferred from Saint John's, Newfoundland, where it is presently done, to the Islands. This is particularly true due to the apparently more favorable location of the Islands and the greater ease with which Spanish fishing interests are able to obtain French foreign exchange as compared with foreign exchange for use in Canada and elsewhere in the dollar area.

1/ SEE COMMERCIAL FISHERIES REVIEW, JULY 1950, P. 51; MAY 1950, PP. 81-4.

Sweden

FOURTH WEST EUROPEAN FISHING CONFERENCE: The Fourth West European Fishing Conference was held in Goteborg on October 11, 1950, a January 3 American consular dispatch from that city reports.

Representatives of the nations interested in west European fishing were invited. This conference was chiefly held to prepare for the official fishing conference to be held in London in 1951. Representatives from the German West Zone were invited to and attended the Goteborg conference--the first time German representatives were present since before World War II.

One of the most important questions discussed by the forty members of the conference was that of the gradually reduced fish stocks in the North Sea. Various suggestions were made for the improvement of this condition, such as increasing the size of the net meshes, controlling the catches by way of country quotas, prohibition of fishing during certain periods, etc. The views appear to have differed and the delegates will now discuss this and other questions with their governments, pending further negotiations in London.

The hope was expressed at the conference that all countries would have signed the 1946 convention by 1951 before the London conference. This would make it possible for that conference to make important decisions in maters of interest.

It is understood that no important decisions were made at the Goteborg Conference, but questions were brought up which would be discussed in London.

Tunisia

TUNA FISHING INDUSTRY: Production, 1948: Tuna fishing has never been of great importance in the Tunisian economy. In 1948, the last year for which detailed statistics are available, only 120 metric tons of tuna were caught, of which 36 tons were exported. The over-all production of the Tunisian fishing industry for that year (including tuna) was 12,058 tons, of which 1,582 tons were exported. It is true that catches of tuna totaling over 2,000 tons (in 1904) have been made in past years but, until 1950, a constant downward trend in catches was evident (see table). This trend was, of course, aggravated by the disruption of the industry during World War II, a November 21, 1950, American consular dispatch from Tunis states.

Tuna Caught in Tunisian Waters, 1944-50

1944	1945	1946	1947	1948	1949	1950
..... (in metric tons)						
175	253	199	115	120	1/65	1/432

1/ESTIMATED.

Gear Used: Tuna fishing in Tunisia has been in the past and is done now primarily with "madragues" (large fixed-net installations), although negligible quantities are occasionally caught with lines. These madragues are installed in fixed positions on the coast line or on nearby islands. Each one consists of a line of nets extended perpendicular to the coast for a distance varying from a few hundred meters up to three kilometers (approximately 656 to 9,840 feet). At some point along this line of nets (usually near the offshore end), there is an opening through which the fish, searching for a passage through the obstruction, pass into the "corpo" (a box-like net arrangement) where they are trapped until the fishermen raise the nets in the corpo and transfer the fish into boats and lighters. Madragues are usually associated with "thonaires" or processing plants of varying size on the shore nearby.

Present Status of Industry: In 1943, upon the liberation of Tunisia by Allied troops, tuna fishing facilities were in a lamentable state. In 1939 there had been five madragues in operation, four on the north coast of Tunisia and one on the east coast. By the end of the Tunisian campaign, however, installations had been seriously damaged and none of the madragues operated in 1940, 1942, or 1943 but one or two obtained a limited catch in 1941; only one madrague operated during the 1944 season. This was the madrague at Sidi Daoud, which is generally regarded as possessing the best tuna fishing site in the country. In 1944 the Tunisian Government put it back into operation. To date no other thonaire or madrague has been reestablished.

On March 28, 1949, the Tunisian Government granted monopoly rights in the tuna fishing industry for a period of forty years to a private company. This company received all rights to operate the madragues and thonaires at the five sites active in 1939 as well as all rights at three other sites on the east coast which had been abandoned some time before 1939. In 1949 and 1950 only the one installation at Sidi Daoud was operated by the company, but the terms of the concession require the company to be operating at least three madragues (two on the north coast and one on the east coast) during the 1953 season. During the 1951 season the madragues at Sidi Daoud and Monastir will be operated. In excess of these three, the number of madragues operated will be at the discretion of the company.

The company is also required by the terms of the concession to utilize "the most modern methods of fishing." Particularly, it is required "to substitute for the traditional methods used until now in Tunisia the method known under the name of 'the Atlantic method' which is used in Morocco." In brief, this method appears to involve stronger nets of a considerably greater length which extend farther from shore. Otherwise the principle of the madrague appears unchanged.

Results of the 1950 Season: The 1950 season was the first season during which the "Atlantic method" was used in Tunisian waters. Since only the madrague at Sidi Daoud was utilized during the season, only this madrague was converted to the new method. The results were very good: the catch of tuna amounted to 432 metric tons while 164 tons of bonito (Euthynnus pelamys and Pelamys sarda) were also caught. Unofficially the 1949 tuna catch was estimated at 65 metric tons.

It is impossible to say at this time whether these results were obtained because of the superiority of the new method over the old or because of an exceptional migration of tuna. In view of the fact that one madrague has equalled the average catch of five madragues during the decade preceeding World War II, there is, nevertheless, considerable hope among local fishermen that the tuna fishing industry has been definitely revived.

Seasons: Tunisian coastal waters lie in the path of annual migrations of tuna (mostly Orcynnus thynnus) proceeding from the Atlantic toward the eastern Mediterin search of favorable spawning conditions. These fish normally pass eastward through Tunisian waters, appearing off the north coast about May 20 each year and finally disappearing from southern shores about July 1. Smaller quantities of them also pass westward through Tunisian waters between August 30 and the middle of October en route back to the Atlantic.

Processing: The thonaires at each madrague normally clean the fish and prepare them for sale in the fresh fish markets. Only a limited amount of tuna can be absorbed by local consumers as "fresh fish," however, and the canning of tuna fish is an industry capable of considerable expansion if more supplies of tuna fish become

available. There are, as yet, no canning plants installed at the thonaires. Consequently, the tuna fish are prepared at the thonaires for shipment to the fresh fish markets and then sent to one of the three canning plants located at Tunis.

The production of canned tuna fish in 1948 amounted to only 30 metric tons (out of 76 metric tons of tuna caught). No more recent statistics are available but it was reported in La Presse, August 16, 1950, that more than half of the 1950 catch (432 metric tons) was canned, which indicates that canned tuna production in Tunisia in 1950 (216 plus metric tons) was more than seven times as large as two years ago.1/

The possibility of increasing the production of canned tuna fish is regarded optimistically by local authorities. The product is canned with abundant and excellent Tunisian olive oil and is easily sold in Tunisia and on the world market. The limit to present canning activity is said to be only the availability of the tuna fish.

Exports: In 1948 only 2.4 metric tons of canned tuna fish were exported with a value of 735,000 francs.2/ It is expected that a much greater quantity will be exported during 1950 as a result of the much larger catch.

1/ A LIMITED QUANTITY OF TUNA IS SMOKED OR DRIED, BOTH FOR LOCAL CONSUMPTION AND FOR EXPORT.
2/ ABOUT U. S. $3,000.

Union of South Africa

SPERM OIL DEMAND AND PRICE INCREASE: A whaling company at Durban reports that as soon as the situation in Korea became serious the company was overwhelmed with orders for sperm oil from European buyers. The largest shipments were made to Germany, Holland, and Belgium, a December 18 American consular dispatch from Durban states.

Although this company reported early in 1950 large stocks of sperm oil, which it was endeavoring to dispose of on the world's markets at £55 (about $153) per ton f.o.b. Durban, in December it was learned that their stocks had been completely exhausted. In addition, the entire production of the current Antarctic expedition has been contracted for by European buyers, the company stated. The price now being paid for sperm oil is approximately £70 ($195) per ton f.o.b. Durban.

United Kingdom

UNRESTRICTED LANDINGS AT HUMBER PORTS ANNOUNCED: It was announced in mid-December 1950 that unrestricted landings at Humber ports would again be permitted after January 1 this year, and that all laid-up deep-sea trawlers at Grimsby and Hull were to return to sea with orders to catch to capacity. This decision was made at a meeting of the Humber Distant Water Trawlers Development Scheme, reports the December 23 issue of The Fishing News, a British fishery periodical. The meeting was called to consider the effect of the cut in the meat ration on the general food situation in Great Britain.

Regulated sailings and landings at the port of Grimsby and Hull for distant-water vessels were inaugurated in mid-July 1950.1/ The trawler owners have decided

1/SEE COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1950, PP. 57-8.

that there should be no deterioration in the standard of quality achieved since landing restrictions were imposed. Present minimum dockside prices are to remain unchanged.

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SCOTTISH SEAWEED RESEARCH INITIATED: The Gulland Laboratory of the Institute of Seaweed Research was recently opened at Inveresk, Musselburgh, a suburb of Edinburgh, states a December 28 American consular dispatch from Edinburgh. The purpose of the Institute, which is sponsored by the Scottish Seaweed Research Association, is to discover processes for extracting chemicals from seaweed harvested on Scottish shores, and to ascertain uses for the chemicals so extracted. The new laboratory was designed primarily for the development of pilot-scale processes for the production of chemicals from seaweed. This will make possible the preparation of bulk samples of the chemicals which will be turned over to member firms of the Research Association for industrial assessment. Furthermore, it is hoped that sample production of these chemicals at the laboratory will permit estimates of industrial production costs to be made.

As a result of the efforts of the Association, an industry has already been established in exploiting agar and alginic acid. The industry now produces about £750,000 ($2,100,000) worth of these chemicals annually.

There are many chemicals present in seaweed which are not being used at all and the Institute aims to find uses for them and to work out industrial production processes. It has been found that 200,000 tons of dry, brown seaweed are potentially available each year, and would be capable of yielding 30,000 tons of alginic acid, over 30,000 tons of mannitol, nearly 40,000 tons of laminarin, and over 5,000 tons of fucoidin. The seaweed also contains unknown quantities of proteins, fats, sterols, amino acids, and other chemicals. Mannitol could be converted into glucose, and fucoidin into sugar fucose. Laminarin is a chemical found only in seaweed and is being investigated for possible use as a blood plasma substitute or to replace talc as a surgical powder.

The Institute has been in existence only since 1944, operating with the assistance of government grants. In 1946, a five-year program was embarked upon, with the Government furnishing £127,000 ($355,600), representing more than 90 percent of the cost of the research program. It has now been announced that the government will assume full responsibility for the work when the present program ends in June 1951. It is expected that the project will continue indefinitely, subject to further review in 1954. As a result of this action by the Government, the Seaweed Research Association as such will cease to exist in 1951. It is anticipated that the cooperation of scientists, engineers, and industrialists will continue in the Institute when it comes under government sponsorship.

Yugoslavia

EXPORTS OF FISHERY PRODUCTS ENCOURAGED: Yugoslavia will encourage the exportation of fishery products after local needs have been met, reports a December 29 American Embassy dispatch from Belgrade. Nevertheless, every effort will be made to increase exports, particularly of snails and frogs which are in demand on the world market. Soon an enterprise for fish exports will be established. Cooperatives supplying fishery products for export will receive 70 percent of the foreign exchange earned by their exports and will be permitted to use it to purchase fishing equipment from abroad.