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# FISHERIES OF GHANA, 1972



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## SUMMARY

Ghanaians are recognized throughout West Africa for their high degree of fishing competence. At least 20 percent of the working population of Ghana is engaged in fishing along the Gulf of Guinea coast or in the country's extensive freshwater fisheries. With help from the Ghana Government, with some assistance from abroad, and with their own ingenuity, the Ghanaian fishermen are developing an industrial fishery without sacrificing their own artisanal sector. In the past 5 years the artisanal production has increased 360 percent and industrial production has increased 170 percent.

## INTRODUCTION

The Republic of Ghana was the first West African colonial country to gain national independence; this came on March 6, 1957 when the United Kingdom relinquished control over that country. Ghana is situated just north of the Equator facing the Gulf of Guinea. It is bounded on the west by the Ivory Coast, on the north by Uper Volta, and on the east by Togo. Ghana's 9 million inhabitants live in an area about the size of Oregon.

Accra, the capital of Ghana, is located on the coast a little to the southwest of the primary fishing port of Tema (about 18 miles away). Ghana's second largest port is Takoradi, about 100 miles west of Accra. There are many smaller ports along the Ghana coastline which serve the canoe fleets. Five major rivers flow through Ghana, serving both the inland fisheries and the untapped shrimp fisheries of that nation. The largest river is the Volta River, which bisects the eastern section of the country.

Ghana's 334 mile coastline is covered by plains and scrub growth on the east while equatorial forests covers much of the west. The Continental Shelf ranges from 7 miles off the eastern border to 40 miles off Takoradi in the west. On March 16, 1973, Ghana extended its territorial limits from 12 to 30 miles.

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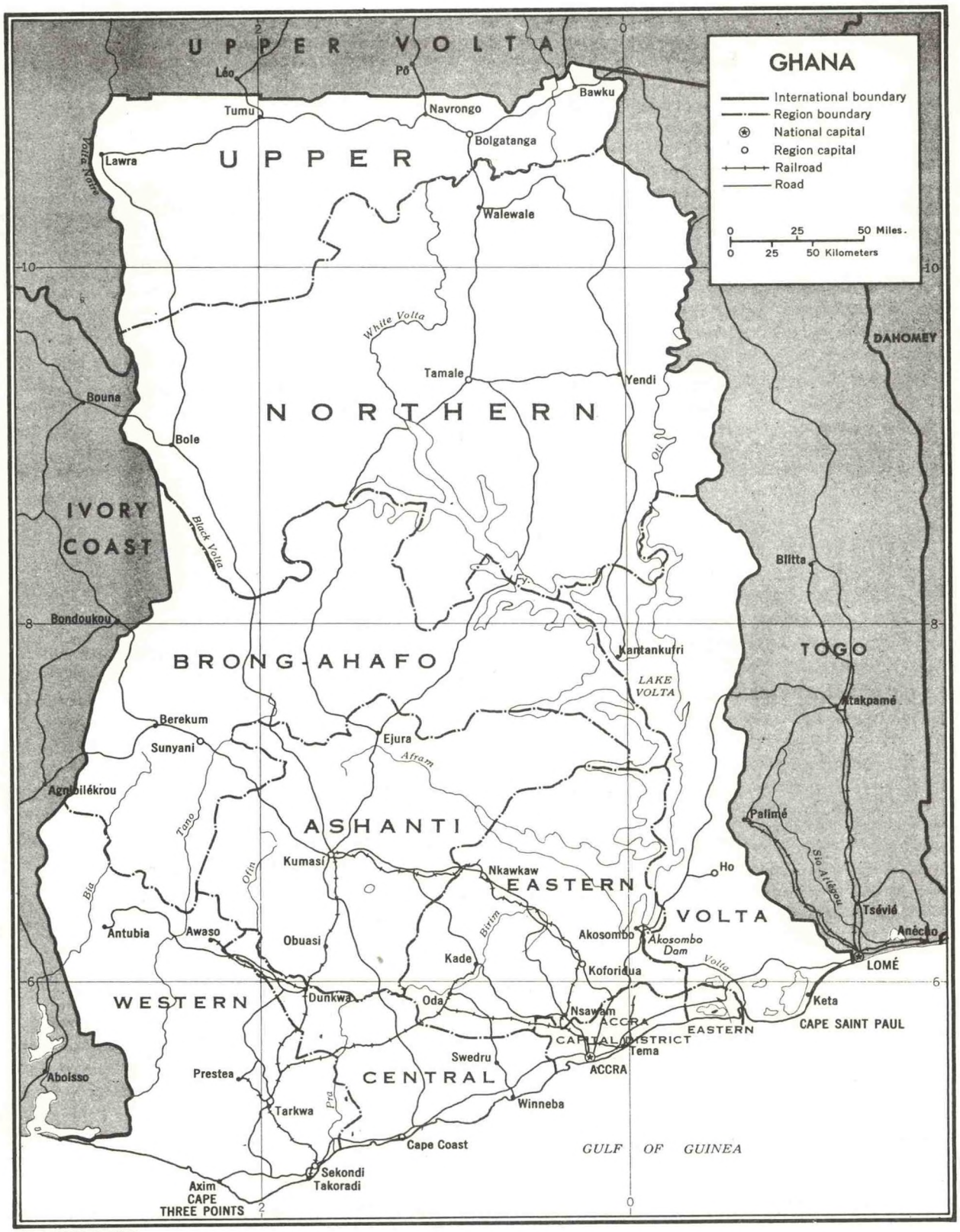


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Figure 1.-- Map of Ghana.

## FISHERIES

### Artisanal Fisheries

There are nearly 9,000 canoes in Ghana's artisanal fishery. These range in size from 25-foot, 5-man canoes to the larger 40-foot, 15-man ocean-going canoes. Over 70,000 people are directly concerned with the canoe fishery. The steady increase in artisanal production has been attributed to the concomitant increase in the use of outboard motors. In 10 years the ratio between motorized and nonmotorized canoes has reversed, and at present over 90 percent of the canoe fleet have motors. In 1972, the canoe fishery supplied 62 percent of the total Ghanaian marine fish catch, or 153,690 tons valued at $19 million. Gill and ring nets are the most productive gear used; beach seines are next in importance. Sardines, anchovies, and mackerel dominate the catch. Fluctuations in the sardine catch from year to year are thought to be due to changes in the major annual upwelling that usually occurs between June-October. It is during this period that most of the sardine catch is made. Another upwelling of less intensity occurs between January-March.

Figure 2.-- A portion of the canoe fleet on the beach at the canoe harbor Tema. These seaworthy craft are the principal suppliers of fish in Ghana.

The development of an inland fishery has received attention in recent years. Impetus for this came from the building of a dam on the Volta River at Akosombo in 1964. This dam has created Lake Volta, a large reservoir of water covering 3,500 square miles and extending over 200 miles upstream. Assistance to fisheries is given in many ways, for example, fishery schools have been established in several locations to train young men and also adults in the best fishing techniques. Fish hatcheries are producing tilapia and labso fingerlings for stocking purposes. New fishery stations are being established as bases for collecting production statistics and making stock assessments. Seines and outboard motors are purchased by the government, then sold to fishermen who are given very lenient terms to repay the debt. Estimates place the potential annual production from Lake Volta at 40,000 tons/year.

Table 1.-- Ghanaian artisanal production of fish, 1968-72

| Type of gear | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|
| | ---------- Metric t ---------- | | | | |
| Gill & ring net (Sardines) | 3,567 | 17,683 | 16,398 | 27,919 | 74,268 |
| " " (Mackerel) | - | - | - | 2,430 | 1,682 |
| " " (Other) | 479 | 10,933 | 26,187 | 24,061 | 34,211 |
| Hook and line | 5,270 | 1,743 | 7,981 | 2,062 | 2,654 |
| Beach seine | 11,616 | 17,926 | 22,171 | 52,078 | 28,028 |
| Set net | 12,379 | 11,912 | 17,222 | 4,713 | 12,847 |
| Total canoe catch | 33,311 | 60,197 | 89,959 | 113,263 | 153,690 |

Industrial Fishery

The availability of a large group of experienced fishermen, the importance of fish in the Ghanaian diet, and the recognized need for more food for a growing population prompted the Ghanaian government about 15 years ago to begin a program to modernize their fishing industry. The program was a many-pronged attack including renovating port facilities, expanding fish handling and processing plants, ordering new modern fishing vessels, and starting training programs. Progress was slow but steady, and several consolidation periods were required to overcome handicaps experienced during the rapid expansion. By the late 1960's production began to rise dramatically, and this trend is continuing into the 1970's. Additional shore facilities are now under construction, and plans for new vessels are under discussion.

Table 2.-- Industrial production of Ghana inshore and distant-water vessels, 1968-72

| Type of gear and catch | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|
| Inshore vessels | | | | | |
| Trawls | | | | | |
| Sardines | - | - | - | 23 | 99 |
| Other species | 3,864 | 5,756 | 7,494 | 7,002 | 10,706 |
| Purse seiners | | | | | |
| Sardines | 3,768 | 5,764 | 4,959 | 3,703 | 10,274 |
| Mackerel | - | - | 3,054 | 2,116 | 892 |
| Other species | 3,630 | 5,194 | 4,031 | 2,601 | 1,711 |
| Gill and ring nets | | | | | |
| Sardines | 11,470 | 2,520 | 615 | 945 | 5,048 |
| Mackerel | - | - | - | 2,122 | 831 |
| Other species | 5 | - | - | 466 | 464 |
| Hook and lines | 44 | 96 | 40 | 73 | 56 |
| Subtotal | 22,781 | 19,330 | 20,193 | 19,051 | 30,081 |
| Distant-water vessels | | | | | |
| Trawls | | | | | |
| Sardines | - | 416 | 4,928 | 2,836 | 6,695 |
| Other species | 19,307 | 32,669 | 42,510 | 43,838 | 58,601 |
| Mother | | | | | |
| Sardines | 3,712 | 4,012 | - | 1,366 | N.A. |
| Mackerel | - | - | - | 2 | |
| Other species | - | - | - | 779 | N.A. |
| Subtotal | 23,019 | 37,097 | 47,438 | 48,821 | 65,296 |
| Total | 45,800 | 56,427 | 67,631 | 67,872 | 95,377 |


Figure 3.-- Some of the sardine fleet in Tema. These vessels make their best catches during an annual upwelling that lasts 4 months. During the upwelling, the sardines follow the inshore movement of copepods, their staple diet.

There are 34 large refrigerated trawlers and 346 small-to medium- size trawlers and seiners in Ghana. The large trawlers have ranged as far as Senegal and Mauritania until those countries expanded their territorial sea claims. They currently work off Angola. Each vessel makes five, 6-week trips a year, landing 650 tons/trip. The small vessels work between 20 and 30 fathoms in local waters. Herrings and anchovies dominate production; mackerel, croakers, sea bream, threadfin, grunts and jacks follow in about that order.

Table 3.-- Total quantity and value of Ghana marine fishery production, 1968-72

| Year | Quantity | Value |
|---|---|---|
| | Metric tons | Dollars |
| 1968 | 68,788 | 13,365,353 |
| 1969 | 116,624 | 18,327,274 |
| 1970 | 157,590 | 25,269,983 |
| 1971 | 181,135 | 24,827,452 |
| 1972 | 249,067 | 39,961,286 |

Ghana does not have a shrimp fleet, but the large, pink shrimp, Penaeus duorarum, and the small, shallow water species Parapenaeopsis atlantica are taken generally in conjunction with other fishing. Estimates place the annual sustanable yield at 500 tons, and in recent years this level has been reached.

An important segment of Ghana's fishing industry is tuna. For over 10 years Starkist Foods Inc. has maintained an office in Tema to purchase tuna for transshipment to their canneries. In 1972 work began to open a cannery in Tema to process tuna and sardines. Contracts were given for bait boats to supply the vessels owned by the cannery, and the entire operation should be ready to begin in late 1973 or early 1974.

In 1972 the Ghanaian government initiated a tax of $8.50 for each ton of tuna transshipped through Ghana.

Table 4.-- Ghanaian transshipments of frozen fish, 1968-72

| Fish | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|
| | | | Metric t | | |
| Tuna | 21,030 | 22,995 | 25,482 | 26,026 | 30,091 |
| Marlin & swordfish | 740 | 1,080 | 1,874 | 1,036 | 328 |
| Total | 21,770 | 24,075 | 27,356 | 27,062 | 30,419 |

The demand for fish in Ghana, in the past, necessitated importing both frozen and processed fish. However, in 1972 the government decided to save foreign exchange, and included in this program was the curtailing of fishery imports. Figures are not yet available for 1972, however, the quantity imported should have decreased appreciably. Over 35 countries were exporting to Ghana through 1971 with Japan, Spain, Russia, and Morocco, in that order, delivering about 85 percent of the total.

Table 5.-- Ghanaian fishery imports

| Year | Quantity | Value |
|---|---|---|
| | Metric t | Dollars |
| 1968 | 19,684 | 3,865,570 |
| 1969 | 20,942 | 4,286,293 |
| 1970 | 30,170 | 12,042,606 |
| 1971 | 31,170 | 10,164,835 |
| 1972 | N.A. | N.A. |

## FISHING COMPANIES

The largest company is the Government-owned State Fishing Company (SFC), which has its own fishing fleet and marketing system. The formation of this company was one of the moves undertaken 15 years ago to improve the catching and distribution of fish in Ghana. The growth of the company in its early years was erratic, primarily because on attempt was made to grow too rapidly. For example, it required much more time than was expected to develop the facilities on shore, and some of the vessels that were acquired were not suitable for work in the tropics. At times, they remained idle because key expatriate vessel personnel were not available. Also, Russia, which had been assisting SFC, stopped its aid when the Nkruma government was overthrown in 1966. The fleet was acquired from Great Britain, Japan, Russia, Norway, and Yugoslavia. A vessel management contract was given several years ago to a Norwegian company to help rejuvenate the operations. Since then, their fish production has improved considerably, but is still a little below its potential. SFC has recently taken over the sales and distribution for all fresh or frozen fish consumed in the country. In Tema SFC has a cold storage capacity of 11,500 metric tons and a freezer capacity of 60 tons. This latter capacity is being expanded by the construction of an additional 100 tons capacity. In Accra they operate a 1,500-ton cold storage plant. They have also a large shed for wholesale fish sales in Tema.

The largest private company is Mankoadze Fisheries. The owner of this company was a canoe fisherman in his youth, and in 1952 acquired his first vessel, a 30-foot seine boat. As the years passed he added to his fleet and now in addition to his seine fleet he has nine modern distant-water stern trawlers and a refrigerated transport vessel. He has opened a plant in The Gambia in which fish are processed for sale locally and for transshipment to Ghana. In Tema, they operate a 3,000-ton cold storage and are at present doubling that capacity. They are also members of an American/Japanese consortium that is building a fish canning plant in Tema. They have four small cold storage facilities in the interior which are supplied from Tema.

The other companies are Ocean Fisheries Ltd and Kaleawo Fisheries. These companies operate two stern trawlers and eight side trawlers respectively, Ocean Fisheries also has 1,000 tons cold storage in Accra and 1,000 tons in Tema.

As mentioned above, Starkist Food Inc. has operated a tuna transshipment operation in Tema. In 1972 they became partners with Mankoadze and Nichiro Fisheries of Japan in a joint venture to catch and process tuna in Ghana. Two 140-ton baitboats are being built in California for the company. Westgate-California Foods Inc. started negotiations in 1972 to form a tuna purchase and transshipping company in Tema. This company called Eastgate (Ghana) Limited began operations early in 1973.

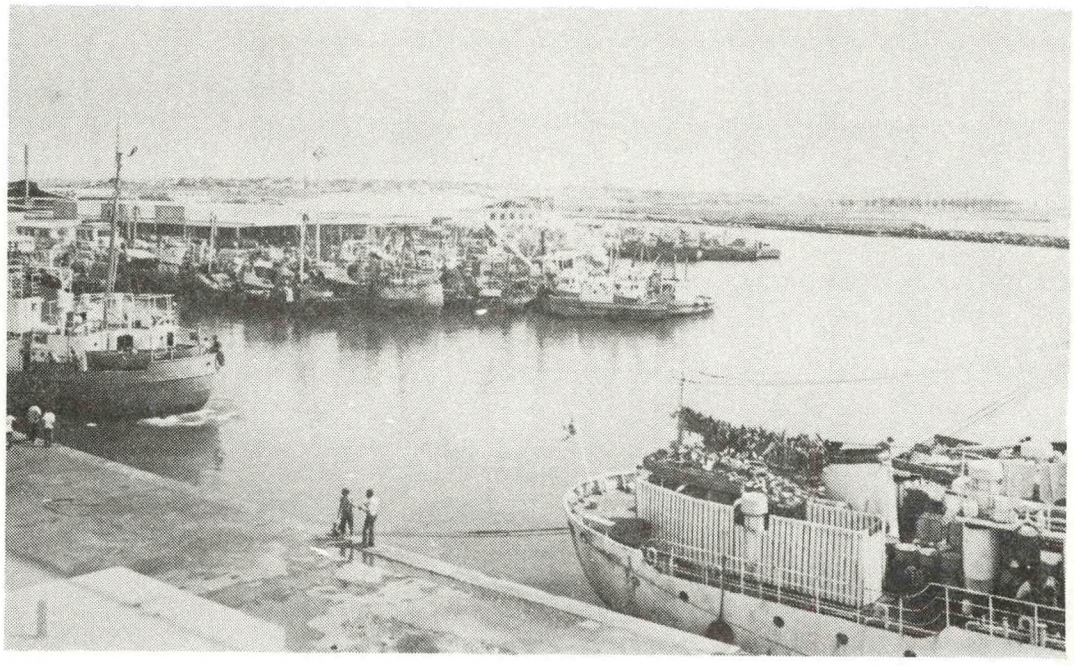

Figure 4.-- A portion of the fishing harbor in Tema. In the foreground, a Korean longliner has a sharkfins drying on the after deck.

## TRAINING

The Ghanaian Fisheries Department has established training schools specifically to train young men for work on board its fishing fleet. These schools are located at Tema, Takoradi, and Elmina. Deck candidates are taught compass navigation, rules of the road, night and day signals at sea, and handling typical deck gear. Engineering students are taught the use of deck gear and also receive instructions in the operation and maintenance of a vessel main engine. Another section teaches artisanal fishermen the proper operation and maintenance of outboard motors.

In 1958, the government established the Ghana Nautical College (G.N.C.), which was designed to train Deck and Engineering Officers for its merchant fleet. This college has developed into a first-class institute for training young men for a productive life at sea. Norway and United Kingdom have provided training equipment and the faculty members. Graduates take a comprehensive examination before receiving either a deck or an engineering license, and can return for additional instruction to upgrade their licenses after a required period at sea.

Figure 5.-- A class in navigation at Ghana Nautical College.

With the increasing tonnage and complexity of distant-water trawlers there is developing an interest for fishing vessel officers to attend this institution. Courses have been developed for students with a good scholastic background to enter the G.N.C. and study for license certificates. For students with 3 years of fishing experience there is a short course that teaches chart reading, navigation, seamanship, and piloting, and another that teaches how to operate and maintain a complete refrigeration system.

Student enrollment averages around 150, and foreign students are accepted. New construction is underway for an auditorium, library, and several classrooms.

## FISHERIES DEPARTMENT

The Fisheries Department of the Ministry of Agriculture has wide responsibilities to promote fisheries development in both marine and inland waters that will provide adequate supplies of fish for domestic consumption. These include collecting statistics, conducting research training, planning fishing harbors, selling outboards and nets, and proposing fisheries legislation. To carry out these chores it has 32 senior staff and 402 junior staff members.

The Department has three research vessels for marine waters; two are all-purpose vessels, and the third is used for hydrographic studies. A fourth vessel is being built for shrimp research. There are six freshwater research craft.

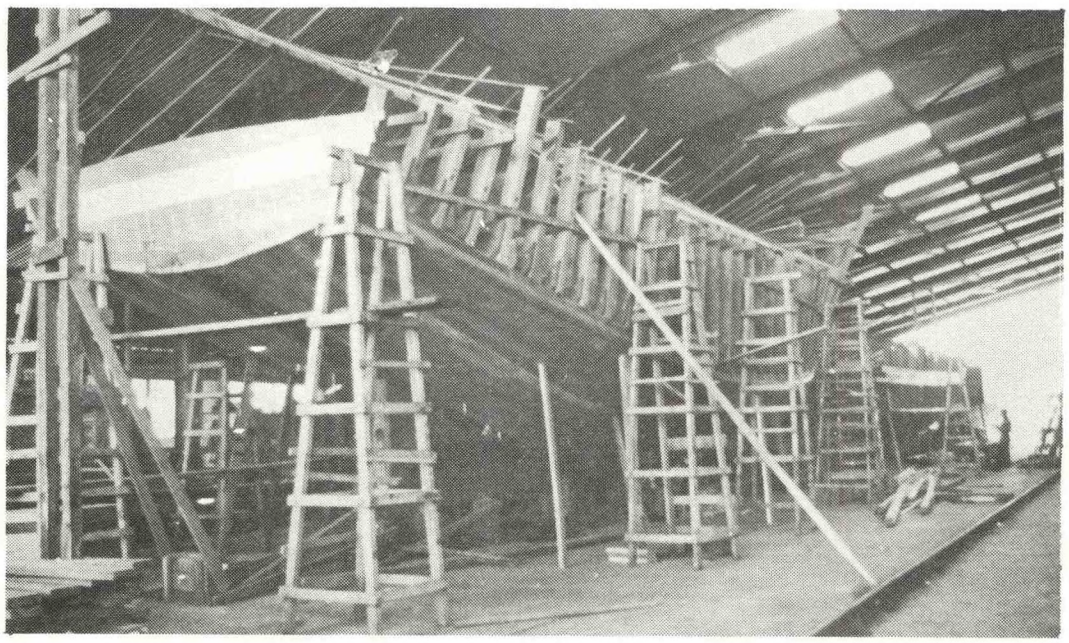

Figure 6.-- Wooden-hulled research vessel being built in Tema for Ghana Fisheries Dept.

Fishery research efforts are currently emphasizing planktology, population dynamics, fish farming, and gear development. Ghana is member of the FAO Fishery Committee for the Eastern Central Atlantic and International Commission for the Conservation of Atlantic Tuna.

Table 6.--Source, quantity, and value of fish consumed in Ghana, 1968-72

| Year | Imports | | | Domestic catch | | Total fish consumption |
|---|---|---|---|---|---|---|
| | Dried | Frozen | Tuna | Marine | Lake Volta | |
| | Metric t | | | | | |
| 1972 | - | - | - | 249,067 | - | 249,067 |
| 1971 | 31,372 | 20,543 | 361 | 181,135 | - | 233,311 |
| 1970 | 30,170 | 16,594 | 473 | 157,590 | 5,298 | 210,125 |
| 1969 | 10,942 | 7,758 | 708 | 116,624 | 22,723 | 158,755 |
| 1968 | 19,684 | 11,034 | 2,750 | 68,788 | 7,915 | 110,171 |
| | US$1,000 | | | | | |
| 1972 | - | - | - | 39,961 | - | 39,961 |
| 1971 | 10,165 | 2,893 | 57 | 24,827 | - | 37,942 |
| 1970 | 12,043 | 1,892 | 781 | 25,260 | 2,027 | 42,002 |
| 1969 | 4,286 | 820 | 116 | 18,327 | 8,694 | 31,308 |
| 1968 | 3,866 | 1,478 | 447 | 13,365 | 3,028 | 22,184 |

Note: Figures for 1970-72 are not complete. All figures have been rounded, with the result that the total figures may not agree with data for a given year.