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FISHERY PROFILES OF 23 AFRICAN COASTAL COUNTRIES



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The development of these profiles was supported by the U.S. Agency for International Development R&D/AGR/RNR under the Cooperative Agreement DAN 4024-A-00-7073 Fisheries Development Support Services (FDSS).

An ICMRD Publication
March, 1992



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AFRICAN FISHERIES PROFILES

Virtually all of Africa's many coastal nations are striving today to make better use of their marine fisheries. These provide not only employment and necessary high quality protein for domestic consumption but an export commodity important to the economy of these countries.

Over the past year, ICMRD, with support from the USAID Fisheries Development Support Services Cooperative Agreement (FDSS), has developed concise, informative fishery profiles of 23 African coastal nations which it is hoped will stimulate interest here and abroad in increasing fishery production in those with exceptional potential. In those countries whose fisheries are already overexploited, the profiles point to the need for developing alternative food sources and more efficient management of the existing fisheries. For some, aquaculture may be a useful answer.

The 23-country one-page profiles were put together by a team at URI which consisted of Dr. Donald McCreight, FDSS Project Director, Dr. Richard Pollnac, professor of anthropology and sociology, who has amassed data on the potential for fisheries development in Africa over the past 10 years, and Dr. T.R. Brainerd, Resource Economist currently at IDRC. Dr. Lamarr Trott, USAID Manager also participated in the review of the profiles. Special thanks goes to Cheryl Blanck of ICMRD and other support staff who have contributed to the publication of the profiles.

ACKNOWLEDGEMENT

The publication of these profiles was supported by the US Agency for International Development R&D/AGR-RNR Project No. 936-4024 under the Cooperative Agreement DAN 4024-A-00-7073 "Fisheries Development Support Services."

The USAID Cooperative Agreement "Fisheries Development Support Services" was initiated at The University of Rhode Island in 1982. Project assistance in marine fisheries can be arranged through the USAID project Manager or the FDSS Program Director at ICMRD listed below.

Each profile includes geographic features of the country discussed, macro-economic indicators, industry indicators, a breakdown of fishery resources, a graph of seafood production and trade for 1979-88, and a succinct analysis of the present state of the fishery.

Most of the countries profiled are currently involved with USAID; several others have been in the past.

Countries profiled by the FDSS project are:

Angola	Madagascar
Benin	Mauritania
Cameroon	Morocco
Cape Verde	Mozambique
Djibouti	Namibia
Gambia	Senegal
Ghana	Sierra Leone
Guinea	Somalia
Guinea Bissau	Tanzania
Ivory Coast	Togo
Kenya	Zaire
Liberia	

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ANGOLA: FISHERY PROFILE



FEATURES
 Land Area - 1,246,700 km²
 Continental Shelf Area - 51,000 km²
 Length of Coastline - 1,600 km
 Territorial Seas - 20 nm
 Inland Waters - 2,000 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 330,000 km²
 EEZ as % of Land Area - 26.6%



MACRO-ECONOMIC INDICATORS
 Language - Portuguese (official); various Bantu dialects
 Population (July 1990) - 8,534,483
 Pop. Growth Rate (1990) - 2.9%
 Labor Force (1985) - 2.8 million
 Agric. Pop. (1985) - 2.4 million
 Literacy - 41%
 GDP (Current Prices - 1988 est.) - \$5.0 billion
 Per Capita GDP (1988) - \$600
 Real Growth Rate (1988 est.) - 9.2%
 Inflation Rate (Consumer Prices) - NA
 Agric. GDP (1988) - \$75 million
 Fishery in Agric. GDP (1988) - 4.0%
 % Fishermen in Agric. Pop. (1987) - 3.1%
 % Fishermen in Labor Force (1987) - 2.7%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 1,200
 % Motorized - NA
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 0
 Purse Seine - 0
 Multipurpose - 436
 Other - 0
 No. of Fishermen: Artisanal (1987) - 23,500
 Industrial - 500
 Part-Time - 50,000
 Storage Capacity on Land: Cold Store - NA
 Freezing - NA
 Ice Plant - NA

PER CAPITA SHELF AREA: 5976 M³

PER CAPITA FISH SUPPLY: 24.0 KG

% MARINE POTENTIAL PRODUCED: 14

% FRESHWATER POTENTIAL PRODUCED: 7

% PRODUCTION FROM MARINE WATERS: 82

% TOTAL FISH SUPPLY IMPORTED: 67

FISH AS % OF ANIMAL PROTEIN SUPPLY: 44

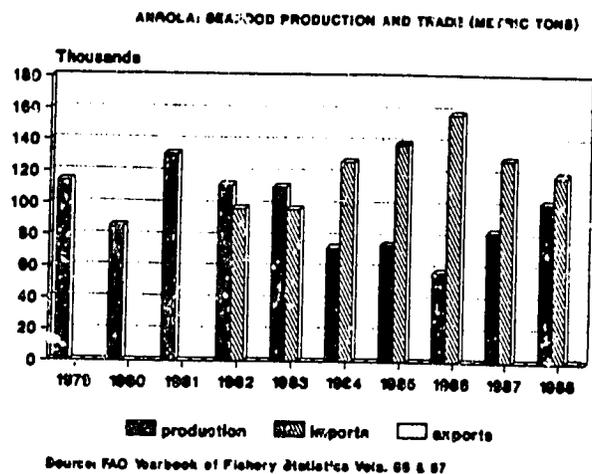
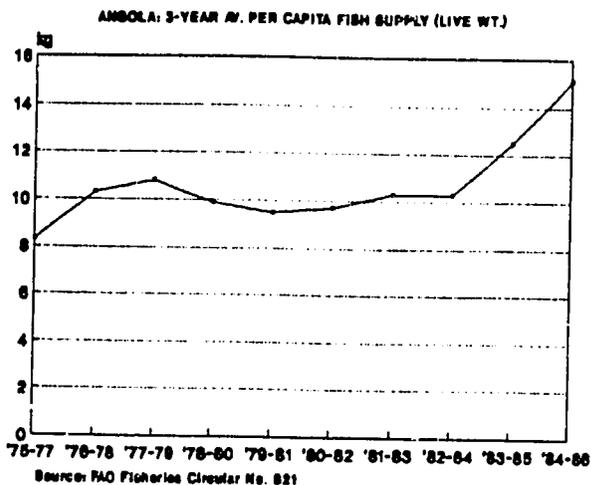
% FISHERMEN IN LABOR FORCE: 2.7

FISHERY AS % OF AGRICULTURAL GDP: 4

FISH TRADE BALANCE: -23.4 MILLION \$

LOW **MEDIUM** **HIGH**

FISHERY RESOURCES
 Estimated Potential: Marine - 655,000 mt
 Domestic Production: Marine - 93,622 mt
 Major Species & Share in Domestic Prodn. - Horse mackerel (52%), Sardinella (24%)
 Other Finfish (22%)
 Inland - 115,000 mt
 Inland - 8,000 mt
 Aquaculture - NA
 Aquaculture - 0
 Gross Value of Fishery Products (ex-vessel) - \$30 million (1988)
 Imports: Quantity - 118,379 mt
 Value - \$25.0 million (1988)
 Exports: Quantity - 320 mt
 Value - \$1.6 million
 Fish Supply/Consumption - 207,681 mt
 Per Capita Fish Supply (1988) - 24 kg
 Fish Trade Balance (1988) - (\$-23.4 million)
 Fish as % of Animal Protein Supply - 43.7%
 Fish as % of Total Protein Supply - 10.2%
 Estimated Post Harvest Loss - 15% of total catch
 Fish for Non-Food Uses - 12,000 mt



ANALYSIS:

The domestic catch from the marine fishery is only about 93,000 mt. Foreign fishing vessels account for over 80% (400,000 mt) of the total catch in Angola's EEZ. These vessels land about 30% of their catch in Angola for domestic consumption. Because of the absence of reliable statistics, particularly on the catches of foreign vessels, it is likely that production is over 600,000 mt. The national fleet registers about 400 vessels, but only about 60% of these are operational. The inland fishery is underexploited and there is significant potential for increasing inland catch. Presently, about 90% of the fishermen exploiting the inland resources are subsistence fishermen. A number of aquaculture stations exist in the country. However, development has been constrained by lack of investment capital and trained personnel. Few canneries exist for canning tuna, sardinella and horse mackerel, but production from them is marginal. Fish distribution throughout the country and the fishing industry on the whole were affected by the security situation which prevailed in the country during the civil war. However, production seems to be on an increase in recent years. The government gives high priority to the rehabilitation and development of the industrial sector. In 1986, a master plan for its development was prepared. With its considerable resources, there is potential for the development of both the marine and inland fisheries. Provision of adequate fishing and processing materials, and spare parts; improvements to the distribution and quality of fish products; and training of management staff will give impetus to the development of the fishery sector. The activities of the Fisheries Research Centre could be enhanced with technical assistance. Some fishery development activities receiving donor financing include: the acquisition of (a) 14 trawlers (Italy); (b) 37 seiners (Spain); integrated Fisheries Development Project in the Namibe Province (EEC); Development of canoe purse seine fishery (ADB).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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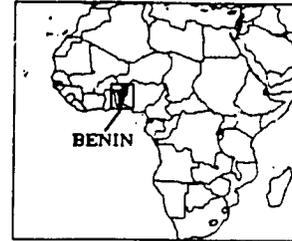
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BENIN: FISHERY PROFILE

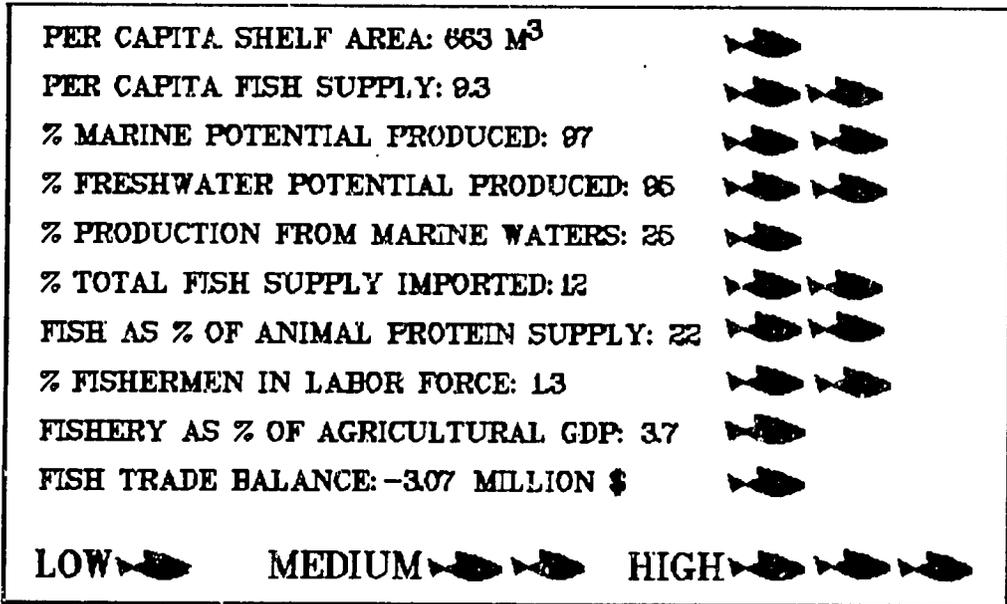


FEATURES
 Land Area - 110,620 km²
 Continental Shelf Area - 3,100 km²
 Length of Coastline - 121 km
 Inland Waters - 1,600 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 7,900 km²
 EEZ as % of Land Area - 7.14%



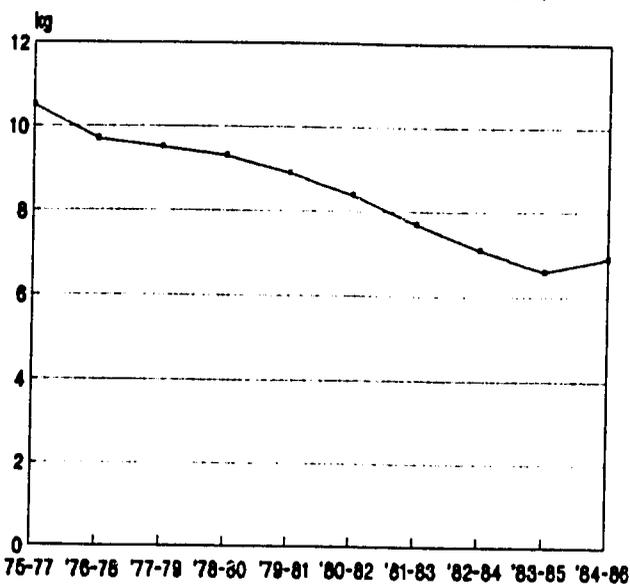
MACRO-ECONOMIC INDICATORS
 Language - French (official); Fon, Yoruba, and six other major vernaculars
 Population (July 1990) - 4,673,964
 Pop. Growth Rate (1990) - 3.3%
 Labor Force (1990) - 1.9 million
 Agric. Pop. (1987) - 1.14 million
 Literacy - 25.9%
 GDP (Current Prices -1988) - \$1.7 billion
 Per Capita GDP (1988) - \$335
 Real Growth Rate (1988) - 1.8%
 Inflation Rate (Consumer Prices - 1988) - 4.3%
 Agric. GDP (1988) - \$0.77 billion
 Fishery in Agric. GDP (1988) - 3.7%
 % Fishermen in Agric. Pop. (1987) - 2.2%
 % Fishermen in Labor Force (1987) - 1.3%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 500
 % Motorized - 35%
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 4
 Purse Seine - 0
 Multipurpose - 0
 Other - 0
 No. of Fishermen: Artisanal (1987) - 8,000
 Industrial - 100
 Part-Time - 17,000
 Storage Capacity on Land: Cold Store - 3,300 t
 Freezing - 16 t/d
 Ice Plant - 30 t/d



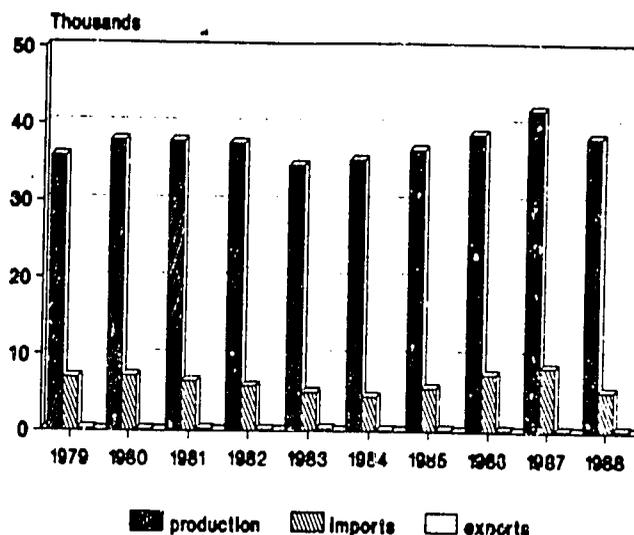
FISHERY RESOURCES
 Estimated Potential: Marine - 10,000 mt Inland - 30,000 mt Aquaculture - NA
 Domestic Production: Marine - 9,693 mt Inland - 28,599 mt Aquaculture - 17 mt (1988)
 Major Species & Share in Domestic Prodn. - Cichlids (22%), Clarias (10%), Crabs (7%), Sardinella (7%), Other Finfish (14%)
 Gross Value of Fishery Products (ex-vessel) - \$28.5 million (1988)
 Imports: Quantity - 5,283 mt Value - \$4.32 million (1988)
 Exports: Quantity - 176 mt Value - \$1.25 million
 Fish Supply/Consumption - 43,416 mt
 Per Capita Fish Supply (1988) - 9.3 kg
 Fish Trade Balance (1988) - (-\$3.07 million)
 Fish as % of Animal Protein Supply - 22.2%
 Fish as % of Total Protein Supply - 6.6%
 Estimated Post Harvest Loss - 25% of total catch
 Fish for Non-Food Uses - 0

BENIN: 3-YEAR AVERAGE PER CAPITA FISH SUPPLY (LIVE WEIGHT)



Source: FAO Fisheries Circular No. 821

BENIN: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

The inland waters and lagoon fisheries account for some 81 percent of fish landings in Benin. Overfishing seems to be occurring in inland waters. The comparatively small shelf area does not favor development of industrial fishing. However, marine catch could increase with the use of suitable fishing methods. Surf is a major constraint to the artisanal fishery. Domestic fish supply is inadequate to meet increasing demand and imports are constrained by lack of foreign exchange. Inadequate distribution and storage facilities limit the consumption of fish in areas far from landing sites. The foreign fishing activity of significance is a joint venture between Libya and Benin (BELIPECHE) which operates ice trawlers. Some fishery development projects with international donor support include: Lagoon aquaculture (EDF), Trawlers, engines, gear and vehicles (Japan), Management and development of lagoon fishery (GTZ- Germany), Assistance to setting up and maintenance of outboard motor store and workshop (UNDP/GPE). The FAO/DANIDA Cooperation Program for the integrated development of artisanal fisheries in West Africa has its headquarters in Cotonou and is a model project for Benin. Aquacultural activities seem to offer considerable potential, particularly with the acadjas. Fishery development efforts could also be aided by better training and supervision of fishermen's cooperatives and support to census surveys and ongoing data collection.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rec. 1.
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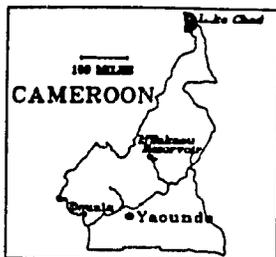


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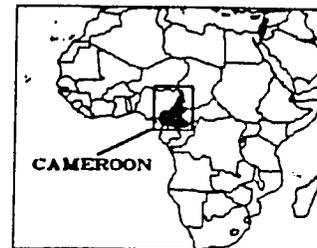
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CAMEROON: FISHERY PROFILE



FEATURES	
Land Area	- 469,440 km ²
Continental Shelf Area	- 12,920 km ²
Length of Coastline	- 402 km
Territorial Seas	- 50 nm
Inland Waters	- 40,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 4,500 km ²
EEZ as % of Land Area	- 1.0%



MACRO-ECONOMIC INDICATORS	
Language	- English and French (official); 24 major African language groups
Population (July 1990)	- 11,092,470
Pop. Growth Rate (1990)	- 2.7%
Labor Force (1990 est.)	- 5.6 million
Agric. Pop. (1990)	- 4.17 million
Literacy	- 56.2%
GDP (Current Prices - 1988)	- \$12.9 billion
Per Capita GDP (1988)	- \$955
Real Growth Rate (1988)	- 8.6%
Inflation Rate (Consumer Prices - 1988)	- 8.6%
Agric. GDP (1988)	- \$3.23 billion
Fishery in Agric. GDP (1988)	- 0.8%
% Fishermen in Agric. Pop.	- 1.0%
% Fishermen in Labor Force	- 0.7%

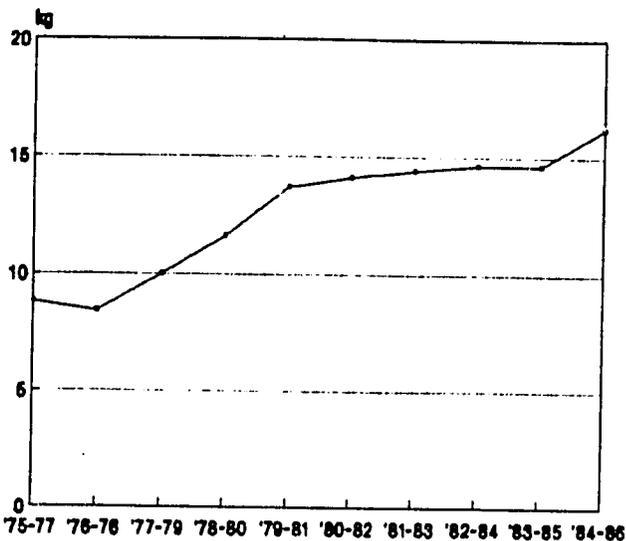
INDUSTRY INDICATORS	
No. of Non-Decked Vessels:	
(Small-Scale/Artisanal - 1987)	- 6,000
% Motorized	- 15%
No. of Decked Vessels (Industrial):	
Trawler (1987)	- 24
Shrimpers	- 9
Multipurpose	- 0
Other	- 0
No. of Fishermen: Artisanal (1987)	- 41,000
Industrial	- 360
Part-Time	- NA
Storage Capacity on Land: Cold Store	- 23,200 m ³
Freezing	- 55 t/d
Ice Plant	- 200 t/d

PER CAPITA SHELF AREA: 1165 M ³		
PER CAPITA FISH SUPPLY: 133KG		
% MARINE POTENTIAL PRODUCED: 101		
% FRESHWATER POTENTIAL PRODUCED: 36		
% PRODUCTION FROM MARINE WATERS: 78		
% TOTAL FISH SUPPLY IMPORTED: 47		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 22		
% FISHERMEN IN LABOR FORCE: 0.7		
FISHERY AS % OF AGRICULTURAL GDP: 0.8		
FISH TRADE BALANCE: -422 MILLION \$		
LOW	MEDIUM	HIGH

FISHERY RESOURCES		
Estimated Potential: Marine	- 62,000 mt	Inland - 56,000 mt
Domestic Production: Marine	- 62,529 mt	Aquaculture - NA
Major Species & Share in Domestic Prodn.	- Sardinella (22%), Shrimps (15%), Bigeye Grunt (4%), Other Finfish (28%)	Aquaculture - 167 mt (1988)
Gross Value of Fishery Products (ex-vessel)	- \$25.8 million (1988)	
Imports: Quantity	- 57,434 mt	Value - \$49.27 million (1988)
Exports: Quantity	- 3,264 mt	Value - \$7.12 million
Fish Supply/Consumption (1988)	- 144,866 mt	
Per Capita Fish Supply (1988)	- 13.3 kg	
Fish Trade Balance (1988)	- (-\$42.15 million)	
Fish as % of Animal Protein Supply	- 22.2%	
Fish as % of Total Protein Supply	- 6.3%	
Estimated Post Harvest Loss	- 15% of total catch	
Fish for Non-Food Uses	- 0	

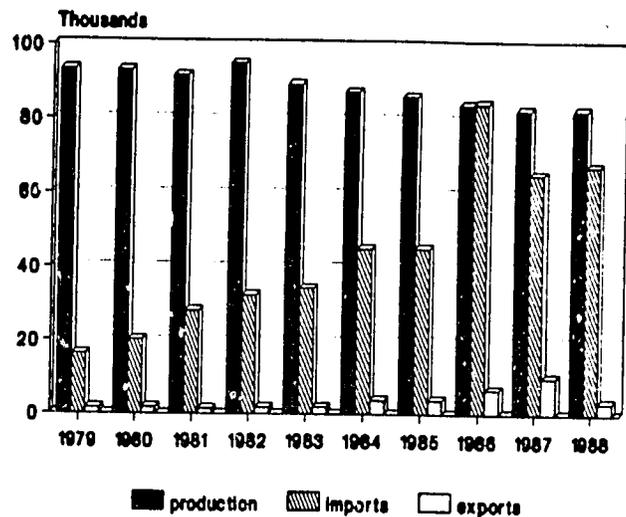
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CAMEROON: 3-YEAR AV. PER CAPITA FISH SUPPLY (LIVE WEIGHT)



Source: FAO Fisheries Circular No. 831

CAMEROON: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

With its limited marine fishery resources, the inland fisheries of rivers, floodplains, natural lakes and dams are very important to the fishery sector. Aquaculture activities have gained some prominence in recent years. Most of the fish landed is consumed locally, except for small quantities of dried and smoked fish which are exported to neighboring countries. Shrimp is produced mainly for the export market. Domestic production falls short of demand and fish imports have increased in recent years. The major marine fish stocks are heavily exploited and the oceanographic research center is looking into this problem to propose appropriate management measures. Most development efforts are concentrated on inland fishery and aquaculture activities. Aquaculture has potential for development. The Government with the assistance of a French company conducted a study on aquaculture and inland fisheries with the objective of drawing up a development program for this sub-sector to increase production. The industrial fishery is dominated by local companies (five) operating a fleet of about 33 vessels. The tonnage varies between 70 and 180 GRT. There is no known foreign fishing activity. Some fishery development projects receiving donor support includes: Technical assistance and inputs to aid management and development of the Ladgo Lake; Provision of motors for fishermen and vehicles for government staff (Japan); Aid to Fisheries Research Station at Limbe (ICOD - Canada). Aid is needed to assist research activities, particularly for aquaculture and inland fisheries, and for management.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1965-88): FAO Fisheries Circular No. 815, Rev.2.

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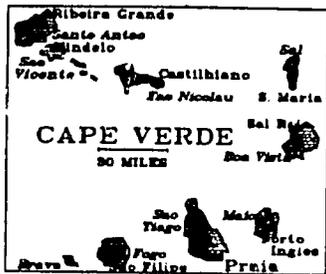


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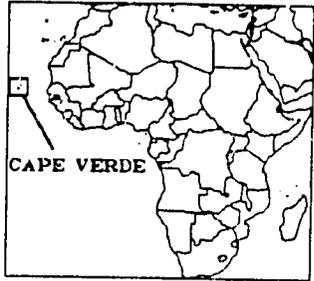
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CAPE VERDE: FISHERY PROFILE



FEATURES
 Land Area - 4,030 km²
 Continental Shelf Area - 10,150 km²
 Length of Coastline - 965 km
 Territorial Seas - 12 nm
 Inland Waters - 0
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 734,265 km²
 EEZ as % of Land Area - 18,220%



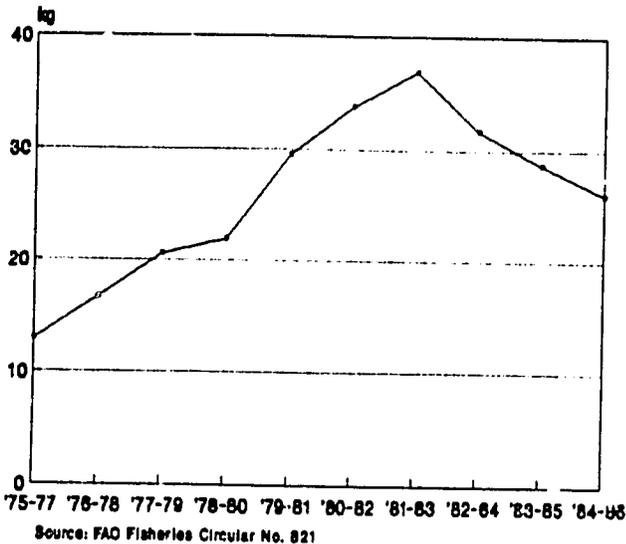
MACRO-ECONOMIC INDICATORS
 Language - Portuguese & Crioulo
 Population (July 1990) - 374,984
 Pop. Growth Rate (1990) - 3.0%
 Labor Force (1985 est.) - 102,000
 Agric. Pop. (1985) - \$58,140
 Literacy - 48%
 GDP (Current Prices - 1987) - \$158 million
 Per Capita GDP (1987) - \$494
 Real Growth Rate (1987) - 6.1%
 Inflation Rate (Consumer Prices - 1987) - 3.8%
 Agric. GDP (1985 est.) - \$58,140
 Fishery in Agric. GDP (1985) - 15%
 % Fishermen in Agric. Pop. - 6.5%
 % Fishermen in Labor Force - 3.7%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 1,173
 % Motorized - 32%
 No. of Decked Vessels (Industrial):
 Trawler - 0
 Purse Seine - 0
 Multipurpose - 30
 Other - 8
 No. of Fishermen: Artisanal - 2,600
 Industrial - 300
 Part-Time - 830
 Storage Capacity on Land: Cold Store - 14,000 m³
 Freezing - 80 t/d
 Ice Plant - 20 t/d

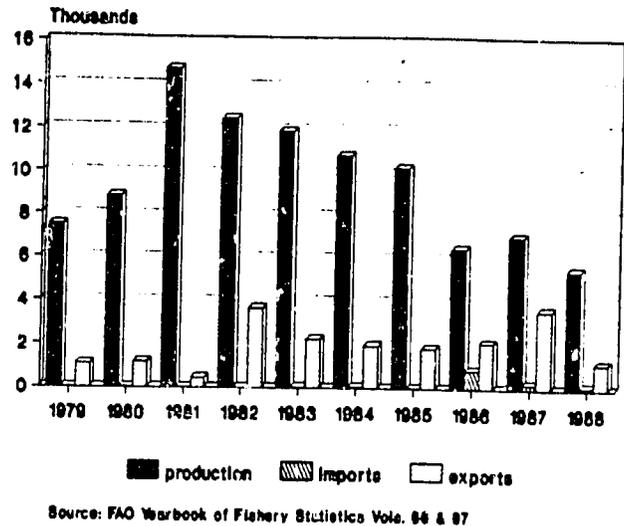
PER CAPITA SHELF AREA: 27068M ³		
PER CAPITA FISH SUPPLY: 11.6KG		
% MARINE POTENTIAL PRODUCED: 22		
% FRESHWATER POTENTIAL PRODUCED: NA		
% PRODUCTION FROM MARINE WATERS: 100		
% TOTAL FISH SUPPLY IMPORTED: 2		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 44		
% FISHERMEN IN LABOR FORCE: 3.7		
FISHERY AS % OF AGRICULTURAL GDP: 15		
FISH TRADE BALANCE: 149 MILLION \$		
LOW	MEDIUM	HIGH

FISHERY RESOURCES
 Estimated Potential: Marine - 25,000 mt Inland - N/A Aquaculture - N/A
 Domestic Production: Marine - 5,372 mt (1988) Inland - N/A Aquaculture - N/A
 Major Species & Share in Domestic Prodn. - Yellowfin Tuna (33%), Sailfish (32%),
 Skipjack (27%)
 Gross Value of Fishery Products (ex-vessel) - \$3.8 million (1988)
 Imports: Quantity - 85 mt Value - \$115,000 (1988)
 Exports: Quantity - 1,124 mt Value - \$1.6 million
 Fish Supply/Consumption (1988) - 4,333 mt
 Per Capita Fish Supply (1988) - 11.6 kg
 Fish Trade Balance (1988) - \$1.49 million
 Fish as % of Animal Protein Supply - 43.7%
 Fish as % of Total Protein Supply - 13.0%
 Estimated Post Harvest Loss - 25% of total catch
 Fish for Non-Food Uses - 0

CAPE VERDE: 3-YEAR AV. PER CAPITA FISH SUPPLY (LIVE WEIGHT)



CAPE VERDE: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



ANALYSIS:

The marine fishery is the only one of importance. There is no inland fishery of any significance. Production fell significantly in recent years. Efforts are underway to improve the performance of the artisanal fishery. Production could be increased by targeting small pelagic species which are presently under-utilized. However, foreign assistance is needed to develop suitable fishing methods and to train fishermen. The industrial fishery produces mainly tuna and lobster for the export market. These represent about 65 percent of total export value and contribute significantly to foreign exchange earnings. The oceanic skipjack resource could be developed further, but requires substantial investment in appropriate technology. The industrial fleet includes tuna boats rigged for pole and line fishing, seiners exploiting horse mackerel and mackerel, and tuna steel clippers. They range in size from 4 to 34 meters. A number of foreign vessels operate under contract in the EEZ for tuna. Although the Government puts emphasis on agriculture, fisheries remain one of the most promising sources of income because of limited and uncertain rainfall. Some fishery development projects receiving donor finance include: Artisanal fishery (IFAD); Integrated fisheries development on the islands of Fogo and Brava (GTZ - Germany); Motors, ice plant, gear and vessels (Japan); Fish marketing in Boavista, Maio, Santiago, and San Nicolao (Italy). Despite the present level of aid, more inputs are needed to sustain growth in the fishery sector. Areas of need include training at all levels, management and research.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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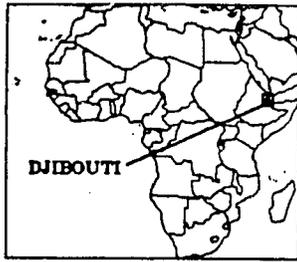


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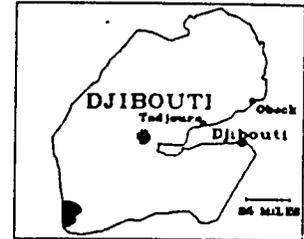
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DJIBOUTI: FISHERY PROFILE



FEATURES
 Land Area - 21,980 km²
 Continental Shelf Area - 2,280 km²
 Length of Coastline - 314 km
 Territorial Seas - 12 nm
 Inland Waters - NA
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - NA
 EEZ as % of Land Area - NA

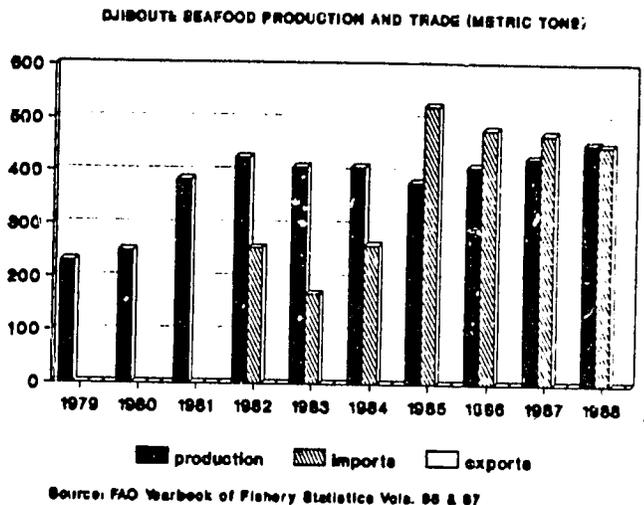
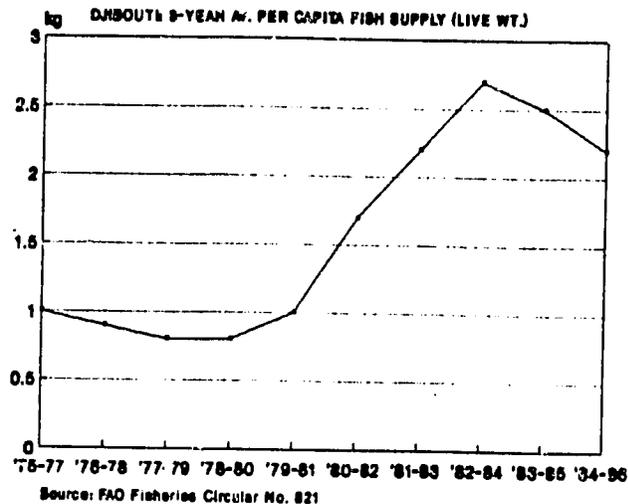


MACRO-ECONOMIC INDICATORS
 Language - French (official), Arabic, Somali and Afar
 Population (July 1990) - 337,386
 Pop. Growth Rate (1990) - 2.6%
 Labor Force (1983) - 175,440
 Agric. Pop. (1990) - 168,690
 Literacy - 20%
 GDP (Current Prices - 1985) - \$333 million
 Per Capita GDP (1986) - \$1,070
 Real Growth Rate (1986) - 0.7%
 Inflation Rate (Consumer Prices - 1987) - 8.0%
 Agric. GDP (1986) - \$99.9 million
 Fishery in Agric. GDP - NA
 % Fishermen in Agric. Pop. (1987) - 0.7%
 % Fishermen in Labor Force (1987) - 0.4%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1988) - 350
 % Motorized - NA
 No. of Decked Vessels (Industrial):
 Trawler (1988) - 2
 Purse Seine - 0
 Multipurpose - 0
 Other - 0
 No. of Fishermen: Artisanal (1987) - 500
 Industrial - 70
 Part-Time - 150
 Storage Capacity on Land: Cold Store - NA
 Freezing - NA
 Ice Plant - NA

PER CAPITA SHELF AREA: 6758M ³	
PER CAPITA FISH SUPPLY: 2.7KG	
% MARINE POTENTIAL PRODUCED: 35	
% FRESHWATER POTENTIAL PRODUCED: NA	
% PRODUCTION FROM MARINE WATERS: 100	
% TOTAL FISH SUPPLY IMPORTED: 60	
FISH AS % OF ANIMAL PROTEIN SUPPLY: M	
% FISHERMEN IN LABOR FORCE: 0.4	
FISHERY AS % OF AGRICULTURAL GDP: M	
FISH TRADE BALANCE: -0.62 MILLION \$	
LOW	MEDIUM
	HIGH

FISHERY RESOURCES
 Estimated Potential: Marine - 1,200 mt Inland - 0 Aquaculture - NA
 Domestic Production: Marine - 454 mt Inland - 0 Aquaculture - 0
 Major Species & Share in Domestic Prodn. - Snappers (25%), Groupers (22%), Carangids (12%), Tuna-like fish (7%), Other Finfish (12%)
 Gross Value of Fishery Products (ex-vessel) - NA
 Imports: Quantity - 450 mt Value - \$620,000 (1988)
 Exports: Quantity - 0 Value - 0
 Fish Supply/Consumption - 904 mt
 Per Capita Fish Supply - 2.7 kg
 Fish Trade Balance - (-\$620,000)
 Fish as % of Animal Protein Supply - NA
 Fish as % of Total Protein Supply - NA
 Estimated Post Harvest Loss - 20% of total catch
 Fish for Non-Food Uses - 0



ANALYSIS:

The fishing industry is entirely artisanal. There are no nationally owned industrial fishing vessels, and no foreign fishing vessels are known to be exploiting the fishery resources in the EEZ. Artisanal catches have been increasing and this trend is expected to continue at a modest rate. No inland fishery exist and there is also no known aquacultural activity at present. All the production from the artisanal fishery is consumed locally. However, fish consumption in Djibouti is very low due to cultural taboos and the lack of familiarity with fish. Fish consumption could be increased by utilizing appropriate marketing strategies and educational programs to overcome such taboos. The expatriate community of some 7,000 persons whose demand for fish products is currently satisfied by imports could be a viable market to target in any fish marketing plan. Growth of the fishing industry is constrained by the lack of local resources. Nearly all inputs are imported and the availability and cost of spare parts are serious problems. There is also an acute shortage of trained manpower at all levels. Fish production is currently at 10% of the maximum sustainable yield, particularly for the pelagic species. With chronic water shortages in the Horn of Africa and the continuing presence of large numbers of refugees, fish has a potential role in alleviating recurring food shortages. The country could benefit from sustained development and expansion of its fishing industry. The Service de l'Élevage et de la Pêche (SEP) and the l'Institut Supérieur d'Études et de Recherches Scientifique et Techniques (ISERST), responsible for fisheries administration and research respectively, need technical support in various areas to function effectively. Presently, there is no known fishery development activity with any significant donor support.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josuweit, H. 1981. The Economic and Social Effects of the Fishing Industry -A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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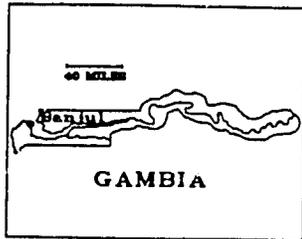


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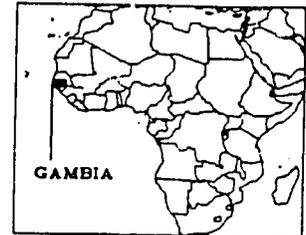


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GAMBIA: FISHERY PROFILE



FEATURES
 Land Area - 10,000 km²
 Continental Shelf Area - 3,900 km²
 Length of Coastline - 80 km
 Territorial Seas - 12 nm
 Inland Waters - 2,100 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 5,700 km²
 EEZ as % of Land Area - 57%



MACRO-ECONOMIC INDICATORS
 Language - English (official); Mandinka; Wolof; Fula; other indigenous vernaculars
 Population (July 1990) - 848,147
 Pop. Growth Rate (1990) - 3.1%
 Labor Force (1986 est.) - 400,000
 Agric. Pop. (1986) - 300,000
 Literacy - 25.1%
 GDP (Current Prices - FY '89 est.) - \$195 million
 Per Capita GDP (1989) - \$250
 Real Growth Rate (1989) - 4.6%
 Inflation Rate (Consumer Prices - 1989) - 8.0%
 Agric. GDP (1989) - \$58.5 million
 Fishery in Agric. GDP (1989) - 7.0%
 % Fishermen in Agric. Pop. (1986) - 2.7%
 % Fishermen in Labor Force (1986) - 2.0%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels (1987):
 (Small-Scale/Artisanal) - 880
 % Motorized - 8%
 No. of Decked Vessels (Industrial - 1987):
 Trawler - 4
 Purse Seine - 0
 Multipurpose - 0
 Other - 1
 No. of Fishermen (1987): Artisanal - 2,800
 Industrial - 150
 Part-Time - 5,000
 Storage Capacity on Land: Cold Store - 1,700 t
 Freezing - 90 t/d
 Ice Plant - 60 t/d

PER CAPITA SHELF AREA: 4500M³

PER CAPITA FISH SUPPLY: 19.6KG

% MARINE POTENTIAL PRODUCED: 16

% FRESHWATER POTENTIAL PRODUCED: 25

% PRODUCTION FROM MARINE WATERS: 81

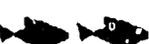
% TOTAL FISH SUPPLY IMPORTED: 41

FISH AS % OF ANIMAL PROTEIN SUPPLY: 40

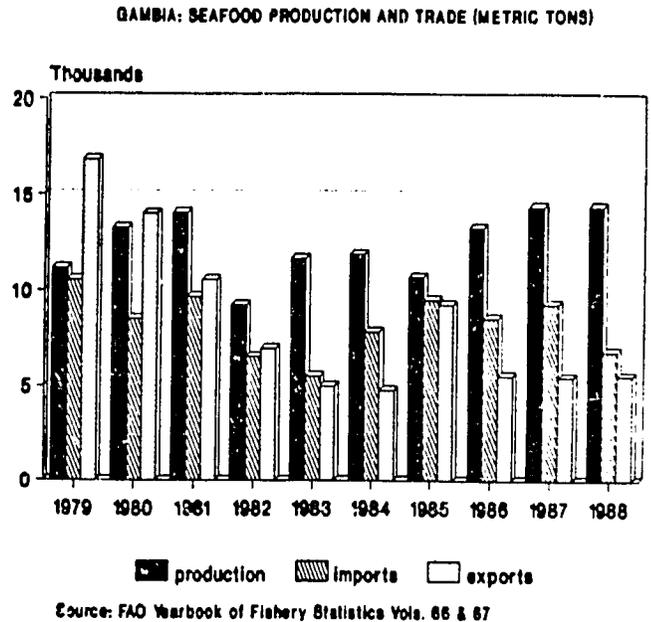
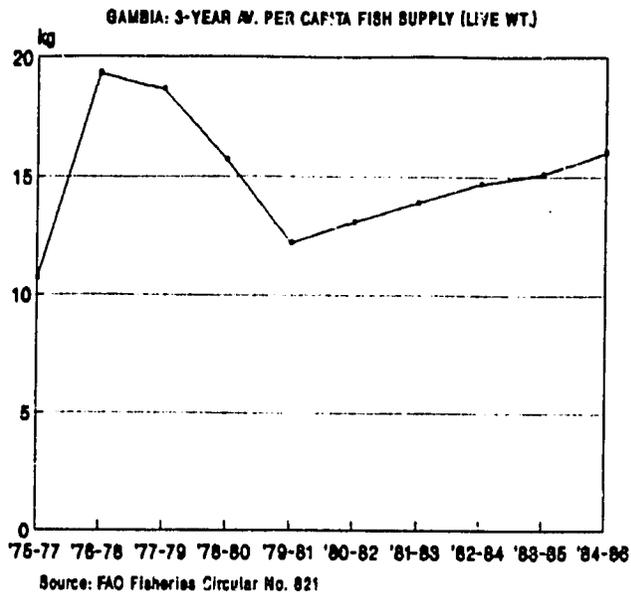
% FISHERMEN IN LABOR FORCE: 2

FISHERY AS % OF AGRICULTURAL GDP: 7

FISH TRADE BALANCE: -112 MILLION \$

LOW  **MEDIUM**  **HIGH** 

FISHERY RESOURCES
 Estimated Potential: Marine - 75,000 mt Inland - 11,000 mt Aquaculture - NA
 Domestic Production: Marine - 11,676 mt Inland - 2,700 mt Aquaculture - NA (1988)
 Major Species & Share in Domestic Prodn. - Shrimp (30%); Bonga Shad (22.2%);
 Snappers (9%); Tilipia (8%); Other Finfish (10%)
 Gross Value of Fishery Products (ex-vessel) - \$4.1 million (1988)
 Imports: Quantity - 6,784 mt Value - \$2.17 million (1988)
 Exports: Quantity - 4,573 mt Value - \$1.05 million
 Fish Supply/Consumption (1988) - 16,587 mt
 Per Capita Fish Supply (1988) - 19.6 kg
 Fish Trade Balance (1988) - (-\$1.12 million)
 Fish as % of Animal Protein Supply - 40%
 Fish as % of Total Protein Supply - 8.1%
 Estimated Post Harvest Loss - 25% of total catch
 Fish for Non-Food Uses - 1,500 mt



ANALYSIS:

The low value marine pelagic species are under-exploited and production could be increased significantly. There are also possibilities for expanding inland catches with the use of improved fishing methods. River shrimp harvested by artisanal fishermen are sold to industrial companies for the export market. Fish production seems to have recovered from the decline in the early 1980s. About 50 percent of the artisanal fishing units are owned and operated by foreigners from other West African countries. This makes it difficult to successfully implement development projects aimed at Gambian fishermen. There are two major industrial fishing companies. Both are export oriented, but also sell small quantities of fish for local consumption. The Government's efforts to attract investment by Gambian entrepreneurs have yielded little success. Some fishery development projects currently receiving donor support include: Artisanal fisheries development phase II along the southern Atlantic coast (EDF); Assistance to estuarine fishing villages with engines, gear, etc. (Italy); Provision of masterfisherman and mechanic to assist the Fisheries Department (Japan); Oyster culture project (IDRC - Canada); Shrimp culture project (Norway). The activities of the Fisheries Department is constrained by the lack of manpower. There is also need for technical assistance and infrastructure to enhance the various fishery development activities.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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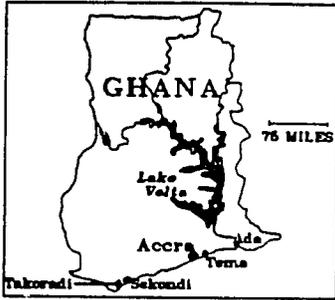


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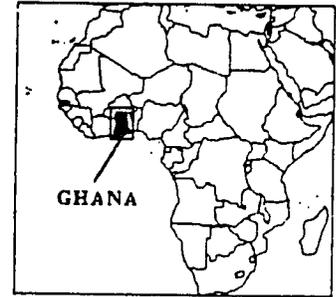


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GHANA: FISHERY PROFILE

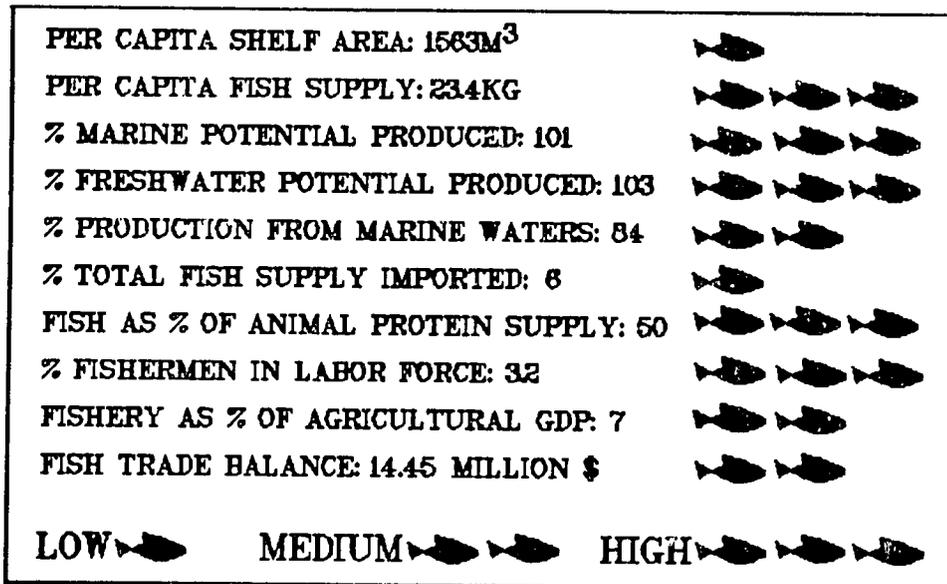


FEATURES	
Land Area	- 230,020 km ²
Continental Shelf Area	- 23,700 km ²
Length of Coastline	- 539 km
Territorial Seas	- 12 nm
Inland Waters	- 10,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 63,600 km ²
EEZ as % of Land Area	- 27.7%



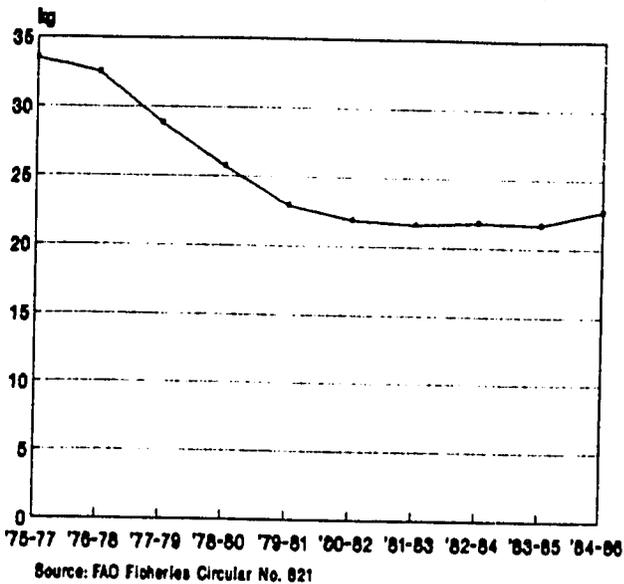
MACRO-ECONOMIC INDICATORS	
Language	- English (official); African languages include: Akan, Moshi-Dagomba, Ewe, Ga
Population (July 1990)	- 15,165,243
Pop. Growth Rate (1990)	- 3.2%
Labor Force (1990)	- 3,700,000
Agric. Pop. (1990 est.)	- 2,024,000
Literacy	- 53.2%
GDP (Current Prices - 1988)	- \$5.2 billion
Per Capita GDP (1988)	- \$400
Real Growth Rate (1988)	- 6.0%
Inflation Rate (Consumer Prices - 1988)	- 32.7%
Agric. GDP (1988)	- \$2.6 billion
Fishery in Agric. GDP (1988)	- 7.0%
% Fishermen in Agric. Pop. (1990)	- 5.8%
% Fishermen in Labor Force (1990)	- 3.2%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1988):	(Small-Scale/Artisanal) - 23,288
% Motorized	- 26%
No. of Decked Vessels (Industrial - 1988):	Trawler - 55 (1988)
	Purse Seine - 7
	Multipurpose - 287
	Other - 33
No. of Fishermen (1988 est.):	Artisanal - 82,000
	Industrial - 27,000
	Part-Time - 8,000
Storage Capacity on Land:	Cold Store - 35,600 m ³
	Freezing - NA
	Ice Plant - 80 t/d

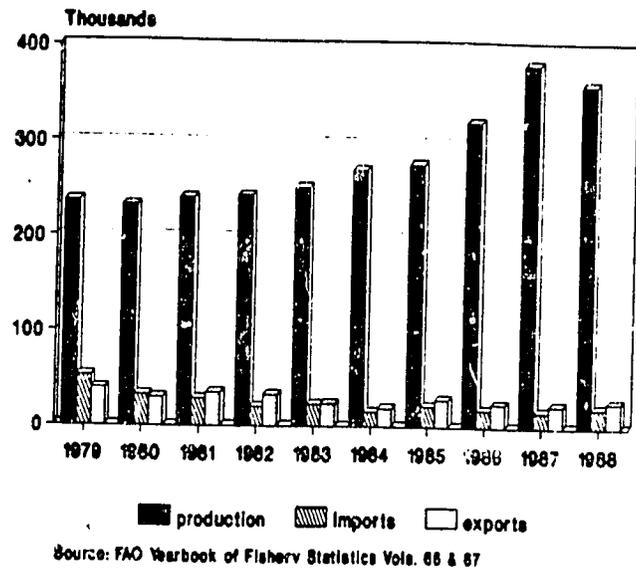


FISHERY RESOURCES		
Estimated Potential: Marine	- 300,000 mt	Inland - 56,000 mt
Domestic Production: marine	- 302,935 mt	Inland - 57,630 mt
Major Species & Share in Domestic Prodn.	- Sardinella (27%); Bonga Shad (21%); Skipjack Tuna (5%); Bigeye Grunt (3%); West African Croakers (2%)	
Gross Value of Fishery Products (ex-vessel)	- \$182.0 million (1988)	
Imports: Quantity	- 19,897 mt	Value - \$15.38 million (1988)
Exports: Quantity	- 26,020 mt	Value - \$29.83 million
Fish Supply/Consumption (1988)	- 354,869 mt	
Per Capita Fish Supply (1988)	- 23.4 kg	
Fish Trade Balance (1988)	- \$14.45 million	
Fish as % of Animal Protein Supply	- 50.0%	
Fish as % of Total Protein Supply	- 21.4%	
Estimated Post Harvest Loss	- 15% of total catch	
Fish for Non-Food Uses	- 0	

GHANA: 3-YEAR M. PER CAPITA FISH SUPPLY (LIVE WEIGHT)



GHANA: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



ANALYSIS:

The artisanal marine fishery accounts for over 60 percent of total marine landings and is highly dependent on the state of the sardinella stocks. The inland fishery contributes about 55,000 t to total catch, but yield depends on rainfall. Aquaculture activities intensified in the 1980s. Annual production is over 400 t and significant investments are being made. The industrial fishery of inshore and distant water fleets produce 8 percent and 5 percent of the total marine landings respectively. The activities of both fleets are affected by the lack of spare parts and the general state of the economy. The distant water fleet also suffers from loss of external fishing grounds resulting from the extension of EEZs by coastal countries. The tuna fleet increased its output in recent years. Fish imports are on the rise after declines in 1984 and 1987 and fish accounts for some 50 percent of animal protein supply. Marine catch could be increased by further exploitation of anchovy stocks. Demersal catches could also be increased by exploiting presently underutilized species. Inland catches are not likely to increase further beyond present levels, however further development of the lagoon fishery and aquaculture could increase yields. Some fishery development projects receiving donor support include: ADF (AfDB) Line of credit for the provision of motors, gear, etc.; Refitting of inshore vessels, technical assistance and resource evaluation (EDF); Artisanal fishery development (UNDP/FAO); Outboard motors and gear (Japan). The activities of the Fisheries Department and other research institutions can be enhanced with more technical assistance.

Sources:

- The World Fact Book 1990: Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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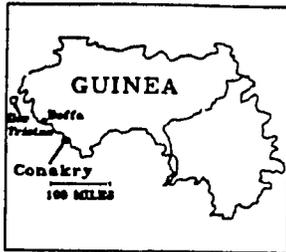
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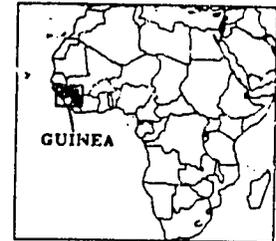
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GUINEA: FISHERY PROFILE



FEATURES	
Land Area	- 245,860 km ²
Continental Shelf Area	- 50,180 km ²
Length of Coastline	- 320 km
Territorial Seas	- 12 nm
Inland Waters	- 850 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 50,000 km ²
EEZ as % of Land Area	- 20.3%



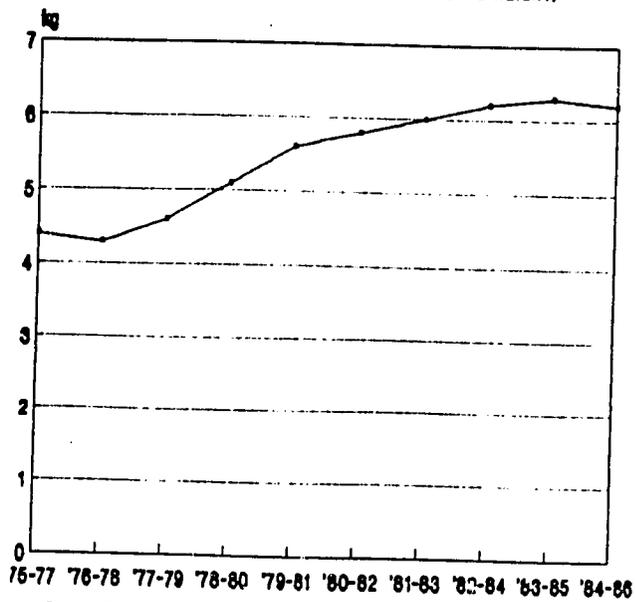
MACRO-ECONOMIC INDICATORS	
Language	- French (official); Several vernaculars Each tribe has its own dialect
Population (July 1990)	- 7,269,240
Pop. Growth Rate (1990)	- 2.6%
Labor Force (1983)	- 2,400,000
Agric. Pop. (1987 est.)	- 1,968,000
Literacy	- 20% in French; 48% in local languages
GDP (Current Prices - 1988)	- \$2.5 billion
Per Capita GDP (1988)	- \$350
Real Growth Rate (1988)	- 5.8%
Inflation Rate (Consumer Prices - 1988)	- 27.0%
Agric. GDP (1988)	- \$1.0 billion
Fishery in Agric. GDP (1988)	- 1.0%
% Fishermen in Agric. Pop. (1987)	- 0.8%
% Fishermen in Labor Force (1987)	- 0.7%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1987):	(Small-Scale/Artisanal) - 2,848
% Motorized	- 26%
No. of Decked Vessels (Industrial - 1987):	Trawler - NA
	Purse Seine - 0
	Multipurpose - 0
	Other - 0
No. of Fishermen (1987):	Artisanal - 6,000
	Industrial - 700
	Part-Time - 10,000
Storage Capacity on Land: Cold Store	- 3,600 t
	Freezing - NA
	Ice Plant - 30 t/d

PER CAPITA SHELF AREA: 6903 M ³		
PER CAPITA FISH SUPPLY: 5.9 KG		
% MARINE POTENTIAL PRODUCED: 12		
% FRESHWATER POTENTIAL PRODUCED: 29		
% PRODUCTION FROM MARINE WATERS: 91		
% TOTAL FISH SUPPLY IMPORTED: 20		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 33		
% FISHERMEN IN LABOR FORCE: 0.7		
FISHERY AS % OF AGRICULTURAL GDP: 1		
FISH TRADE BALANCE: -5.66 MILLION \$		
LOW	MEDIUM	HIGH

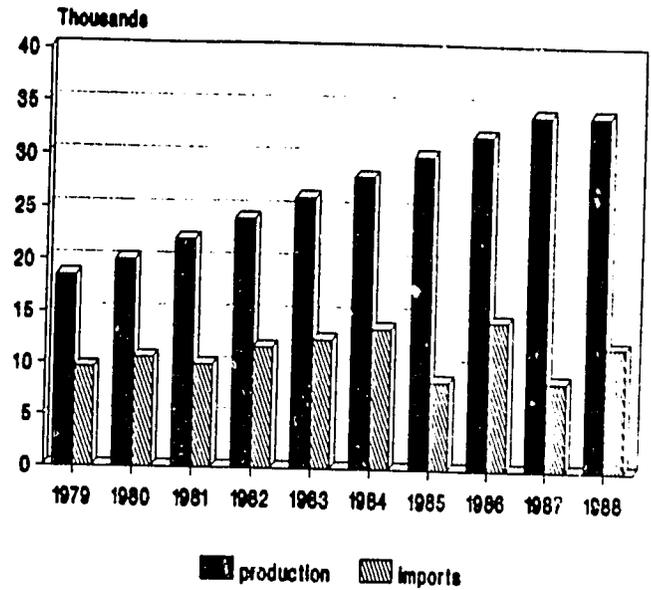
FISHERY RESOURCES		
Estimated Potential: Marine	- 270,000 mt	Inland - 10,500 mt
Domestic Production: Marine	- 31,000 mt	Inland - 3,000 mt
Major Species & Share in Domestic Prodn.	- Sardinella (65%); Other Finfish (35%)	Aquaculture - NA
Gross Value of Fishery Products (ex-vessel - 1988)	- \$10.0 million	Aquaculture - 0 (1988)
Imports: Quantity	- 8,566 mt	Value - \$5.66 million (1988)
Exports: Quantity	- 0	Value - 0
Fish Supply/Consumption (1988)	- 42,566 mt	
Per Capita Fish Supply (1988)	- 5.9 kg	
Fish Trade Balance (1988)	- (-\$5.66 million)	
Fish as % of Animal Protein Supply	- 33.3%	
Fish as % of Total Protein Supply	- 2.9%	
Estimated Post Harvest Loss	- 25% of total catch	
Fish for Non-Food Uses	- 0	

GUINEA: 3-YEAR AVERAGE PER CAPITA FISH SUPPLY (LIVE WEIGHT)



Source: FAO Fisheries Circular No. 821

GUINEA: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

Despite its extensive continental shelf, the fishing industry has yet to be developed. The marine artisanal fishery accounts for about 80 percent of total fish landings. The inland fishery has considerable potential, but lack of investment capital and expertise impede further development. The industrial fishery consists basically of foreign vessels under licensing or bilateral agreements. These vessels catch an estimated 75,000 t of fish each year. About 15,000 t (30% of total supply) is landed for domestic consumption. However, both landings from artisanal and industrial fisheries are insufficient to meet domestic demand. Port facilities are highly inadequate and are not equipped for fishing vessels. The fairly high productivity of the fishery resources with the Guinean EEZ offers substantial potential for development. The recent fishery policy initiative launched by the government requires assistance in the training of management and technical staff, the building and support of institutions, and the establishment of research and infrastructural facilities. Some fishery development activities being supported by donor financing include: Assistance to OCEPAG to develop artisanal fishery and aquaculture (ADB (AfDB)/BADEA); Integrated artisanal fishery development project at Kabak (FAO/UNDP); Development of Kamsar fisheries center (FAO/UNDP/UNCDF); Supply of outboard engines and other fishing equipment (Italy).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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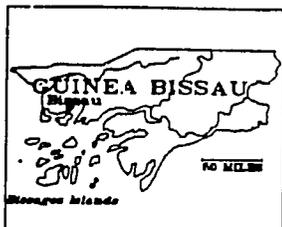


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GUINEA BISSAU: FISHERY PROFILE

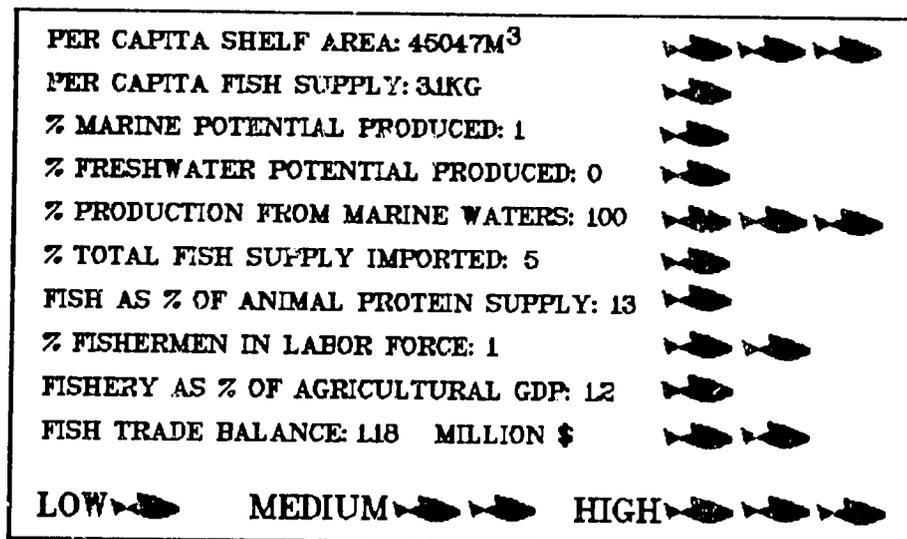


FEATURES	
Land Area	- 28,000 km ²
Continental Shelf Area	- 45,000 km ²
Length of Coastline	- 350 km
Territorial Seas	- 12 nm
Inland Waters	- 8,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 43,900 km ²
EEZ as % of Land Area	- 156.8%



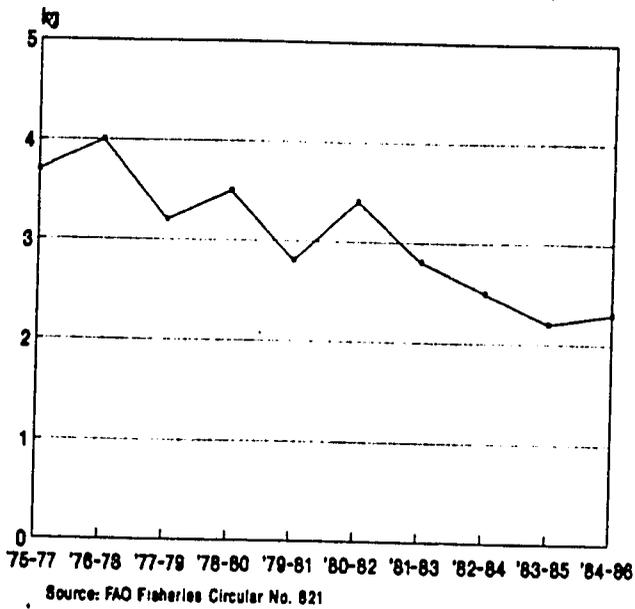
MACRO-ECONOMIC INDICATORS	
Language	- Portuguese (official); Crioulo and other African languages
Population (July 1990)	- 998,963
Pop. Growth Rate (1990)	- 2.5%
Labor Force (1986 est.)	- 403,000
Agric. Pop. (1986)	- 362,700
Literacy (1986)	- 34%
GDP (Current Prices - 1988)	- \$152 million
Per Capita GDP (1988)	- \$160
Real Growth Rate (1987)	- 5.6%
Inflation Rate (Consumer Prices)	- NA
Agric. GDP (1988)	- \$76.0 million
Fishery in Agric. GDP (1988)	- 1.2%
% Fishermen in Agric. Pop.	- 1.2%
% Fishermen in Labor Force	- 1.0%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1987):	(Small-Scale/Artisanal) - 880
% Motorized	- 40%
No. of Decked Vessels (Industrial - 1987):	
Trawler	- 4
Purse Seine	- 2
Multipurpose	- 0
Other	- 0
No. of Fishermen (1987):	
Artisanal	- 3,150
Industrial	- 450
Part-Time	- 300
Storage Capacity on Land:	
Cold Store	- 3,500 t
Freezing	- 65 t/d
Ice Plant	- 80 t/d

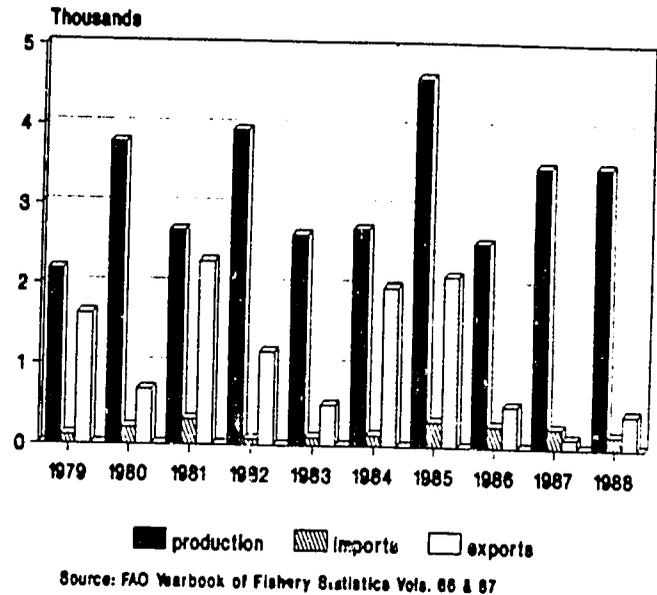


FISHERY RESOURCES		
Estimated Potential: Marine	- 280,000 mt	Inland - 800 mt
Domestic Production: Marine	- 3,500 mt	Inland - 0
Major Species & Share in Domestic Prodn.	- Bigeye Grunt (27%); Crabs (8%), Other Finfish (61%)	
Gross Value of Fishery Products (ex-vessel)	- \$912,000 (1988)	
Imports: Quantity	- 165 mt	Value - \$320,000 (1988)
Exports: Quantity	- 610 mt	Value - \$1.5 million
Fish Supply/Consumption (1988)	- 3,055 mt	
Per Capita Fish Supply (1988)	- 3.1 kg	
Fish Trade Balance (1988)	- \$1.18 million	
Fish as % of Animal Protein Supply	- 12.5%	
Fish as % of Total Protein Supply	- 2.8%	
Estimated Post Harvest Loss	- 25% of total catch	
Fish for Non-Food Uses	- 0	
Aquaculture	- NA	
Aquaculture (1988)	- 0	

GUINEA BISSAU: 3-YEAR AV. PER CAPITA FISH SUPPLY (LIVE WT.)



GUINEA BISSAU: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



ANALYSIS:

The marine artisanal fishery accounts for practically all the domestic landings. Production from inland fishery is negligible and there is no aquaculture activity. The industrial fishery consists of joint ventures, but most of them experience temporary shut downs periodically due to operational problems. Foreign fleets account for an estimated 25,000 t (about 95%) of the annual catch taken in the EEZ. This figure could be higher if more reliable statistics were available. The richness and diversity of the marine life in the continental shelf provide considerable prospects for development, but local investment capital and expertise are lacking. The inland fishery and aquaculture also have significant potential that could be developed. However, because of lack of financial resources and management capabilities, fishery development in Guinea Bissau is contingent on continued donor support. Assistance is needed to develop technical and management capabilities, to provide fishing inputs, to construct infrastructural facilities, and to conduct research. Some fishery development projects receiving donor financing include: Assistance to Cacheu center for artisanal fisheries (EDF); Assistance to Bubaque fisheries (Sweden); Integrated rural development at Bijagos Islands (UNDP); Supply of outboard engines and spares (Italy).

Sources

The World Fact Book 1990. Central Intelligence Agency, U.S.A.
 Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
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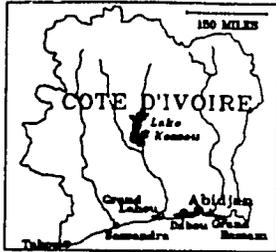


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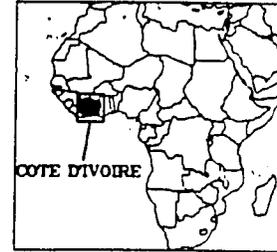


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COTE D'IVOIRE: FISHERY PROFILE



FEATURES	
Land Area	- 318,000 km ²
Continental Shelf Area	- 13,400 km ²
Length of Coastline	- 515 km
Territorial Seas	- 12 nm
Inland Waters	- 4,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 30,500 km ²
EEZ as % of Land Area	- 9.6%



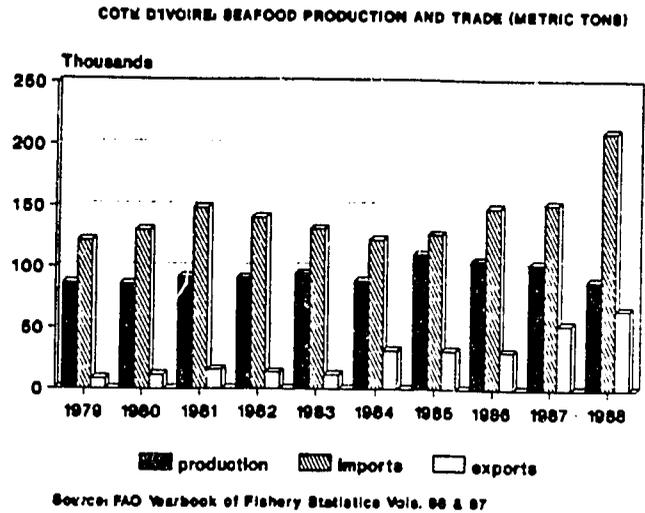
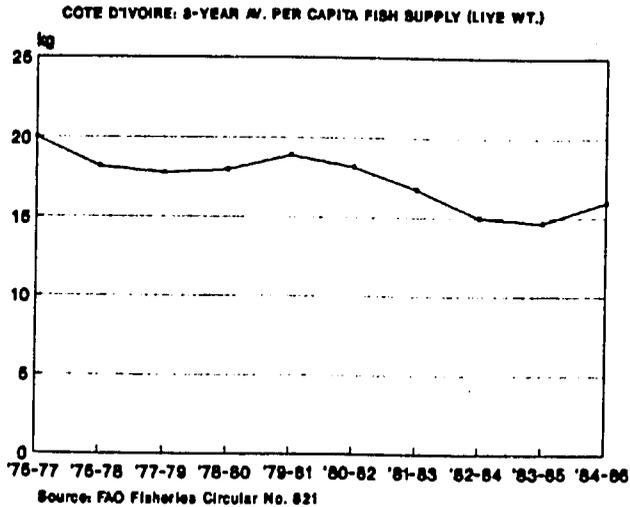
MACRO-ECONOMIC INDICATORS	
Language	- French (official); Over 60 native dialects. Dioula most widely spoken
Population (July 1990)	- 12,478,024
Pop. Growth Rate (1990)	- 4.0%
Labor Force (1985)	- 5,718,000
Agric. Pop. (1985 est.)	- 4,860,300
Literacy	- 42.7%
GDP (Current Prices - 1988)	- \$10.0 billion
Per Capita GDP (1988)	- \$900
Real Growth Rate (1988)	- 6.4%
Inflation Rate (Consumer Prices - 1988)	- 7.5%
Agric. GDP (1988)	- \$3.3 billion
Fishery in Agric. GDP (1988)	- 2.0%
% Fishermen in Agric. Pop.	- 0.5%
% Fishermen in Labor Force	- 0.4%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1987):	(Small-Scale/Artisanal) - 2,500
% Motorized	- NA
No. of Decked Vessels (Industrial):	
Trawler	- 25
Purse Seine	- 20
Multipurpose	- 0
Other	- 0
No. of Fishermen (1987):	
Artisanal	- 19,000
Industrial	- 1,000
Part-Time	- 2,000
Storage Capacity on Land:	
Cold Store	- 19,000 t
Freezing	- 95 t/d
Ice Plant	- 310 t/d

PER CAPITA SHELF AREA: 1074M ³		
PER CAPITA FISH SUPPLY: 17.7		
% MARINE POTENTIAL PRODUCED: 152		
% FRESHWATER POTENTIAL PRODUCED: 72		
% PRODUCTION FROM MARINE WATERS: 68		
% TOTAL FISH SUPPLY IMPORTED: 86		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 31		
% FISHERMEN IN LABOR FORCE: 0.4		
FISHERY AS % OF AGRICULTURAL GDP: 2		
FISH TRADE BALANCE: -22.3 MILLION \$		
LOW	MEDIUM	HIGH

FISHERY RESOURCES		
Estimated Potential: Marine	- 40,000 mt	Inland - 39,000 mt
Domestic Production: Marine	- 60,764 mt	Aquaculture - NA
		Inland - 28,000 mt
Major Species & Share in Domestic Prodn.	- Sardinella (21%); Bonga Shad (14%); Bigeye Grunt (4%); Crustaceans (3%); Other Finfish (50%)	
Gross Value of Fishery Products (ex-vessel)	- \$66.0 million (1988)	
Imports: Quantity	- 210,574 mt	Value - \$149.16 million (1988)
Exports: Quantity	- 65,243 mt	Value - \$126.91 million
Fish Supply/Consumption (1988)	- 220 716 mt	
Per Capita Fish Supply (1988)	- 17.7 kg	
Fish Trade Balance (1988)	- (-\$22.25 million)	
Fish as % of Animal Protein Supply	- 30.8%	
Fish as % of Total Protein Supply	- 11.6%	
Estimated Post Harvest Loss	- 20% of total catch	
Fish for Non-Food Uses	- 14,257 mt	

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ANALYSIS:

The artisanal fishery including marine, lagoon and inland waters produces over 50 percent of the landings. Aquaculture production is still low, but seems promising in the long-term. The industrial fishery experienced marked changes in recent years. The tuna boats moved to the Indian Ocean because of the relative scarcity of tuna in the tropical Atlantic. The big trawlers are being replaced by smaller and more cost effective ones. The purse seiners exploiting the migratory sardinella stocks are relatively old and their operations are affected by frequent breakdowns. Over 50 percent of the fish consumed is imported. There is little possibility for expansion of the marine fishery because of its limited potential. However, effective management of the lagoons and inland resources could produce increased yields. Foreign fishing activity in the EEZ involves seiners fishing for tuna. Landings dropped in recent years due to the migration of some of these vessels to the Indian Ocean. Two tuna canning plants with a processing capacity of 45,000 tons per year are located in Abidjan. Over 90% of the canned tuna produced are exported. The foreign exchange earned is partly used to offset that used for the importation of frozen fish for domestic consumption. Some fishery development projects receiving donor financing include: Management and development of the artisanal fisheries on Lagune Aby (IFAD); Inland fish culture, extension and training at Bouake (FAO/UNDP); Technical assistance for research and extension (France); Research unit for shrimp culture at Assini (EDF); Assistance for Lagoon aquaculture (IDRC - Canada); Catfish/tilapia culture on the lagoons (CCCE). More development assistance is needed in technical training, establishment and organization of fishermen groups/cooperatives, modernization and organization of marketing of fish on the lagoons, construction of infrastructures for marketing fresh fish, and reduction of post harvest losses.

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- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Moremans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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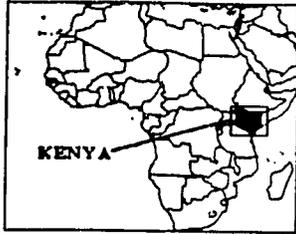
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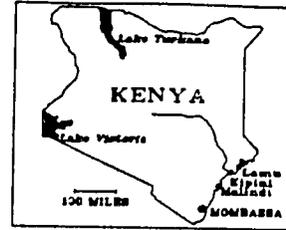
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KENYA: FISHERY PROFILE



FEATURES	
Land Area	- 569,250 km ²
Continental Shelf Area	- 6,500 km ²
Length of Coastline	- 536 km
Territorial Seas	- 12 nm
Inland Waters	- 13,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 34,400 km ²
EEZ as % of Land Area	- 6.04%

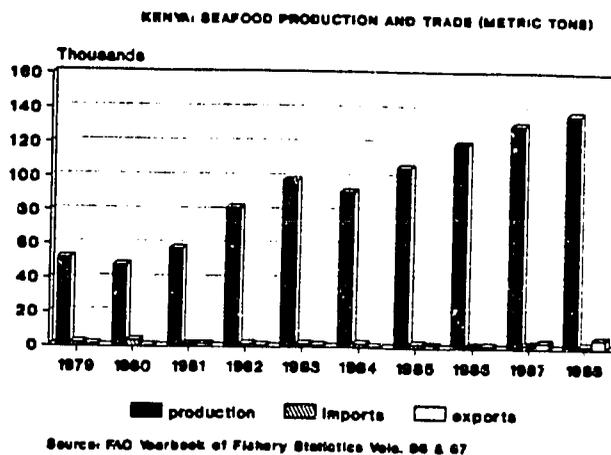
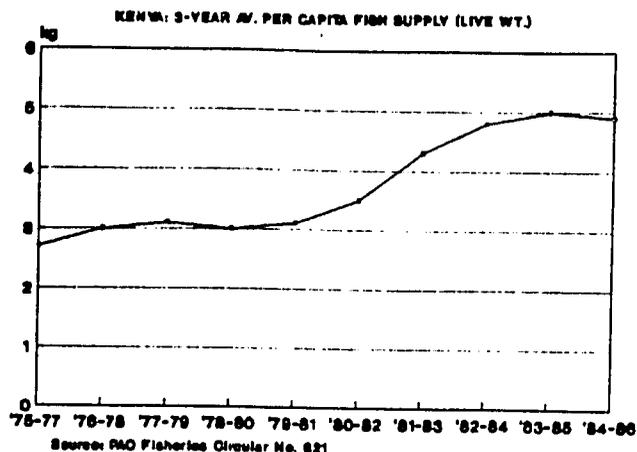


MACRO-ECONOMIC INDICATORS	
Language	- English and Swahili (official), numerous indigenous languages
Population (July 1990)	- 24,639,261
Pop. Growth Rate (1990)	- 3.8%
Labor Force (1987)	- 9.0 million
Agric. Pop. (1987)	- 7.0 million
Literacy	- 59.2%
GDP (Current Prices - 1989 est.)	- \$8.5 billion
Per Capita GDP (1989)	- \$360
Real Growth Rate (1989)	- 4.9%
Inflation Rate (Consumer Prices - 1988)	- 8.3%
Agric. GDP (1989)	- \$2.55 billion
Fishery in Agric. GDP (1988)	- 0.1%
% Fishermen in Agric. Pop. (1987)	- 0.5%
% Fishermen in Labor Force (1987)	- 0.3%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels:	(Small-Scale/Artisanal - 1987) - 7,830
	% Motorized - 5%
No. of Decked Vessels (Industrial):	
	Trawler (1987) - 17
	Purse Seine - 0
	Multipurpose - 1
	Other - 3
No. of Fishermen:	
	Artisanal (1987) - 24,000
	Industrial - 650
	Part-Time - 16,000
Storage Capacity on Land:	
	Cold Store - NA
	Freezing - NA
	Ice Plant - NA

PER CAPITA SHELF AREA: 269M ³	
PER CAPITA FISH SUPPLY: 5.6KG	
% MARINE POTENTIAL PRODUCED: 49	
% FRESHWATER POTENTIAL PRODUCED: 129	
% PRODUCTION FROM MARINE WATERS: 7	
% TOTAL FISH SUPPLY IMPORTED: 1	
FISH AS % OF ANIMAL PROTEIN SUPPLY: 8	
% FISHERMEN IN LABOR FORCE: 0.3	
FISHERY AS % OF AGRICULTURAL GDP: 0.1	
FISH TRADE BALANCE: 8.6 MILLION \$	
LOW	MEDIUM
	HIGH

FISHERY RESOURCES		
Estimated Potential: Marine	- 15,000 mt	Inland - 80,300 mt
Domestic Production: Marine	- 7,267 mt	Inland - 130,176 mt
Major Species & Share in Domestic Prodn.	- Nile Perch (56%), Silver Cyprinid (27%), Tilapia (10%), Other Finfish (2%)	
Gross Value of Fishery Products (ex-vessel)	- \$2.55 million (1988)	
Imports: Quantity	- 1,844 mt	Value - \$1.4 million (1988)
Exports: Quantity	- 5,160 mt	Value - \$10 million
Fish Supply/Consumption	- 134,390 mt	
Per Capita Fish Supply (1988)	- 5.5 kg	
Fish Trade Balance (1988)	- \$8.6 million	
Fish as % of Animal Protein Supply	- 8.3%	
Fish as % of Total Protein Supply	- 1.9%	
Estimated Post Harvest Loss	- 25% of total catch	
Fish for Non-Food Uses	- 0	



ANALYSIS:

The inland fishery accounts for about 90% of total domestic production. The Kenya part of Lake Victoria and Lake Turkana, together account for 97% of all inland catches. The Nile perch became the dominant species during the 1980s and has assumed significant importance in recent years. The marine fishery's contribution to domestic production is rather small and most of the production is from the artisanal sector. A few trawlers fish mainly for shrimp. Aquaculture activities are on the increase and there seems to be potential for further expansion. Most of the production is consumed in areas close to the fishing communities. However, there is an increasing trend toward fish consumption in many urban areas. Kenya exports small volumes of shellfish and high value finfish and imports processed fish and fish products. Production increased steadily since the 1970s and there were dramatic increases in the 1980s due mainly to increases of Nile perch in the catches. Despite these increases, the potential of both lakes to support further expansion is questionable. The catch from Lake Turkana seems to have levelled off in recent years and resource evaluation studies indicate that catches are close to the estimated potential. For Lake Victoria, the Nile Perch which is responsible for the major increases in catches is a predator on other species. Recent studies indicate that this is already causing changes in the composition of the fish fauna. This could reduce food supplies and subsequently reduce growth and recruitment of the Nile perch. Thus, it may take a long time before the Nile perch population and the lake ecosystem reach a new steady state. For these reasons, more rational management and development of the lake fishery should be the main focus and overcapitalization should be avoided. Further development of the marine resources is constrained because of the limited resources of commercial value, the rough bottom of reefs and nearshore areas, and high investment costs. The Kenya Marine and Fisheries Research Institute with two functional research laboratories (freshwater and marine) needs technical support with equipment, development of additional facilities and the training of personnel. Kenya currently receives assistance for the following activities: Development of fish culture in the Lake Victoria region (IDA); Development of a comprehensive fisheries development program and pilot studies in coastal aquaculture (UNDP); Improvement to and extension services for fish culture (U.S. Peace Corps).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
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LIBERIA: FISHERY PROFILE



FEATURES	
Land Area	96,320 km ²
Continental Shelf Area	18,400 km ²
Length of Coastline	579 km
Territorial Seas	200 nm
Inland Waters	15,000 km ²
Exclusive Economic Zone	200 nm
EEZ Area (estimated)	67,000 km ²
EEZ as % of Land Area	69.6%

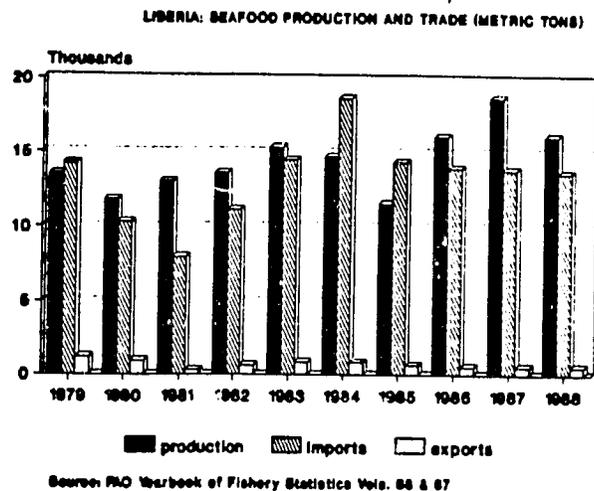
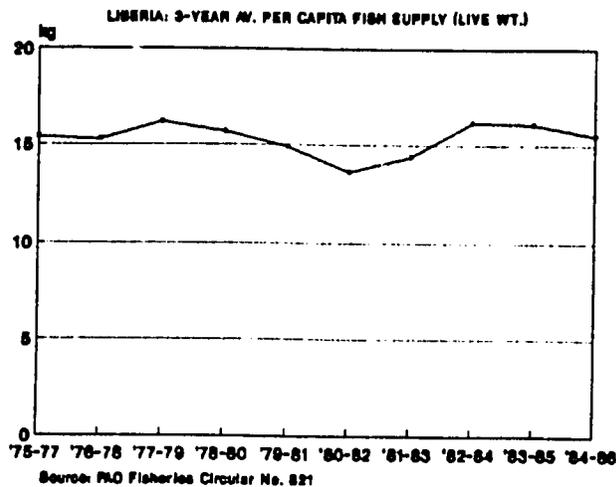


MACRO-ECONOMIC INDICATORS	
Language	English (official), including more than 20 dialects of the Niger-Congo group
Population (July 1990)	2,639,809
Pop. Growth Rate (1990)	3.4%
Labor Force	510,000
Agric. Pop.	359,550
Literacy	35%
GDP (Current Prices - 1988)	\$988 million
Per Capita GDP (1988)	\$395
Real Growth Rate (1988)	1.5%
Inflation Rate (Consumer Prices - 1989)	12%
Agric. GDP (1988)	\$395 million
Fishery in Agric. GDP (1988)	12%
% Fishermen in Agric. Pop. (1987)	2.3%
% Fishermen in Labor Force (1987)	1.7%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels: (Small-Scale/Artisanal - 1986)	1,050
% Motorized	NA
No. of Decked Vessels (Industrial):	
Trawler (1986)	34
Purse Seine	0
Multipurpose	0
Other	0
No. of Fishermen: Artisanal (1987)	6,600
Industrial	200
Part-Time	1,590
Storage Capacity on Land: Cold Store	6,500 m ³
Freezing	18 t/d
Ice Plant	30 t/d

PER CAPITA SHELF AREA: 8970M ³		
PER CAPITA FISH SUPPLY: 12.9KG		
% MARINE POTENTIAL PRODUCED: 20		
% FRESHWATER POTENTIAL PRODUCED: 80		
% PRODUCTION FROM MARINE WATERS: 76		
% TOTAL FISH SUPPLY IMPORTED: 54		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 40		
% FISHERMEN IN LABOR FORCE: 17		
FISHERY AS % OF AGRICULTURAL GDP: 12		
FISH TRADE BALANCE: -7.8 MILLION \$		
LOW	MEDIUM	HIGH

FISHERY RESOURCES		
Estimated Potential: Marine	60,000 mt	Inland - 5,000 mt
Domestic Production: Marine	12,074 mt	Inland - 4,000 mt
Major Species & Share in Domestic Prodn. - Croakers (13%), Seabreams (11%), Sardinella (10%), Other Finfish (37%)		
Gross Value of Fishery Products (ex-vessel)	- \$47.4 million (1988)	
Imports: Quantity	13,572 mt	Value - \$8.3 million (1988)
Exports: Quantity	500 mt	Value - \$1.3 million
Fish Supply/Consumption (1988)	- 29,148 mt	
Per Capita Fish Supply (1988)	- 11.0 kg	
Fish Trade Balance (1988)	- (\$-7.0 million)	
Fish as % of Animal Protein Supply (1986)	- 40%	
Fish as % of Total Protein Supply (1986)	- 13.7%	
Estimated Post Harvest Loss	- 20% of total catch	
Fish for Non-Food Uses	- 0	



ANALYSIS:

The industrial fishery was on its way to recovery before the civil war broke out. In 1987, about 20 vessels were registered by eight companies. Also, shrimp catches which comprised the country's main seafood exports were consistent with previous years. Shore based facilities, including dry dock, cold storage and freezing have been refurbished and expanded. At present there is no way of assessing the current state of these facilities. The Fanti fishermen from Ghana were responsible for 80-85% of the artisanal catch prior to the civil war. It is likely that they have all left the country since the outbreak of the civil war. The indigenous fishermen are from the Kroo and Popoh tribes. Together, they account for less than 20% of the artisanal catch. Although there are six major rivers, the inland fishery is of little significance and there does not seem to be much potential to develop because of the limited resources and shallow and rocky nature of the rivers. Aquacultural activities commenced in the mid 1970s with assistance by U.S. Peace Corps Volunteers. Production was less than 30 mt per year and has been falling in recent years. However, there is potential for increased aquacultural activities. Liberia exports mainly frozen shrimps and small volumes of high value finfish and imports large volumes of low value frozen finfish. Domestic demand falls far short of domestic production. There is no foreign fishing activity in its EEZ. Development potential of the marine resources is limited, but there are indications that the resources are capable of supporting additional and diversified effort, particularly on the pelagic species. Even before the outbreak of the civil war, Liberia received little assistance for fishery development compared to other West African countries. All donor activities are presently suspended. The fishery administration's activities is limited because of budgetary constraints and lack of trained personnel. The artisanal fishery requires assistance in community development, upgrading of fishing and processing technology, and credit facilities. The industrial fishery appears to possess the potential to develop on its own in the long-run, given the right incentives and policies.

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MADAGASCAR: FISHERY PROFILE

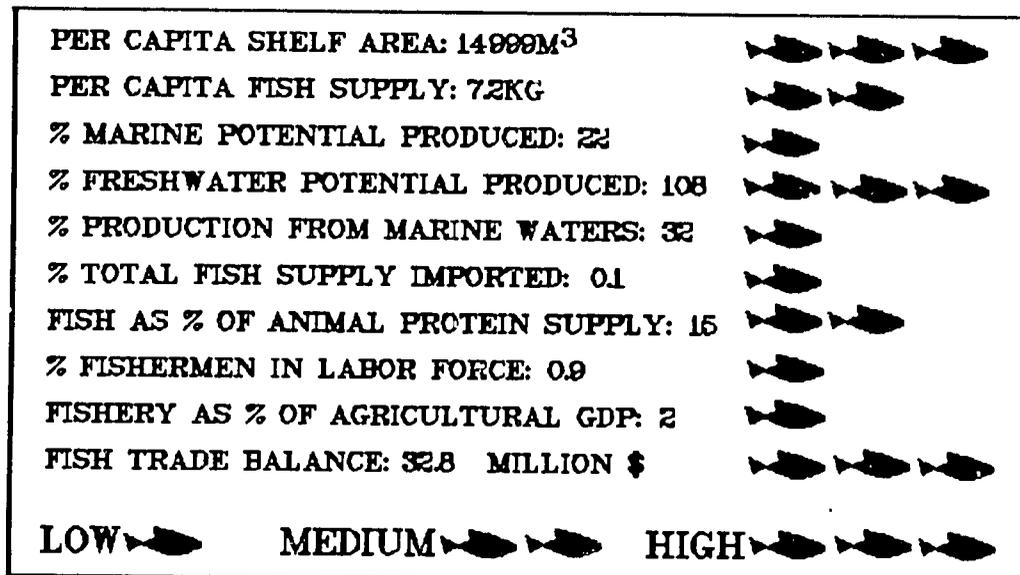


FEATURES	
Land Area	- 581,540 km ²
Continental Shelf Area	- 177,000 km ²
Length of Coastline	- 4,828 km
Territorial Seas	- 12 nm
Inland Waters	- 5,500 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 376,800 km ²
EEZ as % of Land Area	- 64.8%

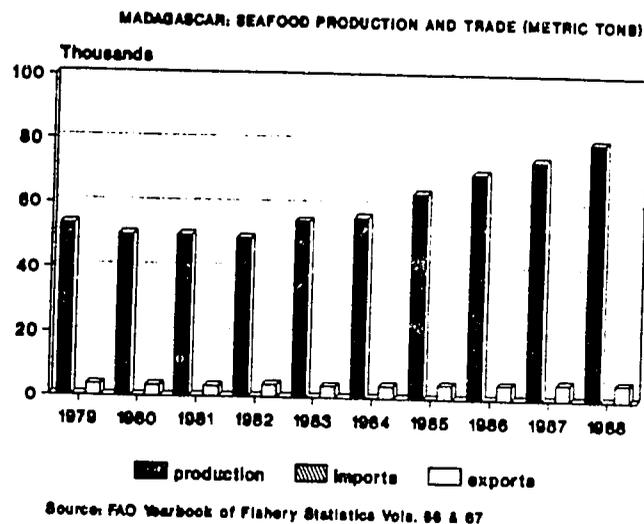
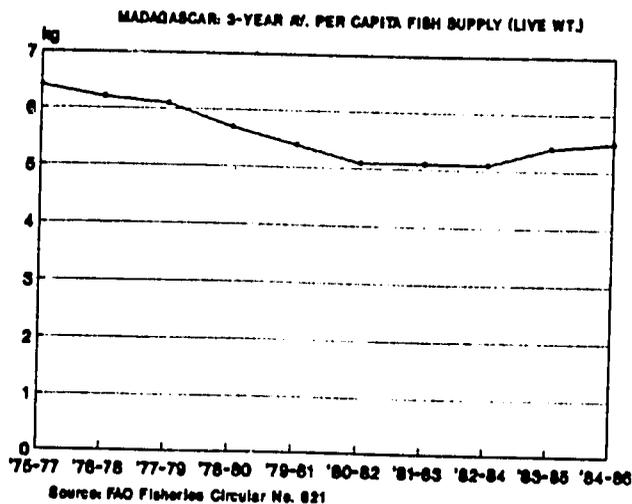


MACRO-ECONOMIC INDICATORS	
Language	- French and Malagasy (official)
Population (July 1990)	- 11,800,534
Pop. Growth Rate (1989)	- 3.2%
Labor Force (1985)	- 4.9 million
Agric. Pop. (1985)	- 1.3 million
Literacy	- 67.5%
GDP (Current Prices - 1988)	- \$1.7 billion
Per Capita GDP (1988)	- \$155
Real Growth Rate (1988)	- 2.2%
Inflation Rate (Consumer Prices - 1988)	- 17.0%
Agric. GDP (1988)	- \$680 million
Fishery in Agric. GDP (1988)	- 2.0%
% Fishermen in Agric. Pop. (1987)	- 25.1%
% Fishermen in Labor Force (1987)	- 0.9%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels:	
(Small-Scale/Artisanal - 1987)	- 5,400
% Motorized	- NA
No. of Decked Vessels (Industrial):	
Trawler (1987)	- 40
Purse Seine	- 0
Multipurpose	- 9
Other	- 0
No. of Fishermen:	
Artisanal (1987)	- 23,000
Industrial	- 500
Part-Time	- 20,450
Storage Capacity on Land:	
Cold Store	- 2,000 t
Freezing	- 220 t/d
Ice Plant	- 85 t/d



FISHERY RESOURCES		
Estimated Potential: Marine	- 120,000 mt	Inland - 50,000 mt
Domestic Production: Marine	- 26,000 mt	Inland - 54,000 mt
Major Species & Share in Domestic Prodn.	- Cichlids (38%), Cyprinids (17%), Demersal Percomorphs (19%), Tropical Spiny Lobsters (13%), Other Finfish (13%)	
Gross Value of Fishery Products (ex-vessel)	- \$13.6 million (1988)	
Imports: Quantity	- 50 mt	Value - \$120,000 (1988)
Exports: Quantity	- 5,256 mt	Value - \$33.0 million
Fish Supply/Consumption	- 74,896 mt	
Per Capita Fish Supply (1988)	- 6.4 kg	
Fish Trade Balance (1988)	- \$32.88 million	
Fish as % of Animal Protein Supply	- 15.4%	
Fish as % of Total Protein Supply	- 3.4%	
Estimated Post Harvest Loss	- 15% of total catch	
Fish for Non-Food Uses	- 129 mt	
Aquaculture	- NA	
Aquaculture	- 231 mt	



ANALYSIS:

The inland fishery accounts for some 65% of the total domestic production. The major lakes which account for the bulk of the fish produced are intensively fished, but most of the other lakes are under-fished. The marine fishery consists of the artisanal and industrial sectors. The artisanal fishery is confined to the lagoons and the shallow coastal waters and accounts for most of the marine production. The industrial fishery consists mainly of shrimp trawlers catching shrimp for the export market. The foreign fishing vessels in Madagascar's EEZ are fishing mainly for tuna. The number of these vessels is increasing since tuna boats are moving from the East Central Atlantic (the West African coast). These vessels are estimated to be currently catching between 7,000 - 10,000 mt. of tuna annually, most of which is landed in the Seychelles. Aquacultural activities have been increasing recently. Most of these are a combination of rice and fish farms. Marine fish farming started in 1988 with the launching of a pilot shrimp farming project at Nosybe. There seems to be potential for further development and expansion of aquacultural activities. Marine fisheries developed more rapidly than inland fisheries in recent years. Shrimp catches in particular increased quite dramatically and shrimp exports are a major source of foreign currency and the country's third largest export item after coffee and vanilla. Given the estimated fishery potential and the current level of exploitation, there is potential for further development and expansion, particularly with the deep water resources, fresh and brackish water resources and rice-cum-fish farms. Although a large number of the population has low purchasing power, demand for fish is expected to increase with an annual population growth rate of 3.2%. A number of research institutions are involved with fishery research and their activities could be further enhanced with some technical assistance. The current development plan for the fishery sector calls for expansion of industrial fishery operations with particular emphasis on deep-water crustaceans, tuna and small pelagics; development of aquaculture, improved distribution and marketing channels. Some current fishery development activities with donor assistance include: deep-sea shrimp prospecting (Germany-GTZ); Exploration for small pelagics and Pisciculture Program (EDF).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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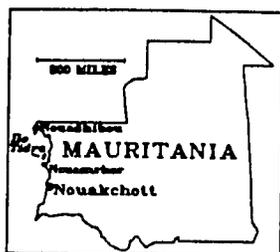
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MAURITANIA: FISHERY PROFILE

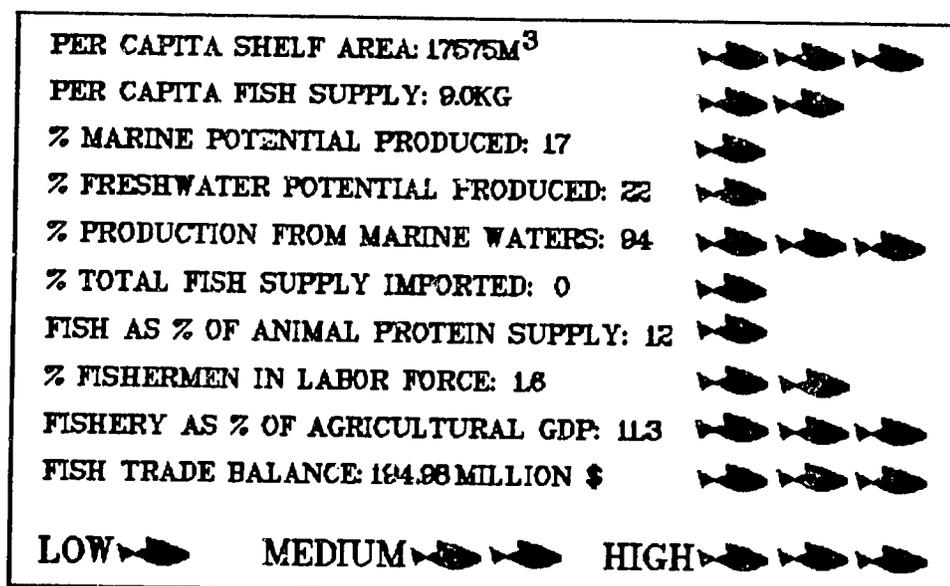


FEATURES	
Land Area	- 1,030,400 km ²
Continental Shelf Area	- 34,000 km ²
Length of Coastline	- 754 km
Territorial Seas	- 12 nm
Inland Waters	- NA
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 195,000 km ²
EEZ as % of Land Area	- 18.9%



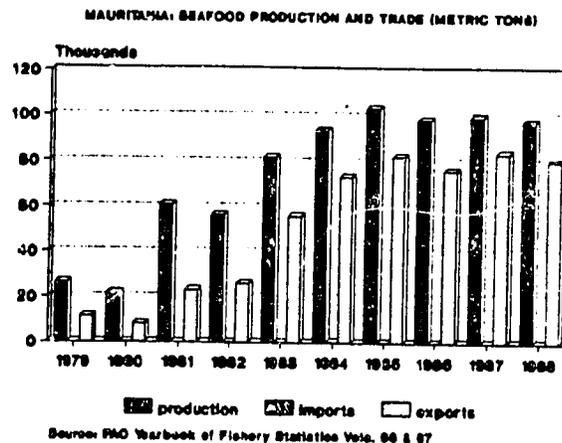
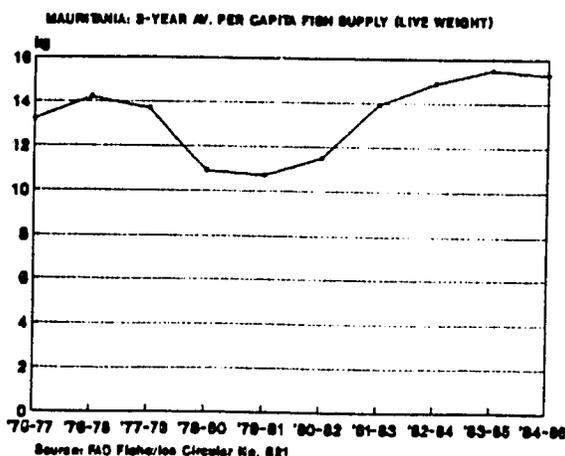
MACRO-ECONOMIC INDICATORS	
Language	- Hasaniya Arabic (national); French (official); Toucouleur, Fula, Sarakole, Wolof
Population (July 1990)	- 1,934,549
Pop. Growth Rate (1990)	- 3.1%
Labor Force (1981 est.)	- 465,000
Agric. Pop. (1981 est.)	- 218,550
Literacy	- 17%
GDP (Current Prices - 1988)	- \$1.0 billion
Per Capita GDP (1988)	- \$520
Real Growth Rate (1988)	- 3.6%
Inflation Rate (Consumer Prices - 1988)	- 1.4%
Agric. GDP (1988)	- \$0.29 billion
Fishery in Agric. GDP (1988)	- 11.3%
% Fishermen in Agric. Pop.	- 3.4%
% Fishermen in Labor Force	- 1.6%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1987):	(Small-Scale/Artisanal) - 400
% Motorized	- 90%
No. of Decked Vessels (Industrial - 1987):	Trawler - 130 (1987)
	Purse Seine - 0
	Multipurpose - 0
	Other - 0
No. of Fishermen (1987):	Artisanal - 5,000
	Industrial - 1,000
	Part-Time - 1,500
Storage Capacity on Land:	Cold Store - 31,000 t
	Freezing - 500 t/d
	Ice Plant - 200 t/d



FISHERY RESOURCES		
Estimated Potential: Marine	- 550,000 mt	Inland - 27,000 mt
Domestic Production: Marine	- 91,500 mt	Aquaculture - NA
		Inland - 6,000 mt
Major Species & Share in Domestic Prodn.	- Octopus (34%); Meagre (6%);	
	- Cuttlefish & Squid (5%); Groupers (4%); Other Cephalopods (7%); Other Finfish (22%)	
Gross Value of Fishery Products (ex-vessel)	- \$32.8 million (1988 est.)	
Imports: Quantity	- 0	Value - 0
Exports: Quantity	- 80,047 mt	Value - \$194.8 million (1988)
Fish Supply/Consumption (1988)	- 17,453 mt	
Per Capita Fish Supply (1988)	- 9.0 kg	
Fish Trade Balance (1988)	- \$194.98 million	
Fish as % of Animal Protein Supply	- 12.1%	
Fish as % of Total Protein Supply	- 9.7%	
Estimated Post Harvest Loss	- 20% of total catch	
Fish for Non-Food Uses	- 0	

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ANALYSIS

The artisanal marine fishery operates only from three centers along the coast. The landings account for about 15 percent of the total marine catch. The inland fishery was affected by the Sahelian drought and has since recovered to less than half of the previous landings. The return of normal rainfall pattern could bring further recovery to this fishery. The industrial fishery accounts for the bulk of the production, but the figures may include landings from some foreign vessels for transshipment. The industrial catch, both domestic and foreign, is estimated at 500,000 t annually. No reliable figures are available on fishing effort. Cephalopod exports earn significant foreign exchange. On the whole, seafood exports account for some 60% of total Mauritanian exports, representing about 25% of government revenues. A government firm established in 1984 holds a monopoly on frozen seafood exports. The major fishery resources appear to be fully exploited and in some cases over exploited. Increased economic rent is expected only with more effective management policies. Artisanal fishery development projects are affected by the remote location of some of the coastal regions. The outlook for the inland fishery is uncertain because of the drought and the development of irrigated agriculture. For similar reasons, it is difficult to predict the prospects for aquacultural development. The government gives priority to controlling the activities of foreign vessels. Assistance is needed to develop the expertise and facilities for the MCS system, and also for training and construction of shore-based facilities. There is an institute in Nouadhibou providing training for fishery scientists and technicians. Some fishery development projects receiving donor financing include: Provision of infrastructural facilities for artisanal fishery (Arab Fund for Economic and Social Development); Technical assistance to fishery institute at Nouadhibou and fisheries economics unit at the Ministry of Fisheries (France); Provision of GRP boats with outboard engines for artisanal fishery (Italy); Provision of cold storage chain at Nouakchott and the south to assist fish marketing (DANIDA).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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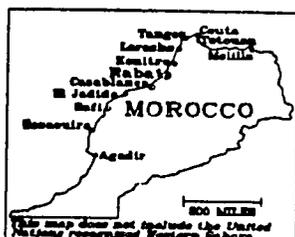


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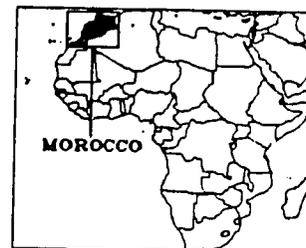
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MOROCCO: FISHERY PROFILE



FEATURES
 Land Area - 446,300 km²
 Continental Shelf Area - 124,000 km²
 Length of Coastline - 1,835 km
 Territorial Seas - 12 nm
 Inland Waters - <500 km
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 1,100,000 km²
 EEZ as % of Land Area - 247%



MACRO-ECONOMIC INDICATORS
 Language - Arabic (official), French is language of business, government, diplomacy & education
 Population (July 1990) - 25,648,241
 Pop. Growth Rate (1990) - 2.2%
 Labor Force (1985) - 7,400,000
 Agric. Pop. (1985) - 3,700,000
 Literacy - 28%
 GDP (Current Prices - 1988) - \$21.9 billion
 Per Capita GDP (1988) - \$480
 Real Growth Rate (1989 est.) - 4.5%
 Inflation Rate (Consumer Prices - 1989) - 6%
 Agric. GDP (1988) - \$6.6 billion
 Fishery in Agric. GDP (1988) - 15.0%
 % Fishermen in Agric. Pop. - 1.4%
 % Fishermen in Labor Force - 0.7%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 8,100
 % Motorized - 73%
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 454
 Purse Seine - 396
 Multipurpose - 400
 Other - 874
 No. of Fishermen: Artisanal (1987) - 16,000
 Industrial - 34,000
 Part-Time - NA
 Storage Capacity on Land: Cold Store - NA
 Freezing - NA
 Ice Plant - NA

PER CAPITA SHELF AREA: 4835M³

PER CAPITA FISH SUPPLY: 111KG

% MARINE POTENTIAL PRODUCED: 48

% FRESHWATER POTENTIAL PRODUCED: 20

% PRODUCTION FROM MARINE WATERS: 99.8

% TOTAL FISH SUPPLY IMPORTED: 0.5

FISH AS % OF ANIMAL PROTEIN SUPPLY: 21

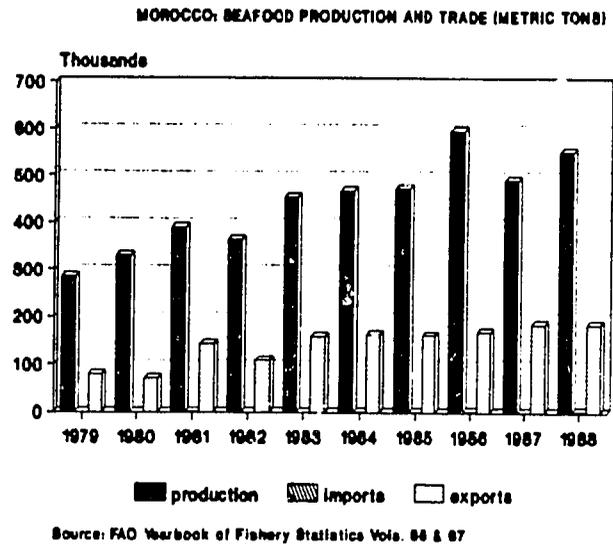
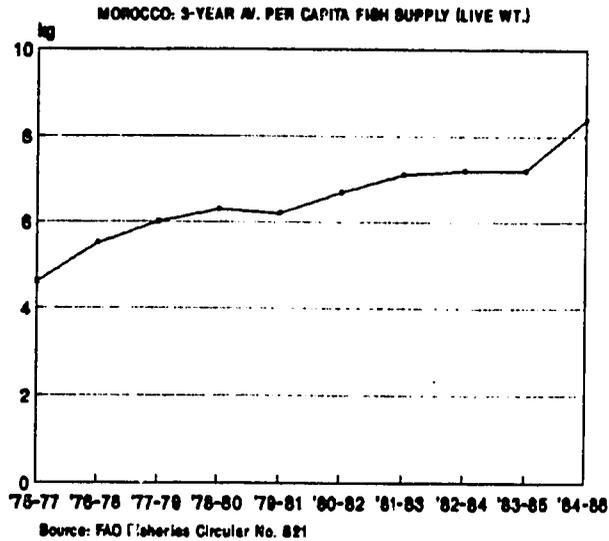
% FISHERMEN IN LABOR FORCE: 0.7

FISHERY AS % OF AGRICULTURAL GDP: 15

FISH TRADE BALANCE: 310.60 MILLION \$

LOW  **MEDIUM**  **HIGH** 

FISHERY RESOURCES
 Estimated Production: Marine - 1,200,000 mt Inland - 6,400 mt Aquaculture - NA
 Domestic Production: Marine - 550,096 mt Inland - 1,279 mt Aquaculture - 158 mt
 Major Species & Share in Domestic Prodn. - European Pilchard (60%), Octopus (5%), Mackerel (7%), Horse Mackerel (3%), Cuttlefish (2%), Other Finfish (18%)
 Gross Value of Fishery Products (ex-vessel) - \$985.5 million (1988)
 Imports: Quantity - 1,990 mt Value - \$2.3 million (1988)
 Exports: Quantity - 183,579 mt Value - \$415.7 million
 Fish Supply/Consumption (1988) - 239,286 mt
 Per Capita Fish Supply (1988) - 9.3 kg
 Fish Trade Balance (1988) - \$413.4 million
 Fish as % of Animal Protein Supply - 21.4%
 Fish as % of Total Protein Supply - 2.9%
 Estimated Post Harvest loss - 10% of total catch
 Fish for Non-Food Uses - 130,500 mt



ANALYSIS:

Morocco's marine fishery could be characterized as industrial and semi-industrial. The fishing fleet consists of a wide variety of vessels. The semi-industrial fleet, about 8,000 vessels, exploits mainly the pelagic species. The industrial fleet of purse seiners, trawlers, multi-purpose, and mother vessels exploits a wide range of species, including pelagics, demersals, crustaceans, and cephalopods. The pelagic species provide the basic raw material for the shore-based canning, freezing and fish meal factories. About 80% of the landings undergo some form of industrial treatment. Marine production fell significantly in 1987, but seems to have recovered in 1988 although it remains below the all time high which occurred in 1986. Seafood exports are a major foreign exchange earner for Morocco and represents some 75-80% of the total value of all exports. However, fish consumption in the country is quite low, probably because of the strong preference for meat. The fishery resources off the coast of Morocco are currently heavily fished and the pelagic stocks experience large variability in abundance from year to year due to environmental factors. No considerable increase in catch is expected even with the extension of fishing range and the direction of effort away from traditional fishing grounds. Emphasis should be on effective management of resources. Fishery research facilities are reasonably adequate to meet the needs of the industry. However, technical assistance could improve some of the systems in use. These institutions could also benefit from the training of more senior level personnel. Morocco is receiving donor assistance in the field of fishery research (France); Fishing technology, marketing and processing (EDF).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josuweit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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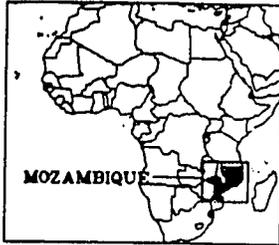
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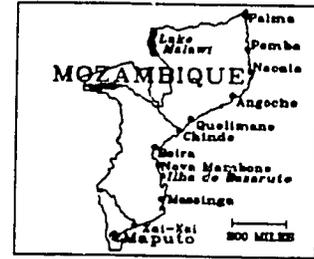
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MOZAMBIQUE: FISHERY PROFILE

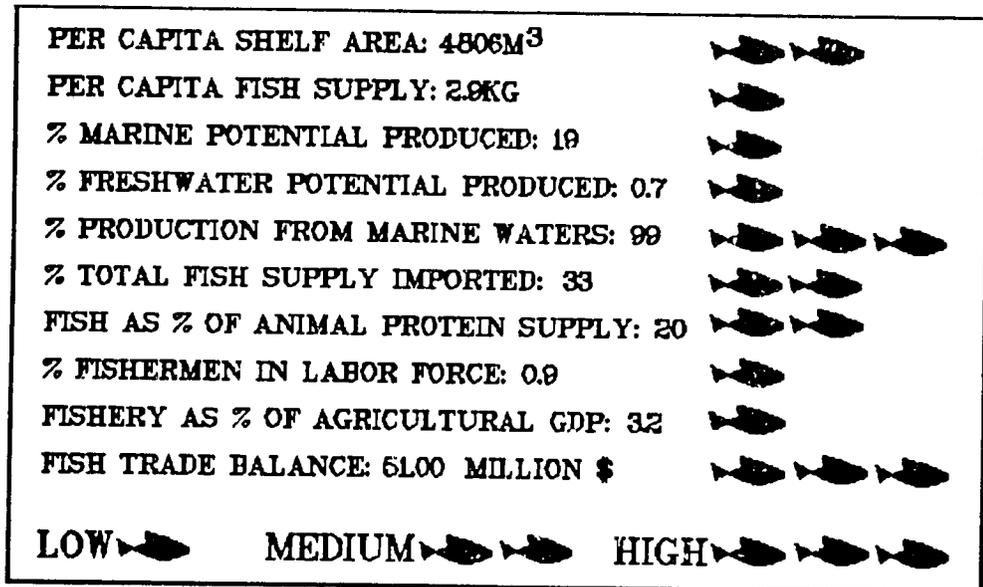


FEATURES	
Land Area	784,090 km ²
Continental Shelf Area	70,000 km ²
Length of Coastline	2,470 km
Territorial Seas	12 nm
Inland Waters	18,000 km ²
Exclusive Economic Zone	200 nm
EEZ Area (estimated)	163,000 km ²
EEZ as % of Land Area	20.8%

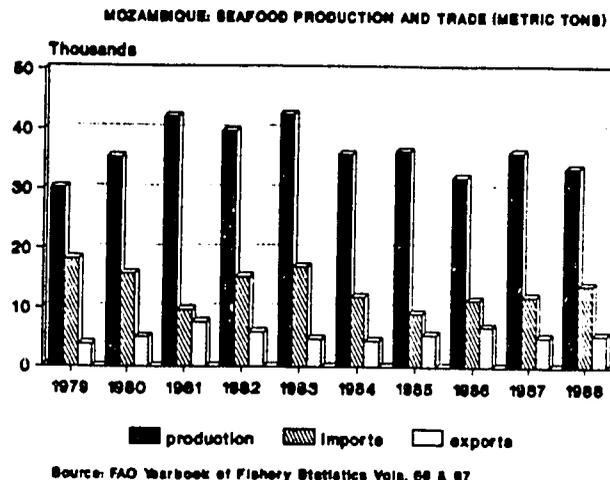
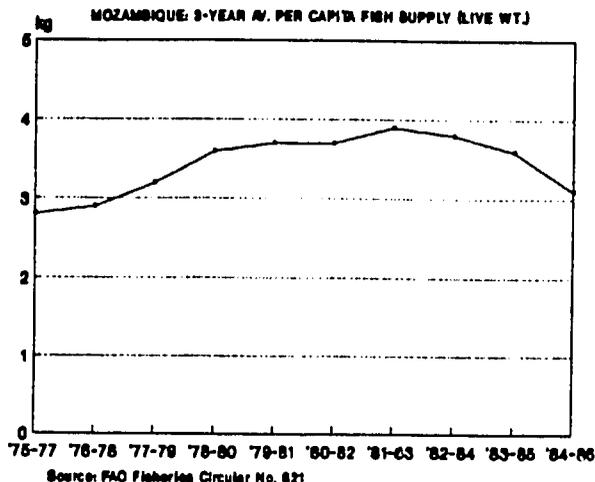


MACRO-ECONOMIC INDICATORS	
Language	Portuguese (official); many indigenous dialects
Population (July 1990)	14,565,656
Pop. Growth Rate (1990)	2.6%
Labor Force	NA
Agric. Pop.	90% of labor force
Literacy	38%
GDP (Current Prices - 1988)	\$1.6 billion
Per Capita GDP (1988)	\$110
Real Growth Rate (1988)	5.0%
Inflation Rate (Consumer Prices - 1988)	81.1%
Agric. GDP (1988)	\$800 million
Fishery in Agric. GDP (1988)	3.2%
% Fishermen in Agric. Pop.	1.0%
% Fishermen in Labor Force	0.9%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels:	
(Small-Scale/Artisanal - 1987)	17,300
% Motorized	NA
No. of Decked Vessels (Industrial):	
Trawler (1987)	60
Purse Seine	0
Multipurpose	0
Other	0
No. of Fishermen:	
Artisanal (1987)	17,500
Industrial	2,500
Part-Time	2,500
Storage Capacity on Land: Cold Store	3,000 t
Freezing	NA
Ice Plant	0



FISHERY RESOURCES		
Estimated Potential: Marine	175,000 mt	Inland - 34,000 mt
Domestic Production: Marine	33,300 mt	Inland - 248 mt
Major Species & Share in Domestic Prodn.	Natantian Decapods (17%), Seerfishes (2%), Other Fin Fish (79%)	
Gross Value of Fishery Products (ex-vessel)	\$25.6 million (1988)	
Imports: Quantity	13,907 mt	Value - \$14.1 million (1988)
Exports: Quantity	5,400 mt	Value - \$65 million
Fish Supply/Consumption	42,079 mt	
Per Capita Fish Supply (1988)	2.9 kg	
Fish Trade Balance (1988)	-\$50.9 million	
Fish as % of Animal Protein Supply	20.0%	
Fish as % of Total Protein Supply	2.5%	
Estimated Post Harvest Loss	20% of total catch	
Fish for Non-Food Uses	0	



ANALYSIS:

The marine fishery accounts for over 90% of the total production. There is an export oriented shrimp industry and annual exports of frozen shrimp is around 9,000-10,000 mt. This represents about 20% of the country's foreign exchange earnings. A large by-catch of some 30,000 mt results from the activities of the shrimp vessels. Most of this is discarded at sea because of the vessels' small freezing capacities. These discards would increase domestic consumption if they were collected by other vessels and landed. Three joint venture companies involving Mozambique, Spain, Japan, and the Soviet Union are also involved in shrimp fishing. In addition, there is a small group of semi-industrial fishermen who catch about 3,000 mt of shrimp annually and sell to industrial companies. The marine artisanal fishery is at subsistence level and accounts for roughly 25,000 mt of total production. The inland fishery is also at subsistence level and underexploited. There is considerable potential for the expansion of this fishery. Distribution of fish, particularly fresh and frozen to inland areas is constrained by the lack of infrastructure and food habits of the inland population. However, the government has put emphasis on improved fish processing and distribution in recent years. The artisanal fishery production which supplies the domestic market falls short of the demand and the country imports low value frozen fish to fulfill the excess demand. The abundant small pelagic fish stocks are found far from the coast and are out of reach of the artisanal fishermen. The development of an industrial or semi-industrial fleet is necessary to exploit these stocks. The institute responsible for marine and fishery research is staffed largely by expatriates. Assistance is needed to develop local expertise so that some of these activities can be taken over. Also, this institute could benefit from the provision of equipment. The government has given some attention to the development of aquacultural activities. Some of the fishery development projects have been funded by UNDP and executed by FAO. The Swedish International Development Agency (SIDA) and the European Economic Community (EEC) have also provided some assistance.

Sources:

- The World fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
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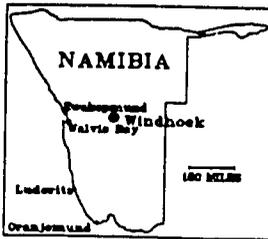
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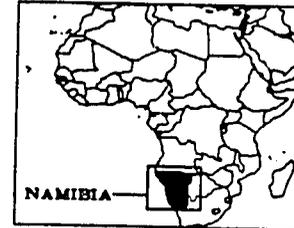
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NAMIBIA: FISHERY PROFILE



FEATURES
 Land Area - 823,290 km²
 Continental Shelf Area - 110,000 km²
 Length of Coastline - 1,459 km
 Territorial Seas - 6 nm
 Inland Waters - NA
 Exclusive Fishing Zone - 12 nm
 EEZ Area (estimated) - NA
 EEZ as % of Land Area - NA



MACRO-ECONOMIC INDICATORS
 Language - Afrikaans, German, English and several indigenous languages
 Population (July 1990) - 1,452,951
 Pop. Growth Rate (1990) - 5.6%
 Labor Force (1981 est.) - 500,000
 Agric. Pop. (1981) - 300,000
 Literacy - 100% (whites) 16% (non-whites)
 GDP (Current Prices - 1987) - \$1.5 billion
 Per Capita GDP (1987) - \$1,245
 Real Growth Rate (1987) - 2.9%
 Inflation Rate (Consumer Prices - 1989) - 15.1%
 Agric. GDP (1987) - \$154 million
 Fishery in Agric. GDP (1987) - 17.0%
 % Fishermen in Agric. Pop. - 1.3%
 % Fishermen in Labor Force - 0.8%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal) - NA
 % Motorized - NA
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 0
 Purse Seine - 58
 Multipurpose - 0
 Other - 0
 No. of Fishermen: Artisanal - NA
 Industrial - NA
 Part-Time - NA
 Storage Capacity on Land: Cold Store - NA
 Freezing - 5 000 t/d
 Ice Plant - NA

PER CAPITA SHELF AREA: 75708M³ 

PER CAPITA FISH SUPPLY: M 

% MARINE POTENTIAL PRODUCED: 1 

% FRESHWATER POTENTIAL PRODUCED: 3 

% PRODUCTION FROM MARINE WATERS: 98 

% TOTAL FISH SUPPLY IMPORTED: M 

FISH AS % OF ANIMAL PROTEIN SUPPLY: 25 

% FISHERMEN IN LABOR FORCE: 0.8 

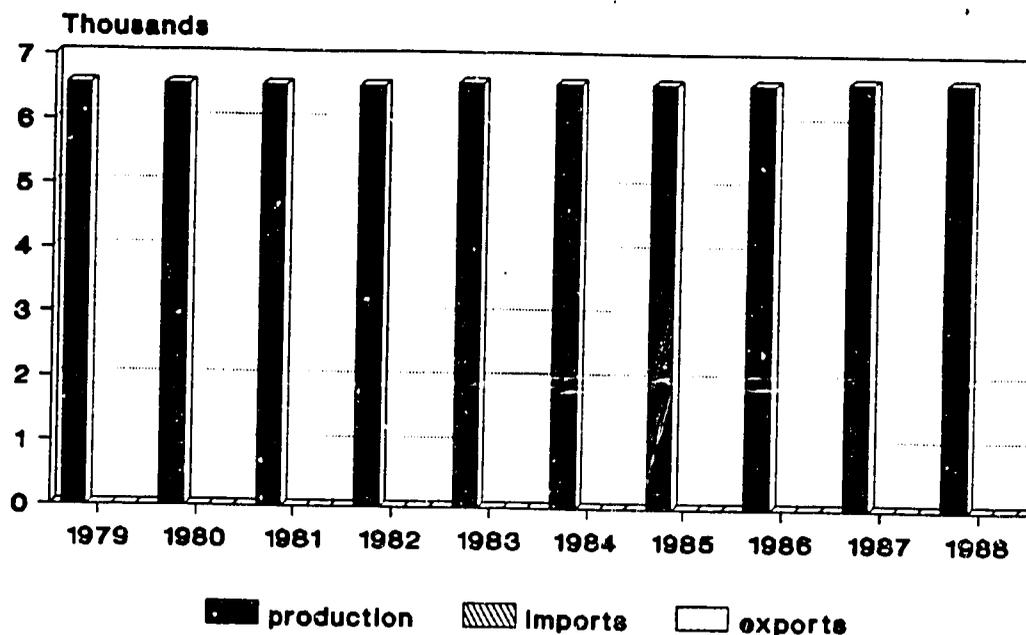
FISHERY AS % OF AGRICULTURAL GDP: 17 

FISH TRADE BALANCE: M MILLION \$

LOW  MEDIUM  HIGH 

FISHERY RESOURCES
 Estimated Potential: Marine - 845,000 mt Inland - 6,000 mt Aquaculture - NA
 Domestic Production: Marine - 6,500 mt Inland - 150 mt Aquaculture - 0
 Major Species & Share in Domestic Prodn. - Cape Rock Lobster (23%), Other Finfish (77%)
 Gross Value of Fishery Products (ex-vessel) - \$39.3 million (1988)
 Imports: Quantity - NA Value - NA
 Exports: Quantity - NA Value - NA
 Fish Supply/Consumption - NA
 Per Capita Fish Supply - NA
 Fish Trade Balance - NA
 Fish as % of Animal Protein Supply (est.) - 25%
 Fish as % of Total Protein Supply (est.) - 5.0%
 Estimated Post Harvest Loss - NA
 Fish for Non-Food Uses - NA

NAMIBIA: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

Namibia is a newly independent country and the exploitation of fishery resources was virtually in foreign hands until recently. With its extensive coastline, wide continental shelf, and favourable oceanographic conditions, Namibia is endowed with rich fishery resources in its EEZ. Domestic production from the marine fishery is very minimal compared to the estimated potential. However, foreign fishing fleets have been operating in the EEZ over the years and there is no accurate statistics on the total catch taken by these fleets. Presently, the government is moving toward controlling the activities of foreign fishing vessels in its EEZ and would require assistance in all areas. The inland fishery potential is very small compared to the marine potential, but with present production about 2% of the estimated potential, there is room for expansion. Such increase in production will provide fresh fish to communities close to these water bodies at reasonable costs. At present there is no aquaculture activity. The fishery sector should contribute significantly to the country's development. It accounts for 17% of the agricultural GDP and fish contributes 25% to the total protein supply. The government needs assistance in the preparation of a comprehensive fishery development plan and also in the execution of such a plan. Areas of priority include resource assessment, monitoring, control and surveillance, technical training, institution building, and provision of infrastructures.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
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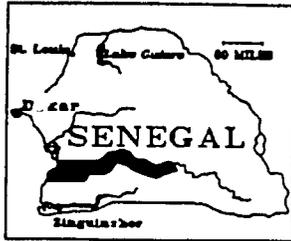
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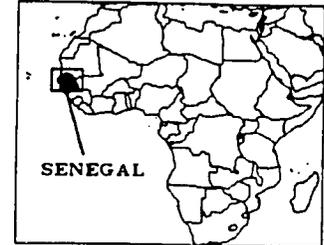
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SENEGAL: FISHERY PROFILE



FEATURES	
Land Area	192,000 km ²
Continental Shelf Area	23,770 km ²
Length of Coastline	531 km
Territorial Seas	12 nm
Inland Waters	4,000 km ²
Exclusive Fishing Zone	200 nm
EEZ Area (estimated)	60,000 km ²
EEZ as % of Land Area	31.25%



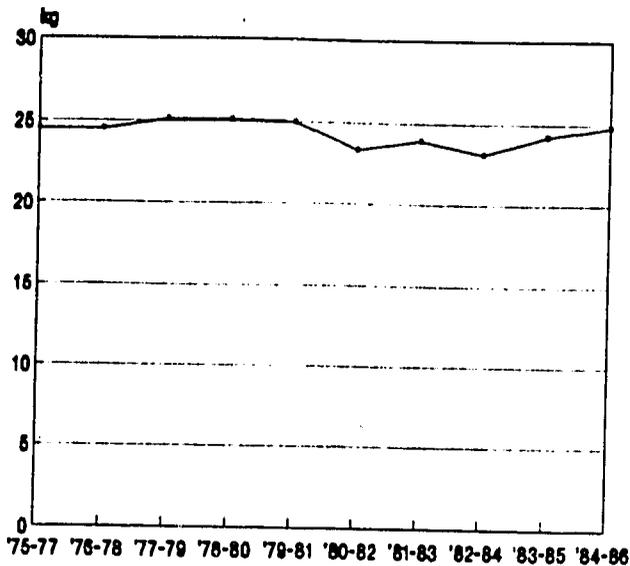
MACRO-ECONOMIC INDICATORS	
Language - French (official); Wolof, Pulaar, Diola and Mandingo	
Population (July 1990)	7,713,851
Pop. Growth Rate (1990)	3.0%
Labor Force (1985)	2,509,000
Agric. Pop. (1985 est.)	1,932,000
Literacy	28.1%
GDP (Current Prices - 1985 est.)	\$5.0 billion
Per Capita GDP (1985)	\$680
Real Growth Rate (1985)	5.1%
Inflation Rate (Consumer Prices - 1985)	1.8%
Agric. GDP (1985)	\$1.0 billion
Fishery in Agric. GDP (1985)	11.0%
% Fishermen in Agric. Pop.	2.0%
% Fishermen in Labor Force	1.5%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels (1987): (Small-Scale/Artisanal) - 8,300	
% Motorized - 66%	
No. of Decked Vessels (Industrial - 1987):	
Trawler	158
Purse Seine	9
Multipurpose	0
Other	2
No. of Fishermen (1987):	
Artisanal	33,400
Industrial	3,600
Part-Time	NA
Storage Capacity on Land: Cold Store - 25,000 t	
Freezing	1,000 t/d
Ice Plant	220 t/d

PER CAPITA SHELF AREA: 3082M ³	
PER CAPITA FISH SUPPLY: 26.1KG	
% MARINE POTENTIAL PRODUCED: 77	
% FRESHWATER POTENTIAL PRODUCED: 85	
% PRODUCTION FROM MARINE WATERS: 93	
% TOTAL FISH SUPPLY IMPORTED: 10	
FISH AS % OF ANIMAL PROTEIN SUPPLY: 38	
% FISHERMEN IN LABOR FORCE: 15	
FISHERY AS % OF AGRICULTURAL GDP: 11	
FISH TRADE BALANCE: 226.4 MILLION \$	
LOW	MEDIUM
	HIGH

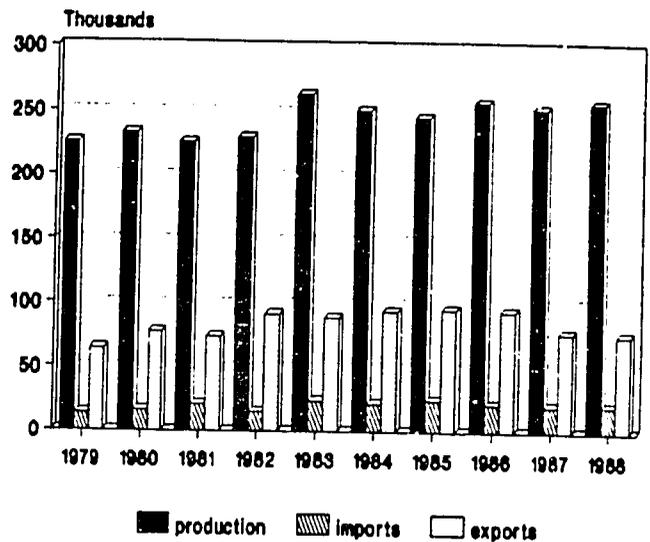
FISHERY RESOURCES		
Estimated Potential: Marine	310,000 mt	Inland - 20,000 mt
Domestic Production: Marine	240,000 mt	Aquaculture - NA
		Inland - 17,000 mt
		Aquaculture - 43 mt (1988)
Major Species & Share in Domestic Prodn. - Sardinella (40%), Seabreams (4%), Croakers (4%), Catfish (3%)		
Mackerel (3%), Other Finfish (11%)		
Gross Value of Fishery Products (ex-vessel) - \$110 million (1988 est.)		
Imports: Quantity	19,900 mt	Value - \$19.14 million (1988)
Exports: Quantity	75,635 mt	Value - \$245.58 million
Fish Supply/Consumption (1988)	201,308 mt	
Per Capita Fish Supply (1988)	26.1 kg	
Fish Trade Balance (1988)	-\$226.44 million	
Fish as % of Animal Protein Supply	37.5%	
Fish as % of Total Protein Supply	18.4%	
Estimated Post Harvest Loss - 25% of total catch		
Fish for Non-Food Uses - 0		

SENEGAL: 3-YEAR AV. PER CAPITA FISH SUPPLY (LIVE WEIGHT)



Source: FAO Fisheries Circular No. 821

SENEGAL: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

The artisanal fishery accounts for more than half of the total landings and supplies the domestic market. The inland fishery has partially recovered from a low of 12,000 t (due to the Sahelian drought) to 17,000 t in 1988. Aquaculture seems to have some potential, but is still in its infancy. The industrial fishery witnessed the collapse of the sardinella fleet in 1987. However, the trawl fisheries exploiting shrimp and high value demersal species have been expanding steadily. Foreign vessels fishing off the coast of Senegal catch an estimated 35,000 t of fish annually. Tuna landed by foreign vessels is canned and exported. About 15,000 t of canned fish is produced annually. Fish exports account for an estimated 15% of total export earnings. There is also significant economic benefit from payment for fishing rights. The government gives high priority to fishery development and the industry provides substantial employment opportunities. With the rapid development of the marine sector, there is concern that some major fish stocks are being overfished. Fish consumption here is probably the highest in West Africa. Some fishery development projects receiving donor financing include: Assistance to PROPECHE to improve artisanal fishery (CIDA - Canada); Assistance for artisanal fishery development along the Petite Cote (ADB); Integrated artisanal fishery development in the Casamance region (EDF and France); Outboard engines and other supplies (Japan and Italy); Technical assistance for research (France).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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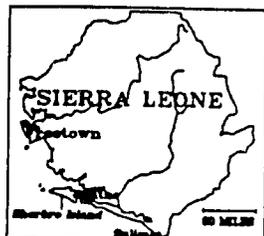
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SIERRA LEONE: FISHERY PROFILE



FEATURES
 Land Area - 71,620 km²
 Continental Shelf Area - 24,800 km²
 Length of Coastline - 402 km
 Inland Waters - NA
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 45,400 km²

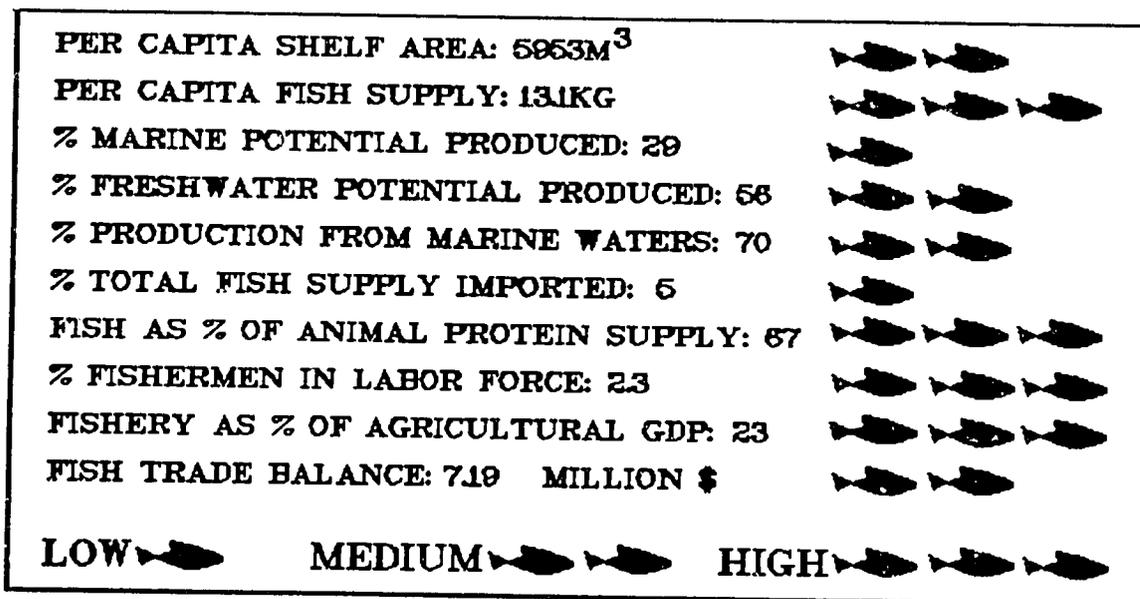


MACRO-ECONOMIC INDICATORS

Language - English (official); Major vernaculars: Mende, Temne, Krio (lingua franca)
 Population (July 1990) - 4,165,953
 Pop. Growth Rate (1990) - 2.6%
 Labor Force (1985 est.) - 1,369,000
 Agric. Pop. (1985 est.) - 889,850
 Literacy (1986) - 31%
 GDP (Current Prices - FY '87) - \$965 million
 Per Capita GDP (1987) - \$250
 Real Growth Rate (FY '87) - 1.8%
 Inflation Rate (Consumer Prices - 1988) - 42%
 Agric. GDP (1987) - \$289.5 million
 Fishery in Agric. GDP (1987) - 23.0%
 % Fishermen in Agric. Pop. - 3.5%
 % Fishermen in Labor Force - 2.3%

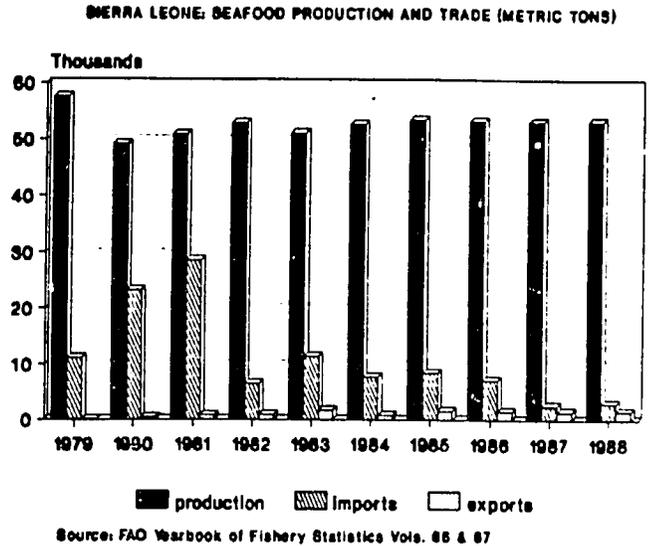
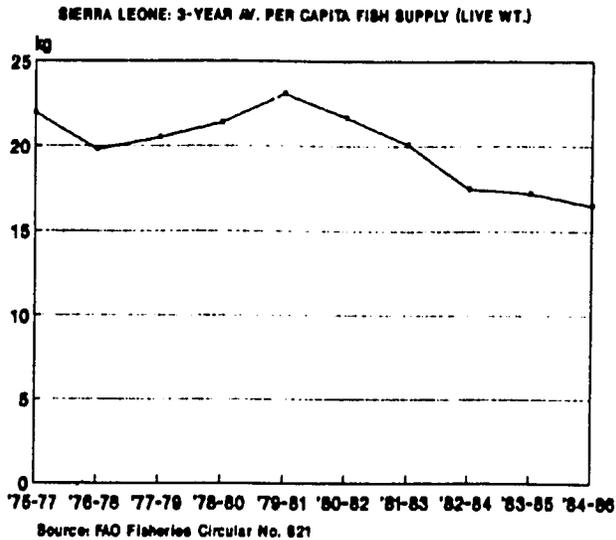
INDUSTRY INDICATORS

No. of Non-Decked Vessels (1987):
 (Small-Scale/Artisanal) - 7,500
 % Motorized - 25%
 No. of Decked Vessels (Industrial):
 Trawler - 24 (1987)
 Purse Seine - 0
 Multipurpose - 7
 Other - 0
 No. of Fishermen (1987): Artisanal - 23,100
 Industrial - NA
 Part-Time - 8,100
 Storage Capacity on Land: Cold Store - 1,000 m³
 Freezing - 105 t/d
 Ice Plant - 80 t/d



FISHERY RESOURCES

Estimated Potential: Marine - 130,000 mt Inland - 18,000 mt Aquaculture - NA
 Domestic Production: Marine - 37,273 mt Inland - 16,000 mt Aquaculture - 20 mt (1988)
 Major Species & Share in Domestic Prodn. - Bonga Shad (40%), Sardinella (13%), Croakers (4%),
 Shrimp (2%), Other Finfish (30%)
 Gross Value of Fishery Products (ex-vessel) - \$66.6 million (1988)
 Imports: Quantity - 2,858 mt Value - \$1.03 million (1988)
 Exports: Quantity - 1,513 mt Value - \$8.22 million
 Fish Supply/Consumption (1988) - 54,638 mt
 Per Capita Fish Supply (1988) - 13.12 kg
 Fish Trade Balance (1988) - \$7.19 million
 Fish as % of Animal Protein Supply - 66.7%
 Fish as % of Total Protein Supply - 16.3%
 Estimated Post Harvest Loss - 20% of total catch
 Fish for Non-Food Uses - 0



ANALYSIS:

The artisanal fishery accounts for about 80 percent of domestic landings and practically all is consumed locally. The inland fishery is expanding steadily and landings have more than doubled in recent years. The industrial fishery concentrates mainly on shrimp and other high value species for the export market. Few companies operate vessels that mainly supply the domestic market. A significant portion of the catch in Sierra Leone's EEZ is taken by foreign vessels fishing under licensing or bilateral agreements. The annually catch of this fleet is estimated at 90,000 t. Aquacultural activities are growing steadily and there is significant development potential. There are possibilities for increasing production of some of the under utilized pelagic species, but there is need to develop consumer acceptance for these lesser known species. Consumption is also constrained because of the relatively low purchasing power of the population. There is need of funds for capital investment. However, development is expected to be slow because of the generally poor state of the economy and the inadequacy of basic support facilities. Some fishery development projects receiving donor financing include: Development of Tombo fisheries and community (GTZ - Germany); Integrated artisanal fishery and community development at Shenge and surrounding villages (UNCDF/UNDP, FAO/UNDP, FAO/DANIDA).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Moresons. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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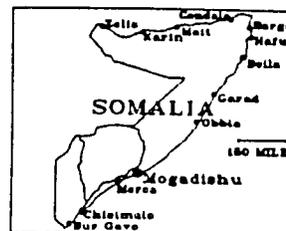
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SOMALIA: FISHERY PROFILE

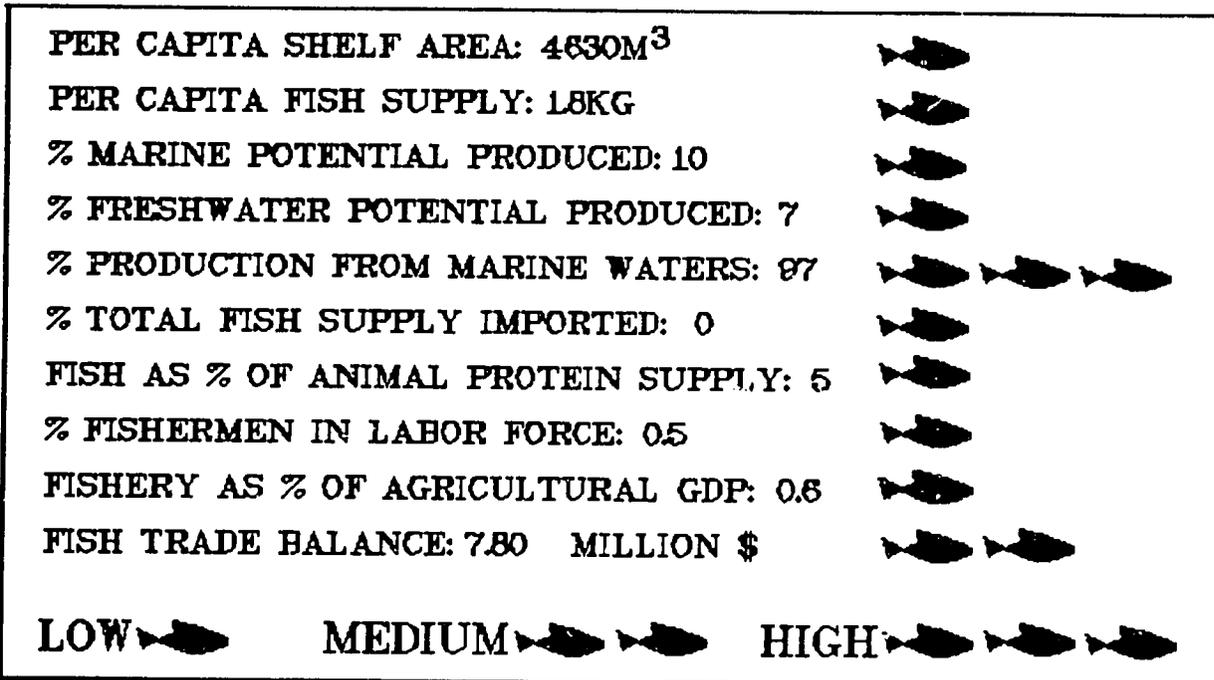


FEATURES
 Land Area - 627,340 km²
 Continental Shelf Area - 39,000 km²
 Length of Coastline - 3,025 km
 Inland Waters - 10,000 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 228,300 km²
 EEZ as % of Land Area - 36.4%

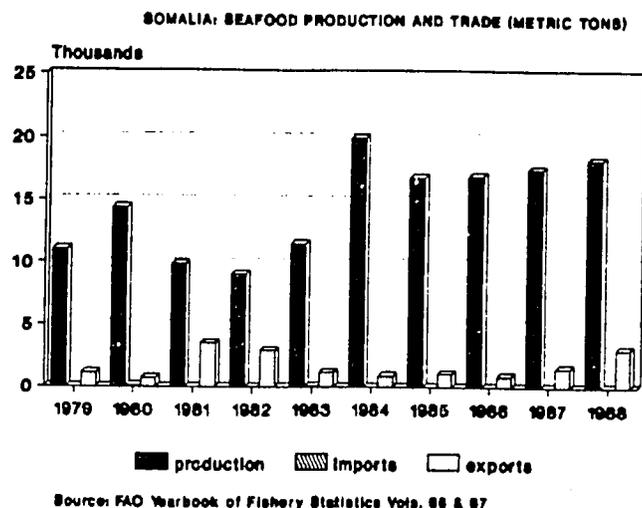
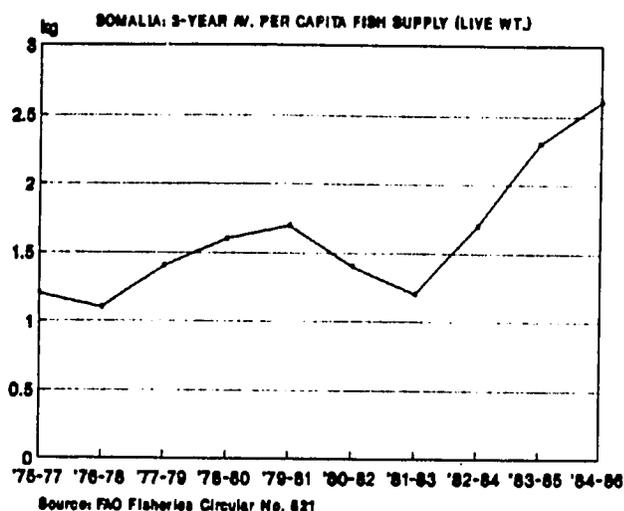


MACRO-ECONOMIC INDICATORS
 Language - Somali (official), Arabic, Italian and English
 Population (July 1990) - 8,424,269
 Pop. Growth Rate (1990) - 0.8%
 Labor Force (1985) - 2.2 million
 Agric. Pop. (1985) - 660,000
 Literacy (Govt. est.) - 11.6%
 GDP (Current Prices - 1988) - \$1.7 billion
 Per Capita GDP (1988) - \$210
 Real Growth Rate (1988) - 1.4%
 Inflation Rate (Consumer Prices - 1988) - 81.7%
 Agric. GDP (1988) - \$850 million
 Fishery in Agric. GDP (1988) - 0.6%
 % Fishermen in Agric. Pop. - 1.6%
 % Fishermen in Labor Force - 0.5

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 1,440
 % Motorized - 25%
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 14
 Purse Seine - 0
 Multipurpose - 0
 Other - 0
 No. of Fishermen: Artisanal (1987) - 3,350
 Industrial - 200
 Part-Time - 7,000
 Storage Capacity on Land: Cold Store - NA
 Freezing - 3,950 t/d
 Ice Plant - NA



FISHERY RESOURCES
 Estimated Potential: Marine - 180,000 mt Inland - 7,500 mt Aquaculture - NA
 Domestic Production: Marine - 17,700 mt Inland - 500 mt Aquaculture - 0
 Major Species & Share in Domestic Prodn. - Tropical Spiny Lobster (3%), Other Finfish (97%)
 Gross Value of Fishery Products (ex-vessel) - \$4.1 million (1988)
 Imports: Quantity - 0 Value - 0 (1988)
 Exports: Quantity - 3,016 mt Value - \$7.8 million
 Fish Supply/Consumption (1988) - 15,184 mt
 Per Capita Fish Supply (1988) - 1.8 kg
 Fish Trade Balance (1988) - \$7.8 million
 Fish as % of Animal Protein Supply - 5.0%
 Fish as % of Total Protein Supply - 2.9%
 Estimated Post Harvest Loss - 15% of total catch
 Fish for Non-Food Uses - 0



ANALYSIS:

The marine artisanal fishery is restricted to coastal waters and production is mainly for domestic consumption. The major species caught are tuna, mackerel and shark, which account for about 40% of the artisanal catch. Approximately 70% of the landings from Somali waters are from foreign owned vessels fishing under various licensing agreements and joint-ventures. The industrial catches increased in recent years and the target species are mainly for the export market. The inland fishery received a new boost with the establishment of an Inland Fisheries Development Extension Project in 1986. Three fishing centers have been created for gear and species research activities, training of riverine communities and improvement of the marketing of freshwater species. Production is likely to increase as a result of this project. There is no aquacultural activity in the country. However, the possibility exists for incorporating aquaculture into some of the irrigation schemes presently in operation. Most of the fish exported to neighboring countries is in dried form, but frozen fish exports are on the increase. There are exports of small volumes of lobster and shrimp to Europe. Domestic consumption is limited to coastal areas because of poor communications, seasonality of supply and traditional preference for meat. The fishing industry is going through some changes; a new policy of privatisation of inshore vessels and the provision of new facilities and infrastructure should enhance development of the fishery sector. Recent resource surveys indicate that production could be increased substantially. However, the remoteness of fishing areas, poor overland communication, oceanographic phenomena and lack of trained manpower are major constraints. Because of the low demand for fish in the country, export markets should be targeted for any increase in production. The fishery sector has benefited from a number of donor support. Sweden, Denmark and Italy have provided vessels and equipment; Germany provided cold store facilities; Japan provided fish marketing outlets in Mogadishu; The United Kingdom provided experts and equipment; the EEC is funding a comprehensive fishery development project in the Mogadishu area and the rehabilitation of the port. However, the current unrest in the country is likely to put a damper on these developmental efforts.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josuweit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

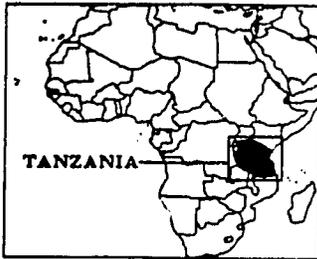
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TANZANIA: FISHERY PROFILE



FEATURES
 Land Area - 886,040 km²
 Continental Shelf Area - 30,000 km²
 Length of Coastline - 1,424 km
 Territorial Seas - 12 nm
 Inland Waters - 52,000 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 65,100 km²
 EEZ as % of Land Area - 7.4%

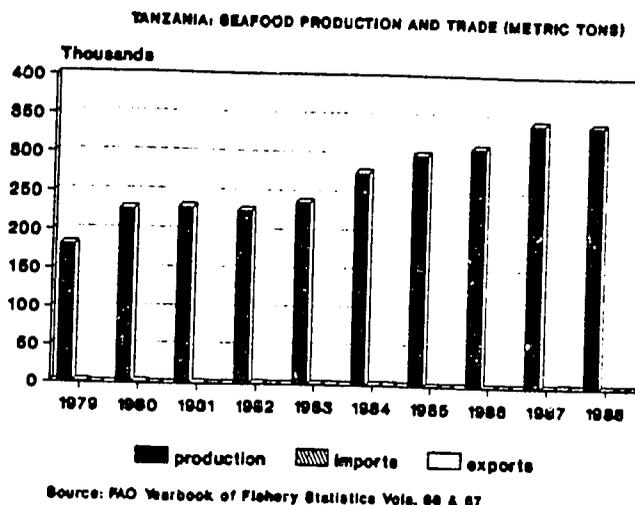
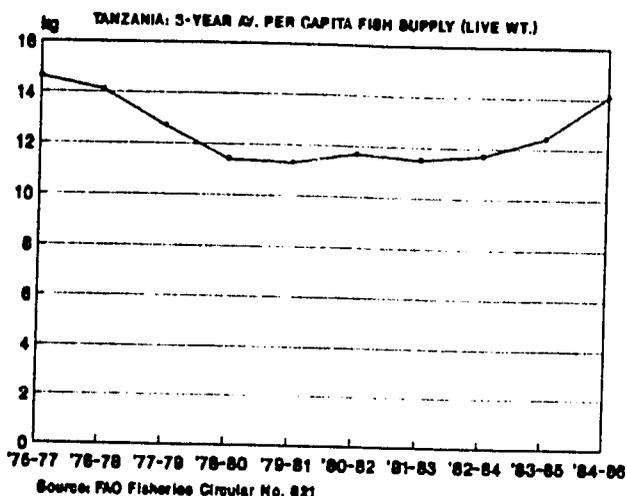


MACRO-ECONOMIC INDICATORS
 Language - Swahili and English (official);
 English primary language of commerce
 Population (July 1990) - 25,970,843
 Pop. Growth Rate (1990) - 3.4%
 Labor Force (1986 est.) - NA
 Agric. Pop. (1986 est.) - 658,980
 Literacy - 79%
 GDP (Current Prices - 1989 est.) - \$5.9 billion
 Per Capita GDP (1989 est.) - \$235
 Real Growth Rate (1989) - 4.5%
 Inflation Rate (Consumer Prices - 1989) - 29%
 Agric. GDP (1989) - \$2.37 billion
 Fishery in Agric. GDP (1988) - 5.0%
 % Fishermen in Agric. Pop. - 25.2%
 % Fishermen in Labor Force - 22.7%

INDUSTRY INDICATORS
 No. of Non-Decked Vessels:
 (Small-Scale/Artisanal - 1987) - 26,700
 % Motorized - 5%
 No. of Decked Vessels (Industrial):
 Trawler (1987) - 24
 Purse Seine - 6
 Multipurpose - 3
 Other - 0
 No. of Fishermen: Artisanal (1987) - 65,750
 Industrial - 450
 Part-Time - 100,000
 Storage Capacity on Land: Cold Store - NA
 Freezing - NA
 Ice Plant - NA

PER CAPITA SHELF AREA: 1165M³	
PER CAPITA FISH SUPPLY: 13.1KG	
% MARINE POTENTIAL PRODUCED: 68	
% FRESHWATER POTENTIAL PRODUCED: 70	
% PRODUCTION FROM MARINE WATERS: 14	
% TOTAL FISH SUPPLY IMPORTED: 0	
FISH AS % OF ANIMAL PROTEIN SUPPLY: 33	
% FISHERMEN IN LABOR FORCE: M	
FISHERY AS % OF AGRICULTURAL GDP: 5	
FISH TRADE BALANCE: 240 MILLION \$	
LOW	MEDIUM
	HIGH

FISHERY RESOURCES
 Estimated Potential: Marine - 70,000 mt Inland - 370,000 mt Aquaculture - NA
 Domestic Production: Marine - 47,370 mt Inland - 293,000 mt Aquaculture - 37 mt
 Major Species & Share in Domestic Prod. - Nile Perch (25%), Dagaas (19%), Tilapia (9%),
 Catfish (8%), Cichlids (4%), Other Fin Fish (25%)
 Gross Value of Fishery Products (ex-vessel) - \$118.4 million (1988)
 Imports: Quantity - 0 Value - 0
 Exports: Quantity - 457 mt Value - \$2.4 million (1988)
 Fish Supply/Consumption (1988) - 339,882 mt
 Per Capita Fish Supply (1988) - 13.1kg
 Fish Trade Balance (1988) - \$2.4 million
 Fish as % of Animal Protein Supply - 33.0%
 Fish as % of Total Protein Supply - 9.5%
 Estimated Post Harvest Loss - 15% of total catch
 Fish for Non-Food Uses - 68 mt



ANALYSIS:

The marine fishery potential is limited because of low plankton growth and hence low productivity, and the sharply falling continental shelf. The artisanal fishery is concentrated inshore and around the islands of Zanzibar and Mafia. The industrial fishery is limited to two state fishing corporations operating about 15 vessels and a growing private sector operating about 10 vessels. Annual production increased slightly in recent years. The finfish produced supplies the domestic market and the shrimp is exported. The inland fishery is of significant importance and accounts for almost 90% of the total fish production. Most of the catch come from Lake Tanganyika and Lake Victoria. Over the past three years, Lates (Nile perch) and dagaa (*Limnothrissa*) have expanded tremendously in Lake Victoria and represent the major part of landings. Various attempts have been made to develop fish farming in Tanzania, but with little success. Productivity has been very low. However, fish farming presents an opportunity for providing low cost protein supply, particularly in areas where there is little competition with capture fishery. Fish distribution is constrained by inadequate cold store facilities, ice plants and poor communication. Development in the harvest sector is also affected by lack of inputs because of foreign exchange constraints. There are prospects for further development of the fisheries sector, especially that of Lake Victoria and Lake Tanganyika. There are also substantial shrimp and tuna resources which are underexploited and could contribute to foreign exchange earnings. However, careful monitoring and management measures must go with any expansion to ensure sustainability of the fishery. Various development agencies have provided assistance to fishery development projects in Tanzania. Among them are NORAD, Japan, the United Kingdom, Finland, Germany, the Netherlands, and FAO.

Sources:

The World Fact Book 1990. Central Intelligence Agency, U.S.A.
 Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
 Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
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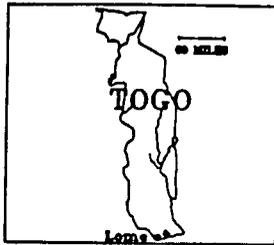
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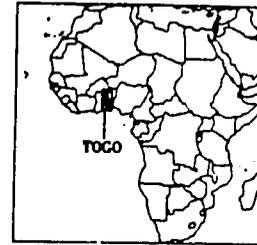
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TOGO: FISHERY PROFILE



FEATURES
 Land Area - 54,390 km²
 Continental Shelf Area - 1,200 km²
 Length of Coastline - 56 km
 Territorial Seas - 30 nm
 Inland Waters - 2,000 km²
 Exclusive Economic Zone - 200 nm
 EEZ Area (estimated) - 300 km²
 EEZ as % of Land Area - 0.6%



MACRO-ECONOMIC INDICATORS
 Language - French (official); Others include: Ewe, Mina, Dagomba, Kabye
 Population (July 1990) - 3,674,355
 Pop. Growth Rate (1990) - 3.7%
 Labor Force (1990 est.) - 1,550,000
 Agric. Pop. (1990) - 1,086,000
 Literacy - 40.7%
 GDP (Current Prices - 1988 est.) - \$1.35 billion
 Per Capita GDP (1988) - \$405
 Real Growth Rate (1988) - 4.1%
 Inflation Rate (Consumer Prices - 1987) - 2.5%
 Agric. GDP (1988) - \$0.47 billion
 Fishery in Agric. GDP (1988) - 2.4%
 % Fishermen in Agric. Pop. (1988 est.) - 1.3%
 % Fishermen in Labor Force - 0.9%

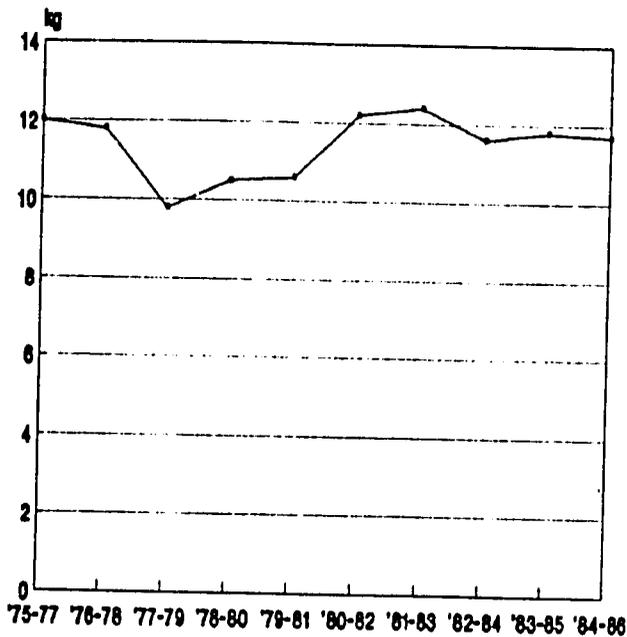
INDUSTRY INDICATORS
 No. of Non-Decked Vessels (1987): (Small-Scale/Artisanal) - 2,050
 % motorized - 15%
 No. of Decked Vessels (Industrial - 1987):
 Trawler - 1
 Purse Seine - 0
 Multipurpose - 0
 Other - 0
 No. of Fishermen (1985): Artisanal - 11,250
 Industrial - 30
 Part-Time - 2,050
 Storage Capacity on Land: Cold Store - 3,180 t
 Freezing - NA
 Ice Plant - 40 t/d

PER CAPITA SHELF AREA: 327M³	
PER CAPITA FISH SUPPLY: 11.3KG	
% MARINE POTENTIAL PRODUCED: 98	
% FRESHWATER POTENTIAL PRODUCED: 38	
% PRODUCTION FROM MARINE WATERS: 85	
% TOTAL FISH SUPPLY IMPORTED: 84	
FISH AS % OF ANIMAL PROTEIN SUPPLY: 33	
% FISHERMEN IN LABOR FORCE: 0.9	
FISHERY AS % OF AGRICULTURAL GDP: 2.4	
FISH TRADE BALANCE: -15.7 MILLION \$	

LOW **MEDIUM** **HIGH**

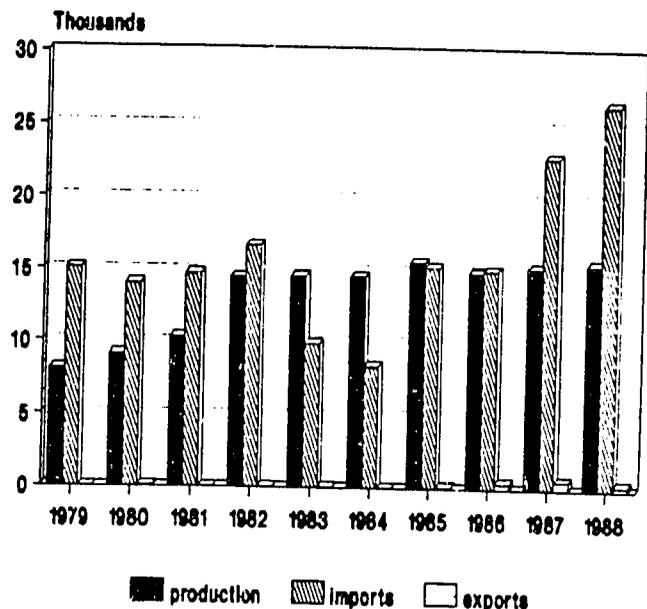
FISHERY RESOURCES
 Estimated Potential: Marine - 15,000 mt Inland - 2,000 mt Aquaculture - NA
 Domestic Production: Marine - 14,755 mt Inland - 714 mt Aquaculture - 5 mt (1988)
 Major Species & Share in Domestic Prodn. - Anchovy (58%), Tilapia (16%),
 Carangids (3%), Other Finfish (5%)
 Gross Value of Fishery Products (ex-vessel) - \$11.3 million (1988)
 Imports: Quantity - 26,448 mt Value - \$16.94 million (1988)
 Exports: Quantity - 294 million Value - \$1.21 million
 Fish Supply/Consumption (1988) - 41,628 mt
 Per Capita Fish Supply (1988) - 11.3 kg
 Fish Trade Balance (1988) - (-\$15.73 million)
 Fish as % of Animal Protein Supply - 33.3%
 Fish as % of Total Protein Supply - 7.4%
 Estimated Post Harvest Loss - 15% of total catch
 Fish for Non-Food Uses - 0

TOGO: 3-YEAR AV. PER CAPITA FISH SUPPLY (LIVE WEIGHT)



Source: FAO Fisheries Circular No. 821

TOGO: SEAFOOD PRODUCTION AND TRADE (METRIC TONS)



Source: FAO Yearbook of Fishery Statistics Vols. 66 & 67

ANALYSIS:

The marine artisanal fishery accounts for about 70 percent of total landings and supplies the domestic market. Inland catch fell sharply in recent years. This is likely due to the proliferating vegetation which reduces water areas and the unavailability of fishing equipment. Aquacultural activities are presently limited, but there are possibilities for significant expansion. The industrial fishery consist of a joint venture with only one vessel currently operational. There are few foreign vessels fishing in Togo's EEZ under fishing agreements. Domestic production falls far short of demand and over half of the fish supply is imported. Fish exports are limited to processed (dried or smoked) products to neighboring countries. Development possibilities are limited because of the small shelf area and short coastline. The demersal species do not seem to be over exploited, but no major increase in landings should be expected due to increased effort. Major emphasis is on more efficient utilization of the catch. Development projects should focus on improving processing and marketing systems. Assistance is needed for technical training and construction of infrastructure for post harvest activities. Also, the training of personnel for management activities should be a priority. Some fishery activities receiving donor financing include: Assistance to institutional restructuring and training (ICOD - Canada); Supply of boats, gear and outboard engines (Japan).

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
- Josupeit, H. 1981. The Economic and Social Effects of the Fishing Industry - A Comparative Study. FAO Fisheries Circular No. 314, Rev. 1.
- 1988 FAO Yearbook of Fishery Statistics Vols. 66 & 67.
- Aquaculture Production (1985-88): FAO Fisheries Circular No. 815, Rev.2.

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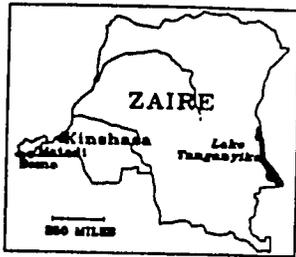
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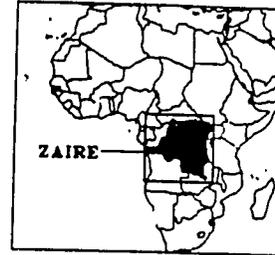
The development of this profile was supported by the U.S. Agency for International Development S&T/AGR/RNR under the Cooperative Agreement DAN 4024-A-00-7073 and Fisheries Development Support Services (FDSS).

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ZAIRE: FISHERY PROFILE



FEATURES	
Land Area	- 2,267,600 km ²
Continental Shelf Area	- 1,150 km ²
Length of Coastline	- 37 km
Territorial Seas	- 12 nm
Inland Waters	- 86,000 km ²
Exclusive Economic Zone	- 200 nm
EEZ Area (estimated)	- 300 km ²
EEZ as % of Land Area	- 0.01%



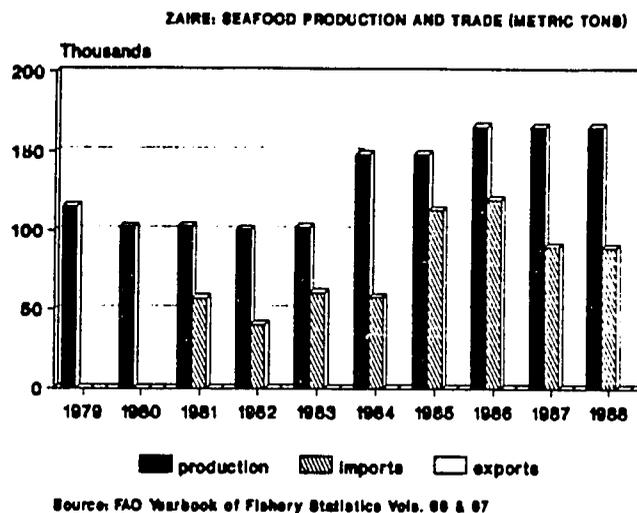
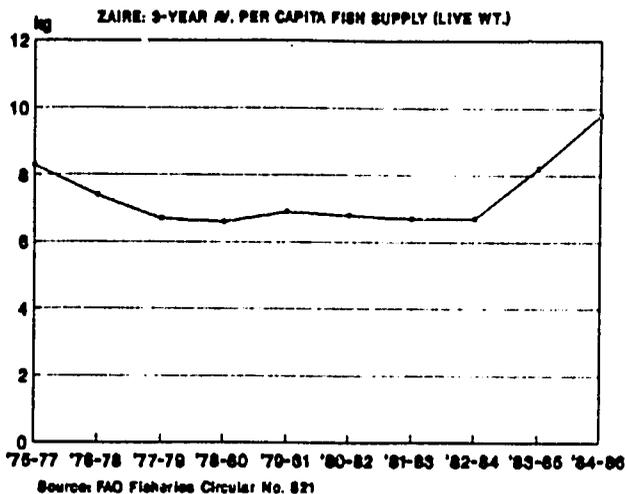
MACRO-ECONOMIC INDICATORS	
Language	- French (official), Lingala, Swahili, Kingwana, Kikongo, and Tshiluba
Population (July 1990)	- 36,589,468
Pop. Growth Rate (1990)	- 3.3%
Labor Force (1985)	- 15,000,000
Agric. Pop. (1985)	- 11,250,000
Literacy	- 55% males, 37% females
GDP (Current Prices - 1988)	- \$6.5 billion
Per Capita GDP (1988)	- \$195
Real Growth Rate (1988)	- 2.8%
Inflation Rate (Consumer Prices - 1988)	- 82%
Agric. GDP (1988)	- \$1.95 billion
Fishery in Agric. GDP (1988)	- 2%
% Fishermen in Agric. Pop.	- 0.9%
% Fishermen in Labor Force	- 0.6%

INDUSTRY INDICATORS	
No. of Non-Decked Vessels:	(Small-Scale/Artisanal - 1986) - 8,800
% Motorized	- NA
No. of Decked Vessels (Industrial):	
Trawler (1986)	- 1
Purse Seine	- 0
Multipurpose	- 0
Other	- 0
No. of Fishermen:	
Artisanal (1986)	- 10,250
Industrial (1986)	- 50
Part-Time	- 85,000
Storage Capacity on Land: Cold Store	- 4,350 m ³
Freezing	- 143 t/d
Ice Plant	- 51 t/d

PER CAPITA SHELF AREA: 31M ³		
PER CAPITA FISH SUPPLY: 7KG		
% MARINE POTENTIAL PRODUCED: 33		
% FRESHWATER POTENTIAL PRODUCED: 61		
% PRODUCTION FROM MARINE WATERS: 1		
% TOTAL FISH SUPPLY IMPORTED: 35		
FISH AS % OF ANIMAL PROTEIN SUPPLY: 20		
% FISHERMEN IN LABOR FORCE: 0.6		
FISHERY AS % OF AGRICULTURAL GDP: 0.9		
FISH TRADE BALANCE: -\$52.6 MILLION \$		
LOW	MEDIUM	HIGH

FISHERY RESOURCES		
Estimated Potential: Marine	- 6,000 mt	Inland - 324,000 mt
Domestic Production: Marine	- 2,000 mt	Inland - 164,000 mt
Major Species & Share in Domestic Prodn.	- Sardinella (2%), Mackerel (1%), Grouper and Grunt (2%), Other Finfish (95%)	
Gross Value of Fishery Products (ex-vessel)	- \$39.0 million (1988)	
Imports: Quantity	- 89,194 mt	Value - \$52.7 million (1988)
Exports: Quantity	- 0	Value - 0
Fish Supply/Consumption	- 255,953 mt	
Per Capita Fish Supply	- 7.0 kg	
Fish Trade Balance	- (\$-52.7 million)	
Fish as % of Animal Protein Supply (1986)	- 28.6%	
Fish as % of Total Protein Supply (1986)	- 5.2%	
Estimated Post Harvest Loss	- 15% of total catch	
Fish for Non-Food Uses	- 0	

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ANALYSIS:

With its short coastline compared to its land area, the marine fishery is of little importance and accounts for only 2% of the country's total production. Most of this is produced by the artisanal fishery. Industrial fishing activity is very minimal and sometimes only one vessel operates throughout the year. The inland fishery comprises the river and lake systems. Production from the river system is estimated at over 50,000 mt annually and supplies the domestic market. Reliable estimates are hard to come by for production from the lake system because much of the fish caught is marketed outside Zaire. With the estimated potential catch put at 325,000 mt. and with the present level of production estimated at 165,000 mt, there is room for considerable expansion of the inland fishery. Aquacultural production seems to have increased in recent years although there has been a decline in the fishery sector due to the general decline in the country's economy. Lack of maintenance facilities, spare parts, fuel, and poor communication have all contributed to the decline in production from both the marine and inland fisheries. Given that fish consumption at one time accounted for about one third of the total per capita animal protein consumed in the country, this decline in production has significant implications in terms of nutrition. Also, a large number of people depend on the fishing industry for their livelihood. Development efforts should be aimed at rehabilitating the inland fishery. Major fishing settlements should be targeted for the supply of inputs, maintenance facilities, technical training, and efficient distribution and marketing channels. Presently, there are no major fishery development projects with donor support.

Sources:

- The World Fact Book 1990. Central Intelligence Agency, U.S.A.
- Bonzon, A. and B. Horemans. 1988. Socio-Economic Data Base on African Fisheries. FAO Fisheries Circular No. 810.
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