FISHERY COUNTRY PROFILE	Food and Agriculture Organization of the United Nations	FID/CP/SOM
PROFIL DE LA PÊCHE PAR PAYS	Organisation des Nations Unies pour l'alimentation et l'agriculture	January 2005
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THE SOMALI REPUBLIC

GENERAL INFORMATION

Area:	637 657 km^2
Length of coastline:	3 330 km
Shelf area (to 200 n.mi.):	39 000 km
Inland water area:	188 384 km^2
Population (2003):	9.6 million
GDP (1990):	US$ 723 million
GDP *per caput* (1990):	US$ 102
Agriculture GDP (1990): Fishery GDP (1990):	50% of GDP (1990) 2% of GDP (1990)

FISHERIES DATA

Commodity balance (2003):

	Production	Imports	Exports	Stocks variation	Total Supply	Per Caput Supply
	tonnes liveweight					kg/year
Fish for direct human consumption	18 000(1)	283	2 650	0	15 633	1.6
Fish for animal feed and other purposes						

(1) FAO estimate

Estimated employment (1990):	
Primary sector:	30 000
Secondary sector:	60 000
Gross Value of Fisheries Output 2001 (ex vessel price):	US$ 55 million
Trade **(2003):**	
Imports:	$US 142 000 392 tonne
Exports:	US$ 3 394 000 2 578 tonne

STRUCTURE AND CHARACTERISTICS OF THE INDUSTRY

Marine fisheries

The marine fishery sector comprises two distinct separate parts: the artisanal sector, which operates in inshore areas, and accounts for most of the landings (60%), and the industrial sector, which accounts for about 40% of total fishery production.

Artisanal sector

Statistics on the annual landings from the artisanal fishing fleet are incomplete, and only rough estimates are available. With the introduction of 500 mechanized boats in the early 1970s, the annual catch increased from about 5 000 t to a peak of 8 000 t in 1975. However, due to the lack of maintenance and spare parts for the new boats that had been distributed to the fishermen, about two-thirds were out of operation after only two years, and, as a direct consequence, by the late 1970s annual fish production was back to 5 000 t.

However, annual artisanal fishery production between 1980 and 1985 varied from a minimum of 4 000 t in 1980 to a maximum of 7 724 t reported in 1984. At the same time, it is difficult to estimate to what extent the civil war affected annual artisanal fishery production. However, total catches and landings were estimated at about 14 850 t. The major part of the catch is marine finfish (14 000 t), with some 250 t of freshwater fishes, 350 t of tropical spiny lobsters and 250 t of cephalopods. Landing sites are situated in the north, northeast and south of the country, and the three areas contributed 38%, 37% and 25% of total artisanal fishery production, respectively, in 1980 (see Table 1).

Table 1. Geographical distribution of marine artisanal fishery landings in 1980

Northern area landings sites	
Zeila	2%
Berbera	2%
Mait	2%
Las koray	6%
Bosaso/Qandala	8%
Habo/Alula	9%
Other	9%
Total in north	38%
Northeastern area landing sites	
Bargal/Hordiyo/Ras Hafun	13%

Bender Beila	9%
Eil	10%
Garad/Hobyo/Eil Huur and Mareeg	3%
Adale	2%
Other	1%
Total in northeast	37%
Southern coast landing site	
Mogadishu	8%
Merca	2%
El-Ahmed	3%
Brava	3%
Kismayo	3%
Kulmis	2%
Raskiamboni	4%
Total in south	25%

The artisanal fishing fleet is composed of 5 m *houris*, which are simply canoes, usually operated with two paddles, but sometimes with a 5 hp outboard engine; 6.4 m glass reinforced plastic (GRP) boats fitted with 10–15 hp inboard engines or 10–15 hp outboards; and 8.5 m GRP boats fitted with 20–30 hp inboard engines. The last-named are the most popular, and much used by the artisanal fishery sector as they are very strong, long-lasting and very effective, although the most expensive. They are all locally made by several privately owned boatyards in the country. The artisanal fishing fleet is estimated at about 650 motorized GRP boats of 6.4 m and 8.5 m, about 380 traditional sail boats, and about 2 /800 houris (canoes). Unfortunately, most of the motorized boats (about 60%) are out of order due to lack of spare or replacement parts and other equipment.

The fishing gear employed by the artisanal fishery is simple and effective, consisting of handlines, gill nets and longlines. The canoe-based fishermen, since their boats are too small for other types of fishing gear, use handlining. However, mechanized boats also carry handlines to be used during idle periods, especially after setting gill nets or drift nets. Longlines are also used for shark, tuna and other big fish species like king mackerel, which are the most popular and most favoured species in the country. Gill nets are used as drifts or bottom-set nets, with mesh sizes in the 150–200 mm range and mainly used for shark species.

In general, the pelagic fish stocks in the Somali EEZ are estimated to be capable of providing sustainable annual catches of the order of 200 000 t, based on several fish surveys conducted in the 1970s and 1980s. Because of the known pelagic fish resources, which are large, and tuna and mackerel species, which have high unit values, the long-term development of these resources could be of vast importance to the economy. These main groups are considered below.

Large pelagic stocks

The large pelagic species are tuna and big mackerels, mainly yellowfin tuna (*Thunnus albacares*), longtail tuna (*Thunnus tonggol*), bonito (*Sarda orientalis*), skipjack tuna (*Katsuwonus pelamis*) and Spanish mackerel (*Scomberomorus commerson*). They are usually caught in inshore waters; their seasonal variations in abundance are considerable, confirming the oceanic migratory pattern of these species. There are two peaks in the landings: in November and in March. However, during the southwest monsoon, their abundance is assumed to be low. They also make important contributions to artisanal fishery production. The primary season for Spanish mackerel

is March–June, and for tunas it is October–November. These stocks are lightly exploited by the artisanal fishery sector, but are heavily exploited by the industrial fishery sector, mainly by foreign-flag distant-water fishing fleets, and it is possible that they are overexploited. The foreign vessels compete with the artisanal fishermen, by coming close inshore and inflicting losses, including physical confrontation between the two sides which has led to gear losses and at times to loss of life.

Small pelagic stocks

The small pelagic fish species of interest are Indian oil sardinella (*Sardinella longiceps*), rainbow sardine (*Dussumieria acuta*), scads (*Decapturus ruselli, D. macrosoma*) and, to a less extent, anchovies (*Engraulis japonicus, Stolephorus indicus*). Their main distribution areas are off the northeast coast, and part of these stocks make seasonal migrations into the regions between Ras Mabber and Ras Asseir. Outside these two regions they are scattered and do not form a basis for any fishery. They are also exploited by a great number of foreign-flag vessels from distant-water fishing fleets, as well as by national deep-water vessels. The states of the stocks are unknown, and catch reports are unreliable. Their seasonal abundance is estimated at between 120 000 and 200 000 t.

Demersal species

There are several hundred demersal fish species taken by the artisanal fisheries. Diversity is highest in the coral reef region from Adale to the Kenyan border. The main commercial species groups are scavengers (Lethrinidae), groupers (Serranidae), snappers (Lutjanidae), grunts (Pomadasidae) and seabreams (Sparidae). Of less importance are threadfin breams (Nemipteridae), lizard fish (Synodontidae), and goatfish (Mullidae). These commercial demersal species make important contributions to the artisanal fishing sector all along the coast. Accessible stocks are estimated at about 40 000 t of large demersal species, and 30 000 t of sharks and rays. Except for sharks, demersal stocks have been lightly exploited by the artisanal fishery sector. Owing to their very limited migration, these species can support a year-round fishery. Also, sharks and rays (Elasmobranchs) play an important role in Somali traditional fishery. They often represent 40% of total artisanal fishery production (especially in the southern and central areas).

Sharks

The shark species of interest are hammerheads (Sphyrnidae), grey sharks (Carcharhinidae) and mako (Lamnidae). They are heavily exploited by both the artisanal and the industrial fishery sectors, with associated competition. The current fishery status of these species is unknown, but they are considered to be overexploited, as catches have declined over the past few years. No research has been conducted on this matter, which deserves utmost attention, to avoid a sudden and unexpected collapse in stocks of these valuable species.

Lobsters

Spiny lobsters of the genus *Panulirus* are exploited all along the coastline. They are mainly caught by divers in shallow waters, and occasionally by fishermen using large-mesh nets. The highest densities are found among the coral reefs of the southeast coast. Two species of deep-sea lobsters are also exploited by the industrial fishery sector, *Puerulus swelli*, and *P. carrinatus*, which are mainly found at depths between 150 m and 400 m along the east coast. Exploitation of *Panulirus* species by the artisanal fishery sector is light, while exploitation of the deep-sea lobsters by the industrial sector is unknown, but stocks are thought to have been heavily exploited.

Fishery communities structure

The main fishery areas are divided into seven main zones, based on major cities and towns: Kismayo, Mogadishu, Eil, Bargal, Bolimog, Las Korey and Berbera.

Fishermen communities are largely made up of traditional fishermen, living in about 50 fishing villages and towns all along the coast from the Kenyan border to Djibouti. However, the largest concentrations are found along the southeast coast (Mogadishu and Lower Shabelle areas), where population density is highest.

Fishermen fully engaged (primary sector) in artisanal and industrial fisheries are estimated at about 30 000. In addition, part-time fishermen seasonally engaged in the fishery sector are estimated at about 60 000. Also, due to the civil war, there have been internal displacements, which have affected some parts of the coastal fishery communities, especially along the Benadir, Lower Shabelle and Lower Juba regions, and most of the fishing communities have either fled across the Kenyan border or have fled and resettled in other regions of the country where they felt safe.

Industrial Sector

In the mid-1970s, deep-sea trawling was carried out by SOMALFISH, a Somali/USSR joint venture commercial fishing company, with 10 factory trawlers of about 680 GRT. This industrial fishery partnership ended in late November 1977, and annual fishery production dropped abruptly from a peak of 3 400 t of fish and 150 t of crustaceans, mainly deep-sea lobsters, to 235 t and 20 t, respectively, in 1978. Since then several foreign fishing companies have been given fishing licences to fish in the offshore EEZ of Somalia. Such licences are issued by the Ministry of Fishery and Marine Resources, and recipients have included Italian, Korean, Spanish, Japanese, Greek and Egyptian vessels. Another joint-venture industrial fishing operation was established between Somalia and an Italian high seas fishing company in 1983 – Somali High Seas Fishing Company (SHIFCO) – operating 5 stern trawlers and 1 freezer mothership for transport of the fishery products to distant marketing outlets (mainly Italy). This national joint-venture fishing fleet is still flying the Somali flag, and still fishing in the Somali EEZ, but they are based and land their fishery products outside the country. During the pre-war era, industrial fishery production was lowest in 1982, with 3 900 t of fish and 436 t of lobster reported, and highest in 1985, when production reached 11 940 t of fish and 462 t of lobster.

There are also an estimated 700[1] foreign-owned vessels that are fully engaged in unlicensed fishing in Somali waters. This illegal, unregulated, and unreported (IUU) fishing in the offshore, as well as in the inshore, with the difficulties it causes for legitimate Somali fishermen, causes great problems for monitoring, control and surveillance (MCS) of the Somali EEZ. It is impossible to monitor their fishery production, in general, let alone the state of the fishery resources they are exploiting. There is also strong suspicion of illegal dumping of industrial and nuclear wastes along the Somali coast.

Utilization of the catch

In Somalia, fish is traditionally eaten fresh, and until only a few decades ago, consumption was limited to the fishing families and those living close to the coastal landing places. However, during the past two to three decades, per caput- fishery

[1]High Seas Task Force. 2006. *Closing the net: Stopping illegal fishing on the high seas* [online]. Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University. Available at: http://data.iucn.org/dbtw-wpd/edocs/2006-024.pdf

product consumption has increased 10 fold at least (from 0.16 to 1.6 kg/year). Also, in the past, unsold fish was dried and salted for the dhow trade, mainly to eastern African countries, and prices were usually low due to the poor processing methods and resultant poor product quality. Nowadays, bigger cities and towns have large cold-storage facilities, especially in the capital Mogadishu, and in Kismayo, Bosaso and Berbera. There was considerable destruction during the civil war, but plants are being rehabilitated slowly by the private sector. In Las Korey, the Las Korey canning factory has been rehabilitated completely by the private sector and is currently fully operational.

Fish consumption varies considerably according to geographical region and population group. It is highest in the vicinity of major fishing towns and villages, and lowest in traditionally pastoral areas in the central and northwestern regions, as well as in the traditionally agro-pastoral regions of Middle and Lower Shabelle, Bay/Bakol, and the Lower Juba Valley. Although most of these communities consume mainly freshwater fish, they also consume sea fish if available; in this they differ from the pastoral communities, who consume no kind of fish.

At national level, however, apart from urban areas of Mogadishu, and Hargeisa, where accessible local markets are always available, other outlets include: the Las Korey canning factory, cold-storage complexes in Bosaso, cold storage facilities in Berbera, and cold-storage facilities in Mogadishu. The biggest market nationally is in the capital, Mogadishu, with the highest concentration of population, about 1.5–2 million, with an estimate consumption of between 9 and 10 t per day.

Most of the current dry shark meat is well processed, and although there are still some low quality and badly processed lots, there have been some improvements in the last decade or so. Most of the fishermen have mastered improved processing methods, which has improved the dried shark-meat prices, which currently are: 1st grade, US$ 0.89–1.14/kg; 2nd grade, US$ 0.65–0.73/kg, and 3rd grade, US$ 0.24/kg. Transportation has also improved substantially through the use of cargo boats, usually from Mombassa, Kenya, which bring tea to Somalia and return with dried shark meat. Shark fins are also well processed, and are exported by air to the Arabian Gulf, mainly to U.A.E., and fetch high prices, between US$ 90 and 100/kg.

Marketing of fishery products has improved substantially, both nationally and internationally, during the past few decades, especially between 1970 and 1990, together with improved infrastructure and transport facilities. Nationally, marketing infrastructure has improved substantially with the availability of cold-storage facilities in big cities and towns, and canning factories, ice plants, refrigerated heavy-duty trucks, etc., all contributing to improved export potential for fishery products, and increased local per capita fish consumption. Although most of the abovementioned infrastructure was completely destroyed during the civil war, some has been rehabilitated by the private sector and the process continues for the remaining infrastructure. The Las Korey canning factory has been rehabilitated completely by the private sector with UNDP support, and its canned fish products are exported to countries in eastern Africa, Europe, Canada and USA. Although marketing of other fishery products internationally is lagging, there have been some improvements during the past few years, with a few high quality processed fish products (frozen fillets or whole gutted frozen) and high quality lobster (processed as whole frozen or frozen tails) exported to the Arabian Gulf States and to Saudi Arabia. Therefore, it seems that marketing is improving slowly, although it requires heavy financial investments from the government and from international assistance sources maintaining the momentum of recovery for fishery infrastructure in particular, and for the fishery sector in general.

Fishery Sector Status Trends

During the last three decades (1970–2000), both artisanal and industrial fishery sectors, assisted by several bilateral and multilateral investments, have progressed to a point of almost total development, covering the entire coastline. Pre-war, major shore-based installations servicing fishery communities were extensive. Following the civil war of 1991, which left the entire fishing infrastructure in ruins, most of the fishery cooperatives are again operational all along the coastline, but while retaining their fishing skills, most of them have lost their fishing equipment and are in a poor state, and require skills training skills and new fishing gear. Most of the artisanal fishing fleet is constrained by lack of spare parts and many small vessels are out of operation.

The state of the fishery resources, on which both the artisanal and the industrial sectors depend, is mainly unknown. However, it is thought that the inshore marine resources, which are mainly exploited by the artisanal sector, are lightly exploited. In contrast, fishery resources exploited by both the artisanal and the industrial sectors have declined in the past few years, while the industrial sector's marine fishery resources have also shown heavy decline, indicating that these resources might have been overexploited.

THE ECONOMIC ROLE OF THE FISHERY SECTOR

Potentially, the fishery industry has great socio-economic potential. The inshore stocks are lightly exploited, and the artisanal sector is comparatively less developed than other production systems of the country, such as agronomy and livestock husbandry.

At the moment, the importance of the fishery sector within the overall economy is quite small. Exports of fishery products account for around 3% of total exports. Fishery's share in GDP is about 2%. On average, fish provides less than one gram of protein per caput per day.

In the pre-war era, especially in 1989, exports of fishery products earned US$ 15 million per annum. However, the civil war arrested the steady growth of this trade.

Post-war, high quality fish and lobsters are being exported to the neighbouring Arabian Gulf States, which is a good sign of recovery. Dried shark meat and dry shark fin exports have recovered fully and bring in high prices, generating income for the artisanal fishery sector. However, adverse natural conditions include lack of anchorages or adequate seaports for large commercial fishing vessels, and the rocky nature of most of the continental shelf, which is also too narrow for trawling. Further constraints include the absence of adequate physical and institutional infrastructure, inadequate landing facilities, ice plants and chill stores, and workshops for engine or boat repairs to serve the traditional fishery communities. Shortage of fishing gear and lack of trained manpower have contributed a lack of development, and to very slow growth in the fishery industry. However, a major constraints impeding planned development of the fishery sector is the lack of Monitoring, Control and Surveillance (MCS) of the marine resources and marketing infrastructure.

Development

While major capital investments are required to re-develop the entire fishery industry, including processing and marketing aspects, there is a primary need for assisting the fishery communities to regain their means of livelihood, and strengthen their capacity to earn income and to generate employment. However, without adequate MCS of

Somalian EEZ marine resources, there can be not controlled development of the fishery sector.

Demand

There is a great scope for a possible growth in per caput consumption of fish in Somalia in the near future, especially in bigger cities, towns and inland communities if the fishery sector is developed adequately with advanced marketing infrastructure (as in 1998, when per caput fish consumption peaked at 2.4 kg/year). Also, fish demand in the country seems very high most of the time, especially in inland regions, while in urban areas, especially in the capital Mogadishu, demand always exceeds supply, since fish consumption is estimated at over 9 t per day. Therefore, as a direct consequence, canned fish products have been imported, mainly from Taiwan Province of China and Japan, with local production from the Las Korey canning factory. Until the spare part and gear supply problems for the artisanal sector are solved, it seems likely that fish supply will always be inadequate for local market demand, as well as for exports. The lack of an effective industrial sector supplying national consumer markets also constrains supply.

Research

The Centre for Research and Dialogue (CRD), which is a local NGO, conducted a limited survey of the fishery sector in central and southern Somalia in 2002. The United Nations Development Operations Office (UNDOS) of the United Nations Development Programme (UNDP) supported several research activities on the country's fishery profiles by region in 1994–1995. As of 2004, UNDP is carrying out a thorough review of the fishery sector in the central and southern parts of Somalia. Apart from those activities, no tangible research activities have been conducted since the major fish stock assessments by FAO/UNDP in the 1970s and 1980s, and other bilateral research assistance provided by various governments and agencies.

AID

Very little aid has gone to the fishery sector since the onset of the civil war of 1991, except for a few emergency supplies of fishing gear, in limited quantities, by a few international organizations, including FAO, Care International and COPI (an Italian NGO). The fishing sector has received very little attention from the international community and aid agencies, while, in contrast, the livestock and crop husbandry sectors have received more attention and more aid. Therefore it seems that the fishery sector, which could recover and develop quite swiftly given the right support, has been neglected. However, UNDP is currently (as of 2004) providing support to a number of small-scale pilot fishery development programmes (in the central and southern parts of Somalia), with the aim of poverty reduction, development of the artisanal fishery sector and accelerating recovery from the destruction of the civil wars. It is hoped that this may have a mirror effect for other bilateral, regional and international assistance agencies.