

FISHERY COUNTRY PROFILE

**Food and Agriculture
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PROFIL DE LA PÊCHE PAR PAYS

**Organisation des Nations
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**RESUMEN INFORMATIVO
SOBRE
LA PESCA POR PAISES**

**Organización de las Naciones
Unidas para la Agricultura y la
Alimentación**

THE STATE OF KUWAIT**GENERAL ECONOMIC DATA**

Area:	17 818 km ²
Shelf area:	about 7 200 km ²
Length of coastline:	about 195 km
Population (2001):	2 353 000
GDP at purchaser's value (2001-02):	\$US 30 900 million
PCE per head (2001-02):	\$US 14 631
Agricultural GDP (2001-02):	Est. \$US 115 million

FISHERIES DATA**Commodity balance (2001):**

	Production	Imports	Exports	Total supply	<i>Per caput supply</i>
		'000 tons live weight			kg/year

Fish for direct consumption	6.041	12.822	0.641	18.222	7.7
Fish for animal feed and other purposes	-	-	-	-	-

Estimated Employment (2000-01):	
(i) Primary sector (including aquaculture):	Est. 1400
(ii) Secondary sector:	Est. 2500
Gross Value of Fisheries Output (2000-01):	Est. \$US 22.9 million
Trade:	
Value of imports (2002):	\$US 21.2 million
Value of exports (2002):	\$US 2.4 million

STRUCTURE AND CHARACTERISTICS OF THE INDUSTRY

Marine fisheries

Fishing is a part of the traditional heritage of Kuwait and, apart from the industrial shrimp fishery, remains essentially artisanal in nature. The artisanal fleet lands about 90% of the finfish landings of approximately 3 700t and 45% of the shrimp landings. The shrimp fishery is an important part of the fishing sector with 35 industrial trawlers and 33 wooden dhows being licensed to take shrimp. The industrial vessels use double rigged flat trawls with a minimum mesh size of 50mm while the dhows use a single rigged net with a double layered, 38mm cod end. The principal shrimp species is *Penaeus semisulcatus*, which comprises about 50% to 60% of the landings of both fleets. The second important species is *Metapenaeus affinis*, which is landed together with other minor species. About 60% of the industrial catch is landed, together with all of the dhows' catches, on ice for local consumption. The remainder is packed and frozen for export by one of the two processing plants owned by the companies.

The industrial shrimp fishery started in the early 1960s, and expanded rapidly. With this expansion, however, catches dropped rapidly, causing Kuwait's three main companies to merge into one in 1972. Since 1980, fishery operations have been restricted to Kuwait's territorial waters due to restricted access for fishing in the other Gulf countries. The fishery management regulations imposed in the 1980s include closed season, protected areas (Kuwait Bay and three-mile coastal zone), mesh size, and effort limitation in order to optimize shrimp productivity. A second fishing company was established in 1989.

Shrimp landings rose to between 4 000 and 5 000 t in 1988 and 1989 due to a program of

reducing fishing capacity. Since 1991, fishing capacity has increased, catches have varied around 2 500 t, and shrimp exports have been reduced.

Currently the shrimp fishery consists of two companies operating a total of 35 steel-hulled Gulf-of-Mexico industrial boats (20-32 m length), and the artisanal fishery sector, with 33 dhows (with fitted engines, average 19 m in length) licensed to trawl.

In 2002, the industrial fishery landed 1 348t of shrimp while the artisanal fishery landed 961t.

The fish by-catch taken as part of shrimp trawling by both industrial and artisanal fleets is an important component of the catch and revenue from shrimp fishing, with the fish catch rate being significantly higher than the shrimp catch rate. Despite the importance of this fish by-catch, trials are being undertaken on by-catch reduction devices (BRDs) for possible introduction in to the shrimp fishery.

Kuwait's fishing fleet targeting finfish species is composed of two types of fishing vessels, namely, wooden dhows, and speedboats. These vessels are licensed to use only one type of gear which can be hemispherical wire traps (gargoor), drift gill nets or fixed gill nets of various mesh sizes. The registered finfish fleet consists of 120 dhows, using gargoor (94 boats) and gillnets (26 boats), and 748 speedboats (7 m) using gargoor (28 boats) and gillnets (720 boats) although not all of these may be active. The number of active fiberglass boats, which are equipped with outboard engines of 200 hp, varies seasonally. The number of inter-tidal stake nets (hadrah) was reduced from 120 in the 1980s to about 30 in 1997. However, a recent survey has indicated that the number of these fixed stake nets has increased significantly in recent years and, in 2003, 522 stake nets were operating at 359 sites, mainly within Kuwait Bay.

The main commercial fish species belong to 14 families, and the catches vary seasonally. The prime species caught by gillnets are *Pampus argenteus* (zobaidy; silver pomfret), *Tenualosa ilisha* (suboor; hilsa shad), *Pomadasys kaakan* (nagroor; grunt sp.), and *Liza* species (maid and beyah; mullets). The gargoor catches include *Epinephelus coioides* (hamoor; grouper sp.), *Acanthopagrus latus* (shaem; seabream sp.), *Lutjanus malabaricus* (hamrah; snapper sp.) and *Otolithes ruber* (newaiby; tigertooth croaker). Zobaidy and suboor stocks are shared with Iran and Iraq; hamoor and hamrah are thought to be stocks common with countries of the whole northern Gulf; while newaiby, shaem and maid stocks are localized.

Catches of finfish have been decreasing significantly in recent years, reaching a record low of 3 500t in 2001. The main contributor to this decline has been the important and high value, species of zobaidy and suboor. It has been suggested that the decline in landings and abundance of these species is linked to the changed hydrographic conditions in the northern Gulf as a result of the draining of the marshes in southern Iraq and the reduced freshwater inflow to the Gulf from the Tigris and Euphrates rivers. Several research programs are being planned to address this issue. Apparently increasing incidences of fish kills (as a result of toxic algal blooms) have also reduced landings since 2001, particularly of the inshore mullet species (*Liza* spp).

Kuwaiti nationals own all vessels and supporting infrastructure of the fishing industry, but almost all employees are expatriates. The main nationalities engaged in the fishing industry are Bangladeshi, Indians, Egyptians and Iranians.

The industry receives significant, and increasing, direct subsidies from the Government which is leading to increased capacity while catches in the finfish sector are declining.

Aquaculture

Currently, finfish production in Kuwait meets only about 25% of national demand and is declining rapidly as demand increases while production from the wild stock decreases. As a result, aquaculture is being encouraged as a method of increasing local production.

Total production from aquaculture in 2001 was 195 t, representing less than 1% of total fish demand. This production was a significant decline from 2000 levels and the lowest production since 1996, with the decline being almost entirely attributable to a decline in sea bream mariculture.

Freshwater aquaculture of tilapia (*Oreochromis niloticus* or *O. spilurus*) was started in 1997 as an integrated component of agricultural farming, using brackish water. Although the potential of the total annual production has been estimated to be about 125 t from 50 farms, actual production declined in 2001 to 16 t.

Marine aquaculture activity in Kuwait is carried out exclusively by one company, which was established in 1986. The grow-out production system consists of cages located in Kuwait Bay. Actual fish production started in 1992, with targeted production increasing from an initial 90 t per year to 600 t/yr. This may be compared with actual production of less than 0.5 t in 1992, rising to a maximum of 346 t in 2000 before declining. The main species are gilthead sea bream (*Sparus aurata*), sobaity (*Sparidentex hasta*), hamoor (*Epinephelus coioides*), and shaem (*Acanthopagrus latus*). No hatchery or fish feed production facilities are available within the company, and therefore, the sea bream fingerlings are imported from Greece, Cyprus and Italy, while sobaity are imported from Bahrain or are supplied by the Kuwait Institute for Scientific Research (KISR). Fish feed is imported from Holland or Saudi Arabia; there is no feed formulation and production in Kuwait.

Research is currently being undertaken on the commercialization of pomfret (*Pampus argenteus*) culture.

Catch utilization

Shrimp is sold locally heads-on without further processing. Exported shrimp is processed, packed and frozen and sold both heads-on and head-less. Most (98%) of the large by-catch of the shrimp fishery is discarded, but some desirable species are landed at local fish markets. During the closed season, frozen Kuwaiti shrimp or imported fresh whole shrimp are sold.

Finfish are landed on ice, and sold fresh in both wholesale and retail markets. There are two main wholesale markets, and three retail-sale markets, in addition to 44 fish shops owned by the two fishing companies.

State of the industry

With demand increasing and production falling, prices of most major local fish species are increasing significantly. As a result, profitability of individual fishing enterprises has remained adequate despite lower catch rates within the finfish sector. However, profitability is significantly distorted by direct, and increasing, subsidies by the Government which are in response to lower catches.

As local demand for shrimp has increased, the quantity available for export has declined. Exports are currently around 40% of the industrial fishery production, compared with over

90% in the 1980s.

There are now two fishing harbors for industrial vessels, two modern harbors for artisanal boats (in Kuwait Bay) and two new harbors established within the Kuwait waterfront project. The old fish section in the central city market was modernized and another modern fish market, attached to a new harbor, was established in the late 1990s. Three new, but smaller, fish markets are planned.

Economic role of the fishery industry

In comparison with the oil industry, the contribution of the fishing industry to Kuwait's economy is very small. Although there is little Kuwaiti employment in fishing operations, the industry offers a significant investment opportunity for the Kuwaiti private sector. In addition to commercial food production, the fishery resource also supports a significant recreational fishing.

DEVELOPMENT PROSPECTS

The shrimp and the finfish resources off the coast of Kuwait are already intensely exploited. The present annual shrimp production could be increased, as in 1988 and 1989, by reduction of fishing effort and prevention of illegal fishing on the main shrimp nursery in Kuwait Bay. However, the changing hydrographic conditions in the northern Gulf, as a result of draining of the marshes in southern Iraq and reduced outflows from the Shatt al-Arab waterway, makes any major development prospects uncertain.

The catch of major finfish species in Kuwaiti as well as in other adjacent countries are in decline. Overexploitation may be a contributing factor in this decline (as indicated by fish length or age distributions) as well as changing environmental conditions. A closed season was introduced in collaboration with Iran to protect spawning stock of zobaidy. Cooperative management among all Gulf countries for shared stocks is needed to address the overall management of these regional stocks.

Fisheries management

The shrimp fishery experienced excessive fishing effort prior to 1986. In 1986, the number of industrial boats in Kuwait was reduced to 30 and dhows were limited to 24. These limitations were relaxed after 1991. Flexible seasons have been in effect since 1982. Prior to 2002, the fishing season opened on 1 September and closed in February or March, depending on the catch rates during January. However, the season opened on August 1 in 2002, resulting in smaller shrimp being taken. The closed season applies to all shrimp species. Kuwait Bay and waters within three miles of the coast are protected from all fishing activities, except recreational fishing, to preserve shrimp nursery grounds.

Management measures for the finfish fishery were also formulated and imposed in 1983. Mesh sizes for major species in the gillnet fishery, and minimum marketable sizes for eight major species were introduced. However, adequate enforcement of regulations remains a significant issue.

Demand

Demand will continue to outpace supply in the foreseeable future as the population grows, per capita GDP remains high and local supply comes under pressure from both changing environmental conditions and overexploitation.

Although aquaculture has been seen as a major alternative source of fresh fish supply, production from this sector has also declined in recent years and no significant growth in this sector appears likely. Kuwait will therefore be increasingly dependent on imported products to meet its fish demand.

RESEARCH

The Aquaculture, Fisheries and Marine Environmental Department (MFD) of the Kuwait Institute for Scientific research (KISR) have been the principal organization conducting fisheries research since 1977. In addition, various research contributions from other organizations (Public Authority for Agriculture and Fisheries, Ministry of Public Works) as well as Kuwait University have added to the knowledge of Kuwait's marine fauna. KISR has a well established and well equipped laboratory at Salmieh and is actively engaged in research related to shrimp and finfish stock assessment, oceanography and plankton studies, marine ecosystem management, coral reef studies and mariculture. An extensive fish hatchery and related aquaculture facilities form part of the KISR facilities. KISR does not own or operate major research vessels and all seagoing research activities are conducted from chartered vessels.

Aquaculture research activities include hatchery and growout techniques for the pomfret, *Pampus argenteus*, refinement of hatchery techniques of tilapia and intensive sea cage culture of local sea bream (sobaity and shaem) and grouper (hamoor).

AID

Kuwait's national policy aims to provide adequate supplies of reasonably priced food for its citizens. The fishing industry is expected to contribute to this objective. However, demand for fish in Kuwait continues to exceed the sustainable potential of the fish resources of Kuwait, particularly of finfish. Local demand for shrimp is also increasing, while catches have been low (in contrast to the pre-invasion period), resulting in less surplus for export.

The Government's response to these policy objectives and to the declining level of catches has been to increase the level of direct subsidies to the industry in an effort to retain domestic prices at affordable levels and to support the profitability of the operators.

No external aid is provided to Kuwait for fisheries development or management activities.

INTERNET LINKS

<http://www.kisr.edu.kw/>