

FISHERY COUNTRY PROFILE: ROMANIA

FISHERY COUNTRY PROFILE	Food and Agriculture Organization of the United Nations	FID/CP/ROM
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GENERAL ECONOMIC DATA

Area:	238 391 km ²
Shelf area:	22 998 km ²
Inland waters:	730 000 ha
Length of coastline:	225 km
Population (2002):	21 681 000
GDP at purchaser's value (2003):	US\$ 56.9 billion
PCE per head (2003):	US\$ 870
Agricultural GDP (2003):	\$US 25 billion

Indicative exchange rate: US\$ 1 = LEI 33 200.07 (2003, average)

FISHERIES DATA

Commodity Balance (2002):

	Production	Imports	Exports	Total Supply	Per Caput Supply
	tonnes liveweight				kg/year
Fish for direct human consumption	16 238	56 751	340	72 866	3.4

Fish for animal feed and other purposes	-	125 000	0.0	125 000	
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Estimated Employment (2002):	
Primary sector (including aquaculture)	10 600
Gross Value of Fisheries Output (estimated, 2002):	US\$ 40 million
Trade (2002) :	
Value of fisheries imports:	\$US 56.1 million
Value of fisheries exports:	\$US 2.0 million

STRUCTURE AND CHARACTERISTICS OF THE INDUSTRY

1. Fishery sector structure

1.1 Overall fishery sector

Fisheries production has recorded a steady decline, from a harvest of 270 000 tonnes in 1986, Romania's nominal fish production fell to 16 238 tonnes in 2002. This decline is one result of the economic crises specific to the transition period towards a market economy and to the declaration of the EEZ. Distant-water deep-sea fishing stopped due to increasing production costs. Today, about 57 percent of Romania's total domestic fish supplies are derived from aquaculture (9 248 tonnes), around 30 percent from inland capture fisheries (4 868 tonnes), and 13 percent from marine capture fisheries (2 122 tonnes).

1.2 Marine subsector

In recent years there has been a considerable decline in marine catches, from 14 000 tonnes in 1989 to 6 200 tonnes in 1990 and 1 200 tonnes in 1991. After an improvement to 4 301 tonnes in 1998 marine catch fell again to 2 122 tonnes in 2002. The changes in the Black Sea ecosystems have been reflected in the taxonomic composition of commercial catches. In 2002, marine catches were dominated by small pelagic resources: European sprat (*Sprattus sprattus*), 76 percent; European anchovy (*Engraulis encrasicolus*), 14 percent; whiting (*Merlangius merlangus*), 4 percent; and Mediterranean horse mackerel (*Trachurus mediterraneus ponticus*), 1 percent. The European sprat is the most abundant and commercially important species of the Romanian Black Sea fishery. The dynamics of sprat capture – dropping from 3 318 tonnes in 1997 to 1 617 tonnes in 2002 – show high species sensitivity to natural environmental conditions. The Mediterranean horse mackerel catches decreased to 3 tonnes in 1999, but had gradually increased to reach 21 tonnes in 2002.

Along the Romanian coastline, there are 19 coastal landing sites, of which the most important are: Sulina, Sfantu Gheorghe, Cap Midia, Constanta, Mangalia and Agigea. Approximately 80 percent of the production is landed in two main harbours: Constanta and

Mangalia. The bulk of remainder of the fish catch is landed in Sulina, Sfântu Gheorghe and Cap Midia harbours, as well as at coastal beach landing stations.

In 1980, industrial fishing activity along the Romanian coastal region had developed active fishing, by setting up a fishing fleet with trawlers operating in the 18–40-m depth range. Currently there are 9 such trawlers registered in the Fishing Vessel Register.

The stationary fishery is carried out along the Romanian Black Sea littoral between Sulina and Vama Veche, in shallow waters, in 30 fishery locations. There are two kinds of passive fishing:

- commercial fishing, carried out by private companies;
- angling carried out by persons.

In 2002, 21 private companies were authorized to carry out commercial fishery. A number of more than 4 500 fishermen operated in this type of fishery and used 880 boats, 40 pound nets, 1260 turbot gillnets/trammel nets, 11 beach seines and 9030 rodlines.

The Black Sea fishery is a seasonal activity, and it is carried out from the middle of March up to the end of October.

Black Sea fisheries have been seriously damaged as a result of eutrophication, overfishing and the unintentional introduction of alien species, such as the comb jellyfish, *Mnemiopsis leidyi*. The number of valuable species (sturgeon, turbot, shark, garfish, mackerel, grey mullet and blue fish) is still very small, and their stocks are in a critical condition. On the Romanian coast there are estimated 9 endangered species in the families *Acipenseridae*, *Belonidae*, *Bleniidae*, *Mugilidae*, *Syngnathidae* and *Scorpaenidae*; 6 vulnerable species in the families *Gobiidae*, *Mullidae* and *Scophthalmidae*; and 5 species threatened by extinction in the families *Sparidae*, *Scombridae*, *Centracantidae* and *Triglidae*.

The populations of the three species of dolphin living in the Black Sea – *Phocoena phocoena relicata*, *Delphinus delphis ponticus* and *Tursiops truncatus ponticus* – are currently in a critical state. Despite some measures, such as prohibition of the capture of dolphins since 1966, and signing international agreements and conventions, their populations have continued to decline, mainly as result of pollution.

1.3 Inland subsector

Commercial fishing occurs in the Danube River, Prut River and Danube Delta. Inland capture fisheries production, in 2002, reached 4 868 tonnes, a decrease of 7 percent compared with the 5 235 tonnes reported in 2001. Capture fisheries in the Danube River focus on Danube shad (*Alosa pontica*), several species of sturgeon (*Huso huso*, *Acipenser stellatus*, *Acipenser guldenstaedtii*), common carp (*Cyprinus carpio*), catfish (*Silurus glanis*) and other domestic fish species, as well as Chinese carp that has escaped from fish farms. In the Danube Delta area, the main target species are crucian carp (*Carassius auratus gibelio*), bream (*Abramis brama*), common carp, Danube shad, catfish, pike (*Esox lucius*) and pikeperch (*Stizostedion lucioperca*).

There are about 3 000 registered fishermen, fishing from small, two-man rowing boats (around 5 m in length) and using passive fishing gears such as: drift nets, hooks for sturgeons, gill nets and fyke nets, together with some active fishing gear (e.g. seine nets) used in the Danube Delta.

1.4 Recreational subsector

Recreational fishery in natural waters is regulated through recreational fishing licences. The institutions in charge of fishery resources management issue block licences to sport fishing associations, which then issue individual fishing permits to their members. In 2002, there were about 106 000 recreational fishermen that purchased such permits. In Romania, the fish caught by recreational fisheries is used for personal consumption.

1.5 Aquaculture subsector

In 2002, aquaculture production was 9 248 tonnes. Most fish farming in Romania is based on a 2- to 3-year cyprinid polyculture cycle, either extensive or semi-intensive, with limited inputs of feed and fertilizer. The main cultured species are common carp (*Cyprinus carpo*), silver carp (*Hypophthalmichthys molitrix*), bighead carp (*Hypophthalmichthys nobilis*), crucian carp (*Carassius auratus gibelio*), grass carp (*Ctenopharyngodon idellus*), rainbow trout (*Oncorynchus mykiss*), and brown trout (*Salmo trutta fario*).

Romania has no commercial mariculture production. There is some experimental activity in mussel cultivation, which is being developed by the National Institute for Marine Research and Development, Constanta, in cooperation with a private company.

2. Fish utilization

2.1 Post-harvest use

Fish production is for human consumption; only trash fish and offal are used as animal feed, meal, fertilizer, bait, etc. The fish is sold either as whole fish (fresh, refrigerated or frozen), as primary processed fish (gutted, headed, filleted, as steaks), semi prepared fish (marinated, fish paste, roes, salted, smoked) or canned (in oil, tomato sauce or other). The fish, as raw material, is processed both as frozen product on board ship and as fresh product on ice, conditioned and salted according to its origin (freshwater, brackish water or seawater). Most fish from fish farms is either iced or frozen after harvesting. Sometimes fish is gutted, beheaded, filleted or portioned.

Salting is the main processing mode for the species originating from the Danube Delta area (carp, roach, bream) and for a part of those originating from sea fishing (anchovy, sprat and whiting). Icing practices tend to be poor, with little use of finely crushed ice. Fish may be gutted or left whole prior to marketing. Sometimes producers have integrated more sophisticated processing facilities into their operations, which combine filleting, smoking and salting.

Nowadays, the whole processing sector is private.

2.2 Fish markets

To date, there are no fish auctions in Romania. The distribution of fish is carried out through a variety of channels. Most of the fish goes through at least two separate operators before being sold to the consumer. This usually involves the producer selling directly to an independent retailer or through an intermediary. The wholesale market for fish is very small in Romania, with the consequence that there are many short-link marketing chains with a resultant high cost in transport and distribution.

Domestic supply comes from inland and marine capture and freshwater aquaculture, being constrained by the climate conditions in the cold months that limit fishing activity in the Black Sea, and also by fishing restrictions during the spawning period.

3. Fishery sector performance

3.1 Economic role of fisheries in the national economy

The fishery sector makes a marginal contribution to the Gross Domestic Product and is continuously decreasing because of the decline in the distant-water fleet and the decline in fish farming.

3.2 Demand

In the 1980s, average annual fish consumption was between 7.2 and 11.8 kg per caput. The demand and consumption of fish have changed significantly since the early 1990s. Fish consumption has fallen, largely because of the reduction in availability of the domestically produced fish and the increase in the price of fish relative to other animal protein products. In 2001, the average consumption of fish and fish products per caput was 3.4 kg, while the yearly average consumption of meat and meat products was 48 kg per caput.

3.3 Employment

There are an estimated 10 600 persons working in the Romanian fisheries sector, of which 46% are subsistence fishers, 18% are involved in fish farming, 27% are active in inland fisheries and 9% in marine fisheries. This estimate does not include those working in the fish processing industry.

3.4 Rural development

Fishery has great socio-economic importance in the Danube Delta, where alternative occupations (agriculture or industry) are not feasible.

4. Fishery sector development

4.1 Constraints

The main constraints on the fishery sector derive from the recent Romanian historical evolution. The shift from a centralized state structure to a private market system has occurred within the context of low incomes, limited investment possibilities, rudimentary market institutions and underdeveloped transport infrastructure.

4.2 Development strategy

The development of the fisheries sector in Romania aims at ensuring a balance between stock size and exploitation level; strengthening and developing the competitiveness of certain economically viable undertakings; stabilizing the fish market; improving fish products quality; and supporting the economic development of fish-dependent regions.

4.3 Development projects

The main goal of development projects is ensure that fish stocks are sustained in the face of environmental changes as result of the building of dams and hydroelectric plants, water pollution or fishing pressure. Thus, the State manages several fish farms supply fingerlings for release into waterbodies that are exploited by professional or recreational fishers. Moreover, the introduction of sturgeons into aquaculture is developing and there is considerable interest in their artificial breeding in order to protect sturgeon stocks and allow release of sturgeon fingerlings into the Danube River.

In 2003, a programme of professional fisher training and certification was developed. This programme is not designed to restrict the number of fishermen but rather to ensure the conservation of the aquatic environment through sustainable exploitation of fishery resources and to ensure that fishing methods are appropriate to the target species.

4.4 Research

The National Institute for Marine Research and Development "Grigore Antipa" in Constanta is responsible for most of the research in the Black Sea. Research in the Danube Delta area and the Danube River is carried out by the National Danube Delta Research Development Institute, Tulcea. Research in aquaculture is performed mainly by the Fisheries Institute, Galati, and the Fish Culture Research Station, Nucet.

The current major constraint on Romanian research is financial, the State budget being the major source of funding.

The major research topics include:

- Developing artificial spawning and rearing technologies for different fish species.
- Developing sturgeon culture to obtain high quality caviar and fresh fish.
- Improving existing technologies for artificial reproduction and breeding in a freshwater environment, using extensive and intensive systems.
- Introduction of paddlefish to Romanian fish farming.

5. Education

“Dunarea de Jos” University of Galati, through its Department of Fisheries and Aquaculture, is the most important provider of higher training in fishery. At the same time, each of the domestic agricultural universities offers in their curricula training in fish breeding for day or regular students, but with different emphases and subject matter.

6. Foreign aid

In order to prepare its accession to the EU, Romania has received EU help through the Phare fund for “Strengthening Romania’s Capacity for Restructuring of Fisheries and Aquaculture” by a twinning project with Spain. Identification of the opportunities for development of the fisheries and aquaculture sectors is also an aim of this project, which started in September 2002 and expected to continue till the end of 2004.