

<b>FISHERY COUNTRY PROFILE</b>	<b>Food and Agriculture Organization of the United Nations</b>	<b>FID/CP/LKA</b>
<b>PROFIL DE LA PÊCHE PAR PAYS</b>	<b>Organisation des Nations Unies pour l'alimentation et l'agriculture</b>	
<b>RESUMEN INFORMATIVO SOBRE LA PESCA POR PAISES</b>	<b>Organización de las Naciones Unidas para la Agricultura y la Alimentación</b>	<b>January 2006</b>

## THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

### GENERAL ECONOMIC DATA - January 2006

Area:	65 610 km <sup>2</sup>
Water area:	2 905 km <sup>2</sup>
Shelf area:	27 800 km <sup>2</sup>
Length of continental coastline:	1 770 km
Exclusive Economic Zone:	517 000 km <sup>2</sup>
Population (2004):	19 462 000
GDP at purchaser's value (2004):	US\$ 20 290 million
GDP per head (2004):	US\$ 1 031
Agricultural GDP (2004):	US\$ 2 574 million
Fisheries GDP (2004):	US\$ 338 million

### FISHERIES DATA

#### Commodity balance (2004):

	<b>Production</b>	<b>Imports</b>	<b>Exports</b>	<b>Total supply</b>	<i>Per caput supply</i>

	tons live weight				kg/ year
Fish for direct human consumption	286 370	67 284	13 680	339 974	17.4
Fish for animal feed and other purposes	-	-	-	-	

<b>Estimated employment (2004):</b>		
i)	Primary sector:	250 000
ii)	Secondary sector:	100 000
Gross value of fisheries output (at ex-vessel prices) in 2004:		US\$ 228 million
Trade (2004):		
Value of imports:		US\$ 59 million
Value of exports:		US\$ 94 million

## Fishery sector structure

### Overall fishery sector

The fisheries sector plays a key role in Sri Lanka's social and economic life. Fish products are an important source of animal protein for the population and the sector contributes about 2 percent to GDP. Exports of fish and fishery products was 13 680 t and valued US\$ 94.3 million) in 2004, while imports of fish products (mostly dried and canned) amounted to 67 284 t, valued at US \$ 59.4 million. From an economic viewpoint, there is significant scope for increasing the level of contribution from the sector through increased output, exploiting the potential for value addition and import substitution.

The fisheries sector of Sri Lanka consists of three main subsectors, namely coastal; offshore and deep sea; and inland and aquaculture. These three

subsectors employ around 250 000 active fishers and another 100 000 in support services. This workforce represents a population of some one million people.

On 26 December 2004, the fisheries sector was severely affected by tsunami tidal waves that hit two-thirds of the coastline of the island. It is estimated that nearly 80 percent of active fishers were affected and more than 75 percent of the fishing fleet was destroyed or damaged by the tsunami. In addition, a large number of small-scale fishing craft and fishing gear were destroyed. Of the 12 fishing harbours, 10 were severely damaged, including breakwaters, shore facilities, buildings, machinery and equipment. In addition, public and private utilities, such as ice plants, landing ports, markets and the homes of the fishing community were destroyed.

### Marine sub-sector

Marine fisheries are of considerable social and economic importance around the entire 1 770 km of Sri Lanka's coastline. The Exclusive Economic Zone (EEZ) covers 517 000 km<sup>2</sup>, of which some 27 800 km<sup>2</sup> form a continental shelf. The marine area from the shore to the edge of the continental shelf (the average width of which is 22 km) is referred to as the coastal subsector. The balance beyond the continental shelf and out to the 200 nm EEZ boundary is considered the offshore and deep-sea subsector.

### Catch profile

Total fish production in 2004 increased marginally by 0.5 percent over the previous year. This was the combined outcome of inland fish and aquaculture production increasing by 9.6 percent and marine fish production declining by 0.6 percent. Marine fish production contributed nearly 90 percent of the total fish catch, of which the coastal fish catch was 60 percent. Even though the offshore fish catch reported an increase of 9 percent, the coastal fish catch declined by 6 percent, due to unfavourable weather conditions affecting overall marine sector production. The aquaculture-based prawn industry has had difficulties in recent years, causing heavy losses for investors.

About 285 000 t of fish was landed, of which 90 percent was consumed locally and 10 percent was exported. However, in order to satisfy increasing local demand for fish protein, Sri Lanka has imported annually an additional 70 000 t of dried and canned fish. Catch data by the main species groups for the past few years is given in Table 1.

Table1. Marine fish catch by main species groups (tonne).

Species group	1995	2000	2002	2003	2004
Spanish mackerel	2 990	3 130	3 920	6 290	5 260
Trevally	8 910	10 450	10 760	14 940	13 580
Skipjack tuna	33 550	49 110	54 640	42 810	43 830
Yellowfin tuna	26 050	29 320	38 430	27 620	32 870
Other tuna-like species	17 640	27 890	27 540	35 210	36 830

Shark and skate	22 120	28 790	25 340	26 590	21 320
Rockfish	10 450	14 910	16 320	19 980	17 540
Shore seine species	60 610	76 250	72 910	50 310	54 410
Prawns	8 000	7 540	9 820	10 190	9 730
Lobster	950	1 150	1 860	2 530	1 590
Other	26 230	15 140	13 220	18 210	16 230
<b>Total</b>	<b>217 500</b>	<b>263 680</b>	<b>274 760</b>	<b>254 680</b>	<b>253 190</b>

## Landing sites

Fishing activities take place around the entire coast of the country, with landings made, prior to the disaster, at 12 fishery harbour centres, several large and small anchorages and as many as 700 village-level sites. Some brackish-water aquaculture (mainly shrimp farming, producing an estimated 6 000 t in 2003) occurs along the coast.

Marine-sector fish production data are collected and analysed on the basis of 15 fisheries districts. Details of the district-based data are given in Table 2 and Figure 1.

Table 2. Marine sector fish catch by fisheries districts (tonne).

<b>Fisheries District</b>	<b>1995</b>	<b>2000</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Puttalam	27 020	29 730	23 560	16 640	16 520
Chilaw	24 550	25 650	19 900	13 570	14 220
Colombo	2 550	3 130	2 980	1 990	1 640
Negombo	30 570	34 540	26 490	20 940	22 780
Kalutara	28 910	33 140	29 470	21 700	20 690
Galle	21 430	27 830	25 060	20 870	17 530
Matara	29 930	35 480	34 000	28 430	27 990
Tangalle	23 260	33 470	26 860	21 700	21 960
Kalmunai	7 290	9 120	17 750	21 380	19 790
Batticaloa	8 360	9 860	15 140	22 240	16 160
Trincmalee	9 130	13 540	18 980	15 030	17 540
Mullaithivu	4 500	8 190	3 820	2 250	2 200
Kilinochchi	–	–	1 480	2 760	3 130
Jaffna	–	–	12 340	28 550	33 980
Mannar	–	–	16 930	16 630	17 060
<b>Total</b>	<b>217 500</b>	<b>263 680</b>	<b>274 760</b>	<b>254 680</b>	<b>253 190</b>

Sri Lanka





Figure 1. Marine fish production in 2004, broken down by District.

## Fishing production means

The marine fishing fleet consists mainly of small- to medium-sized craft, owned and operated by private individuals. The total fishing fleet in 2004 consisted of 31 663 boats of diverse types, broadly classifiable into:

- non-motorized traditional craft;
- motorized traditional craft;
- fibreglass hulled boats of 6–7 m LOA;
- larger boats of about 3.5 t;
- offshore multi-day boats; and
- beach seine craft.

Traditionally, fishing has been inshore using simple canoes with outriggers and, despite development efforts spanning over 50 years, this type of boat still makes up nearly half of the fleet. Some 2 percent of fishing boats are canoes powered by outboard motors, and a further 3 percent are beach seine craft without motors. Larger, motorized “day boats” were introduced in the mid-1950s and consist of two types of craft: 18-foot flat-bottomed fibreglass reinforced plastic boats (FRP) with outboard motors (37%), and 3.5 t/28 ft FRP motorized boats (5%). In the early 1980s, 59 ft motorized multi-day boats were introduced (5%). Table 3 shows the development of the country's marine fishing fleet in recent years.

Table 3. Marine fishing fleet (number) of Sri Lanka (2000–2004).

Boat type	2000	2001	2002	2003	2004
Offshore multi-day boats	1 430	1 572	1 614	1 530	1 581
3.5 t day boats (28 ft)	1 470	993	1 029	1 486	1 493
6–7 m FRP boats (17–21 ft)	8 690	8 744	9 033	11 020	11 559
Motorized traditional craft	1 404	639	776	618	674
Non-motorized traditional craft	15 109	15 000	15 600	15 040	15 260
Beach seine craft	900	900	900	953	1 096
<b>Total</b>	<b>29 003</b>	<b>27 848</b>	<b>28 952</b>	<b>30 647</b>	<b>31 663</b>

## Main resources

On the basis of resources studies carried out in the past, annual sustainable yields from the coastal subsector have been estimated at 250 000 t, consisting of 170 000 t of pelagic species and 80 000 t of demersal species. The actual reported coastal fish production in 2004 was 154 470 t.

About 610 species of coastal fish have been reported from Sri Lankan waters, of which the more common species caught are *Sardinella* spp., *Amyblygaster* spp., *Rastrelliger* spp., *Auxis thazard*, *Anchoa commersoni* and *Hirundichthys coromandelensis*. Most of these species live near the surface or high in the water column (pelagic species). These small pelagics account for about 40 percent of the coastal fish catch. Species such as *Lethrinus* spp., *Trichurus* spp., *Caranx* spp., species of skates and rays, *Cynoglossus* spp.,

*Jojnius* spp. and *Tolithus* spp. are bottom dwellers (demersal species). In addition, there are various mid-water species.

Though there are no comprehensive resource studies available for offshore and deep-sea areas, about 90 species of oceanic pelagic species of fish have been reported from Sri Lanka's offshore and deep-sea waters. *Katsuwonus pelamis* and *Thunnus albacares* dominate the large pelagic catches. These are migratory fish species and therefore fall under stocks shared with other countries. Other important species are *Scombracromorus commerson*, *Platypterus* spp., *Tetrapturus angustirostris*, *T. audax*, *Makaira nigricans*, *M. indica*, *Xiphus gladius* and *Coryphaena hippurus*. Moreover, it has been reported that about 60 species of sharks live in the oceanic waters off Sri Lanka. Some of the more common shark species are *Carcharias falciformis*, *C. longimanus*, *C. melanopterus*, *Alopias pelagicus*, *Sphyrna zygaena* and *S. lewini*.

About 215 demersal species have been reported from the oceanic waters around Sri Lanka. The commercially important, larger species are *L. lentjan*, *L. nebulosus*, *Lutjanus* spp., *Pristigaster* spp. and *Epinephelus* spp.

Some surveys have indicated that surface tuna schools are available in areas offshore from the west, south and east coasts, with higher concentrations of fish within the 60 to 70 km range from the shore. Skipjack and yellowfin tuna have dominated the catches.

Preliminary results of some trial fishing have indicated an abundance of sub-surface tuna resources within Sri Lanka's EEZ.

### **Management applied to main fisheries**

Current fisheries management and administration has developed from the initial creation of a Department of Fisheries in 1940, under the Fisheries Ordinance promulgated that year. However, it proved inadequate to address the issues in the comparatively more complex fisheries industry that had developed by the late 1970s, and new legislation was introduced: the Fisheries and Aquatic Resources Act, No. 2 of 1996.

The main objectives of the Fisheries and Aquatic Resources Act are the management, conservation, regulation and development of the fisheries and aquatic resources of Sri Lanka.

Under Sections 31 and 32 of the Act, fisheries management areas and fisheries management authorities have been introduced to manage the fisheries resources of the country. By 2004, seven management areas had been declared under the Act for the management of fisheries resources through community participation.

In addition to the declaration of management areas and management authorities, resource conservation and regulatory functions were also identified

and regulations introduced. Areas addressed included:

- **Registration of fishing craft** Section 15 & 16 of the Act and Regulations imposed by Gazette No. 109 dated 03.10.1980, No. 1055/13 dated 26.11.1998, and No. 948/24 dated 07.11.1996.
- **Fishing operation licences** Sections 6–14 of the Act and Regulation 948/25 dated 07.11.1996.
- **Prohibition of destructive fishing practices and dynamiting of fish** Sections 27–29 of the Act.
- **Prohibition or Regulation of export and import of fish** Section 30 of the Act.
- **Declaration of closed and open seasons for fishing** Section 34 of the Act.
- **Declaration of fishing reserves** Sections 36–37 of the Act.
- **Aquaculture management licences** Sections 39–43 of the Act.

In Sri Lanka, output control tools such as total allowable catch (TAC) limits, individual transferable quotas (ITQs) or non-transferable quotas have not yet been introduced.

## **Fishermen communities**

There are at least 1 337 fishing villages in the marine sector, with 1 289 in the inland sector, a total of at least 2 626 villages considered to derive their main income from fisheries. This implies about 132 600 households in marine fishing villages and 11 920 households in inland fishing villages, a total of about 144 520 fishing households for the country as a whole. The marine sector accounts for 85 percent of the employment in the fisheries sector. About 250 000 people are actively engaged in fishing in the marine, inland and aquaculture sectors, and another 100 000 persons are believed to be indirectly employed in fisheries, especially in marketing and other ancillary services.

## **Inland sub-sector**

Sri Lanka has 103 perennial rivers, of which 23 river basins are larger than 500 km<sup>2</sup>. Of the total area of about 280 000 ha of inland water bodies, 160 000 ha are lakes and ponds, while the rest (120 000 ha) consists of lagoons and marshlands. Inland reservoirs and tanks usually carry water all the year round (70 000 ha) and other reservoirs and tanks (76 000 ha) are seasonal. Reported production from the inland fisheries sector in 2004 was 33 180 t.

Although indigenous species like *Labeo dissoumeari* and *Puntius sarana* are found in inland fish catches, their commercial importance is quite low. Introduced fish species, such as tilapias (*Oreochromis mossambicus* and *O. niloticus*) dominates inland fish landings. Attempts have also been made to introduce Indian and Chinese carp species into reservoirs.

Brackish-water resources are situated in the coastal belt in the form of estuaries, lagoons or marshes. They amount to 120 000 ha, of which some 80 000 ha are deep lagoons and estuaries. The rest are shallow lagoons, tidal



flats, mangrove swamps and saline marshes.

## **Recreational sub-sector**

There is no formal recreational fisheries subsector in Sri Lanka.

## **Aquaculture sub-sector**

Brackish-water aquaculture in Sri Lanka is completely dominated by shrimp farming. The major species cultivated is *Penaeus monodon*. At present, industrial shrimp farming is mainly found in the northwestern provinces, where there are about 1 200 shrimp farms.

It is estimated that about 11 000 ha are available for land-based coastal aquaculture, other than shrimp. About 10 000 ha for milkfish culture, 1 000 ha for *Artemia* culture and 50 ha for crab culture are available for brackish-water aquaculture development. Although there is potential for cultivating brackish-water species such as milkfish (*Chanos chanos*), moonies (*Monodactylus* spp.), seabass (*Latus caicarfer*), grouper (*Epinephelus* spp.), crab (*Scylla serrata*), mussel (*Perna* spp.) and oyster (*Cassostrea* spp.), commercial-scale culture of these species has yet to develop.

A number of management tools have been introduced to regulate inland fisheries and aquaculture activities, including:

- Control of fishing operations in estuaries and coastal lagoons through a licensing system.
- Prohibition of operation of harmful fishing methods, such as push nets, harpooning, moxi nets and trammel nets.
- Management of inland fisheries through a licensing system.
- Prohibition of certain types of boats and fishing gear in inland water bodies.
- Licensing of aquaculture enterprises, including shrimp culture projects.
- Registration of fishing craft to control fishing capacity and fishing effort.
- Establishment of Management Committees for fisheries management areas.
- Registration of fishermen in the inland sector.

## **Post-harvest use**

### **Fish utilization**

Traditionally, fish processing in Sri Lanka consisted of activities such as drying and curing.

Currently, the major means of fish preservation is the use of ice. The quality of fish landings in the country is generally poor and wastage is high, especially in catches of multi-day boats. About 25–30 percent of the catch landed by these boats is of poor quality, as the fish holds of these boats are not refrigerated.

These boats aim at quantity rather than quality, and sell the poorer quality or spoiled fish to dried fish processors at a low price. Lack of knowledge regarding improved fish handling and post-harvest practices has contributed to the poor quality of fish and fishery products.

A concerted effort to introduce and adopt improved handling, storing, transporting, processing and other related post-harvest practices is being implemented by the Department of Fisheries. In addition to framing and enforcing regulations on par with EU standards, education and capacity-building programmes are also being implemented for multi-day boat owners, day-boat owners, processors, ice plant owners and other stakeholders.

## **Fish markets**

Of the total fish landings of the country, about 95 percent is handled by the private sector. About 70 percent of landings of fresh fish are transported to urban markets. A small percentage (less than 3 percent) is handled by the Ceylon Fisheries Corporation (CFC), a Government entity.

Although the Ceylon Fisheries Corporation was established with the aim of offering competition to private fish traders and thereby ensuring better producer prices for fish, the CFC was never able to compete fully with private traders.

Fish purchased from local auctions by private traders are normally sent to the Colombo wholesale fish market, where the retail traders purchase their requirements for urban markets.

Export earnings in the fisheries sector have shown a steady growth during recent years, although the contribution of this sector to overall external trade still remains at about 2 percent. The country exports mainly fish (both wet and frozen), shrimp, lobster, crab, sea cucumber and shark fins. The main markets are EU, China, Japan, Singapore and the United States of America. The value of exports increased from US\$ 36 million in 1995 to US\$ 94 million in 2004. The quantity exported increased from 7 126 t in 1995 to 13 681 t in 2004. (These figures include ornamental fish exports, the value of which was US \$ 7 million).

Shrimp is the major export commodity. It accounts for nearly 40 percent of total export earnings. About 60 percent of the shrimp production comes from aquaculture, and the balance from capture fisheries.

## **Fishery sector performance**

A significant characteristic of the fishing industry in Sri Lanka is that it has always been dominated by the private sector. Except for a handful of boats owned by cooperative societies or by the very few companies, the fishing boats and gear deployed in the industry are owned and operated by thousands of individual fishers, family units or informal groups.

The fishing industry plays a major role in providing the animal protein so important in the diet of the Sri Lankan population. According to the Food Balance Sheets (Department of Census and Statistics), fish has consistently contributed around 65 percent of the animal-based protein intake of the population. In addition, as Sri Lanka is a pluri-religious and multi-ethnic

society, numerous religious and cultural biases and prejudices preclude the consumption of animal flesh, but fish is generally acceptable and hence always in great demand.

Fishing has been the most important economic activity in the coastal areas of the country and it is estimated that at present nearly 250 000 persons are directly employed in the fishing industry, including the inland sector. In addition, a further 100 000 persons are estimated to be employed in fishery-related economic activities such as boat building, fish net manufacture, ice production, processing, trading and marketing, and in providing ancillary services required by the industry, such as transport, engine maintenance, shipwrighting, etc. It is estimated that there are about one million persons, including the dependents of industry participants, who derive their sustenance from the industry. Its contribution to Gross National Production (GDP) has stood at around 2 percent for the past few years.

In recent years, the fisheries sector has also emerged as an important source of foreign exchange through the export of several items of high value fish and fishery products, such as chilled and frozen tuna, and other marine products such as shrimp, lobsters, shark fins and sea cucumber. Starting from a low level in late 1970s, the total value of fishery-based exports has been continuously on the increase and reached a level of US\$ 90 million in 2004.

## **Fishery sector development**

### **Constraints**

Before the tsunami disaster of 26 December 2004, an array of issues and constraints associated with various aspects of the fisheries and aquatic resources sector had been identified from information obtained through numerous sources. Constraints identified included:

- insufficient data and information on the available fish stocks;
- open access nature of the fishery;
- inadequate knowledge of new technology for fishing methods, post-harvest techniques, etc.;
- non-availability of a proper Monitoring, Control and Surveillance (MCS) system and a vessel monitoring system (VMS);
- insufficient human resources development; and
- inadequate marketing and distribution systems.

### **Development prospects and strategies**

The post-tsunami strategy for reconstruction and development of the fisheries sector offers an opportunity not only for restoring the fishing industry and protecting fishing communities and the industry from future disasters, but also for bringing necessary urgent improvements to create conditions for sustainable management and development of Sri Lanka's fisheries and

coastal zones and to improve the living conditions of fishing communities. Hence, employment generation, private sector development and poverty alleviation are major objectives in the reconstruction and development of the fisheries sector. This is in line with the country's National Poverty Reduction Strategy and the Millennium Development Goals (MDGs) Strategy.

The reconstruction and development programme provides an opportunity to emphasise rebuilding efforts, guided by conflict sensitivity, community empowerment and transparency. Special attention should be given to private sector participation in the reconstruction and development process.

The implementation of both the short-term and medium-to-long-term reconstruction and development programmes of the fisheries sector should be guided by the following principles:

- Provide the basis for sustainable management and development of fisheries and aquaculture.
- Ensure that reconstruction and development efforts are perceived by local communities as a right and addressed in a compassionate manner.
- Adopt a livelihood approach.
- Adopt a coordinated and transparent approach with the international community.
- Promote the enhancement and conservation of coastal and aquatic resources through integrated and participatory management.

## **Research**

The major fisheries research arm for the fisheries sector, the National Aquatic Research and Development Agency (NARA), conducts research on all living and non-living aquatic resources in Sri Lanka. In addition to its important role in research activities, it is also responsible for development, management and conservation of aquatic resources. NARA's research interests span oceanography, fishing technology, the aquatic environment, inland aquatic resources, marine biological resources, post-harvest technology, socio-economics and marketing.

## **Education**

Nearly half of the fishers are in the 35 to 54-year age group, and about 40 percent of the fisher population has completed primary school education, showing that Sri Lanka's fishers are active and literate. In order to enhance education and training among the fishers and youth of the fishing communities, the government has established five regional fisheries training colleges.

The National Institute of Fisheries and Nautical Engineering (NIFNE), which was established in 1999, offers training programmes both for those actually engaged in fisheries and for those who wish to enter the sector. It is also responsible for conducting seminars, symposia, research, surveys and other investigations, and also for developing and maintaining links with other educational and training institutions in the field of nautical engineering.

## **Foreign aid**

Name of Project	Duration	Total project cost	Donor Agency or Country
1. Coastal Resources Management Project	2000–2006	US\$ 80 million	Asian Development Bank
2. Aquatic Resources Development and Quality Improvement Project	2003–2008	US\$ 30 million	Asian Development Bank
3. Tsunami rehabilitation projects undertaken by donors			
Rehabilitation of Pandura, Beruwala and Kudawella fishery harbours		US\$ 9 million	Government of China
Rehabilitation of Tangall and Galle fishery harbours		US\$ 7 million	Government of Japan
Rehabilitation of Mirissa, Puranawella and Hikkaduwa fishery harbours		US\$ 10 million	USAID
Rehabilitation of Valachchenai and Codbay fishery harbours		US\$ 10 million	Asian Development Bank (under the North-East Coastal Community Development Project)
Provision of ice plants, fish transport vehicles and cold storage facilities		US\$ 7.4 million	Government of Japan

## Fishery sector institutions

A separate Ministry of Fisheries was established in 1970, which became the primary fishery policy-making body. In general, promotion, development, and management of fisheries in Sri

Lanka is the responsibility of the Ministry, and it is responsible for regulatory, extension, research, training and welfare functions in support of the fishing industry, through a number of specialist departments and institutions. The structure of the Ministry is given in Figure 2.

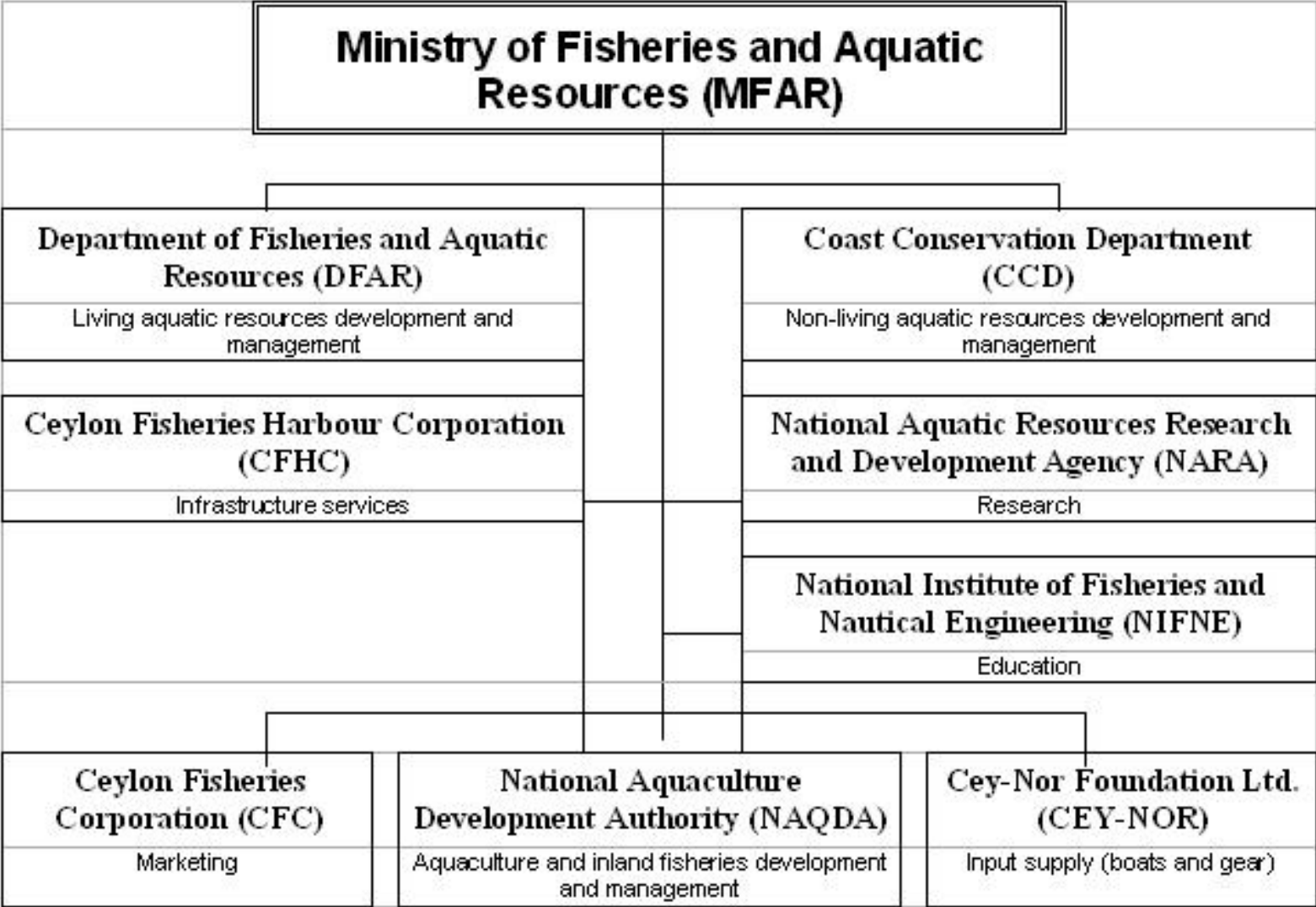


Figure 2. Organizational and functional structure of the Ministry of Fisheries and Aquatic Resources of Sri Lanka.

## General legal framework

### Fisheries in general

The Fisheries and Aquatic Resources Act, No. 2 of 1996, is the principal legal instrument governing the fishing industry of Sri Lanka. This Act replaced the Fisheries Ordinance of 1940 and all the amendments to it, and provides for the management, regulation, conservation and development of fisheries and aquatic resources in the country.

Under this Act, 23 Regulations have so far been introduced, notably:

- Lobster Fisheries Management Regulations, 2000. Gazette No. 1123/2 dated 13.03.2003.
- Purse-seine Net Fishery Regulations. Gazette No. 437/46 dated 19.01.1987, as amended by Gazette No. 859/3 dated 20.02.1995.
- Chank Fisheries Management and Export Regulations, 2001.
- Beach Seine Regulations, 1984.

- Export and Import of Live Fish Regulations, 1998, Gazette 1036/13 dated 16.07.1998.

## **Coastal Conservation**

The Coastal Conservation Act, No. 57 of 1981, makes provisions for a survey of the coastal zone and the preparation of a coastal zone management plan to:

- regulate and control development activities within the coastal zone;
- make provision for the formulation and the execution of schemes of work for coast conservation within the coastal zone to make consequential amendments to certain written laws; and
- provide for matters connected therewith or incidental thereto.

## **Fauna and flora protection**

The Fauna and Flora Protection (Amendments) Acts of 1949 (No. 38), 1964 (No. 44), 1970 (No. 1) and 1993 (No. 49) indicate protected fish species, and provisions for the establishment of Natural Reserves, Nature Reserves and Sanctuaries within which no person shall take fish or other aquatic animals without a permit issued by the Director of the Department of Wildlife.

## **Environmental protection**

The National Environmental Act, No 47, as amended by No 56 of 1988, was passed to provide for the protection, management and enhancement of the environment; for the regulation, maintenance and control of the quality of the environment; and for prevention, abatement and control of pollution.

## **Forest protection**

The Forest Act, No. 34 of 1951, as amended in 1954, 1966 and 1979, includes the large extent of mangrove forest and some of the inland water bodies in forested areas, control of which falls within the remit of the Forest Conservator.

## **Social security for fishers**

The Fishermen's Pension and Social Security Benefit Scheme Act, No. 23 of 1990, provides periodic pensions to fishers in old age, provides insurance against physical disability, or a gratuity in the event of the death of a fisher.

## **Marine pollution**

The Marine Pollution Prevention Act provides for the prevention, reduction and control of pollution in Sri Lankan waters, and gives effect to international conventions for the prevention of pollution of the marine environment.

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