

**FISHERY COUNTRY PROFILE**

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**PROFIL DE LA PÊCHE PAR PAYS**

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**RESUMEN INFORMATIVO  
SOBRE  
LA PESCA POR PAISES**

Organización de las Naciones  
Unidas para la Agricultura y la  
Alimentación

**THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA****GENERAL ECONOMIC DATA**

<b>Area:</b>	1 235 000 km <sup>2</sup>
<b>Water area:</b>	approximately 7 400 km <sup>2</sup> of water bodies plus 7 000 km of rivers
<b>Population (2001):</b>	65 344 000
<b>GDP (2001) at current market price:</b>	US\$ 6 061 million
<b>GDP per head (2001):</b>	US\$ 93
<b>Agricultural GDP (2001):</b>	US\$ 2 728 million

(Sources: Ethiopian Airlines; Central Statistical Authority (2001); Ministry of Finance and Economic Development.)

**FISHERIES DATA**

Commodity balance (2001):

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

Fish for direct human consumption	15 390	35.58	54.19	15 371	2.35
Fish for animal feed and other purposes					

Source: Ethiopian Custom Authority, 2001

<b>Estimated Employment (2001):</b>	
(i) Primary sector:	Total fishermen estimated at 15 000, of which about 5 000 are active and the remainder part-time and occasional fishers. Of the total fulltime fishermen, 2 790 (55.6 percent) are organized into cooperatives or peer groups.
(ii) Secondary sector:	About 20 000 people are estimated to engage in ancillary activities of the commercial (lake) fisheries.
Gross value of fisheries output (at ex-vessel prices) (2001):	\$US 3 563 000 (calculated at \$US 1 = birr 8.56) (Source: Animal and Fisheries Department, Ministry of Agriculture (MoA).)
Trade in fish, crustaceans, molluscs and other aquatic invertebrates (2001) (Source: Ethiopian Custom Authority, 2001.)	
(i) Quantity and value of imports	35.575 tonne \$US 78 056
(ii) Quantity and value of exports	54.187 tonne \$US 107 918

## **STRUCTURE AND CHARACTERISTICS OF THE FISHING INDUSTRY**

### **Fisheries**

Ethiopia is a land-locked country and depends on its inland waterbodies for fish supply for its population. The country's waterbodies have a surface area estimated at 7 334 km<sup>2</sup> of major lakes and reservoirs, and 275 km<sup>2</sup> of small water bodies (see tables), with 7 185 km of rivers within the country.

Based on a systematic assessment of the lakes and on length-based empirical models for rivers, current annual total fish production potential is estimated to be 51 481 tonne. In 2001, total landing were estimated at 15 389 tons, which is about 30 percent of the

calculated potential. Between 1994 and 2001, total landings fluctuated between 7 700 and 16 224 tonne. Despite this fluctuation, it has, on average, grown by 10 percent per year in the period. Current per capita fish production is less than 240 g per person per year; but nevertheless it is more than double the level of the early 1990s. Success in fisheries has been attributed mainly to a favourable economic policy, which attracts private sector participation and project assistance in the fishery sector.

The fishery is predominantly artisanal, currently involving 15 000 fishers (of which 5 000 are considered full-timers), fishing from 2 342 boats (366 motorized steel or wooden vessels, and the rest are reed or raft vessels), with some 17 240 nets and 28 000 hook gear. Gear in use ranges from a variety of traps and spear, to gillnet and beach seine, and hooks on hand and longline. Motorized fishery is typical for lake Tana. Primitive locally produced wooden boats are common in lakes Koka, Ziway, Langano and Awassa. Beach seines are used on lakes Koka, Ziway and Langano. The use of gillnets and hook gear is widespread in the country's waterbodies.

### **Aquaculture**

Aquaculture in Ethiopia remains more potential than actual practice, despite the fact that the country's physical and socio-economic conditions support its development. Extensive aquaculture in the form of stocking and enhancing artificial lakes, reservoirs and small waterbodies has been practiced since 1975 through the Sebeta Fish Breeding and Research Centre (now a research wing of the Ethiopia Agricultural Research Organization). In the period, over 2.5 million fingerlings, primarily consisting of Nile tilapia (*Oreochromis niloticus*), Tilapia zilli and carp, have been released, but in the absence of systematic monitoring and evaluation (due to weak institutional capacity) the success or failure of the programme is unknown.

Aquaculture is recognized as an alternative means of achieving food security and poverty reduction in the rural area, and is now considered an integral part of rural and agricultural development policies and strategies. However, much remains to build institutional capacity in the areas of research, technology and training, which will requires external assistance.

### **Utilization of the catch**

The fish landed is utilized in fresh, chilled, frozen, cured and canned forms. Though varying from place to place, much of the landed fish is prepared into gutted and filleted forms at landing sites. Most (about 73 percent) of the total fish landed is marketed fresh in nearby markets. The rest reaches distant consumers either chilled or frozen (26 percent), or as dried, smoked and canned (1 percent) forms. Currently, canning has ceased due to poor product quality and weak demand.

The public (state parastatal) and the private sector fish market operators work in parallel and in competition following the change of economic policy in 1991. As the result, the current market share of the state parastatal has fallen sharply, to about 8 percent. Legally constituted commercial firms handle chilled and frozen fish products and use refrigeration facilities during storage and transport. At the same time, there is an informal fish traders' group that occasionally comes into the picture during peak demand seasons, and distribute fish under poor hygienic conditions.

Though Ethiopians are traditionally meat eaters, eating habits have been shifting in favour of fish in areas and communities where there is regular and sufficient supply. In those

communities, annual fish consumption can exceed 10 kg/person. This implies that fish consumption in the country is more highly influenced by supply factors than by culture.

### **State of the industry**

Of the circa 5 000 full-time fishers, 2 790 are organized under 68 fishermen's cooperatives or peer groups, of which 669 fishermen (24 percent) are registered under in 19 fishermen's cooperatives.

Between 1994 and 2001, fish production more than doubled, but the composition of the catch varies greatly. For instance, the contribution of Nile perch from lake Chamo is nil since 1989 due to overfishing. The share of tilapia from lakes Awassa and Ziway has greatly diminished, and the less popular labeo and catfish increased in the catch of each lake.

In 2001, fishery product exports amounted to 54 187 tonne (\$US 107 918) and imports were 35 575 tonne (\$US 78 056). For the first time, exports exceeded imports, implying that fish is starting to contribute a net foreign currency earning to the national economy, despite its small quantity.

The contribution of fisheries to GDP is marginal. At current ex-vessel prices it amounts to \$US 3 563 per year.

## **DEMAND AND SUPPLY SITUATION**

### **Demand**

Current annual per capita fish production is less than 240 g. Despite this, based on only a single factor - population - current annual demand for fish in the country is estimated at 65 344 tonne, equivalent to 1 kg/person. Future demand at the present population growth rate will reach 83 483 tonne year 2010, 94 526 tonne in 2015 and 117 586 tonne in 2025. This is the minimum demand, since factors other than population are not considered here. These positive factors which trigger demand include the relatively low price of fish or the increasing prices of its substitutes; a rise in income; and improvement and expansion in fish distribution or supply networks and improvement in fish product quality. These factors may increase the projected demands by as much as 15 to 20 percent. Those factors that retard effective demand for fish require to be addressed through education, fish consumption promotion and product development.

### **Supply**

At present, the country has an estimated annual total exploitable fish potential of 51 481 tonne, which can meet only 79 percent of the current actual demand, 55 percent of the projected demand in 2010, and 44 percent of the projected demand in 2015, based solely on population size.

In view of this, the present waterbodies or fish supply sources are unable to meet the demand. This calls for an increasing focus on stocking and enhancement of artificial made waterbodies and development of aquaculture. Encouragement of importation of fish products can be seen as a last resort, considering the objective economic realities of the country.

## **DEVELOPMENT PROSPECTS**

The current low level of exploitation of the fisheries leaves considerable room for further expansion, with an estimated additional 36 000 tonne of fish is available for further exploitation.

However, important constraints remain to be addressed in order to be able to realize the opportunity. Much effort will be needed to improve research, technology and extension; expand and improve support infrastructure such as access roads, landing and onshore processing facilities; expand distribution networks; and strengthen the government fishery administration in the areas of effective resource monitoring, coordination, planning and control of the industry.

Aquaculture prospects on an extensive scale seem considerable when viewed in the light of the high priority given to water harvesting, and from the physical suitability of the country for the best known cultured species. In addition, availability of agricultural residues and industrial by-products for feed seems to support small-scale commercial aquaculture. Commercial aquaculture for export seems promising.

Looking at these possibilities, the government is planning to introduce in particular rural aquaculture as part and parcel of rural development strategies. However, systematic assessment of the technical and socio-economic potentials of aquaculture remains to be addressed, as does the acquisition of appropriate aquaculture production technologies, through either research or transfer.

## **RESEARCH**

The responsibility for research in fisheries and living aquatic resources lies with the Fish and Other Living Aquatic Resources Research Centre within the Ethiopian Agricultural Research Organization. Some regional states have their own agricultural research organization, but only two regions, Amhara and Oromya, have organized fishery research and training centres within their research organization.

The Biology Departments of Addis Ababa University, Alemaya Agricultural University and Debub University also undertake basic research in fisheries. However, most of the research carried out in the past has been fragmented and academic, with limited relevance for practical fisheries development and management.

Until three years ago, the EU/Lake Fisheries Development Project (LFDP) had in place and exercised a systematic stock assessment and catch and effort data collection system on Rift Valley and Tana lakes. However, following termination of the project in 1998, the system has been dormant due to funding and administrative constraints.

No research has been attempted in the field of aquaculture and river fishery. They remain in the dark. Improving existing research capacity and supporting it with fund is a priority.

## **AID**

In the past two decades, the fishery sector has been supported by external project assistance. Between 1981 and 1987, the support of the EU/LFDP (Phase I) was oriented to increase and improve fish production and marketing from the Rift Valley lakes. In addition

to resource monitoring, support was given to the government fish production and marketing corporation (now enterprise) and to fisher cooperatives, which had in the period the legal right to operate in fishery under the socialist regime.

Since 1986, the Ethiopian Orthodox Church/Inter Kerk Urk (EOC/DICA) has implemented a development project in the southwest bay of lake Tana. The project has supported a research programme on limnology and introduced motorized fishing to the lake, if not the country, for the first time. The project extended some small assistance to the development of the most southern Rift Valley lake - Chamo - through the supply of equipment and materials to the old established fishers' cooperative in Arba Minch.

LFDP (Phase II), with the main aim of increasing the contribution of fisheries to food security and rural development, was implemented between 1992 and 1998. Major project components included resource monitoring, infrastructure development, training and credit.

Currently, a National Fisheries Development Study Project has been prepared, with the main objective of acquiring knowledge on the fisheries resource base, and identifying development and management interventions. The project is pending subject to secure donor assistance. In the last three to four years, the fishery sector has been without actual project support, and hence its activities have been weakened, and even past project activities are not sustained.

## **FISHERIES ADMINISTRATION AND SERVICES**

At the federal level, the status of fishery administration was down-scaled from a Department to a Team, and further to the current expert representation in a big Animal and Fisheries Development Technology Team of the Animal and Fisheries Development and Regulatory Department under the Ministry of Agriculture (MoA).

Very recently, MoA has been undergoing another restructuring process, which is expected to upgrade the current status of the fishery administration to a division or team within the existing structure. Such a small entity may, even better than in the past, allow overall coordination, planning and supervision of the country's fisheries development and management activities.