FISHERY COUNTRY PROFILE	Food and Agriculture Organization of the United Nations	FID/CP/SRL
PROFIL DE LA PÊCHE PAR PAYS	Organisation des Nations Unies pour l'alimentation et l'agriculture	May2008
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THE REPUBLIC OF SIERRA LEONE

I. GENERAL INFORMATION

Table 1: General Information

Area:	72,326 km^2
Water Area:	155,700 km^2
Shelf Area:	30, 000 km^2
Length of Coastline:	560 km
Population (2006):	5.74 million
GDP current (2006):	US$ 1.45 billion
Agricultural GDP (2006):	37.8 %
Fisheries GDP (2006):	9.4 %

II. FISHERIES DATA

2003	Production	Imports	Exports	Total supply	Per caput supply
	tons liveweight				Kg/year
Fish for direct human consumption	96,926	96,926	5,043	94,491	19.0
Fish for animal feed and other	1	-	-	-	-

purposes					

Employment (2005)**:**	
Primary sector *(MFMR):*	Artisanal fisheries 30,000 full-time Industrial fisheries 1,000 full-time Inland/Aquaculture fisheries 5,000 full-time
Secondary sector:	Artisanal fisheries 200,000 part-time Industrial fisheries employs 2,500 part-time Inland/Aquaculture fisheries employs 5,000 part-time
Gross value of fisheries output (2005):	US$ 33,628 Industrial: US$ 74,289,236 artisanal: Total: US$ 107,917,633

Trade (2006):	
Value of imports:	US$ 1,419,000
Value of exports:	US$ 11,081,000

** Mostly frozen small pelagics (list, etc). Canned products not included*
*** Export from Industrial sector only*

III. SECTOR STRUCTURES

1. GENERAL - INTRODUCTION

Sierra Leone is endowed with abundant fish resources that have the potential of contributing significantly to food security, income and employment. The country claimed a 200 mile Exclusive Economic Zone (EEZ) in the early 1980s in conformity with the United Nations Convention on the Law of the Sea. The total area of the EEZ extends to some 155700 km^2. Opportunities for aquaculture activities abound in the marine environment and the inland water bodies all over the country. The fishery of Sierra Leone is broadly classified into three sub-sectors:

i. The industrial fishery which is highly mechanized and capitalized;
ii. The artisanal fishery which is a low technology small-scale fishery;

iii. The aquaculture and inland fisheries which is not fully developed.

2. MARINE FISHERIES

2.1 INDUSTRIAL FISHERIES

This sub sector is significantly export-oriented and the fleet ownership is almost wholly foreign based. Principally, the fleet comprises mainly of shrimp and finfish demersal trawlers.

The Ministry had systematically recorded changes in industrial fishing effort since 1981 In the last 20 years the industrial fishing fleet has consisted mainly of demersal trawlers, shrimpers, canoe support vessels and purse seiners belonging to various nationalities including Chinese, Korean, Soviet, Greek, Italian, Spanish etc. The number of licensed vessels peaked in 1987, with over 300 vessels, after which there has been a gradual drop, principally due to the withdrawal of the Soviet vessels (which then comprised about 60 % of the total industrial vessels), coupled also with the war which was then ongoing. The relatively large number of licensed purse seiners (for small pelagics) in the 1980's caused spectacular increase in industrial catches.

There is currently a large number of fishing companies listed of which about 20 are engaged in some fishing activity or the other. Only a few actually own vessels, cold storage and/or processing facilities. Recently, a new dimension has come into the industrial sector with some of the industrial fishing companies buying certain preferred species (e.g. Pseudotolithus spp.)and packaging them neatly for export largely to Asian markets

However, shrimp trawlers and demersal finfish trawlers still dominate the industrial fishery**.** The characteristics of the shrimpers have not changed significantly. The GRT of the shrimpers is generally between 75-200 tons whilst that of the finfish trawlers is between 100-300 tons. However, the tuna purse seiners or long-liners operating in Sierra Leone waters have GRTs between 1000-3000 tons and this is similar for the motherships and carriers.

There are however unutilized capacities in some of these fishing companies in the sense that these companies have massive onshore coldrooms but without currently operating fishing vessels. On the other hand, there are other companies that have operating fishing vessels but no onshore coldroom facilities.

2.2 NATURE OF THE ARTISANAL FISHERIES

2.2.1 Artisanal fishery

The artisanal fishery is a small-scale fishery characterized by diverse fishing gears and crafts and is a major activity in the coastal districts of Western Area, Port Loko, Kambia, Moyamba, Bonthe and Pujehun. The fishery is conducted from 530 fishing landing sites in the country (Table 5).

Table 5: Artisanal Fisheries Information At District Level

Coastal Districts	Fishermen	Fishing Crafts	Engines	Fishing sites
Western Area	6033	1321	340	56
Port Loko	7674	1402	192	87
Kambia	2971	735	52	45
Moyamba	3430	846	20	62
Bonthe	6826	2644	7	241
Pujehun	3545	994	2	39
Total	30479	7942	613	530

It creates direct employment for about 30,000 fishermen. Estimated 200,000 additional jobs are provided by ancillary activities like fish processing, marketing, boat-building and engineering, with women playing major roles in the fish distribution channels.

2.2.2 <u>Artisanal Fishing Units</u>

The total number of fishing crafts in the artisanal fisheries has increased from about 6000 in 1974 to about 8000 currently (Table 6).

Table 6: Artisanal Fishing Crafts, Fish Landing Sites And Motorization In The Artisanal Fisheries Per Coastal Districts

Coastal Districts	Fishing Crafts						Motorization	
	Kru	Std 1-3	Std 3-5	Std 5-10	Ghana	TOTAL	Outboard	Inboard
Western Area	223	625	209	230	34	1321	339	1
Port Loko	49	951	243	151	8	1402	173	19
Kambia	33	458	172	64	8	735	42	10
Moyamba	93	477	238	32	6	846	18	2
Bonthe	373	1887	330	47	7	2644	7	0
Pujehun	547	316	108	23	0	994	2	0
TOTAL	1318	4714	1300	547	63	7942	581	32

Source: Fisheries of Sierra Leone, 2003 Edition

The rate of motorization however declined from about 10 % in the 1980-90's to about 8 % in 2003.

There are five principal types of artisanal fishing units (Table 6):

i) Kru dugout canoe, one man operated usually with one-man fishing with handlines, castnets and gillnets. Propelled manually with paddle
ii) Standard 1-3 man planked canoe, used usually with hand lines, castnets, gillnets, handlines and longlines. Propelled manually with paddle.
iii) Standard 3-5 man planked canoe, used usually with beach seines, gillnets, surface driftnets, handlines and longlines. This craft is mainly propelled with outboard engine (between 8-15 hp)
iv) Standard 5-10 man planked canoe, carries between 5 to 10 people, used usually with bottom driftnets, ringnets, handlines and longlines. This craft is propelled with outboard or inboard engine (15-40 hp).
v) Ghana-type canoes (planked, between 10-16 people), used with bottom drift and ringnets. This craft is propelled with outboard or inboard engine (15-40 hp).

The different fishing gears utilized in the sector includes ringnets, bottom gillnets, surface gillnets, beach seines, castnets, longlines and handlines (Table 7).

Table 7: Types of nets in Sierra Leone Artisanal fisheries (2003 Frame Survey)

Districts	Ring net	Surface drift	Bottom drift	Surface set	Bottom set	Beach seine	Cast net	Hand line	Long line	TOTAL
Western Area	80	350	42	31	177	68	20	894	62	1724
Port Loko	483	1873	386	712	128	122	217	30	391	4342
Kambia	80	238	5	120	112	17	160	4	188	924
Moyamba	4	431	0	188	147	19	169	486	140	1584
Bonthe	13	783	591	395	663	40	117	317	660	3579
Pujehun	111	17	138	89	385	15	82	510	184	1531
TOTAL	771	3692	1162	1535	1612	281	765	2241	1625	13684

Source: Fisheries of Sierra Leone, 2003 Edition

3. INLAND FISHERIES

3.1 Inland Fishery And Aquaculture

Inland fisheries is primarily a capture fishery. Aquaculture is also engaged in to some extent.

3.2 Freshwater Capture Fishery

Inland fishery is practiced in ecosystems such as lakes, rivers, floodplains and other water bodies (e.g. Moa, Sewa, Taia, Malen and Wanje Rivers, Scarcies Rivers; Lake Mape, Mabesi) with a total estimated annual production of 16,500 mt. It is mainly a capture fishery and operates at subsistence level. The use of primitive technology to harvest the fish species in the rivers and lakes abound. The fishing crafts used are mostly dug-out canoes, which can have lengths of about 7 m. The propulsion is done by poling in shallow waters and by paddling in deeper waters.

The fishing gears are hook and line, longlines, castnet, setnet, driftnet, traps and baskets and scoop nets. There is a wide variety of species caught in the fisheries. There are some 150 freshwater fish species from 34 families inhabiting some rivers, streams, lakes and estuaries of Sierra Leone . About 40 species have been identified in the capture inland fisheries in the Pujehun district, including various *Tilapia spp*, Catfish, *Clarias spp, Chrysichthys spp*, *Bagrus spp*, *Mormyrids*, *Hydrocynus spp*, *Alestes spp*, *Synodontis* spp, *Hemichromis spp* etc., etc.

3.3 Inland Fisheries Aquaculture

Recent aquaculture survey estimated total fish production from ponds at about 60 mt per year (mainly Tilapia spp) from 1200 ponds in the country. The farmed fish is consumed by rural population and is particularly important for non-coastal area districts

4. RECREATIONAL FISHERIES

There is a high potential for recreational fishing and a number of exotic species abound. The possibilities are stretched all over the coast but sport fishing is largely centred in the south especially off Bonthe and Turtle Islands. In fact, this area is particularly world renowned for record catches by sports anglers.

5. AQUACULTURE FISHERIES

In the past, both mariculture and freshwater culture have been executed. Brackish water systems have also been explored

These aquaculture practices in Sierra Leone have been limited to the subsistence level In the 1970's, the Ministry promoted aquaculture in Sierra Leone and established two experimental fishing farming stations in Bo (south) and Makali (north) with the aim of propagating commercial fish ponds in the provinces by acting as centres for fingerling production (*Tilapia niloticus*) and for distribution. The species *Mullet*, *Catfish*, *Cutlass* fish have been tried but not successful as compared to Tilapia culture, done in earthen ponds.

Another good initiative was an oyster culture project which was well developed and gave positive results. Under this project. the Ministry established the biological bases of culturing mangrove oysters (*Crassostrea tulipa*) and identified raft culture technique as a viable and appropriate method.

Currently, under a MFMR (GOSL/ADB) initiative, fish ponds have been constructed in various inland areas in the country for these communities to have and manage. Under this same initiative, infrastructural support to aquaculture development is being facilitated by the construction of two Aquaculture Development Centres. These are strategically located (North and South) to service as much of the inland areas as possible. In addition, a project has been developed with FAO to address selected locations. This will be replicated in other areas as and when funding becomes available.

IV. POST HARVEST USE

1. FISH UTILISATION - (PRODUCTS & DESTINATIONS)

1.1 INDUSTRIAL

In the industrial fisheries, the products are largely frozen(mainly whole, ungutted) and exported to the sub-region and other African regions, Asia and USA. Much smaller quantities are exported fresh on ice the USA and Asia. Direct exportation to the EU is precluded by an EU ban which however could soon be lifted. An appreciable quantity of smoked and frozen products also goes to the USA market.

1.2 ARTISANAL

The artisanal fisheries produce mainly hot smoked products. Part of this is absorbed by the local or in-country markets while the bulk is exported to other African countries and beyond to Asia, USA, etc.

Much smaller quantities of salted and sun-dried products are also produced for both local and export markets.

1.3 INFRASTRUCTURE

This is poorly developed in the whole sector. There is no assured electricity supply to facilitate either processing or storage of fish and fish products. There are indications that this will improve by the end of this year. In another two years time, there will be a much better situation as the main hydo-electricity facility would have been completed.

SHORE-BASED FACILITIES

A fish harbour for the industrial fleet is also lacking. The present slipway for repairs has a limited capacity. Plans have been drawn for the fish harbour complex and revised in year 2006 with FAO support.

For the artisanal sector, landing , processing, storage, distribution and marketing all need improvement. These will be enhanced by the construction of *"Community Fishing Centres"* in four strategic locations in four coastal districts. Two central inland fisheries facilities/centres will also be constructed under the same GOSL/ADB funded AFDEP Project.

V. SECTOR PERFORMANCE (ECONOMIC, SOCIAL & ECOLOGICAL)

1. ECONOMIC

The sector generates revenue and is also an important foreign exchange, thereby contributing to GDP. It also offers a wide range of employment opportunities.

2. DEMAND

For a population of approximately 5 million people, with a per caput demand of 35 kg the estimated demand is 175,000 metric tons.

3. SUPPLY

The supply is estimated at 95,000 metric tons (19 kg/pa/per caput x 5 million = 95,000 mt.

4. TRADE (Import/Export flows in FX)

Volume and value of the fish export

The species targeted for export in shrimp trawlers comprise largely of *Cynoglossus spp* (50- 60 %) and *Pseudotolithus spp* (20-30 %). High valued deep-water species like the *Sparids*, *Epinephelus spp* and *Lutjanids* are also exported in reasonable quantities.

5. FOOD SECURITY

Fish is the cheapest source of animal protein in the country and it therefore impacts positively on Food Security. This impact is higher along the coast than inland because of higher availability in the coastal areas. The inland impact will improve with the implementation of the Fish Farmers Project.

6. EMPLOYMENT

As can be seen from the table 3 above, in the artisanal fisheries, the numbers engaged are 30,000 full time and 200,000 part-time, in the industrial fisheries 5,000 full time and 5,000 part-time while the inland/aquaculture section has 5,000 full-time and 5,000 part-time. This gives an overall total of 250,000 both part-time and full-time (at the primary and secondary levels).

It is estimated that the industrial fisheries activity currently employs about 1000 people and contributes between 15-20 % of total fish production in the country. The largest single employer is Sierra Fishing Company (ex African Star Fishing Company). The other companies also contribute but to lower degrees.

7. RURAL DEVELOPMENT

The artisanal fisheries has contributed to the development of the rural communities. This development in the past helped to stem rural-urban migration had been an age-old problem. The incidence of the ten year long civil conflict precipitated mass exodus from the rural to the urban areas thereby aggravating this already existing problem. However, following the return of peace, in the past ten years or so there a number of fisheries projects have been implemented which have encouraged some of the displaced fisherfolks to return to their original communities. Those not wishing to return have been helped or encouraged with fisheries projects in their new locations.

VI. SECTOR DEVELOPMENT

1. CONSTRAINTS

1.1 INFRASTRUCTURE

This is inadequate as there are few and poor landing facilities for both the artisanal and industrial sector, electricity power supply is not assured, cold storage facilities are few, roads are poor (restricting distribution and marketing), there are no fish markets, etc. Currently, the EU ban is restricting direct exportation to the EU

1.2 CAPITAL

The industrial; fisheries sector is a capital intensive sector as the input costs (i.e. for vessels, gear, plants, etc.) and the operational expenses/costs (especially for fuel) are very high. Such high capital outlays inhibit indigenous entrepreneurs from entering the industry as the capital is not readily/easily available locally. Even sourcing it externally is also not easy.

2. DEVELOPMENT PROJECTS/STRATEGIES

2.1 STRATEGY

In the past, while it was perceived that both the artisanal fisheries and the industrial fisheries should be developed, the development support from GOSL has been focused on the artisanal sector. It was at the same time expected that the industrial sector would take care of its own development.

This strategy has now changed and the development focus now holistically encompasses the artisanal and industrial sectors.

2.2 INDUSTRIAL SECTOR

In this sector, ongoing projects include

i. Fish Harbour Complex (Proposed project)

ii. Institutional Support for Strengthening of Fisheries Management (EU funded, ongoing)

iii. Strengthening of Sanitary Conditions of Fish and Fish Products (EU funded, ongoing)

iv. Favourable Taxation Regime (Proposed strategy).

2.3 ARTISANAL SECTOR

The main ongoing project in this sector is the AFDEP Project jointly funded by the ADB and GOSL.

a. Provision of fishing inputs (gear, engines, boats, etc) through credit

b. Construction of Community Fishing Centres in four strategic locations

2.4 INLAND/AQUACULTURE SECTOR

The two main ongoing projects are as follows.

i. Fish Farming Project: This is a $320,000 TCP for 3 years. Primarily the main expected output is to increase production in 3 non-coastal districts from 500 – 1000 kg/ha/yr to 15 kg/ha/yr.

ii. The AFDEP Project mentioned above: This will be constructing 2 Inland Fisheries/Aquaculture Development centres. In the North(Makali) and the South. (Bo).

3. RESEARCH

3.1 INSTITUTIONS

The main institutions involved in fisheries research are the Institute of Marine Biology and Oceanography)IMBO) and MFMR

3.2 PROJECTS

Ongoing projects are as follows.

i. EU funded Institutional Support Project (National Project).

ii. Guinea Current Large Marine Ecosystem (GCLME) Project - Sub-Regional Project.

iii. Canary Current Large Marine Ecosystem (CCLME) Project - Sub-Regional Project.

4. EDUCATION

4.1 PUBLIC SECTOR

Here there is a high quality core of well trained professionals in the MFMR and other related institutions. The numbers are inadequate for envisaged development and expansion of programmes. This applies not only to the senior professional level but also to the middle level cadre and even the junior staff level.

4.2 PRIVATE SECTOR

There are only a few skilled personnel and there is a need for much more to be trained.

4.3 INSTITUTIONS

Locally, training has been done by IMBO and also latterly by the ESTU Marine Training Institute. Sub-regionally, use has also been made of the Regional Maritime Academy in Ghana which has now been upgraded into a Maritime University. Internationally, various institutions have been used in the developed countries such as Britain, Norway, Soviet Union, etc.

5. FOREIGN AID

5.1 AFDEP

The overall objective is to promote artisanal fisheries development. The time scale is 5 years from 2002 to 2007. It is now being extended to 2009. The institutions involved for funding are GOSL and ADB, while for implementation, MFMR is the implementing agency in conjunction with other collaboration institutions e.g. IMBO, Maritime Wing – AFRSL, Forestry Department, HIV/AIDS Office, Environment Commission, Credit Bank. The expected outcomes are improved and sustainable livelihoods of artisanal fisherfolks and inland rural fisheries communities.

5.2 EU CERTIFICATION – STRENGTHENENING OF FISH & FISH PRODUCTS SANITARY CONDITIONS

a. Objectives: Strengthening/improving quality of fish products.
b. Time Scale: The first phase of this project is from 2005 to 2007. This phase has ended. The second phase is expected to start soon.
c. Institutions involved: These are the EC and GOSL for funding and
d. Expected Outcomes: Exportation of EU enhanced.

5.3 EU SUPPORT TO FISHERIES MANAGEMENT

a. Objectives: Strengthening fisheries management/Capacity building.
b. Time Scale: 3 years from 2007 to 2009.

c. <u>Institutions involved:</u> These are the EC, MFMR and IMBO.
d. <u>Expected Outcomes:</u> MFMR strengthened, fisheries management improved.

VII. SECTOR INSTITUTIONS

1. **FISHERIES MINISTRY**

The main public sector institution having legal mandate for the administration and development of the sector is MFMR The present organizational structure of MFMR starts with a Minister assisted by a Deputy Minister (Political Head) followed by a Permanent Secretary (Administrative Head), then a Director of Fisheries, Deputy Director, Assistant directors, Principal Fisheries Officers, Senior Fisheries Officers, Fisheries Officers and other middle level and junior technical staff. A review has been done under the Governance Reform Progamme and an improved structure proposed. This is still awaiting ratification by Cabinet.

2. **OTHER MAIN INSTITUTIONS**

Other institutions either related to the sector and/or collaborating with MFMR are as follows:

- Institute of Marine Biology & Oceanography (IMBO
- Maritime Wing , Armed Forces of the Republic of Sierra Leone
- Sierra Leone Ports Authority (SLPA)
- Sierra Leone maritime Administration (SLMA)
- National Revenue Authority (NRA)
- Joint Maritime Authority (JMA)

3. **MAJOR STAKEHOLDERS**

In the artisanal fisheries, apart from the public sector stakeholders (MFMR, etc.), there are some key private sector stakeholders such as fisherfolks, fishermen, marketers, handlers, processors, etc. In the inland areas, the local communities are the main stakeholders, whereas in the industrial fisheries, the stakeholders include the fishing companies, the vessel owners, local agents, etc.

4. **MAJOR INTERNET LINKS**

The main public sector institution i.e. MFMR has highly developed internet facilities. Most of its collaborating institutions in the private or public sector, both locally and internationally, also maintain good internet facilities. In this manner, good internet links are maintained local and externally with a lot of institutions.

VIII. LEGAL FRAMEWORK

The main documents forming the legal framework for the management of the sector are

- The Fisheries Management and Development Act (FMDA) of 1988
- The Fisheries Management and Development Act (FMDA) of 1994
- The Fisheries Regulations of 1995
- The Fisheries Policy of 2003.

The FMDA 1988 established the Ministry of Fisheries and Marine Resources and gave it a legal mandate to develop and administer the sector. This FMDA of 1994 was developed with World Bank assistance and subsequently replaced the FMDA of 1988. There is also the Fisheries Policy which was developed in 2003 with FAO assistance.