

SOCIO

06

# Sri Lanka Fisheries

*Year Book*  
1998



NATIONAL AQUATIC  
RESOURCES RESEARCH  
AND DEVELOPMENT  
AGENCY

**SRI LANKA**  
**Fisheries Year Book**  
**1998**



**SOCIO-ECONOMIC AND MARKET RESEARCH DIVISION**  
**NATIONAL AQUATIC RESOURCES RESEARCH AND**  
**DEVELOPMENT AGENCY (NARA)**  
*CROW ISLAND, COLOMBO -15*  
*SRI LANKA*

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## Message from the Chairman

It gives me great pleasure to write this message for the publication of the Second edition of the "Sri Lanka Fisheries Year Book".

More and more people are now becoming interested in the fishing industry of the country. Moreover, fisheries has been included as a part of the school curriculum, and I am sure that school children will benefit immensely from this publication. The advantage of the Sri Lanka Fisheries Year Book is that it not only gives detailed information in regard to the fishing industry of Sri Lanka but it is also going to be an annual publication. Thus it will remain an up to date data source book to all those interested in this industry.

Compared with the First edition, the Second edition has been enlarged to include analytical explanations of the raw data provided. This would be useful for future planning and policy making.

There are several problems in our fishing industry of which depletion of the coastal fish resources, degradation of coastal environment, post harvest losses and quality improvement, improving the living conditions of the fisherfolk, enhancement of local fish marketing systems are some of them. Coastal resources are generally in conflict between fishermen and other users. Conflict between small scale and large scale fishermen are also frequent. Moreover, coastal fishery management is complicated from the view point of both resources and the exploitation methods in use. Answer and solution to such problem have to be made on reliable data and information gathered.

NARA is an organisation coming under the purview of the Ministry of Fisheries and Aquatic Resources Development and is mandated to undertake research activities related to the fishing industry and advise the Ministry accordingly. This is with the hope that such research findings will provide answers to the problems and contribute towards the improvement of the fishery sector. NARA is doing its best through a multitude of applied research activities implemented by the different divisions. The publication of the Sri Lanka Fisheries Year Book is one of such activity.

The publication of the Second edition in such a short time reflects the hard work, commitment and sprit of the Socio-economic Division/ NARA. I would like to thank the division for their valuable and committed contribution.

**Professor P. W. Epasinghe**

Chairman, National Aquatic Resources Research  
and Development Agency

January 1999

## **Preface:**

The division is now proud in bringing out the second edition of this series. The first edition was published in July 1998. Complimentary copies of the First edition were distributed to many Government Departments, some International Institutions, Universities, as well as a few others who provided us with the data and information. The acknowledgement that we received from most of them show without any doubt that the document was timely and well received.

As a matter of fact, all are aware that the fishing industry is a wide and vast field of endeavour and as such, it is difficult to present all the information in the first publication.

The First edition provides the fisheries related information collected from various sources as they were. Even then the data and information was appreciated very much by many people and users. This became a great source of encouragement for us to prepare the Second edition so quickly and easily. This time, we were able to get more information and data from a wider circle. The information has been analysed wherever possible. We would like to request the users of the book to give their comments and suggestions which will definitely help us to improve the future editions.

We would like to convey our sincere thanks to those who sent us their appreciation of the First Edition as well as to those who gave additional information for the Second edition. We would also like to express our sincere thanks to Dr.K.Sivasubramaniam who assisted us with his valuable comments and suggestions and for his review of the First edition.

Last, but not least, we would like to thank Honourable Mahinda Rajapakse, minister of Fisheries and Aquatic Resources Development who accepted with appreciation, the first copy of the First Year Book and the Secretary of the Ministry, the Chairman and Director General of NARA for their participation at the presentation.

**Dr. K. Rupamoorthy**  
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NARA

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Table: 1-1  
**Basic Information - 1997**

1.	Land area (Excluding Inland Water)	: 62,705 sq.km
2.	Coast line of the country	: 1739.3 km
3.	Continental shelf area	: 30,000 sq. km
4.	Exclusive Economic Zone	: 517,000 sq. km*
5.	Brackish water area	: 158,016 hectares
6.	Fresh water area	: 201,832 hectares
7.	Population of the country (1997) provisional	: 18,552,000
8.	Total Fish production (1996)	: 228,550 mt
	(1997)	: 242,000 mt
9.	Share of fisheries in GNP (1996)	: 1.7 percent
	(1997)	: 1.6 percent
10.	Milk production (1997)	: 252 million litres
11.	Egg production (1997)	: 855 million

Source: *Country study, Development of the resources of the sea for regional co-operation and national development-MARGA and Central Bank Reports.*

\* Territorial water is not included here

Table :II-1  
**Total Fish landings according to different sub-sectors, 1993 to 1997**

Year	1993	1994	1995	1996	1997	(mt)	
						96/95	97/96
						Percentage Difference	
Coastal	169,900	174,500	157,500	149,300	152,750	❖5.0	2.3
Off-shore/ Oceanic	33,000	37,500	60,000	57,000	62,000	❖5.0	8.8
Inland	18,000	12,000	18,250	22,250	27,250	22.0	22.5
Total	220,900	224,000	235,750	228,550	242,000	❖3.0	5.9

Source : *Data Management Unit, Ministry of Fisheries and Aquatic Resources Development.*

❖ Decline in percentage

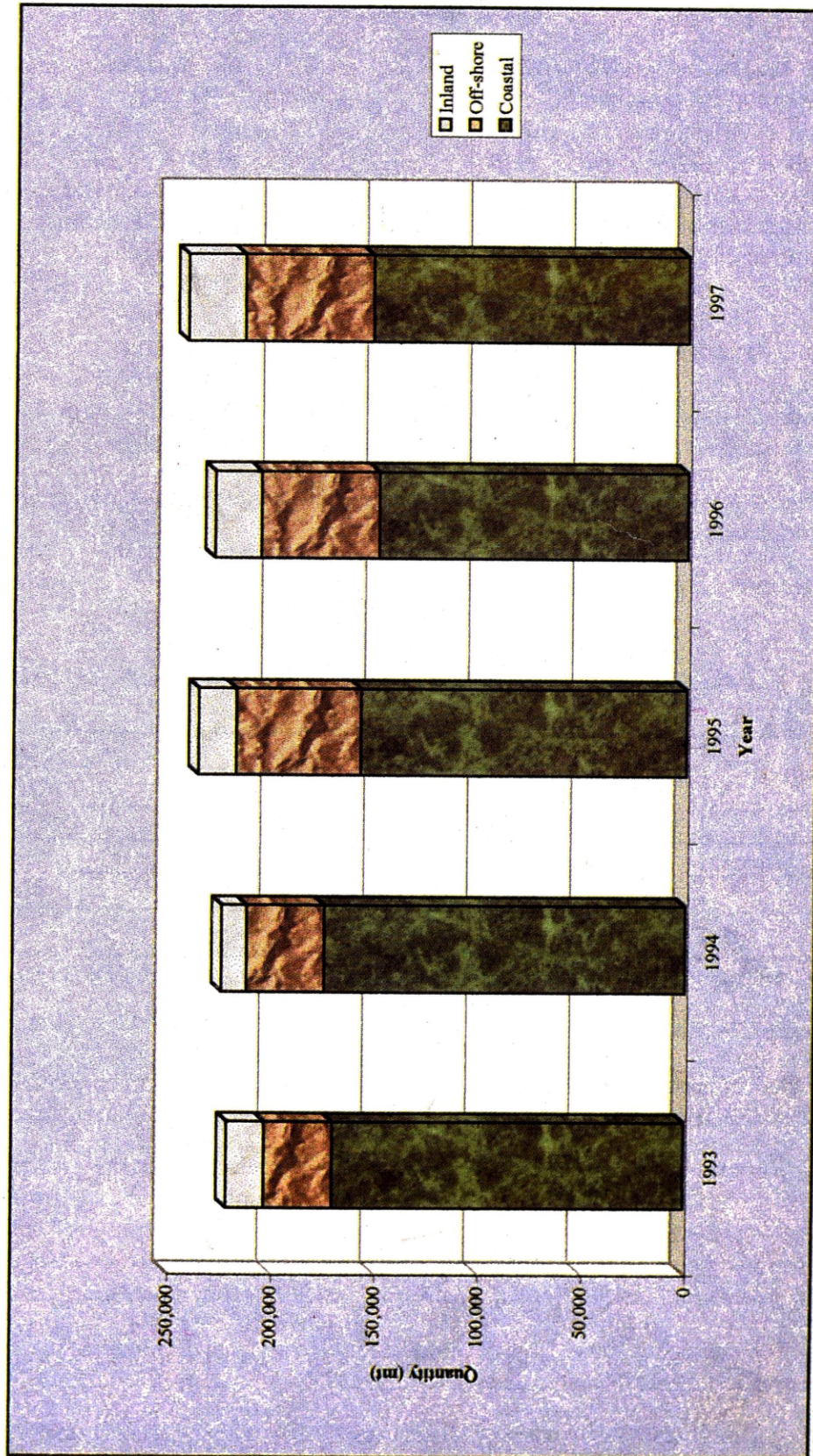
There was a gradual increase in the total fish production from 1993 to 1995 and reached 235,750 tons in 1995. In 1996 it declined by 3.0%. However, in 1997 it again increased by 5.9% and reached 242,000 tons.

The coastal fish production reached the highest level in 1994 but it declined in 1995 and 1996. The declines were 10% in 1995 and 5% in 1996. In the year 1997 it increased by only 2.3%. If we look at the coastal fishery sub-sector of the past 5 years, the increase is either very minimal or it has declined. There are many reasons for this, of which the over exploitation of the coastal resources is an important one. The other is the decline in the production from the North and East which contributed to a large extent in the past.

The off-shore fish production too in 1996 declined to 57,000 tons from the previous year 60,000 tons. This decrease is about 5%. Again this increased by 8.8% in 1997.

After 1994 the inland fish production has been increasing steadily with the encouraging policy of the present government. The production increased in 1996 and 1997 by 22.0% and 25.5% respectively.

Chart - 1  
**Total fish landings according to different sub-sectors, 1993 to 1997**



*Source : Based on the data provided in Table II-1*

Table: II-2  
Coastal sector fish landings according to major fish varieties, 1993 to 1997

(mt)

Variety	1993	1994	1995	1996	1997 <sup>‡</sup>
Seer	3,369	3,200	2,993	2,170	2,400
Paraw	8,378	8,000	6,910	6,090	6,900
Balaya	19,316	20,475	23,548	25,630	27,600
Kelawalla	11,981	13,180	12,050	12,740	14,600
Others Blood Fish	10,681	11,215	17,642	15,940	14,800
Shark and Skates	19,061	19,500	14,017	7,110	8,800
Rock fish	10,277	10,585	7,088	8,970	9,100
Shore Seine Varieties #	37,379	38,870	49,785	48,220	42,700
Shrimps	6,737	7,000	**	**	**
Lobsters (spiny & supper)	862	1,000	400	**	**
All other varieties	41859	41,475	23,067	22,430	25,850
Total	169,900	174,500	157,500	149,300	152,750

Source: Data Management unit, Ministry of Fisheries and Aquatic Resources Development

<sup>‡</sup> Provisional estimates

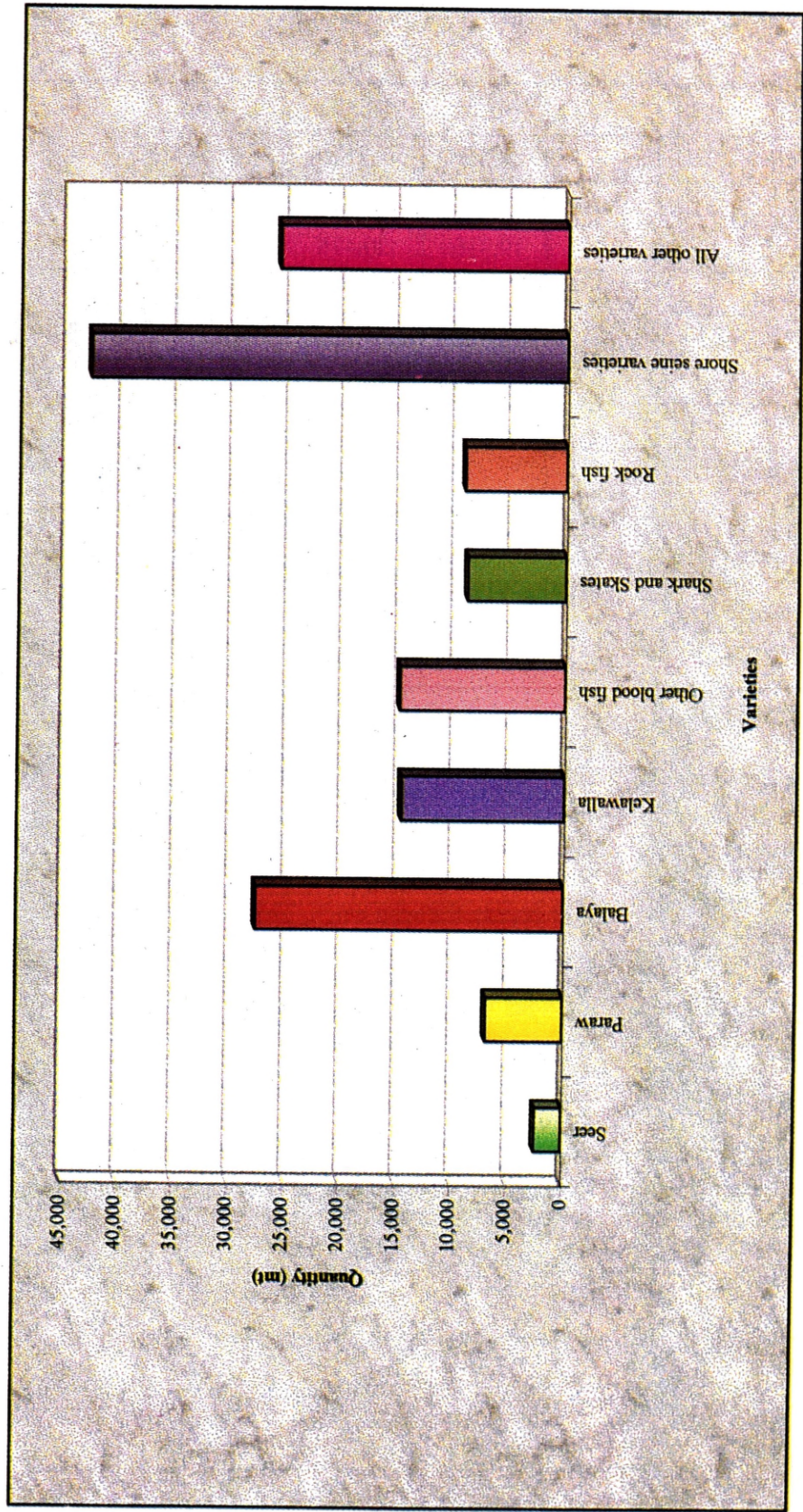
\*\* Included under others

# Shore seine varieties include mainly the small pelagic and some small demersal fishes

Shrimp landing given here for 1993 is only the wild catch. The same for 1994 is for both wild catch and aquaculture production.

***Pelagic fish:*** Fish living at or near the surface- Small pelagic species such as sardines, herrings, anchovies, mackerel etc. which are in coastal waters and are known as coastal pelagic. Large pelagic fishes such as tunas, tuna like fishes, king mackerel, bill fishes etc. are mostly in the edge and beyond the continental shelf.

**Chart - 2**  
**Coastal sector fish landings according to major fish varieties - 1997**



*Source : Based on the data provided in Table II-2*

Table: II-3  
**Coastal sector fish landings according to major fish varieties (in percentage),  
 1993 to 1997**

(mt)

Variety	1993 [%]	1994 [%]	1995 [%]	1996 [%]	1997 [%]
Seer	2.07	1.92	1.9	1.45	1.57
Paraw	5.16	4.8	4.40	4.08	4.52
Balaya	11.90	12.29	14.98	17.17	18.07
Kelawalla	7.38	7.91	7.67	8.53	9.56
Other Blood Fish	6.58	6.73	11.22	10.68	9.69
Shark and Skates	11.74	11.71	8.92	4.76	5.76
Rock fish	6.33	6.35	4.51	6.00	5.96
Shore Seine Varieties	23.03	23.34	31.69	32.30	27.95
All other varieties	25.79	24.90	14.68	15.02	16.92
Total	100%	100%	100%	100%	100%

Source: *Data Management Unit, Ministry of Fisheries and Aquatic Resources Development*

\* Shrimp and Lobster are not included in the total production

On a commercial basis, the fish production in the country is categorized into eleven (11) varieties. The production of seer variety has declined from 3,369 tons in 1993 to 2,400 tons in 1997. Similarly, the Paraw variety also declined from 8,378 tons in 1993 to 6,900 tons in 1997. These two varieties are very important in the fish production of the northern part of the country. Balaya production increased from 19,316 tons in 1993 to 27,600 tons in 1997. Similarly Kelawalla production increased from 11,981 tons to 14,600 tons in the same period. Other Blood Fish groups also increased from 10,681 tons to 14,800 tons in the same period. These three groups are mostly produced in the southern parts of the country. Shark fish (coastal) production declined from 19,061 tons in 1993 to 8,800 tons in 1997. Rock fish production fluctuates close to a level of 10,000 tons. Generally, these two varieties are produced throughout the country.

There is a substantial increase in the shore seine varieties which increased from 37,379 tons in 1993 to 42,700 tons in 1997.

The catch of other varieties declined from 41,859 tons in 1993 to 25,850 tons in 1997. These varieties show a very high decline. Some times, this group may be included in the other varieties.

The Shrimp and Lobster production increased from 1993 to 1994 (Shrimp 1993, 6,737 tons 1994, 7,000 tons, lobster 1993, 862 tons, 1994 1,000 tons). The production quantities of these varieties have not been recorded for the years 1995, 1996 and 1997. This is an indication that the shrimp and lobster industry have been facing a big problem.

Total: II-4  
**Coastal sector fish landings according to DFEO Districts, 1993 to 1997**

(mt)

D.F.E.O. Districts	1993	1994	1995	1996	1997(2)
Puttalam	24,867	26,732	27,028	22,096	20,100
Chilaw	20,198	21,308	21,554	21,605	18,900
Negombo	22,277	25,634	25,570	22,149	24,750
Colombo	2,250	1,923	2,152	1,327	1,800
Kalutara	9,368	9,703	9,903	12,769	12,400
Galle	14,173	14,386	15,309	16,231	16,400
Matara	13,823	14,375	14,809	15,259	14,400
Tangalle	14,427	15,204	15,499	14,165	15,100
Kalmunai	11,150	12,198	6,099	5,038	7,500
Batticaloa	9,750	10,538	6,261	5,592	7,100
Trincomalee	14,250	14,565	8,739	8,432	8,800
Northern Province (1)	13,367	7,934	4,577	4,637	5,500
<b>Total</b>	<b>169,900</b>	<b>174,500</b>	<b>157,500</b>	<b>149,300</b>	<b>152,750</b>

Source: *Data Management unit, Ministry of Fisheries and Aquatic Resources Development*

- (1) Northern province consists of Jaffna, Kilinochchi, Mullaitivu & Mannar D.F.E.O districts
- (2) Provisional estimates Excluding brackish water production

At present, Negombo, Puttalam and Chilaw districts are the most important areas in the coastal fish production. In 1997, the highest landing of 24,750 tons came from the Negombo district. On the other hand the production in the southern districts is in the range of 15,000 tons each. In the Districts of the north-eastern province, the production has declined to a minimum. Especially in the 4 DFEO districts of the north, the total production is only 5,500 tons in 1997. This is only about 3.6% of the country's total production, whereas, in 1983 these 4 districts produced about 36% of the country's coastal fish production. Prior to 1983 the quantity produced may have been higher. There is a demand from the fishermen of this area to lift the fishing restrictions, to engage in fish production.

Table:II-5  
**Off-shore / oceanic fish landings by species, 1994 to 1997.**

No.	Species	1994	1995	1996	1997
1.	Tunas	26,565	18,888	29,131	42,477
2.	Seer fish	297	202	240	365
3.	Bill fish	7,981	5,794	7,173	9,663
4.	Other bony fish	694	822	1,077	2,102
5.	Sharks	15,921	16,753	15,112	24,109
6.	Skates & Rays	3,246	1,295	2,427	2,167
7.	Mammals	1,244	412	206	87
	<b>Total</b>	<b>55,948</b>	<b>44,166</b>	<b>55,336</b>	<b>80,970</b>

Source: *Marine Biological Research Division/ NARA*

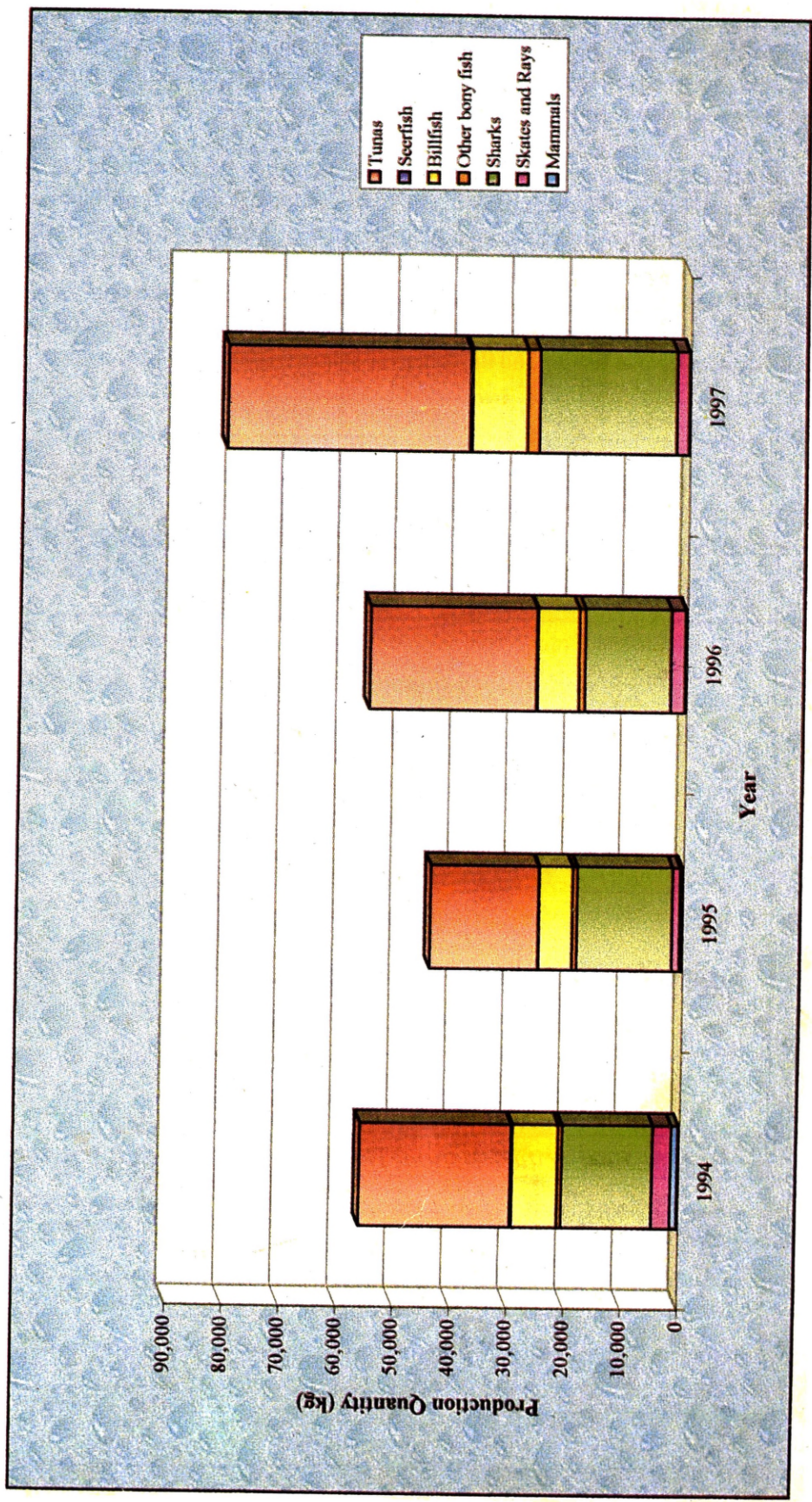
Off-shore and Oceanic fishing is becoming an important activity in our fishing industry. The total fish production in 1997 increased to 80,970 tons. Drift Gill net fishing is the major method in use in this fishery. Recently, few boats have begun to use Drift long-line gear. Skipjack and Yellow-fin tuna predominates the total catch in deep-sea fishery.

Tunas share more than 50% of the catch. Shark is also another important variety in Oceanic fish production and the catch increased to 24,109 tons in 1997. The species composition is almost uniform among different fishing zones (Western, South-western, Southern, South-eastern, Eastern and North-eastern zones). Oceanic fish catch is higher from May to August period. As the available data are only for four years, it is very difficult to predict any thing meaningful. The data provided here is from the Log Book programme administrated by the Marine Biological Research Division of NARA. There is some differences between this data on Off-shore/ Oceanic fishing and the data available from the Data Management Unit of the MFARD.

***High sea fish resources: There are two categories***

1. *Highly migratory species - These species are distributed essentially beyond 200 miles, although many of them may spend part of their life cycle in the coastal areas for reproduction or feedings. Highly migratory species are referred to by their species names.*
2. *Straddling stock - A portion of the EEZ stock extending beyond 200 miles and, undertaking extensive migration between the EEZs and high seas, across oceans and / or across many EEZs. Straddling stocks are referred to by their specific location. These stocks can be either pelagic or demersal. However, the above categories are not very clear.*

Chart - 3  
**Off-shore/oceanic fish landings by species, 1994 to 1997**



Source : Based on the data provided in Table II-5



Table: III-1  
**Total shrimp production, 1990 to 1995**

(mt)

Year	Aquaculture	Wild capture	Total production
1990	500	4,469	4,969
1991	1,100	5,176	6,276
1992	1,630	6,470	8,100
1993	1,910	6,737	8,647
1994	3,100	3,900	7,000
1995	3,600	1,400	5,000

Source: *Inland Aquatic Resources and Aquaculture Division /NARA*

Table: III-2  
**Cultured shrimp production, 1994 to 1997**

Year	Area (ha)	Shrimp production (mt)	Average production (mt/ha)
1994	2,700	3,100	1.1
1995	3,450	3,600	1.0
1996	3,782	2,360	0.6
1997	n.a	3,870	-

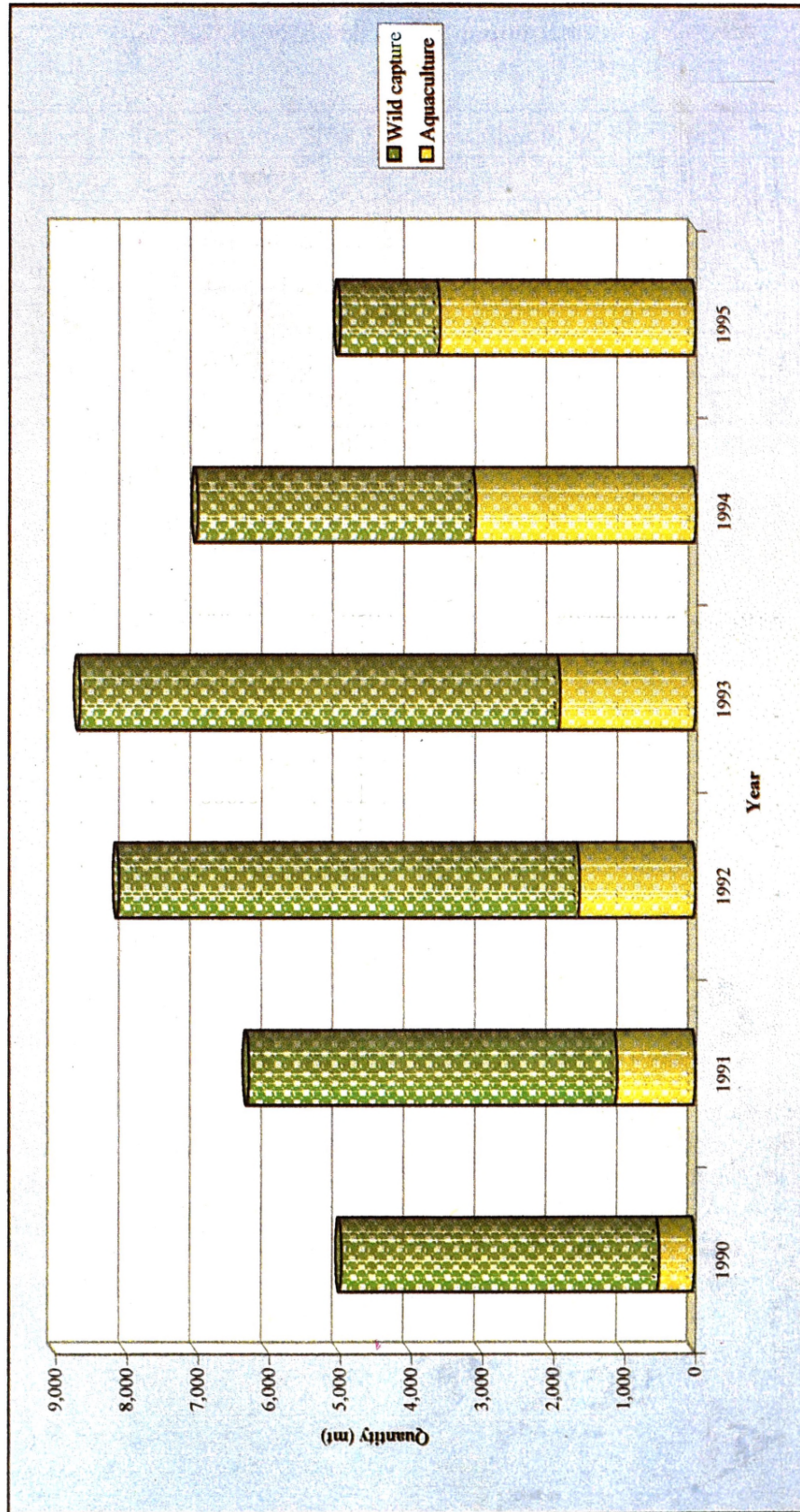
Source: *Inland Aquatic Resources and Aquaculture Division / NARA*

n.a. - not available

Only the authorized farms are given here

On the basis of the data available, the total shrimp production increase is only 31 mt from 1990 to 1995. If we examine the wild catch and cultured shrimp production separately, the wild catch production declined by 3,069 tons but the culture shrimp increased by 3,100 tons within this period. The average yield per hectare in shrimp culture was 1.1 mt in 1994 but declined to 0.6 mt in 1996.

Chart - 4  
 Shrimp production, 1990 to 1995



Source : Based on the data provided in Table-III-1

Table: III-3  
Seed (post larval) production and fingerlings stockings, 1998 (upto Sept.)

Seed production	Udawalawa	Dambulla	Other Centres
In Number	5,357,000	1,804,000	90,000
Grand Total			7,251,000

*Fingerlings Stockings*

No.	Districts	Carp	Tilapia	Total
01	Hambantota	129,667	55,675	185,342
02	Monaragala	59,500	6,825	66,325
03	Ratnapura	42,786	13,350	56,136
04	Galle	4,750	3,750	8,500
05	Polonnaruwa	8,200	15,250	23,450
06	Matale	61,400	11,700	73,100
07	Kurunegala	32,950	1,200	34,150
08	Anuradapura	51,950	16,850	68,800
09	Puttalam	24,350	2,000	26,350
10	Badulla	66,500	30,000	96,500
11	Matara	14,210	3,000	17,210
12	Nuwara Eliya	2,800	200	3,000
13	Colombo	6,900	1,750	8,650
14	Kandy	3,895	2,600	6,495
15	Kegalle	3,125	-	3,125
16	Trincomalee	8,000	2,000	10,000
17	Kalutara	8,750	4,000	12,750
18	Gampaha	10,275	600	10,875
19	Ampara	40	300	340
20	C.B. Programme	213,528	99,050	184,800
21	Udawalawe	244,835	76,905	321,820
22	Dambulla	145,850	38,950	184,800
	Total	1,144,261	385,955	1,402,518

Source: *Aquaculture Division / Ministry of Fisheries and Aquatic Resources Development*

The mortality rate during post larvae stage is very high. This is why there is a wide difference between the number of seeds produced, and the fingerlings stocked. Aquaculture division of the Ministry of Fisheries is taking steps to solve this problem.

Table:IV-1  
Local production and import of dried fish, 1988 to 1997

(mt)

Year	Local (01) Quantity	Import(02) Quantity	Total %	Local (01) %	Import (02) %	Total
1988	5330	30590	35920	14.8	85.2	100.0
1989	6080	20460	26540	22.9	77.1	100.0
1990	11120	38360	49480	22.5	77.5	100.0
1991	12930	43890	56820	22.8	77.2	100.0
1992	14400	44290	58690	24.5	75.5	100.0
1993	15500	64750	80250	19.3	80.7	100.0
1994	16120	47620	63740	25.3	74.7	100.0
1995	12000	44798	56798	21.1	78.9	100.0
1996	10000	43864	53864	18.6	81.4	100.0
1997	12000	48782	60782	19.7	80.3	100.0

Source: *Data Management Unit, Ministry of Fisheries and Aquatic Resources Development and Customs Report*

(01) Annual Estimates

(02) Customs Returns

Both quantities are in wet equivalent

In addition to local supply, fish has been imported for a very long time for our consumption. Imported fish generally covers around 35% to 40% of the total supply and dried fish plays an important part in our fish imports. About 80% to 85% of the dried fish consumed is imported from foreign countries like Thailand, Pakistan and India. Dried fish in the form of Maldivian fish has been imported from the Maldives. This is an important condiment in our daily food preparations.

***Demersal fish:*** *Fish living at or near the bottom of the sea bed. There are hundreds of species belonging to several families of which about eight varieties are more important in Sri Lanka. They are emperor fishes, snappers, jacks and trevallies, groupers, grunts / sweet lips, pony fishes, surgeon fishes, sharks and rays.*

Table: V (a)-1  
**Fishing crafts operated in different periods, 1983 to 1997**

(No.)

Year	In-Board	Out-Board	Non-Motorised Traditional	Total
1983	2,864	10,086	14,312	27,262
1994	3,185	10,720	15,444	29,349
1995	2,996	9,713	14,560	27,269
1996	3,253	9,473	13,880	26,606
*1997	3,329	10,061	14,375	27,765

Source: *Data Management Unit, Ministry of Fisheries and Aquatic Resources Development*

\* Excluding Northern Area

The total number of fishing vessels in 1997 is estimated as 27,765. This is a slight increase from the previous years. Of the total number of vessels in 1997, 3,329 (12.0%) boats are fitted with in-board engines, 10,061 (36.2%) vessels are with out-board motors and 14,375 (51.8%) crafts are non-mechanised traditional crafts. This shows that more than 50% of our fishing boats are still non-mechanised. However, the number of boats with in-board engines, especially the multi-day boats are increasing rapidly in the recent years. In 1994, there were 3,185 boats of this type and their share was 10.9% of the total. Whereas in 1997 this type of boats increased to 3,329 and shares 12.0% in the total number of boats. There is not much change in the number, or the percentage of the out-board motor boats, between the period of 1994 to 1997, whereas there is a small decline in the number of non-mechanised traditional crafts.

Anyhow, all the above numbers are estimates and not very reliable. Recently, the government brought in a regulation to register all the fishing boats and renew them annually. Even then, the registration process is very slow. Therefore, the registration process of fishing vessels should be expedited, which is very important to maintain a good management system in fisheries. Subsequently, this will help to protect our depleting fish resources.

Table: V (b)-2  
**Different fishing gear used in pelagic fishery in Sri Lanka**

(in percentage)

Type of Gear/ Gear combination	1986	1991/92
1. Drift Gill Net	91.4	25.07
2. Drift Gill Net and Long Line combination	4.77	38.52
3. Hand Line	3.13	6.50
4. Drift Gill Net and hand-Line combination	0.52	0.45
5. Drift Long Line	0.16	4.84
6. Purse Seine	0.02	0.09
7. Drift Gill Net, Hand-Line and Long Line combination	-	14.69
8. Troll	-	5.93
9. Pole and Line	-	0.41
10. Other / Combinations	-	3.50
Total	100%	100%

Source: *Establishment of Monitoring System for catches of Artisanal Drift Net and hand-line Fishing, FAO*

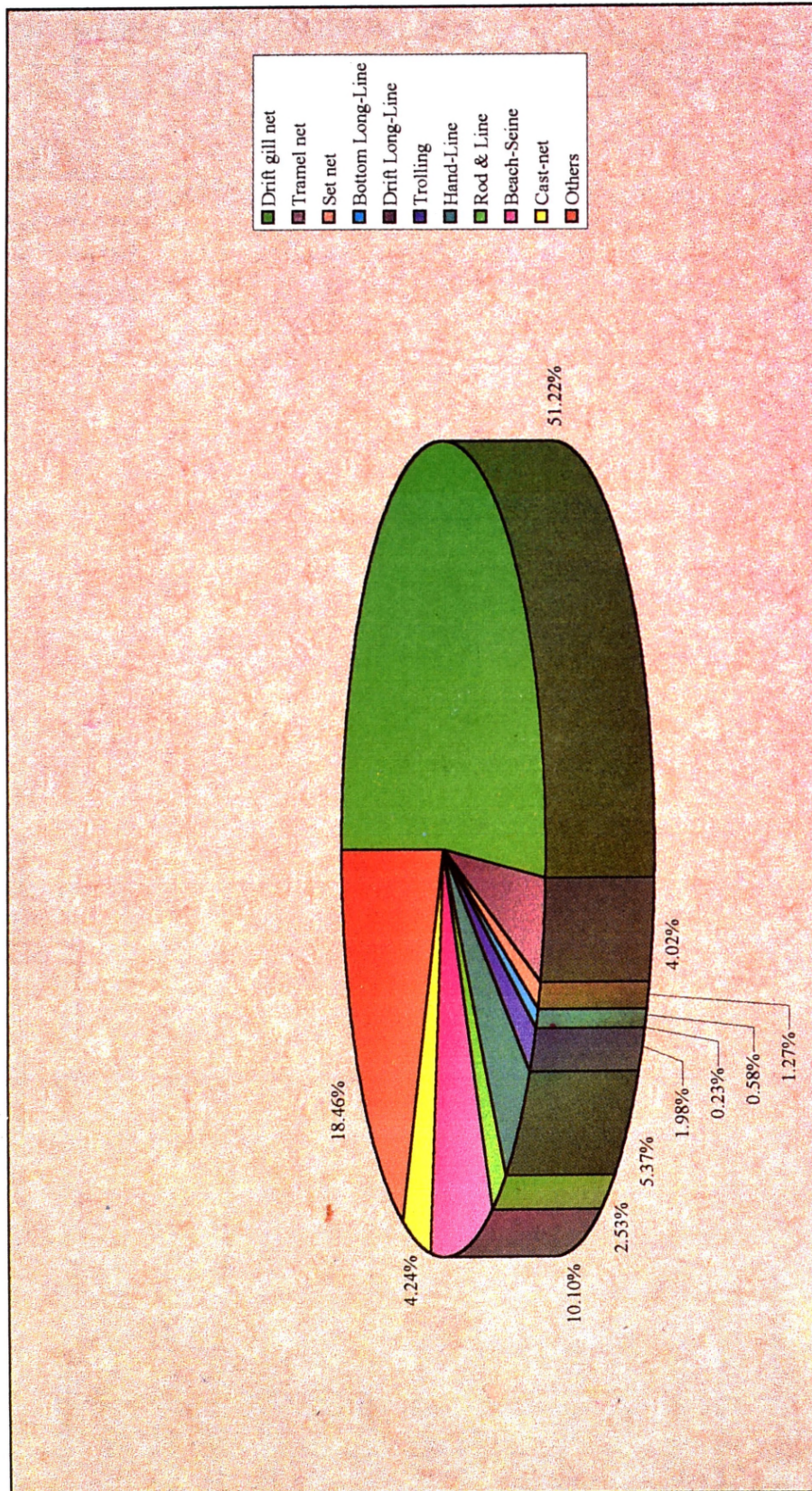
Table: V (b)-3  
**Contribution to fish production by different types of gear in Sri Lanka**

No.	Type of Gear	1972	1991		1997
		In-shore Fisheries	In-shore Fisheries	Off-shore Fisheries	Fisheries
1	Drift Gill Net	44.6%	70.00%	80.60%	51.22%
	Tramel net				4.02%
	Set net	5.8%			1.27%
2	Long-Line	0.4%	-	15.30%	
	Bottom Long-Line				0.58%
	Drift Long-Line				0.23%
3	Trolling	0.5%	5.00%	4.10%	1.98%
4	Hand line & Others		10.00%	-	
	Hand-Line	8.1%			5.37%
	Rod & Line	2.1%			2.53%
5	Bottom Trawl	0.3%	15.00%	-	
	Beach-Seine	4.8%			10.10%
	Cast-net	25.0%			4.24%
6	Portable Traps	2.4%			
7	Other Stationary Gear	1.8%			
8	Others	4.2%			18.46%
	Total	100	100	100	100

Source: *Census of Fisheries in Sri Lanka, 1972*  
*Fisheries Sector /Development Project, 1991*  
*Census of Marine Fisheries in Sri Lanka, February, 1997*

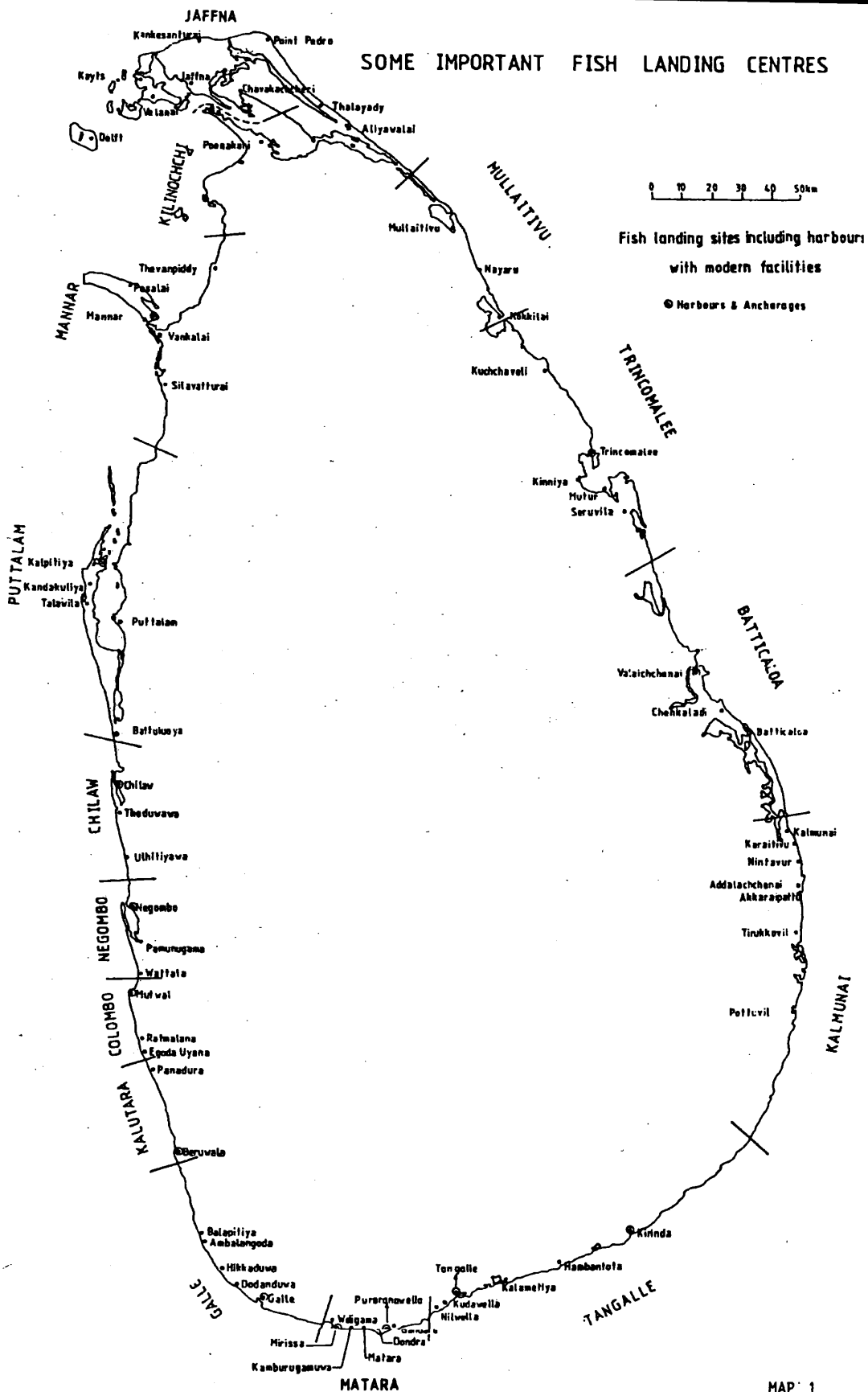
There is no reliable statistical information available about different fishing gear in use in the country. The fisheries census in 1972 gives some information about the gear used during that period. Drift Gill net was the most important gear used during that time. Census of Marine fisheries conducted in 1997 also provides information about the fishing gear in use. If we look into these two sets of information, there is not much change in the type of gear used. Still, gill net is our main fishing gear. There are some changes in the use of other fishing gear.

Chart - 5  
**Contribution to fish production by different types of gear in Sri Lanka -1997**



*Source : Based on the data provided in Table V (b)-3*

# SOME IMPORTANT FISH LANDING CENTRES



MAP: 1



Table: VI-2  
Fisheries harbours and anchorages with facilities

	Myliddy	Mannar	Colombo (Mutwal)	Beruwala	Galle	Mirissa	Puranawela	Tangalle	Kirinda
Basin Area (Ha)	3.0	2.2	0.8	10.0	5.0	7.0	8.4	2.0	3.19
Berthing capacity No. of boats	-	-	3 1/2-50, MDB=30	3 1/2-75, MDB=125	3 1/2-50, MDB=30	3 1/2-60, MDB=125	3 1/2-60, MDB=100	3 1/2-30, MDB=50	3 1/2-50, MDB=75
Land Area (Ha)	0.7	0.8	3.2	4.1	6	1.5	0.8	0.7	3.5
Dredged Depth (M)	2.4	-	4	2.5	6	2.5	2.5	2.5	2.5
Quay-wall Length (M)	64	-	120	100	192	156	150	102	173
Jetty length (M)	-	-	-	55	91	-	-	-	165
Slip way (T)	-	-	-	30	500+65	-	-	20	-
Boat lifting (T)	-	-	-	-	-	5	-	5	5
Block Ice T/D	-	-	10	-	-	5	5	10	-
Flake Ice T/D	-	-	18	10	50	-	-	18	5
Ice storage (T)	-	-	-	50	160	10	20	20	-
Blast Freezer T/D	-	-	15	10	16	-	-	-	-
Plate Freezer T/D	-	-	-	-	4	-	-	-	-
Frozen Fish Storage (T)	-	-	400	200	2700	-	-	-	10
Holding room Fish on Ice (T)	-	-	400	25	-	5	-	50	-
Processing room sq.m	-	-	-	125	750	-	-	-	-
Market area sq.m	-	-	-	260	1580	-	-	-	-
Office area sq.m	-	-	90	90	271	32	-	-	120
Store area sq.m	-	-	250	107	4180	60	-	100	-
Work shop sq.m	-	-	-	205	3492	195	-	120	200
Water Tank litres	23200	-	-	136000	341000	18000	18000	14000	26500
Fuel Tank litres	-	-	91000	‡available	227000	91000	-	91000	45000

Continued.....

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	Valaich-Chennai	Trincomalee (cod bay)	Kalpitiya	Chilaw	Negombo	Wellaman-kara
Basin Area (Ha)	4.1	20.0	0.8	-	-	-
Berthing capacity No. of boats	-	3 1/2-100, MDB=100	3 1/2-20, MDB=50	-	-	-
Land Area (Ha)	4	13	0.3	-	-	-
Dredged Depth (M)	2.5	6	2.5	-	-	-
Quay-wall Length (M)	100	152	-	-	-	-
Jetty length (M)	-	30	72	-	-	-
Slip way (T)	-	20	-	-	-	-
Boat lifting (T)	-	-	-	5	5	-
Block Ice T/D	-	10	-	5	10	-
Flake Ice T/D	-	-	-	-	-	-
Ice storage (T)	-	60	-	30	50	-
Blast Freezer T/D	-	10	-	-	-	-
Plate Freezer T/D	-	-	-	-	-	-
Frozen Fish Storage (T)	-	200	-	25	-	-
Holding room Fish on Ice (T)	-	-	-	10	50	-
Processing room sq.m	-	170	-	-	-	-
Market area sq.m	-	155	-	-	-	-
Office area sq.m	-	200	-	-	-	-
Store area sq.m	-	290	-	-	-	-
Work shop sq.m	-	492	-	205	28	206
Water Tank litres	-	318000	-	18000	45000	34000
Fuel Tank litres	-	-	‡available	-	-	-

Source: Fishery Harbours Corporation

ha -Hectares    mt - Tons    m<sup>2</sup> - Square meters    m -Meters    mt/d - Tons per day    MDB - Multi-day boats    ‡ - Capacity not known

Fishery harbours which provide protection to fishing boats are located in Colomno (Mutwal), Beruwala, Galle, Mirissa, Puranawela, Tangalle, Kirinda and Trincomalee, but the rate of utilization of some of them is low due to the poor state of the infra-structure facilities. Recently, rehabilitation and improvement were under way in some of them. In addition, the present government is initiating a suitable management system in these harbours as well as, in some anchorages located in other parts of the country.

Table: VI-3  
**Existing ice production capacity and future needs in Sri Lanka**  
(mt/d)

Area	Production capacity	Production needs	
	1983, 1997	2000	2005
North-Western	* 176.5	160	345
Western	* 482.5	514	488
Southern	* 311.7	595	567
Eastern	** 95.0	187	269
Northern	** 134.0	◆	109
Grand Total	1,199.7	1,456	1,778

Source: *Agriculture productivity & Analysts Project Report*  
*Ice production Study Report, Socio-Economic Division/ NARA*

- \* Situation in 1997
- \*\* Situation in 1983
- Projections for the years 2000 and 2005
- ◆ Could not be estimated

In 1997, there were 40 Ice plants with a production capacity of 971 tons per day in the 8 DFEO divisions of the North-West, West and Southern provinces. Also, there were two other plants with a capacity of 15 tons in Anuradhapura and Minneriya. According to an estimate made in 1983 there were 30 Ice plants with a production capacity of 224 tons in the North-Eastern province. Many of those plants have been damaged due to the ethnic violence. In the fisheries sector, Ice is used in Multi-Day Boat fishing, for preservation and distribution of fish in land as well as in the processing of shrimp for export to foreign markets.

Under different situations the requirements of ice in the country is increasing year to year. Recently, a study was under taken in the ice production sector to assess the present situation and the future needs. According to this study the needs of the ice plants will increase to about 1,450 tons per day and 1,775 tons per day in the years 2000 and 2005 respectively.

Table: VI-4  
Production of fishing nets and gear in the country, 1993 to 1997

(kg)

Year	Cey-Nor		J.B.F. Industries		Malba Ropes (pte) Ltd.			Total		Grand Total
	Nets	Mending Twine	Nets	Mending Twine	Nets	Mending Twine	Ropes	Nets	Mending Twine	
1993	173,835	7,713	239,811	57,393	120,000	15,000	370,000	536,646	80,106	986,752
1994	185,416	8,939	216,158	63,882	125,000	18,000	380,000	526,574	90,821	997,395
1995	184,460	12,110	217,821	72,677	130,000	22,000	395,000	532,281	106,787	1,034,068
1996	185,035	20,184	212,772	52,876	135,000	25,000	405,000	532,807	98,060	1,035,867
1997	170,765	14,145	227,166	82,867	140,000	27,000	425,000	537,931	124,012	1,086,943

Source: Cey-Nor Foundation Ltd., J.B. Fishing Industries Ltd. and Malba Ropes (pte) Ltd.

- In 1997, 34,001 kg of mending twine was produced by Jafferjees International, and this amount is included in J.B.F. Industries.
- Rope is included in the Grand total

Fishing gear and nets are the equipment directly used to catch fish. Until now, no quantitative information was available regarding the requirement of fishing gear in the country. It is presumed that the country needs more than 1000 tons of nets per year. Of this, about 550 tons are produced by 3 local manufactures. Another 350 tons are imported from foreign countries. Another approximately 100 tons are still in short supply.

Malba Ropes (pte) Ltd. provides major part of the rope requirements to the fishing industry.

Exports Table: VII a-1  
 -Import of fish and fishery products, 1992-1997

(Qty. in kg and Val. in Rs.)

Item	1992		1993		1994	
	Quantity	Value	Quantity	Value	Quantity	Value
Live fish (Ornamental fish)	46,371	3,098,507	81,941	6,125,876	99,502	13,046,375
Fresh or Chilled	55,482	612,731	11,309	393,175	14,697	1,158,177
Frozen	1,997	750,839	110,303	5,834,549	87,625	5,954,429
Fillets	16,766	1,287,910	108	113,159	529	408,998
Dried fish	41,952,161	1,503,742,195	62,131,696	1,552,175,902	43,891,331	1,632,227,865
Maldiv fish	√3,112,198	300,282,906	4,111,501	380,465,335	4,320,862	460,342,740
Shark fins	nil	nil	nil	nil	nil	nil
Crustaceans	162,688	15,393,969	6,272,197	13,038,832	334,700	12,904,494
Molluscs	44,825	3,568,667	181,859	9,570,846	415,083	14,593,300
Beche-De-Mer	nil	nil	nil	nil	nil	nil
Shell or Chanks	1,014	33,954	88	9,338	116	15,815
Prepared or preserved	11,916,333	617,277,300	7,416,808	488,700,095	13,168,786	814,478,222
<b>Total</b>	<b>57,309,835</b>	<b>2,446,048,978</b>	<b>80,317,810</b>	<b>2,456,427,107</b>	<b>62,333,231</b>	<b>2,955,130,415</b>

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Item	1995		1996		1997	
	Quantity	Value	Quantity	Value	Quantity	Value
Live fish (Ornamental fish)	367,498	10,575,152	20,457	12,568,477	23,951	18,002,201
Fresh or Chilled	16,097	625,590	11,888	2,988,962	93,731	7,138,729
Frozen	1,067	603,748	518,838	27,780,237	1,621,412	83,329,809
Fillets	1,096	129,753	89	119,497	46,703	5,424,059
Dried Fish	44,964,596	1,738,399,004	44,524,936	1,873,832,697	50,356,011	2,150,496,961
Maldivo fish	3,376,863	412,534,449	3,809,503	481,252,349	3,148,831	442,371,344
Shark fins	nil	nil	19,000	830,908	33,842	1,368,558
Crustaceans	149,800	16,430,281	1,293,669	165,333,168	571,943	75,726,339
Molluscs	nil	nil	207,060	16,560,824	119,513	15,175,354
Beche-De-Mer	nil	nil	3	697	nil	nil
Shell or Chanks	3,000	146,440	102	271,415	50	105,973
Prepared or preserved	20,489,892	1,239,962,336	18,205,401	1,096,692,975	21,031,446	1,532,673,885
Total	69,369,909	3,419,406,753	68,610,946	3,678,232,206	77,047,433	4,331,813,212

Source: External Trade Statistics of the customs

Table: VII a-2  
**Export of fish and fishery products, 1992 to 1997**  
 (Qty. in kg & Val. in Rs.)

Item	1992		1993		1994	
	Quantity	Value	Quantity	Value	Quantity	Value
Live fish (Ornamental fish)	386,765	159,783,055	995,138	204,977,227	743,046	248,297,359
Fresh or Chilled	77,170	10,315,820	355,089	69,328,055	379,294	67,730,115
Frozen	1,212,160	119,995,237	2,450,372	514,928,487	2,176,013	448,696,696
Fillets	39,512	5,372,756	103,766	11,346,133	410,609	8,294,693
Dried Fish	115,151	151,468,899	88,580	118,523,546	99,073	113,407,874
Shark fins	92,144	15,945,806	83,876	30,259,228	69,760	19,775,227
Crustaceans	1,540,778	761,183,900	1,843,168	1,042,617,691	2,792,668	1,937,877,575
Crabs	539,243	66,656,232	583,319	82,271,545	1,057,443	179,242,320
Molluscs	3,394	1,415,459	16,022	4,673,447	655,015	11,482,405
Beche-De-Mer	37,056	29,694,058	57,128	33,815,673	124,403	87,504,999
Shell or Chanks	421,995	13,935,061	244,744	20,309,448	255,606	33,847,366
Prepared or preserved	11,442	1,336,963	120,551	8,941,006	244,457	19,766,837
<b>Total</b>	<b>4,476,810</b>	<b>1,337,103,246</b>	<b>6,941,753</b>	<b>2,141,991,486</b>	<b>9,007,387</b>	<b>3,175,923,466</b>

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Item	1995		1996		1997	
	Quantity	Value	Quantity	Value	Quantity	Value
Live fish (Ornamental fish)	513,762	273,307,748	618,559	310,248,524	963,997	472,887,607
Fresh or Chilled	1,832,572	391,603,938	1,920,334	385,318,029	2,385,404	511,680,507
Frozen	147,857	18,287,851	396,972	76,010,902	729,881	106,952,448
Fillets	19,138	3,519,443	31,476	6,075,528	20,630	3,412,177
Dried Fish	165,950	67,676,939	153,799	56,859,074	90,550	24,701,019
Shark fins	148,484	134,389,627	52,300	111,515,788	147,487	206,440,365
Crustaceans	3,121,091	2,424,737,019	3,520,139	2,777,091,911	2,916,595	2,470,473,113
Crabs	975,500	181,404,182	859,521	180,625,228	608,573	136,869,894
Molluscs	11,412	2,700,317	16,012	5,208,429	53,800	16,350,816
Beche-De-Mer	259,889	150,255,595	193,916	177,198,869	307,578	373,673,116
Shell or Chanks	796,392	41,318,314	663,100	44,148,557	445,575	63,888,000
Fish Oil	n.a	n.a	11,720	4,482,465	-	-
Prepared or preserved	525,532	82,696,140	132,881	162,394,597	53,520	10,988,730
Ambergris	-	-	108,558	11,372,748	108,558	11,372,748
<b>Total</b>	<b>8,467,579</b>	<b>3,771,897,013</b>	<b>8,679,787</b>	<b>4,308,550,649</b>	<b>8,832,148</b>	<b>4,409,690,540</b>

Source: External Trade Statistics of the Customs

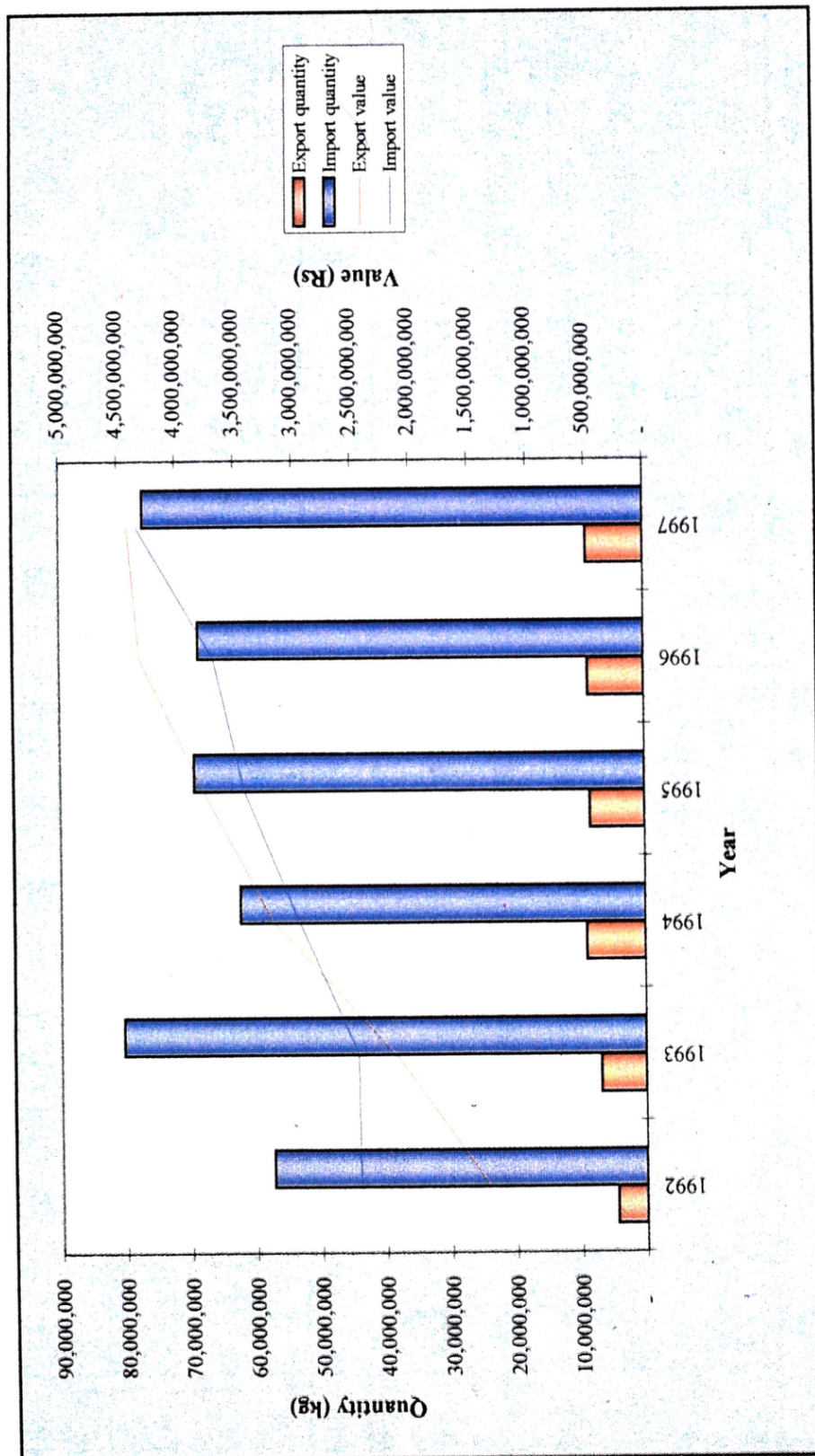
n.a. not available

- no export

All quantities are in wet equivalent



Chart - 6  
**Import and export of fish and fishery products, 1992 to 1997**



Source : Based on the data provided in Table VII (a)-1 and Table VII (a)-2

Table: VII a-3  
Country wise export of fish varieties, 1993 to 1997

(Qty in kg & Val in Rs.)

Year	Highest		2nd		3rd		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1993	638,247 (Japan)	132,677,976	9,517 (France)	2,137,687	7,756 (U.K)	881,921	658,561	136,214,007
1994	179,653 (Japan)	21,544,712	12,320 (U.K)	1,320,102	45,170 (Singapore)	1,267,266	249,344	25,315,765
1995	115,721 (Japan)	25,480,896	58,017 (U.K)	6,313,606	24,128 (Netherlands)	2,724,638	231,482	39,636,874
1996	510,679 (Japan)	112,886,279	118,043 (U.K)	13,589,501	12,000 (Greece)	1,638,728	664,010	131,742,044
1997	2,323,642 (Japan)	513,945,157	375,278 (U.K)	61,305,448	115,775 (France)	35,109,478	3,135,915	622,045,132

SHRIMPS AND PRAWNS

Year	Highest		2nd		3rd		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1993	1,062,119 (Japan)	649,797,805	155,872 (U. S. A)	91,347,913	45,132 (France)	16,886,247	1,377,685	802,133,570
1994	1,864,259 (Japan)	1,347,401,278	260,781 (U. S. A)	157,328,382	103,625 (Hong Kong)	55,926,849	2,353,647	1,650,471,233
1995	2,368,251 (Japan)	1,858,083,014	296,784 (U. S. A)	200,994,902	51,536 (Belgium)	32,578,335	2,798,786	2,153,171,578
1996	2,559,460 (Japan)	1,978,423,215	389,758 (U. S. A)	252,722,377	38,900 (Honk Kong)	30,114,494	3,163,196	2,368,184,391
1997	2,407,749 (Japan)	1,989,051,805	197,374 (U. S. A)	129,161,324	455,520 (Singapore)	98,872,500	3,525,168	2,607,343,007

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Continued .....

## BECHE-DE-MER

Year	Highest		2nd		3rd		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1993	36,209 (Singapore)	32,504,850	14,018 (China, Taiwan)	15,091,970	1,200 (P. R. China)	1,470,350	33,815,673	57,128
1994	40,624 (China, Taiwan)	38,044,735	50,538 (Singapore)	30,466,786	12,048 (Hong Kong)	14,769,198	124,403	87,504,999
1995	57,290 (China, Taiwan)	51,151,007	68,982 (Hong Kong)	48,580,969	116,502 (Singapore)	41,182,119	259,889	150,255,595
1996	73,266 (Singapore)	66,780,896	69,803 (Hong Kong)	50,758,357	27,457 (Taiwan)	38,505,358	193,916	177,198,869
1997	107,647	143,593,377	93,802	114,727,197	74,360	61,567,536	307,578	373,673,116

## ORNAMENTAL FISH

Year	Highest		2nd		3rd		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1993	22,269 (U.S.A.)	11,230,620	24,738 (Japan)	8,195,391	11,893 (Germany)	5,656,991	517,761	52,954,458
1994	28,663 (U.S.A.)	14,961,754	38,053 (Japan)	14,485,150	30,785 (Germany)	12,153,499	232,951	93,103,840
1995	83,319 (U.S.A.)	44,509,169	44,773 (Japan)	44,305,697	65,120 (Germany)	32,733,552	417,553	236,448,808
1996	77,305 (Japan)	56,662,339	91,444 (Germany)	47,795,763	111,427 (U.S.A.)	45,390,700	587,266	302,970,932
1997	172,410 (Japan)	109,183,564	163,693 (U.S.A.)	83,424,292	88,429 (Germany)	50,260,319	963,997	472,887,607

Source: External Trade Statistics of the Customs

\* Ranking order is based on the basis of Export Value  
P. R. People's Republic

Table: VII (a)-4  
International market prices

	JAPAN		U.S.A.	
	<i>Chilled</i> US \$ / kg	<i>Frozen</i> US \$ / kg	<i>Chilled</i> US \$ / kg	<i>Frozen</i> US \$ / kg
<b>1. TUNA</b>				
Southern Blue fin	9.14 - 31.63	21.09 - 70.30		
Blue fin	10.54 - 15.46			
Big eye	2.81 - 28.12	7.03 - 33.74	6.6	1.2
Yellow fin	7.79 - 15.46	2.81 - 14.06		
Skipjack	1.26 - 1.40			
<b>2. SHRIMPS</b>				
i Head less				
Black Tiger		31.60	21.00	22.88
White		29.50	25.00	29.33
Pink		26.00		18.22
ii Head on				
Black Tiger		60.60		
<b>3. CUTTLE FISH</b>	<b>1.0</b>	<b>1.3</b>		
		3.73 - 3.87		2.6

Source: *Infotech Trade News*, 03 August '98

Food is an important item in our imports. In 1995, Rs. 46.00 billion have been spent for food imports. In the last few years, food and drink imports have been declining to some extent, while the quantity of fish and fishery products imports have been increasing in the country. In 1997 alone, the fish and fishery products imports increased by more than 12.3% (by quantity) over the previous year, and the value has increased by 17.8%. Thus, still about 30% of our fish consumption is provided by imports. Dry fish is an important item in our fish products imports.

The export value of fish and fishery products increased from Rs. 1.5 billion in 1993 to Rs. 4.4 billion in 1997. In the same period the quantity of fish products export increased from 4,477 tons to 8,832 tons.

The major item of the export is the crustaceans, but this export has declined in both quantity as well as values in 1997 compared with the previous year 1996. The fresh/chilled and frozen fish product is another important variety in our export and has been making progress for the last few years. Other important items are ornamental fish, shark-fin, beche-de-mer and shell/chunks, which are showing substantial progress.

There are few other items which are in our export list and some others which are not in the list, but have good international markets. Encouragement should be given to the processors and exporters to start and increase the export of such products.

Generally, Japan is the major importer of our fish and fishery products during the last several years.

Japan, USA, France and the united Kingdom are the important foreign markets for our Shrimp and Tuna fish. Beche-de-mer and shark fins are mainly exported to Singapore, Hong Kong and Taiwan. Ornamental fish has been exported to many countries including USA and Japan. Bangladesh is the sole importer of our Shells and Chanks.

International shrimp price is declining due to the economic situation in Japan, which is the main importer of tropical shrimps. Spreading of white spot disease also affected our shrimp culture and export. Tuna price was also bleak in the recent years, but the export of this product is increasing annually. However, the quality of our product should be improved substantially to get the best price and to increase the earnings.

Table: VII (b)-5  
Wholesale and retail prices in Pettah market, 1994 to 1997

(Rs/kg)

Species	1994		1995		1996		1997	
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
Salaya	43.00	50.00	40.20	47.30	34.52	53.04	45.49	65.59
Hurulla	53.00	62.00	53.30	63.20	58.87	81.79	61.39	86.85
Balaya	60.00	72.00	62.00	77.00	66.62	109.96	98.83	116.60
Kelawalla	79.00	109.00	85.00	135.20	89.21	152.21	104.41	165.92
Seer	172.00	211.00	180.70	248.70	173.12	278.78	133.00	297.39
Paraw	98.00	131.00	107.20	153.90	140.34	189.49	125.61	203.14
Shark	NA	NA	45.00	59.70	56.42	108.29	82.29	116.80
Kumbalawa	85.00	96.00	89.90	103.40	57.67	90.71	113.58	95.58
Thalapath	NA	NA	76.00	118.05	96.83	170.69	140.58	184.69

Source: Hector Kobbekaduwa Agriculture Research & Training Institute

NA - Not Available

Table : VII b-6  
Percentage change of wholesale and retail prices in Pettah market

(Percentage)

Species	1994		1995		1996		1997	
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
Salaya			- 6.5	- 5.4	-14.1	12.1	31.8	23.7
Hurulla			0.6	1.9	10.5	29.4	4.3	6.2
Balaya			3.3	6.9	7.05	42.8	48.3	6.0
Kelawalla			7.6	24.0	5.0	12.6	17.0	9.0
Seer			5.1	17.9	- 4.2	12.1	-23.2	6.7
Paraw			9.4	17.5	30.9	23.1	-10.5	7.2
Shark			NA	NA	25.4	81.4	45.9	7.9
Kumbalawa			5.8	7.7	-35.9	-12.3	96.9	5.4
Thalapath			NA	NA	27.4	44.6	45.2	8.2

Source: Hector Kobbekaduwa Agriculture Research & Training Institute

NA - Not Available

Table: VII (b)-7  
Fish and meat (average) prices in Colombo city, 1991 to 1997

(Rs./ kg)

	1991	1992	1993	1994	1995	1996	1997	Percentage of Increase from 1991 to 1997
<b>MEAT</b>								
Beef	71.90	74.30	79.00	80.78	91.68	101.52	115.07	60.04
Mutton	128.29	131.50	137.75	140.08	162.58	195.47	218.95	70.66
Pork	56.74	60.70	63.10	66.67	88.11	80.66	115.81	104.10
Broiler	NA	NA	NA	NA	NA	99.15	133.54	* 25.75
<b>FRESH FISH</b>								
Paraw	107.45	133.71	138.14	159.69	171.27	189.49	203.13	89.05
Mullet	89.80	109.15	120.50	125.75	151.96	NA	NA	137.99
Balaya	70.14	88.60	92.26	85.27	104.02	110.58	118.00	68.23
Shark	62.31	75.63	77.40	84.64	96.18	NA	NA	147.50
Salaya	36.59	52.95	49.38	52.83	60.35	53.04	65.59	79.26
Parati	80.00	95.30	110.13	117.81	137.20	NA	NA	172.06
Small Mullet	53.90	62.10	71.25	80.57	97.76	NA	NA	150.34
<b>DRY-FISH</b>								
Katta	144.18	159.26	175.24	202.15	233.13	NA	NA	151.02
Sprat	67.99	74.07	90.40	107.81	116.47	NA	NA	83.56
Salaya	53.05	56.37	62.15	72.67	73.57	NA	NA	113.61

Source: *Weekly Retail Price, Colombo city, Department of Census and Statistics*

\* Increase from 1996 to 1997

NA Not Available

Table : VII (b)-8  
Marketing margin in fish distribution - 1998

Assembler	Demersal		Small Pelagic		Large Pelagic							
	Rock fish		Sardine		Balaya		Kellawalla		Thora		Shark	
	Rs./kg	%	Rs./kg	%	Rs./kg	%	Rs./kg	%	Rs./kg	%	Rs./kg	%
P.P.R.	45-55	100	20-30	100	40-50	100	50-60	100	90-100	100	40-50	100
Av. Ex	05.60											
Profit	09.40		04.40		04.40		04.40		4.40-54.40		14.40	
S.P.R.	60-70		30-40		50-60		60-70		100-160		60-70	
<b>Wholesaler</b>												
P.P.R.	60-70	133-127	30-40	150-133	50-60	125-120	60-70	120-116	100-160	111-160	60-70	150-140
Av. Ex	04.70											
Profit	05.30		05.30		0.30-5.30		0.30-5.30		05.30		05.30	
S.P.R.	70-80		40-50		55-70		65-80		110-170		70-80	
<b>Retailer</b>												
P.P.R.	70-80	155-145	40-50	200-166	55-70	137-140	65-80	130-133	110-170	122-170	70-80	175-160
Av. Ex	13.76											
Profit range	6.24-	6.24-	1.24-		1.24-		16.24-		6.24-			
	66.24		36.24		36.24		46.24		161.24			
S.P.R.	90-160	200-290	60-100	300-333	70-120	175-240	80-240	160-400	40-345	155-345	90-160	225-320

Source: Fish marketing study SED / NARA

- \* P.P.R. - Purchasing Price Range
- \* S.P.R. - Selling Price Range
- \* Av.Ex. - Average Expenditure

Compared to many Asian countries, in the marketing channel, the intermediaries between fishermen and consumers is small in number in Sri Lanka. Still, higher price is to consumers and lower share to fishermen. Anyhow, there is a wide gap between demand and supply of fish in the market at present and it may expand in the future. This may result in a more rapid increase in the fish price than in prices of other sources of animal protein. This gap can be bridged by increasing local fish production, improving the fish marketing system and reducing the post harvest losses.

The landing as well as wholesale fish price of some species increased substantially in the past four years. In some cases this increase is more than 20 percent. However, in certain years the prices of some varieties like Seer, Kumbala and Salaya have declined.

On the other hand the retail price of many fish species has increased in the same period. The percentage of this increase is higher than the wholesale price increase. The price increase in coastal pelagic species is steady and larger than the Off-shore/ Deep-sea varieties.

The assemblers (price in landing places) price as well as the wholesale prices are determined directly by the supply situation of fish to the markets, whereas the price in the retail market is determined by the consumer demand situation in the different areas. Anyhow, there is a substantial increase in the consumers fish price. Consequently, the per capita fish consumption is declining in general. Furthermore, due to the price increase, the animal protein consumption pattern is changing in the recent years. About 30%-40% (22.0% in 1997) of our consumer fish demand is still supplied by the imports of fish and fishery products from foreign countries, in various forms. This is the reason for some price dilution in the retail fish market.

Table: VII (b)-9  
Fish handled by Ceylon Fisheries Corporation, 1993 to 1997

(mt)

Marketing Activity	1993	1994	1995	1996	1997
	QTY (mt)	QTY (mt)	QTY (mt)	QTY(mt)	QTY(mt)
Colombo	983.68	824.01	708.25	282.33	290.42
Operation	1,338.20	1,168.28	1,091.40	868.15	842.01
W . S . M	495.74	464.85	434.95	449.67	453.86
Packeting Division	-	-	-	79.36	103.42
Kurunegala	232.33	233.80	258.24	263.66	211.63
Kalpitiya	48.21	18.37	37.59	40.43	106.59
Kandy	533.79	535.12	523.22	402.30	336.47
Anuradhapura	64.26	21.53	7.57	24.27	128.55
Tangalle	125.05	97.53	157.64	124.15	102.11
Galle	61.43	56.64	92.13	66.96	90.45
Beruwela	5.86	32.54	74.12	20.33	91.91
Bandarawela	73.03	76.57	74.15	89.26	129.59
Chilaw	58.17	72.40	64.26	23.81	14.30
Trincomalee	38.46	43.65	52.58	50.66	100.30
Minneriya Filleting Factory	0.04	-	17.79	7.43	-
Batticaloa	8.79	8.70	2.64	2.32	5.64
Ratnapura	-	-	-	-	105.45
Total handled	4,067.04	3,653.99	3,596.53	2,795.09	2,702.52
Total fish production	220,900.00	224,000.00	237,500.00	228,550.00	242,000.00
CFC Share	1.80%	1.60%	1.50%	1.20%	1.12%

Source: Ceylon Fisheries Corporation



Ceylon Fisheries Corporation (CFC) is undertaking fish marketing and some other fisheries related activities from its inception in 1965 up to the present. Fish marketing activity has been undertaken by corporations in many countries in the world. In 1993, CFC handled about 4,067 tons of fish in distribution. This is about 1.8% of the total fish produced in the country of that year, In 1997, the quantity handled by CFC has declined to only 2,702 tons, and this is only 1.12% of the total fish production of the country.

The main purpose of the CFC's involvement in fish marketing is to bring competition within fish marketing system and through which it provides benefit to the producers and consumers. The actual situation poses the question of the CFC's future role in fish marketing in the country.

Table: VII (b)-10  
Fish transported to Pettah market in 1997

Area		Lorry (no.)		Box (no.)		Quantity of fish (kg)	
		Weekly	Annual	Weekly	Annual	Weekly	Annual
1	Kodawakattu/	7	364	1,610	83,720	40,250	2,093,000
	Nilaveli						
2	Pulmudai	3	156	690	35,880	17,250	897,000
3	Kinniya	3	156	690	35,880	17,250	897,000
4	Trincomalee	10	520	2,300	119,600	57,500	2,990,000
5	Valachchenai	10	520	2,300	119,600	57,500	2,990,000
6	Eravur	3	156	690	35,880	17,250	897,000
7	Kalmunai	10	520	2,300	119,600	57,500	2,990,000
8	Mannar	10	520	a. 1,260	65,520	63,000	3,276,000
				b. 225	11,700	5,625	292,500
9	Kalpitiya	7	364	a. 840	43,680	42,000	2,184,000
				b. 225	11,700	5,625	292,500
10	West & Southern	217	2,257	c. -	-	88,346	4,593,992
	Region		5,642	d. -	-	154,576	8,037,952
			3,385	e. -	-	198,769	10,335,988
Total		280	14,560			801,691	42,766,932

Source: Prepared by the Socio-economic Division/NARA with the assistance of Data Management Unit, Ministry of Fisheries and Aquatic Resources Development

- (a) Big Boxes - 50kg fish, 140 Boxes per lorry
- (b) Small Boxes - 25kg fish, 225 Boxes per lorry
- (c) Large size lorries over 3,500kg fish
- (d) Medium size lorries between 3,500kg - 1,500kg fish
- (e) Small size lorries less than 1,500kg fish

Pettah is the only wholesale fish market in Sri Lanka. Fish come to this market from several landing centres throughout the country. Lately, due to the situation prevailing in Jaffna, Mullaitivu and Kilinochchi districts, fish do not come at all from these areas.

Even from other districts of the North-eastern part of the country only a limited quantity of fish is now coming to Pettah market. Fish from other parts of the country are coming as usual or even more to the market.

From January to December 1997, an assessment was made to estimate the quantity of fish coming to Pettah market. It is estimated that each week on an average about 280 lorries bring fish to Pettah fish market. The average quantity of fish per lorry is assessed as about 2,863kg.

According to this estimate about 42,767 tons of fish came to Pettah Fish market from various landing centres. This is about 28% (152,750 tons) of the total fish landing of the coastal sub-sector. Of the total fish arrived to the Pettah fish market in 1997, 53% are from the North-western, Western and Southern parts of the country. Another 14% are from Mannar and Kalpitiya area. The balance 33% came from the other parts of the country. Each day (312 working days) the market receives about 138 tons of fish for sale.

A similar estimate was made for the year 1979-1981. During that period about 103,225 tons of fish came to Pettah fish market. This quantity is about 64% of the total coastal fish production of the country at that time.

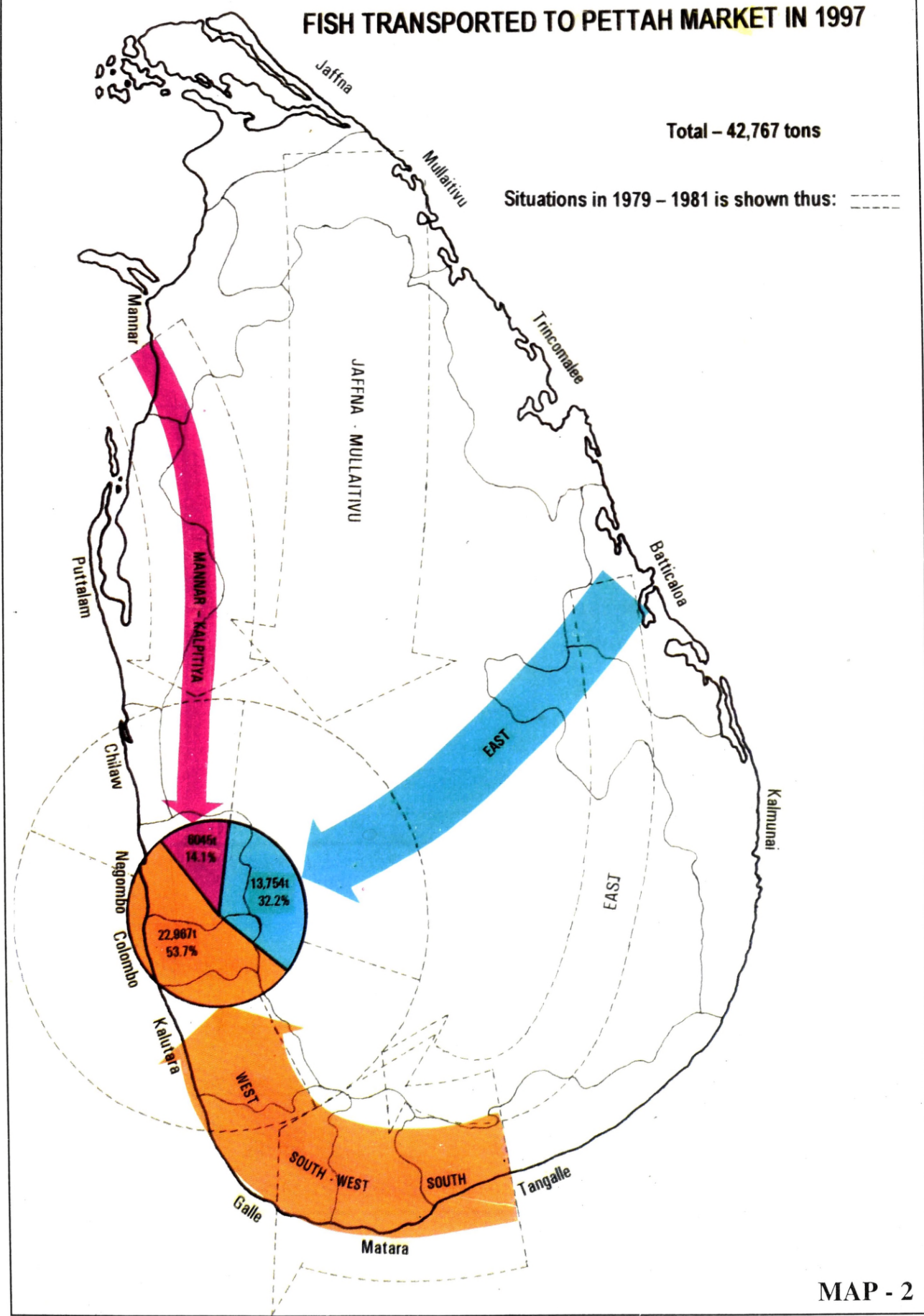
Compared to 1979-81 the fish coming to Pettah market now, have declined to less than half. The main reason is that no fish comes from the Northern part of the country, which is the most important fish production area in Sri Lanka.

***Small scale fisheries:*** *Small scale fisheries are labour intensive and are conducted by artisanal craftsmen, whose level of income, mechanical sophistication, quantity of production, fishing range, political influence, market outlets, employment and social mobility and financial dependence keep them subservient to the economic decision and operating constraints placed upon them by those who buy their products.*

# FISH TRANSPORTED TO PETTAH MARKET IN 1997

Total - 42,767 tons

Situations in 1979 - 1981 is shown thus: - - - - -



MAP - 2

Table :VIII-1  
Basic statistics on marine fisheries, 1972 and 1995

	1972 *	1995 **
1. Fishing villages	969	678
2. Fishing House-holds	51,438	40,690
3. Mean house hold size	5.61	4.76
4. Fishermen engaged in fishing	58,660	49,462
5. Mean number of fishermen per H.H.	1.14	1.22
6. Fisherfolk	262,198	193,611
7. Fishing crafts	22,590	16,620
Motorised crafts	7,676	9,454
8. Boats over 30ft length (percentage in total)	6.5	9.8
9. Fishing (management) units	25,422	23,087
10. Full time fishermen (in total) %	84	79
11. Owning houses (percentage to total)	69.6	67.6
12. Fishermen not completed primary education %	55.3	36.3
13. Providing fishing labour (No.)	16,408	29,655
14. Total fish production mt	101,721	♦237,500
Coastal %	87	66
Oceanic %	3	25
Inland %	10	9
15. Fishing Industry in GNP M.Rs.	11,897	♦16,604
16. Per capita fish availability kg.	13.02	♦16.7

Sources: 1972- Report on the Census of Fisheries in Sri Lanka, Part III, 1972  
1995- Report on the Census of Marine Fisheries, 1997

\* 1972 for the whole country

\*\* 1995 only for eight DFEO Districts (Puttalam, Chilaw, Negombo, Colombo, Kalutara, Galle, Matale and Tangalle)

♦ For the whole country

***Sustainable Development of Fisheries: Maintaining the productive capacity of the fisheries resources so that the benefits of its economic growth can be reaped for an extended period.***

Table: VIII-2

## Education level among the fishing community in Tangalle (Hambantota) DFEO District - 1997

	Kudawella-FI		Mawella-FI		Unakuruwa-FI		Tangalle-FI		Rekawa-FI		Kalamatiya-FI		Hambantota West-FI		Hambantota East-FI		Kirinda-FI		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total No. of family members	194	100.0	44	100.0	19	100.0	8	100.0	75	100.0	32	100.0	99	100.0	72	100.0	85	100.0	628	100.0
Schooling year 1-6 year	48	24.7	17	38.6	6	31.5	2	25.0	32	42.6	10	31.2	48	48.4	30	41.6	44	51.7	237	37.7
Schooling year 7-10 year	66	34.0	6	13.6	2	10.5	3	37.5	18	24.0	10	31.2	21	21.2	15	20.8	20	23.5	161	25.6
Up to O/L	33	17.0	13	29.5	8	42.1	2	25.0	11	14.6	10	31.2	18	18.1	11	15.2	10	11.7	116	18.4
Up to A/L	12	6.1	2	4.5	2	10.5	1	12.5	4	5.3	1	3.1	2	2.0	1	1.3	1	1.1	26	4.1
Tertiary Education	4	2.0	2	4.5	0	0.0	0	0.0	3	4.0	0	0.0	0	0.0	1	1.3	0	0.0	10	1.5
Uneducated	31	15.9	4	9.0	1	5.2	0	0.0	7	9.3	1	3.1	10	10.1	14	19.4	10	11.7	78	12.4

Source: Prepared by SED, from the data and information obtained from SAREC project MBRD / NARA

Kahandamodera FI Division is not included in the analyses.

\* Members under 5 years of age are coming under uneducated.

The survey was carried out between March to December 1996, according to Fisheries Inspectors Divisions.

This Socio-economic survey (part of the SAREC project) was conducted during March to December in 1996 from Kudawella to Kirinda in Tangalle DFEO District. The survey was carried out in 10 FI Divisions in the DFEO District. Seven hundred and fifty fishing families were randomly selected to administer the questionnaire. Out of this 750 families 139 (correctly filled questionnaires) were taken into this analysis. The estimated total fishing families are around 4,000 in the District.

Table: VIII-3  
National per capita fish availability, 1991 to 1997

Year	Total (1)	Through Local (2) Supply	Through Import (3)
1991	18.3	10.99	7.31
1992	14.9	11.80	3.10
1993	15.4	12.48	2.92
1994	15.5	12.49	3.01
1995	16.7	13.07	3.63
1996	15.6	12.14	3.46
1997	16.6	12.60	3.98

Source: Prepared by SED / NARA

- (1) Local fish production + Import - Export = Total fish supply \ Total population  
 (2) Local fish production - Export \ Total population  
 (3) Import \ Total population

Fish is an important source of protein to Sri Lankan people. The average fish availability per person has declined from 18.3 kg in 1991 to 16.6 kg in 1997.

The annual fish availability per person in 1997 increased to 16.6kg from 15.6kg in 1996. This is due to the increase in the local fish production as well as the increase in import of fish and fishery products. If we look at the past 5 year from 1992 to 1997, the average availability has increased by 1.7kg. Local production as well as the increasing import contributed to this increase.

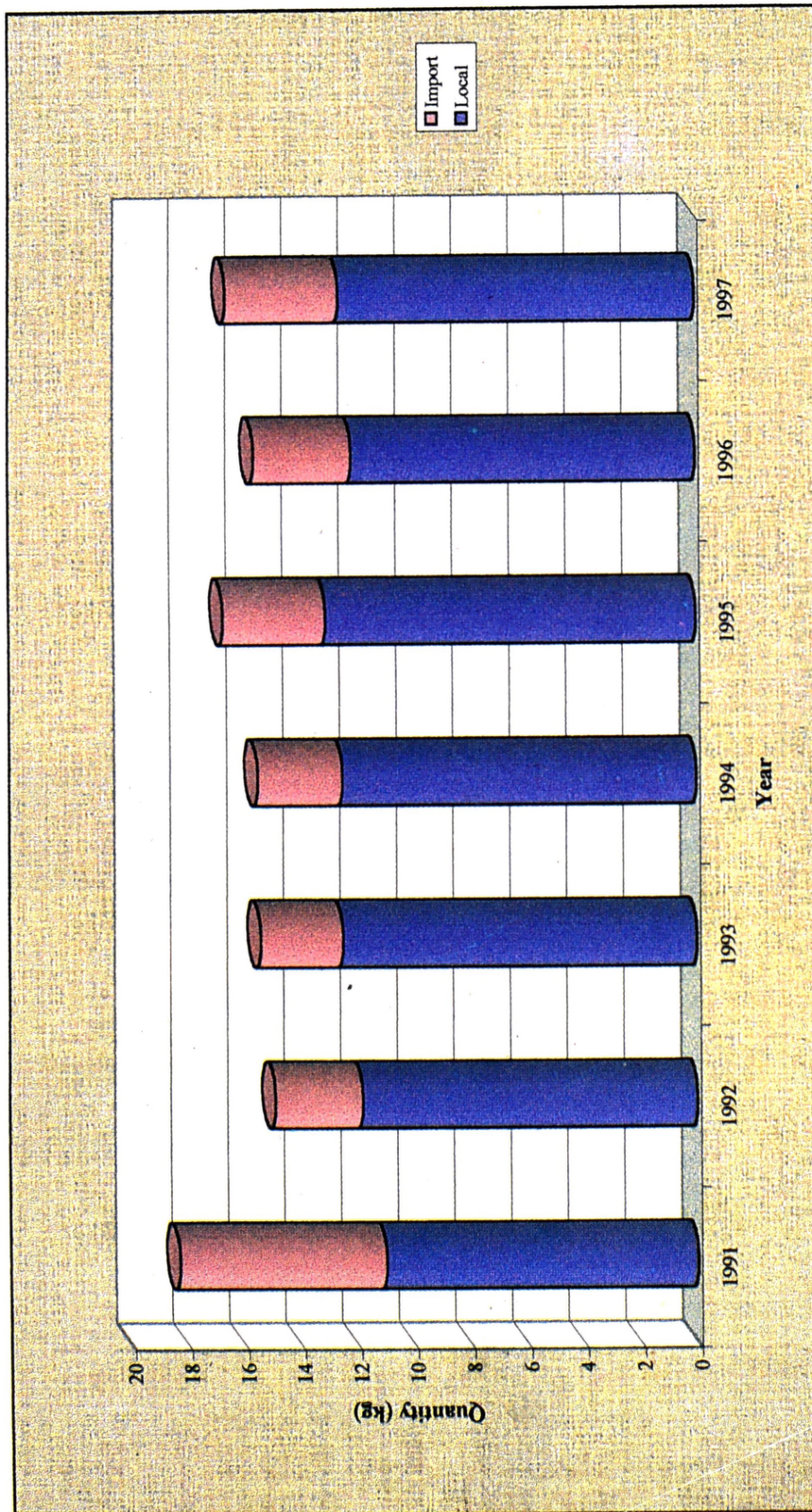
The Medical Research Institute has recommended the need of 21.0 kg of fish per head per annum. To reach this level, substantial effort has to be made to increase the local fish production. Consequently, the fish price also will increase substantially. The availability of fish which is given in the table includes the inedible portion of fish, which is about 25 to 30 percent of the whole fish. The edible portion of fish is 70 to 75 percent and this is the portion consumed. Therefore, the average consumption of fish is less than the availability.

Table: VIII-4  
Average per capita fish consumption in neighbouring countries, 1994/1995  
(kg/year)

GROUP OF COUNTRIES	CONSUMPTION RANGE
1. India, Bangladesh	8 -10
2. Sri Lanka	15 - 16
3. Indonesia, Thailand	20 - 25
4. HongKong, Taiwan, Singapore and Malayasia	40 - 55
5. Maldives	135 - 140

Source: INFOFISH, Market Digest

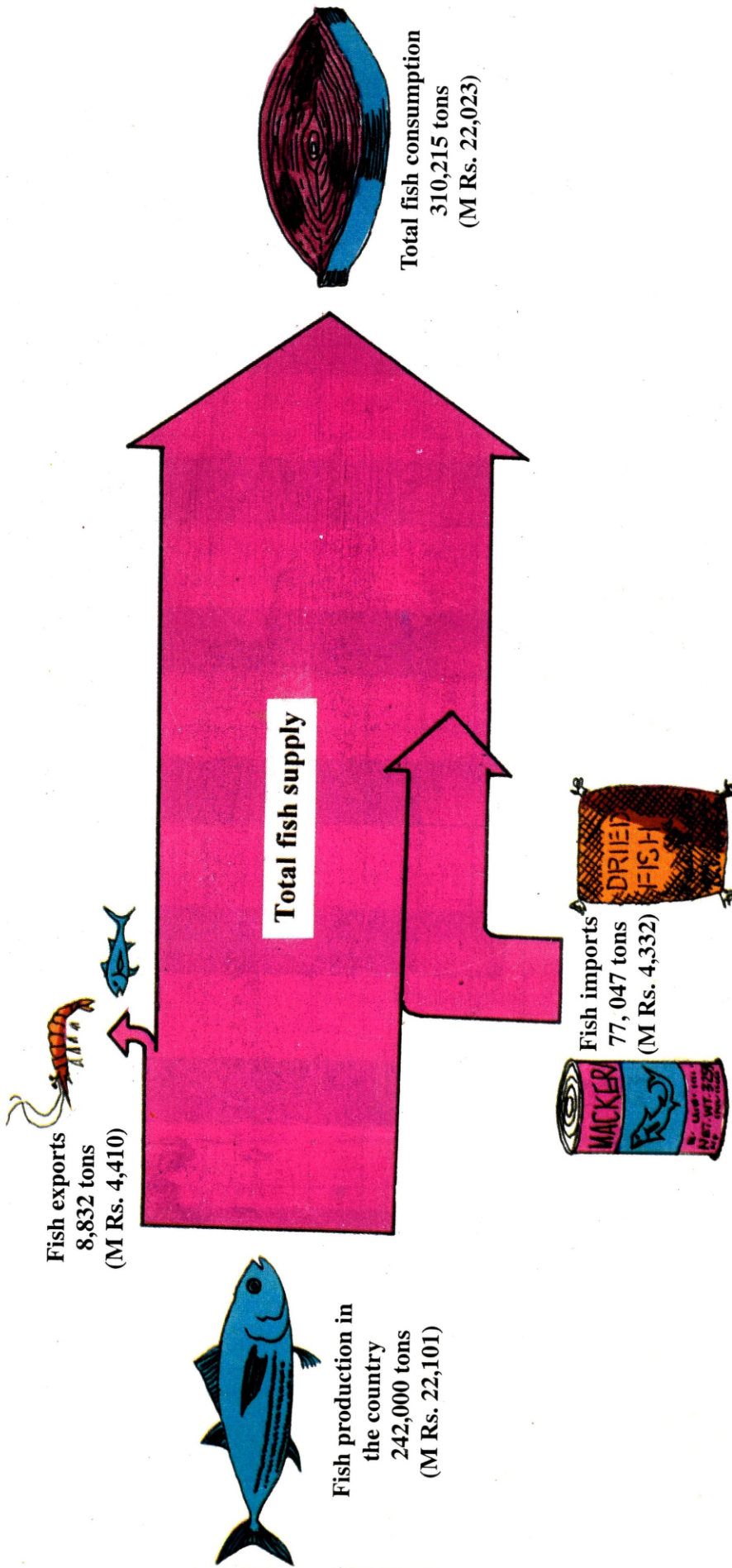
Chart - 7  
**National per capita fish availability, 1991 to 1997**



Source : Based on the data provided in Table VIII-3

Figure - 1

### Fish supply situation in 1997





The local demand for fish and fishery products is increasing year by year. The demand for 1997 was 308,452 tons and this is about 9.0% more than the demand in 1996. In 1996, the demand was 283,069 tons. In 1997, local production supplied 242,000 tons and the balance was met by import from foreign countries. Local production met only 78% of the supply. In 1996, 62,883 tons of fish and fishery products were imported. In 1997 this has increased to 74,045 tons. At the same time the export declined from 8,364 tons in 1996 to 7,593 tons in 1997.

The average availability of fish per person is 16.58 kg. in 1997. The same in 1996 was 15.6 kg. The 1997 the availability increased by 0.98 kg. This increase is due to the increase in local fish production as well as increase of import of fish and fishery products. Our fish consumption moves upwards or downwards according to our fish imports.

***Fisheries co-management:*** *A partnership arrangement in which government agencies, the community of local resource users (fishers), non governmental organizations, and other stakeholders (fish traders, local owners, business people etc.) share the responsibility and authority for the management of a fishery.*

Table: VIII-6  
Fish and milk products imports, 1993 to 1997

(Rs. Mn.)

Year	1993	1994	1995	1996	1997
Total Imports	193,550.0	236,030.0	244,323.0	301,075.0	345,285.0
Food	20,866.0	23,914.0	33,846.0	33,111.0	37,867.0
Fish	2187.19	2,893.0	3,369.0	3686.0	4,312.0
Milk	3,655.0	4,305.0	5,642.0	6,045.0	5,695.0
A. Food in Total Import %	10.8	10.1	13.9	11.0	11.0
B. Fish in Total Import %	1.1	1.2	1.4	1.2	1.2
C. Fish in Food Import %	10.5	12.1	10.0	11.1	11.4
D. Milk in Total Import %	1.9	1.8	2.3	2.0	1.6
E. Milk in Food Import %	17.5	18.0	16.7	18.3	15.0

Source: Annual Reports, Central Bank

Milk food and fish are two major items in our animal protein source. At the same time, these two items are important in our food imports. In 1993 Rs. 3,655 million worth of milk food and Rs. 2,187 million worth of fish and fishery products were imported into the country. In the total food imports of that year, these two items shared 17.5% and 10.5% respectively. In 1997 the import of these two items increased to Rs. 5,695 million and Rs. 4,312 million respectively. The share of milk in total import declined to 15%, but the share of fish and fishery products increased to 11.4%. In the Dairy farming sector, during the last few years, several measures have been taken to increase the local milk production. This development contributed to the reduction in milk food imports. While in the fishery sector the demand is increasing, the share of local production is going down. As such, the import of fish and fishery products has been increasing. Therefore, the import may further increase in the future, but on a high cost of our foreign exchange.

Table: VIII-7  
Per capita availability of protein, 1991 to 1996

Year	Total		Vegetable		Fish		Meat		Milk & Eggs	
	grams	%	grams	%	grams	%	grams	%	grams	%
1991	53.0	100	39.2	73.96	8.36	15.77	1.45	2.73	3.98	7.54
1992	52.0	100	37.6	72.31	8.81	16.94	1.68	3.23	3.84	7.52
1993	53.2	100	36.9	69.36	10.56	19.85	1.87	3.52	3.89	7.27
1994	56.0	100	40.9	73.04	8.99	16.05	2.07	3.70	4.04	7.21
1995	56.5	100	40.8	72.21	8.97	15.88	2.48	4.39	4.21	7.52
1996	54.2	100	38.8	71.59	9.0	16.61	2.4	4.43	4.0	7.37

(grams per day)

Source: Food Balance sheet, 1991-1996, Department of Census and Statistics

During the year 1996, the per capita total protein consumption has declined to 54.2 g from the 56.5 g in 1995. In the same period the protein supplied by fish and fish products has increased slightly from 8.97 g to 9.0 g, but protein supplied by all other sources declined. Therefore, the percentage share of fish in total supply increased from 15.88 percent in 1995 to 16.61 percent in 1996.

**Continental Shelf:** The shelf represents the land, which was drowned during the last de-glaciation (18,000 years ago). The de-glaciation caused the sea level to rise from the level of continental margin to the present level. This mostly covers the area upto 200 meter bathymetric line. The continental shelf on and above where the largest part of the fish resource is concentrated and more than ninety percent of the world fish catch is taken from this area.

The shelf around Sri Lanka is narrower and shallower than the world average, and the mean width is 20 km. In the north it links Sri Lanka to India. It is narrowest in the south (Ahangama - Gandera, under 10 km.), moderately wide off the west coast north of Galle and in the south-east (Tangalle- Datanagala, 20-30 km.). North of Mullativu the shelf exceeds the average width. The shelf widens significantly north of Kalpitya peninsula on the north-west and attains greatest widths, between 30 and 60 km in the north.

Figure - 2

**PROTEIN SOURCES  
1996**

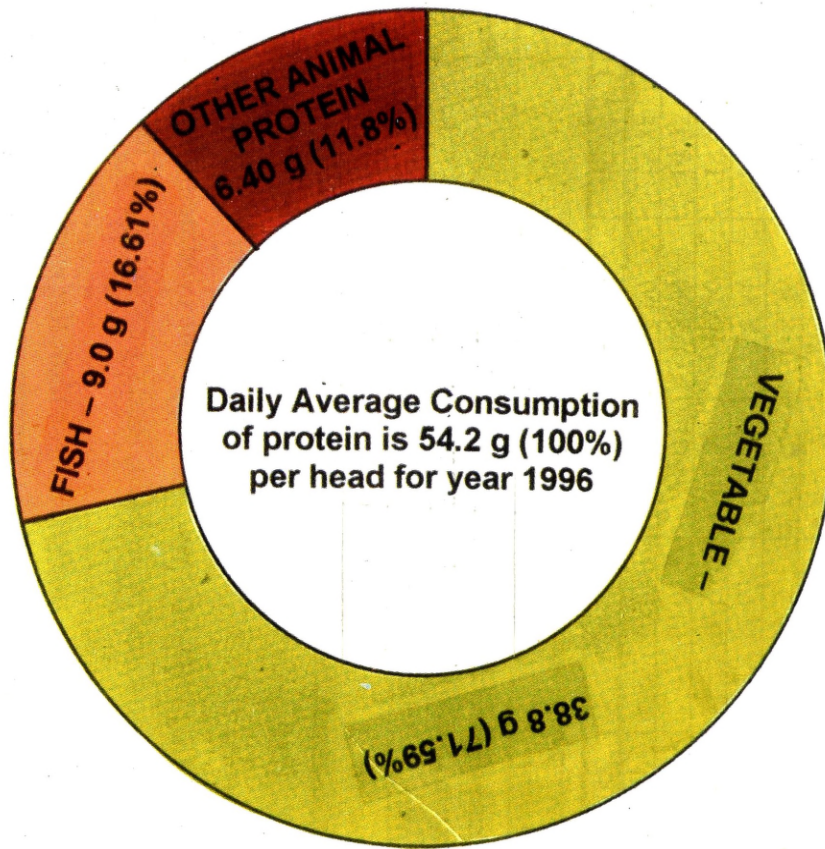


Table: VIII-8  
**Monthly fishery income of boat owners & crew members- craft wise & DFEO District wise- 1997**  
 (in Rs.)

Districts	Categories	Multi-day boat	FRP boat	Motorised Traditional Crafts	Non-Motorised Traditional Crafts	Non-Motorised Theppam
CHILAW	Owner	28,827	17,815			6,456
	Crew member	13,585	10,729			3,228
NEGOMBO	Owner	24,171	8,420			1,831
	Crew member	12,099	6,507			915
KALUTARA	Owner	24,601	4,630		1,263	
	Crew member	14,190	4,297		631	
GALLE	Owner	20,183	6,048	5,329	1,516	
	Crew member	11,128	4,545	3,478	758	

Source: *Comparative study on the economics of large and small scale fishing operating in Sri Lanka-1997, Socio-economic Division / NARA*

In Sri Lanka the marine fishery sector is sub divided into deep-sea and coastal fishery. The deep-sea fishing is more capital intensive whereas coastal fishing is more labour intensive. Except the Multi-day boats (known as Deep-sea fishing) all other type of crafts are operating within the coastal waters.

Multi-day boat owners earn the highest income among all type of crafts. At the same time, the earning of a crew member of a Multi-day boat is higher than the income of the owners all other types of crafts as well as the earnings of the crew members. The income of a crew member of the non-motorised oru (in Kalutara) is below the poverty line.

Table : VIII-9  
Important marine food fish in Sri Lanka

COMMERCIAL GROUP	SPECIES / FAMILY **	COMMON NAME	SINHALA	TAMIL
Seer	<i>Acanthocybium solandri</i> <i>Scomberomorus commersoni</i>	Wahoo Spanish mackerel; Seer	Pirimi thora; Savara Thora	Vanchuran Anjila
Paraw	<i>Caranx spp.</i>	Trevally; Jacks;	Paraw	Parai
Blood fish	<i>Auxis thazard</i> <i>Euthynnus affinis</i> <i>Katsuwonus pelamis</i> <i>Thunnus albacares</i> <i>Istiophorus platypterus</i> <i>Makaira indica</i> <i>Xiphius gladius</i> <i>Thunnus obesus</i>	Frigate tuna Mackerel tuna; Kawakawa Skipjack tuna Yellowfin tuna Indo-pacific sail fish Black Marlin Sword fish Bigeye tuna	Alagoduwa Atavalla Balaya Kelavalla Thalapath Koppara; Sappara Kenda	- - Surai Tuna Thalapath Koppra Mail meen -
Sharks	<i>Carcharhinus falciformis</i> <i>Carcharhinus longimanus</i> <i>Prionace glauca</i>	Silky shark Oceanic whitetip Blue shark	Honda mora Polkola mora Seeni mora	Sura Thalam sura -
Skates & rays	<i>Mobula kuhlii</i> <i>Gymnura poecilura</i>	Lesser devil ray Longtail butterfly ray	Anga maduwa Vali maduwa	Kombo thirukai Manal thirukai
Rock fish	<i>Caesio cuning</i> <i>Lutjanus argentimaculatus</i> <i>Lutjanus malabaricus</i> <i>Pristipomoides spp.</i> <i>Lethrinus elongatus</i> <i>Lethrinus nebulosus</i> <i>Epinephelus faveatus</i>	Redbelly Yellowtail fusilier Red snapper Red snapper; Red mullet Red snapper Pigface bream Spangled emperor Barred-chest grouper	Panaththaya Thambalaya Rathu galmaalu Kalameeya Uruhota Attisa, Meevatiya Pulli kossa	- - Semmen Vilai meen - - Tholi

Continued.....

**\* Shore seine varieties**

<i>Amblygaster sirm</i>	Trenched sardine	Hurulla	Keerai meen
<i>Amblygaster clupeioides</i>	Bleeker's smooth belly	Gal hurulla	-
<i>Sardinella albella</i>	White Sardinella	Sudaya	Suuda
<i>Sardinella gibbosa</i>	Goldstrip sardinella	Salaya	Salai
<i>Selar crumenophthalmus</i>	Bigeye scad	Bolla	-
<i>Rastrelliger kanagurta</i>	Indian mackerel	Kumbalava	Kumbala
<i>Sphyræna spp.</i>	Barracuda	Jeelava, Seelava	Seela
<i>Lepturacanthus savala</i>	Ribbon fish	Savalaya	Savalai
BELONIDAE	Gar fishes	Habarali, Patholi	-
STOLEPHORIDAE	Anchovies	Halmassa	Netholi

**EXOCOETIDAE***Hemirhamphus spp.*Flying fish  
Half beakPiya massa  
MorallaParavi  
Mural**Shrimp***Penaeus indicus**Penaeus monodon**Penaeus semisulcatus**Penaeus merguensis**Metapenaeus dovonsoni*Indian white shrimp  
Giant tiger prawn  
Green tiger prawn  
Banana shrimp  
Kadal shrimpKiri issa  
Karawadu issa  
Kurutu issa  
Kiri issa  
Nala KaluwaRaal  
Karuwandán  
-  
Ven raal  
-**Lobsters***Panulirus homarus**Panulirus ornatus**Panulirus penicillatus*Scalloped spiny lobster  
Ornate spiny lobster  
Pronghorn spiny lobster-  
Singi raal  
-  
-**Crabs***Scylla serrata**Portunus spp.*Indo pacific swamp crab  
Blue swimming crabKalapu Kakuluwa  
Mudu KakuluwaSeethu nandu  
Veil nandu

Source : Sri Lanka Journal of Aquatic Sciences, Volume 2

\* The species considered under this category are small pelagic and known as 'Shore seine varieties' in the Administrative Reports of the Department of Fisheries

\*\* FAMILIES are indicated by capital letter

Table:IX-1

**Fisheries and agriculture sectors contribution to Gross National Product-at current cost price**

(Rs. Mn.)

	1993	1994	1995	1996	1997
GNP	447,113	514,990	591,369	684,741	783,764
	(100)	(100)	(100)	(100)	(100)
Agriculture	90,369	98,519	106,753	122,594	138,999
	(20.2)	(19.1)	(18.1)	(17.9)	(17.5)
Fishery	11,930	14,376	16,604	18,763	21,413
	(2.7)	(2.8)	(2.8)	(2.7)	(2.7)

Source: *Central Bank Annual Reports 1993-1997*

In the GNP, for the period 1993 to 1997, the situation shows that the fisheries sector contributed 2.7% and maintained its position throughout. Whereas, agriculture sector shares a high position but the share is declining. Agriculture shared 20.2% in 1993, but declined to 17.5% in the year 1997.

Table:IX-2

**Voted expenditure for fisheries and agriculture**

(Rs. Mn.)

Total Expenditure	1996		1997		1998	
	Agriculture	Fishery	Agriculture	Fishery	* Agriculture	Fishery
Recurrent	2,952	179 (142)	2,973 (2,887)	196 (164)	3,188	197
Capital	2,290	683 (437)	1,905 (1,791)	725 (634)	1,854	899

Source: *Central Bank Annual Reports 1992-1997*

- ( ) Actual spending
- Excluding Corporations and NARA
- \* Agriculture and land

The total voted expenditure in the fishery sector compared with that for the agriculture sector is smaller. Again, in the fisheries sector, recently, the capital expenditure is increasing more than the recurrent expenditure. However, in fisheries in both cases, the actual spending is less than that in the agriculture sector. For example, in 1997 agriculture sector spent 97% of its recurrent and 94% of its capital expenditure, whereas, fisheries spent only 84% and 87% respectively in the same year.



Table:IX-3  
Revenue from fishing industry -1997

	Sub-sectors	Production Quantity (mt)	Average Price (Rs./kg)	Value in '000 (Rs.)
1.	Coastal	152,750	103.00	15,733,250
2.	Off-shore/ oceanic	62,000	66.80	4,141,600
3.	Brackish & Inland water			
	a. High varieties	5,000	245.00	1,225,000
	b. Low varieties	22,250	45.00	1,001,250
	<b>Total</b>	<b>242,000</b>		<b>22,101,100</b>

Source: Prepared by Socio-economic Division/ NARA

- Prices taken from the, comparative study on the economics of large and small scale fishing operations in Sri Lanka, report.

To make this estimation, the data derived from the, "Comparative study on the economics of large scale and small scale fishing operations in Sri Lanka" is taken as the source. Values of coastal and off-shore/ oceanic sub-sectors are calculated on the basis of the data available in that report. Similarly, for the Brackish and Inland water fisheries prices collected in the landing sites are used. According to the estimate, the coastal fisheries sub-sector would have brought about Rs. 15.7 billion and the off-shore/ oceanic sub-sector would have brought about Rs. 4.1 billion. In the Brackish water and Inland sub-sector, the high varieties (the shrimps, lobsters, crabs etc.) would have brought Rs. 1.6 billion and inland fish production would have brought about Rs. 1.0 billion. As a total, the fisheries sector would have brought about Rs. 22.5 billion in 1997 to the country.

***Community-based resource management:*** A process by which the people themselves are given the opportunity and/or responsibility to manage on their own, define needs, goals and aspirations and to make decisions affecting their well being.

Table: IX-4  
Prices of fishing boats and gear

	1994	1997	1998 *
<b>1. Multi-Day Boat</b>			
Hull (FRP MS 10.35m)	780,000	1,250,000	1,416,250
Engine (50-HP)	827,000	995,000	995,000
Nets/Gear	750,000	900,000	1,000,000
Total	2,357,000	3,145,000	3,411,250
<b>2. 3 ½ Ton Boat</b>			
Hull (FRP Standard 8.6m)	465,000	560,000	560,000
Engine (26 HP)	465,000	565,000	543,250
Gear	400,000	525,000	600,000
Total	1,330,000	1,650,000	1,703,250
<b>3. 17 ½ - 23 ft.</b>			
Hull (FRP Flat Bottom-5.7m)	45,500	70,000	61,500
Engine (15 HP)	80,000	98,000	105,000
Nets	125,000	175,000	225,000
Total	250,000	333,000	391,500
<b>4. Traditional Crafts with OBM and Gear</b>			
Craft	20,000	30,000	33,100
Engine (15 HP)	80,000	98,000	105,000
Gear	80,000	120,000	140,000
Total	180,000	248,000	278,000
<b>5. Traditional Crafts with Sail and Gear</b>			
Crafts	20,000	30,000	33,100
Sail	15,000	18,000	20,000
Nets	80,000	120,000	140,000
Total	115,000	168,000	193,100
<b>6. Sea Oru</b>			
Boat	18,000	25,000	26,450
Nets	12,000	16,000	20,000
Total	30,000	41,000	46,450
<b>7. Teppam (4.2 M)</b>			
Boat	8,000	10,500	11,500
Nets	5,000	8,000	10,000
Total	13,000	18,500	21,500

Source: Prepared by SED/NARA from the information obtained from the Technical Unit DFARD  
\* GST is not included

Table: IX-5

**Government objectives of Fisheries and Aquatic Resources development**

1. Increase the production of fish and other aquatic products within sustainable limits.
2. Improve the nutritional status of the population.
3. Generate employment opportunities.
4. Uplift the Socio-economic conditions of the fishing communities.
5. Increase foreign exchange earnings.
6. Conserve and manage the coastal environment.
7. Conserve and manage the non-living resources of the sea.

Source : *National Fisheries Development Plan, 1995 to 2000*  
Ministry of Fisheries & Aquatic Resources Development

Table :IX-6

**Strategy of the government to develop fishing industry**

**1. Marine fisheries:**

Sustainable development of fisheries through better management of resources; expansion of Off-shore and Deep-sea fisheries through diversification of fishing methods; investment promotion through better financial incentives; protection to fishermen as well as fishery resources from various hazards. Air-Sea rescue and monitoring and surveillance system as well as systematic data collection method.

**2. Inland fisheries and aquaculture:**

This sector will be developed through better management system in inland water bodies and encouragement to sea-farming, shrimp farming as well as culturing of other marine organism.

**3. Infrastructure:**

The government will encourage and assist the private sector to establish and develop the necessary infrastructure facilities related to fisheries.

**4. Coast conservation:**

Coordinated effort with other agencies will be undertaken to protect the country's coastal environmental system.

### **5. Marketing:**

Export of fish and fishery products will be encouraged through quality control and fish production increase. Local marketing activities will be improved, measures will be taken to reduce the post harvest losses and incentive will be provided to encourage traditional fish processing methods.

### **6. Fishing communities:**

Welfare facilities to fishing community including better housing and distress relief will be provided and women will be encouraged to play a more important role in the well being of the community. The activities of the fisheries co-operative societies will be strengthened. Attitudinal transformations will be brought about in the fishing society through non-formal education.

### **7. Research, education, training & extension:**

Research activities will be directed to the important needs of the sector which should be carried out by NARA. Economically viable technological methods will be encouraged. Fishery training and education will be improved and more personnel will be produced to strengthen the extension services. NARA is activity involved in taking successfully obtained information to the end user without necessarily making use of intermediaries.

### **8. North-eastern rehabilitation:**

Resettle the displaced fishermen and provide the basic facilities and inputs to enable them to re-commence their fishing activities. Infrastructure facilities which are damaged will be repaired and if necessary, new facilities will be constructed. Private sector participation is encouraged.

### **9. Role of public, private & co-operative sectors:**

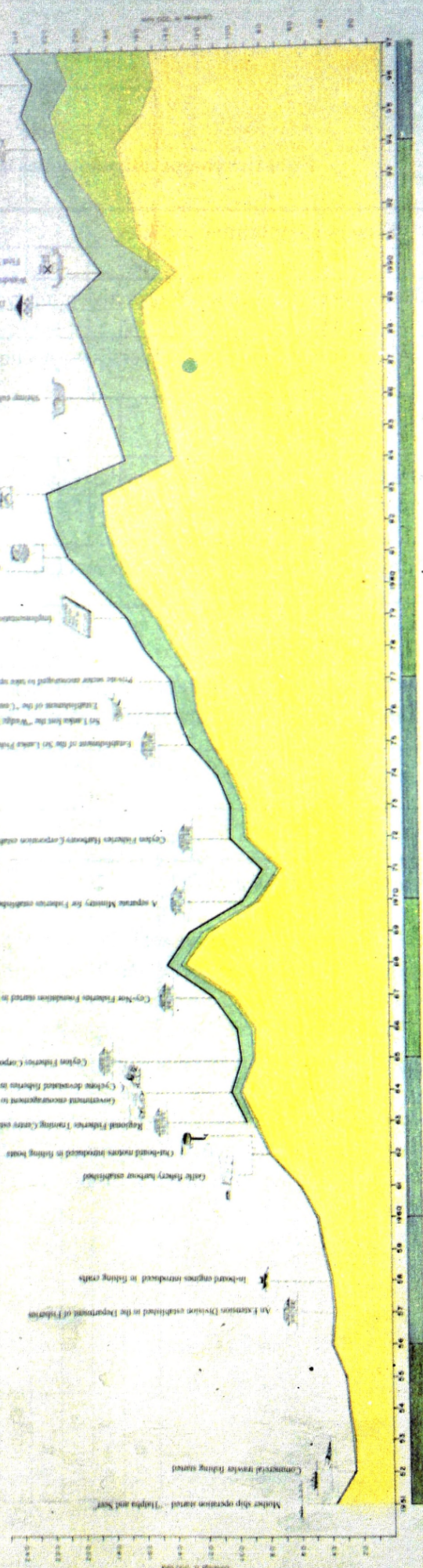
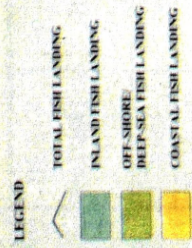
Public sector will guide and supervise all the activities undertaken by other sectors. Co-operative societies will assist the management of the coastal sub-sector through the implementation of the sustainable development policy of the government. Private sector will play a vital role in fish production activity and provide support to other ancillary services. Government will provide the necessary assistance in order to encourage the private sector's involvement in the fishing industry.

Source : *National Fisheries Development Plan, 1995 to 2000*  
*Ministry of Fisheries & Aquatic Resources Development*

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### DEVELOPMENT OF THE FISHERIES SECTOR AND MAJOR EVENTS IN CHRONOLOGICAL ORDER

මවර කර්මාන්තයේ සංවර්ධනය සහ  
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1983 Mother ship operation started (Tampala and Seta)  
1984 Commercial trawler fishing started  
1985 In-board engines introduced in fishing crafts  
1986 An Extension Division established in the Department of Fisheries  
1987  
1988  
1989  
1990  
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1999  
2000  
2001  
2002  
2003  
2004

UNP Government    SLP Government    UNP Government    UNP Government    UNP Government

Date: From the Department of Fisheries  
M.A.K.

Prepared by: Social Economic Division (M.A.K.)  
Cartography: Cartography Section (M.A.K.)

මවර කර්මාන්තයේ සංවර්ධනය සහ එහි ප්‍රධාන සිදුවීම් අනුපිටිවීම

1983 මවර කර්මාන්තයේ සංවර්ධනය සහ එහි ප්‍රධාන සිදුවීම් අනුපිටිවීම

1984 මවර කර්මාන්තයේ සංවර්ධනය සහ එහි ප්‍රධාන සිදුවීම් අනුපිටිවීම

1985 මවර කර්මාන්තයේ සංවර්ධනය සහ එහි ප්‍රධාන සිදුවීම් අනුපිටිවීම

1986 මවර කර්මාන්තයේ සංවර්ධනය සහ එහි ප්‍රධාන සිදුවීම් අනුපිටිවීම

Table : X-1  
**Fisheries co-operative societies in Sri Lanka (as at 31.12.1997)**

<b>Fishery co-operative societies</b>		<b>Number of societies</b>	<b>Membership</b>
1.	Village level marine fishery co-operative primary societies	630	70,800
2.	Reservoir based fresh water co-operative societies	91	4,436
3.	Active large primary societies	04	1,500
4.	District level mechanised boat owner's societies (28' day boat and multi-day boat)	06	650
5.	All Ceylon Madel Owner's co-op. society Ltd.	01	65
6.	District Fishery Co-op Unions	08	-
7.	Other fishery societies (marketing, societies, boat building societies, Ornamental fish co-op societies)	05	205
8.	National Fisheries co-op Federation	01	-
<b>Total</b>		<b>746</b>	<b>77,656</b>

Source : *Co-operative Unit, MFARD*

There are a total of 746 co-operative societies related to fisheries activities in the country, of which 630 are primary societies in the marine sector and 91 are in the inland fisheries, which are important. A total of 77,656 people are members in these societies of which 60,571 are male and the rest female. Of all the primary societies, 392 are active (53%), 53 are defunct and 173 (40%) are designated as weak societies. Also, ten of these co-operatives have been elevated to the status of co-operative Banks.

Fisheries co-operatives are now coming under the supervision of two different departments - the Department of Fisheries and the Department of Co-operatives. The Department of Fisheries is involved with fishery and community aspects and the Department of Co-operatives is involved with the management aspect of fisheries co-operatives.

Table : X-2  
**Fishermen's co-operative societies and membership composition- 1998**

DFEO Districts	No. of sampled societies	Total membership	Type of members						Activities under taken											
			Craft owners		Crew members		Fishery related		Others		Marketing		Sale		Credit		Savings		Welfare	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chilaw	10	1,912	958	50.10	462	24.16	42	2.20	450	23.53	-	-	2	8	4	3				
Negombo	9	3,168	2,138	67.49	402	12.69	84	2.65	544	17.17	-	-	2	5	2	5				
Colombo	5	469	92	19.62	251	53.52	36	7.68	90	19.18	-	-	0	5	2	1				
Kalutara	9	1,449	255	17.60	568	39.20	77	5.31	549	37.88	-	-	0	4	3	2				
Galle	7	898	316	35.19	231	25.72	47	5.23	304	33.85	-	-	0	2	3	1				
Matara	5	694	98	14.12	177	25.50	41	5.91	378	54.46	-	-	0	1	-	-				
Tangalle	13	2,550	503	19.73	770	30.20	177	6.94	1,100	43.13	-	-	0	8	9	6				
<b>Total</b>	<b>58</b>	<b>11,140</b>	<b>4,360</b>	<b>39.14</b>	<b>2,861</b>	<b>25.68</b>	<b>504</b>	<b>4.53</b>	<b>3,415</b>		<b>0</b>		<b>4</b>	<b>33</b>	<b>23</b>	<b>18</b>				

Source : *Socio-economic Division/ NARA (from the report of the role of Fishermen's co-operative societies in their well being and fisheries development)*

A survey has been carried out in the seven Fisheries Districts from Chilaw to Tangalle, to assess the present situation of fishermen's co-operative societies. According to this survey, active fishermen represent only 64.82% (craft owners and crew members). Of the 58 societies surveyed, most of the societies are functioning as credit societies and no society takes up marketing activity, which is very important.

Table: XI-1  
Fish production in neighbouring countries, 1991 to 1995

(mt)

Countries	1991	1992	1993	1994	1995
India	4,044,000	4,232,000	4,324,000	4,540,180	4,903,659
Indonesia	3,350,000	3,543,000	3,744,000	3,954,228	4,118,000
Thailand	2,968,000	3,240,000	3,348,000	3,432,000	3,501,772
Bangladesh	893,000	967,000	1,047,000	1,200,240	1,170,365
Malaysia	620,000	650,000	680,000	690,000	1,239,755
Maldives	80,713	82,154	90,012	104,475	104,566
Pakistan	51,500	553,000	622,000	642,000	540,560
Myanmar	769,000	800,000	837,000	824,468	832,469
Sri Lanka	159,151	163,168	169,900	174,500	157,500

Source : *FAO Year Book of Fisheries Statistics, Catches & Landings*

Table: XI-2  
World fish production

(mt)

Year	Catches in Marine Water	Catches in Inland Water	Total	Yearly difference (%)
1950	18,557,000	2,193,000	20,750,000	-
1955	25,135,000	2,464,000	27,599,000	6.6
1960	34,101,000	2,768,000	36,869,000	6.7
1965	46,060,000	4,707,000	50,767,000	7.5
1970	59,156,000	6,055,000	65,211,000	5.7
1975	58,641,000	6,828,000	65,469,000	0.0
1980	64,492,000	7,536,000	72,028,000	2.0
1985	75,714,000	10,664,000	86,378,000	4.0
1990	82,850,000	14,743,000	97,593,000	2.6
1991	82,549,000	14,828,000	97,376,000	0.0
1992	83,039,000	15,690,000	98,729,000	1.0
1993	84,261,000	17,009,000	101,270,000	2.6
1994	90,411,600	19,173,600	109,585,000	8.2
1995	91,904,900	21,005,400	112,910,300	3.0

Source : *The state of World Fisheries & Aquaculture*

\* From 1950 to 1985 percentage of increase is average per year.



**National Aquatic Resources Research and Development Agency**  
Crow Island, Mattakkuliya, Colombo-15.

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Dr.D.S.Jayakody : Director General

***Heads of Divisions***

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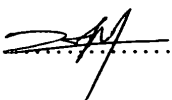
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