

# **Fishery Industry Outlook 2012**

**Socio-Economic and Marketing Research Division**

**National Aquatic Resources Research and  
Development Agency - NARA**



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## **ABBREVIATIONS AND ACRONYMS**

CBSL	Central Bank of Sri Lanka
CCFSU	Ceylon Co-operative Fish Sales Union
CFC	Ceylon Fisheries Corporation
CFHC	Ceylon Fishery Harbours Corporation
DFAR	Department of Fisheries and Aquatic Resources
EDB	Export Development Board
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FRP	Fibreglass Reinforced Plastic
GDP	Gross Domestic Product
MFAR	Ministry of Fisheries and Aquatic Resources
NAQDA	National Aquaculture Development Authority
NARA	National Aquatic Resources Research and Development Agency
SAARC	South Asian Association for Regional Corporation
SED	Socio-economic and Marketing Research Division
IMUL	Inboard Multi-day Boat
IDAY	Inboard Day Boat
OFRP	Outboard Fibre Reinforced Plastic Boats
MTRB	Mechanized Traditional Boats
NTRB	Non Mechanized Traditional Boats
NBSB	Non Mechanized Beach Seine Boat

## **Acknowledgement**

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## **Overview**

The fisheries industry plays an important role in the economy of Sri Lanka by providing livelihood for more than 2.5 million coastal communities as well as providing more than 50% of animal protein requirement of people in the country. The industry can be divided into coastal, offshore/deep sea, and inland and aquaculture sub sectors. In 2012 the share of fisheries to the Gross Domestic Production (GDP) of the country was 1.8 with a stable contribution of inland (0.3) and marine fisheries (1.5)

The total fish production of the country in 2012 was 486,170 Mt. With the facilities provided by the Government and national and international nongovernmental organizations, fishery sector is well in progress by providing economic and social wellbeing for the people of the country. In 2012, the total fish production of the country has increased by nearly 10% compared to the previous year. Similarly the coastal and inland fish production have increased by nearly 14 and 16% respectively in 2012 compared to the 2011 production levels but deep sea fish production has decreased by about 2 percent.

## 1. Voted expenditure for the fisheries sector

Government expenditure for the fisheries sector has gradually increased in last few years. The total recurrent and capital expenses allocated for the year 2012 were Rs1, 048 and Rs 2,828 million respectively. However, the actual recurrent and capital expenditure were Rs 1,019 and Rs 1,967 million respectively.

Table 3 and 4 showed the allocated expenditure for the Ministry of fisheries and related institutions.

**Table 1:** Recurrent Expenses of Ministry of Fisheries and related institutions (Rs million)

Institution	2009	2010	2011	2012	
				Approved	Provision
<b>Fisheries</b>	482.3	471.8	505.2	563.0	437.3
<b>CHFC</b>	106.2	105.0	113.0	111.0	108.8
<b>NARA</b>	150.3	142.2	146.7	160.0	149.3
<b>Other</b>	225.2	224.6	245.5	292	178.9

Source: Central Bank of Sri Lanka

**Table 2:** Capital Expenses of Ministry of fisheries and related institutions (Rs million)

Institution	2009	2010	2011	2012	
				Approved	Provision
<b>Fisheries</b>	267.7	288.1	374.8	516.8	330.
<b>CHFC</b>	106.2	144.3	133.5	150.0	96.1
<b>NARA</b>	102.1	76.0	112.4	70.0	59.3
<b>Other</b>	34.4	44.1	60.0	100.0	82.4

Source: Central Bank of Sri Lanka

## 2. Fish Production

The increasing trend of the fish production of the country experienced in last few years has continued over the year 2012. The highest fish production of the country in both marine and inland and aquaculture sub sectors were recorded in the same year amounting 417,220 and 68,950 Mt respectively. Accordingly the total fish production of the country was 486,170 Mt in 2012. This is 9% increased compared to the previous year.

Although fish production in both sub sectors has increased by 14% equally deep sea fish production had declined by 2% in 2012 compared to the previous year. Table 1 shows fish production in previous years according to the sub sectors.

**Table 3:** Annual Fish Production by Sub Sectors (Mt).

Sector		2009	2010	2011	2012
Marine	Coastal (mt)	180,410	202,420	222,350	254,540
	Offshore (mt)	112,760	129,840	162,920	159,680
Inland and aquaculture (mt)		46,560	52,410	59,560	68,950
Total fish production (mt)		339,730	384,670	444,830	486,170

Source: Ministry of Fisheries and Aquatic Resource

It is clear that coastal fish production is still major in fish production of the country which is contributed around 60% to the marine fish production while 52 % to the total fish production.

Fisheries sector contribution to the Gross Domestic Product (GDP) is shown in table: 2 and can be seen that the proportional contribution of the fishery sector to the GDP was remain less than 2% over the years.

**Table 4:** Gross Domestic Product (GDP) at Current price (Rs million) and Fisheries sector contribution

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
GDP					
Fisheries	67,934	79,554	93,777	109,204	134,967
Total GDP	4,410,682	4,835,293	5,604,104	6,544,009	7,582,376
Fisheries as a % of total GDP	1.5%	1.6%	1.7%	1.7%	1.8%

Source: Central Bank of Sri Lanka

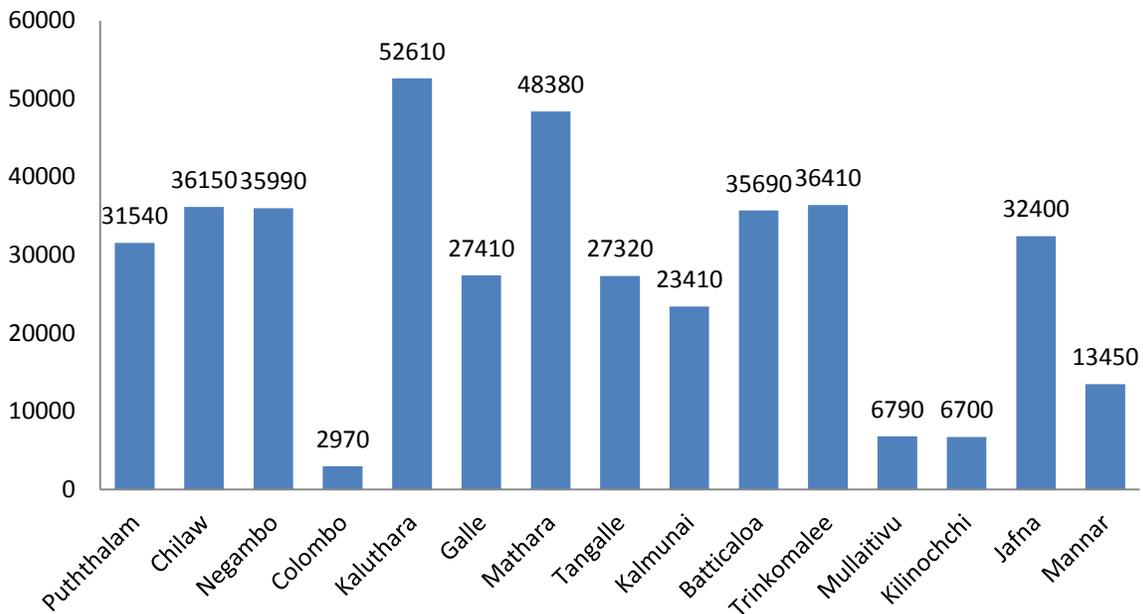
It is clear that fisheries sector contribution in terms of value and percentage has been increasing over the years. The contribution of fisheries sector to the GDP was Rs 134,967 Mn or 1.8% in 2012. The percentage contribution of fisheries sector to the GDP has increased by 0.1 in 2012 compared to the previous year.

## **2.1 Marine Fish Production**

Fishery industry of Sri Lanka is almost totally depends on marine fisheries which contributes more than 85% (2012) to the total fish production of the country. Although deep sea fish production has declined by 2%, coastal fish production has increased by 14% in 2012 compared to the previous year. As a result of this total marine fish production has increased by 8% in 2012 compared to the year 2011.

Among the fisheries districts, Kalutara and Matara districts were dominant and have contributed over 10% to the total marine fish production of the country in 2012. Fish production of Mulative district has significantly increased by 64% in 2012 compared to the previous year. On the other hand fish production in Killinochchi and Jaffna districts has increased by about 25% compared to the previous year production. The Figure 1 shows the production by fisheries districts.

**Figure 1: Marine Fish Production by Districts /Mt- 2012**



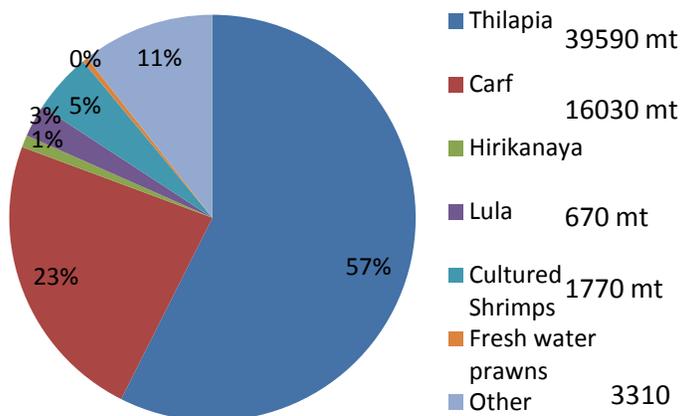
Source: Ministry of Fisheries and Aquatic Resources

Balaya (Skipjack tuna) and Kelawalla (Yellow fin tuna) are dominant species that has contributed 13 and 10% to the total marine fish production in 2012 but has declined by 43 and 13%, compared to the previous year. However Rock fish, Prawns Parawa (Carangids) and Thora (seer) species have increased by 33, 27, 19, and 15% in 2012 compared to the previous year. Chart 2 shows the composition of marine fish species in fish production in 2012.

## 2.2 Inland and Aquaculture Fish Production

Inland and aquaculture fish production has gradually increased over the last few years. In 2012, fish production has increased by 16% compared to the previous year. Anuradhapura, Polonnaruwa, Ampara and Puttlum districts are dominant fish producing districts in the country while Thilapiya and Carp are dominant species. Chart 3 shows species composition of inland and aquaculture fish production of country.

**Figure 2: Inland and Aquaculture fish production by major species - 2012**



Source: NAQDA

For the development of the inland and aquaculture production of the country, National Aquaculture Development Authority (NAQDA) is performed a major role specially by releasing fingerlings to water bodies in the country. Fingerling stocking in Inland and Aquaculture water bodies are shown in the table 5

**Table 5: Fingerling Stocking in Water bodies - 2012**

Type of water body	No of Tanks/Units	No. of Fingerlings (Mn)	No. of Fresh water prawn post larvae (Mn)
Major Reservoirs	28	6.15	5.29
Medium Reservoirs	43	7.95	3.43
Minor Reservoirs	255	14.57	5.08
Seasonal Tanks	611	6.58	0.57
Estate Tanks	9	0.03	-
Ponds	-	1.34	0.09
Other	6	0.35	0.08
<b>Total</b>	<b>952</b>	<b>37</b>	<b>14.5</b>

Source: NAQDA

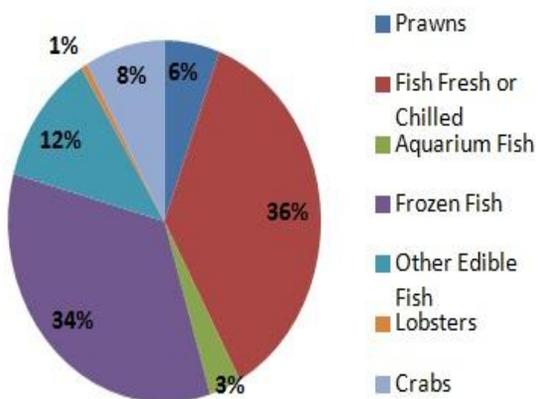
It is clearly shown that 37 Mn of fingerlings have released into different type of water bodies of the country in 2012. Of them minor reservoirs are mainly targeted and about 40% of fingerlings were released into these reservoirs.

### 3. Trade and Marketing

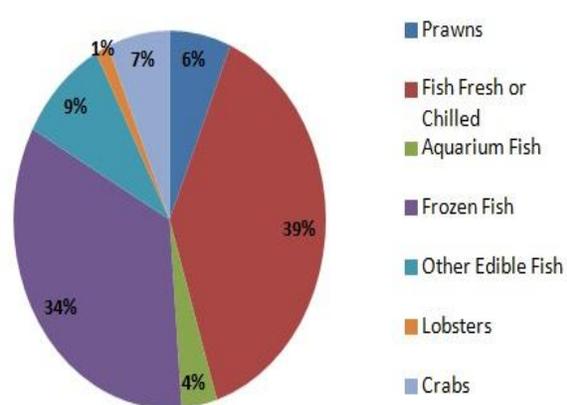
#### 3.1 Export of Fish and Fishery Products:

All fish and fishery products exported are categorized under the (HS) code 03, According to its categorization export and import fish and fishery products has been categorized into prawns, fish fresh or child, aquarium fish, frozen fish, lobsters, crabs and other edible fish. In 2012 fresh or child and frozen fish have contributed 39% and 34% while 36% and 34% to the total value and the total quantity respectively. Value of other categories such as prawns, aquarium fish, lobsters, crabs and other edible fish to the total value and the total quantity were less than 10%. Charts 4 and 5 showed the composition of fish and fishery product exports and value in 2012.

**Figure 3: Composition of fish and fishery product exports (quantity) - 2012**



**Figure 4: Composition of fish and fishery product exports (value) - 2012**

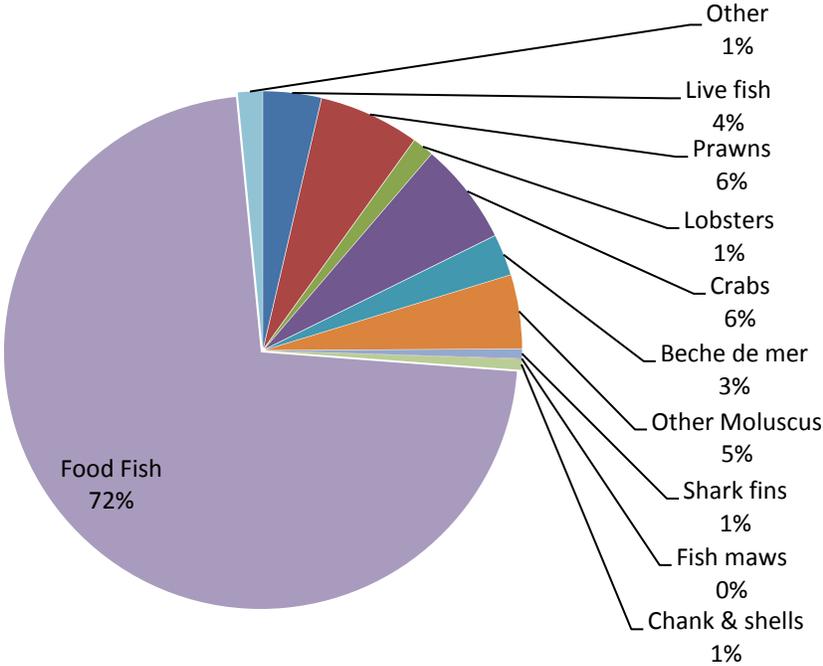


Source: EDB

It is clear that fresh or chilled and frozen fish are dominated in quantity and value of fish and fishery products export.

The following chart shows the percentage contribution of the fish exporting items to the total value of export in 2012.

**Figure 5: Percentage of Fish and Fishery products Export Value - 2012**

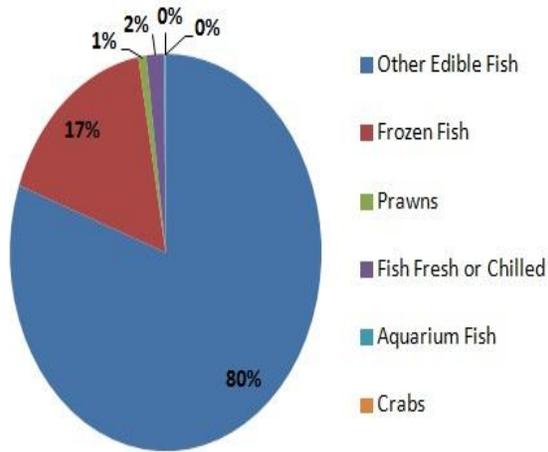


Source: Ministry of Fisheries and Aquatic Resources.

**3.2 Imports of Fish and Fishery Products**

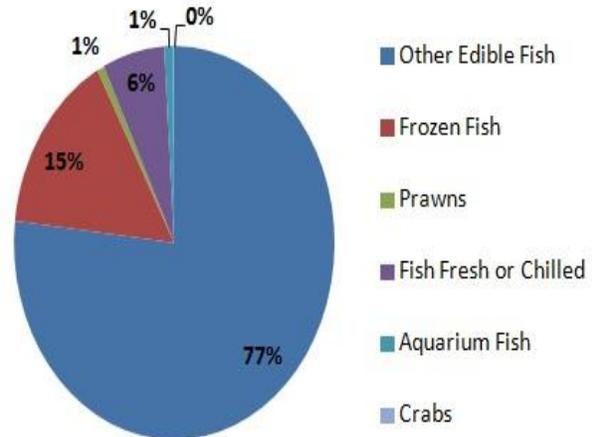
Sri Lanka is the main fish importing country in the South Asian Region. Importation of fish has contributed to manage a higher level of per capita fish consumption in the country which is second only to the Maldives. Due to low level of production in dry fish and sprats in the country, Sri Lanka required to import a substantial amount of dried fish and sprats to carter the domestic demand. The following charts (7 and 8) show proportion of fish and fishery products imported to the country.

**Figure 6: Fish and fishery products imports (% qty) - 2012**



Source: EDB

**Figure 7: Fish and fishery products imports (%value) - 2012**



Source: EDB

#### 4. Canned Fish Production in Sri Lanka

Canned fish is one of the major fish and fishery products imported by Sri Lanka annually. It is around 30% of the total fish and fishery products import value of the country in 2012. Therefore Sri Lanka has to spend a significant amount of foreign exchange for importing of canned fish. As a remedy for this ministry of fisheries and the private sector have started canned fish factory in the country as a joint venture. The first canned fish factory was opened in 2012 in Galle with the investment of Rs.840 Million. It is planned to produce 10,000 units of cans per day.

Topic Engineering supplies and service (TESS) group was set up the second canned fish factory in Paliyagoda in 2012 with the investment of Rs.170 million. It has the capacity of canning 24,000 cans per day.

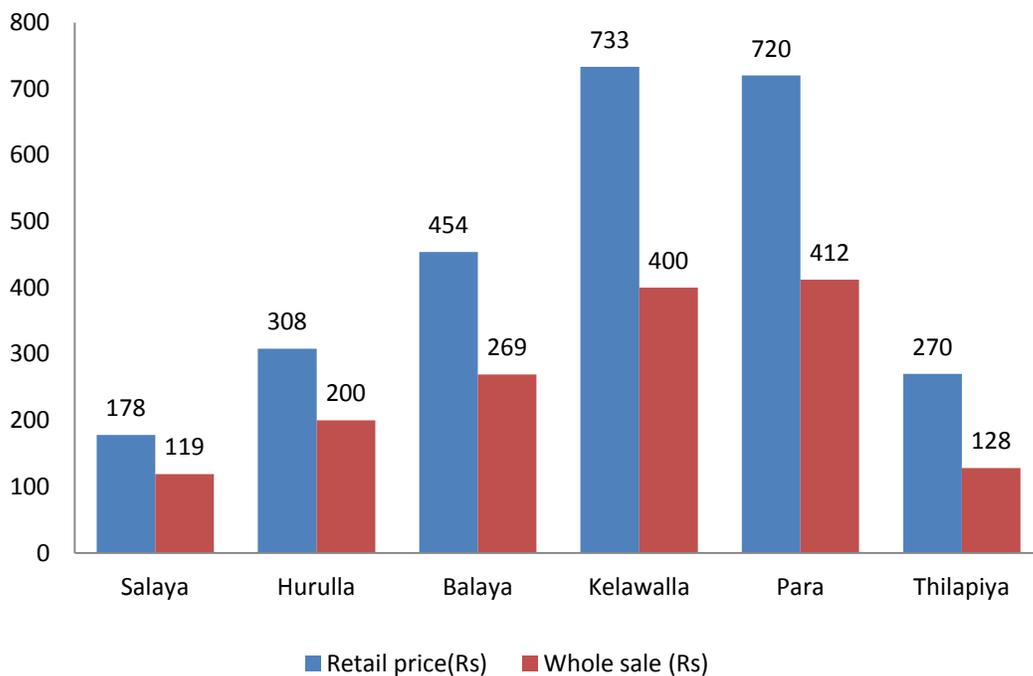
NH fisheries (PVT) Ltd in Puttalam district is also involved in producing canned fish while Coolman Canned Fish (PVT) Ltd has already taken initial steps to start up a canned fish factory in Pesalai with the investment of Rs.1,000 Million. It is planned to start canned fish production in 2014 but fish meal and ice production has already been started.

Among major issues, difficulties in finding raw materials: fish and tin in the county is critical for the sustainable development of the industry. As a result of this canned fish producers have to import raw materials from other countries.

## 5. Price of Fish

Salaya and Hurulla were low value species while the highest wholesale and retail prices were recorded for thora (seer) and the difference between retail and whole sale price was Rs 324 in 2012. Balaya and Kelawalla were very popular fish species among many consumers especially in the coastal belt had fetched a higher price at the market. The difference between the retail and wholesale price were Rs 333 and 308 respectively in 2012. Chart - 9 clearly shows the difference in retail and wholesale prices of selected fish species.

**Figure 8: Retail and Wholesale prices of the selected fish species - 2012**



Source: Ministry of Fisheries and Aquatic Resources.

Although among fresh water fish species the retail and wholesale prices of Tilapia species were higher than the other fresh water species still remains low compare to marine fish species.

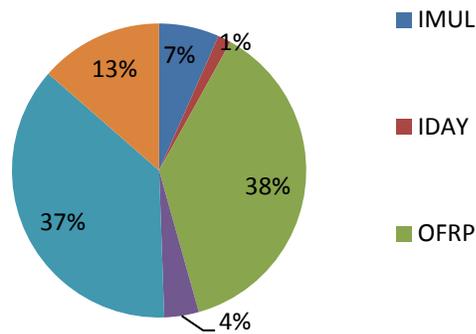
## **6. Fisheries Affiliated Industries**

Affiliated industries are very important and directly affected for the sustainable development of the fisheries industry of the country. They produce inputs for the fisheries industry: production related inputs and infrastructure related inputs. Fishing crafts/boats, fishing gears and ice are major production related inputs while harbors, anchorages and landing centre are infrastructure related inputs of the fisheries. Both governmental and privet sector are involving in providing fisheries inputs.

### **6.1 Fishing Craft/Boats**

Different types of fishing boats/crafts are operating in fisheries in the country. They are classified into 6 groups: Inboard Multi-day Boats (IMUL), Inboard single-day Boat (IDAY), Out-boat engine Fiberglass Reinforced Plastic Boats (OFRP), Motorized Traditional Boats (MTRB), Non-Motorized Traditional Boats (NTRB) and Inland fishing crafts. Total number of operating fishing crafts/boats has been increasing in fisheries over the years. In 2012 there are 62,720 fishing crafts/boats mainly comprised of OFRP (23,160) and NTRB (22,800) are operating in the industry. The OFRP and NTRB are mainly operated in the costal fishery while IMUL in deep sea fishery. Chart 10 shows composition of fishing crafts/boats operating in the fisheries in 2012.

**Figure 09: Composition of Fishing Crafts/Boats in 2012**

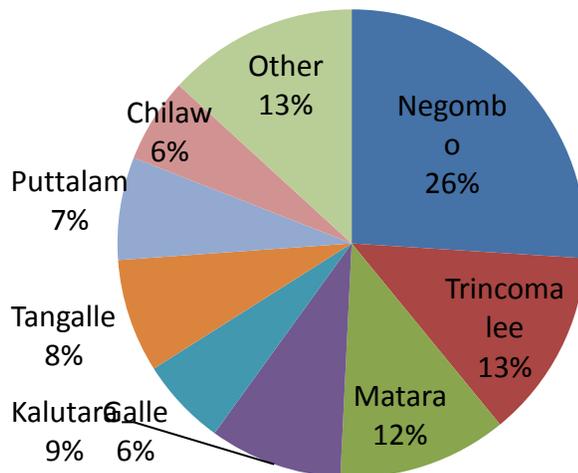


Source: Ministry of Fisheries and Aquatic Resources.

## 6.2 ICE Production

Icing is the main preservation technique used by the fishers and middlemen in the country. Block ice is mainly used and the quantity used is depends on distance of travel and the duration of fishing at sea. There were 88 ice plants in operation in the country which have the production capacity of Mt 2,395 per day and of them around 50% were located in Negambo, Jaffna and Tangalle districts. Chart 10 shows production capacity of ice per day by districts.

**Figure 10: Production Capacity of Ice per day by districts- 2012**



Source: Ministry of Fisheries.

It is clear that ice plants with the highest production capacity, i.e. 26%, were located in Negombo district while the lowest in Galle and Chilaw districts (06%).

### 6.3 Net Production

Gill nets are still major fishing gears used by fishers of the country and have substantial demand every year. Among net producers JB fishing industries LTD, Malba Ropes (Pvt) Ltd and Northsea Ltd are major. JB fishing and Malba ropes belong to the private sector while Northsea Ltd to the Ministry of Traditional Industries and Small Enterprise development. 124,442 Kg of nets and 56,600 kg of mending twine had produced by JB fishing while 74,667 Kg of nets and 91,598 kg of ropes had produced by Malba Ropes in 2012. Three nets factories are operating under the Northsea Ltd which are located in Gurunagar, Lunuwila and Weerawila and production is shown in table 7.

**Table 6: Net Production of Northsea Ltd - 2012**

Month	Production - Mt			Total
	Gurunagar	Lunuwila	Weerawila	
January	1.19	2.11	1.07	4.37
February	0.98	5.7	2.77	9.45
March	2.21	6.47	4.56	13.24
April	1.89	5.98	4.34	12.21
May	2.45	14	6.2	22.64
June	1.86	7.65	4.37	13.87
July	2.51	7.69	2.47	12.67
August	1.6	5.46	2.63	9.69
September	1.62	4.94	3.79	10.35
October	1.68	8.24	2.3	12.22
November	1.8	6.62	1.16	9.58
December	1.18	3.05	0.31	4.53
<b>Total</b>	<b>20.95</b>	<b>77.89</b>	<b>35.97</b>	<b>134.81</b>

Source: Northsea Ltd

## 7. Fishery Harbours and Anchorages

A total number of 20 fishery harbours are operating in the country while Suduwella (Matara) fishing harbour is under construction. Another 11 locations in the North and East have been identified to build fishing harbours in future. It is also proposed to upgrade the capacity of Dikkowita, Beruwala, Hikkaduwa, Mirrissa, Purannawella, Kudawella and Codbay fishery harbours.

## 8. Socio- economics

There were 188,480 marine fishing households in the country in 2012 which is 9.52% increased compared to the previous year. In inland fisheries there were 39,800 fishing households in the same year. Table shows socio economic indicators of fisheries industry in Sri Lanka.

**Table 7: Socio economic indicators of fisheries industry in Sri Lanka**

6. Social Information			2011	2012
6.1	Fisheries Inspector Divisions (Marine)	Numbers	148	148
6.2	Marine Fishing Households	Numbers	187,340	188,480
6.3	Marine Fishers (Men & women)	Numbers	215,430	218,550
6.4	Marine Fishing Household Population	Numbers	820,580	823,230
6.5	Direct and Indirect Employments (Marine & Inland)	Numbers	525,000	540,000
6.6	Fishing and Related Livelihoods	Million	2.5	2.6

Source: Ministry of Fisheries and Aquatic Resources.

## **9. Welfare of Fishermen**

Establishment of fishers' community organizations has been started in 2010 at the aim of providing assistance for fishers for their activities. At present more than 1000 fishers' community organizations are actively engaged in activities.

A significant number of fishers organizations have been established in Puttlum(144) and Batticola(130) districts which are representing the marine sector and in Polonnaruwa (35), Annuradhapura (33) and Monaragala (33) for representing inland fisheries sector. There were 93,582 members at the end of 2012.

The Diyawara diriya loan scheme was introduced in 2010 with support of Bank of Ceylon. The interest rates are low compare to other commercial loans and dual: 5.5% and 8.0% which are based on the amount of loan request and Ministry of fisheries provides 4% of the interest rate to the bank in both schemes.

An insurance scheme has been introduced by the Ministry of fisheries for fishers' welfare. Presently there are two schemes: 1(Annually Rs: 750) and 2 (Annually Rs: 1500). A number of benefits could be obtained from these schemes.

## 10. World Fisheries

Global fish production: capture and aquaculture, in 2011 was recorded as 154 Million Mt. of them capture and aquaculture production were 90.4 and 63.6 million Mt respectively. The total value of capture fishery was US \$ 217.5 billion in 2011. About 85% of total production is used for human consumption while the rest for non food use. Per capita food fish supply of the world is in the range of 17 to 19 Kg per year. The most recent estimation (2010) revealed that there were 54.8 million people are engaged in fisheries sector of them more than 87% are living in Asian region. Tables 08 and 09 show that distribution of world and south Asia fish production.

**Table 08: World Fisheries Indicators**

Description	2008	2009	2010	2011
Human consumption (Million tons)	119.7	123.6	128.3	130.8
Non-food uses (Million tons)	22.9	21.8	20.2	23.2
Population (billions)	6.7	6.8	6.9	7
Per capita food fish supply (kg)/year)	17.8	18.1	18.6	18.8

Source: FAO Statistics

**Table 09: Fish production in Asia**

Country	2008 t			2009 t			2010 t			2011t		
	Capture production	Aquaculture production	Total Production 2008	Capture production	Aquaculture production	Total Production 2009	Capture production	aquaculture production	Total Production 2010	Capture production	aquaculture production	Total Production 2010
Bangladesh	1557754	1005542	2563296	1821579	1064285	2885864	1726586	1308515	3035101	1600918	1523759	3124677
India	4099228	3855763	7954991	4066756	3798842	7865598	4689318	3790021	8479339	4301534	4577965	8879499
Nepal	21500	27250	48750	21500	26730	48230	21500	28230	49730	21500	30950	52450
Sri Lanka	317395	7474	324869	331474	7549	339023	390628	8058	398686	433189	11912	445101
Pakistan	451414	135098	586512	446362	138099	584461	453264	140101	593365	594935	141935	736870
Maldives	133338		133338	117061		117061	122802		122802	120836		120836

Source: FAO Statistics 2011/2012

## Annexure 01

**Annual Fish Production by Fishing Sub-sectors**

Year	Marine		Total Marine	Inland and Aquaculture	Total Fish Production
	Coastal	Off shore/ Deep Sea			
2008	165,320	109,310	274,630	44,490	319,120
2009	180,410	112,760	293,170	46,560	339,730
2010	202,420	129,840	332,260	52,410	384,670
2011	222,350	162,920	385,270	59,560	444,830
2012	257,540	159,680	417,220	68,950	486,170

## Annexure 02

**Inland Fish Production by Fisheries Districts**

<b>Fisheries District</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Gampaha	90	180	190	210	520
Colombo	490	110	120	120	270
Kaluthara	60	80	100	100	410
Galle	120	50	60	60	240
Matara	320	30	40	60	380
Hambantota	3,670	2,720	3,080	3,480	4,520
Rathnapura	1,210	2,320	2,480	2,970	2,530
Kegalle	80	20	20	20	20
Kurunegala	3,730	3,590	4,190	4,960	5,180
Puttalam	3,890	5,290	5,820	6,180	6,220
Monaragala	1,910	2,460	2,970	3,160	3,670
Badulla	960	1,140	1,240	1,320	1,650
Matale	520	640	720	820	2,130
Kandy	620	290	320	380	920
Nuwaraeliya	120	90	90	160	980

Polonnaruwa	7,320	7,280	8,750	9,830	12,870
Anuradapura	9,380	10,770	12,090	12,910	14,340
Ampara	5,240	5,430	5,940	6,920	6,940
Batticaloa	1,750	1,680	1,540	1,580	680
Tricomalee	1,650	1,720	1,840	2,170	1,670
Vaunia	260	420	490	540	830
Mulathivu	130		10	720	790
Kilinochchi	290		10	520	830
Jaffna	360	70	80	80	
Mannar	320	180	220	290	360
<b>Total</b>	<b>44,490</b>	<b>46,560</b>	<b>52,410</b>	<b>59,560</b>	<b>68,950</b>

### Annexure 03

#### Marine Fish Production by Fisheries Districts

Fisheries District	2008	2009	2010	2011	2012
Puttalam	16960	2010	24830	30860	31540
Chilaw	22060	21950	27020	29950	36150
Negombo	35820	37490	28250	34790	35990
Colombo	1030	830	1990	3370	2970
Kaluthara	39580	33100	43360	56970	52610
Galle	14800	24930	21830	25080	27410
Matara	47810	44180	38970	43280	48380
Tanngalla	20850	20990	20170	24710	27320
Kalmunai	22050	16260	16380	18970	23410
Batticaloa	21850	24530	39610	34570	35690
Trincomalee	17980	27690	36250	33670	36410
Kilinochchi	360	na	560	5100	6700
Jaffna	5830	13080	20890	25090	32400
Mannar	7390	8130	10790	12390	13450

Mulativu	260	na	1360	2460	6790
Total	274630	275170	332260	381260	417220

#### Annexure 04

##### Marine Sector Fish Catch by Major Commercial Groups (Mt)

Commercial Groups	2008	2009	2010	2011	2012
1. Seer	6,530	6,810	10,200	12,160	16,530
2. Paraw	11,160	13,020	16,740	20,570	28,610
3. Balaya	61,530	62,880	66,910	76,230	79,340
4. Kelawalla	47,590	45,440	45,450	48,520	68,810
5. Other Blood Fish	31,490	32,240	48,930	53,460	85,620
6. Shark/Skate	11,170	12,130	13,290	12,620	10,260
7. Rock Fish	12,670	15,970	20,150	25,390	30,690
8. Shore Seine Varieties	67,090	73,630	77,210	91,310	118,480
9. Prawns	9,240	13,110	17,640	21,680	26,780
10. Lobsters	920	1,090	890	1,620	2,390
11. Crabs	1,820	3,780	6,260	8,390	12,720
12. Others	13,420	13,070	8,590	13,320	15,670
Total	274,630	293,170	332,260	385,270	495,900

#### Annexure 05

##### Inland Fish Catch Estimates by Major Species (Mt)

Species	2008	2009	2010	2011	2012
Thilapia	25,430	26,320	28,250	32,000	42,840
Carps	3,360	2,960	3,740	3,680	5,600
Catla/Rohu	8,840	8,740	9,760	11,260	14,820
Hiri Kanaya	1,820	1,930	2,620	1,940	1,720
Lula	1,350	1,480	1,930	630	840

Cultured Shrimps	2,230	3,550	3,480	4,150	5,700
Fresh water prawns	20	20	240	260	350
Cultured Milk fish & Sea bass	30	40	30	100	120
Other wild fish	1,410	1,520	2,360	5,540	7,310
<b>Total</b>	<b>44,490</b>	<b>46,560</b>	<b>52,410</b>	<b>59,560</b>	<b>79,300</b>

## Annexure 06

### Export Value of Fish and Fishery Products

Description	2008	2009	2010	2011	2012
	Value	Value	Value	Value	Value
Prawns	1,082,353	1,627,218	1,609,595	1,798,700	1,661,356
Fish Fresh or					
Chilled	5,542,608	6,633,383	6,929,397	7,980,237	10,122,142
Aquarium Fish	972,685	979,427	1,138,927	1,112,479	959,987
Frozen Fish	9,158,542	9,251,179	9,497,055	6,692,357	8,927,638
Other Edible Fish	998,793	731,707	1,816,472	1,816,329	2,413,589
Lobsters	403,556	319,936	882,616	598,088	350,102
Crabs	649,721	1,045,385	1,007,552	1,605,667	1,691,239

## Annexure 07

**Quantities of Fish and Fishery Products Exported**

<b>Description</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
	<b>Quantity</b>	<b>Quantity</b>	<b>Quantity</b>	<b>Quantity</b>	<b>Quantity</b>
Prawns	853,862	1,432,011	1,346,291	1,379,609	1076740
Fish Fresh or					
Chilled	6,107,524	5,402,471	10,612,458	6,167,997	6834728
Aquarium Fish	756,073	882,649	1,086,975	938,053	617736
Frozen Fish	8,923,341	8,463,167	17,773,310	6,468,497	6394140
Other Edible					
Fish	2,597,709	636,753	1,159,238	1,704,725	2235675
Lobsters	246,351	130,381	297,063	198,667	118873
Crabs	1,213,916	1,855,623	1,990,563	2,098,613	1556772
<b>Total :</b>	<b>20,698,776</b>	<b>18,803,055</b>	<b>34,265,898</b>	<b>18,956,161</b>	<b>18834664</b>

<b>Annexure 08</b>					
<b>Value of Imported Fish and Fishery Products</b>					
<b>Description</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
	<b>Value</b>	<b>Value</b>	<b>Value</b>	<b>Value</b>	<b>Value</b>
Other Edible Fish	6,365,205.47	8,015,906.32	7,734,401.55	8,516,106.72	9,235,705
Frozen Fish	1,686,517.56	2,001,103.49	2,377,300.92	1,994,031.32	1,837,509
Prawns	64,217.73	69,682.32	57,446.53	81,301.94	84,084
Fish Fresh or Chilled	235,364.35	182,180.20	129,432.80	316,710.31	751,275
Aquarium Fish	38,694.31	55,456.33	65,697.30	133,107.98	109,671
Lobsters	1,208.73	12,040.37	18,429.93	8,300.98	
Crabs					9,071
<b>Total :</b>	<b>8,391,208.14</b>	<b>10,336,369.02</b>	<b>10,382,709.04</b>	<b>11,049,559.24</b>	<b>12,027,314</b>

## Annexure 09

**Imported Quantities of Fish and Fishery Products**

Description	2008	2009	2010	2011	2012
	Quantity	Quantity	Quantity	Quantity	Quantity
Other Edible Fish	48,659,429	49,871,592	49,249,120	50,411,427	42,206,677
Frozen Fish	8,079,085	10,958,300	12,874,633	11,124,755	8,755,306
Prawns	628,228	329,686	358,926	518,187	434,309
Fish Fresh or Chilled	523,289	447,396	774,241	646,124	943,573
Aquarium Fish	24,945	27,781	25,462	77,098	85,831
Lobsters					
Crabs	10,654	15,916	33,244	16,745	11,876
<b>Total :</b>	<b>57,925,630</b>	<b>61,650,671</b>	<b>63,315,626</b>	<b>62,794,336</b>	<b>52,437,572</b>

## Annexure 10

**Fishing Boats by District**

District							TOTAL
	IMUL	IDAY	OFRP	MTRB	NTRB	NBSB	
Colombo	59	28	260	0	311	20	678
Kalutara	375	5	403	0	418	26	1227
Galle	408	38	539	382	399	59	1825
Matara	1026	118	742	228	767	10	2891
Tangalle	535	31	929	131	920	124	2670
Kalmunai	40	184	651	222	1027	161	2285
Batticaloa	328	88	997	3	3430	164	5010
Trincomalle	154	65	3230	4	3000	166	6619
Mullathivu	0	0	490	1	34	4	529
Killinochchi	0	0	507	15	206	0	728
Jaffna	22	183	2926	500	3559	97	7287

Mannar	9	87	1717	185	580	28	2606
Puttalam	85	0	2626	164	1536	222	4633
Mahawewa	414	0	1950	2	1525	29	3920
Negombo	403	126	1742	5	1773	32	4081
<b>Total</b>	<b>3858</b>	<b>953</b>	<b>19709</b>	<b>1842</b>	<b>19485</b>	<b>1142</b>	<b>46989</b>

## Annexure 11

### Active Ice Plants and Production Capacity by Districts

District	2012	
	Ice plants	Capacity (Mt/day)
Colombo	3	40
Negombo	12	623
Kalutara	6	220
Matale	1	27
Galle	4	145
Matara	9	280
Tangalle	11	188
Jaffna	11	67
Mannar	6	62
Mullaitivu	1	6
Kilinochchi	-	-
Batticaloa	5	84
Kalmunai	2	20
Trincomalee	4	313
Kurunegala	-	-
Puttalam	6	170
Chilaw	6	140
Anuradapura	1	10
<b>Total</b>	<b>88</b>	<b>2,395</b>

## **FISH AGGREGATING DEVICE (FAD)**

As an attempt of improving fisheries industry in the country NARA has introduced Fish Aggregating Devices (FAD) in order to facilitate to get a maximum harvest.

The benefits of this fishing method for fishermen are increased catches, to reduce fuel consumption, travel time and increased safety. In addition, sport fishing and diving accessibility to concentrations of fish may be enhanced, with the potential transformation of non-productive fishing areas into productive ones

The experiments were conducted at coastal zone at Trincomalee in Sri Lanka. There were two FADs deployed at the depths of 28m and 25m in the location of  $8^{\circ} 30'.806$  N and  $81^{\circ} 13'.390$  E and  $8^{\circ} 30'.718$  N and  $81^{\circ} 13'.600$  E in the experimental scale. Both FADs were strong enough to persistence even in the rough sea condition.