



Report of
Survey on Input Cost Prevailed In
Fisheries Sector in Kerala

Department of Economics & Statistics
Thiruvananthapuram
2007





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**PREFACE** 

Fisheries sector, a sub sector of primary sector plays an important role in our economy,

by contributes about 2.2% towards GSDP of our state. In past years the contribution of fisheries

was confined only to the natural water bodies only. But currently fish farming has acquired

significant role in the production of fish. Aquaculture development is emerging as an

employment generating and income generating sector nowadays.

Fish is a major item in the food basket of a middle class 'Keralite', which shows the

importance of this sector. To have an idea about the contribution of this sector to the GDP of the

state, the production from the marine sector, inland water bodies and fish farming have to be

taken into account.

At present for the computation of SDP of this sector the data furnished by the State

Fisheries Department is used and the input figures worked out as per some rates fixed years back

were used to arrive GDP. Hence a survey was proposed by the C.S.O and the department took

up the survey utilizing the services of our field staff in the districts under the guidance of Deputy

Directors of the districts. The survey was completed in time.

The data scrutinized and computerization was done in the Directorate. Sri.M A

Nandasoonu, UD Compiler under the supervision of Sri.P.Vimalan, Deputy Director. This report

was prepared in the Survey and Design Division of the department comprising of Sri Rajendran

Kuttikkadu and Smt B Sujatha U. D.Compilers and Smt Mollykkutty C Varkey, Research Officer

under the supervision of Sri. S. Rajendran, Joint Director and Sri.K. Asokan, Additional Director.

I congratulate all of them for the sincere efforts taken by them.

Suggestions for improvement of this report are most welcome.

M.R.BALAKRISHNAN

Director

Thiruvananthapuram

15/02/2007

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# Input cost prevailed in the Fisheries Sector of Kerala

#### Chapter I

### Introduction

Fisheries a sub sector of primary sector contributes a substantial value added to the SDP. This sector has around 2.2% contribution towards the GSDP of the state. Fish is a major item in the food basket of 90% of the people of Kerala. This shows the importance of the sector in the economy of the State.

Coastal line of Kerala covers 590 Kilometers. There are 6 Marine fishing harbours, 14 fish landing centers and 222 fishing villages in the state. About 0.54% of the total population of the state are fishermen. Marine fish catching is carried out through Traditional and Mechanical boats.

There exist 14 FFDAs (Fish Farmers Development Agency) and 6 BFFDAs (Brackish Water Fish Farmer's Development Agency) in the State. These agencies are formed to provide guidelines to promote Inland fish cultivation in the state. In Kerala there are 44 rivers covering an area of 85000hectares, 53000 ponds and bunds covering area more than 27000hectares, 9 fresh water lakes, 53 reservoirs and brackish water area of 46000 hectares. The last year production of inland fish was estimated as around 75000 tonnes.

At present the calculation of SDP portion of this sector is based on the data furnished by the State Fisheries Department. The input figures are presently worked out as per the rates and ratios fixed for each type of fish, which ranges from 1% to 22.5% of the value of output, which is far from reality in the present context.

In calculating the contribution of fisheries sector towards SDP, the output from Marine fish, Inland fish and Prawns/shrimps are used. All these fishes are sold in raw forms and used for salting, sun drying, freezing (keeping the fish in the raw form for few days).

Tremendous changes have occurred in this sector as a result of technological changes. This has necessitated the revision of the present rates and ratios used for the computation of SDP.

# **Objectives**

- 1) To study the input cost prevailed in the marine fisheries sector
- 2) To study the in put cost in the inland fishing sector.
- 3) To find out new rates and ratios in marine and inland fisheries sectors for the computation of SDP.

# Methodology

#### Marine fish:

10 prominent fishing centers (One each from the districts having coastal area) were selected. From each center, 6 units working with motorized boats 3 units operating with non motorized boats and 3 units operating with mechanised boats were selected randomly. Thus 12 units from each centre and a total of 120 units in the state were selected for enquiry.

#### **Inland Fish:**

From the list of fish farmers available with the FFDA'S, the cultivators were selected according to the area of water bodies like Pond/Bund /Lake in which fish is cultivated. Four strata on the basis of area have been formed and 10 fish cultivators have been selected giving weightage to each stratum according to the extent of area. Similarly a total of 60 farmers under BFFDA were selected randomly giving weight age to each stratum (according to area) in the state.

The units were visited 4 times (quarterly visit) in the reference year and collected the required details. The details such as production, cost of cultivation, cost of catching, trading, labour etc. were collected. Thus the total input cost relating to the sector was computed District wise and State wise. From this figures the rates and ratios to be used for the computation of SDP in this sector can be calculated.

The survey was conducted by the field staff of this department in addition to their normal duties using the schedules designed for the purpose.

#### **Schedules:**

Five Types of schedules were used for the collection of details

Schedule I- Used for listing of units in the marine sector.

Schedule II- Used for listing of units in the inland fishing sector

Schedule III-Used for the collection of details from marine fishing units.

Schedule IV- Used for the collection of details from inland fishing units

Schedule V-Used for the collection of details of fish caught from Inland water bodies.

# **Chapter II**

# **Marine Fishing Sector**

Fishing boats were listed from the 10 selected centers. A total 3356 boats were listed for preparing the frame for the survey -188 non-motorised boats, 1334 Motorised boats and 1834 mechanised boats. Out of these 3356 boats, 1876 are operated as proprietorship and 1472 are operated as partnership 8 boats are operated in some other arrangements.

Since the objective of this survey is to study the input cost incurred in connection with fishing, thrust was given to this area. This sector spends money mainly for wages, loading and unloading, fuel, ice and some other expenses in marine fishing. As in all other cases, labour is the highest paid factor in this sector also.

### **Expenditure**

In the case of non-motorized boats about 65% of the total cost is spent as labour charges. That is every boat is giving an average amount of Rs. 418/-as labour charges per catch of fishing. An annual estimated expenditure of Rs.27356647/- was incurred in connection with fishing by the non-motorised boats in the marine sector.

In the case of motorised boats, an average amount of Rs. 1493/- has been spent as labour charges while Rs. 2898 has been spent as fuel charges per catch. In this case fuel charges was the highest input cost. Annual expenditure of Rs.928276114/- has been incurred in connection with fishing with the help of motorised boats.

In the case of Mechanised boats an average amount of Rs.2699/- was spent as labour charges and an amount of Rs. 2779/- was spent as fuel charges per catch. An

amount of Rs. 504704430/- has been spent annually for catching fish using mechanised boats and an amount of Rs. 27449598 has been spent as recurring expenditure.

#### Income

It is found that an amount of Rs.14406 lakhs has got as income for non-motorised boats from the selected 10 fishing centers in districts. This includes the catches of four seasons in the year ie., April- June, July-September, October-December, January-March with a total catch of 40162 tonnes of fish.

In the case of Motorised boats, an amount of Rs.50262 lakhs was obtained as income from the four seasons with a catch of 156617 tonnes.

In the case of Mechanised boats an amount of Rs.38766 lakhs had been received as income from the four catches with 112661 tonnes of fish from the 10 selected marine fishing centres.

On enquiry on the expenditure, it was understood that the initial investment was required for the purchase of boats and other accessories for fishing like fishing nets etc. are rather high in this sector.

In the case of non-motorised boats this investment is comparatively less. Thus it is found that an amount of Rs.7771784/- has been invested as the price of boats, fishing nets, and other accessories and out of which Rs. 5161367/-is the investment for boats only.

In the case of motorized boats the total investment was Rs.232491140 and out of which Rs.175586120/- was the cost of boats and Rs.49670070/- was the cost of fishing nets and Rs.6395054/- was for accessories.

Total investment for mechanized boats was Rs.2107464843/- and out of which Rs.1432010333 was spent for purchasing boats, Rs.605379416/- was spent for fishing nets and Rs.62909399/- was spent for fishing accessories.

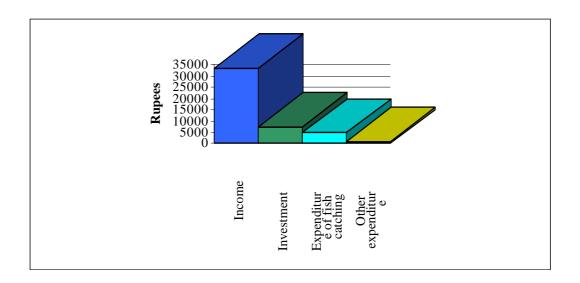
In addition to the daily expenditure and fixed investment, there are some other expenditure such as maintenance expenditure, tax, rent etc. In the case of non-motorised boats, these expenses are less compared to the other two. For this, the total recurring expenditure was Rs.990950/- and out of which Rs.971400/- was spent for maintenance and Rs.18400/- was spent as rent.

The recurring expenditure for motorized boats was Rs.24254057/- and out of which Rs.23736627/-(i.e.,97.80%) was spent as maintenance charges and Rs.454124/- for tax/insurance.

For mechanized boats this expenditure was found as Rs.274494598- out of which Rs.260808666- was spent for maintenance and Rs.13397167- was spent for Tax/Insurance.

The tables given below may give a good picture of the various aspects of the the fisheries sector in the state.

# **Income and Expenditure Of Fish Catching per Metric Tonne**



# **Marine fisheries-Tables**

Table-1
Number Of Boats According To Type

Sl. No	Center	Non Motorised	Motorised	Mechanised	Total
1	Vizhinjam	21	536	33	590
2	Neendakara	6	99	83	188
3	Thottappalli	17	15	15	47
4	Munambam	12	20	454	486
5	Kochi	28	46	869	943
6	Chettuva	6	15	5	26
7	Ponnani	69	74	32	175
8	Puthiyappa	9	407	250	666
9	Moppilabay	10	30	24	64
10	Kasargod	10	92	69	171
	State	188	1334	1834	3356

Table-2
Number Of Boats According To Ownership

Sl. No	Center	Proprietorship	Partnership	Others	Total
1	Vizhinjam	590			590
2	Neendakara	172	16		188
3	Thottappalli	40	7		47
4	Munambam	162	324		486
5	Kochi	290	653		943
6	Chettuva	26			26
7	Ponnani	137	30	8	175
8	Puthiyappa	333	333		666
9	Moppilabay	53	11		64
10	Kasargod	73	98		171
	State	1876	1472	8	3356

Table-3A

Total Investment- Non Motorised

Sl. No	Center	No.of Boats	Cost of Boat	Cost of Accessories	Cost of Fishing Net	Others Expenses	Total
1	Vizhinnham	21	1890000	0	455000	10500	2355500
2	Neendakara	6	290000	9600	110000	5800	415400
3	Thottappalli	17	47033	4817	20967	7650	80467
4	Munambam	12	88000	0	120000	0	208000
5	Kochi	28	448000	0	140000	0	588000
6	Chettuva	6	150000	0	60000	0	210000
7	Ponnani	69	759000	65550	1127000	0	1951550
8	Puthiyappa	9	306000	15000	171000	5700	497700
9	Moppilabay	10	316667	0	103333	0	420000
10	Kasargod	10	866667	0	174167	4333	1045167
	Total	188	5161367	94967	2481467	33983	7771784

Table-3B

Total Investment- Motorised

Sl. No	Center	No.of Boats	Cost of Boat	Cost of Accessories	Cost of Fishing Net	Others Expenses	Total
1	Vizhinnham	536	69822933	1643733	19117333	403787	90987787
2	Neendakara	99	10065000	1644225	6765000	112200	18586425
3	Thottappalli	15	1287500	231375	593750	15000	2127625
4	Munambam	20	2166667	66667	500000	0	2733333
5	Kochi	46	6900000	486833	801167	0	8188000
6	Chettuva	15	3625000	136500	625075	0	4386575
7	Ponnani	74	6812353	252471	1719412	0	8784235
8	Puthiyappa	407	62406667	1933250	16076500	217745	80634162
9	Moppilabay	30	3300000	0	800000	0	4100000
10	Kasargod	92	9200000	0	2671833	91164	11962998
	Total	1334	175586120	6395054	49670070	839896	232491140

Table-3C

Total Investment- Mechanised

Sl. No	Center	No.of Boats	Cost of Boat	Cost of Accessories	Cost of Fishing Net	Others Expenses	Total
1	Vizhinnham	33	30052000	0	5170000	99000	35321000
2	Neendakara	83	69166667	0	15216667	387333	84770667
3	Thottappalli	15	10500000	337500	1256250	35625	12129375
4	Munambam	454	408600000	1331733	55993333	756667	466681733
5	Kochi	869	673475000	54312500	477950000	4996750	1210734250
6	Chettuva	5	4500000	0	700000	24000	5224000
7	Ponnani	32	29333333	2069333	2613333	0	34016000
8	Puthiyappa	250	160000000	3708333	40833333	758333	205300000
9	Moppilabay	23	21083333	1150000	2760000	0	24993333
10	Kasargod	69	25300000	0	2886500	107985	28294485
	Total	1833	1432010333	62909399	605379416	7165693	2107464843

Table-4A

Average Expenditure For One Catch -Non Motorised

Sl. No	Center	Average No. of workers	Wages/ Worker	Total Wages	Loading,, unloading Charges	Fuel expenses	Cost of Ice	Other expenses	Total
1	Vizhinnham	5	187	935	183	40	83	100	1528
2	Neendakara	4	200	800	0	0	0	0	1000
3	Thottappalli	2	86	172	0	0	0	42	300
4	Munambam	2	108	216	0	0	0	47	371
5	Kochi	2	133	266	0	0	0	50	449
6	Chettuva	3	100	300	0	0	0	75	475
7	Ponnani	2	180	360	0	0	0	50	590
8	Puthiyappa	3	220	660	0	0	0	47	927
9	Moppilabay	1	67	67	25	0	0	0	159
10	Kasargod	2	200	400	0	0	0	50	650
Sı	tateaverage	3	148	418	21	4	8	46	645

Table-4B

Average Expenditure For One Catch – Motorised

Sl. No	Center	Average No. of workers	Wages/ Worker	Total Wages	Loading,, unloading Charges	Fuel expenses	Cost of Ice	Other expenses	Total
1	Vizhinnham	4	154	616	113	1533	100	142	2504
2	Neendakara	6	258	1548	0	1700	0	0	3248
3	Thottappalli	5	172	860	0	583	200	75	1718
4	Munambam	7	158	1106	50	5333	0	350	6839
5	Kochi	8	267	2136	0	3600	0	0	5736
6	Chettuva	8	258	2064	0	7017	617	600	10298
7	Ponnani	9	157	1413	167	3217	0	375	5172
8	Puthiyappa	7	284	1988	38	2217	62	167	4472
9	Moppilabay	6	108	648	53	77	27	0	805
10	Kasargod	6	425	2550	0	3706	204	308	6768
Sı	tate average	7	224	1493	42	2898	121	202	4980

Table-4C Average Expenditure for One Catch –Mechanised

Sl. No	Center	Average No. of workers	Wages/ Worker	Total Wages	Loading,, unloading Charges	Fuel expenses	Cost of Ice	Other expenses	Total
1	Vizhinnham	11	319	3509	200	1360	417	500	5986
2	Neendakara	10	446	4460	0	2100	433	600	7593
3	Thottappalli	9	201	1809	333	4000	500	333	6975
4	Munambam	7	168	1176	333	3042	167	667	5385
5	Kochi	11	381	4191	0	1200	542	333	6266
6	Chettuva	8	400	3200	0	1483	633	1000	6316
7	Ponnani	9	283	2547	283	5333	683	267	9113
8	Puthiyappa	8	256	2048	233	2533	400	317	5531
9	Moppilabay	10	176	1760	900	4867	800	1000	9327
10	Kasargod	12	191	2292	162	1874	166	350	4844
St	ate average	10	282	2699	244	2779	474	537	6734

Table-5A

Number of Catches-Non Motorised

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	1204	1183	1162	1190	4739
2	Neendakara	444	416	430	366	1656
3	Thottappalli	272	567	380	357	1576
4	Munambam	428	120	720	788	2056
5	Kochi	2053	840	2007	2100	7000
6	Chettuva	360	360	450	450	1620
7	Ponnani	3013	4347	4830	4600	16790
8	Puthiyappa	516	315	510	480	1821
9	Moppilabay	517	517	517	517	2068
10	Kasargod	323	720	750	343	2136
	Total	913	939	1176	1119	41462

Table-5B

Number Of Catches-Motorised

Sl.						
No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	39485	38860	39217	39485	157047
2	Neendakara	5891	5115	6270	4505	21781
3	Thottappalli	795	810	690	763	3058
4	Munambam	1247	1210	1333	1250	5040
5	Kochi	1756	958	1786	1756	6256
6	Chettuva	373	73	148	415	1009
7	Ponnani	1336	1698	1393	1611	6038
8	Puthiyappa	16958	7801	18993	17637	61389
9	Moppilabay	600	625	625	650	2500
10	Kasargod	1633	3450	3450	1886	10419
	Total	7007	6060	7391	6996	274537

Table-5C

Number Of Catches-Mechanised

Sl.						
No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	363	385	352	374	1474
2	Neendakara	664	636	470	719	2489
3	Thottappalli	338	383	334	319	1374
4	Munambam	3783	2270	4994	4540	15587
5	Kochi	7821	3911	7821	7821	27374
6	Chettuva	62	20	15	60	157
7	Ponnani	1739	960	1792	1888	6379
8	Puthiyappa	5333	1083	6000	6167	18583
9	Moppilabay	230	230	230	230	920
10	Kasargod	2139	1242	2588	2588	8557
	Total	22472	11120	24596	24706	82894

Table-6A

Average Quantity And Value Of Fish Per Catch- Non Motorised

			Quantity ir	n Quintals			Value In	Rupees	
Sl. No	Center	April- June	July- Sept	Oct- Dec	Jan- Mar	April- June	July- Sept	Oct- Dec	Jan- Mar
1	Vizhinnham	8.87	9.00	8.93	6.80	26667	32200	26400	26867
2	Neendakara	0.93	0.87	0.93	0.80	2433	2600	2133	1800
3	Thottappalli	0.20	0.20	0.20	0.20	500	467	450	527
4	Munambam	2.80	1.07	5.67	5.33	5167	2000	7333	7967
5	Kochi	2.71	2.87	2.53	2.60	2780	3053	2713	2653
6	Chettuva	0.46	0.40	0.48	0.50	920	800	960	1000
7	Ponnani	8.67	18.67	30.00	15.33	37500	79867	87800	78867
8	Puthiyappa	0.75	0.57	0.70	0.59	3013	1733	2100	2387
9	Moppilabay	2.00	2.00	2.00	2.00	6333	6333	6333	6333
10	Kasargod	0.98	1.57	1.85	0.88	2100	1790	2309	1020
,	State average	2.84	3.72	5.33	3.50	50 8741 13084 13853 12			12942

Table-6B

Average Quantity And Value Of Fish Per Catch – Motorised

			Quantity in	n Quintals			Value In	Rupees	
Sl. No	Center	April- June	July- Sept	Oct- Dec	Jan- Mar	April- June	July- Sept	Oct- Dec	Jan- Mar
1	Vizhinnham	3.65	4.38	4.16	3.7	8400	12800	11167	7167
2	Neendakara	14.03	14.17	13.43	26.33	26167	60500	38000	132217
3	Thottappalli	1.33	1.4	1.13	1.17	3900	5033	3383	3933
4	Munambam	8.3	5.3	8.27	21.33	30667	42000	35000	19333
5	Kochi	9.83	8.67	10.17	10.17	19333	23500	23167	21000
6	Chettuva	9.01	10.33	6.2	9.58	25117	34667	68200	105417
7	Ponnani	15.77	8.3	9.03	10.53	28996	22093	42667	51743
8	Puthiyappa	2.43	2.27	2.63	2	18600	9467	18250	17800
9	Moppilabay	20.67	20.67	19.67	19	29500	26500	26167	42233
10	Kasargod	11.95	14.98	32.26	7.66	33615	42462	61368	24289
	State average         10         9         11         11         22430         27902         32737				42513				

Table-6C
Average Quantity And Value Of Fish Per Catch – Mechanised

S1.			Quantity in	n Quintals		Value In Rupees			
No	Center	April- June	July- Sept	Oct- Dec	Jan- Mar	April- June	July- Sept	Oct- Dec	Jan- Mar
1	Vizhinnham	7.6	8.87	7.8	7.93	13560	15600	99200	47600
2	Neendakara	5.4	5.53	4.67	5.53	46667	25333	18333	68667
3	Thottappalli	7.33	7.33	5.33	4.67	40333	49000	40000	36333
4	Munambam	8.67	7.13	5.27	20	47677	42679	59074	86133
5	Kochi	25.33	10.33	22.67	20	61333	24333	43333	69000
6	Chettuva	12.17	7.33	7.67	10.83	13383	53333	84333	46567
7	Ponnani	15.4	20.93	10.6	22.8	37720	61100	42367	44687
8	Puthiyappa	9	5.33	6.8	5.57	48333	35000	39867	33733
9	Moppilabay	9.33	9.33	9.33	9.33	13333	13333	133333	13333
10	Kasargod	11.67	8	14.33	13.33	19667	6667	25000	17600
State average         112         90         94         120         3				342006	326378	584840	463653		

Table-7A

Total Expenditure Of Fish Catching In Rupees–Non Motorised (Annual)

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	1839712	1807624	1775536	1818320	7241192
2	Neendakara	444000	416000	430000	366000	1656000
3	Thottappalli	81600	170100	114000	107100	472800
4	Munambam	158788	44520	267120	292348	762776
5	Kochi	921797	377160	901143	942900	3143000
6	Chettuva	171000	171000	213750	213750	769500
7	Ponnani	1777670	2564730	2849700	2714000	9906100
8	Puthiyappa	478332	292005	472770	444960	1688067
9	Moppilabay	82203	82203	82203	82203	328812
10	Kasargod	209950	468000	487500	222950	1388400
	Total	6165052	6393342	7593722	7204531	27356647

Table-7B

Total Expenditure Of Fish Catching In Rupees – Motorised (Annual)

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	98870440	97305440	98199368	98870440	393245688
2	Neendakara	19133968	16613520	20364960	14632240	70744688
3	Thottappalli	1365810	1391580	1185420	1310834	5253644
4	Munambam	8528233	8275190	9116387	8548750	34468560
5	Kochi	10072416	5495088	10244496	10072416	35884416
6	Chettuva	3841154	751754	1524104	4273670	10390682
7	Ponnani	6909792	8782056	7204596	8332092	31228536
8	Puthiyappa	75836176	34886072	84936696	78872664	274531608
9	Moppilabay	483000	503125	503125	523250	2012500
10	Kasargod	11052144	23349600	23349600	12764448	70515792
	Total	236093133	197353425	256628752	238200804	928276114

Table-7C

Total Expenditure Of Fish Catching In Rupees –Mechanised (Annual)

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	2172918	2304610	2107072	2238764	8823364
2	Neendakara	5041752	4829148	3568710	5459367	18898977
3	Thottappalli	2357550	2671425	2329650	2225025	9583650
4	Munambam	20371455	12223950	26892690	24447900	83935995
5	Kochi	49006386	24506326	49006386	49006386	171525484
6	Chettuva	391592	126320	94740	378960	991612
7	Ponnani	15847507	8748480	16330496	17205344	58131827
8	Puthiyappa	29496823	5990073	33186000	34109677	102782573
9	Moppilabay	2145210	2145210	2145210	2145210	8580840
10	Kasargod	10361316	6016248	12536272	12536272	41450108
	Total	137192509	69561790	148197226	149752905	504704430

Table-8A

Recurring Expenses- Non Motorised

Sl. No	Center	Maintenance	Tax/Insurance	Rent	Other expenses	Total
1	Vizhinnham	308000	0	0	0	308000
2	Neendakara	68400	0	0	0	68400
3	Thottappalli	6800	0	0	0	6800
4	Munambam	54000	0	0	0	54000
5	Kochi	78400	0	0	0	78400
6	Chettuva	48000	0	0	0	48000
7	Ponnani	249550	0	18400	1150	269100
8	Puthiyappa	77250	0	0	0	77250
9	Moppilabay	9667	0	0	0	9667
10	Kasargod	71333	0	0	0	71333
	Total	971400	0	18400	1150	990950

Table-8B

Recurring Expenses- Motorised

Sl. No	Center	Maintenance	Tax/Insurance	Rent	Other expenses	Total
1	Vizhinnham	6789333	19653	0	0	6808986
2	Neendakara	4296782	4950	0	0	4301732
3	Thottappalli	223750	250	0	25000	249000
4	Munambam	1083333	0	0	0	1083333
5	Kochi	1702000	0	0	0	1702000
6	Chettuva	545680	0	0	0	545680
7	Ponnani	737824	67471	0	38306	843601
8	Puthiyappa	7132675	162800	0	0	7295475
9	Moppilabay	207500	15000	0	0	222500
10	Kasargod	1017750	184000	0	0	1201750
	Total	23736627	454124	0	63306	24254057

Table-8C
Recurring Expenses- Mechanised

Sl. No	Center	Maintenance	Tax/Insurance	Rent	Other expenses	Total
1	Vizhinnham	2865500	3300	0	0	2868800
2	Neendakara	15410333	1079000	0	0	16489333
3	Thottappalli	507375	26250	0	56250	589875
4	Munambam	81644333	1543600	0	0	83187933
5	Kochi	125244625	9993500	0	0	135238125
6	Chettuva	355833	500	0	0	356333
7	Ponnani	1770667	208000	0	102400	2081067
8	Puthiyappa	27375000	141667	0	83333	27600000
9	Moppilabay	1150000	23000	0	0	1173000
10	Kasargod	4485000	378350	0	46782	4910132
	Total	260808666	13397167	0	288765	274494598

Table-9A

Total Production in Quintals- Non Motorised

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	10679	10647	10377	8092	39795
2	Neendakara	413	362	400	293	1468
3	Thottappalli	54	113	76	71	314
4	Munambam	1198	128	4082	4200	9608
5	Kochi	5564	2411	5078	5460	18513
6	Chettuva	166	144	216	225	751
7	Ponnani	26123	81158	144900	70518	322699
8	Puthiyappa	387	180	357	283	1207
9	Moppilabay	1034	1034	1034	1034	4136
10	Kasargod	317	1130	1388	302	3137
	Total	45935	97307	167908	90478	401628

Table-9B

Total Production in Quintals- Motorised

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	144120	170207	163143	146095	623565
2	Neendakara	82651	72480	84206	118617	357954
3	Thottappalli	1057	1134	780	893	3864
4	Munambam	10350	6413	11024	26663	54450
5	Kochi	17261	8306	18164	17859	61590
6	Chettuva	3361	754	918	3978	9011
7	Ponnani	21069	14093	12579	16964	64705
8	Puthiyappa	41208	17708	49952	35274	144142
9	Moppilabay	12402	12919	12294	12350	49965
10	Kasargod	19514	51681	111297	14447	196939
	Total	352993	355695	464357	393140	1566185

Table-9C

Total Production in Quintals - Mechanised

Sl. No	Center	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Vizhinnham	2759	3415	2746	2966	11886
2	Neendakara	3586	3517	2195	3976	13274
3	Thottappalli	2478	2807	1780	1490	8555
4	Munambam	32799	16185	26318	90800	166102
5	Kochi	198106	40401	177302	156420	572229
6	Chettuva	755	147	116	650	1668
7	Ponnani	26781	20093	18995	43046	108915
8	Puthiyappa	47997	5772	40800	34350	128919
9	Moppilabay	2146	2146	2146	2146	8584
10	Kasargod	24962	9936	37086	34498	106482
	Total	342369	104419	309484	370342	1126614

Table-10A

Total Income in Rupees- Non Motorised

Sl. No	Center	April-June	July-Sept	Octo-Dec	Jan-Mar	Total
1	Vizhinnham	32107068	38092600	30676800	31971730	132848198
2	Neendakara	1080252	1081600	917190	658800	3737842
3	Thottappalli	136000	264789	171000	188139	759928
4	Munambam	2211476	240000	5279760	6277996	14009232
5	Kochi	5707340	2564520	5444991	5571300	19288151
6	Chettuva	331200	288000	432000	450000	1501200
7	Ponnani	112987500	347181849	424074000	362788200	1247031549
8	Puthiyappa	1554708	545895	1071000	1145760	4317363
9	Moppilabay	3274161	3274161	3274161	3274161	13096644
10	Kasargod	678300	1288800	1731750	349860	4048710
	Total	160068005	394822214	473072652	412675946	1440638817

Table-10B

Total Income in Rupees- Motorised

Sl. No	Center	April-June	July-Sept	Octo-Dec	Jan-Mar	Total
1	Vizhinnham	331674000	497408000	437936239	282988995	1550007234
2	Neendakara	154149797	309457500	238260000	595637585	1297504882
3	Thottappalli	3100500	4076730	2334270	3000879	12512379
4	Munambam	38241749	50820000	46655000	24166250	159882999
5	Kochi	33948748	22513000	41376262	36876000	134714010
6	Chettuva	9368641	2530691	10093600	43748055	65740987
7	Ponnani	38738656	37513914	59435131	83357973	219045674
8	Puthiyappa	315418800	73852067	346622250	313938600	1049831717
9	Moppilabay	17700000	16562500	16354375	27451450	78068325
10	Kasargod	54893295	146493900	211719600	45809054	458915849
	Total	997234186	1161228302	1410786727	1456974841	5026224056

Table-10C

Total Income in Rupees- Mechanised

Sl. No	Center	April-June	July-Sept	Octo-Dec	Jan-Mar	Total
1	Vizhinnham	4922280	6006000	34918400	17802400	63649080
2	Neendakara	30986888	16111788	8616510	49371573	105086759
3	Thottappalli	13632554	18767000	13360000	11590227	57349781
4	Munambam	180362091	96881330	295015556	391043820	963302797
5	Kochi	479685393	95166363	338907393	539649000	1453408149
6	Chettuva	829746	1066660	1264995	2794020	5955421
7	Ponnani	65595080	58656000	75921664	84369056	284541800
8	Puthiyappa	257759889	37905000	239202000	208031411	742898300
9	Moppilabay	3066590	3066590	30666590	3066590	39866360
10	Kasargod	42067713	8280414	64700000	45548800	160596927
	Total	1078908224	341907145	1102573108	1353266897	3876655374

Table-11A Production, Income and Expenditure-Non Motorised

Sl. No	Center	Production	Income	Investment	Expenditure of fish catching	Other expenditure
1	Vizhinnham	39795	132848198	2355500	7241192	308000
2	Neendakara	1468	3737842	415400	1656000	68400
3	Thottappalli	314	759928	80467	472800	6800
4	Munambam	9608	14009232	208000	762776	54000
5	Kochi	18513	19288151	588000	3143000	78400
6	Chettuva	751	1501200	210000	769500	48000
7	Ponnani	322699	1247031549	1951550	9906100	269100
8	Puthiyappa	1207	4317363	497700	1688067	77250
9	Moppilabay	4136	13096644	420000	328812	9667
10	Kasargod	3137	4048710	1045167	1388400	71333
	Total	401628	1440638817	7771784	27356647	990950

Table-11B Production, Income And Expenditure- Motorised

Sl. No	Center	Production	Income	Investment	Expenditure of fish catching	Other expenditure
1	Vizhinnham	623565	1550007234	90987787	393245688	6808986
2	Neendakara	357954	1297504882	18586425	70744688	4301732
3	Thottappalli	3864	12512379	2127625	5253644	249000
4	Munambam	54450	159882999	2733333	34468560	1083333
5	Kochi	61590	134714010	8188000	35884416	1702000
6	Chettuva	9011	65740987	4386575	10390682	545680
7	Ponnani	64705	219045674	8784235	31228536	843601
8	Puthiyappa	144142	1049831717	80634162	274531608	7295475
9	Moppilabay	49965	78068325	4100000	2012500	222500
10	Kasargod	196939	458915849	11962998	70515792	1201750
	Total	1566185	5026224056	232491140	928276114	24254057

Table-11C

Production, Income And Expenditure- Mechanised

Sl. No	Center	Production	Income	Investment	Expenditure of fish catching	Other expenditure
1	Vizhinnham	11886	63649080	35321000	8823364	2868800
2	Neendakara	13274	105086759	84770667	18898977	16489333
3	Thottappalli	8555	57349781	12129375	9583650	589875
4	Munambam	166102	963302797	466681733	83935995	83187933
5	Kochi	572229	1453408149	1210734250	171525484	135238125
6	Chettuva	1668	5955421	5224000	991612	356333
7	Ponnani	108915	284541800	34016000	58131827	2081067
8	Puthiyappa	128919	742898300	205300000	102782573	27600000
9	Moppilabay	8584	39866360	24993333	8580840	1173000
10	Kasargod	106482	160596927	28294485	41450108	4910132
	Total	1126614	3876655374	2107464843	504704430	274494598

Table 12

Total Production, Income And Expenditure

Sl. No	Center	Production	Income	Investment	Expenditure of fish catching	Other expenditure
1	Vizhinnham	675246	1746504512	128664287	409310244	9985786
2	Neendakara	372696	1406329483	103772492	91299665	20859465
3	Thottappalli	12733	70622088	14337467	15310094	845675
4	Munambam	230160	1137195028	469623066	119167331	84325266
5	Kochi	652332	1607410310	1219510250	210552900	137018525
6	Chettuva	11430	73197608	9820575	12151794	950013
7	Ponnani	496319	1750619023	44751785	99266463	3193768
8	Puthiyappa	274268	1797047380	286431862	379002248	34972725
9	Moppilabay	62685	131031329	29513333	10922152	1405167
10	Kasargod	306558	623561486	41302650	113354300	6183215
	Total	3094417	10343518247	2347727767	1460337191	299739605

# Chapter III INLAND FISHERING SECTOR- FFDA

# (Fish Farmers Development Agency)

The promotional agents of inland water fishing in the state are FFDAs and BFFDAs. Fish Farmers Development Agency is the agency to promote inland fish cultivation in pure water. For the study of FFDA part of inland fisheries sector, the list of cultivators provided by the FFDA was used as frame.

As per this list there were 972 fish cultivators (pure water) in the state and out of which 917 people are cultivating fish below 1 hectare. From the survey, it is found that most of the cultivators are using very small area for fish cultivation—and some of them had even stopped the cultivation. 30 persons were—seen cultivating area between 1 and 2 hectors and 21 of them were cultivating in an area between 2 and 4 hectares and 4 persons had cultivation in above 4 hectares.

It is be seen that Eranakulam district has the highest area cultivated even if the number of cultivators are less. Hence it is clear that the area cultivated by each of them is higher compared to other districts which have more number of farmers. 35 farmers are cultivating in 8.86 hectares in Eranakulam with all of them having below one hectare of land and 2 farmers have land between 1 and 1.99 hectares, 2 of them have land between 2 and 2. 99 hectares. 2 of them have land above 4 hectares. Malappuram district 227 farmers while the total area cultivated is only 23.85 hectares. Wayanad district has 191 farmers with an area of 5.27 hectares. Idukki district has 68 farmers and has only 8.96 hectares of land for cultivation. Kollam district has 54 farmers and 22.12 hectares of land of cultivation. Highest area of cultivation is in Eranakulam District i.e. 62.79 hectares.

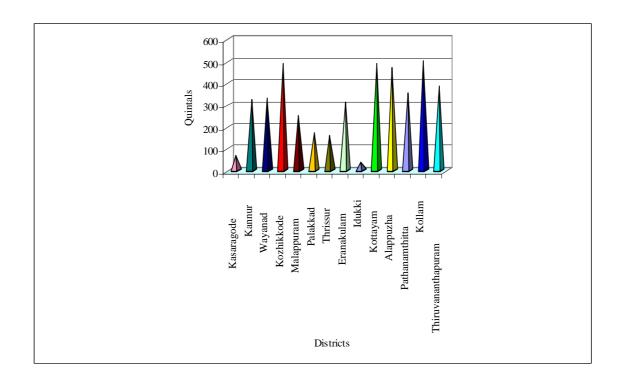
Out of the cultivators, 868 are farming as proprietorship and 22 are farming in partnership and 82 farmers were not included in both these categories.

#### **Production and Income**

3828.93 quintal of fish was produced by these cultivators and harvested in the four seasons with a value of Rs.17489004/-. January-March, one of the four seasons, is the high yield season. Among the districts, Kollam has got the highest yield. On an enquiry it was understood that these cultivators are getting an income from other Inland water bodies (where they have not cultivated) by fishing there and this has also been included with the income from fish farming. The Income thus obtained is given in Table 18B.

Fishes were classified according to Type. The important types of fishes grown are prawn, Grass Carp, Catfish, Silver carp,Rohu, Thiloppia, Catla and some other varieties which are not classified. Out of this, Catla is the widely growing fish and it had a production of 963 quintals. All the minor variety fishes, which are not classified, contribute 1039 quintals. The minor variety fishes fetch the highest share in production in terms of money. Catla is the 2<sup>nd</sup> highest priced fish.

### **District wise Production in Quintals**



# **Expenditure**

86030 man days were spent for fish cultivation by these farmers and out of which 19057 man days were hired labourers and 66973 mandays contributed by household labourers. For this a total wages of Rs.10634045/- were spent and out of which Rs.1927555/- was spent for hired and Rs. 8706490/- was imputed value for household labourers.

A total expenditure of Rs.8272196/-has been incurred for this cultivation excluding the wages for household labourers and out of which 1.21% has been spent for rent 17.46% for seed 35.64% for food, 11.18% for net and other accessories 23.3% for wages for hired labourers and 11.19% for other expenses (Table 21)

Season wise expenditure is given in the table 22

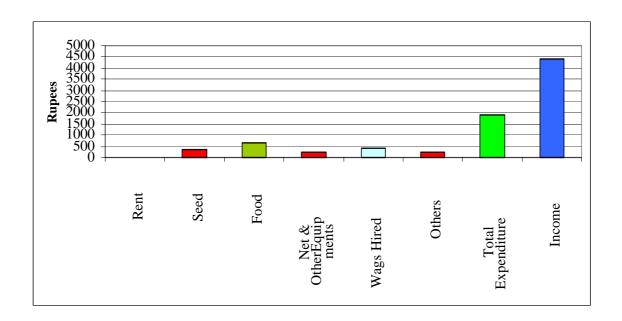
# 3000000 2500000 2000000 1500000 1000000 500000 Idukki Thrissur Wayanad Palakkad Eranakulam Alappuzha Thiruvananth apuram Pathanamthit ta Kasaragode Malappuram Districts

# **District wise Income in Rupees**

A total income of Rs. 19012768/- was received from inland fishing which included the income from fishing in inland water bodies in pure water sources where fish have not been cultivated by the farmers. Rs.1523764/- was the income accrued from fishing in the inland water bodies where no fish cultivation was done.

Thus it is estimated that a total income of Rs.19012768/- was generated with an expenditure of Rs.8272196/- in this sector (in pure water bodies).

# **Income and Expenditure Of Fish Farming per Quintal**



# **FFDA-Tables**

Table- 13

Number of Cultivators According Ownership

Sl No	District	Proprietorship	Partnership	Others	Total
1	Kasaragode	39			39
2	Kannur	14		3	17
3	Wayanad	134		57	191
4	Kozhikkode	57	6		63
5	Malappuram	227			227
6	Palakkad	26			26
7	Thrissur	13		1	14
8	Eranakulam	33	4	4	41
9	Idukki	71			71
10	Kottayam	71			71
11	Alappuzha	55	6		61
12	Pathanamthitta	39		11	50
13	Kollam	54			54
14	Thiruvananthapuram	35	6	6	47
	Total	868	22	82	972

Table- 14 Number of Cultivators According to Area (Hectares) Stratum wise

Sl No	District	Below 1	1to 1.99	2 to3.99	4&above	Total
1	Kasaragode	39				39
2	Kannur	8	1	8		17
3	Wayanad	191				191
4	Kozhikkode	63				63
5	Malappuram	225	2			227
6	Palakkad	19	6	1		26
7	Thrissur	9	3	1	1	14
8	Eranakulam	35	2	2	2	41
9	Idukki	68	3			71
10	Kottayam	69		1	1	71
11	Alappuzha	60		1		61
12	Pathanamthitta	46	1	3		50
13	Kollam	54				54
14	Thiruvananthapuram	31	12	4		47
	Total	917	30	21	4	972

Table- 15
Area Cultivated (Hectares) Stratum wise

Sl No	District	Below 1	1to 1.99	2 to3.99	4&above	Total
1	Kasaragode	0.99				0.99
2	Kannur	0.55	1.01	21.97		23.53
3	Wayanad	5.27				5.27
4	Kozhikkode	26.88				26.88
5	Malappuram	21.64	2.21			23.85
6	Palakkad	15.66	6.91	2.37		24.94
7	Thrissur	3.19	3.63		36	42.82
8	Eranakulam	8.86	3.04	5.36	45.53	62.79
9	Idukki	2.9	6.06			8.96
10	Kottayam	13.06			5.46	18.52
11	Alappuzha	9.93		2.63		12.56
12	Pathanamthitta	2.38	1.11	6.67		10.16
13	Kollam	22.12				22.12
14	Thiruvananthapuram	5.63	10.68			16.31
	Total		34.65	39	86.99	299.7

Table- 16A

Production from Fish culture

Sl No	District		Qua	antity in Quinta	als	
31 100	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total
1	Kasaragode	9.33	6.49	10.76	6.78	33.36
2	Kannur	70.65	51.86	16.2	20.74	159.45
3	Wayanad	24.01	47.19	75.06	66.09	212.35
4	Kozhikkode	132.6	63.58	54.49	54.49	305.16
5	Malappuram	86.09	32.31	23.81	108.4	250.61
6	Palakkad	28.73	5.15	75.5	62.88	172.26
7	Thrissur	0	0	0	162.11	162.11
8	Eranakulam	47.74	168.23	37.51	47.12	300.6
9	Idukki	21.86	14.58	0	0	36.44
10	Kottayam	25.67	0.19	216.63	244.07	486.56
11	Alappuzha	145.37	107.73	122.79	92.53	468.42
12	Pathanamthitta	93.51	79.72	77.19	101.83	352.25
13	Kollam	0	0	109.75	392.9	502.65
14	Thiruvananthapuram	98.56	39.22	112.75	136.18	386.71
	Total	784.12	616.25	932.44	1496.12	3828.93

Table- 16B Income from Fish culture

Sl No	District	Value in Rupees								
SI NO	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total				
1	Kasaragode	62320	39096	54703	47650	203769				
2	Kannur	537347	369466	55096	84264	1046173				
3	Wayanad	119965	213991	671982	346925	1352863				
4	Kozhikkode	1160722	445034	326964	199811	2132531				
5	Malappuram	302683	116907	73120	549952	1042662				
6	Palakkad	97344	46385	255838	217622	617189				
7	Thrissur	0	0	0	650485	650485				
8	Eranakulam	188690	88690 795682 143223	143223	226599	1354194				
9	Idukki	63918	62911	0	0	126829				
10	Kottayam	128373	770	1227631	841006	2197780				
11	Alappuzha	627222	535721	575273	668456	2406672				
12	Pathanamthitta	556125	451001	420382	500158	1927666				
13	Kollam	0	0	329244	1138635	1467879				
14	Thiruvananthapuram	264012	85993	263308	348999	962312				
	Total	4108721	3162957	4396764	5820562	17489004				

Table- 17A

Production from Fishing in Inland Water bodies

			Qua	antity in Quinta	ıls	
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total
1	Kasaragode	15.8	6.3	5	6	33.1
2	Kannur	45.4	116.7	0	0	162.1
3	Wayanad	27.6	56.6	21	16	121.2
4	Kozhikkode	185.3	0	0	0	185.3
5	Malappuram	0	0	0	0	0
6	Palakkad	0	0	0	0	0
7	Thrissur	0	0	0	0	0
8	Eranakulam	2.6	8.5	0	0	11.1
9	Idukki	0	0	0	0	0
10	Kottayam	0	0	0	0	0
11	Alappuzha		0	0	0	0
12	Pathanamthitta	0.2	0	0	1	1.2
13	Kollam	0	0	0	0	0
14	Thiruvananthapuram	0	0	0	0	0
	Total	276.9	188.1	26	23	514

Table- 17B

Income from Fishing in Inland Water bodies

		Value in Rupees							
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total			
1	Kasaragode	78439	34006	26512	35137	174094			
2	Kannur	233347	291684	0	0	525031			
3	Wayanad	82782	287667	108651	79678	558778			
4	Kozhikkode	203081	0	0	0	203081			
5	Malappuram	0	0	0	0	0			
6	Palakkad	0	0	0	0	0			
7	Thrissur	0	0	0	0	0			
8	Eranakulam	14777	44331	0	0	59108			
9	Idukki	0	0	0	0	0			
10	Kottayam	0	0	0	0	0			
11	Alappuzha	0	0	0	0	0			
12	Pathanamthitta	612	0	0	3060	3672			
13	Kollam	0	0	0	0	0			
14	Thiruvananthapuram	0	0	0	0	0			
	Total	613038	657688	135163	117875	1523764			

Table- 18A

# **Total Production**

Sl No	District		Qua	antity in Quinta	ıls					
		April-June	July-Sept	Oct-Dec	Jan-Mar	Total				
1	Kasaragode	25.13	12.79	15.76	12.78	66.46				
2	Kannur	116.05	168.56	16.2	20.74	321.55				
3	Wayanad	51.61	103.79	96.06	82.09	333.55				
4	Kozhikkode	317.9	63.58	54.49	54.49	490.46				
5	Malappuram	86.09	32.31	23.81	108.4	250.61				
6	Palakkad	28.73	5.15	75.5	62.88	172.26				
7	Thrissur	0	0	0	162.11	162.11				
8	Eranakulam	50.34	176.73	37.51	47.12	311.7				
9	Idukki	21.86	14.58	0	0	36.44				
10	Kottayam	25.67	0.19	216.63	244.07	486.56				
11	Alappuzha	145.37	107.73	122.79	92.53	468.42				
12	Pathanamthitta	93.71	79.72	77.19	102.83	353.45				
13	Kollam	0	0	109.75	392.9	502.65				
14	Thiruvananthapuram	98.56	39.22	112.75	136.18	386.71				
	Total	1061.02	804.35	958.44	1519.12	4342.93				

Table- 18B

# **Total Income**

Sl No	District	Value in Rupees								
SI NO	District	April-June	July-Sept	Oct-Dec	Jan-Mar	Total				
1	Kasaragode	140759	73102	81215	82787	377863				
2	Kannur	770694	661150	55096	84264	1571204				
3	Wayanad	202747	501658	780633	426603	1911641				
4	Kozhikkode	1363803	445034	326964	199811	2335612				
5	Malappuram	302683	116907	73120	549952	1042662				
6	Palakkad	97344	46385	255838	217622	617189				
7	Thrissur	0	0	0	650485	650485				
8	Eranakulam	203467	840013	143223	226599	1413302				
9	Idukki	63918	62911	0	0	126829				
10	Kottayam	128373	770	1227631	841006	2197780				
11	Alappuzha	627222	535721	575273	668456	2406672				
12	Pathanamthitta	556737	451001	420382	503218	1931338				
13	Kollam	0	0	329244	1138635	1467879				
14	Thiruvananthapuram	264012	85993	263308	348999	962312				
	Total	4721759	3820645	4531927	5938437	19012768				

Table- 19A

Production According To Fish Type In Quintals

Sl No	District	Prawn	Grass carp	Cat fish	Silver carp	Rohu	Thilapia	Common carps	Catla	Others	Total
1	Kasaragode	0	5.48		4.07	0.53	6.06	2.12	7.68	7.42	33.36
2	Kannur	53.8	68.06						29.82	7.77	159.45
3	Wayanad					37.67	38.22		57.81	78.65	212.35
4	Kozhikkode					158.94	84.47		32.7	29.05	305.16
5	Malappuram		80.77	34.01		12.75	13.82		8.5	100.76	250.61
6	Palakkad	97.92				40.2		8.89	25.25		172.26
7	Thrissur	12.41	10.6		7.44	26.26			105.4		162.11
8	Eranakulam	7.96							174.25	118.39	300.60
9	Idukki			12.15		17.01				7.28	36.44
10	Kottayam	38.51	72.69			35.94			97.88	241.54	486.56
11	Alappuzha		90.32			74.97			25.56	277.57	468.42
12	Pathanamthitta	7.19	34.03	16.76	1.53	85.4	0.77		153.78	52.79	352.25
13	Kollam		38.41	10.97		91.09	175.6		186.58		502.65
14	Thiruvananthapuram	8.05	10.06		24.34	141.81	11.67	14.28	57.83	118.67	386.71
	Total	225.84	410.42	73.89	37.38	722.57	330.61	25.29	963.04	1039.89	3828.93

Table- 19B

Income According To Fish Type In Rupees

Sl No	District	Prawn	Grass carp	Cat fish	Silver carp	Rohu	Thilapia	Common carps	Catla	Others	Total
1	Kasaragode	0	22447		22270	2651	53837	10781	51274	40509	203769
2	Kannur	291036	405117						311129	38891	1046173
3	Wayanad					196607	154388		290012	711856	1352863
4	Kozhikkode					953645	489538		387815	301533	2132531
5	Malappuram		221061	106555		55265	31884		25507	602390	1042662
6	Palakkad	394658				128009		27792	66730		617189
7	Thrissur	148914	31791		29775	84982			355023		650485
8	Eranakulam	63655							740553	549986	1354194
9	Idukki			60395		41270				25164	126829
10	Kottayam	481400	336338			318587			381911	679544	2197780
11	Alappuzha		476748			281851			89434	1558639	2406672
12	Pathanamthitta	55852	199154	83013	7651	462186	3825		814566	301419	1927666
13	Kollam		123466	71336		219496	449967		603614		1467879
14	Thiruvananthapuram	19109	10058		113551	325867	40029	43348	138292	272058	962312
	Total	1454624	1826180	321299	173247	3070416	1223468	81921	4255860	5081989	17489004

Table- 20 Man Days And Wages

Sl		C	Man days			Wages	
No	District	Hired	Households	Total	Hired	Households	Total
1	Kasaragode	0	767	767	0	99710	99710
2	Kannur	3831	1569	5400	403820	203970	607790
3	Wayanad	1932	9879	11811	193158	1284270	1477428
4	Kozhikkode	145	7611	7756	20072	989430	1009502
5	Malappuram	2092	5467	7559	272712	710710	983422
6	Palakkad	3324	5718	9042	149333	743340	892673
7	Thrissur	609	1644	2253	74799	213720	288519
8	Eranakulam	1312	107	1419	140381	13910	154291
9	Idukki	102	258	360	9232	33540	42772
10	Kottayam	2240	424	2664	274318	55120	329438
11	Alappuzha	443	2231	2674	82203	290030	372233
12	Pathanamthitta	1105	924	2029	89225	120120	209345
13	Kollam	1811	19371	21182	199193	2518230	2717423
14	Thiruvananthapuram	111	11003	11114	19109	1430390	1449499
	Total	19057	66973	86030	1927555	8706490	10634045

Table- 21
Expenditure Item Wise

Sl					Net &	Wags		
No	District	Rent	Seed	Food	Others	Hired	Others	Total
1	Kasaragode	0	530	95725	17604	0	51277	165136
2	Kannur	30646	142277	379189	122507	403820	81225	1159664
3	Wayanad	0	121758	529804	97269	193158	73123	1015112
4	Kozhikkode	0	229238	320061	29972	20072	136235	735578
5	Malappuram	0	142457	271288	74523	272712	97564	858544
6	Palakkad	17523	77308	68160	7860	149333	24004	344188
7	Thrissur	195	81958	70147	39266	74799	76537	342902
8	Eranakulam	6365	187895	64973	96846	140381	72749	569209
9	Idukki	0	4373	9620	5952	9232	4859	34036
10	Kottayam	0	238774	117622	104913	274318	74137	809764
11	Alappuzha	35420	19599	145353	43537	82203	33214	359326
12	Pathanamthitta	9181	38576	119822	137526	89225	32900	427230
13	Kollam	0	107553	529534	55148	199193	111942	1003370
14	Thiruvananthapuram	1006	52109	227564	92027	19109	56322	448137
	Total	100336	1444405	2948862	924950	1927555	926088	8272196

Table- 22
Expenditure Season Wise

Sl No	District	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Kasaragode	95764	23793	22825	22754	165136
2	Kannur	753245	229464	78755	98200	1159664
3	Wayanad	377692	245862	194192	197366	1015112
4	Kozhikkode	288636	292905	76292	77745	735578
5	Malappuram	126919	90911	120627	520087	858544
6	Palakkad	78635	105332	79305	80916	344188
7	Thrissur	17059	143598	75832	106413	342902
8	Eranakulam	156056	140029	148327	124797	569209
9	Idukki	22982	6195	3644	1215	34036
10	Kottayam	286000	90792	79303	353669	809764
11	Alappuzha	167505	37117	107307	47397	359326
12	Pathanamthitta	264050	53664	55309	54207	427230
13	Kollam	0	392623	180535	430212	1003370
14	Thiruvananthapuram	163245	162833	64429	57630	448137
	Total	2797788	2015118	1286682	2172608	8272196

Table- 23
Loan Details

Sl No	District	Loan Taken	Balance outstanding	Subsidies received
1	Kasaragode	0	0	0
2	Kannur	162047	162047	6482
3	Wayanad	676052	676052	15177
4	Kozhikkode	363293	345129	32696
5	Malappuram	531396	478256	5101
6	Palakkad	139155	77308	19327
7	Thrissur	129231	29765	1892
8	Eranakulam	0	0	0
9	Idukki	0	0	0
10	Kottayam	160467	0	0
11	Alappuzha	0	0	0
12	Pathanamthitta	38255	30604	9946
13	Kollam	0	0	0
14	Thiruvananthapuram	402305	402305	10058
	Total	2602201	2201466	100679

Table- 24

Total Production, Income And Expenditure

Sl No	District	Quantity (Qtl)	Value (Rs.)	Expenditure (Rs.)
1	Kasaragode	66.46	377863	165136
2	Kannur	321.55	1571204	1159664
3	Wayanad	333.55	1911641	1015112
4	Kozhikkode	490.46	2335612	735578
5	Malappuram	250.61	1042662	858544
6	Palakkad	172.26	617189	344188
7	Thrissur	162.11	650485	342902
8	Eranakulam	311.7	1413302	569209
9	Idukki	36.44	126829	34036
10	Kottayam	486.56	2197780	809764
11	Alappuzha	468.42	2406672	359326
12	Pathanamthitta	353.45	1931338	427230
13	Kollam	502.65	1467879	1003370
14	Thiruvananthapuram	386.71	962312	448137
	Total	4342.93	19012768	8272196

#### **Chapter IV**

#### INLAND FISHING SECTOR- BFFDA

#### (Brackish Water Fish Farmers Development Agency)

This is also an agency to promote brackish water fish cultivation in the state The list of cultivators provided by the BFFDA has been used as the frame for selection of units for study.

6 districts in the state are having fish farming in brackish water with a total area of 656.35 hectares. Among them Eranakulam district has the highest number of cultivators. There are 200 cultivators in Eranakulam district with 252.09 hectares of cultivation.

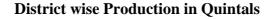
Altogether 564 cultivators are engaged in brackish water fish farming in the state 463 cultivators in proprietorship and 91 cultivators working in partnership and 10 cultivators in some other adjustments carried out the activity. Total area used for this is 656.35 hectares, 568.05 hectares of land was owned and 88.30 hectares was hired.

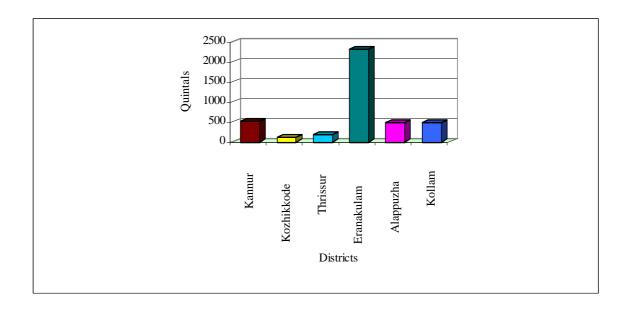
There was a production of 4094.06 quintals of fish from this cultivation with a value of Rs.41995625/- Eranakulam district has the highest production with 2307.97 quintals of fish with a value of Rs.20072695/- and Kannur district stands on the second place with 504.49 quintals and having value Rs.8565728/-

### **Expenditure**

73233 man days had been utilised for the farming activities. Labour charges constitute the major expenditure of the farming (Rs.8776838/- spent as wages to labourers). Out of the total amount Rs.4905698/- was spent for hired labourers and Rs.3871140/- (imputed charges) was for household labourers.

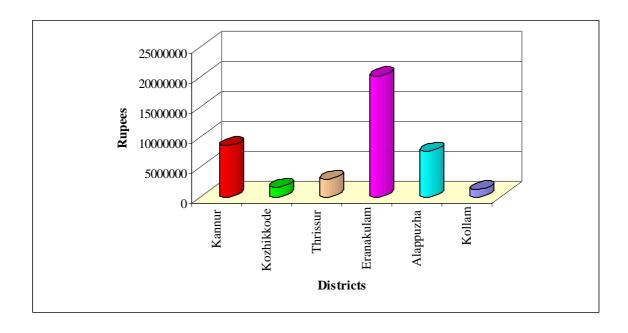
The main items of expenditure incurred are Rs.329157/-(1.68%) as rent, Rs.4940266/-(25.35%) as seed Rs.5966670/-(30.62%) as food Rs.1031592/-(5.29%) for fishing net and other accessories Rs.4905698/-(25.17%) for hired wages, Rs.2311819/-(11.86%) was spent for other items. Thus there is a total expenditure of Rs.19485202/- excluding the wages of household labourers.



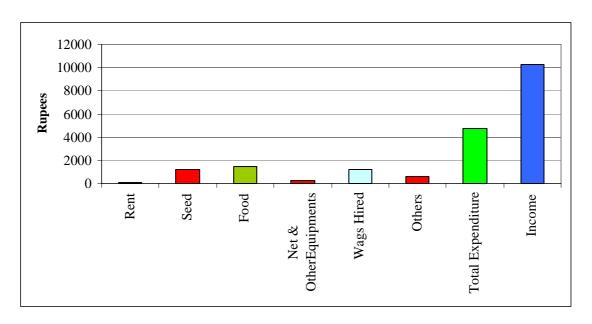


Thus there is a total income of Rs.42082119 and an expenditure of Rs.19485202 with an input cost of 46% in the brackish water fish farming.

### **District wise Income in Rupees**



# **Income and Expenditure Of Fish Farming per Quintal**



## **BFFDA-Tables**

Table-25
No Of Cultivators According To Area (Hectares)Stratum Wise

Sl No	District	Below 1	1to 1.99	2 to3.99	4&above	Total
1	Kannur	26	35	23	12	96
2	Kozhikkode	4	4	7	3	18
3	Thrissur	4	1	3	1	9
4	Eranakulam	116	51	23	10	200
5	Alappuzha	71	23	18		112
6	Kollam	117	11	1		129
	Total	338	125	75	26	564

Table-26
Area Cultivated (Hectares) Stratum Wise

Sl No	District	Below 1	1to 1.99	2 to3.99	4&above	Total
1	Kannur	13.73	49.41	61.99	61.15	186.28
2	Kozhikkode	1.33	4.61	16.13	15.07	37.14
3	Thrissur	-0.08	1.37	9.42	5.46	16.17
4	Eranakulam	57.53	71.38	59.82	63.36	252.09
5	Alappuzha	33.82	32.96	50.50	0	117.28
6	Kollam	33.46	13.93	0.00	0	47.39
	Total	139.79	173.66	197.86	145.04	656.35

Table-27
No Of Cultivators According To Ownership

Sl No	District		Partnership	Others	Total
1	Kannur	67	19	10	96
2	Kozhikkode	12	6		18
3	Thrissur	8	1		9
4	Eranakulam	157	43		200
5	Alappuzha	90	22		112
6	Kollam	129			129
	Total	463	91	10	564

Table-28

Area According To Nature Of Ownership

Sl No	District	Owned	Hired	Total
2	Kannur	126.48	59.8	186.28
4	Kozhikkode	27.64	9.5	37.14
7	Thrissur	16.17	0.0	16.17
8	Eranakulam	252.09	0.0	252.09
11	Alappuzha	98.28	19.0	117.28
13	Kollam	47.39	0.0	47.39
	Total	568.05	88.3	656.35

Table- 29A

Production From Fish Culture

Sl No	District	Quantity in Quintals						
SI NO	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total		
1	Kannur	206.65	108.31	64.98	124.55	504.49		
2	Kozhikkode	63.85	24.41	27.09	8.93	124.28		
3	Thrissur	95.48	0.34	0.57	99.09	195.48		
4	Eranakulam	161.43	150.99	581.68	1413.87	2307.97		
5	Alappuzha	405.92	21.8	2.54	59.78	490.04		
6	Kollam	0	105.22	142.56	224.02	471.8		
	Total	933.33	411.07	819.42	1930.24	4094.06		

Table-29B

Income from Fish culture

		Value in Rupees					
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total	
1	Kannur	2847120	2815981	1299684	1602943	8565728	
2	Kozhikkode	1267943	71085	175747	82605	1597380	
3	Thrissur	685890	3421	5701	2275808	2970820	
4	Eranakulam	1124645	2166026	8937797	7844227	20072695	
5	Alappuzha	6225453	324573	16353	1026159	7592538	
6	Kollam	0	212139	285115	699210	1196464	
	Total	12151051	5593225	10720397	13530952	41995625	

Table- 30A

Production From Inland Water Bodies (Not Cultivated)

		Quantity in Quintals						
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total		
1	Kannur	0	0	0	0	0		
2	Kozhikkode	0.54	0.74	0.3	0.45	2.03		
3	Thrissur	0	0	0	0	0		
4	Eranakulam	15.94	0	0	0	15.94		
5	Alappuzha	0	0	0	0	0		
6	Kollam	0	0	0	0	0		
	Total	16.48	0.74	0.3	0.45	17.97		

Table- 30B

Income From Inland Water Bodies (Not Cultivated)

Sl No	District	Value in Rupees							
31 110	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total			
1	Kannur	0	0	0	0	0			
2	Kozhikkode	1607	2233	1191	1786	6817			
3	Thrissur	0	0	0	0	0			
4	Eranakulam	79677	0	0	0	79677			
5	Alappuzha	0	0	0	0	0			
6	Kollam	0	0	0	0	0			
	Total	81284	2233	1191	1786	86494			

Table- 31A

Total Production

			Quantity in Quintals								
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total					
1	Kannur	206.65	108.31	64.98	124.55	504.49					
2	Kozhikkode	64.39	25.15	27.39	9.38	126.31					
3	Thrissur	95.48	0.34	0.57	99.09	195.48					
4	Eranakulam	177.37	150.99	581.68	1413.87	2323.91					
5	Alappuzha	405.92	21.8	2.54	59.78	490.04					
6	Kollam	0	105.22	142.56	224.02	471.8					
Total		949.81	411.81	819.72	1930.69	4112.03					

Table- 31B

		Value in Rupees								
Sl No	District	April-June	July-Sept	Octo-Dec	Jan-Mar	Total				
1	Kannur	2847120	2815981	1299684	1602943	8565728				
2	Kozhikkode	1269550	73318	176938	84391	1604197				
3	Thrissur	685890	3421	5701	2275808	2970820				
4	Eranakulam	1204322	2166026	8937797	7844227	20152372				
5	Alappuzha	6225453	324573	16353	1026159	7592538				
6	Kollam	0	212139	285115	699210	1196464				
	Total	12232335	5595458	10721588	13532738	42082119				

**Total Income** 

Table- 32A

Production According To Fish Type In Quintals

Sl No	District	Prawn	Grass carp	Cat fish	Silver carp	Rohu		Thilapia	Common carps	Catla	Others	Total
1	Kannur	379.4				4	43.32	10.83	8.66	8.12	54.16	504.49
2	Kozhikkode	67.87	1.19								55.22	124.28
3	Thrissur	195.48										195.48
4	Eranakulam	1084.05						4.38			1219.54	2307.97
5	Alappuzha	473.33					4.18	3.27			9.26	490.04
6	Kollam	347.91				2	28.85	40.73			54.31	471.8
	Total	2548.04	1.19			7	76.35	59.21	8.66	8.12	1392.49	4094.06

**Production According To Fish Type In Rupees** 

Table- 32B

Sl No	District	Prawn	Grass carp	Cat fish	Silver carp	Rohu	Thilapia	Common carps	Catla	Others	Total
1	Kannur	7169922				108307	81230	21661	20308	1164300	8565728
2	Kozhikkode	1170663	38102							388615	1597380
3	Thrissur	2970820									2970820
4	Eranakulam	16416305					55774			3600616	20072695
5	Alappuzha	7468072				37249	13082			74135	7592538
6	Kollam	729758				117101	212139			137466	1196464
	Total	35925540	38102	0	0	262657	362225	21661	20308	5365132	41995625

Table- 33
Man Days And Wages

			Man days			Wages			
Sl No	District	Hired	Households	Total	Hired	Households	Total		
1	Kannur	5101	2534	7635	798775	329420	1128195		
2	Kozhikkode	3194	622	3816	368431	80860	449291		
3	Thrissur	804	1480	2284	170874	192400	363274		
4	Eranakulam	20971	5721	26692	2260006	743730	3003736		
5	Alappuzha	12519	8458	20977	1144010	1099540	2243550		
6	Kollam	866	10963	11829	163602	1425190	1588792		
	Total	43455	29778	73233	4905698	3871140	8776838		

Table-34

Expenditure Item Wise

Sl No	District	Rent	Seed	Food	Net & Others	Wags Hired	Others	Total
1	Kannur	173291	539694	1025039	163565	798775	315033	3015397
2	Kozhikkode	8930	96298	204056	56558	368431	114307	848580
3	Thrissur	0	227490	227832	37174	170874	94985	758355
4	Eranakulam	92426	2742491	2153278	541805	2260006	1398735	9188741
5	Alappuzha	54510	1189699	1817123	170545	1144010	340563	4716450
6	Kollam	0	144594	539342	61945	163602	48196	957679
	Total	329157	4940266	5966670	1031592	4905698	2311819	19485202

Table –35

Expenditure Season Wise

Sl No	District	April-June	July-Sept	Oct-Dec	Jan-Mar	Total
1	Kannur	1678607	497562	285411	553817	3015397
2	Kozhikkode	268175	55963	147646	376796	848580
3	Thrissur	94360	77312	310959	275724	758355
4	Eranakulam	2493898	1177989	3096259	2420595	9188741
5	Alappuzha	1709810	536928	106404	2363308	4716450
6	Kollam	0	95038	356393	506248	957679
	Total	6244850	2440792	4303072	6496488	19485202

Table- 36

Loan Details (Availed by the BFFDA Fish farmers)

Sl No	District	Loan Taken	Balance outstanding	Subsidies received
1	Kannur	758149	649842	46572
2	Kozhikkode	133953	71442	0
3	Thrissur	91224	28507	2737
4	Eranakulam	657337	589612	71710
5	Alappuzha	181701	181701	69047
6	Kollam	0	0	0
	Total	1822364	1521104	190066

Table- 37

Total Production, Income And Expenditure

Sl No	District	Quantity	Value	Expenditure
1	Kannur	504.49	8565728	3015397
2	Kozhikkode	126.31	1604197	848580
3	Thrissur	195.48	2970820	758355
4	Eranakulam	2323.91	20152372	9188741
5	Alappuzha	490.04	7592538	4716450
6	Kollam	471.8	1196464	957679
	Total	4112.03	42082119	19485202

### Chapter V

#### FISHING FROM INLAND WATER BODIES

Along with the survey on input cost of fisheries sector, a study on the inland fishing which is conducted in back waters such as rivers, lakes, reservoirs, bunds using different methods of fishing was also conducted. Several methods such as 'cheenavala, veesuvala, ottal, fishing hook etc. are being used for fishing by the inland fishermen. The investigators were directed to select one fisherman from each category of fishing for the study in every district. Thus the details were collected in a schedule, which was designed for the purpose. A Total 60 fisherman was selected for study in the state.

It is found that 11552 Quintals of fish were caught by these fishermen valued Rs.3150049/-

The cost of fishing is comparatively less in this type of fishing. It is found that Rs.3150049/-was received as income and Rs 585420/- the expenditure.

# **Inland Fishing**

Table- 38 Average Expenditure Item Wise/ Catch

S1 No	District	No.of workers	Average wage	Total wage	Loading& unloading	Fuel	Rent	Other expenses	Total/ catch
1	Kasaragode	0	0	0	0	0	0	0	0
2	Kannur	0	0	0	0	0		0	0
3	Wayanad	1	150	150	0	0	0	100	250
4	Kozhikkode	6	100	600	0	0	1500	60	2160
5	Malappuram	8	75	600	0	0	0	0	600
6	Palakkad	3	100	300	25	25	0	2010	2360
7	Thrissur	5	100	500	300	300	0	500	1600
8	Eranakulam	16	99	1584	0	0	0	800	2384
9	Idukki	16	72	1152	0	0	4200	0	5352
10	Kottayam	25	99	2475	0	0	0	150	2625
11	Alappuzha	7	90	630	0	0	0	100	730
12	Pathanamthitta	3	125	375	50	50	0	0	475
13	Kollam	12	98	1176	0	0	8750	0	9926
14	Thiruvananthapuram	2	100	200	0	0	0	0	200
	State Average	10.4	120.8	974.2	37.5	37.5	1445	372	2866

Table- 39 Total Expenditure (Annual)

CI N.	District	Average	NI C / - 1	Total
Sl No	District	Expenditure/ catch	No.of catches	Expenditure
1	Kasaragode	0	0	0
2	Kannur	0	0	0
3	Wayanad	250	20	5000
4	Kozhikkode	2160	13	28080
5	Malappuram	600	29	17400
6	Palakkad	2360	3	7080
7	Thrissur	1600	20	32000
8	Eranakulam	2384	26	61984
9	Idukki	5352	17	90984
10	Kottayam	2625	74	194250
11	Alappuzha	730	133	97090
12	Pathanamthitta	475	52	24700
13	Kollam	9926	2	19852
14	Thiruvananthapuram	200	35	7000
	Total	2866	424	585420

Table- 40

# Investment

Sl No	District	Boat	Accessories	Fishing Net	Total
1	Kasaragode	0	0	0	0
2	Kannur	0	0	0	0
3	Wayanad	0	0	6400	6400
4	Kozhikkode	17555	400	5900	23855
5	Malappuram	8100	0	8100	16200
6	Palakkad	200	0	11250	11450
7	Thrissur	63500	0	24500	88000
8	Eranakulam	62100	500	40750	103350
9	Idukki	24650	0	8222	32872
10	Kottayam	111650	0	67700	179350
11	Alappuzha	50685	0	36500	87185
12	Pathanamthitta	39000	0	11400	50400
13	Kollam	59500	0	50600	110100
14	Thiruvananthapuram	0	0	0	0
	Total	436940	900	271322	709162

Table- 41

# **Total Production**

Sl No	District -	Quantity in Quintals					
		April-June	July-Sept	Oct-Dec	Jan-Mar	Total	
1	Kasaragode	0	0	0	0	0	
2	Kannur	0	0	0	0	0	
3	Wayanad	1.56	1.6	1.52	0.35	5.03	
4	Kozhikkode	8.44	4.35	4.15	9.1	26.04	
5	Malappuram	470	425	260	730	1885	
6	Palakkad	259.3	175	200	310	944.3	
7	Thrissur	15.35	8.1	14.1	17.7	55.25	
8	Eranakulam	13.7	8.08	13.15	16.1	51.03	
9	Idukki	2315.5	651.75	1158.2	1065.3	5190.75	
10	Kottayam	626.83	946.1	839.15	530.6	2942.68	
11	Alappuzha	27.9	21.52	25.01	26.34	100.77	
12	Pathanamthitta	8.5	7.5	5	6	27	
13	Kollam	17	11.3	10.5	8.7	47.5	
14	Thiruvananthapuram	40	100	72	65	277	
	Total	3804.08	2360.3	2602.78	2785.19	11552.35	

Table- 42
Total Income

Sl No	District	Value in Rupees						
		April-June	July-Sept	Oct-Dec	Jan-Mar	Total		
1	Kasaragode	0	0	0	0	0		
2	Kannur	0	0	0	0	0		
3	Wayanad	9360	9700	9120	2200	30380		
4	Kozhikkode	59900	23250	23150	64000	170300		
5	Malappuram	26000	23200	10400	41500	101100		
6	Palakkad	9927	6975	7950	12000	36852		
7	Thrissur	60000	34200	56250	71100	221550		
8	Eranakulam	93400	58600	94300	103500	349800		
9	Idukki	137350	29027	88690	146550	401617		
10	Kottayam	214700	294250	266625	217800	993375		
11	Alappuzha	144830	112115	123630	136950	517525		
12	Pathanamthitta	38000	33750	25000	30000	126750		
13	Kollam	57000	40000	38500	32700	168200		
14	Thiruvananthapuram	4000	13000	8100	7500	32600		
	Total	854467	678067	751715	865800	3150049		

Table- 43

Total Production, Income And Expenditure

Sl No	District	Quantity	Income	Investment	Expenditure
1	Kasaragode	0	0	0	0
2	Kannur	0	0	0	0
3	Wayanad	5.03	30380	6400	5000
4	Kozhikkode	26.04	170300	23855	28080
5	Malappuram	1885	101100	16200	17400
6	Palakkad	944.3	36852	11450	7080
7	Thrissur	55.25	221550	88000	32000
8	Eranakulam	51.03	349800	103350	61984
9	Idukki	5190.75	401617	32872	90984
10	Kottayam	2942.68	993375	179350	194250
11	Alappuzha	100.77	517525	87185	97090
12	Pathanamthitta	27	126750	50400	24700
13	Kollam	47.5	168200	110100	19852
14	Thiruvananthapuram	277	32600	0	7000
	Total	11552.35	3150049	709162	585420

### **Chapter VI**

#### **CONCLUSION**

Fisheries sector plays an important role in the SDP of our state by contributing a substantial amount. This sector provides food with nutritional value and helps in employment generation. It is an important source of livelihood for a large section of people, especially economically backward class of the state.

The aquaculture has evolves from the traditional practice to a science based activity and grown into a significant food production sector. Development of several technologies coupled with extension activities have pushed our fish production manifold. Aquaculture is an important way to meet our future demand for fish. Private sector plays an important role in brackish water aquaculture, particularly in shrimp farming.

Fish marketing system can be improved by establishing better storage system, transportation facilities, market outlets, fish farmer's co-operatives etc. This will certainly help the fishermen to have a better livelihood.

This study pertains to 10fish landing centers selected from districts, which have coastal area and selected cultivators (FFDA-140, BFFDA-60) from the inland fishing sector.