THE REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF LIVESTOCK, FISHERIES AND RURAL DEVELOPMENT
DEPARTMENT OF FISHERIES

FISHERY STATISTICS

2014

THE REPUBLIC OF THE UNION OF MYANMAR

MINISTRY OF LIVESTOCK , FISHERIES & RURAL DEVELOPMENT

FISHERY STATISTICS

2014

Department of Fisheries

Myanmar

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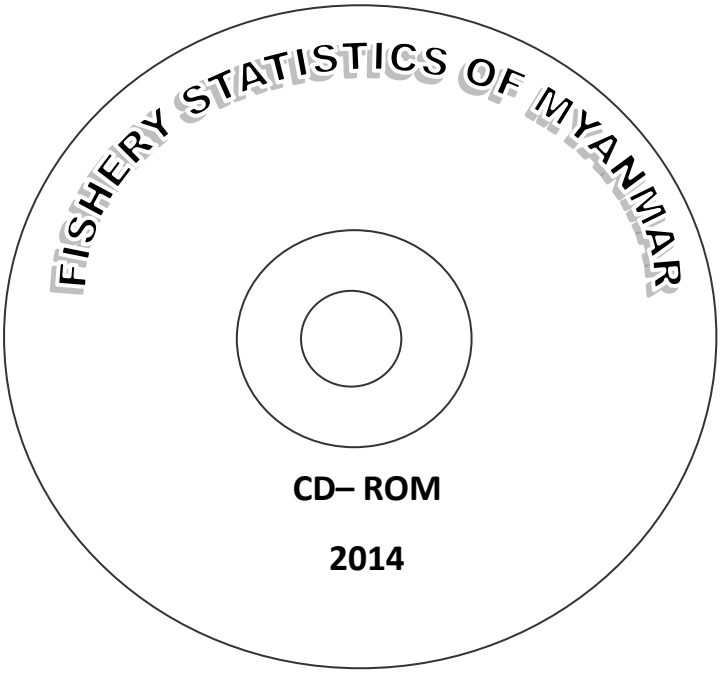

The CDs are currently available in English only. Hence, for further information please contact the Department of Fisheries, The Republic of the Union of Myanmar, as address given below.

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FOREWORD

Fishery Statistics of Myanmar for 2013-2014 fiscal year is published by the Department of Fisheries of the Ministry of Livestock , Fisheries and Rural Development . Since the fiscal year 2001-2002, the fishery statistics of Myanmar has been published with the objective of better understanding the situation and information on Myanmar fisheries. Moreover, we have added to some more facts and figures with the fishery information required from the previous 10 year up to this fiscal year, 2013-2014, for the convenience of all users. The annual reporting period used is fiscal year, from first April to the end of March next year.

Nowadays, the fishery statistics has been widely accepted as a tool in providing so as to know the current and past status of the fisheries and to draw up the short term and long term planning for fisheries including for food security and the rural development as well as for the conservation of fisheries resources.

It is clear that the reliable, accurate and timely data and information are needed for the effective fishery management and planning to meet the sustainable fisheries .Furthermore, the capture fisheries and aquaculture can provide many millions of livelihood opportunities of Myanmar people with resulting improved income generation and food-fish availability to the rural communities.

On behalf of the Department of Fisheries, I would like to express my heartfelt thanks to H.E U Ohn Myint, Union Minister for the Ministry of Livestock , Fisheries and Rural Development for his valuable and kind guidance. We also thank to H.E U Khin Maung Aye, Dr. Aung Myat Oo and U Tin Ngwe Deputy Minister for the Ministry of Livestock, Fisheries and Rural Development .

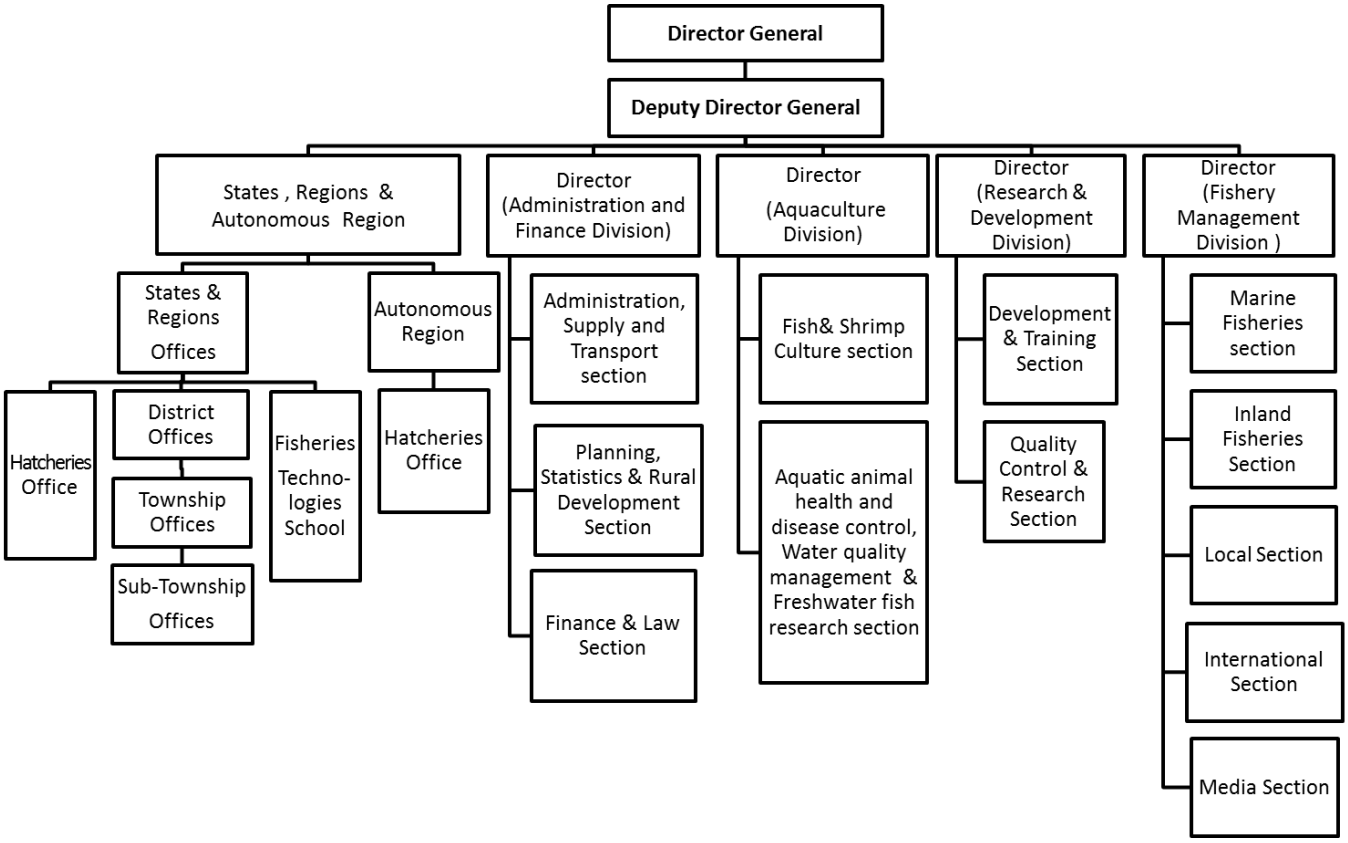
Moreover, Special thanks to U Htun Win, Deputy Director-General and all of the Directors of the Department of Fisheries as well as all my staff for their contribution and hard working as completed the success of this publication.

Khin Maung Maw
Director-General
Department of Fisheries

August , 2014

ORGANIZATIONAL STRUCTURE OF DEPARTMENT OF FISHERIES, MYANMAR

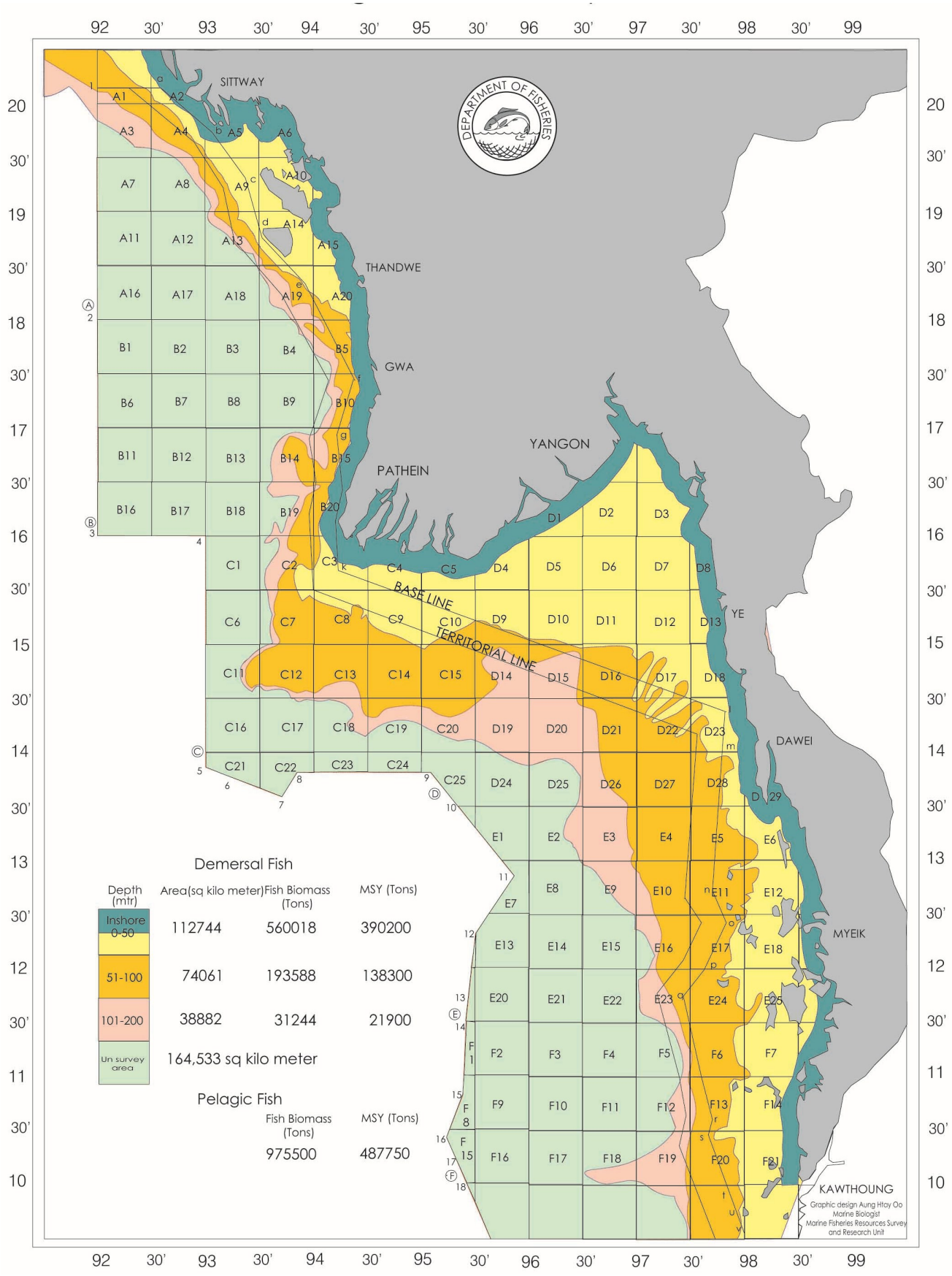
Officer	Other	Total
365	2104	2469



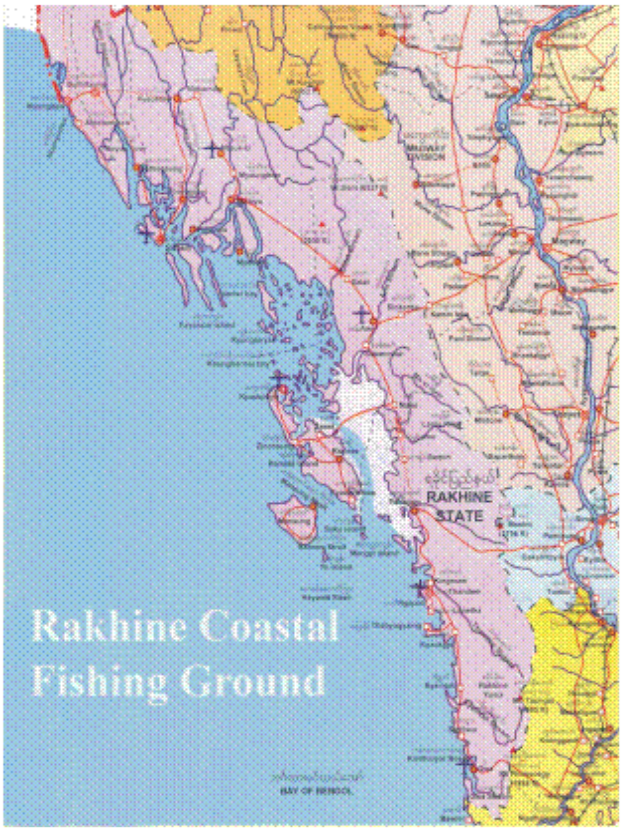
THE REPUBLIC OF THE UNION OF MYANMAR

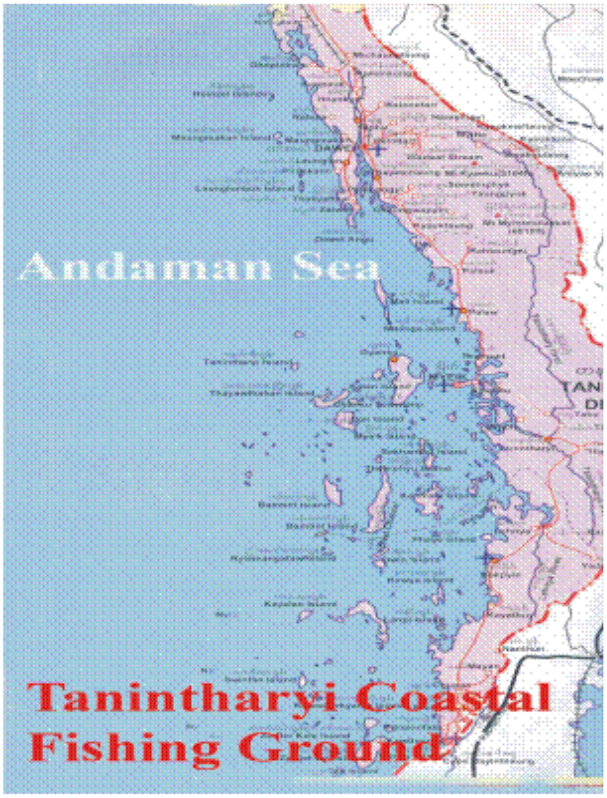
DEPARTMENT OF FISHERIES

Fishing Grounds of Myanmar



MAPS OF FISHING GROUNDS





OUR VISION

"Our vision is to ensure a sufficiency of fish supplies not only for the present entire national people but also for future generations by conserving of the fisheries resources with sustainable fisheries at all times."

OUR MISSION

(1)Conservation and rehabilitation of fisheries resources;

(2)Promotion of fisheries researches and surveys;

(3)Collection and compilation of fishery statistics and information;

(4)Extension services;

(5)Supervision of fishery sectors;

Table.1. FISHERY PRODUCTION

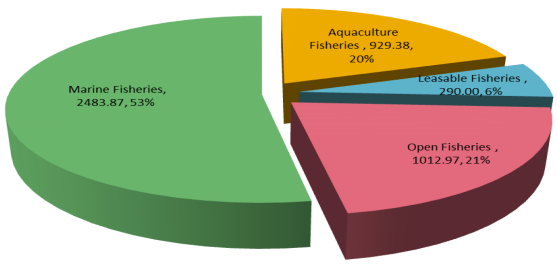
(2004-2005) - (2013-2014)

Thousand Metric Ton

No.	Year	Total	Aquaculture Fisheries	Leasable Fisheries	Open Fisheries	Marine Fisheries
1	2004-2005	2217.47	485.22	136.79	366.75	1228.71
2	2005-2006	2581.78	574.99	152.69	478.43	1375.67
3	2006-2007	2859.86	616.35	170.10	548.09	1525.32
4	2007-2008	3193.92	687.67	191.05	625.44	1689.76
5	2008-2009	3542.19	775.25	209.72	689.71	1867.51
6	2009-2010	3921.97	858.76	237.46	764.97	2060.78
7	2010-2011	4163.46	830.48	250.04	913.12	2169.82
8	2011-2012	4478.21	898.96	282.64	963.82	2332.79
9	2012-2013	4716.22	929.38	290.00	1012.97	2483.87
10	2013-2014(Prov:)	5047.53	964.26	304.44	1076.59	2702.24

Unit-Thousand Metric Ton

(1)2012-2013



(2)2013-2014

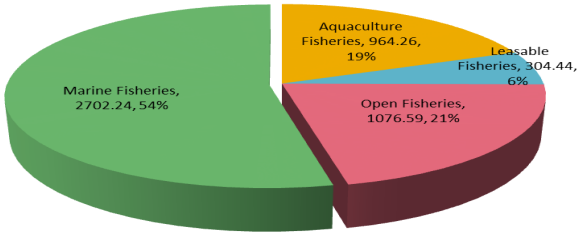


Figure1: Fishery Production (2012-13 & 2013-14)

Table.2. NUMBER OF FISHERS AND FISH FARMARS

(2008-09 - 2012-13)

Unit: Number

No.	Working domain	Working status	2008-09	2009-10	2010-11	2011-12	2012-13
1.	Aquaculture	Full Time	122687	122974	123088	124751	125978
		Part Time	88117	88541	88739	89694	90306
		Status Unspecified	-	-	-	-	-
		Occasional	-	-	-	-	-
2.	Inland Water Fishing	Full Time	500395	486125	486300	486700	487000
		Part Time	305000	298000	299500	300500	300000
		Status Unspecified	795000	780000	785800	794000	796000
		Occasional	-	-	-	-	-
3.	Marine Coastal Fishing	Full Time	250000	219430	220000	223000	230000
		Part Time	270000	250000	251000	254000	251000
		Status Unspecified	-	-	-	-	-
		Occasional	930000	915000	916000	921000	916000
		Full Time	**873082**	**828529**	**829388**	**834451**	**842978**
		Part Time	**663117**	**636541**	**639239**	**644194**	**641306**
		Status Unspecified	**795000**	**780000**	**785800**	**794000**	**796000**
		Occasional	**930000**	**915000**	**916000**	**921000**	**916000**
		Total	**3261199**	**3160070**	**3170427**	**3193645**	**3196284**

Table.3. TOTAL AQUACULTURE PONDS AND PRODUCTION

No.	Year	Area of Aquaculture Ponds (Acre)	Production of Aquaculture Ponds (Thousand Metric Ton)
1.	2004-2005	389806	485.22
2.	2005-2006	405855	574.99
3.	2006-2007	436825	616.35
4.	2007-2008	441098	687.67
5.	2008-2009	440585	775.25
6.	2009-2010	442702	858.76
7.	2010-2011	443695	830.48
8.	2011-2012	448469	898.96
9.	2012-2013	449692	929.36
10.	2013-2014(Prov:)	450323	964.26

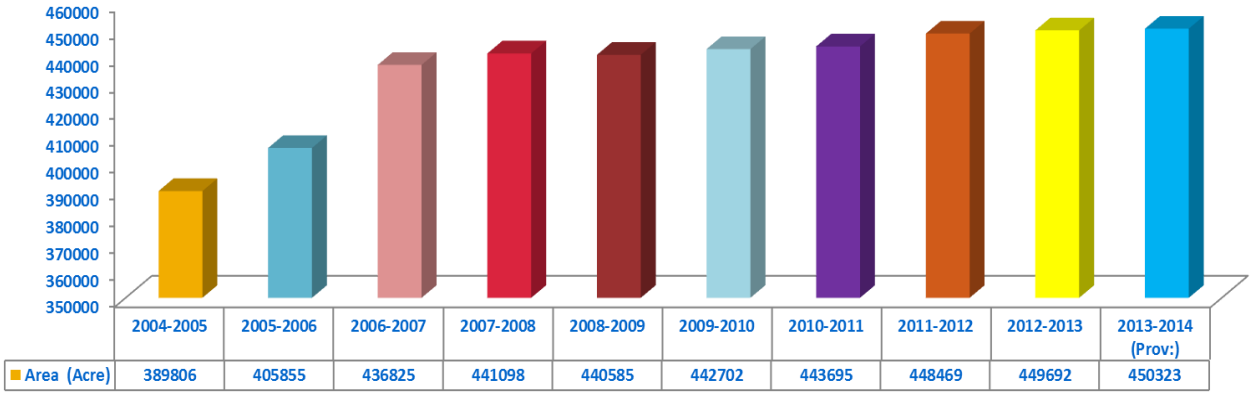


Figure2: Area of Aquaculture Pond (2004-2005 to 2013-2014)

Table. 4.TOTAL AREA OF AQUACULTURE PONDS

Unit - Acre

No.	Year	Area		
		Fish Pond	Shrimp Pond	Total
1.	2004-2005	182452	207354	389806
2.	2005-2006	197150	208705	405855
3.	2006-2007	212234	224591	436825
4.	2007-2008	215373	225725	441098
5.	2008-2009	215930	224655	440585
6.	2009-2010	217835	224867	442702
7.	2010-2011	218746	224949	443695
8.	2011-2012	220171	228297	448468
9.	2012-2013	221395	228297	449692
10.	2013-2014(Prov:)	222027	228296	450323

Table.5.1. AQUACULTURE POND BY STATES AND REGIONS

Unit-Acre

State/ Regions	2004-2005			2005-2006			2006-2007		
	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total
Kachin	859	-	859	868	-	868	1154	-	1154
Kayah	132	-	132	332	-	332	360	-	360
Kayin	276	80	356	326	80	406	396	80	476
Chin	86	-	86	86	-	86	100	-	100
Sagaing	4433	-	4433	4490	-	4490	4435	-	4435
Taninthayi	232	723	955	342	777	1119	351	791	1142
Bago	19849	12	19861	24192	12	24204	25570	12	25582
Magway	421	-	421	421	-	421	417	-	417
Mandalay	6191	-	6191	6334	-	6334	6224	-	6224
Mon	582	912	1494	819	873	1692	842	1125	1967
Rakhine	-	155533	155533	-	155533	155533	-	155533	155533
Yangon	51500	9820	61320	58586	10136	68722	58527	10195	68722
Shan	1844	-	1844	2986	-	2986	2305	-	2305
Ayeyarwady	96047	40274	136321	97368	41294	138662	111553	56855	168408
Total	**182452**	**207354**	**389806**	**197150**	**208705**	**405855**	**212234**	**224591**	**436825**

Table.5.2.AQUACULTURE POND BY STATES AND REGIONS

Unit-Acre

State/ Regions	2007-2008			2008-2009			2009-2010		
	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total
Kachin	1222	-	1222	1408	-	1408	1492	-	1492
Kayah	400	-	400	510	-	510	400	-	480
Kayin	396	80	476	399	80	479	629	80	629
Chin	101	-	101	101	-	101	101	-	101
Sagaing	4569	-	4569	4569	-	4569	4794	-	4794
Taninthayi	329	791	1120	341	821	1162	351	821	1172
Bago	26354	12	26366	26276	12	26288	25888	12	25900
Magway	419	-	419	419	-	419	426	-	426
Mandalay	6205	-	6205	6411	-	6411	6783	-	6783
Mon	848	1125	1973	884	1125	2009	894	1125	2019
Rakhine	-	155533	155533	-	155533	155533	-	155533	155533
Yangon	59870	11329	71199	59835	10229	70064	59870	10229	70099
Shan	3107	-	3107	3268	-	3268	3298	-	3298
Ayeyarwady	111553	56855	168408	111509	56855	168364	112909	57067	169976
Nay Pyi Taw	-	-	-	-	-	-	-	-	-
Total	**215373**	**225725**	**441098**	**215930**	**224655**	**440585**	**217835**	**224867**	**442702**

Table.5.3. AQUACULTURE POND BY STATES AND REGIONS

Unit-Acre

State/ Regions	2010-2011			2011-2012			2012-2013			2013-2014		
	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total	Fish Pond	Shrimp Pond	Total
Kachin	1938	-	1938	1910	-	1910	1990	-	1990	2168	-	2168
Kayah	638	-	638	673	-	638	748	-	748	760	-	760
Kayin	400	80	480	400	80	480	464	80	544	464	80	544
Chin	108	-	108	107	-	107	296	-	296	296	-	296
Sagaing	5159	-	5159	5465	-	5465	5809	-	5809	6023	-	6023
Taninthayi	351	821	1172	922	4141	5063	922	4141	5063	923	4140	5063
Bago	25748	12	25760	26003	40	26043	26009	40	26049	26014	40	26054
Magway	430	-	430	425	-	425	425	-	425	425	-	425
Mandalay	6898	-	6898	7154	-	7154	7416	-	7416	7624	-	7624
Mon	920	1125	2045	969	1125	2094	969	1125	2094	975	1125	2100
Rakhine	-	155533	155533	-	155533	155533	20	155533	155553	20	155533	155553
Yangon	59870	10229	70099	59864	10229	70093	59864	10229	70093	59864	10229	70093
Shan	3377	-	3377	3387	-	3387	3408	-	3408	3408	-	3408
Ayeyarwady	112909	57149	170058	112892	57149	170041	112892	57149	170041	112892	57149	170041
Nay Pyi Taw	-	-	-	-	-	-	162	-	162	171	-	171
Total	**218746**	**224949**	**443695**	**220171**	**228297**	**448468**	**221395**	**228297**	**449692**	**222027**	**228296**	**450323**

Table. 6. THE PRODUCTION OF LEASABLE FISHERIES AND OPEN FISHERIES

No.	Year	Total amount of Leasable Fisheries (Number)	Production of Leasable Fisheries (Thousand Metric Ton)	Production of Open Fisheries (Thousand Metric Ton)	Total Production of Inland Fisheries (Thousand Metric Ton)
1	2004-2005	3452	136.79	366.75	503.54
2	2005-2006	3452	152.69	478.43	631.12
3	2006-2007	3463	170.10	548.09	718.19
4	2007-2008	3460	191.01	625.04	816.05
5	2008-2009	3453	209.72	689.71	899.43
6	2009-2010	3451	237.46	764.97	1002.43
7	2010-2011	3458	250.04	913.12	1163.16
8	2011-2012	3415	282.64	963.82	1246.46
9	2012-2013	3409	290.00	1012.97	1302.97
10	2013-2014 (Prov:)	3290	304.44	1076.59	1381.03

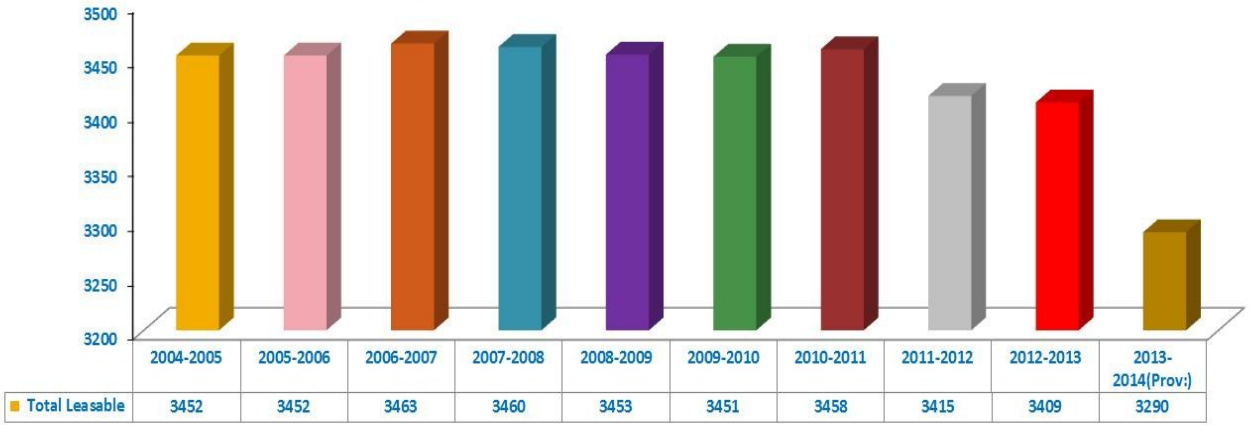


Figure 3: Number of Leasable Fisheries in Myanmar (2004-2005 to 2013-2014)

Table.7. FISHING VESSELS

Unit - Number

No.	Year	Small Fishing Boat		Off-shore Vessels		Total
		Powered Boat	Non-Powered Boat	National	Foreign	
1	2004-2005	14176	16687	2150	451	33464
2	2005-2006	14099	16361	2022	254	32736
3	2006-2007	14284	16284	1871	206	32645
4	2007-2008	14289	15219	1863	248	31619
5	2008-2009	14025	14645	1758	356	30784
6	2009-2010	13788	17054	1814	391	33047
7	2010-2011	13823	15548	2196	396	31963
8	2011-2012	12288	15463	2598	245	30594
9	2012-2013	12157	12757	2724	139	27777
10	2013-2014(Prov:)	12456	13723	2693	153	29025

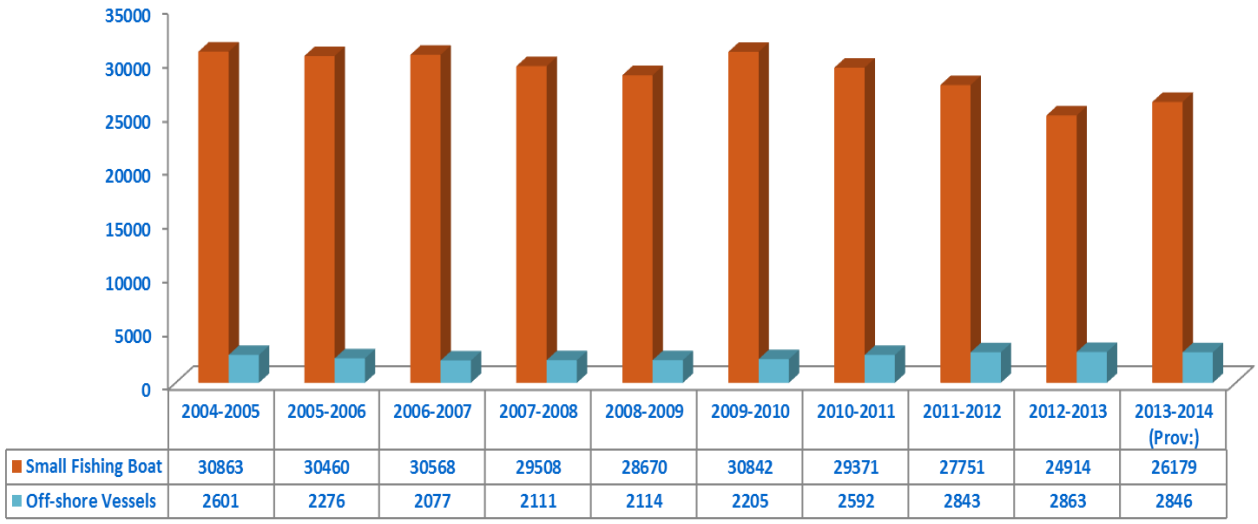


Figure4: Number of Fishing Boats and Off –Shore Vessels (2004-2005 to 2013-2014)

Table. 8.1. TYPE OF FISHING GEAR IN STATES AND REGIONS

Unit-Number

No.	Year	States and Regions	Trawl	Purse Seine	Drift net	Long line	Stick-held falling net	Trap	Total
1	2004-2005	Head office	408	58	145	32	-	1	644
		Rakhine	25	-	-	-	-	-	25
		Taninthayi	371	26	13	28	9	39	486
		Ayeyarwady	-	-	679	-	-	-	679
		Mon	1	-	226	-	-	-	227
		Yangon	79	5	5	-	-	-	89
	Total		**884**	**89**	**1068**	**60**	**9**	**40**	**2150**
2	2005-2006	Head office	452	69	367	17	-	15	920
		Rakhine	9	-	-	-	-	3	12
		Taninthayi	337	37	7	23	29	30	463
		Ayeyarwady	-	-	421	-	-	-	421
		Mon	-	-	206	-	-	-	206
		Yangon	-	-	-	-	-	-	-
	Total		**798**	**106**	**1001**	**40**	**29**	**48**	**2022**
3	2006-2007	Head office	391	68	137	-	1	81	678
		Rakhine	2	-	-	-	-	6	8
		Taninthayi	334	54	-	2	22	75	487
		Ayeyarwady	-	-	526	-	-	-	526
		Mon	-	-	172	-	-	-	172
		Yangon		-	-	-	-	-	-
	Total		**727**	**132**	**835**	**2**	**23**	**162**	**1871**
4	2007-2008	Head office	389	81	145	-	-	46	661
		Rakhine	5	-	-	-	-	4	9
		Taninthayi	376	71	1	1	19	101	569
		Ayeyarwady	-	-	464	-	-	-	464
		Mon	-	-	160	-	-	-	160
		Yangon	-	-	-	-	-	-	-
	Total		**770**	**152**	**770**	**1**	**19**	**151**	**1863**
5	2008-2009	Head office	387	72	142	-	-	39	640
		Rakhine	-	-	-	-	-	-	-
		Taninthayi	416	87	2	2	21	62	590
		Ayeyarwady	-	-	373	-	-	-	373
		Mon	-	-	155	-	-	-	155
		Yangon	-	-	-	-	-	-	-
	Total		**803**	**159**	**672**	**2**	**21**	**101**	**1758**

Table.8.2. TYPE OF FISHING GEAR IN STATES AND REGIONS

Unit-Number

No.	Year	States and Regions	Trawl	Purse Seine	Drift net	Long line	Stick-held falling net	Trap	Total
6	2009-2010	Head office	413	63	150	3	-	41	670
		Rakhine	-	-	-	-	-	-	-
		Taninthayi	480	100	2	-	35	66	683
		Ayeyarwady	2	-	327	-	-	5	334
		Mon	-	-	127	-	-	-	127
		Yangon	-	-	-	-	-	-	-
Total			**895**	**163**	**606**	**3**	**35**	**112**	**1814**
7	2010-2011	Head office	487	80	174	6	-	31	778
		Rakhine	5	-	-	-	-	-	5
		Taninthayi	512	88	-	-	29	66	697
		Ayeyarwady	-	-	567	1	-	4	572
		Mon	-	-	144	-	-	-	144
		Yangon	-	-	-	-	-	-	-
Total			**1004**	**170**	**885**	**7**	**29**	**101**	**2196**
8	2011-2012	Head office	549	86	167	6	-	29	837
		Rakhine	9	-	-	-	-	1	10
		Taninthayi	542	187	-	15	302	60	1106
		Ayeyarwady	-	-	503	2	-	3	508
		Mon	-	-	137	-	-	-	137
		Yangon	-	-	-	-	-	-	-
Total			**1100**	**273**	**809**	**23**	**302**	**93**	**2598**
9	2012-2013	Head office	552	74	182	3	-	25	836
		Rakhine	7	3	-	-	-	1	11
		Taninthayi	564	201	-	32	356	64	1217
		Ayeyarwady	1	-	499	2	-	1	503
		Mon	-	-	148	-	-	-	148
		Yangon	1	-	7	1	-	-	9
Total			**1125**	**278**	**836**	**38**	**356**	**91**	**2724**
10.	2013-2014	Head office	19	2	1	-	-	2	24
		Rakhine	50	3	-	-	-	1	54
		Taninthayi	563	216	3	26	345	104	1257
		Ayeyarwady	-	-	401	1	-	1	403
		Mon	-	-	166	-	-	-	166
		Yangon	506	62	198	3	-	20	789
Total			**1138**	**283**	**769**	**30**	**345**	**128**	**2693**

Table.9.FISHERY EXPORTS

Unit - Quantity - Metric Ton
Value - US $/Euro/Kyats in Million

No.	Year		Fish		Prawns		Others		Total	
			Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1	2004-2005	US $	77162.91	79.86	18335.93	92.05	8036.14	17.82	103534.98	189.73
		Euro	3092.18	1.95	1104.30	5.47	347.61	0.83	4544.09	8.25
		Kyats	79145.50	71685.28	4222.58	13125.94	64333.03	47017.61	147701.11	131828.83
2	2005-2006	US $	125107.81	131.79	18941.05	89.05	45842.42	50.55	189891.28	271.39
		Euro	2207.68	1.48	2047.82	8.94	269.68	0.48	4525.18	10.90
		Kyats	45740.21	46888.31	2358.77	5436.21	28554.81	22656.69	76653.79	74981.21
3	2006-2007	US $	235858.25	240.20	25369.89	120.89	82198.47	107.07	343426.61	468.16
4	2007-2007	US $	245473.15	315.46	21061.30	109.74	85117.60	135.82	351652.05	561.02
5	2008-2009	US $	234060.74	273.27	18382.10	88.85	72267.70	121.11	324710.54	483.23
6	2009-2010	US $	277823.74	309.857	17439.31	56.329	79829.384	130.404	375092.43	496.59
7	2010-2011	US $	273043.74	342.441	19142.91	68.661	81706.06	144.413	373892.71	555.515
8	2011-2012	US$	283688.76	396.276	17995.03	86.187	85297.53	171.387	386981.32	653.85
9	2012-2013	US$	266464.97	378.053	17267.93	89.285	93112.786	185.502	376845.689	652.840
10.	2013-2014	US$	237142.31	286.932	16508.97	61.981	91616.08	187.361	345267.36	536.274

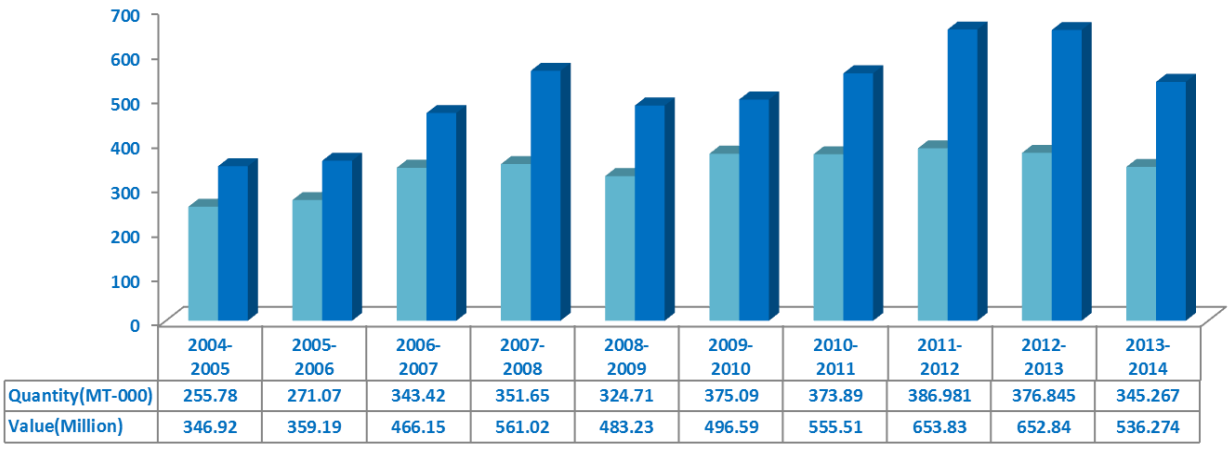


Figure 5: Fish and Fishery Product Exported in Myanmar (2004-2005 to 2013-2014)

Table.10. TOP TEN SPECIES OF EXPORTED FISH AND FISHERIES PRODUCT OF MYANMAR (2013-2014)

No.	Species (Common Name)		MT(Ordinary)	US$(Million)
1.	Rohu		68314.722	69.047
2.	Live Eel		12631.090	52.212
3.	Live Mud Crab		15639.167	44.680
4.	Hilsa		10909.868	26.169
5.	Pink		9838.923	25.799
6.	Tiger		3382.562	20.231
7.	Ribbon Fish		9547.203	16.214
8.	Dried Prawn		2653.699	13.466
9.	Soft Shell Crab		2395.283	11.993
10.	White		2605.128	11.739

Table.11.IMPORT BY FISHERY PRODUCT TRADING COUNTRIES (2013-2014) (IN US$)

Quantity - Metric Ton
Value - US$ in million

No.	COUNTRY	FISH		PRAWN		OTHER		TOTAL	
		QTY	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE
1	China	27630.558	54.814	4151.849	13.339	50883.519	131.137	82665.926	199.290
2	Singapore	9804.870	15.449	895.900	2.168	9385.233	7.603	20086.003	25.220
3	Saudi	19334.937	23.597	19.332	0.030	318.111	0.743	19672.380	24.370
4	Korea	245.071	0.404	35.106	0.263	340.799	0.453	620.976	1.120
5	Malaysia	2398.123	4.493	1586.735	6.180	12474.692	24.612	16459.550	35.285
6	Kuwait	26158.440	26.964	10.305	0.021	27.967	0.066	26196.712	27.051
7	Bahrain	1647.682	1.906	231.885	1.051	18.989	0.040	1898.556	2.997
8	Japan	76.926	0.133	5265.551	21.098	1147.524	2.280	6490.001	23.511
9	UK	6930.306	13.107	56.309	0.184	137.128	0.548	7123.743	13.839
10	Thailand	111724.806	108.095	2047.680	9.710	12873.058	11.175	126645.544	128.980
11	Vietnam	170.995	0.177	703.791	2.144	585.682	0.878	1460.468	3.199
12	Australia	507.729	1.376	12.00	0.057	645.976	2.605	1165.705	4.038
13	UAE	15538.713	17.172	405.942	0.935	63.619	0.164	16008.274	18.271
14	Canada	644.602	1.300	1.343	0.002	11.495	0.048	657.440	1.350
15	Italy	1190.674	1.698	-	-	-	-	1190.674	1.698
16	Sweeden	112.960	0.158	11.232	0.069	-	-	124.192	0.227
17	Netherland	10.000	0.012	-	-	-	-	10.000	0.012
18	Greece	94.242	0.128	17.500	0.098	-	-	111.742	0.226
19	Brunei	-	-	108.000	0.674	-	-	108.000	0.674
20	South Africa	687.046	0.084	7.605	0.014	6.435	0.029	701.086	0.847
21	Denmark	49.600	0.058	-	-	-	-	49.600	0.058
22	Taiwan	-	-	-	-	5.515	0.024	5.515	0.024
23	India	588.720	0.986	-	-	133.800	0.125	722.520	1.111
24	Pakistan	674.708	0.673	-	-	-	-	674.708	0.673
25	USA	2080.182	3.704	438.089	1.791	469.809	1.919	2988.080	7.414
26	Hongkong	11.104	0.047	355.294	1.461	355.143	1.784	721.541	3.292
27	Jordan	216.000	0.215	-	-	-	-	216.000	0.215
28	Bangladesh	6353.400	6.774	133.234	0.668	1703.941	1.058	8190.575	8.500
29	Lebanon	11.750	0.011	-	-	-	-	11.750	0.011
30	Qatar	2236.679	2.662	14.284	0.024	21.270	0.042	2272.233	2.728
31	Ireland	11.495	0.015	-	-	-	-	11.495	0.015
32	France	-	-	-	-	6.374	0.028	6.374	0.028
		237142.318	**286.932**	**16508.966**	**61.981**	**91616.079**	**187.361**	**345267.363**	**536.274**

Table.12.1.TOP TEN COUNTRIES IMPORTED FISHERY PRODUCTS

FROM MYANMAR (2004-2005 TO 2005-2006)

Quantity - Metric Ton

Value - US $ Million

No.	2004-2005			
	Countries		Quantity	Value
1	China	US $	8140.66	17.877
		EURO	564.96	0.923
		KYAT	106630.02	101.067
2	Japan	US $	9974.36	45.203
		EURO	411.56	2.261
		KYAT	-	-
3	Thailand	US $	7514.55	6.853
		EURO	631.79	0.501
		KYAT	41026.87	30.736
4	Singapore	US $	13097.85	19.350
		EURO	-	-
		KYAT	-	-
5	U A E	US $	13988.83	16.676
		EURO	-	-
		KYAT	-	-
6	Malaysia	US $	8512.74	14.800
		EURO	-	-
		KYAT	-	-
7	Hongkong (P R C)	US $	4032.02	11.808
		EURO	1714.01	1.382
		KYAT	-	-
8	Bangladesh	US $	16736.34	11.030
		EURO	-	-
		KYAT	-	-
9	United King-dom	US $	5940.02	8.800
		EURO	-	-
		KYAT	-	-
10	Australia	US $	1674.24	5.220
		EURO	87.74	0.366
		KYAT	-	-

No.	2005-2006			
	Countries		Quantity	Value
1	China	US $	82158.98	86.251
		EURO	332.59	0.438
		KYAT	19185.37	19.078
2	Thailand	US $	4437.69	5.406
		EURO	234.25	0.386
		KYAT	57369.89	55.878
3	Japan	US $	9804.12	40.682
		EURO	875.85	4.542
		KYAT	-	-
4	U A E	US $	17759.09	20.655
		EURO	79.44	0.088
		KYAT	-	-
5	Malaysia	US $	10940.42	20.296
		EURO	187.71	0.211
		KYAT	-	-
6	Saudi	US $	15183.41	17.004
		EURO	-	-
		KYAT	-	-
7	Singapore	US $	7759.26	16.232
		EURO	509.23	0.868
		KYAT	-	-
8	Hongkong (PRC)	US $	5398.98	14.729
		EURO	1576.56	1.747
		KYAT	-	-
9	Bangladesh	US $	18118.62	14.554
		EURO	-	-
		KYAT	-	-
10	United Kingdom	US $	5551.74	8.376
		EURO	-	-
		KYAT	-	-

Table.12.2.TOP TEN COUNTRIES IMPORTED FISHERY PRODUCTS FROM MYANMAR (2006-2007 TO 2007-2008)

Quantity - Metric Ton
Value - US $ Million

No.	2006-2007		
	Countries	Quantity	Value
1	China	90197.08	130.662
2	Thailand	121764.99	109.880
3	Japan	12211.50	50.440
4	Singapore	18362.08	30.434
5	Bangladesh	23669.32	22.360
6	Malaysia	10288.51	21.103
7	Saudi	18030.71	20.129
8	UAE	13993.72	17.528
9	Kuwait	14981.31	14.427
10	Hongkong (PRC)	4365.30	13.967

Quantity - Metric Ton
Value - US $ Million

No.	2007-2008		
	Countries	Quantity	Value
1	China	84980.51	148.724
2	Malaysia	80835.93	86.960
3	Singapore	32095.00	70.363
4	Thailand	48820.83	55.985
5	Japan	10523.96	42.085
6	Saudi	18798.08	35.146
7	Kuwait	27895.32	30.026
8	Bangladesh	20229.72	27.003
9	UAE	9467.70	13.902
10	Hongkong (PCR)	3141.41	12.664

Table.12.3.TOP TEN COUNTRIES IMPORTED FISHERY PRODUCTS FROM MYANMAR (2008-2009 TO 2009-20010)

Quantity - Metric Ton
Value - US $ Million

No.	2008-2009		
	Countries	Quantity	Value
1	Singapore	56753.61	119.044
2	China	58921.26	106.153
3	Thailand	89489.51	76.978
4	Malaysia	23004.36	41.260
5	Kuwait	34423.65	31.844
6	Japan	6514.06	23.400
7	Saudi	17702.42	21.344
8	Bangladesh	14694.98	18.686
9	UAE	10610.28	13.782
10	United Kingdom	5192.64	10.674

Quantity - Metric Ton
Value - US $ Million

No.	2009-2010		
	Countries	Quantity	Value
1	China	55991.33	105.076
2	Thailand	122817.59	99.229
3	Singapore	46424.56	96.257
4	Kuwait	58747.92	52.964
5	Malaysia	21351.10	36.127
6	Saudi	20426.63	23.272
7	Japan	6215.54	16.908
8	UAE	13517.21	16.784
9	Bangladesh	13993.34	16.257
10	United Kingdom	6285.68	12.427

Table.12.4. TOP TEN COUNTRIES IMPORTED FISHERY PRODUCTS

FROM MYANMAR (2010-2011 TO 2011-2012)

Quantity - Metric Ton
Value - US $ Million

No.	2010-2011		
	Countries	Quantity	Value
1	China	77914.27	179.704
2	Thailand	134634.31	110.595
3	Singapore	25413.33	59.378
4	Kuwait	50643.82	56.683
5	Malaysia	20669.93	39.419
6	Saudi	19474.26	24.673
7	Japan	7197.15	21.882
8	UAE	12292.49	17.789
9	Bangladesh	11372.95	14.166
10	United Kingdom	6488.43	13.085

Quantity - Metric Ton
Value - US $ Million

No.	2011-2012		
	Countries	Quantity	Value
1	China	92775.645	258.759
2	Thailand	136278.599	124.457
3	Malaysia	23325.904	53.623
4	Kuwait	45496.48	51.155
5	Singapore	15881.889	34.522
6	Japan	6839.415	30.361
7	Saudi	20771.696	28.610
8	Bangladesh	17296.858	23.124
9	UAE	16045.36	21.320
10	U.K	6275.849	13.845

Tale.12.5.TOP TEN COUNTRIES IMPORTED FISHERY PRODUCTS

FROM MYANMAR (2012-2013 TO 2013-2014)

Quantity - Metric Ton

Value - US $ Million

No.	2012-2013		
	Countries	Quantity	Value
1	China	90780.734	244.249
2	Thailand	137631.665	133.165
3	Singapore	26584.477	49.748
4	Kuwait	34515.926	49.153
5	Malaysia	19288.339	45.678
6	Japan	6895.203	34.971
7	Saudi	21738.835	31.806
8	UAE	15142.596	19.424
9	U.K	6341.289	14.561
10	Bangladesh	9529.391	11.978

Quantity - Metric Ton

Value - US $ Million

No.	2013-2014		
	Countries	Quantity	Value
1	China	82665.926	199.290
2	Thailand	126645.544	128.980
3	Malaysia	16459.55	35.285
4	Kuwait	26196.712	27.051
5	Singapore	20086.003	25.220
6	Saudi	19672.380	24.370
7	Japan	6490.001	23.511
8	UAE	16008.274	18.271
9	U.K	7123.743	13.839
10	Bangladesh	8190.575	8.500

Table.13. FISH SUPPLY IN YANGON

Unit - Thousand Metric Ton

No.	Year	Production		
		Fresh Water	Marine	Total
1	2004-2005	77.53	123.01	200.54
2	2005-2006	84.05	112.19	196.24
3	2006-2007	102.90	103.95	206.85
4	2007-2008	91.28	143.83	235.11
5	2008-2009	78.83	103.69	182.52
6	2009-2010	91.39	132.47	223.86
7	2010-2011	93.07	138.44	231.51
8	2011-2012	97.67	152.94	250.61
9	2012-2013	94.68	167.01	261.69
10	2013-2014	135.04	166.42	301.46

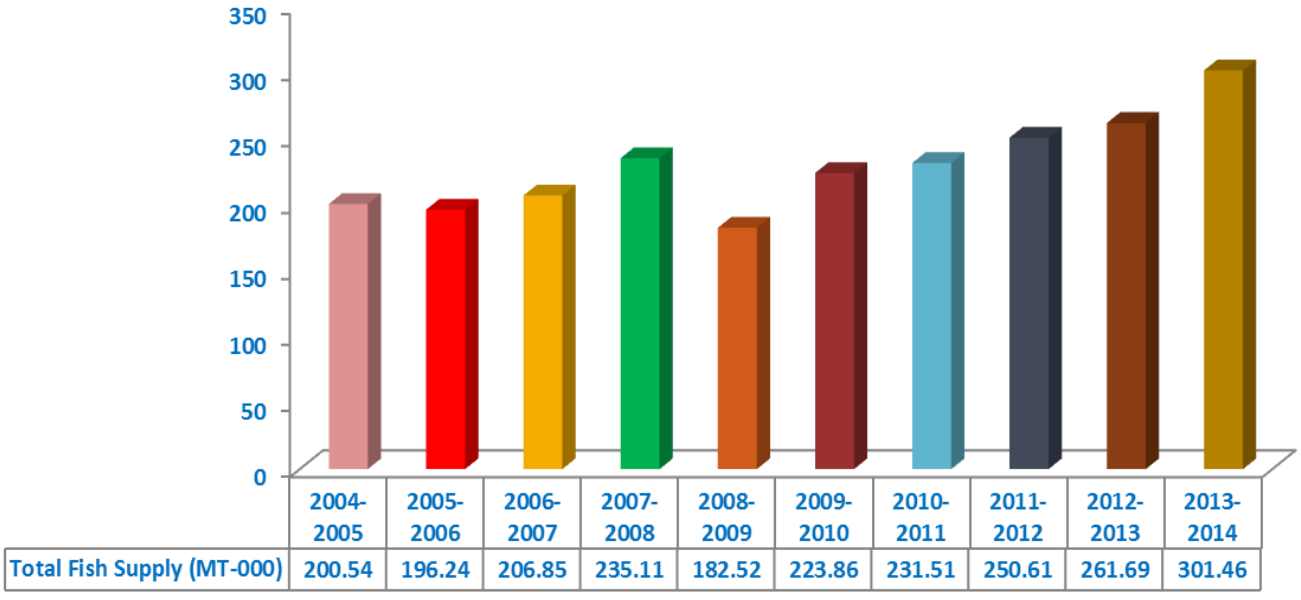


Figure 6: Fish Supply in Yangon (2004-2005 to 2013-2014)

Table. 14.1. SEED PRODUCTION BY FISH HATCHERIES UNDER DOF

Unit: Million

No.	Myanmar Name	Common Name	Scientific Name	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Nga Myit Chin	Rohu	*Labeo rohita*	433.610	478.640	529.739	541.700	517.800
2.	Shwe Wa Nga Gyin	Common Carp	*Cyprinus carpio*	57.760	70.485	52.628	68.500	47.500
3.	Myetsar Nga Gyin	Grass Carp	*Ctenopharyngodon idella*	5.950	6.181	8.034	6.300	5.900
4.	Nga Khaung Pwa	Catla	*Catla catla*	5.450	4.676	4.638	6.100	5.000
5.	Yaung Sone Nga Gyin	Colour Carp	*Carrasius spp:*	-	-	-	-	12.200
6.	Tilapia	Tilapia	*Tilapia spp:*	12.020	13.972	13.727	13.400	3.200
7.	Ngwe Yaung Nga Gyin	Silver Carp	*Hypophthalmichtys molitrix*	3.120	2.813	3.134	3.000	2.300
8.	Khaung Gyi Nga Gyin	Big Head	*Aristichthys nobilis*	1.950	2.413	2.639	2.100	-
9.	Nga Khu	Cat Fish	*Clarias batrachus*	1.040	0.601	1.803	-	10.000
10.	Nga Dan	Stripped Catfish	*Pangasius sutchi*	15.640	11.267	17.052	11.700	1.800
11.	Nga Phan Ma	Rohtee	*Rohtee alfrediana*	0.030	0.200	0.350	-	10.800
12.	Nga Gyin Phyu	Mrigal	*Cirrhina mrigala*	6.850	4.825	3.817	3.400	66.500
13.	Pa Cu (Ye Cho Nga Mote)	Fresh water pomfret	*Pirictus spp:*	2.570	6.054	15.302	9.300	-
14.	Nga Khone Ma	Tarpian	*Barbodes goniono-tus*	40.750	43.401	37.095	75.200	-
15.	Nga Net Pyar	Black carp	*Labeo calabasu*	0.040	-	-	-	-
16.	Nga Thyine	Minor Carp	*Leabo Fdolizkae*	-	-	-	-	-
17.	Be Lar	Snakeskin gou-rami	*Trichogester pectoralis*	-	-	-	-	-
18.	Vietnam Nga Dan	Stripped Catfish	*Pangasius bacourti*	-	-	-	-	-
19.	Nga Kye	Sconpion catfish	*Heteropneustcs fossilis*	-	-	-	-	-
20.	Nga Phane	Nga Phane	*Cyprinus intha*	-	-	-	-	-
21.	Sultan	Sultan Fish	*Teptobanbus hoevenii*	-	-	-	-	-
	Total			**586.780**	**645.528**	**689.958**	**743.380**	**708.312**

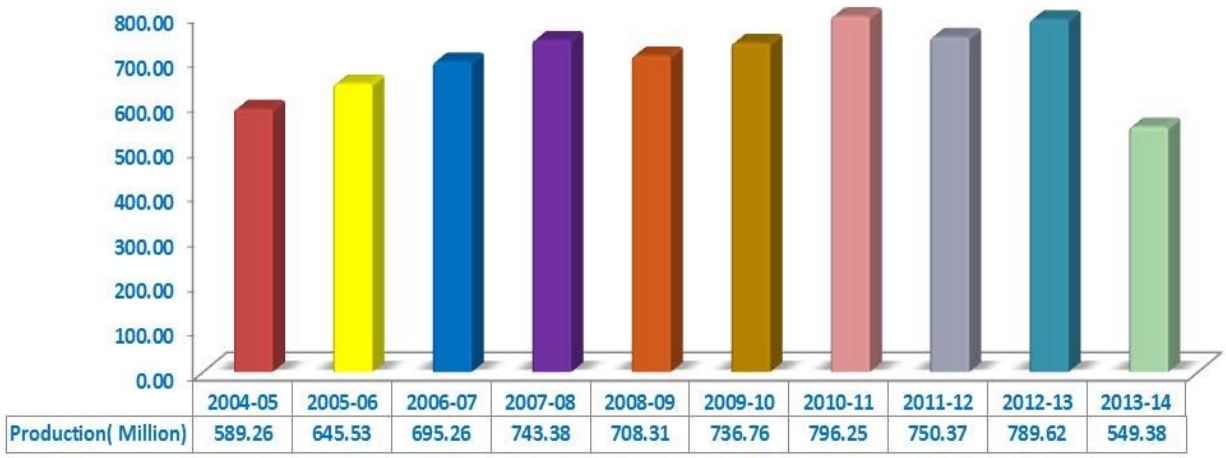


Figure.7. Seed Production by Fish Hatcheries Under DOF

Table.14.2. SEED PRODUCTION BY FISH HATCHERIES UNDER DOF

Unit - Million

No.	Myanmar Name	Common Name	Scientific Name	2009-10	2010-11	2011-12	2012-13	2013-14
1.	Nga Myit Chin	Rohu	*Labeo rohita*	527.260	460.179	535.409	549.20	382.97
2.	Shwe Wa Nga Gyin	Common Carp	*Cyprinus carpio*	77.370	83.882	49.223	45.58	41.91
3.	Myetsar Nga Gyin	Grass Carp	*Ctenopharyngodon idella*	4.170	8.397	3.833	13.40	5.60
4.	Nga Khaung Pwa	Catla	*Catla catla*	5.190	11.733	6.547	9.64	7.06
5.	Tilapia	Tilapia	*Tilapia spp:*	20.060	18.363	17.883	13.06	13.51
6.	Ngwe Yaung Nga Gyin	Silver Carp	*Hypophthalmichtys molitrix*	3.380	5.629	6.894	5.25	5.53
7.	Khaung Gyi Nga Gyin	Big Head	*Aristichthys nobilis*	2.190	3.8	3.539	2.30	2.79
8.	Nga Khu	Cat Fish	*Clarias batrachus*	-	-	0.05	-	-
9.	Nga Dan	Stripped Catfish	*Pangasius sutchi*	4.660	9.384	5.660	8.98	7.11
10.	Nga Gyin Phyu	Mrigal	*Cirrhina mrigala*	2.850	6.652	4.554	6.09	2.85
11.	Pa Cu (Ye Cho Nga Mote)	Fresh water pomfret	*Pirictus spp:*	3.290	6.733	3.690	7.63	5.57
12.	Nga Khone Ma	Tarpian	*Barbodes goniono-tus*	86.230	181.439	112.761	127.86	73.40
13.	Nga Net Pyar	Black carp	*Labeo calabasu*	0.05	-	-	-	-
14.	Nga Thyine	Minor Carp	*Leabo Fdolizkae*	0.06	-	-	-	-
15.	Be Lar	Snakeskin gourami	*Trichogester pectoralis*	-	0.06	0.02	-	-
16.	Vietnam Nga Dan	Stripped Catfish	*Pangasius bacourti*	-	0.002	-	-	-
17.	Nga Kye	Sconpion catfish	*Heteropneustcs fossilis*	-	-	0.30	0.25	0.10
18.	Nga Phane	Nga Phane	*Cyprinus intha*	-	-	0.003	0.22	0.35
19.	Sultan	Sultan Fish	*Leptobanbus hoevenii*	-	-	0.004	-	0.06
20.	Nga Ohn Tone	Nandina	*Labeo nandina*	-	-	-	0.06	-
21.	Nga Dane	Kuria Labeo	*Labeo gonius*	-	-	-	0.10	-
22.	Taung Paw Nga Thar Lauk	Streaked prochilod	*Prochilodus lineatus*	-	-	-	-	0.57
	Total			**736.760**	**796.253**	**750.370**	**789.62**	**549.38**

Table.15. FISH HATCHERIES UNDER DOF
(2008-2009)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**216.947**
1	Hlaw Kar	Mingalardone Township, Yangon.	90.556
2	Twante	Twante	87.150
3	Laydaukkan	Thingankyun Township	39.241
	Bago Region		**61.970**
4	Bago (Kali)	Bago Township	36.216
5	Thanappin	Thanappin	13.512
6	Oakpho	Oakpho	12.242
	Mandalay Region		**297.513**
7	Pathein Gyi		82.283
8	Myit Thar	Kueme Township	80.974
9	Natyekan	A-ma-ya-pu-ya Township	59.028
10	Pyinmanar	Pyin-ma-nar	57.031
11	Matayar	Ma-ta-yar	18.197
	Ayeyarwady Region		**66.842**
12	Pathein	Pathein	6.199
13	Talotehla	Ta-lote-hla, Ma-u-bin Township	16.843
14	Hinthada	Hin-tha-da	5.955
15	Pantanaw	Pan-ta-naw	21.882
16	Aung-hate		15.963
	Magway Region		**5.155**
17	Taung dwin gyi	Magway	3.500
18	Pwint Phyu		1.655
	Kachin State		**7.061**
19	Waing-maw	Kachin State	3.874
20	Bamaw	Bamaw	3.187
	Sagaing Region		**13.933**
21	Shwe Bo	Shwe Bo Township	3.869
22	Yay Oo	Yay Oo Township	7.761
23	Kalay		2.303
	Mon State		**6.661**
24	Thahtone	Thahtone Township	6.661
	Shan State		**6.244**
25	Lashio	Lashio Township	-
26	Nyaung Shwe	Nyaung Shwe Township	6.244
	Kayin State		**0.633**
27	Pha aan	Pha-aan Township	0.633

Table.16. PRAWN HATCHERIES UNDER DOF
(2008-2009)

Unit - Million

No.	Fish Hatcheries	Location	Production
1	A-lae-tan-kyaw	Mowndaw Township	-
2	Kyauk-phyu	Kyauk-phyu Township	0.8
3	Thaketa	Yangon	-
4	Wa-maw (Long-lone)	Dawei	0.85
5	Lone-thar(TZ)	Tan-twe	2.09
6	Ye-chan-pyin	Sittwe	0.65
7	Thazin (Pale Nadi)	Pathein	28.00
8	Chaung Tha (Sein Ngwe Mya)	Pathein	8.70
9	Soe Mae Kyi (Sit Aye Paing)	Sittwe	2.00
10	Lone-thar (W.B)	Tan-twe	2.50

Table.17. FISH HATCHERIES UNDER DOF
(2009-2010)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**163.100**
1	Hlaw Kar	Mingalardone Township, Yangon.	91.400
2	Twante	Twante	31.400
3	Laydaukkan	Thingankyun Township	40.300
	Bago Region		**91.200**
4	Bago (Kali)	Bago Township	43.100
5	Thanappin	Thanappin	27.100
6	Oakpho	Oakpho	21.000
	Mandalay Region		**313.600**
7	Pathein Gyi		84.300
8	Myit Thar	Kueme Township	79.600
9	Natyekan	A-ma-ya-pu-ya Township	59.500
10	Pyinmnar	Pyinmanar	69.200
11	Matayar	Matayar	21.000
	Ayeyarwady Region		**115.300**
12	Pathein	Pathein	26.300
13	Talotehla	Talotehla, Maubin Township	26.900
14	Hinthada	Hinthada	10.100
15	Pantanaw	Pantanaw	30.000
16	Aung-hate		22.000
	Magway Region		**7.300**
17	Taungdwingyi	Magway	4.900
18	Pwint Phyu		2.400
	Kachin State		**9.700**
19	Waing maw	Kachin State	6.200
20	Bamaw	Bamaw	3.500
	Sagaing Region		**29.100**
21	Shwe Bo	Shwe Bo Township	7.600
22	Yay Oo	Yay Oo Township	17.700
23	Kalay		3.800
	Mon State		**3.500**
24	Thahtone	Thahtone Township	3.500
	Shan State		**3.200**
25	Lashio	Lashio Township	-
26	Nyaung Shwe	Nyaung Shwe Township	3.200
	Kayin State		**0.700**
27	Pha aan	Pha-aan Township	0.700

Table.18.FISH HATCHERIES UNDER DOF

(2010-2011)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**186.800**
1	Hlaw Kar	Mingalardone Township, Yangon.	101.800
2	Twante	Twante	44.500
3	Laydaukkan	Thingankyun Township	40.500
	Bago Region		**68.200**
4	Bago (Kali)	Bago Township	40.100
5	Thanappin	Thanappin	15.400
6	Oakpho	Oakpho	12.700
	Mandalay Region		**373.500**
7	Pathein Gyi		97.900
8	Myit Thar	Kueme Township	111.000
9	Natyekan	Amayapuya Township	58.900
10	Pyinmanar	Pyinmanar	78.700
11	Matayar	Matayar	27.000
	Ayeyarwady Region		**101.800**
12	Pathein	Pathein	20.900
13	Talotehla	Talotehla, Maubin Township	10.800
14	Hinthada	Hinthada	9.600
15	Pantanaw	Pantanaw	35.300
16	Aung hate		25.200
	Magway Region		**8.600**
17	Taungdwingyi	Magway	5.500
18	Pwint Phyu	Pwint Phyu	3.100
	Kachin State		**19.000**
19	Waing-maw	Kachin State	9.200
20	Bamaw	Bamaw	9.800
	Sagaing Region		**26.600**
21	Shwe Bo	Shwe Bo Township	10.600
22	Yay Oo	Yay Oo Township	10.300
23	Kalay	Kalay Township	5.700
	Mon State		**5.100**
24	Thahtone	Thahtone Township	5.100
	Shan State		**3.100**
25	Lashio	Lashio Township	-
26	Nyaung Shwe	Nyaung Shwe Township	3.100
	Kayin State		**3.500**
27	Pha aan	Pha aan Township	3.500

Table.19.FISH HATCHERIES UNDER DOF

(2011-2012)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**180.268**
1	Hlaw Kar	Mingalardone Township, Yangon.	81.844
2	Twante	Twante	47.555
3	Laydaukkan	Thingankyun Township	50.869
	Bago Region		**69.665**
4	Bago (Kali)	Bago Township	39.964
5	Thanappin	Thanappin	15.156
6	Oakpho	Oakpho	14.545
	Mandalay Region		**314.509**
7	Pathein Gyi		82.420
8	Myit Thar	Kueme Township	77.225
9	Natyekan	Amayapuya Township	37.111
10	Pyinmanar	Pyinmanar	100.070
11	Matayar	Matayar	17.683
	Ayeyarwady Region		**128.953**
12	Pathein	Pathein	25.896
13	Talotehla	Talotehla, Maubin Township	15.252
14	Hinthada	Hinthada	13.010
15	Pantanaw	Pantanaw	47.436
16	Aung hate		27.359
	Magway Region		**7.532**
17	Taungdwingyi	Magway	4.582
18	Pwint Phyu		2.950
	Kachin State		**13.630**
19	Waing-maw	Kachin State	8.089
20	Bamaw	Bamaw	5.521
	Sagaing Region		**23.987**
21	Shwe Bo	Shwe Bo Township	5.353
22	Yay Oo	Yay Oo Township	11.814
23	Kalay		6.820
	Mon State		**6.713**
24	Thahtone	Thahtone Township	**6.713**
	Shan State		**2.914**
25	Lashio	Lashio Township	**2.914**
26	Nyaung Shwe	Nyaung Shwe Township	-
	Kayin State		**2.917**
27	Pha aan	Pha aan Township	2.197

Table. 20. FISH HATCHERIES UNDER DOF

(2012-2013)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**177.925**
1	Hlaw Kar	Mingalardone Township, Yangon.	80.445
2	Twante	Twante	37.638
3	Laydaukkan	Thingankyun Township	59.842
	Bago Region		**74.165**
4	Bago (Kali)	Bago Township	40.343
5	Thanappin	Thanappin	17.098
6	Oakpho	Oakpho	16.724
	Mandalay Region		**290.901**
7	Pathein Gyi		87.519
8	Myit Thar	Kueme Township	99.661
9	Natyekan	Amayapuya Township	78.626
10	Matayar	Matayar	25.095
	Nay Pyi Taw Council Area		**56.296**
11	Pyinmanar	Pyinmanar	56.296
	Ayeyarwady Region		**127.650**
12	Pathein	Pathein	20.702
13	Talotehla	Talotehla, Maubin Township	15.981
14	Hinthada	Hinthada	11.918
15	Pantanaw	Pantanaw	54.355
16	Aung hate		24.694
	Magway Region		**10.657**
17	Taungdwingyi	Magway	5.279
18	Pwint Phyu		5.378
	Kachin State		**16.736**
19	Waing-maw	Kachin State	9.866
20	Bamaw	Bamaw	6.870
	Sagaing Region		**21.375**
21	Shwe Bo	Shwe Bo Township	6.452
22	Yay Oo	Yay Oo Township	10.293
23	Htee chaint		4.630
	Mon State		**7.101**
24	Thahtone	Thahtone Township	7.101
	Shan State		**4.818**
25	Nyaung Shwe	Nyaung Shwe Township	4.818
	Kayin State		**1.999**
26	Pha aan	Pha aan Township	**1.999**

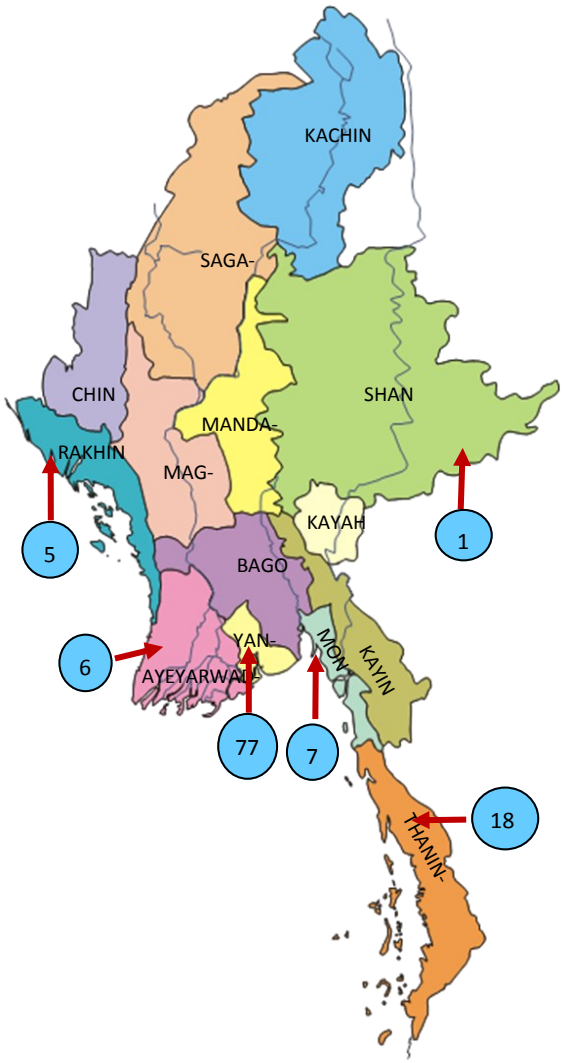
Table.21. FISH HATCHERIES UNDER DOF

(2013-2014)

Unit - Million

No.	Fish Hatcheries	Location	Production
	Yangon Region		**141.58**
1	Hlaw Kar	Mingalardone Township, Yangon.	59.33
2	Twante	Twante	44.55
3	Laydaukkan	Thingankyun Township	37.70
	Bago Region		**73.11**
4	Bago (Kali)	Bago Township	35.61
5	Thanappin	Thanappin	15.16
6	Oakpho	Oakpho	22.34
	Mandalay Region		**186.45**
7	Pathein Gyi		79.27
8	Myit Thar	Kueme Township	58.21
9	Natyekan	Amayapuya Township	36.55
10	Matayar	Matayar	12.42
	Nay Pyi Taw Council Area		**19.72**
11	Pyinmanar	Pyinmanar	19.72
	Ayeyarwady Region		**79.28**
12	Pathein	Pathein	19.10
13	Talotehla	Talotehla, Maubin Township	13.40
14	Hinthada	Hinthada	13.05
15	Pantanaw	Pantanaw	19.37
16	Aung hate		14.36
	Magway Region		**7.39**
17	Taungdwingyi	Magway	3.67
18	Pwint Phyu		3.72
	Kachin State		**11.45**
19	Waing-maw	Kachin State	5.74
20	Bamaw	Bamaw	5.71
	Sagaing Region		**21.69**
21	Shwe Bo	Shwe Bo Township	6.59
22	Yay Oo	Yay Oo Township	9.53
23	Htee chaint		5.57
	Mon State		**3.14**
24	Thahtone	Thahtone Township	3.14
	Shan State		**3.13**
25	Nyaung Shwe	Nyaung Shwe Township	3.13
	Kayin State		**2.44**
26	Pha aan	Pha aan Township	**2.44**

MAP OF THE SITUATION COLD STOREAGES & ROCESSING PLANTS IN REGIONS AND STATES OF MYANMAR



YANGON	77
AYEYARWADDY	6
THANINTHAYI	18
MON	7
SHAN	1
RAKHINE	5
TOTAL COLD STOREAGES	**114**

Table.22. ICE PLANTS
(BY REGION AND STATE)

NO.	REGIONAL AND STATE	NUMBER OF PLANTS	CAPACITY OF ICE PLANT (METRIC TON PER DAY)
1	YANGON	106	2364.06
2	TANINTHAYI	48	2535.6
3	RAKHINE	39	456
4	AYEYARWADY	70	869
5	MON	29	528
6	MANDALAY	7	30
7	SHAN	2	3.20
	TOTAL	**301**	**6785.8**

PART TWO

FISHERY BRIEF IN MYANMAR

National Policy on Ministry of Livestock, Fisheries and Rural Development

- To undertake food security and food safety in Livestock and Fisheries sector and to implement sustainable development of rural area.

National Policy on Fishery Sector

- To promote all-round development in the fisheries sector;
- To increase fish production for domestic consumption and share the surplus with neighbouring country;
- To encourage the expansion of marine and freshwater aquaculture;
- To upgrade the socio-economic status of fishery communities.

RELEASE OF FISH FINGERLINGS

Releasing fish fingerlings to enhance and restore fishery resources has been practiced in Myanmar.

PADDY CUM FISH CULTURE

Department of fisheries has initiated and encouraged the paddy cum fish farming in Myanmar. It is also aimed at contributing to rural development and poverty allevia-tion efforts.

IMPLEMENTATION OF GENETIC IMPROVEMENT

Department of Fisheries has initiated the implementation of genetic im-provement in Rohu(*labeo rohita*)

PUBLIC AWARENESS OF THE CONSERVATION OF FISHERIES RESOURCES

Poster erected in myaesone village for the public awareness of the conservation of Ayeyarwady dolphin taking process.

Fisheries in Myanmar

Fisheries in Myanmar's Economy

1. The fishery sector is considered as the most important one after the agriculture sector to fulfill the protein requirement of the people of Myanmar and to provide the food security as well as to get the opportunity for the employment to a large number of fishery communities and rural dwellers. Moreover, fish is second only to rice in the Myanmar diet.

2. Myanmar is endowed with rich natural resources both in freshwater and marine fisheries. Nowadays, the increasing pressures from industrial and urban development and increased demand for fish and fishery products owing to population growth as well as global climate change can cause for damage to degradation of ecosystems including fisheries resources.

State of Fisheries

3. In 2013-2014 fiscal year, the total production of fish was 5.05 million metric tons in Myanmar. In this period, the production of freshwater fish was 2.35 million metric tons (46% of the total fish production) and the production of marine fish was 2.70 million metric tons (54% of the total production of fish in Myanmar).

4. The exported amount of fish and fishery product was (0.345) million metric tons and the value of which was (536.274) million in US$ in 2013-2014. It was exported to (32) different countries. The exported amount was (7 %) of the total production of fish in Myanmar in this period, 2013-2014.

Type of Fisheries in Myanmar

5.The type of fisheries in Myanmar is determined by nature of catch. It can be classified into freshwater fisheries and marine fisheries. Freshwater fisheries consists of (a) fish culture, (b) leasable, (c) open fisheries. Marine fisheries include (a) inshore fisheries and (b) off-shore fisheries.

6. In the inshore fisheries, the fishing boats operate within from shoreline to (10) nautical miles .In this area, the fishing boat which is build by traditional type with not more than 30 feet long or using less than a 25 HP engine power, operates for fishing. The fishing gears for using are driftnet, gillnet and long line.

7. In offshore fisheries, the offshore fishing vessels operate beyond from outer limit of the inshore fishing zone to the Exclusive Economic Zone (EEZ). The fishing vessels are more than 30 feet long or using more than 25 HP engine operating in offshore area. In this area, the commercial fishing gears are trawl net, purse seine, and long line.

Ministry's Policy on Fishery and Livestock Sector

8. The national policies and principle objectives of the livestock and fisheries sector are as follows;-

(1) To boost distribution of quality fish and animal strains;
(2) To strive for all-round development of fish and meat production sector;
(3) To exceed the fish and meat for the domestic consumption and to export the surplus for earning foreign exchange;
(4) To make arrangements to increase investments in the fishery and livestock sector;
(5) To further development prawn breeding.
(6) To protect and conserve the fishery resources both in freshwater fisheries and marine fisheries.
(7) To boost freshwater fish production to meet local demand and to strive with might and main for development of fishery resources;
(8) To improve the socio-economic standard of farmers raising and production livestock, fish and prawn under the leadership of the government;

Management of Fisheries

9. Department of Fisheries (DOF) is responsible for the development of fishery sector of the Union of Myanmar and the responsibilities of DOF for development and management in fisheries are as follows;-

(1)Conservation and rehabilitation of fishery resources;

(2)Promotion of fisheries researches and surveys;

(3)Collection and compilation of fishery statistics and information;

(4)Extension services;

(5)Supervision of fishery sectors;

(6)Sustainability of fishery resources;

Fish Price Survey

10. Department of Fisheries is implementing the fish price survey in Yangon every year.

Main Factors Affecting in the Production of Fisheries

11. The conservation of fisheries resources and the maintenances of ecological system are the main factors in the development of fisheries .Ecosystem of the world should be studied on the basis of their principle habitats for a wide variety of flora and fauna. Regarding the maintenances of ecosystem in fisheries, the management of conservation in the freshwater bodies (ponds, lakes, rivers, dams) which provide good habitats for phytoplankton, zooplankton,

including aquatic plants and fishes and the conservation of marine ecosystem approach in marine water and its habitats to numerous plants, animals like zoo plankton, fishes, shrimps, oyster and so on., should also be studied as well. Moreover, the conservation of mangrove forest wetland and land-based ecosystem are substantial for development policy with a sustainable basis.

12. As we all know, mangrove are a source of shelters for fish. Many of coastal species spent the critical early stage of their lives in mangrove waters. So, the mangrove conservation is essential to save fisheries resources. Consequently, it ensures the sustainability of fisheries in the long term. Besides, the maintenance of ecological system is the conservation of reef and coral and declaration the marine protected areas (MPAs). It is the effective approach to improve the marine environment. The understanding of ecosystem function and its maintenance can help the development of fisheries in a sustainable manner.

13. The weather conditions depend on the environment. Deforestation is one of the factors for destroying the natural environment. So the forest conservation is needed by everybody. In the fishery sector, another important thing is the prevention of the fish disease which has been a difficult problem for fish-farmers. So, the sufficiency on the supply of good water quality is an essential matter.

14. Moreover, The public awareness for environment is very important for the sustainable fisheries and the people should be educated about the environment not to do over fishing and degrading the environment which are harming them-selves. It is, because we are being a part of the complex network of its environment.

The Role of the Private Sector in Fisheries

15. The role of the private sector of fisheries in Myanmar is operated by private entrepreneurs who can manage their business in their own ways in accordance with the rules and regulations which are laid down for them by the Government.

16. Regarding on this matter, since 1988 Myanmar made some dramatic and radical changes in social, political, and economic fronts. From that time onward, the market oriented economic system has been adopted in Myanmar. Since then, all fishery business in Myanmar was carried out by the private sector. Consequently, all state owned infrastructure of fishery sector such as, fishing vessels, ice-plants, processing plants, cold stores, fish-meal plants, canning plants etc. were sold out or leased to the private owners by the Government.

Legal Affairs

17. There are four relevant fisheries laws promulgated by the Government of Myanmar to manage the fishery industry and to protect the fishery resources more efficiently.

No.	Year enacted	Name of Fisheries Laws
1	1989	Law relating to the fishing rights of foreign fishing vessels
2	1989	Aquaculture Law
3	1990	Myanmar Marine Fisheries Law
4	1991	Freshwater Fisheries Law

18. After enacted these four fisheries law, the Government of Myanmar promulgated the two amending laws. These are as follows:-

No.	Year enacted	Name of Amending Laws
1.	1993	Law amending the Myanmar Marine Fisheries Law
2.	1993	Law amending the law relating to the fishing rights of foreign fishing vessels

Taking Action to the Illegal Harvest

19. Department of Fisheries manages the conservation of the fishery resources. With regard to the conservation of the fisheries resources and to maintain for the long- term of the fisheries resources, DOF is managing to stop the illegal harvest for exporting such as alive mud crab (not allow to export which is (100) gram down weigh).

Food Security for Myanmar

20. For food sufficiency of Myanmar people including living people in rural area, the plan of implementation for food security were carried out by Department of Fisheries of Myanmar with the releasing fish fingerlings into natural resources such as lakes, dams, reservoirs, and open waters and the genetic improvement in rohu(*Labeo rohita*) to achieve the purpose of getting more and more growth rate of fish and the increase of fish production of per acre in order to get more income by the fishers and fish farmers. Moreover, Department of Fisheries has initiated and encouraged the paddy cum fish farming in Myanmar. Since 2009, the Department of Fisheries under the Ministry of Livestock ,Fisheries and Rural Development has been carried out the implementation of genetic improvement in Rohu(*Labeo rohita*) with the short-term and long-term planning . The yearly production of fish in Myanmar is mentioned as in below:-

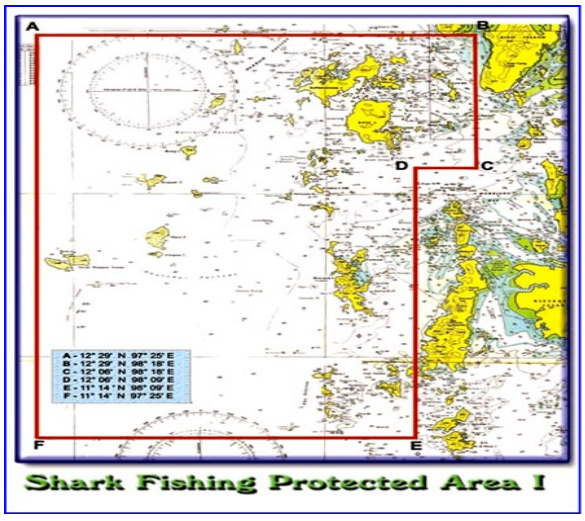
The Yearly Production of Fish in Myanmar

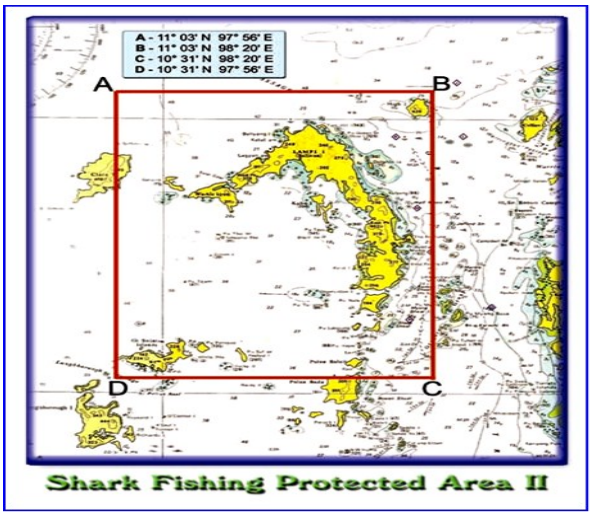
Unit: Thousand Metric Ton

Fiscal Year	Marine Fish Catch	Inland and Aquaculture	Total Fish Production
2008-2009	1867	1675	3542
2009-2010	2061	1860	3921
2010-2011	2161	1978	4139
2011-2012	2333	2145	4478
2012-2013	2484	2232	4716
2013-2014	2702	2345	5047

Marine Protected Areas (MPAs) and Marine Park and Marine Reserve

21. Conservation of fisheries resources has always been the primary concern of the Department of Fisheries, so Marine Park and Marine Reserves as well as fisheries protected area have been established under the Fisheries Law of Myanmar. Lampi island of the Thanninthayi coast has been designated as Maine Park and Marine Reserve in 1996. And then, regarding the shark resources conservation, no-body can conduct shark fishing operation in the protected areas stretching from" Rose" island to " Lampi" island; so Mergui Archipelago is famous for their shark, ray, coral reefs and other marine creatures and that is why in this area shark-watching dive tours are very popular with the tourists, who come to Myanmar from around the world.





FISHERIES MANAGEMENT DIVISION

Inland Fisheries Resources Management

Most of inland fisheries in Myanmar are small scale fisheries. DoF has been practicing fisheries management in accordance with the Freshwater Fisheries Law (1991). A fisher or fisher groups could carry out fishing with licence or grant permitted by DoF. DoF also permits free fees for some fishing gears such as fishing rod, scoop net, small cast nets and small traps for family consume.

For conservation of freshwater fisheries, DoF has been collaborating with fisheries stakeholders to implement sustainably culture-based system and capture based system in the leasable fisheries. These systems have been initiated in 2000. Culture based capture system is releasing the fingerlings which are produced by hatcheries and nursing during the monsoon season in the flooded area of leasable fisheries. The released fingerlings do not need to feed and they are growing by natural feed in the natural environment. This system is beneficial for prevention of decreased fish production and the mass production of each species. Most of fishers usually practice this system.

Capture based culture system is collecting the fingerlings of indigenous species or commercial species in the leasable fisheries and nursing in the fish pond or main channel of the leasable fisheries. While they grow up, they are released in the flooded area during rainy season. This system is favorable for the conservation of indigenous species or commercial species and promotion of fish production.

Other conservation measures of freshwater fisheries are maintenance or reconstruction of water channel of leasable fisheries and mangrove re- plantation in the leasable fisheries. Department of Fisheries is collaborating with the fishers and fisheries stakeholders to conserve the freshwater resources and habitats.

Inland Fisheries Resources Conservation

In Myanmar, some inland areas are the nursery ground of some marine species such as Lobster, Crab. To conserve and increase the Crab production,

Department of Fisheries notified the Crab protected area as follows:

Region and State	Protected Area	numbers of Zone
Tanintharyi	565 acres	3
Mon	7900 ft	1
Rakhine	1148.48 acres	6
Ayeyawady	400 Acres	12
	7900 ft	

In addition, Lobster protected zone was notified by DoF in the 696.96 acres in the Anansan village in Mon state.

Supervision of Freshwater Fisheries

In Myanmar, freshwater fisheries management was initiated in king age. In 1905, the British government promulgated the Fisheries Act to conserve the fisheries habitats, to resolve the dispute of fishers and to be sustainable fisheries. Fishers or fisher groups could carry out the fishing in the freshwater fisheries in accordance with the Fisheries Act.

Due to changes of political situation and development of fisheries in Myanmar, Department of Fisheries enacted the freshwater fisheries laws in 1991. DoF had been practiced the fisheries management in accordance with the freshwater fisheries laws till 2011. In 2010, Myanmar has changed the political situation in accordance with the Constitution of the Republic of the union of Myanmar, 2008. DoF has transferred the management of Freshwater fisheries to the Region and State Government in 2011. In this regard, the Region and State Government has promulgated the Region and State Freshwater Fisheries Laws in approval of Region and State Parliament. At the present time, Kachin State, Sagaing Region, Mandalay Region, Mon State, Yangon Region, Ayeyarwady Region had enacted the Freshwater Fisheries Laws. These laws are practiced based on the particular and current situation of each state and region.

Marine Fisheries Resources Management

To conserve the marine fisheries resources, DoF has been conducting the consultation with fisheries stakeholders for notification of closed season and closed area annually. DoF announced the closed season from June to August for all fishing vessel in Taninthayi fishing ground .

In Tanintharyi Region, the area between North Latitude 15 degree 00 minute (South) and East Longitude 14 degree 00 minute (East) was notified as closed area by notification of 5/2012 for the resources conservation.

To promote the conservation measure in inshore area, DoF notified the inshore area within 10 nautical miles from the shore line to the sea in all coastal areas.

For 2012-2013, DoF has conducted the workshop on notification of closed season and closed area in Nay Pyi Taw on 13-3-2013.This workshop was attended by Deputy Minister of Ministry of Livestock, Fisheries and Rural Development, the Ministers for the Ministry of Livestock and Agriculture from Regions and States, Officials from Department of Fisheries and Ministry of Livestock and Fisheries, members of Myanmar Fisheries Federation in Regions, States and District, Fisheries Stakeholders.

Illegal, Unreported and Unregulated Fishing (IUU fishing) is a big problem in worldwide, as well as addressing with a great challenge for the Southeast Asian countries. Many countries in the region had been exerting much effort to adopt various measures initiated by many organizations in combating IUU fishing.IUU fishing is a main cause of decreasing the fisheries resources and threatening the livelihood of legal fishers.

In order that, to combat IUU fishing, DoF has initiated installing Vessel Monitoring System – VMS in all foreign fishing vessels in 2012. In addition, DoF has been trying to install VMS in local fishing vessels and organizing the local fishing vessel owners. VMS, as an effective tool, could be supported to be systematic fishing, controlling and monitoring for the operation of fishing vessels, encroachment of foreign fishing vessel, transshipment and illegal landing of local fishing vessels in other countries.

Releasing discipline for the stakeholders

In order to the change of the political and administration in Myanmar, DoF released the some disciplines in fishing operation for the fishers and fisheries stakeholders as follows;

DoF identified that the 15 places to hide fishing vessel from foul weather in the sea.

DoF allowed the local fishing vessel to fish during 90 days for one fishing trip.

DoF established the Kauthaung Check points to inspect the fishing vessels which is based in Kauthaung township in Taninthayi.

All local fishing vessels were allowed to fish in all fishing ground in coastal area instead of allowance of one or two fishing grounds before.

All fishing vessels could be inspected in any check points which they want instead of designated checkpoints by DoF.

DoF extended the establishment of 13 check points for inspection of local fishing vessels in all coastal area. These check points are Sittwe, Kyaukphyu, Thandwe, Hygyi, Pathein, Pyapon, Yangon, Zephyuthaung , Dawei, Myeik, Wakyun, Plontontone, Kauthaung.

The Section for the administration of Vessel owned by DoF

This section under the Fisheries Management Division carried out the following function;

To collect the hired charges for the vessels owned by DoF

To control and monitor two inspection vessels of DoF

To monitor the security and administration of the Dock yard which is situated in Gyaungwine on the other side of Yangon.

Communication and Electronic Section

This section under the Fisheries Management Division carried out the following function;

Communication with the check points , office of DoF in Region and State, fishing vessels which is licenced by DoF and Hatchery offices.

Inspection for installation of Communication Machine in fishing vessels.

Supporting the service for the importing and application of licencing for GPs, Echo sounder, Fish Finder, Video Sounder, S.S.B(HF/VHF) through the Post and Telecommunication Department under the Ministry of Communication and Information Technology to the Administration Committee on Communication Policy.

Aquaculture Division

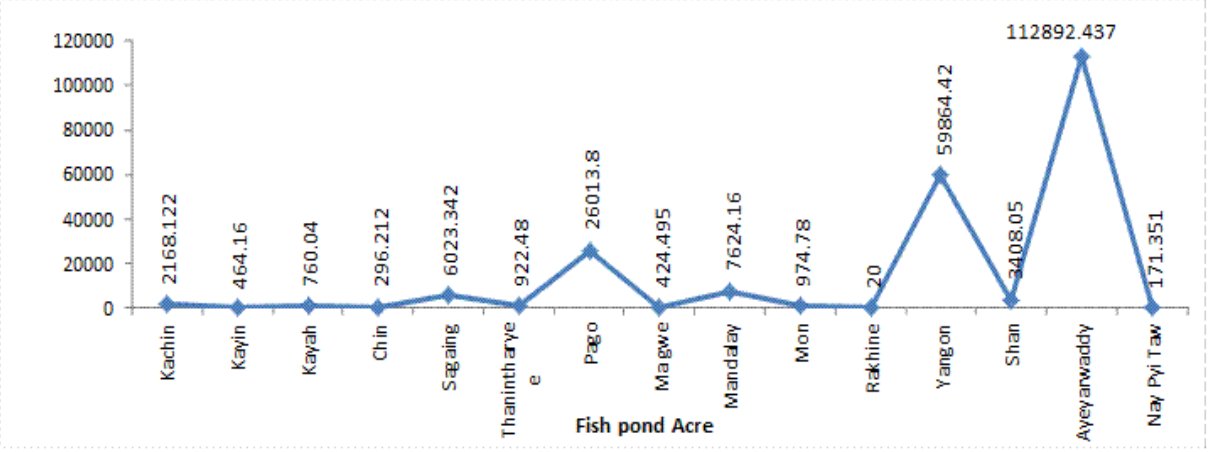
Aquaculture Division comprises of three sections such as Fish and Shrimp Culture Section,, Aquatic Animal Health and Disease Control Section and Water Quality Management & Freshwater Fish Research Section. Aquaculture Division is responsible for producing of good quality of fish and prawn/shrimp seeds for the fish farmers, to ensure replacement of fish and prawn seeds into the natural water reservoir and men-made water bodies, to conduct research on marine and freshwater aquaculture, to educate and transfer technologies of aquaculture to fish farmers and to conduct environment-friendly aquaculture methods for sustainable fisheries development.

Duty and function of Aquaculture Division

a. To ensure conservation of fisheries or aquatic resources not to be depleted,
b. Monitoring, control and given good management and regulation on aquaculture industry,
c. Strengthening good management for the development of environment-friendly aquaculture system and the encourage of cultured based capture fisheries to increase of fish production,
d. Issuing the amendment of aquaculture laws, legislation and regulation as requirement in line with modernized technologies, location and duration,
e. Supervision of expertise for the establishment of short-term and/or long-term aquaculture development programs,
f. Data collecting, recording and analyzing on fish production and utilization of fisheries resources, and aquatic biodiversity related to aquaculture in national water body,
g. Applying the international improved aquaculture system and ASEAN guidelines compliance with Myanmar weather and environmental conditions,
h. Support to conduct training and capacity building of skillful technology and techniques of aquaculture systems,
i. Seeking the improved technologies and providing extension and training for sustainable development and expanding of aquaculture industry as a whole,
j. Implementing and managing to be able to fully imposing of revenue for aquaculture taxes,
k. Regularly observing the aquaculture industry development as a whole and recording and reporting the extraordinary phenomenon of climate change impacts on aquaculture industry to higher authorities.

Aquaculture Development

Aquaculture areas increased from 12255 ha in 1990-1991 to 64438.8 ha in 2000-2001 and then to 180112 ha in 2010-2011 and 180614 ha in 2012-2013. Aquaculture production has also increased steady annually from 6397 MT in 1990-1991 to 128225 MT in 2000-2001 and 944809.6 MT in 2012-2013. The production from aquaculture for food increased to 915406.6 tonnes in 2013-2014, which was an increase about 3% compared to 2011-2012 production.



Freshwater Aquaculture

Currently over 20 species of freshwater fishes such as major and common carps, tilapia and cat fishes are being cultured. Rohu (*Labeo rohita*) withstands as the most common and commercial culture species which is native to Myanmar. The wild stock rohu usually gets sexual maturity at least 4-5 year with minimum body weight of 5-6 kilogram. Repeated induced-bred rohu may attain sexual maturity at two years and sometimes less than two kilograms of body weight. It has been recognized as an indicator of genetically degradation of broodstock and has resulted in slow growth and fainted coloration of the fish. In this regard, Department of Fisheries (DoF) in collaboration with private hatchery technicians has tried to domesticate the rohu wild stocks and utilized as new generation. Actually the collection of fry and fingerlings has not been permitted so as to conserve and enhance the natural fish stocks. This is as a measure of follow-up of the Law Relating to Aquaculture that was promulgated in 1990. However in order to develop aquaculture particularly in producing quality seed, hatchery concerned farmers are allowed to collect the fry and fingerlings prior to permission of DoF. As a result, rohu aquaculture industry becomes more developed and promising. In order to promote and distribute the quality fish seed, DoF has tried to upgrade the brood-stocks through its 26 fishery stations that are conducting seed production and providing technical assistance to farmer.

The new species of cultured freshwater fishes such as *Heteropneustes fossilis* (Catfish), *Ompok bimaculatus* (Sheat fish), *Notopterus chitala* (Spotted feather back), *Cyprinus Intha* (Nga phane), *Trichogaster pectoralis* (Snake skin gouramy), *Pangasius bacourti* (Stripped catfish), *Prochilodus luneatus (Taung paw nga tha lott)* , *Leptobarbus hoevenii* (Sultan fish), were induced breeding by experimental scale.

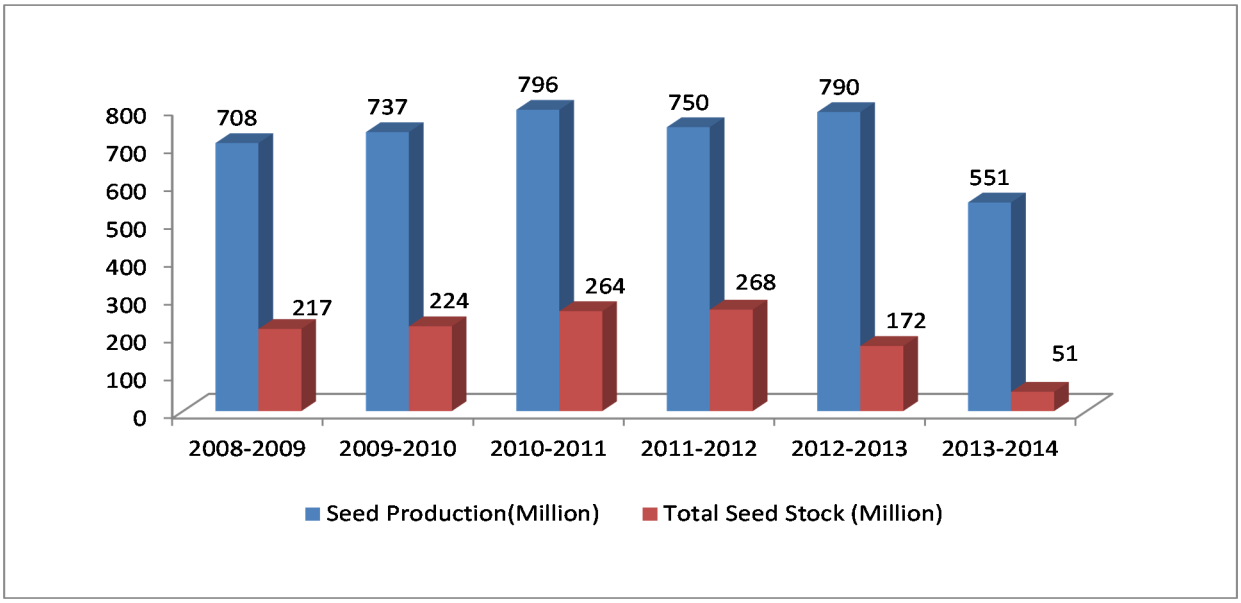
Workforce

In the field of aquaculture, a total of 32294 culturists were involved in various aquaculture systems. Due to Myanmar's aquaculture is mainly based on pond cultured system, mostly men labours are working in fish/shrimp ponds. There are 126020 number of permanent men labours working in 2013-2014 fiscal year.

Fish Fry and Fingerling Production

In 2013-2014, 26 hatcheries owned by the Department of Fisheries had managed to produce a total of 551 million freshwater fish fry and fingerling whereas 51 private hatcheries around Myanmar had produced an impressive amount of 2706 million fry and fingerling.

Accordingly the Department replenishes the natural resources by stocking the hatchery bred quality fish seeds into open waters like rivers, dams, reservoirs, lakes and impoundments. Data on production and stocking of seeds from 2007-2008 to 2013-2014 appears as a graph there under.



At the same time in order to increase fish production and supplementary income, Department also initiated the paddy cum fish farming in appropriate regions through demonstration. 18547 acres of paddy field in States and Divisions were stocked with fish

Freshwater prawn culture

The most common and prioritized species is commercially important giant freshwater prawn, *Macrobranchium rosembergii*. Monoculture of *M. rosembergii* was conducted on semi -intensive level and a result with low production was gained. To minimize the operational cost of prawn farming the farmers changed to prawn and fish poly culture practice where prawn is stocked as minor component totaling 4070 hectares of prawn and fish polyculture farms in the whole country. Only few areas of prawn monoculture farms are reported. Anyway the hatchery operation and culture technique become well established in government and private sector.

Recent year, many fish farmer's benefits from poly-culture of freshwater prawn and major carps due to high price of freshwater prawn. Many backyard hatcheries for freshwater prawn are being set up to fill up the gap of high demand freshwater prawn seeds.

Shrimp Culture

Penaeus monodon has been initiated since early 1980 practicing trap and hold method particularly in western coastal area. Natural post-larvae of *Penaeus monodon* were trapped into the pond during the high tide period through sluice gates. There were no inputs in terms of pond preparation, eradication of predators, water fertilization, feeding etc. However 30 to 50 kilograms of large size of shrimp were harvested. As the ponds were usually as large as 50 to 100 hectares, the shrimp production could make more than enough money for the shrimp farmers. Having no laws concerned with aquaculture, those shrimp ponds existed as illegal ponds up to 1990.In the year 2000, the Ministry of Livestock and Fisheries reinforced and encouraged many potential investors to be involved in the shrimp aquaculture development. At the same time, the Union of Myanmar formed a State Level Committee to promote a drastic development of shrimp aquaculture industry by formulating first three-year plan from 2000 to 2003 and second plan from 2003 to 2005. Since 2000, a number of semi-intensive and intensive shrimp farming emerged. Up to 2002, there found success and failure in semi-intensive and intensive shrimp culture .In the year 2002, a pilot demonstration on Mangrove Friendly Shrimp Culture was conducted as a measure of verification of semi-intensive shrimp culture technique through collaboration of Myanmar DoF and SEAFDEC-AQD . Demonstration pond with 1.4 ha and 0.72 totaling 2.12 ha could produce 11.1 metric ton of shrimp with average size of 50 pcs / kg. At the same time private shrimp farms nearby the demonstration pond suffered failure due to severe occurrence of white spot disease .The private farmer were invited and disseminated the comprehensive technology . But they were not so much interested in MFA technology. Similar demonstration was repeated in 2005 and also gained the success. A few private shrimp farms applied the MFA technology with success but later due to market and shrimp price constraints shrimp farming has been done only by a few farmers.

As of 2013-2014 Myanmar has three types of shrimp farming : Semi-intensive shrimp ponds 1774.58 hectares , Extensive plus shrimp ponds 37155.33 hectares and Extensive or traditional shrimp ponds 53496.37 hectares totaling 92427.7 hectares and production from those ponds were reported at 57046.12 MT. Recently, the Department of Fisheries huge encouraged to development of fish and shrimp culture in every states and regions for self - sufficient of local consumption and export market .

Status of Shrimp Hatcheries

In the year 2000, total number of shrimp hatcheries amounted to 13 only and in 2003 altogether 26 shrimp hatcheries were fully operating with capacity of 190 million shrimp post-larvae. Hatchery system is mainly based on advanced method. The breeders are available from Bay of Bengal and Andaman Sea. It is well famous that the broodstocks from Andaman Sea are supreme in terms of quality and size .

White shrimp culture

Penaeus vannamei has the many advantageous factors for culture but it may also cause the negative impact to other shrimp aquaculture industry. DOF has been aware that vannamei may carry and outbreak the Taura Syndrome Virus (TSV). After a regional workshop in 2005 at Manila, that assessed the culture of vannamei ASEAN countries agreed to culture at reasonable documentation. At present 3-4 private farms are trying experimental culture of vannamei.

Hatchery system is mainly based on advanced method. The breeders are available from Bay of Bengal and Andaman Sea. It is well famous that the brood-stocks from Andaman Sea are supreme in terms of quality and size. Only PCR negative the Pacific white shrimp SPF *vannamei* seeds has been permitted to import for culture in domestic water.

Marine Finfish Culture

In terms of marine fin-fish farming, seabass, red snapper and grouper are the most common and commercial species in Myanmar. Stock fish or the fish seed are usually collected from the wild. But the seed production technology of seabass has been succeeding since 2004 in both DoF and private sectors. First the broodstocks were collected from the wild and later induced breed seabass are used as broodstocks. However the grow-out culture of seabass is done by only a few farmers. It is due to the fact that adequate supply of trash fish and formulated feed is inconsistent. Grouper spp. also conducting on seed produced at marine research station of DoF, Tanintharyi region by experimental scale.

Others Mariculture

Some experimental farming of oyster, clam, seaweeds are under process in Myanmar. The farming of *Eucheuma* sea weed has been started since 2003 through the collaboration of DoF, a Korean private company. The Koraen company brought in the seaweed of *Eucheuma cottonii* and domesticated as the seed stock for other private farmers. Upon the whole, DoF Myanmar is carefully assessing in the promotion of proper new stock strains to produce better quality seed. At present land area of 15 hectare has been allocated to MSC to construct a processing plant and construction is under way. The new endeavor will create employment opportunity for local people and also technology transfer to the local entrepreneurs and communities. The production of dried seaweeds are about 300 tonnes per year.

Mud crab seed production

Mud crab fattening has become the booming industry as domestic consumption and export demand are growing rapidly. Soft shell mud crab farming has become very popular as it commands high price. At the same time, supply of crab juveniles from nature is decreasing due to over exploitation, habitat deterioration caused by man impact and world climate change. Most of Asian countries are thriving hatchery seed production of mud crabs. Adequate supply of mud crab seed for soft shell mud crab farming has become urgent need and included in the future plan. However hatchery operation performs very low survival rate. Myanmar DoF has planned to expand more mud crab hatcheries at suitable areas based on success of the present hatchery operation and recommended cooperation of regional institutes and among the countries in the region by conducting more research and study should be conducted in order to get high survival rate.

Cold Water Species Aquaculture

Some cold water aquatic species are naturally existing in the northern most part of the country where temperature is very low. DoF is planning to develop a pilot scale grow-out culture and also a backyard hatchery and educate the local ethnic group. That shall come out as a measure of rural development. Currently DoF officials and farmers have been visited Vietnam and studied development aquaculture. Some private companies are interested in sturgeon fish farming. In this regard culture of sturgeon fish is included in the future plan obtaining biotechnology from Vietnam.

Ornamental fish

The ornamental fish industry is one of the main sectors to generate income through export. The production of ornamental fish was decreased by 1.5 million pieces in 2012-2013 compared to 1.4 million pieces in 2013-2014. Its value also increased to US$ 0.184 million from US$ 0.194 million in the previous year.

Aquaculture for rural development

Promote aquaculture as an integrated rural development activity within multiple use of land and water resources available through inter-agency coordination in policy formulation, project planning and implementation, stakeholder consultation, extension services and technology transfer. One of the national policy is the poverty alleviation and to carry out rural development through agriculture and other sectors. Actually about 70 percent of the country people are living in country-side and remote areas. JICA incorporated and collaborated with DoF by establishing JICA unit at DoF and started its project plan in 2005. The strategic project plan is firstly conducting on-site training at appropriate areas to the villagers on small-scale aquaculture. Then secondly it implemented demonstration based on self-participatory approach. Thirdly JICA provides 70 percent of the cost for village level community farming that shared 30 percent. Profit sharing basis is to keep 50 percent for next operation, 20 percent for donation to the nearby school or village clinic and 30 percent is to share for community members. JICA project completed in 2013 June. Based on evaluation of effective-ness and capacity needs, JICA is now continue projects from 2014 March in Dry Zone Myanmar . At the same time one NGO that is Ecosystem Conservation and Community Devel-opment Initiative (ECCDI) affiliated with WCS is planning to conduct village level training on small-scale aquaculture and later to support village owned fish ponds particularly at Nargis hit areas. Moreover, ACIAR, KOICA also supporting and cooperation with DoF for improving research & development of Myanma's Inland & coastal fisheries.

Application of Good Aquaculture Practices (GAP)

The Department of Fisheries of Myanmar already initiated Good Aquaculture Practices as national standard in fish and shrimp farming since 2011. The Department of Fisheries established as National Task Force for implementation of GAP application in Myanmar last year and considered to follow up and practices on ASEAN's Standard on GAP for shrimp farming in compliance with the current status of shrimp farming practice in Myanmar. Myanmar learns and tries to follow the Strategies Plan on the Development and Implementation of ASEAN shrimp GAP. Support to GAP, DoF established the Directives and Regulation for prohibiting the use of chemical in aquaculture.

Recently, cultured areas of about 4439.55 hectares for fish, shrimp and soft-shelled crab farming have applied to get national GAP certificates. The Department of Fisheries has issued GAP certificates on 1549.2 hectares for 7 farmers during this year.



Aquaculture support services

In 2013-2014, According to the coordinating plan among a Aquaculture Division, Regional and State of DOF and the fish hatcheries stations will support to fish farmers for providing breeders and technical advices to small-scale farmers for poverty reduction and rural development at the township level. Under supervision of aquaculture division, aquatic animal health and disease control section and Freshwater fish research section are giving on-site support services for fish farmers who want to check their ponds water/soil parameters and health condition of their cultured fish for preventing the fish disease. In addition, Aquatic animal health and disease control section also provides PCR check on shrimp diseases of shrimp seeds for shrimp farmers. In 2013-2014, Freshwater fish research section gave services of water on analysis 1790 cases and soil analyses on 111 cases. Aquatic animal health and disease control section provided support services of on-site field analyses on 27 cases, lab disease analysis on 27 cases and PCR check for disease on 30 cases.

Training programmes such as Freshwater fish seed production and genetic improvement, Basic freshwater fish/prawn culture conducted in some DoF stations and Sagaing Institute of upper Myanmar.

RESEARCH AND DEVELOPMENT DIVISION

Activities of Inspection and Certification Section in 2013-2014

Inspection and Certification Section, Fish Inspection and Quality Control Division has been operating the exported fish and fishery products according to the food safety management systems.

Inspection and Certification Section has carried out to improve quality wholesomeness and safety of fishery products for human consumption and minimized post harvest loss to develop and apply quality and safety management systems that ensure food safety through the implementation, validation and verification of Hazard Analysis Critical Control Points (HACCP) based system, to improve inspection practices and harmonies with international inspection systems adapt quality and safety management systems as appropriate to the fishery industries to develop and implement GMP guidelines and compliance standards.

Inspection and Certification Section is responsible monitoring, control and surveillance (MCS) activities to ensure the quality and safety of fish and fishery products by enforcing to comply with international food safety standard requirements and importing countries requirements such as EU, China, ASEAN etc. At the present Inspection and Certification Section has been formed with (2) officers and (24)staffs to confirm processing establishments which have complied or not food safety management systems.

And then , Inspection and Certification Section issued the factory license for (114) processing establishments in 2013-2014 fiscal year to monitor and control for the procedure of processing establishments as the requirements of international standard for food safety and quality assurance.

Besides, Inspection and Certification Section has already formed four inspection teams and regularly examined the implementation of food safety management system such as GMP, SSOP, HACCP in supply chain means in fishing vessel, landing site, ice plant and processing establishments according to official control manual.

Currently, Inspection and Certificate Section has Implemented " Capacity Building to Improve Market Access for Fish and Fishery Products- TCP/MYA/3401(D)" for (18) months by FAO assistance to train the government's inspectors , Laboratory person and stakeholders.

According to the FAO project , Ms. Suwimon expert from FAO come and trained about requirement of food safety management systems to government inspectors from (9.10.2013) to (18.10.2013) and performed the inspection manual and inspection check list including onsite training in three establishments.

Department of Fisheries has been implementing to export aquaculture products to EU members countries assistant by EU. Mr. Stephen Robert expert from EU come and pre- paired National Residue Monitoring Plan from (18.2.2014) to (3.4.2014). National Residue Monitoring Plan has already sent to DG-SANCO after discussing and onsite training with government inspectors and laboratory staffs .

Inspection and Certification Section, Fish Inspection and Quality Control Division opened the " Training on China Market Access Requirement " and the " ASEAN Market Access Requirement " for processor attended by (120) participants from processing establishments to comply with international standard requirements for food safety management systems such as GMP/HACCP.

Inspection and Certification Section take responsibility for the quality of exported fishery products to meet International standard requirements and no harm for consumer according to this responsibility. Inspection and Certification Section has collaborated with relevant organizations in EU, Vietnam, China and ASEAN.

Department of Fisheries has been operating the food safety management system such as GMP/HACCP through supply chain means in fishing vessels , Landing sites, ice plants and processing establishments because of implementation for ASEAN Free Trade Area (AFTA) between ASEAN member countries in 2015.

Otherwise, according to ASEAN Economic Blue Print , Inspection and Certification Section has been implementing food safety issues related priority integrated sectors to harmonies in trading between ASEAN countries.

Activities of Analytical Laboratory Section

Continuously Maintain the Accredited Laboratory Comply with ISO 17025: 2005

The Analytical Laboratory has been accepted as an accredited Laboratory in the field of Fish and Fishery Products for the Microbiological Test (TPC, Coliform, *E.coli*, *Salmonella*, *Staph. aureus*) and Chemical Analysis (Nitrofuran, Chloramphenicol) accredited date is 27th June 2012.

ISO 17025:2005,Re-assessment Accreditation (2014)

The Analytical Laboratory has need to re-assessment accreditation of ISO 17025:2005 for 2014. The Accreditation Body of the Department of Medical Sciences from Thailand gave the validity only two years, date of expiration is 26 June 2014. In 2014 February 12-13, the Laboratory had already audited by On-site re-assessment team of Accreditation Body from Bureau of Laboratory Quality Standards (BLQS), Department of Medical Sciences from Thailand every two years according to ISO-17025:2005 requirement.

Participation the Proficiency Test (PT)Programme

In 2013, April and August the Laboratory had participated the proficiency Test (PT) every once a year for Chemical analysis (Nitrofuran metabolites and Chloramphenicol) and Microbiological test (TPC, Coliform, *E.coli, Salmonella, Staph. aureus*) in scope and PT provider from FAPAS -FERA,UK and LGC-QMAS(UK),Thailand.

Calibration Certificate for Measuring Equipments & Devices

In 2013 June, the Laboratory had calibrated the measuring equipments, devices, glass-ware used in scope the relevant Laboratory by Technological Promotion Association (TPA) from Thailand, at least once a year according to ISO 17025:2005 requirement.

Preventive Maintenance

The Laboratory had Contracted every year for Regular Preventive Maintenance (RPM) between DoF and AB SCIEX (Thailand) Co., Ltd. from Thailand. Field services Engineer from AB SCIEX (Thailand) Co., Ltd came to Laboratory for 2nd RPM in December 2013.

The Delegation Visit to Laboratory

In 2013-2014 fiscal year during April 2013 to March 2014, the delegates such as Akira MAEDA (Japan), Tokyo University of Marine Science and Technology (Japan), European Unions (EU) were visited to the Laboratory.

Training and Technical Co-operation Programme

In 2013 April, Refreshment Course of Good Laboratory Practices for Laboratory personnel.

In 2013 December, Operational Training for Feed Analyzer Conducted by Thailand Expert & NANOVA Company from Myanmar.

Action Plan for Future

On-going FAO-TCP/MYA/3401 Project for Capacity building to improve market access for fish and fishery products extension to December 2014 for additional accreditation of Microbiological lab and Chemical Laboratory.

Myanmar DoF Laboratory had participated the Japanese Trust Fund VI Project for Biotoxin Monitoring in ASEAN conducted by Marine Fisheries Research Department (MFRD), project period from 2013 to 2017.

Environment and Endangered Species Conservation Section

Bay of Bengal Large Marine Eco-system Project (BOBLME)

The Bay of Bengal region is defined as comprising the Coastal watershed, islands, coral reefs, continental shelves and coastal and marine waters of the Maldives, Sri Lanka, India, Bangladesh, Myanmar, Thailand, Malaysia, and Indonesia. The water body is approximately 3.3 million km^2 in area, together with the drainage systems, has been identified as one of the world sixty four large marine Eco-system, (LME) sharing a distinct bathymetry, hydrolography, productively, and tropically dependent population.

One quarter of the world's population which mean 400 million people live in the Bay of Bengal catchment area lone, many subsisting at or below the poor level. An average 65% of the regions appear to be on the increase. The Bay of Bengal region supports numerous of coastal fisheries, it is significant socio– economic importance to the countries boarding the water body, an estimate 2 million fisher operate in the coastal and inshore waters are directly employed in the sector. These fisheries are coastal demersal, shrimp and small pelagic fisheries, as well as offshore fisheries for tuna and similar species. One key issue in the region is over exploitation, Second key issue is habitat degradation and third key issue is land base pollution.

The main objective of the project is to maintain the sustainable fisheries management, to protect the critical habitat area, to secure the food security and poverty reduction, the bay of Bengal countries (8 countries) participating the long term regional fisheries management program, FAO of the United Nation to assist in the development of a project, funding by GEF and other donor such as (Swedish International Development Agency, Sida), Norwegian Agency for Development Cooperation, NORAD, National Oceanographic Atmospheric Agency (NOAA), World Bank. A series of workshop, meeting and training were held at the member countries, the regional coordinating Unit established the office at Phuket, Thailand.

Myanmar is one of the member countries and Department of Fisheries under the Ministry of Livestock , Fisheries and Rural Development is the competent authority for the project.

The first phase of the project year (2010-2014) is now implementing on the base of the project document, the five components are:

1. Strategic Action Programme
2. Coastal/Marine Natural Resources Management and Sustainable Use
3. Improved understanding and Predictability of the BOBLME Environment
4. Maintenance of Ecosystem Health and Management of Pollution
5. Project Management Monitoring and Evaluation, and knowledge Management.

In 2013, BOBLME organized the following workshops in the region;(1) BOBLME –IOTC Fisheries Stock Assessment Training Workshop Bangkok, Thailand (2) BOBLME Indian mackerel genetic harmonization workshop Kochi, India .

Present time the BOBLME Project is implemented by the 2014 Annual work plan.

The Department of Fisheries of Myanmar, carried out a Marine Ecosystem Assessment Survey in 2013 as a part of the BOBLME Project. The survey was implemented within the framework of a Tripartite Agreement between NORAD (On behalf of the Norwegian Ministry of Foreign Affairs), the Institute of Marine Research of Bergen (IMR) and FAO. The survey was conducted by the research Vessels RV Dr. Fridtjof Nansen, on the 13 November to 18 December 2013 and it covered the continental shelf and slope between from the Bengladesh border in the north and to the south near Thailand border.

The "Pre survey meeting on the 2013 Marine Ecosystem Survey in Myanmar" was convened in the Ministry of Livestock, Fisheries and Rural Development, Nay Pyi Taw on 15th October 2013.

The "Post Survey Meeting on the 2013 Marine Ecosystem Survey in Myanmar" was convened in the Summit Parkview Hotel, Yangon, Myanmar, from 5 to 8 May 2014.

In 2014, BOBLME organized the following meeting/ workshop in the region; (1) BOBLME Marine Protected Area (MPA) Working Group Meeting (Panang, Malaysia), (2) BOBLME–IOTC Meeting on International Fisheries conventions and implementation of IOTC Regulation, (Kuala Lumpur, Malaysia), (3) Fifth BOBLME Project, Steering Committee Meeting , Bendos Resort Island Hotel, Maldives.

The following major out puts achieved by the project: (1) Report on TDA Consultation (2) Presentation on Shark (3) Policy review Questionnaires (4) Status of MPAs in Myanmar (5) Assessment of the Hilsa and Indian Mackerel fisheries in Myanmar.

Ayeyarwady Dolphin Conservation Conducted by Department of Fisheries in Ayeyarwady River

Ayeyarwady (Irrawaddy) River is one of the biggest rivers in Southeast Asia, and it's the most dominant feature in Myanmar (Burma). This arises from Northern hill streams and through steep gorges upstream of Bhamo, and then flow the entire length of country, for approximately 2,200 km, before the reaches of Andaman Sea.

The 19th century naturalist John Anderson described Ayeyarwady (Irrawaddy) dolphin in the Ayeyarwady Rivers as morphologically distinct from *Orcaella brevirostris.*

The Department of Fisheries (DoF) protected and conserved the Ayeyarwady dolphin (especially established Ayeyarwady Dolphin Protected Area) the area between and Kyaukmyaung 72 Kilometers segment of Ayeyarwady River.

Every year the Ayeyarwady Dolphin monitoring and surveillance team which collaborate with Wildlife Conservation Society (WCS) and the Department of Fisheries staffs conduct visual boat base survey, and the teams always identify and estimate the population and group size and threats to the dolphins between the protected area. DoF already printed poster for the public awareness and a pamphlet (about Ayeyarwady Dolphin and conservation activities) to the local communities who live along the both river side of the river. Myanmar is one of the countries for Eco-tourism which can enjoy cooperative fishing practice with Ayeyarwady dolphin and cast-net fishermen. During the open season, at the upper reaches of the Ayeyarwady River, the cast net fisherman who conduct cooperative fishing practices cooperation with dolphin, it is one of the famous fishing practices of Myanmar. As a part of inland fisheries management for the sustainable fisheries development, Ayeyarwady Dolphin Conservation Team initiated and encouraged the cooperative fishermen, to be practice pen culture with a fish species (rohu) grow-out farming in natural water in the protected area of Ayeyarwady river segment and the Ayeyarwady Dolphin Conservation supported fingerling fish and fish pallet to those fisherman. After 3 months, some fish are released into natural water of Ayeyarwady River for the conservation of freshwater fishery resources; some are for the fishermen to get surplus income.

The Ayeyarwady dolphin conservation team conducted patrol the protected area twice a month and also conducted educational program in the Protected Area to prevent illegal fishing which can harm the dolphin and fishes along the river.

The Second extension MoU (Memorandum of Understanding) signing ceremony was held at the Ministry of Livestock, Fisheries and Rural Development, Ministry Meeting room on the 11th September, 2012, between the Department of Fisheries and Wild Life Conservation Society (WCS) USA, for the purpose of Research and Conservation activities among the endangered aquatic animals in Myanmar.

A wide range of research and conservation activities have been implemented in the protected area under a guidance of Department of Fisheries.

Research and Development Training Supervision Section

Department of Fisheries (DOF) is responsible for the development of fishery sector of the Union of Myanmar and the responsibilities of DOF for development and management in fisheries are a follow:

(1) Conservation and rehabilitation of fisheries resources

(2) Promotion of fisheries researches and surveys

(3) Collection and compilation of fisheries statistics and information

(4) Extension services

(5) Supervision of fishery sectors

(6) Sustainability of fishery resources

In order to implement above responsibilities, DOF has established three fisheries training centers namely,

a. Yangon Regions(Gyogone Institute of Fishing Technology)

b. Ayeyarwady Region (Pyapon Fisheries Training Center) and

c. Sagging Region (Upper Myanmar Fisheries Training Center)

Human resources development in fishery sector and capacity building are carried out through the training centers, in the fiscal year 2013-2014, four training course have been successfully conducted associated in field of Aquaculture, Fisheries Management, Fisheries Inspection & Quality Control, Speaking and Computer; totally 1206 trainees have been acquired knowledge of fisheries relevant fields. The various training for fishery taskforce skill development in (2013-2014) fiscal year are as follows:

No	Training Course	2013- 2014		Remark
		No of Course	No of Trainees	
1.	Aquaculture	33	944	DOF Training Center (Sagaing, Pyapon), Fishery Station (Hlawgha)
2.	Fisheries Management	3	90	DOF Training Center (Gyogone, Sagaing, Pyapon)
3.	English Speaking & Computer	2	23	DOF Training Center (Gyogone, Sagaing)
4.	China/ ASEAN Market Access Requirement	2	149	IFT(Gyogone)
	Total	40	1206	

In order to develop Fisheries Training Centers and Fisheries Extension officers, FTSS is laid down the plan to conduct the following work plans during the fiscal year(2014-2015);

i) TOT Program for Junior fishery Officers
Ii) On- site Training on Basic Aquaculture for Junior Staffs from Fishery Hatcheries
Iii) On-site Training on Eel Culture for Rural Development
Iv) On-site HRD Training on Backyard Postharvest Technology
v) Research on Indigenous Fish Species for Sustainable Resources Management (long-term plan)
vi) Research on Utilization of Available Plant Protein Elements Replacements of Animal Protein Source and Assessment of its Essential Amino Acid Level for Commercial Cultured Fish Species (long-term plan)

Currently, regular training program is conducting in fisheries training centers as scheduled. Due to the long-term research activities implementation is needed not only funding but also techniques, FTSS is seeking the grant or aid from foreign countries such as Italy, KOICA..etc.

Work activities of Marine Fisheries Resources Survey & Research Unit

Sustainable development of Fishery sector, through conservation of Fishery resources, research and development, formation and development of infrastructure, creation of job opportunities in government and private sector, human resources development and capacity development based on good government. In addition, implement effective management of fisheries through an ecosystem approach to fisheries that integrates habitat and fishery resource management aimed at increasing the social and economic benefits to all stakeholders, especially through delegating selected management functions to the local level and promoting co management as a partnership between government and relevant stakeholders.

In order to promote collaborative hilsa fisheries management plan between sub-regional working partners such as Myanmar, Bangladesh and India, FAO/BOBLME project has support to identify hilsa stock structure through the measures of length weight frequency distribution of the catches in Myanmar.

In Myanmar, hilsa fishery has been existed for a long-time and hilsa fishery is a very old livelihood for Myanmar local people who live in the coastal region. Hilsa occurs in inland, marine, and coastal waters and is harvested throughout the year. Generally, the two species of hilsa fish (*Tenualosa ilisha* and *T. toli*) are found to be dominant. *T. ilisha* (hilsa shad) is locally known as, “Nga Tha Lauk” in Myanmar.

These species have a great commercial value, and is considered the commercial fish of the country and contributes to the national economy, employment and export. The export in

2013-14 was 10,909.8 mt worth US$ 26.17 million and Hilsa ranks second to Rohu (cultured freshwater species) in terms of export volume and value. Considerable quantities of Hilsa are also consumed in Myanmar and the total landings are therefore higher than given in the official export records. However, no reliable data and hilsa fish assessment survey program results are available in the past. Different aspects of biological work of hilsa have been done by different authors, but no reliable data on stock assessment of this species in Myanmar.

Expected outcome

The aim of this research is to develop a bio-economic model of the hilsa fishery which can be used as a first step towards improved management of this fishery. More precisely, the objectives of the present study are:

To calculate the optimal sustainable yield for the hilsa fishery in Myanmar.

To compare the current situation with the optimal fishery.

To find an economically and socially reasonable path from the current level of fishing effort to the optimal sustainable yield level.

Continue research activities

The present study was undertaken to estimate the key parameters of stock assessment and the population dynamics of *T. ilisha* such as asymptotic length, growth co-efficient, growth performance, total mortality, natural mortality, fishing mortality, recruitment pattern, Exploitation rate, length frequency distribution and catch rate in three different inland and three different marine regions.

This study and results will be provided baseline information concerning the bio-economics of the hilsa fishery. On that basis, recommendations for regulating the fishing effort over time leading to the hilsa recovery process may be derived. On the basis of our findings, policy makers will be able to design management policies based on a comprehensive optimal sustainable yield level for the hilsa fishery and thus, hopefully, prevent further biological and economic decline of the hilsa fishery.

International Relations and Projects Section

By the Invitation of the International, Regional Organizations and Partner Countries, DOF Staffs had participated in the meetings, workshops, seminars and trainings in other countries and the experiences and knowledge gained from those events will contribute the objectives of DOF in her continuing efforts towards achieving sustainable fisheries development for food security. The participated list of events was as follows;

No.	Organization	Training		Workshop/Meeting/ Seminor/ Duty		Delegation /Study Tour/Trade Fair	
		Freq:	Person	Freq:	Person	Freq:	Person
1.	AADCP	-	-	2	3	-	-
2.	APFIC	-	-	1	1	-	-
3.	ACIAR	-	-	2	3	-	-
4.	ACFS	1	2	-	-	-	-
5.	BOBLME	-	-	4	8	-	-
6.	CDCE	1	1	-	-	-	-
7.	FAO	-	-	7	9	-	-
8.	JICA	-	-	1	3	-	-
9.	Japan ASEAN Solidarity Fund	-	-	1	2	-	-
10.	ICDS (China)	-	-	-	-	1	1
11.	ICSF	-	-	-	-	1	1
12.	KOICA	-	-	1	2	-	-
13.	MAFF	-	-	1	2	-	-
14.	MPEA	-	-	-	-	1	1
15.	NACA	-	-	2	2	-	-
16.	NFI	-	-	1	2	-	-
17.	Nansai Co., Ltd	-	-	-	-	1	2
18.	SEAFDEC	3	3	11	14	-	-
19.	Sovico Holding Co., Ltd Vietnam	-	-	-	-	1	1
20.	Gov of Myanmar	-	-	5	5	-	-
21.	Gov of China						
22.	Gov of India	2	3				
23.	Gov of Japan			1	1	1	1
24.	Gov of Indonesia			1	1	-	-
25.	Gov of Singapore					1	4
26.	Gov of Koera	1	1	1	1		
27.	Advancing Life and Regener-ating Motherland(Alarm), Vietnam	-	-	-	-	1	1
	Total	8	10	42	59	8	12

Within the Fiscal year, DOF has cooperated with FAO, JICA, BOBLME, WCS, ACIAR (World Fish Center) and SEAFDEC to implement the following Projects;

Sustainable Small Scale Fisheries and Aquaculture Livelihood in Coastal Mangrove Ecosystem (GCP/MYA/010/ITA) project, supported by FAO , from June 2009 to November 2014 in Ayeyarwady Division (US$ 1.75 Million). (Project Manager : U Maung Maung Lwin, Assistant Director)

Small Scale Aquaculture Extension for Promotion of Livelihood of Rural Communities in Myanmar Project (SAEP), supported by JICA , from 2014 to 2018 in Central Dry Zone (Siging, Megwe, Mandalay). (Project Manager: U Saw Lah Paw Wah, Deputy Director)

Bay of Bengal Large Marine Ecosystem Program (BOBLME) Project, supported by World Bank, Sida, NOAA, GEF, NORAD, from 2010 to 2014, in coastal region of BOBLME member countries (Project Manager : U Mya Than Tun, Deputy Director)

Ayeyarwaddy Dolphin Research and Protected Area Management Plan supported by WCS, from 2007 to 2017, onwards along the Ayeyarwady River in Mandalay and Sagaing Regions. (National Coordinator : U Mya Than Tun, Deputy Director)

Capacity Building to improve market access for fish and fishery products (TCP/ MYA/3401(D) Project, supported by FAO, from March 2012 to July 2014 in Yangon Region.(Project Manager: U Tint Wai , Deputy Director)

Improving research and development of Myanmar's inland and coastal fisheries" Project, funded by ACIAR and commissioned by World Fish Center, from 3 December 2012 to 30 November 2016, in Ayeyarwady Delta and Central Dry Zone. (Project Manager: U Nyunt Win, Deputy Director)

JTF Chemical & Drug Residues in Fish & Fish Products in SEA– Biotoxins Monitoring in ASEAN (ASP, AZA and BTX) Project, Support by SEAFDEC, Japanese Trust Fund from 2013 to 2017 in Tanintharyi Region and Rakhine State. (Project Manager: U Thet Naing , Assistant Director)

Human Resources Development Training in Myanmar

There are several trainings in Myanmar which will be given the more know ledges and promote of capacity for DOF persons providing by development partner. In 2013 holding training lists are as follows:

No.	Training Program	Frq	No.of participants
1.	Myanmar Singapore Training (Singapore-Myanmar Technical Cooperation)	10	10
2.	Southeast Asia Fisheries Development Program (SEAFDEC)	5	88
3.	My Fish (ACIAR Project)	1	3
	Total	16	101

Ph.D Candidates of DOF at abroad

Qualified staffs of DOF have been studying in abroad for their capacity and after that whose will be performed in relative program.

No.	Name	University	Duration	Graduation	Study Field
1.	Daw Saw Mya Lin	Kagoshima University, Japan	1.4.2008 to 1.10.2014	Ph.D Candidates Resources & Environmental Science of Agricul-ture Forestry and Fisheries	Aquaculture land based abalone culture in recirculation system: combined effect of protein skimmer and seaweed on water quality, fed intake, FCR &Growth of abalone
2	Daw Nant Kay Thwe Moe	Tokyo University, Japan	1.4.2009 to 31.3.2015	Ph.D Candidates Marine Science	Isolation and Characterization of bacteriocin .Producing bacteria from Myanmar Fermented Foods
3.	Daw Het Moe Win	PKUN International University	2013 March to 2015 March	Ph.D Candidates Fisheries Science	Health evaluation on Oyster

Planning ,Statistics and Rural Development Section

Fisheries statistics are not only a key component of a fisheries information system required for policy, planning, monitoring and management of fisheries but also a vital tool for knowing about the current and past status of fisheries and its trends on the development of the sector.

In major data collection fisheries statistics in Myanmar are three main sources of statistics, such as censuses, surveys and registration and licensing. The Directorate of Livestock ,Fisheries and Rural Development under the Ministry of Livestock, Fisheries and Rural Development is conducting the data collection, compilation, analysis and dissemination for fisheries and Livestock sector. The data collection in fisheries is implemented by the Department of Fisheries (DoF).

The objectives of fishery data collection

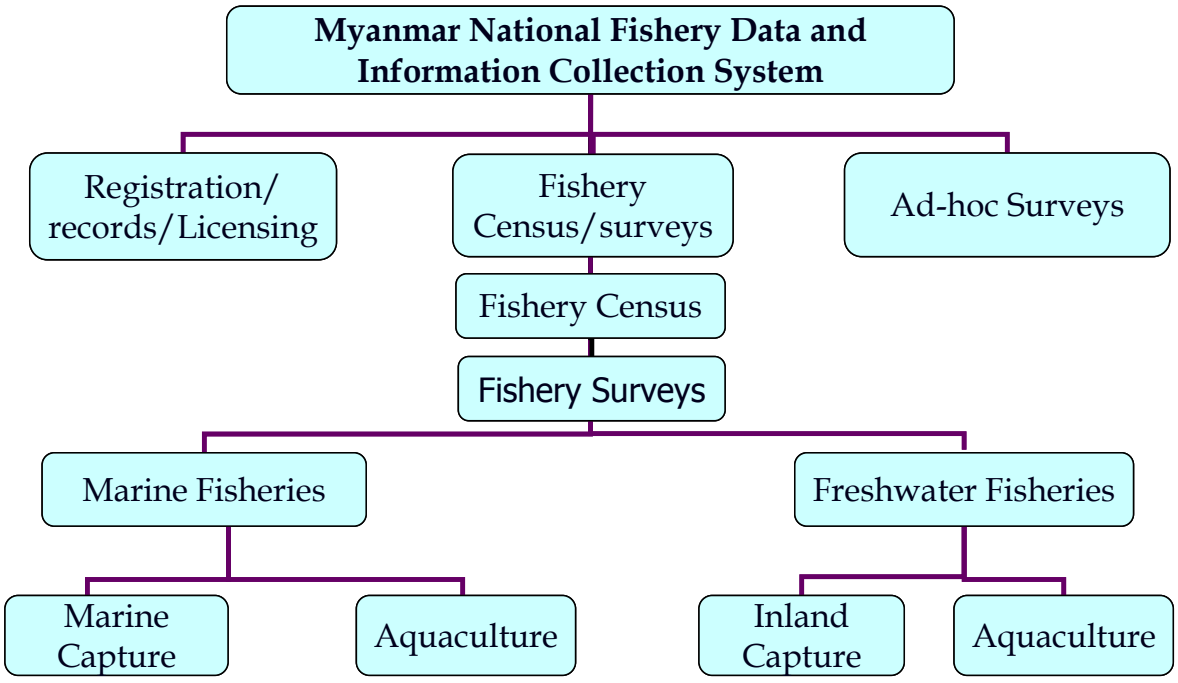
(1) To fulfill the requirements of information for the users in relation to fishery sector;

(2) To access and focus fisheries resources potential and productivity;

(3) Prediction and planning to meet the sustainable fisheries;

(4) Making policy and decision on fishery sector;

(5) Formulating and developing essential processes for long-term monitoring and management.



MYANMAR FISHERIES FEDERATION

Myanmar Fisheries Federation (MFF) is one of the highest NGOs commercial organizations to encourage and promote fishery industries of Myanmar. It was created by Myanmar Fisheries Association in order to enable the fishery entrepreneurs from states and divisions to join it on 1st December 1998. Moreover, Myanmar Fisheries Federation was constituted as a member of ASEAN Fisheries Federation in 2002.

Some of the active association under MFF are Myanmar Shrimp Association, Myanmar Fish Farmers Association, Myanmar Fishery Products Processor and Exporters Association, Myanmar Aqua Fish Association, Myanmar Marine Fisheries Association, Myanmar Freshwater Capture Fisheries Association, Crab Entrepreneurs Association. Apart from this, local level Associations are formed in line with public administrative structure such as division/ state, district and township level fisheries federations.

Department of Fisheries (DoF) and Myanmar Fisheries Federation (MFF) are like twins under the Ministry of Livestock ,Fisheries and Rural Development' umbrella. In order to better manage the fishery sector, DoF and MFF has teamed up to work together to achieve our common goal as stated in our regional slogan:- "Fish for the people".

Myanmar Fisheries Federation is one of the highest NGOs commercial organization to encourage and promote fishery industries of Myanmar as well as to support the fishermen and fish farmers.

In order to exchange views and to know the up-date information of the livestock and fishery sector, the regular weekly meetings are held at the conference hall in the MFF every week since June 6, 2005 for the development of Myanmar Fisheries.

Myanmar Fisheries Federation performs many supporting roles.

(1) MFF is able to support application made by its members to Department of Fisheries to undertake fisheries and aquaculture activities.

(2) MFF also can recommend application to the Livestock and Fisheries Bank for loan application.

(3) MFF has a good support from the government and can negotiate directly for members' benefits.

(4) MFF also helps with negotiation of selling and harvesting of fish; and shrimp and working collectively.

There are many members with small property. The membership fee is Kyats: 300 per year and Kyats: 5,000 for life. Any individual interested in it can contact MFF for further information at the address given below:-

Myanmar Fisheries Federation,
Bayintnaung Road, Department of Fisheries Compound,
West Gyo Gone, Insein Township,Yangon, The Republic of the Union of Myanmar.

Phone: +(95-1) 683652, +(95-1) 683657
+(95-1) 683653, +(95-1) 683658 (Ex – 105,100,200,300)
+(95-1) 683662, +(95-1) 644115
E-mail: fish-fed@mff.com.mm
Website: www.mff.com.mm

Address
Building No.36, Ministry of Livestock, Fishery and Rural Development,
Department of Fisheries
Nay Pyi Taw