# AN EVALUATION OF SEAFOOD INDUSTRY

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# ABSTRACT

India is blessed with a coastline of over 8,129 kms, 2.02 million sq. km of EEZ, 0.5 million sq. km. Continental shelf estimated to have exploitable resources to the tune of 4.42 million tons of which about 3.22 million tons are presently exploited. The estimated potential brackish water area suitable for shrimp farming is about 1.24 million hectare of which around 15% is utilized for farming, producing about 2.78 lakh tons of shrimp, scampi, mud crab and seabass which is going to the export basket. India's total fishery production is about 8.88 million tons from both capture and aquaculture India's seafood industry has become one of the leading suppliers of quality seafood to all the major markets of the world. India has world class seafood processing plants that follow quality control regimes complaint to stringent international regulatory requirements. With the growing fast. There is a tremendous growth in the resources and infrastructure of the Indian seafood industry today.Export of Marine Products from India will depend upon world's demand and supply conditions. This paper highlights the significance and viability of marine exports. The need for the present study is to identify different types of marine products exported and in turn determine the export prospects of this sector.

Key Words: Capture Fisheries, Export Development, Export Potential, Marine Products, Seafood Industry.

# **1.1 INTRODUCTION**

Export plays a very significant role in the development and growth of any Country. Export Trade or International trade refers to the buying and selling of goods and services across national borders or territories allowing both the buyer and seller to expand their markets for goods and services. Fisheries and aquaculture is an important sector of food production, providing nutritional security to millions of people contributing to the agricultural exports and engaging about 14-15 million people in different fish related activities. India has shown continuous and sustained increments in fish production. The fisheries sector has been one of the major Contributors of foreign exchange through export. India stands second as the largest fish producing Country in the World. Fisheries sector Contribute to animal protein supply to its increasing population. The marine products export basket of India comprises mainly Frozen Shrimp, Frozen fish, Frozen Squid, Frozen Cuttle Fish, dried items, live items, Frozen Lobster, Frozen Octopus, Canned items and Fish Pickles. The Principal export markets for Indian marine products are Japan, USA, South East Asia, Middle East and other Asian and European Countries.

#### 1.2 Need for the Study

India has vast and varied resources for aquaculture and Capture Fisheries. Export of Marine Products will depend upon World's demand and Supply Conditions. The need for the Study is to evaluate the export performance of the marine products from India into different markets and to clearly determine the export Prospects.

#### 1.3Objectives of the Study

- ◆ To analyze the Export performance of marine Products from India.
- To examine the item wise, port wise and market wise export of marine Products from India.

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- ✤ To find out the Contribution of Cultured Shrimp & Scampi in the export production.
- ◆ To examine the item wise export of Crabs from India.

#### 1.4 Methodology

The study is pursued using Secondary data. The Sources from which the secondary data were drawn is from the Statistics of MPEDA. The study is descriptive and analytical in nature.

#### **Tools for Analysis**

Regression and Correlation is used in the Study with the help of SPSS.

#### Limitations of the Study

- Primary data is not applied in the Study which is a major drawback.
- Present Fisheries Statistics is unavailable with the concerned authorities which is also a major hindrance to the Study.

# 2. REVIEW OF LITERATURE

Krishnan (1992) made a study on the potentiality of Indian marine Industry. According to him, the potential for enhancing the marine industry, as a leading one was bright but it was only the techniques and methods that have to be developed as it would result in higher production and lower price. He also concluded that to Combat Competition from Latin America and South East Asia the production strategy need to be improved.

Tharakan A.J., (1999), in his study observed that India had international Competitive advantage in shrimp and Cephalopods. Therefore he suggested that higher unit value realization from the export of these two products should be realized by value addition and creation of international brand equity for Indian Shrimp and cephalopods.

Chandrasekaran and Natarajan's (1994) work on Seasonal abundance and distribution of mud Crabs in mangroves, in South east India, identified that the time of greatest catch of juvenile recruits was during the post monsoon period, with nil evident during the monsoon.

Kathirvel and Srinivassagam (1992) identified area availability in India for juveniles. They found that S.serrata appear to be continual breeders with peak catches of juveniles prevalent in the backwaters during May to October and in the mangroves during January to February. **3. ANALYSIS** 

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Export Details	2012-13	2013-14	Growth %
Quantity Tonnes	928215	983756	5.98
	720215	703730	5.70
Value RsCrore	18856.26	30213.26	60.23
Value US \$ Million	3511.67	5007.7	42.6
Unit Value (US\$/Kg)	3.78	5.09	34.55

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#### Table-II

Year	Live Weight (MT)	Product weight (MI)	Estimated Value Rs (Crore)
2012-2013	2,77,275	1,68,585	8340.00
2013-2014	3,33,382	1,92,993	12,384.00
Increase	56,107	24408.00	4,044.00
Difference %	20.24%	14.48%	48.49%

# Comparison of Total Shrimp & Scampi Production from aquaculture in 2013-14 and 2012-13

#### Table-III

# VannameiProduction through Aquaculture

Year	Live Weight (MT)	Product weight (MT)	Estimated Value `Rs(Crore)
2012-2013	147516.00	91,610.00	5160.00
2013-2014	250.507	143,855.00	10,020.00
Increase	102.991	52,245.00	4,860.00
Difference%	69.82%	57.03%	94.19%

 Table-IV

 Contribution of Cultured Shrimp & Scampi in the export production

	2012-13				2011-12			Difference		
Item	Quantity In MT	Value in RsCrore	Value in US \$ Million	Quantity In MT	Value in RsCrore	Value in US \$ Million	Quantity In MT	Value in RsCrore	Value in US \$ Million	
Tiger	61,177	2,809	521	74,097	3,684	791	-12,920	875.0	-269.00	
Vannamei	91,171	3,937	731	40,787	1,820	386	50,382	2118.0	345.00	
Scampi	2,061	112	21	2,723	155	33	-662	-43.00	-13.00	
White shrimp	529	21	4	1,585	71	15	-1,056	-50.00	-11.00	
Total	1,54,938	6,879	1,277	1,19,192	5,730	1225	35,746	1,150	52	

Year	Live Weight (MT)	Product weight (MT)	Estimated Value Rs (Crore)
2012-2013	1,23,303	73,747.00	3082.00
2013-2014	76,798	46,100.00	2,304.00
Increase	(-) 46,505	(-) 27,668.00	(-) 778.00
Difference %	(-) 37.72	(-) 37.52	(-) 25.24%

Table-VComparison of cultured tiger shrimp production in 2012-13 and 2013-2014

Table-VI Mar	ket Wise Export	of Marine	Products	from India
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Market		2010-11	2011-12	2012-13	2013-14	2014-15
	Quantity in ton	70714	85800	76648	71484	78772
	Value in RsCrore	1683.39	2140.67	1999.59	2463.83	3040.26
JAPAN	US\$ Million	373	456.35	372.57	410.95	502.29
	Quantity in ton	50095	68354	92447	110880	129667
	Value in RsCrore	1990.26	2977.53	4026.48	7744.67	8830.12
USA	US\$ Million	438.49	637.53	747.45	1286.04	1458.24
	Quantity in ton	170963	154221	158357	174686	188031
	Value in RsCrore	3459.4	3810.44	4176.42	6129.69	6715.58
EUROPEAN UNION	US\$ Million	765.15	805.38	777.41	1013.28	1106.67
	Quantity in ton	159147	84515	87776	75783	59519
	Value in RsCrore	1977.81	1259.23	1444.86	1766.72	1349
CHINA	US\$ Million	440.1	263.3	269.47	293.12	221.44
	Quantity in ton	233964	343962	340944	380061	409931
SOUTH EAST ASIA	Value in RsCrore	2114.48	4193.27	4357.28	8046.59	8620.85

	US\$ Million	469.36	880.09	011 0	1220.05	1416.82
	MIIIIOII	409.30	880.09	811.8	1320.95	1410.82
	Quantity in ton	43983	38155	41419	58040	64608
	Value in RsCrore	670.35	894.38	1113.34	1599.37	2020.86
MIDDLE EAST	US\$ Million	148.31	186.85	209.26	272.65	333.1
	Quantity in ton	84225	87014	130623	112822	120716
	Value in RsCrore	1005.77	1321.72	1738.29	2462.4	2864.93
OTHERS	US\$ Million	222.5	278.94	323.71	410.71	472.56
	Quantity in ton	813091	862021	928215	983756	1051243
	Value in RsCrore	12901.47	16597.23	18856.26	30213.26	33441.61
Total	US\$ Million	2856.92	3508.45	3511.67	5007.7	5511.12

Source:MPEDA

# Market Wise Export Performance

#### Regression

Model	Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate					
1	.622(a)	.387	.336	1.167					

a Predictors: (Constant), US\$ Million, Quantity in ton, Value in RsCrore

		ANC	)VA(	b)		
	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	30.967	3	10.322	7.579	.000(a)
1	Residual	49.033	36	1.362		
	Total	80.000	39			
al	Predictors: (Co	onstant), US\$ Millio	on, (	Quantity in ton, V	Value in	RsCrore
		b Dependent Va	iriab	le: Year wise		

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oefficients(a)					
Unstandardized Coefficients			Standardized Coefficients		Sig.
lodel	В	Std. Error	Beta	_ (	515.
(Constant)	2.999	.242		12.371	.000
Quantity in ton	-1.708E-07	.000	034	063	.950
Value in RsCrore	8.847E-04	.000	4.550	3.628	.001
US\$ Million	-4.818E-03	.002	-4.289	-2.670	.011
	fodel (Constant) Quantity in ton Value in RsCrore	UnstandardizIodelB(Constant)2.999Quantity in ton-1.708E-07Value in RsCrore8.847E-04	Unstandardized CoefficientsIodelBStd. Error(Constant)2.999.242Quantity in ton-1.708E-07.000Value in RsCrore8.847E-04.000	Unstandardized CoefficientsStandardized CoefficientsIodelBStd. ErrorBeta(Constant)2.999.242Quantity in ton-1.708E-07.000034Value in RsCrore8.847E-04.0004.550	Unstandardized CoefficientsStandardized CoefficientstIodelBStd. ErrorBeta(Constant)2.999.242IconstantQuantity in ton-1.708E-07.000034063Value in RsCrore8.847E-04.0004.5503.628

a Dependent Variable: Year wise

Item wise Export of Marine Products from India										
	2010-11	2011-12	2012-13	2013-14	2					
Quantity in ton	151465	189125	228620	301435						

			Table-VI	Ι		
Item	wise	Export	of Marine	Products	from	India

Item		2010-11	2011-12	2012-13	2013-14	2014-15
	Quantity in ton	151465	189125	228620	301435	357505
	Value in RsCrore	5718.13	8175.26	9706.36	19368.3	22468.12
Fr. Shrimp	US\$ Million	1261.81	1741.2	1803.26	3210.94	3709.76
	Quantity in ton	312358	347118	343876	324359	309434
	Value in RsCrore	2623.89	3284.15	3296.86	4294.81	3778.5
Fr.Fin Fish	US\$ Million	583.48	683.5	617.59	708.63	619.66
	Quantity in ton	59159	54671	63296	68577	82353
	Value in RsCrore	1104.57	1346.72	1354.28	1386.98	1833.21
Fr.Cuttlefish	US\$ Million	244.62	282.72	251.54	228.13	300.69
	Quantity in ton	87579	77373	75387	87437	69569
Fr. Squid	Value in RsCrore	1010.57	1228.19	1378.08	1731.97	1275.25

	US\$	222.67	2/2 72	2560	201.6	200.04
	Million	223.67	262.72	256.9	284.6	209.84
	Quantity in ton	79059	53721	72953	67901	70544
	Value in RsCrore	954.94	562.65	819.9	998	1010.16
Dried items	US\$ Million	212.22	117.66	152.81	167.89	165.52
	Quantity in ton	5208	4199	4373	5080	5488
	Value in RsCrore	142.15	154.61	197.89	281.85	301.51
Live items	US\$ Million	31.46	32.46	36.82	46.7	49.62
	Quantity in ton	21118	21278	26868	19755	31404
	Value in RsCrore	257.54	357.42	537.11	527.84	635.93
Chilled items	US\$ Million	56.93	74.03	99.87	88.48	104.71
	Quantity in ton	97145	114538	112841	109212	124947
	Value in RsCrore	1089.67	1488.24	1565.78	1623.5	2138.94
Others	US\$ Million	242.72	314.16	292.86	272.34	351.31
	Quantity in ton	813091	862021	928215	983756	1051243
	Value in RsCrore	12901.47	16597.23	18856.26	30213.26	33441.61
Total	US\$ Million	2856.92	3508.45	3511.67	5007.7	5511.12
EDA						

Source:MPEDA

#### Item wise Export Performance

Regress	sion										
	Model Summary										
Model	R	R Square	Adjusted R S	Square Std.	Std. Error of the Estimate						
1	.550(a)	.302	.251		1.238						
	a Pred	ictors: (Constan	t), US\$ Million, Qu	antity in ton, Value in R	sCrore						
			ANOVA(b)	)							
	ModelSum of SquaresdfMean SquareFSig.										

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	Regression	27.206	3	9.069	5.921	.002(a)
1	Residual	62.794	41	1.532		
	Total	90.000	44			1
	a Pred	ictors: (Constant	), US\$ Million, Qu	antity in ton, Value inR	s Crore	1
		b D	Dependent Variable:	Year wise		
			Coefficients(	a)		
		Unstandardiz	ed Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
	(Constant)	3.005	.231		13.013	.000
	Quantity in ton	8.335E-07	.000	.163	.479	.635
1	Value in Rs Crore	8.336E-04	.000	4.721	3.833	.000
	US\$ Million	-4.773E-03	.001	-4.681	-3.368	.002
		a D	ependent Variable:	Year wise	1	1

# Table-VIII

		Port Wise Export of Marine Products from India				
Port		2010-11	2011-12	2012-13	2013-14	2014-15
	Quantity in ton	55961	46184	53596	55282	46671
	Value in RsCrore	1979.76	1847.88	2062.72	2709.97	2458.2
CHENNAI	US\$ Million	436.77	394.61	383.46	456.79	405.71
	Quantity in ton	121550	152445	162109	160798	162818
	Value in RsCrore	1892.14	2859.02	3265.64	4491.03	4989.86
KOCHI	US\$ Million	418.1	605.25	608.8	748.69	822.23
	Quantity in ton	155829	148891	145723	142073	149585
JNP	Value in RsCrore	1970.65	2151.66	2399.8	3531.36	3939.46

	US\$					
	Million	437.73	452.57	448.46	584.74	648.48
	Quantity in ton	38217	62215	78542	102146	115672
	Value in RsCrore	1300.28	2652.15	3344.97	6825.64	7578.27
VIZAG	US\$ Million	286.44	565.03	620.93	1131.25	1251.83
	Quantity in ton	56060	59151	63832	67148	84994
	Value in RsCrore	1313.67	1730.89	1811.21	3053.46	3686.35
KOLKATA	US\$ Million	290.5	370.14	335.91	503.23	609.05
	Quantity in ton	30220	34532	32989	39547	42203
	Value in RsCrore	880.41	1180.84	1269.03	2163.18	2328.27
TUTICORIN	US\$ Million	194.12	250.58	235.91	358.6	383.92
	Quantity in ton	1965	2973	3164	5338	2098
	Value in RsCrore	273.49	268.51	323.77	454.76	333.72
MUMBAI	US\$ Million	60.73	55.68	60.47	76.49	54.83
	Quantity in ton	104821	86367	95907	98230	115470
	Value in RsCrore	688.32	659.41	849.01	1114.63	1363.38
MANGALORE/ICD	US\$ Million	152.45	137.9	157.86	182.84	223.2
	Quantity in ton	35728	40432	41377	34288	44684
	Value in RsCrore	275.3	351.17	366.95	445.92	569.54
GOA	US\$ Million	61.04	73.66	68.33	72.13	93.38
	Quantity in ton	197478	219801	233738	248621	243640
	Value in RsCrore	2025.72	2710.34	2808.25	3605.77	3588.35
PIPAVAV	US\$ Million	452.22	564.3	525.57	595.61	588.47

	Quantity					
	in ton	2932	2867	3131	3180	2955
	Value in RsCrore	105.61	117.54	143.56	164.19	141.56
	US\$					
TRIVANDRUM	Million	23.33	24.56	26.72	27.41	23.3
	Quantity in ton	124	0	0	0	0
	Value in RsCrore	1.75	0	0	0	0
KANDLA	US\$ Million	0.4	0	0	0	0
	Quantity in ton	0	0	0	0	20
	Value in RsCrore	0	0	0	0	0.9
PORBANDAR	US\$ Million	0	0	0	0	0.15
	Quantity in ton	0	0	0	62	0
	Value in RsCrore	0	0	0	3.74	0
KAKINADA	US\$ Million	0	0	0	0.62	0
	Quantity in ton	0	0	0	0	413
	Value in RsCrore	0	0	0	0	8.98
PARADEEP	US\$ Million	0	0	0	0	1.47
	Quantity in ton	132	403	1159	1720	980
	Value in RsCrore	4.36	11.77	26.65	51.14	34.66
CALICUT	US\$ Million	0.97	2.48	4.95	8.68	5.74
	Quantity in ton	0	34	242	0	147
	Value in RsCrore	0	4.94	17.67	0	5.92
DELHI	US\$ Million	0	1.05	3.27	0	0.97
HALDIA	Quantity in ton	0	28	0	0	0

	Value in					
	RsCrore	0	0.33	0	0	0
	US\$ Million	0	0.07	0	0	0
	Quantity in ton	0	0	56	0	42
	Value in RsCrore	0	0	0.62	0	1.47
KARWAR	US\$ Million	0	0	0.11	0	0.24
	Quantity in ton	263	573	8274	3201	1026
	Value in RsCrore	3.79	11.15	119.96	49.68	14.28
MUNDRA	US\$ Million	0.84	2.28	22.32	8.4	2.35
	Quantity in ton	432	87	44	97	224
	Value in RsCrore	124.94	4.77	1.4	3.03	6.74
AHMEDABAD	US\$ Million	27.81	1.04	0.26	0.48	1.1
	Quantity in ton	0	105	0	97	54
	Value in RsCrore	0	0.24	0	0.17	0.24
AGARTALA	US\$ Million	0	0.05	0	0.03	0.04
	Quantity in ton	0	0	0	0	1
	Value in RsCrore	0	0	0	0	0.11
NSICT	US\$ Million	0	0	0	0	0.02
	Quantity in ton	51	19	17	153	56
	Value in RsCrore	0.14	0.04	0.04	0.32	0.16
KARIMGANJ	US\$ Million	0.03	0.01	0.01	0.05	0.03
	Quantity in ton	7600	1963	46	0	0
MID SEA	Value in RsCrore	52.23	21.68	0.63	0	0

	US\$					
	Million	11.44	4.56	0.11	0	0
	Quantity in ton	3714	2736	3109	1604	144
	Value in RsCrore	8.35	6.62	13.91	5.21	1.34
HILL LAND CUSTOMS	US\$ Million	1.85	1.36	2.56	0.88	0.22
	Quantity in ton	0	0	0	0	0
	Value in RsCrore	0	0	0	0	0
ОКНА	US\$ Million	0	0	0	0	0
	Quantity in ton	0	1	0	0	0
	Value in RsCrore	0	0.01	0	0	0
PORT BLAIR	US\$ Million	0	0	0	0	0
	Quantity in ton	2	85	386	173	719
	Value in RsCrore	0.03	3.24	11.48	5.49	0
HYDERABA D	US\$ Million	0.01	0.68	2.13	0.93	0
	Quantity in ton	0	101	0	0	0
	Value in RsCrore	0	1.77	0	0	0
VERA VA L	US\$ Million	0	0.34	0	0	0
	Quantity in ton	3	8	479	388	810
	Value in RsCrore	0.22	0.81	6.23	7.75	10.12
BANGALORE	US\$ Million	0.05	0.17	1.15	1.25	1.67
	Quantity in ton	10	22	1	14	32
	Value in RsCrore	0.31	0.44	0.03	1.13	3.31
TRICHY	US\$ Million	0.07	0.1	0.01	0.2	0.54

	Quantity					
	in ton	0	0	294	19594	30690
	Value in RsCrore	0	0	12.72	1525.62	2066.14
KRISHNAPATNAM	US\$ Million	0	0	2.36	248.37	341.51
	Quantity in ton	0	0	0	1	101
	Value in RsCrore	0	0	0	0.09	7.33
SURUT (INHZA)	US\$ Million	0	0	0	0.01	1.21
	Quantity in ton	813091	862021	928215	983756	1051243
	Value in RsCrore	12901.47	16597.23	18856.26	30213.26	33441.61
Total	US\$ Million	2856.92	3508.45	3511.67	5007.7	5511.12
	US\$ Million	0	0	0	0	4.56
	Quantity in ton	0	0	0	0	423
HAZIRA	Value in RsCrore	0	0	0	0	27.63
	Quantity in ton	0	0	0	0	4571
	Value in RsCrore	0	0	0	0	248.4
KATTUPALLI	US\$ Million	0	0	0	0	40.47
Source:MPEDA						
Port wise Export Perfe	ormance					
Regression						

# Port wise Export Performance

Regression

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.302(a)	.091	.076	1.363				
a Predictors: (Constant), US\$ Million, Quantity in ton, Value in RsCrore								

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ANOVA(b)									
	Model	Sum of Squares df Mean S		Mean Square	F	Sig.			
	Regression	33.669	3	11.223	6.040	.001(a)			
1	Residual	336.331	181	1.858					
	Total	370.000	184						
a Predictors: (Constant), US\$ Million, Quantity in ton, Value in RsCrore									
b Dependent Variable: Year wise									

Coefficients(a)									
		Unstandardized	d Coefficients	Standardized Coefficients	t	Sig.			
Model		В	Std. Error						
	(Constant)	2.997	.105		28.443	.000			
1	Quantity in ton	2.542E-07	.000	.028	.077	.939			
	Value in RsCrore	in RsCrore 9.691E-04		2.722	3.309	.001			
	US\$ Million	-5.374E-03	.002	-2.658	-2.478	.014			
	1	a Deper	ndent Variable:	Year wise	1	1			

#### Table-IX

ILENI WISE CAPUKI DEIAIL	5 OF	UKAD					
Q : Quantity in tons, V : Value `							
in Rs. Lakhs, \$: US\$ Million							
		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
LIVE CRAB	Q:	2,230	1,461	75	52	159	152
	V:	6,414.34	4105.63	201.82	352.37	1565.74	1326.83
	\$:	14.1	8.51	0.45	0.74	2.89	2.32
LIVE MUD CRAB	Q:	0	1,403	2,888	3,002	3,119	3,535
	V:	0	4,436.28	8,755.63	11,352.70	14,088.84	20,032.30
	\$:	0	9.62	19.42	23.76	26.24	33.11

ITEM WISE EXPORT DETAILS OF CRAB

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Inter Correlations matrix

Correlations									
		Materials	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	
	r	1	-0.191	-0.327	-0.188	-0.15	-0.132	-0.104	
Materials	Sig.	•	0.717	0.526	0.721	0.776	0.803	0.845	
	r	-0.191	1	0.52	-0.347	-0.324	-0.238	-0.268	
2008-09	Sig.	0.717	•	0.29	0.5	0.531	0.649	0.608	
	r	-0.327	0.52	1	0.62	0.638	0.701	0.675	
2009-10	Sig.	0.526	0.29		0.189	0.173	0.12	0.141	
	r	-0.188	-0.347	0.62	1	.998(**)	.988(**)	.985(**)	
2010-11	Sig.	0.721	0.5	0.189		0	0	0	
	r	-0.15	-0.324	0.638	.998(**)	1	.995(**)	.995(**)	
2011-12	Sig.	0.776	0.531	0.173	0		0	0	
	r	-0.132	-0.238	0.701	.988(**)	.995(**)	1	.998(**)	
2012-13	Sig.	0.803	0.649	0.12	0	0		0	
	r	-0.104	-0.268	0.675	.985(**)	.995(**)	.998(**)	1	
2013-14	Sig.	0.845	0.608	0.141	0	0	0		
<b>**</b> Correlation is significant at the 0.01 level									

Statistical test: Karl Pearson's Coefficient of Correlation

# 4. FINDINGS

- ◆ Indian Seafood Exports reached high value of US\$ 5.02 Billion.
- India at present is the second largest fish producing countries in the world.
- There is a significant difference between No .of years (2010 to 2015) and their item wise Exports in terms of Quantity in ton, Value in Rs and US\$ Million (Rates).
- Exports of Marine Products in 2013-2014 showed a 5.98% increased growth in Quantity,60.23% in terms of Rupee Value,42.6% in terms of US \$ million and 34.55% growth in terms of unit value when Compared to 2012-2013.
- Pipav port has exported more quantity of marine products to other Countries from India.JNP and Kochi also contributed more on the export of marine products.
- Frozen Shrimp from India is exported more than the other fish items.
- Export of marine Products from India is more to South East Asia than all the other Markets.
- Contribution of Vannamei Shrimp is more to the export basket than all the other Shrimp items.
- Vannamei Shrimp Production through Aquaculture is more than other Shrimp items.
- Small crabs are not exported but are used for domestic consumption or sold to farmers.
- There is a significant relationship between item wise exports of crab & live crab and their durations of study (2011-12 to 2012 to 13).
- There is negative Correlation between the year wise exports of crab & live crab items.

### 5. SUGGESTIONS

- Due to environmental restrictions, Fish Capturing production cannot be improved. So India should concentrate more on Aquaculture.
- Government should frame proper strategies for withstanding various problems like global economic recession and drastic decline in the price realization of various shrimp products in the International Market.
- The HACCP system should further be strengthened in all the existing Seafood Processing plants in India with a strong Audit Programme.
- > Unproductive agricultural land should be used for aquaculture fish Production.
- Improving the image of Indian Fish Products in the World market through frequent participation in International trade Fairs helps to boost marine exports.

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- More Mud Crab Hatcheries need to be established to meet the demand of India's mud Crab Farming Industry and for meeting the global demand.
- Continuous refinement is required to improve the economic viability of producing Crab lets and adult mud crabs.
- > Harvesting techniques to be Improved and certification of hatcheries need to be done.

### 6. CONCLUSION

India has good prospects of becoming a dominant supplier of seafood in the international market. The opening up of the economy and liberalized Industrial policy of India helped to gain a lot in the field. The aquaculture industry is rapidly developing. The vast untapped resources can be utilized successfully to uplift India's marine products export trade in the international Market.

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