



ANALYSIS OF EXPORT PERFORMANCE OF MARINE PRODUCTS FROM INDIA.

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Abstract

Export trade in all forms is encouraged by the world countries as the foreign exchange earnings from the exports would help them for meeting their development projects within the countries. India has got many potential areas of exports. Marine products export is one of the rich sources for India's export. India with a long coast line of 8129 Kms, two million sq. kms of Exclusive Economic Zone and 1.2 million hectares of brackish water bodies, offers vast potential for development of fisheries. Against an estimated fishery potential of 3.9 million tons from marine sector, only 2.6 million tons are tapped. Fishing efforts are largely confined to the inshore waters through artisanal, traditional, mechanized sectors. Export of Marine products of India has a long history. A study is worth conducting about the Export Performance of Marine products from India. Hence, the author in this article attempted to analyse the Export Performance of Marine products from India from the year 2001-02 to 2013-14.

Key words: Marine Products, Sea Food, Aquaculture, Fisheries sector, Value added sea products and MPEDA .

1. Introduction

Export plays a very significant role in the development and growth of any country. For many countries, export earnings constitute one of the most important sources of meeting foreign exchange requirements for development projects. India is a developing country requiring import of equipments, machineries, technical know-how to support growth and modernization of several of its developmental activities. To fulfill this, the country has two options; one is to allow free flow of foreign capital both foreign direct investment and credit from International Monetary Institutions, and the other option is to increase its exports to earn foreign exchange that is sufficient to pay the import bills. India has availed both the sources with greater role for the former in the 1950's and 1960's. Only from early years of 1970's, export received adequate attention. A drastic change in the policy was made in 1991 with a focus on liberalization and globalization of the economy, the later assigning high priority for export as an engine for growth. A liberal outward looking policy aims at export -led-growth and a rapid growth is expected to have a strong trickledown effect to remove poverty and unemployment in the economy, the policies of globalization, especially the emergence of GATT and WTO, have opened up new opportunities for increased export of traditional goods, with high value additions. It can be taken as both a challenge and an opportunity. It is a challenge, because the quality of the products must meet the international standard (ISO) to stand the stiff competition of the world trade; and an opportunity, because it opens up the new scope for more efficient use of natural resources land and sea to the benefit of a vast section of Indian population that is dependent on these resources and is poor and underemployed. Sector of such prospective export oriented production is fisheries.

2. Statement of the Problem

The marine products export business is a wonderful money winner and India has a good potential of marine resources. The government provides boundless support to promote the export of marine products. There is a heavy demand for seafood items in overseas markets. There is a need to review what is feasible and what is not feasible for analyzing the future of marine product sector in the country. Here a study is worth conducting to analyze the Export performance of marine products from India Hence, the author took up the study entitled "**Analysis of Export Performance of Marine Products From India**".

3. Objectives of the Study

The Study was carried out with the following objectives.

1. To analyze the Export performance of Marine Products of India from the year 2001-02 to 2013-14 [Export performance details of the years 2014-15 and 2015-16 are yet to be published].
2. To assess the Annual Growth and estimate the trend of Export of marine products.

4. Need for the Study

India is endowed with vast and varied resources for aquaculture and capture fisheries. But so far India has not taken advantage of the expanding world trade. Exports from India will depend upon world's demand and supply conditions. The need for the study is to analyse and estimate the export performance of the marine products from India. Therefore an attempt has been made by the author to study the Export Performance of Marine Products considering the above important aspects.



5. Methodology

This study is Analytical and Descriptive in nature and therefore the study was pursued with secondary data drawn from various published sources. Data relating to export from the year 2001-02 to 2013-14 are compiled from the information given in the fisheries statistics book of MPEDA [Marine Products Export Development Authority] and Marine products export Review, published by MPEDA Cochin.

6. Data Analysis

6.1. Year-To-Year Analysis of Export Performance of Marine Products from India

The export performance of marine products from India from the year 2001-02 to 2013-14 are analysed on year to year basis and they are presented from table 6.1 to 6.13.

Table – 6.1, Export Performance of Marine Products From India in 2001-2002 Compared to the Year 2000-2001

Export Details	2001-2002	2000-2001	Growth %
Quantity in Tons	4,24,470	4,40,473	-3.63 %
Value ₹ Crore	5,957.05	6,443.89	-7.56 %
US \$ Million	1,253.35	1,416.32	-11.51 %

Source: Annual Report of MPEDA for the year 2001-2002.

Interpretation

Export of Marine Products from India during 2001-2002 declined considerably when compared to the year 2000-2001 on account of global economic recession and drastic decline in price realization for the prime product black tiger shrimp in the international market. 4,24,470 MT valued at ₹ 5,957.05 Crore equivalent to US \$ 1,253.35 million registering a decline of 3.63% in quantity and 7.56% in ₹ realization and 11.51% in US \$ realization compared to the previous year 2000-2001.

Table – 6.2, Export Performance of Marine Products from India in 2002-2003 Compared To the Year 2001-2002.

Export Details	2002-2003	2001-2002	Growth %
Quantity in Tons	4,67,297	4,24,470	10.09 %
Value ₹ Crore	6,881.31	5,957.05	15.52 %
US \$ Million	1,424.90	1,253.35	13.69 %

Source: Annual Report of MPEDA for the year 2002-2003.

Interpretation

Export of Marine Products from India during 2002-2003 recorded 4,67,297 Tons, valued at ₹ 6,881.31, equivalent to US \$ 1,424.90 million. Compared to the exports during 2001 – 2002 this had increased to 10.09% in quantity, 15.52% in ₹ realization and 13.69% in US \$ terms.

Table – 6.3, Export Performance of Marine Products from India in 2003-2004 Compared to the Year 2002-2003.

Export Details	2003-2004	2002-2003	Growth %
Quantity in Tons	4,12,017	4,67,297	-11.83 %
Value ₹ Crore	6,091.95	6,881.31	-11.47 %
US \$ Million	1,330.76	1,424.90	-6.61 %

Source: Annual Report of MPEDA for the year 2003-2004.

Interpretation

Export of Marine Products from India during 2003-2004 recorded 4,12,017 Tons, valued at ₹ 6,091.95, equivalent to US \$ 1,330.76 million. Compared to the exports during 2002-2003 this showed a decreased growth of -11.83% in quantity, -11.47% in ₹ realization and -6.61% in US \$ terms due to drastic decline in price realization of the marine products.

Table – 6.4, Export Performance of Marine Products from India in 2004-2005 Compared to the Year 2003-2004.

Export Details	2004-2005	2003-2004	Growth %
Quantity in Tons	4,61,329	4,12,017	11.97 %
Value ₹ Crore	6,646.69	6,091.95	9.11 %
US \$ Million	1,478.48	1,330.76	11.10 %

Source: Annual Report of MPEDA for the year 2004-2005.



Interpretation

Export of Marine Products from India during 2004-2005 recorded 4,61,329 Tons, valued at ₹ 6,646.69, equivalent to US \$ 1,478.48 million. Compared to the exports during 2003 – 2004 this showed an increased growth of 11.97% in quantity, 9.11% in ₹ realization and 11.10% in US \$ terms.

Table – 6.5, Export Performance of Marine Products from India in 2005-2006 Compared to the Year 2004-2005.

Export Details	2005-2006	2004-2005	Growth %
Quantity in Tons	5,12,164	4,61,329	11.02 %
Value ₹ Crore	7,245.30	6,646.69	9.01 %
US \$ Million	1,644.21	1,478.48	11.21 %

Source: Annual Report of MPEDA for the year 2005-2006.

Interpretation

Export of Marine Products from India during 2005-2006 recorded 5,12,164 Tons, valued at ₹ 7,245.30, equivalent to US \$ 1,644.21 million. Compared to the exports during 2004 – 2005 this showed an increased growth of 11.02% in quantity, 9.01% in ₹ realization and 11.21% in US \$ terms.

Table – 6.6, Export Performance of Marine Products from Indian 2006-2007 Compared to the Year 2005-2006.

Export Details	2006-2007	2005-2006	Growth %
Quantity in Tons	6,12,641	5,12,164	19.62 %
Value ₹ Crore	8,363.53	7,245.30	15.43 %
US \$ Million	1,852.93	1,644.21	12.69 %

Source: Annual Report of MPEDA for the year 2006-2007.

Interpretation

Export of Marine Products from India during 2006-2007 was 6,12,641 Tons valued at ₹ 8,363.53 Crore, equivalent to US \$ 1,852.93 million. Compared to the exports during 2005 – 2006 was high by 19.62% in quantity, 15.43% in ₹ terms and 12.69% in US \$ terms.

Table – 6.7, Export Performance of Marine Products from India in 2007-2008 Compared to the Year 2006-2007.

Export Details	2007-2008	2006-2007	Growth %
Quantity in Tons	5,41,701	6,12,641	-11.58 %
Value ₹ Crore	7,620.92	8,363.53	-8.88 %
US \$ Million	1,899.09	1,852.93	2.49 %

Source: Annual Report of MPEDA for the year 2007-2008.

Interpretation

Export of Marine Products from India during 2007-2008 recorded 5,41,701 Tons, valued at ₹ 7,620.92, equivalent to US \$ 1,899.09 million. Compared to the exports during 2006 – 2007 this showed a declined growth of -11.58% in quantity and -8.9% in ₹ value but a marginal rise of 2.5% in US \$ earnings. This was the fourth year in succession to achieve a record export earning in dollar terms.

Table – 6.8, Export Performance of Marine Products from India in 2008-2009 Compared to the Year 2007-2008.

Export Details	2008-2009	2007-2008	Growth %
Quantity in Tons	6,02,835	5,41,701	11.29 %
Value ₹ Crore	8,607.94	7,620.92	12.95 %
US \$ Million	1,908.63	1,899.09	0.50 %

Source: Annual Report of MPEDA for the year 2008-2009.

Interpretation

Export of Marine Products from India during 2008-2009 aggregated to 6,02,835 Tons, valued at ₹ 8,607.94 Crore or US \$ 1,908.63 million. Compared to the previous year 2007-2008, the exports achieved during 2008 – 2009 recorded an increased growth of 11.29% in quantity, 12.95% in ₹ earning and 0.5% in US \$ earnings.



Table – 6.9, Export Performance of Marine Products from India in 2009-2010 Compared to the Year 2008-2009.

Export Details	2009-2010	2008-2009	Growth %
Quantity in Tons	6,78,436	6,02,835	12.54 %
Value ₹ Crore	10,048.53	8,607.94	16.74 %
US \$ Million	2,132.84	1,908.63	11.75 %

Source: Annual Report of MPEDA for the year 2009-2010.

Interpretation

During 2009-10, the export earnings have crossed 2 billion US \$ and ₹ 10,000 Crore. Exports aggregated to 6,78,436 Tons valued at ₹ 10,048.53 Crore and US \$ 2,132.84 million. Compared to the previous year 2008-2009, this recorded an increased growth of 12.54% in quantity, 16.74% in ₹ earning and 11.75% growth in US \$ earnings.

Table – 6.10, Export Performance of Marine Products from India in 2010-2011 Compared to the Year 2009-2010.

Export Details	2010-2011	2009-2010	Growth %
Quantity in Tons	8,13,091	6,78,436	19.85
Value ₹ Crore	12,901.47	10,048.53	28.39
US \$ Million	2,856.92	2,132.84	33.95

Source: Annual Report of MPEDA for the year 2010 – 2011.

Interpretation

Export of Marine Products from India during 2010-11 have achieved the US \$ 2.86 billion mark by registering a growth of 19.85% in quantity, 28.39% in ₹ value and 33.95% in US \$ realization compared to the last year 2009-2010. This is the first time in the history of Marine products industry that the export figures are crossing the US \$ 2.5 billion mark.

Table – 6.11, Export performance of marine products from India in 2011-2012 compared to the year 2010-2011.

Export Details	2011-2012	2010-2011	Growth %
Quantity in Tons	8,62,021	8,13,091	6.02
Value ₹ Crore	16,597.23	12,901.47	28.65
US \$ Million	3,508.45	2,856.92	22.81

Source: Annual Report of MPEDA for the year 2011 – 2012.

Interpretation

During 2011-12, the export earnings have crossed 3.5 billion US \$ and ₹ 15,000 Crore. Exports aggregated to 8,62,021 Tons valued at ₹ 16,597.23 Crore and US \$ 3,508.45 million. Compared to the previous year 2010-2011, this recorded an increased growth of 6.02% in quantity, 28.65% in ₹ earning and 22.81% growth in US \$ earnings.

Table – 6.12, Export performance of marine products from India in 2012-2013 compared to the year 2011-2012.

Export Details	2012-2013	2011-2012	Growth %
Quantity in Tons	9,28,215	8,62,021	7.68
Value ₹ Crore	18,856.26	16,597.23	13.61
US \$ Million	3,511.67	3,508.45	0.10

Source: Annual Report of MPEDA for the year 2012 – 2013.

Interpretation

Export of Marine Products from India during 2012-2013 recorded 9,28,215 Tons, valued at ₹ 18,856.26, equivalent to US \$ 3511.67 million. Compared to the exports during 2011 – 2012 this showed a growth of 7.68% in quantity and 13.61% in ₹ value and a marginal rise of 0.10% in US \$ earnings.

Table – 6.13, Export performance of marine products from india in 2013-2014 compared to the year 2012-2013.

Export Details	2013-2014	2012-2013	Growth %
Quantity in Tons	9,83,756	9,28,215	5.98
Value ₹ Crore	30,213.26	18,856.26	60.23
US \$ Million	5,007.70	3,511.67	42.60

Source: <http://www.mpeda.com/stat1314.pdf>. Press Release.



Interpretation

During the financial 2013-14, exports of marine products reached an all time high of US\$ 5007.70 million. Marine product exports, crossed all previous records in Quantity, Rupee value and US \$ terms. Exports aggregated to 9,83,756 MT valued at Rs. 30,213.26 crores and US \$ 5007.70 million. Compared to the previous year, seafood exports recorded a growth of 5.98% in Quantity, 60.23% in rupee and 42.60% in US \$ million. The increased production of L.Vannamei shrimp has helped to achieve higher exports.

Table 6.14. Growth in Export of Indian Marine Products (2001-02 to 2013-14)

Year	Quantity in Tons	Value in Rs. Crore	Value in US \$ Million	Growth rate %		
				Quantity	Value in	Value
2001-02	4,24,470	5,957.	1,253.35	-3.63	-7.56	-11.51
2002-03	4,67,297	6,881.	1,424.90	10.09	15.52	13.69
2003-04	4,12,017	6,091.	1,330.76	-11.83	-11.47	-6.61
2004-05	4,61,329	6,646.	1,478.48	11.97	9.11	11.10
2005-06	5,12,164	7,245.	1,644.21	11.02	9.01	11.21
2006-07	6,12,641	8,363.	1,852.93	19.62	15.43	12.69
2007-08	5,41,701	7,620.	1,899.09	-11.58	-8.88	2.49
2008-09	6,02,835	8,607.	1,908.63	11.29	12.95	00.50
2009-10	6,78,436	10,048.5	2,132.84	12.54	16.74	11.75
2010-11	8,13,091	12,901.4	2,856.92	19.85	28.39	33.95
2011-12	8,62,021	16,597.2	3,508.45	6.02	28.65	22.81
2012-13	9,28,215	18,856.26	3,511.67	7.68	13.61	0.10
2013-14	9,83,756	30,213.2	5,007.70	5.98	60.23	42.60

Source: MPEDA

It is clear from the table 6.14 that, during the last five years the export of marine products has been tremendously growing. In the financial year 2008- 09 the export of marine products was 6,02,835 (quantity in tons) and its corresponding value in Indian rupee was 8,607.94 crores. It was increased year by year and reached 9,83,756 (quantity in tonnes) worth Rs. 30,213.26 crores in the year 2013-14.

Chart – 6.14 A – Analysis of Growth rate % of Quantity from 2001-02 to 2013-14

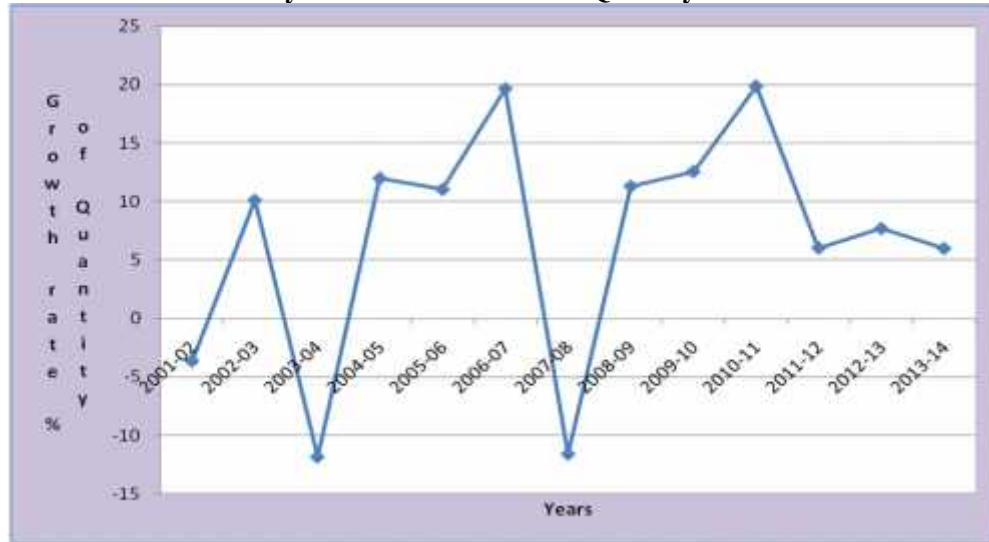


Chart-6.14 B – Analysis of Growth rate % of Value in Rupees Crore from 2001-02 to 2013-14

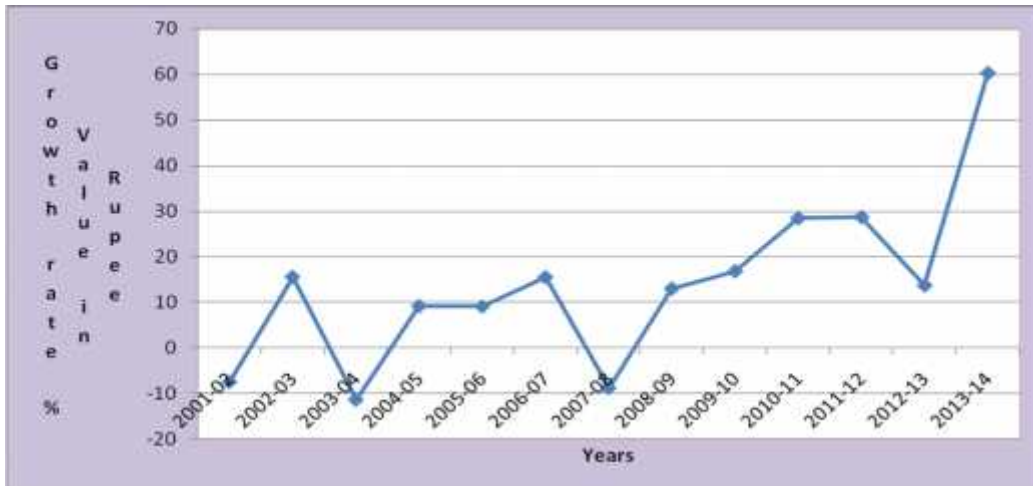
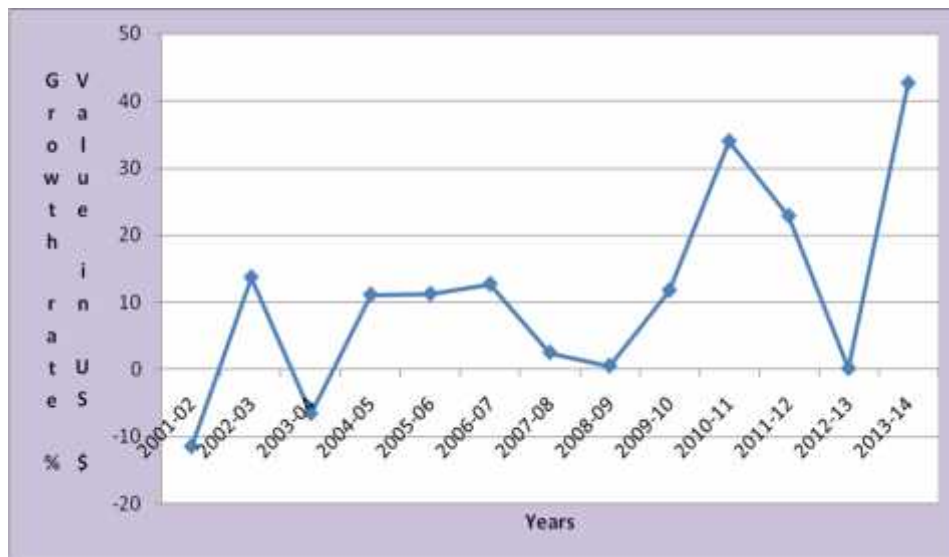


Chart-6.14 C – Analysis of Growth rate % of Value in US Dollar from 2001-02 to 2013-14



Major Items of Export

The major items of marine products including frozen shrimp, frozen cuttle fish, frozen squid, and live items shows a tremendous growth in the marine export market.

6.15. Compound Annual Growth Rate Method

The year-over-year growth rate of export over a specified period of time is known as compound annual growth rate. Hence, in this study the author has employed the statistical tool called Compound Annual Growth Rate for making analysis on the

Hypothesis

H₀: - The compound growth curve model is not significant for the export of Indian marine products.

Result

Dependent Variable	Method	R ²	df	F	P Value	bo	b1	ACGR
Export Quantity	COM	0.936	11	161.37	.000*	1.8E-60	1.0780	7.80%

* Significant at 5% level.

Expansion of Abbreviations

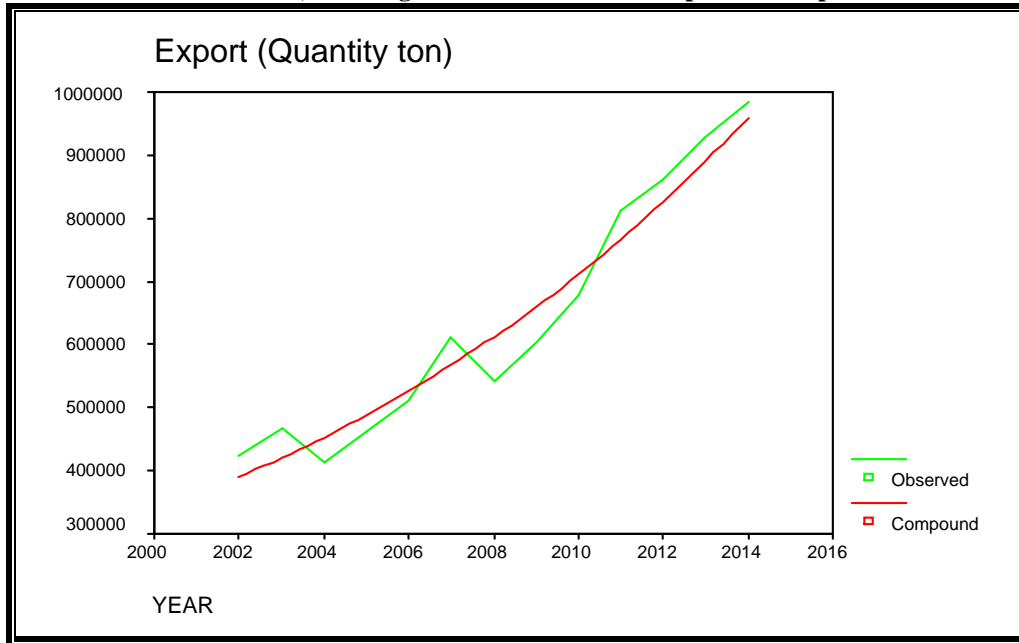
COM - Compounded Growth Curve, R² - Coefficient of Determination,
 df - Degree of Freedom, F - Variation Ratio, P value - Probability Value,
 bo - Constant, b1- Slope, and ACGR- Annual Compound Growth Rate.



Interpretation

'P' value (0.000) is less than the table value at 0.05, at 5% level of significance and hence, the null hypothesis is rejected. Therefore, the growth curve model is significant. Also, from the $R^2 = 0.936 (>0.7)$, the model is highly fit. Average Annual Compound Growth rate is calculated from the model coefficient by $(b_1-1) \times 100 = (1.0780-1) \times 100 = 7.80\%$.

6.15. Chart ,Annual growth of Indian marine products export.



6.16. Trend Analysis

Trend Analysis is a mathematical technique that uses historical results to predict the future outcome. It is a technique for extracting an underlying pattern of behaviour in a time series. The author has projected the trend of the performance with the help of this tool and the result is presented below.

Result

Trend Analysis for export

Fitted Trend Equation:

$$Y = 48562x - 1E+08$$

TABLE 6.16 - FORECAST OF PERFORMANCE

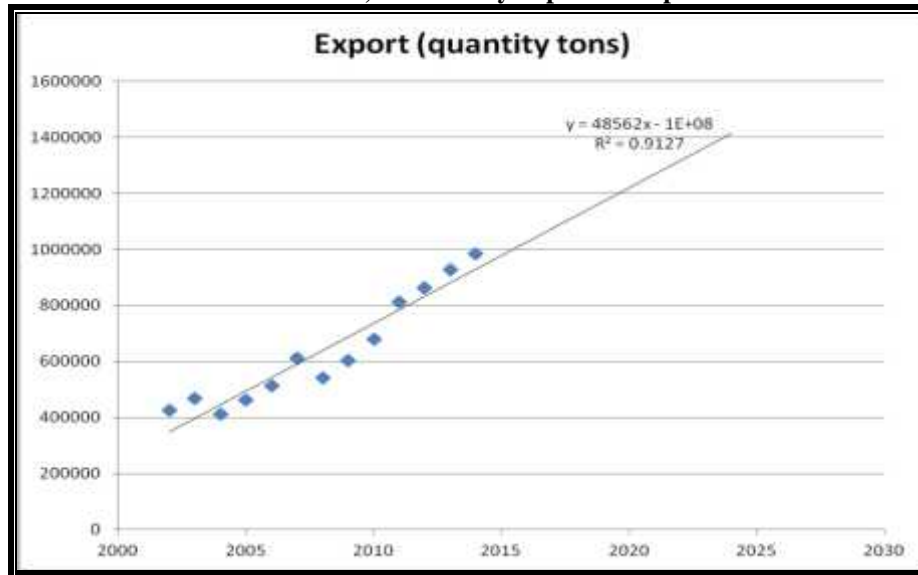
Period	Quantity
2014-2015	9,78,396
2015-2016	10,26,958
2016-2017	10,75,521
2017-2018	11,24,083
2018-2019	11,72,645
2019-2020	12,21,208
2020-2021	12,69,770

Interpretation

From the above model, it is observed that there is an upward trend in the export quantity. According to the result of the trend analysis, it is projected that the export of the Marine Products for the year 2014-15 will be 9,78,396 Tons in Quantity and it is expected to reach 12,69,770 Tons Quantity during the financial year 2020-2021.



6.16. Chart ,Trend analysis plot for export



7. SUMMARY OF FINDINGS

The summary of major findings of the research is presented below.

- ❖ The Marine Products' Exports from India continued to be one of the fastest growing among the India's exports and it has been identified as the thrust area realizing substantial increase in exports earnings of India.
- ❖ Average Annual Compound Growth rate is 7.80%. The growth curve model is significant.
- ❖ There is an upward trend in the Export Quantity. According to the trend analysis it is projected that the export of the Marine Products in the year 2014-15 will be 9,78,396 Tons in quantity, it is also estimated that the export of marine products from India for the following years will be as follows, 2015-16=10,26,958 Tons, 2016-17=10,75,521 Tons, 2017-18=11,24,083 Tons, 2018-19=11,72,645 Tons, 2019-20=12,21,208 Tons and 2020-21=12,69,770 Tons.

8. Conclusion

Export of marine products from India has increased rapidly over the years. India's marine sector products have assumed a place of pride in the national economy through exports and conservation of foreign exchange. The increasing health consciousness in the modern world has led to view fish and fishery products as one of the best food products. The shift of consumers' preferences from traditional seafood items to value added products opened up greater opportunity for exporting countries to attain better value realization. Over the past few decades, the seafood sector has undergone massive changes. As a result of considerable amount of interest in its nutritional benefits, Seafood today is perceived as a health food. Technological developments have further contributed to the modernization and growth with state of the art processing and packaging facilities and efficient storage and distribution systems. Fishing is the source of living and fisheries sector assumes special significance. The trend analysis also projects a steady increase in the export performance of marine products from India. Hence Export of Marine Products holds good prospects for India.

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