

**EXPORT PERFORMANCE OF INDIAN SEAFOOD
INDUSTRY- A STUDY ON MPEDA COCHIN**

by

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2017



DECLARATION

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I, hereby declare that this project report entitled “EXPORT PERFORMANCE OF INDIAN SEA FOOD INDUSTRY – A STUDY OF MPEDA COCHIN” is a bonafide record of research work done by me during the course of project work and that it has not previously formed the basis for the award for me for any degree/diploma, associateship, fellowship or other similar title of any other University or society.

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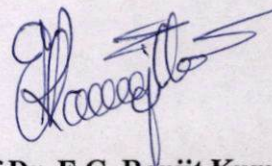
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CERTIFICATE

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Certified that this project report entitled “EXPORT PERFORMANCE OF INDIAN SEA FOOD INDUSTRY – A STUDY OF MPEDA COCHIN” is a record of project work done independently by Ms. Deepthi Babu under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship or other similar title to them.



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DESIGN OF THE STUDY

Chapter 1

Design of The Study

1.1 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 source of meeting foreign exchange requirements for development projects. India is a developing country requiring import of equipment's, machineries, technical know-how to Support growth and modernization of several of its developmental activities. To fulfil 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, 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 latter 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 traditional goods from agriculture and handicrafts have dominated exports from India. Only recently, non-traditional goods such as engineering products, machine tools, processed food and computer software find significant shares in total exports by India. At the same time, 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.

1.2 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. A nodal agency has been set under the ministry of commerce, Government of India and acts as a coordinating force with different central and state Government establishes engaged in fishery production and allied activities. There is a heavy demand for seafood items in overseas markets but we have been unable to make any significant breakthrough in the export on account of factors like structural weakness of the industry in post-harvest and export tie up with the importers from major markets. At present, the world food standards are getting more and more stringent. But in India there is no organized production of various items for export with proper capital investment. A small investment from government on overseas market cannot create an impact. Despite all efforts taken by MPEDA, the overseas market promotion is not effective. Even though India, remains a major supplier of seafood to the foreign countries, the basic infrastructure and modern processing techniques for a variety of value added products; quality assurance, image building and customer satisfaction are not up to the market to make a breakthrough. There is a need to review what is feasible and what is not feasible among the various activities listed in the present context and future of marine product sector in the country. The conditions prevailing in the marine product export industry have been muddled with many hurdles. Here a study is worth conducting to analyse the Export performance of marine products from India and gather the depth and effects of problems pertaining to the industry and to make suggestions to solve them.

1.3 Objectives

- 1 To study the export performance of Indian seafood industry with reference to selected marine products.
- 2 To study the product wise, market wise and port wise export of selected Indian seafood.

1.4 Methodology

This study is based on secondary data drawn from various published sources. Data relating to fish production and export from the year 2006 to 2016 are compiled from the information given in the fisheries statistics book of MPEDA and Marine products export

Review, published by MPEDA Cochin. Data relating to classification of Indian Exports are compiled from Reserve Bank of India bulletin. The various other secondary sources used in the study are seafood export journal, MPEDA newsletter, fishing chimes, Hand book of fisheries statistics published by Ministry of Agriculture, Government of India prepared by fisheries division.

In this study we mainly focused consider 8 marine products. They are as follows

- A. Frozen shrimp
- B. Frozen fin fish
- C. Frozen Cuttle fish
- D. Frozen squid
- E. Dried items
- F. Live items
- G. Chilled items
- H. Other items

Sources of data include

I. Internal Records

Besides the published ones, some important data have been obtained from the records of the organizations namely MPEDA and other agencies such as Seafood Exporters association of India (SEAI), Network for Fish Quality Management and sustainable Fishing (NETFISH), The Central Marine Fisheries Research Institute Central Institute of Fisheries Technology (CIFT).

II. Experts' opinion

Other Valuable information has also been obtained through discussions with officials and knowledgeable persons from MPEDA and the office hearers of Central Marine Fisheries Research Institute (CMFRI).

Period of study : The period of the study is ten years from 2006 – 2016.

Statistical tools for analysis

The data were analysed using simple statistical tools like Percentage Analysis and Trend analysis.

Trend analysis is calculated using the formula

COMPUTING THE SLOPE AND INTERCEPT FOR LINEAR TREND

$$b_1 = \frac{\sum_{t=1}^n (t - t')(y - y')}{\sum_{t=1}^n (t - t')^2}$$

$$b_0 = y' - b_1 t'$$

Where

Y_t = value of the time series in period t

n = number of time periods (number of observations)

y' = average value of the time series

t' = average value of t

LINEAR TREND EQUATION

$$T_t = b_0 + b_1 t$$

Where

T_t = Linear trend forecast in period t

b_0 = intercept of the linear trend line

b_1 = slope of the linear trend line

t = time period

1.5 Scope of the study

The organization can understand the export trend and by analysing the product wise export details they would identify the area to be prioritize.

1.6 Limitation

The opinion of the exporters could not be collected due to the time constraint

Chapterisation

Chapter 1: Design of the study

Chapter 2: Review of Literature

Chapter 3: Indian Seafood export & value addition – An overview

Chapter 4: MPEDA – Profile

Chapter 5: Export performance of Indian seafood industry - An analysis

Chapter 6: Summary of Findings, conclusion and suggestions

REVIEW OF LITERATURE

Chapter 2

Review of literature

Rapid industrial development contributes to the process of accelerated economic growth. It is production of industrial goods that shapes and sustains the momentum of growth in a developing country. While industrialization on the whole plays an important role in the development of under developed countries, industries have their unique place in respect of economic development. The rapid growth of modern industries during the last decade is indeed a success story of industrial India. One among the modern industries is the marine products industry, which is one of the oldest yet the fast growing industry in India. The global market for marine products occupies a prominent position. An attempt has been made in this chapter to bring out relevant past studies in order to provide a good background for understanding the present study.

A close review of the previous studies reveals that this can be classified into

- A. seafood industries
- B. internal and external trade of marine products.
- C. Production
- D. Marketing
- E. Price
- F. problems and prospectus of marine production

Seafood Industry

Samuel (1973) reviewed the progress of Indian fisheries after independence. According to him the total annual fish catch in India was more than doubled (during the 25 years) that of the fifties and the most abundant catch of prawns were from the south west cost of India and the cost of Maharashtra. Frozen and canned prawns dominated the export trade in seafood and the total installed capacity of the factories was far higher than the actual production. He suggested that fishery efforts in areas beyond the limit of the present fishing operation might result in higher catches and in has higher export earnings. According to him, the potentiality of shrimp farming was not yet fully realized in India.

Bhattacharjee² (1973) found out that in the initial years of export, the seafood industry did not have any minimum standards fixed for it. Due to after-sales hazards only the necessity for third party inspection of quantity was felt. Experience with the operation of the compulsory quality control and pre-shipment inspection had only helped the industry to raise the quality as well as quality consciousness. He was of the view that the realization of the government that even a genuine mistake in processing can cause irreparable damage to the export trade of seafood items. This paved way for the introduction of compulsory quality control in India. But the existing, under organized situation in the industry, highly perishable nature of commodity and sensitiveness of processing techniques will make the quality control measures very complex.

Vergheese (1985) made a study on aquaculture in India, in which the potential for aquaculture and the problems for aquaculture were analysed. He stated that the industry was suffering from inadequate infrastructures, administrative outlooks and bottlenecks, absence of technology transfer, large capital outlays and irregular seed supplies.

J. Short (1987) suggested that under the present supply constraint and spiralling per capital consumption of sea food the challenge for seafood processing would be more. Based on US experience, the author cited market segmentation and targeting as means to maximize returns from limited resources. The processors must be more selective with respect to the utilization of resources by searching profitable products and customers.

Josupeit (1988) outlined the differing performances of five main seafood commodities—shrimp, tuna, ground fish, cephalopods and canned small pelagics in 1987 as well as their outlook for 1988. The cultured shrimp led the way in expanding shrimp marketing in 1987 and as a result of this the shrimp market was characterized by a persistent over-supply situation in the following years. To capitalize this situation producers and traders should promote shrimp in the countries in Europe where consumption is still far below average.

Prasad (1991) identified that infrastructure facilities at the processing plants were inadequate and many of such plants were not operating to its full capacity. Because of the

seasonal nature of the raw material availability, the procurement costs were becoming very high and ultimately the export prices were not matching the production costs. These post-harvest technology of fish need to be improved and upgraded fish canning and products in consumer packs must suit not only the requirements of Japanese market but also the European market.

Singhal (1991) was of the view that India provides tremendous potential for the growth of the seafood industry but the market base for the Indian marine products had been made heavily dependent on Japan and USA despite the fluctuating demand found over there. In spite of the heavy demand for IQF shrimp products in the international markets, our products could not compete because of market resistance manifested through the established marketing channels from developed nations, tariff and non-tariff barriers created by government in importing countries, inherent structural weaknesses of the Indian industry and lack of aggressive promotional efforts. Moreover, the labour intensive operations and manual processing and handling of products were perceived to be unhygienic.

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.

Subasingh (1993) was of the opinion that prepacked products offered convenience to end consumer apart from offering wide range of products in value added forms. Recent legal developments on labeling, so as to help the consumers in choosing a healthy and economic diet, environmental legislation on packaging, eco-labelling practices by few countries also added to the significance of packaging of fish. Hence, it was important for the exporters to be fully aware of the total environmental impact of various operations required to produce the product and its packaging and to strive to reduce this impact to a minimum.

Sakthivel (1993) reported that though Western Europe as a whole emerged as the second largest importer of marine products, export to individual countries did not adhere to a steady pattern as each country had its own characteristic demand for fish and fishery

products. He also identified that there was a ready market for a wide range of value added shrimp based products in Europe.

Ramachandran (1994) explained that the profitability of the market greatly depended on controlling the production cost since the Indian seafood trade was functioning in a buyers' market. The prices were decided for the product considering the international market supply and demand. He also pointed out that improving the quality and reducing the wastage of material would control the production cost. Moreover, a two stage scoring system was suggested by him; one to assess which raw material had to be processed first and the next to find out its total score.

Vivekandan (1994) Indian seafood industry was in the threshold of a major revolution. Conventional methods were fast changing and the industry was topping the list of sunrise industries in India. Major seafood buyers in the international market preferred Indian products as the marine products industry in Taiwan, Indonesia and China were with various problems

Varghese¹⁹ (1995) cautioned that apart from the shrinkage in marine catch the cost of catching and logistics of handling wild fish were rising at a rate beyond the financial viability level. In such a situation, the production through farming was imperative to augment export production. However, the technology for hatchery production of seed and grow out production management were yet to be developed in the country for commercial production.

Taliat (1995) made a study on the trends of seafood market at global level and found out that due to short supplies of fish catches, the major producers and exporters of seafood were forced to import raw material to keep their factories running. He also observed that convenient products in value added forms were having more demand and with the fast increasing communication system by way of fax, telex, Internet and credit rating systems the trade would be pushed up.

Alagaraja (1995) found that domestic markets consumed about 90 percent of the total fish catches. When data on country-wise, quantity-wise, species-wise exported fish and fishery products were available, data on region-wise domestically marketed were not available.

Thus, it was recommended to undertake market surveys, which would go a long way in directing the fish catches to the suitable markets for realizing better prices.

Santos (1995) listed down the general benefits and advantages of the application of HACCP system in seafood industry. To apply the concept, the companies would need to upgrade their installations and equipment, arrange for proper communication between sanitary authorities of both countries, employ well trained personnel, and to seek political will.

Korelsky²³ (1996) with the collapse of totalitarianism experienced in the political sphere, the Russian fisheries sector was in dire need of capital investment, higher entrepreneurial skills and fishing and marketing regulations for its survival.

Nair²⁴ (1996) emphasized that when the food safety became a new challenge to the global food industry the traditional methods of ensuring food safety would serve only as post-mortem monitoring: Thus, the only way to assure the desired food safety was to control the process, the raw materials, the environment and people by way of warranting the adoption of ISO 9000 and HACCP system where the emphasis was on prevention of non-conformance of the product.

Sundaram (1999) held the view that the marine product sector remained untapped. India had not fully exploited the 200 nautical miles of its exclusive economic zone to earn foreign exchange and to increase employment through exports of marine products. Hence, this sector should be given priority by the government in addition to the care taken to minimize the adverse effect on employment of fisher folk and also ecology.

Fishery Resources

George (1978) made a remark that for successful exploitation of the marine fishery resources, it was most vital that knowledge of the resources was essential. In India all along the centuries, marine fisheries exploitation has been in the hands of a type of people who are very backward and conservative. So, modern developments in fisheries had no impact on them. It was only in recent years that a change in attitude has taken place. Marine fish landing in India had attained the level of slightly near a million tons. It is possible to step

up this production several fold. For this, considerable planning is required. Very large numbers of mechanized fishing vessels were required, besides landing and berthing facilities for these vessels. Adequate quantities of ice, water, fuel, oils, should be set up. All these will require high financial investments. For making such investments a thorough knowledge of the available resources is necessary. Many countries have produced fishery atlases giving full information of resources. In India also production of such an atlas is necessary and for this efficient and thorough studies of resources will be required. The explorative survey so far done is inadequate and this should be planned in a much bigger way.

Sudarsan et.al. (1988) conducted a study on the appraisal of marine fishery resources of the Indian Exclusive Economic Zone. This study was based on the exploratory survey data collected by Fishery Survey of India vessels and attempt to assess the quantum of resources from the presently unexploited grounds outside 50 metre depth up to 300 metre in the case of demersal fisheries within EEZ of India. He stated that the current yield of fishery resources of the sea around India was about 1.8 million tons against wide ranging estimates of a potential of 2.3 - 8.5 million tons, which offered great scope to increase the marine fish production. The report also described the infrastructure facilities required to exploit these resources.

Internal and External Trade of Marine Products

Chidanibanuti k., (1974) analyzed the export prospects of marine products. He observed that the major importers of Indian marine products were Japan, the USA, Srilanka. Australia, the UK and France. The two major items of world exports were shrimp and tuna. The author found that the landings of tuna were then restricted to Lakshadweep and few centres in Andaman 's due to lack of tuna fishing vessels, trained personnel and technical facilities. He suggested that the export potential could be exploited by generating adequate infrastructure, accelerating the programmes of production in the offshore and deep sea fishing grounds, improving methods of processing and effective marketing in an organized and regulated manner. Diversification of products and markets can be effectively done by exporting Sardines. deep sea lobster. frozen fish, tuna etc., to additional markets in Canada, Denmark, Sweden, Germany, Spain, East-Europe and South East Asia.

Sivayya K.V, (1979), in his article revealed that the share of exports of Indian marine products in aggregate exports increased from 1.62 percent in 1967 to 3.2 percent in 1976. The value of Indian marine products had been more than proportionate to the aggregate exports of the country. Frozen shrimp accounted for a major share, both in quantity and value, which had been mainly responsible for the sustained increase in the exports of Indian marine products. The USA and Japan were the major importers of Indian marine products. The share of other markets like UK, Australia, France and Srilanka declined due to imports of low valued items. Besides, due to excessive concentration on shrimp, India could not capture a sizeable share in the marine products exports to several countries where there was considerable demand for tuna and allied species. The author suggested that the potential resources should be assessed and tapped by continuing inshore, off-shore and deep sea fishing as well as culturing. Efforts should have made for product and market diversification. The appropriate strategy and policy ingredients should be evolved carefully. In a way, the primary task was three fold, to discover, to optimize and to produce results.

Varghese P.V., (1995), in his paper made an attempt to analyse the exploitation of marine fisheries resources and exports of India. He observed that the seafood export from India mainly depended on marine catch. The entire fishing industry was depending on exports. The marine landings and marine products export over the years were compared and it was noted that there was a steep rise in the unit value of exported items which was also reflected in the total export value realized. The high cost of vessels with powerful engines and accessories with high rate of fuel consumption have already made the capture fisheries intensive. The traditional system of fishing ensured optimum current benefits without affecting the potential for similar benefits in the future. The present day fisheries had become non-selective and as a result for short-term economic gains they rapidly deplete the fishery. In this situation the author emphasized the formulation of proper regulations and restrictions towards conservation for the sustainability of the operations.

Pillay, T.V.R., (1998), holds that the export of seafood had been a major incentive for the involvement of companies and corporations in large scale aquaculture operations. Though this had helped in earnings of foreign exchange, there was considerable resentment towards

the neglect of domestic markets. He points out that the seafood exporters themselves realized the importance of this when the export markets were affected by unexpected problems, causing considerable financial losses. So he suggested that it was necessary to have a balance between domestic and export markets.

Srivastava K.P., (1999 (a)), in his paper analysed the status of seafood quality management in India. He stated that, so far, 59 seafood processing units and seven freezer vessels had been approved to export their products to the countries of European union. The author suggested that the seafood exporters of India should develop necessary infrastructure required for the establishment of HACCP (Hazard Analysis Critical Control point) based seafood quality and safety management system because the Indian Seafood export trade was in a position to ensure the quality and safety of fishery products to the specific requirements of the importing countries.

Srivastava K.P., (1999(b)) discussed the quality requirements of seafood in India. He pointed out that over the last few years' significant changes in policy and quality criteria had been observed in the international seafood trade. In keeping with the present day consumers demand for quality and governments responsibility for seafood safety, the author suggested that the sincere efforts should be made by Export Inspection Council, Export Inspection Agencies, Marine Products Export Development Authority and Central Institute of Fisheries Technology to develop necessary infrastructure for the establishment of a Hazard Analysis of Critical Point (HACCP) based seafood quality and safety management system.

Scheuplein J. Robert (1999) and Sakthivel M., (1999) made an attempt to highlight the various strategies to increase export of fish and fishery products from India. They observed in their studies that shrimps, crabs, lobsters, squids and tin fishes constitute major items of the export. Those were previously sent dried and canned but at present in frozen form, increasingly live fishes were exported. The demand from the various countries like the USA, France, Australia, Canada and Japan had changed throughout the years. The current share of seafood to the total Indian exports was 3.4 percent while India's share of the total world market was 2.52 percent. The smooth floor, roofing, handling and store aging the

catch, facilities for freshwater and ice and chill rooms were the facilities lacking at the landing centres. The employee landings centres and other users needed training in the handling facilities. Fish products were processed at cheaper cost, in value added form for a higher unit price, formation of a separate ministry for fisheries in the Central Government and also the state government of fisheries had been suggested by the author.

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.

Fishing Technology

Chennubhotla, V. S. K et, al. (1999) had conducted a study about the different kinds of non-mechanized and mechanized crafts used and gear employed along the Andhra Pradesh coast. They observed that until the middle of 1960s fishing for marine fin fishes and shellfishes along the Andhra Pradesh coast used to be carried out employing indigenous non-mechanized crafts. Subsequently, trawlers and later mechanized vessels operating gillnets came into use which resulted in the decreased fish production. Use of outboard engine on indigenous crafts for reaching fishing grounds was a recent feature of near the coast fishing.

Production

Chakraborty, Nair and Balakrishnan (1973) in their article examined the characteristics of marine fish production in India. India produced annually, Approximately 0.7 million tons of marine fish. Total production figures as well as landings from individual fisheries vary widely over the years. Increasing effort was put to produce higher yields. A study of these figures had assumed importance lot proper understanding of the resources of important fisheries. The quarter wise catch figures of important fishes had been studied and indices showing their seasonal and regional occurrences had been constructed and discussed.

Saxena (1984) studied the management aspects of shrimp Fishery with particular reference to India in 1984. According to him, the Indian shrimp fishery after 1975 had been

experiencing a decline, which had been substantiated by reduction in catch per unit effort. In the light of the decline of the Indian shrimp fishery, three types of tools to manage the same had been suggested: (i) an exhaustive techno-economic survey was undertaken to study the production, processing and marketing costs, margins, practices, channels, etc., along with the socio-economic conditions to the local fishermen in order to provide alternative employment opportunities and financial compensation, (ii) the type of management tools included regulatory measures and (iii) relate to the encouragement of shrimp culture.

Subba Rao (1986) made a study to examine the trends in the total fish production of Andhra Pradesh and compared the same with all India fish production at different points of time. Andhra Pradesh was lagging behind in the long term trend of annual growth of fish production than that of India as a whole during the period 1961-81. The catching pattern with reference to percentage distribution of different species in different years showed a declining trend in most cases. The common feature in all the species was the heavy fluctuations.

Devaraj, Sathiadhas and Reghu (1998) in their paper reviewed that the marine fish production in India. They assessed that the economic performance of trawlers and motorized gillnetters, distribution pattern of marine fish in the internal market and the performance of marine fishery exports, evaluated the capacity utilization of processing plants and suggested the policy measures for improvements in production and marketing of marine fish.

Ammini (1999) attempted to assess the status of marine fish production in Kerala vis-a-vis the production before ban was introduced. The author had made a comparison of fish production between the pre-ban period (1981-1987) and ban period (1988 - 1997) There had been unprecedented growth in the marine fish production in Kerala during the last decade which incidentally coincided with the period during which ban on trawling during monsoon had been in vague. Comparison of the average landings during 1981 - Q87 and 1988 - 1997 indicated an increase of 69 per cent in overall landings in the state and surprisingly two points which deserved consideration were:(a) the increase (69 per cent) had been uniform in pre-monsoon, monsoon and post monsoon periods, (b) the relative

intensity of landings during the three seasons remained the same during pre-ban and ban period (26 per cent during permission, 24 per cent during monsoon and 50 per cent during post monsoon).

Shiyani, R.L, (2002) made an analysis on district-wise and species-wise growth and instability of marine fisheries in Gujarat. It had been concluded from the study that relative share of Junagadh, Kutch and Jamnagar districts in the total marine fish production of the state increased substantially over a period of time, whereas a drastic decline in the case of Valsad and Ambreli districts was noticed. The instability indices were comparatively higher during 1970-80 in all the districts except Kutch, Ambreli and Jamnagar. The compound growth rates of fish production of almost all the species were positive and significant. It had been suggested that awareness campaign among the (fishermen on the importance of mesh size regulation would be useful for the sustainable benefit of marine fisheries in the long run. The Government should take necessary step to enforce sea law demarcating different fishing grounds for different craft gear combination which would help in maintaining the socio-economic balance instead creating socio-economic conflicts among the fishermen.

Marketing

Singh and Gupta (1983) conducted a study on marine fish marketing, a fisheries development in India in the year 1983. They pointed out that the transport of fish was very inefficient in India. Due to inadequate transportation, no fresh fish was available in potential markets located away from the landing centres, whereas surplus fish at harbours were sent to fish meal plants. Further, it had been observed that the catches of certain varieties like sardines and mackerels were landed in a large quantity in the fishing season.

Devadasan (2003) had given an account of a good potential for India to increase its share in international fish trade by exporting value added fish products. It has been concluded that most of the market channels used were not suitable to trade value added products. A new and an appropriate channel would be the super market chain, which procure directly from the source of supply. Appearance, packaging and display would be all important factors leading to successful marketing of any new value added product. The retail pack must be clean, crisp and clear and make the contents appear attractive to the consumer. The

customer must be given confidence to experiment with a new product launched in the market.

Price

Senthilathiban and Selvaraj (1992) conducted a study on the price spread of some of the commercially important fishes in Chidambaran district in the year 1989 and 1990. Four landing centres were randomly selected and data on landings, auction price, marketing costs and marketing margins were collected. The collected data were analysed to find out the variation in mean retail price of different varieties of fishes and to find out the relationship between retail price and the net amount realized by the fishermen. The study revealed that (i) the fishermen's share in consumer retail price was above 60 per cent for all the important fish varieties in the selected fish landing centres. there was a positive correlation between the retail price and the net amount realized by the fishermen at one per cent level for almost all the fish varieties, (iii) the fishermen got a better share of those varieties having high consumer preference. (iv) the share of marketing margins accruing to retailers vary from 14 to 23 per cent.

Problems and Prospects of Marine Production

Prakash et.al (1997) in their research work found that in India increase in the Export of aqua products is mainly due to the rapid adoption of intensive aqua farming. In recent years, due to burgeoning industrialization the fishery resources are being heavily threatened by environmental pollution and contemporarily, there has been a world-wide upsurge of interest towards maintaining fresh water and marine fishes and invertebrates in captivity. In aqua farming, good water quality is a prerequisite for the propagation of desired aquatic organisms as it enhances higher survival. better growth and total production. Therefore, proper water quality management is the key to achieve sustainable aquaculture.

Tharakan, A.J., (1998) made an attempt to highlight the reason for impairs and solutions for seafood industry in India. This throws light on the problems related to infrastructure facilities like power, potable water, transport facilities. modern techniques, financial assistance, capacity utilization etc. The author recommended that all the fishing vessels including country crafts, mechanized boats and trawlers must be given time to upgrade to

meet the National Standards. The state must overcome the basic infrastructure problems, the peeling and pre-processing facilities should be upgraded to operate under high hygiene and sanitation standards.

Devaraj.M., et.al (1999), in his study noted that marine fisheries production in India which was only 0.5 million tonnes (MT) in 1950 increased rapidly breaking at 2.7 MT in 1997. The population of active fishermen and the efficiency of fishing vessels had substantially increased. Inappropriate exploitation patterns were showing signs of

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**INDIAN SEAFOOD EXPORTS & VALUE
ADDITION – AN OVERVIEW**

Chapter III

Indian seafood exports & value addition – An overview

3.1 Introduction

Export is of paramount importance and at any point of time we have had more than one scheme to facilitate and encourage exports. As a result, exports have gone up but the pace has not been satisfactory. Moreover, the critical test of a scheme is whether it has led to genuine exports or not. This question assumes importance as there are a number of reported cases of overvaluation of exports and in the name of exports dumping of sub-standard goods abroad, which are not even cleared at the foreign ports. No doubt this happens because the unscrupulous exporters are actually targeting the benefits in form of duty free imports and their chief concern is not exports. The link between such exports and hawala transactions to fund illegal activities is also brought out. Thus, whereas there should be all encouragement to genuine exports steps have to be taken to check misuse of the export promotion schemes. This assumes great importance when we find that precious customs and central excise revenue is sacrificed in the name of exports. The link between revenue foregone on account of export promotion and a low tax to GDP ratio is also evident, though it must be added that this would be a non-issue so long as genuine exports do take place. However, when exports do not pick up commensurate with the duty foregone, legitimate questions are rightly asked as regards the efficacy of the schemes.

Export promotion has become a worldwide phenomenon. Most of the countries of the world encourage exports because of crucial importance of exports in our economy. Export promotion is the task of persuading firms to export and the provision of service to support export marketing. This chapter makes a detailed analysis of export promotional activities of MPEDA during the past few years.

The main objectives of MPEDA is to foster the exports of the Marine products from India, in addition to several subsidiary objectives like assistance for fish culture and its processing to develop variety of fish products, financing and

subsidies to farmers, education programs, market research, research and development etc. besides these objectives also enable to provide vast employment opportunities including self-employment to thousands of people.

The major commercial items of export include frozen shrimp, frozen fin fish, frozen Cuttle fish, frozen squid and other related seafood items.

3.2 Value Addition in Seafood

Recent developments in fish processing technology lay great emphasis on technology up gradation, value addition and quality assurance. Value addition is the most talked about word in any industry, particularly, in export-oriented industry because of the increased realization of foreign exchange. Value addition means “any additional activity that changes the nature and presentation of the product thus adding value to it for sale.” In other words, value addition refers to value that is added to a product from the time it enters the processing plant to the time it leaves.

In today's affluent society, food habits of the people both at home and abroad are changing very fast. With fast food and convenience food becoming an integral part of domestic life the tendency now is to buy 'ready to eat' form. Reprocessing of imported raw materials (often in semi-processed form) into value added consumer packs is a thriving industry in many developed countries. The significance of value addition in enhancing export earnings is well understood by economically weaker nations also. Product quality as well as packaging presentation, and above all, the product image are the key factors determining consumer acceptability of value added fishery products. Most economically weaker nations of Asia (including India), Africa and Latin America, rich in fishery resources are handicapped in these respects with few exceptions, till recently. Despite advantages in terms of relatively less expensive labour and raw material including large quantities of low value species landed, these countries could not benefit due to several reasons. Lack of appropriate technology, trained manpower, paucity of capital for investment in plant and

machinery and the resultant inability to maintain high level of product quality were only some of them. However, a few developing countries were able to make a breakthrough in exporting value added products during the past few decades. They succeeded through concerted efforts backed by foreign counterparts and governmental incentives.

Some of the value added products that have demand in the major markets are battered and breaded products processed out of a variety of fish; Fish mince based products to prepare fish cutlets, fish burgers (patties), sausages, cakes, balls, pastes, etc., Individually Quick Frozen Products (IQF), Accelerated Freeze Dried products (AFD), and Fish in sauce and fish salads.

3.3 Quality Requirements for Fishery Products

To make the export trade successful, the products exported have to meet the specifications of the importer as well as of the country of import. This is particularly true, in the case of fishery, where the developed countries have prescribed certain mandatory requirements to be fulfilled by the exporting unit before their goods are placed in the markets of the importing country. Apart from freshness, freedom from pathogenic microorganisms and harmful substances, the quality requirements of the major importing countries include processing of fishery products under Hazard Analysis Critical Control Point (HACCP) system. It is important to note that HACCP is not a system, which can stand alone. This system depends on strong commitment of the top management and also on the availability of Good Manufacturing Practice and Sanitation Programmes. Continuous training (on-the-job) is another aspect necessary for its implementation. Today, HACCP has been widely recognized as a quality system for producing and distributing safe and healthy food products in the international market. Major developed countries like USA, Canada and European Union have made HACCP mandatory for their domestic as well as imported marine products. As a consequence of these developments, it became imperative for all developing countries, including India, to design and implement export quality assurance programme that meet the requirements of the importing countries.

3.4 Developments of Quality Assurance System in India

Quality Assurance in respect of products being exported out of India was introduced systematically, with the enhancement of Export Quality Control and Inspection Act, 1963. The Act aims at sound development of export trade of India through quality control and inspection. Under the above Act, Export Inspection Council was established in the year 1964 with twin objectives, namely:

- To advice the Central Government on matters relating to measures for sound development of the export trade through quality control and inspection
- To frame policies and programmes for quality control and pre-shipment inspection of commodities covered under the Act.

Under the provision of the said Act, five Export Inspection Agencies, one each at Mumbai, Kolkata, Kochi, Delhi and Chennai were established by the Central Government in the year 1966 to serve as the field organizations for implementing the policies of the Central Government/Export Inspection Council in respect of Quality Assurance of notified commodities. The quality assurance in the case of fishery products were introduced in the year 1965 when frozen and canned shrimps were brought under the purview of the Export (Quality Control and Inspection) Act 1963. Subsequently a number of products such as frog legs, lobster tails, squids and cuttlefish, canned crab meat, pomfrets dried shrimps and fish were also brought under the compulsory quality control and pre-shipment inspection scheme. In the beginning, consignments of fishery products were subjected to organoleptic examination alone. In the case of frozen fishery products testing for certain bacteriological factors was introduced in the year 1973. The system of consignment-wise inspection continued until 1977 when In-Process Quality Control (IPQC) system was introduced. It prescribed the minimum requirements for raw material, manufacturing process and product testing and preservation and packaging of the final product.

3.5 Fisheries Development During Plan Periods

After framing the Indian Constitution, from 1951 onwards India has been adopting the strategy of planned economic development. Fishery potential, employment generation and increased earning of foreign exchange have made India to identify fishery development

as a high priority area. The first Five Year Plan was launched in April 1951 and subsequently India completed nine, plan periods and six annual plans. The main features of the development of fisheries during the plan periods included the enlargement of the mechanized fishing fleet, motorization of existing traditional crafts and the introduction of new types of boats in order to increase fish production; intensifying efforts on processing, storage and transportation of fish in order to improve marketing, apart from improving the socio-economic conditions of fishermen.

During the First Plan (1951-56) the scope and need for increasing the fish production of fresh water and marine environment was identified. Small-scale development of inland fisheries (started even before the First Plan) was strengthened during this period.

The Second Five Year Plan (1956-61) gave importance to the following areas for marine fisheries development such as improvement of fishing methods, development of deep sea fishing, provision of fishing harbours and the integration of fish transport, storage, marketing and utilization of fish.

In the Third Five Year plan (1961-66) fisheries co-operatives were formed for fishermen to manage their affairs themselves. As export of fish and fishery products was showing significant growth since the fifties, the plan attempted to expand the number of freezing plants, cold storage and canning facilities to minimize the fish loss and to produce products of good quality. Three annual plans (1966-69) followed the Third Plan and they carried forward the objectives of the third plan. A significant development in this period was the entry of the Agricultural Refinance Corporation (ARC) and the Industrial Development Bank of India (IDBI) in financing fisheries development schemes.

The Fourth Plan (1969-74) envisaged introduction of fishing trawlers and provided berthing and landing facilities for large vessels and also other ancillary facilities. In the Fifth Five Year Plan (1974-79) further efforts were undertaken to explore and exploit fishery resources. A Trawlers Development Fund was created to extend financial assistance to import and construct modern fishing boats. Fish Farmers Development Agencies were also introduced to promote intensive aquaculture in selected districts. Deep-sea fishing and aquaculture received major attention during the fourth and fifth plans respectively. The

main objectives identified during the Sixth Plan (1980-85) were promoting inland fish production on a scientific basis, organizing intensive surveys for marine fishery resources assessment apart from strengthening fish marketing facilities. The major thrust areas of fisheries development during the Seventh Five Year Plan (1985-90) were identified as exploitation of the deep sea fishery resources in the Exclusive Economic Zone (EEZ) in the region beyond 40 fathoms, encouraging adoption of diversified fishing methods to minimize fishing pressure on few stocks or species, strengthening and reorganizing the Fishery Survey of India (FSI) and the Central Institute of Fisheries Nautical and Engineering Training (CIFNET). Since the demand for fish outstripped supply of fish and the trend was expected to widen in future as well, the

Eighth Five Year Plan (1992-97) recognized the need to intensify efforts to increase fish production by providing technical and financial support and the emphasis continued in the Ninth Five Year Plan also. Investment Outlays for Fisheries for each plan, the planning commission fixed an overall total outlay for economic growth, part of which was to be contributed by the private sector and the remainder by the public sector. Initially, the planning commission started with modest outlays but with experience the planned outlays on development programmes were raised substantially.

3.6 Application of Sanitary and Phyto-sanitary Measures (SPS Agreement)

The Agreement on Sanitary and Phyto-sanitary Measures enables the member countries to protect their human, animal and plant life/health. A principal objective of the SPS Agreement is adoption and enforcement of SPS measures in order to minimize their negative effects on trade. In order to avoid the use of SPS measures for protection of domestic industries, the agreement emphasized the application of these measures on the basis of scientific justification or on risk assessment (John, 2000). All signatories are encouraged to adopt internationally recognized standards but are at liberty to impose stricter standards. International standards are developed by several organizations, which include the Codex Alimentarius Commission, the International Office of Epizootics (IOE), and international and regional organizations operating within the framework of the International Plant Protection Convention (IPPC). It also states that each member should ensure that at least one enquiry point exists to answer all reasonable questions from

interested members as well as for the provision of relevant documents. The agreement is based on the pillars of harmonization, equivalence, transparency, scientific judgment and risk assessment. On the face of it, SPS measures provide WTO member countries an opportunity to safeguard their interest in crucial areas of health and hygiene. However, there is a growing apprehension especially in the developing countries like India that application of SPS measures are being used as nontariff barriers.

They are being increasingly promulgated with the deliberate purpose of shielding domestic producers from international competition. Sometimes nations introduce such restrictions not to prevent health hazards on the basis of scientific evidence but in response to public activism from interested parties (FAO). The distortions in application of SPS measures along with other non-tariff barriers are becoming rampant. The WTO Dispute Settlement Body has entertained more than 25 such disputes that referenced the SPS and TBT agreements. The EU import ban on fisheries products from several countries on the pretext of outbreak of cholera, Australia's ban on the import of salmon, EU import ban on shrimp from Bangladesh are some of the examples of distortion in the application of SPS measures. These have led to substantial losses to the exporting countries (World Bank, 2000; Rehman, 2001). India too is confronted with non-tariff barriers imposed by developed countries like the USA and the EU, which is impeding the growth of fisheries export. Some of the non-tariff barriers like environmental and health factors, ban on Indian processed shrimp on grounds of poor sanitary conditions, pre-clearance inspections etc. are some more such examples. Nearly 15 per cent of total fisheries exports in 1996-97 was lost because of automatic detention by USA (Jha, 2002). Further, the USA, Japan and the EU have very demanding SPS standards. Of a total of more than 400 establishments in India, only about processing units have been approved for exports to the EU. In this context, the introduction of quality assurance systems based on Hazard Analysis Critical Control Point (HACCP) for exports of major markets have gained importance. The investments needed to bring a fish processing plant up to the standards of HACCP plan are substantial, and many companies feel that the implementation of new regulations on fishery products is de facto a non-tariff measure against value added products originating from the developing countries.

3. 7 Agreement on Technical Barriers to Trade

Technical Barriers to Trade (TBT) was negotiated in the Tokyo Round of Multilateral Trade Negotiations (1974-79) and is premised on an acknowledgement of WTO members to develop technical requirements. The Agreement divides technical requirements into two categories: technical regulations and standards. Though both technical regulations and standards are product technical requirements, compliance with technical regulations is mandatory while compliance with standards is voluntary. Technical regulations and standards are extensively used in fisheries trade and often constitute distortions or obstacles to trade. For instance, a labelling dispute over canned sardine exists between Canada and the EU. The US testing procedures for imported seafood sometimes take longer time than the shelf-life of the product itself. The export market of fisheries sector is, by its very nature, quite fragile and susceptible to many hurdles on real or imaginary, which can lead to substantial economic losses. The extent of exact implications would be known after examining the compliance costs of HACCP programmes, and trade impacts i.e. analysing net economic benefits and competitiveness of the products.

MPEDA -PROFILE

Chapter IV

MPEDA - Profile

4.1 Industry profile

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 equipment, machineries, technical know-how to support growth and modernization of several of its developmental activities. To fulfil 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, sufficient to pay the import bills. India has availed both the sources with greater role for the former in the 10.50'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 traditional goods from agriculture and handicrafts have dominated exports from India. Only recently, non-traditional goods such as engineering products, machine tools, processed foods and computer software find significant shares in total export by India. At the same time, 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 product 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.

4.1.1 India's marine products export profile:

The principal export markets for Indian marine products are Japan. USA though exports of marine products are affected to a large number of markets. Other destinations of some significance include European Union, China, South East Asia, Middle East, East Europe. African countries, Latin American countries, other Asian and European countries. The important ports through which marine products are exported from India includes Mumbai, JNP, Kandla, Porbandar, Pipavav, Goa, Kochi, Trivandrum, Mangalore/ICD, Karwar, Chennai, Tuticorin, Mundra, Haldia, Calicut, Nsict, Karimganj, Ahmadabad, Agartala, Paradeep, Mid Sea, Delhi, Kakinada, Kolkata, Vizag, Hill Land Customs, Trichy, Bangalore, Okha, Port Blair

The marine products export basket of India comprises mainly frozen shrimp, frozen fish, frozen squid, frozen Cuttle fish, dried item, chilled items, live items, frozen lobster, frozen octopus, canned item, pickles and others. Until recently frozen frog legs was also one of the important items of export. Restrictions imposed on catch of frogs to maintain ecological balance and the crude process of their killing considered as cruelty are bound to affect the exports of this item.

4.1.2 Major marine products exported from India

The major marine products exported from India include the following.

Frozen Shrimp

It includes AFD shrimp, Block frozen shrimp, breaded shrimp. cooked salad shrimp individually quick frozen (Kg) shrimp and cultured shrimp.

Frozen Fish

It includes Chinese promfert, Promfert(black), Promfert(white)

4.1.3 The Indian Seafood Industry

Seafood consists of an extensive variety of sea animals and seaweed, which are served as a delicacy or is regarded as suitable for the purpose of eating. Seafood usually comprise mostly of seawater animals, such as fish and shellfish (including mollusks and crustaceans). Seafood is also used collectively to refer to animals from fresh Water and any other kind of edible aquatic animals. This category makes up the hulk of the human food that comes from the waters of the world. Under this classification, edible seaweed is also included, though it is specifically termed as sea vegetables. Types of Seafood Sea food is categorized under three main classes: Fish, Shellfish and Roe. • Fish is any non - tetrapod chordate, i.e., an animal with a backbone that has gills throughout life and has limbs, if any, in the shape of fins. Few of the fishes which are regarded as edible are Anchovy, Bluefish, Catfish, Eel, Flounder. Grouper. The growth of Indian seafood industry has a history of five decades. In ancient times, this industry depended heavily on the domestic market. It was only in 1953 that the marine industry opened its windows to foreign trade with the first shipment of one tone of frozen seafood valued at Rs.2.4 lakhs to USA by M/s. Cochin Company owned by R. Madhavan Nair better known as the 'Father of the Indian Seafood Industry' from the port of Kochi. Since then, India has risen as one of the leading marine products processing and exporting countries in the world. Although the Indian Fisheries Act was enacted in 1897 with a view to conserve, exploit and profitably utilize the fisheries resources, no constructive activities had been undertaken until India became independent. The only worthwhile trade was Kerala's export of cured and dried fish to Sri Lanka, Burma, Singapore, Malaysia, and Hong Kong, which earned very little by way of foreign exchange.

In the late sixties the developments of internal and intermodal transportation had made the Indian ports adequately geared to meet the expanding horizons of international trade. Integrated development of fisheries and the advancement of the export trade received greater emphasis in the country's 'Fifth Five Year Plan' with

the declaration of the 200 nautical miles Exclusive Economic Zone (EEZ) in 1976, which is depicted in Fig 4.4. However, the most remarkable change in this export oriented industry took place only during the last two decades, when the industry had emerged as one of the single largest net foreign exchange earners for the country without any import element. The industry provides employment to over six million people, directly and indirectly, which include a highly skilled and competitive women labour force. It has been developed almost entirely by private entrepreneurs, of course, with the government support. Today, 95 per cent of the seafood exporting units are in the small -scale sector. This is mainly because it is a highly personalized industry. Unlike other industries, all seafood industries are virtually deemed Export Oriented Units (EOUs).

4.1.4 History of marine products export in India

The evolution of export of Marine Products from India can be studied under various stages. They are presented below.

First stage [50s to early 70]

In this stage, India's marine products exports mainly selected dried items like anchovies, shrimps, shark tins etc. The traditional nei2-hbourin, countries like Sri Lanka, Malaysia, Singapore and Burma were the major markets. During this period fish was also the cheapest animal protein food for domestic consumers, and the exports markets mostly served the poor in those countries. The exports in no way then affected Indian domestic consumers, but acted as a cushion for the producers (fisheries) as it helped to maintain a steady price for their produce even during seasons of bumper landings.

Second stage [70s to early 90s]

In this stage frozen items took the centre stage and markets also got shifted to developed countries like US, Japan and European nations. While initially frozen shrimp as the major item, slowly cephalopods (cuttlefish and squid) and other crustaceans also became important species in the export basket during this period. As these were selected items, it did not affect seriously the domestic fish

consumers. especially the poor and the middle class. As foreign exchange earnings were a prime motto during this period, the Government came forward with lot of incentives, subsidies for production as well

The fall in supply of shrimp also coincided with the increasing dominance of frozen fish (fin fish) in terms of quantity and this could be termed the most important change in happening in marine products export in the last one or two decades. In the year 2006-07, while frozen fish formed 44 % and in the year 2008-09, the emergence of chilled items (mainly fin fish) increased significantly to 21450 tins (4 %) from a mere 6540 tons in 2007-08. Unfortunately, all this was happening even, when India's total marine fish loadings in the country was either declining or stagnating and not showing any growth. It is no more a situation of a few selected and highly priced varieties sent overseas thus not affecting the domestic fish trade and fish consumers. Even low priced fishes are now more and more exported. This is more evident from the changes noticed in the export destinations. In terms of quantity, over the last more than one decade, China and other southeast Asian countries take away almost half of Indian marine products export. In 1996-2000 periods, they accumulated by 40 % of the volume, but only 20 % by with their performance for finfish. In 2009-2009 China and South East Asian countries topped with 39 % by volume. Putting European Union behind with 25%. During 2009-10 export earnings have crossed 2 billion US \$ and Rs. 10,000 crore marks. Exports aggregated to 678436 tons valued at Rs. 10048.53 crores and US \$ 2132.84 million. This recorded an increases growth of 12.54 % in quantity, 16.74 % in Rupee earning and 11.75 % growth in US \$ earning.

Export of marine products during April –March 2010-2011 have achieved the US \$ 2.67 billion mark by registering a growth of 10.96 % in quantity. 20.42% In INR value and 25.55 % in US \$ realization compared to the same period of last year according to the provisional export figures. This is the first tie in the history of Indian, marine products industry that the export figures are crossing the US \$ 2.5 billion mark. Average unit value realization has also gone up by 13 %.

4.1.5 Importance of foreign trade in India

Before 1947 when India was a colony of the British, the pattern of foreign trade was typically colonial. India was the supplier of foodstuffs and raw materials to the industrialized nations particularly to England and an importer of manufactured goods. This dependence on foreign countries for manufacturers did not permit industrialization at home, rather as a result of the competition from British manufacturers, the indigenous handicrafts suffered a severe blow. With the dawn of independence, the colonial pattern of trade was changed to the needs of a developing economy. An economy, which decides to embark on a programme of development, is required to extend its productive capacity at a faster rate. For this, imports of machinery and equipment, which can't be produced in the initial stages at home, are essential. Such imports, which either help to create new capacity in some lines of production or enlarge capacity other lines of production, are called developmental imports. Besides these imports, a developing economy is also required to import consumer goods, which are in short supply at home during the period of industrialization. Such imports are anti-inflationary because they reduce the scarcity of consumer goods.

It is therefore, inevitable that during the early years of development, imports have to be increased at a very faster rate. It can't be restricted because the level of investment as well as the growth of these countries is dependent on these imports. It is natural that the balance of trade in such a situation will turn heavily against the developing country. To meet the growing foreign debt in a view of inelastic imports, a developing country must increase its exports.

In India, the approach has been to identify products, sectors and industries based on potential, capability and world trends in demand and competitiveness and to provide for these a policy framework, which is helpful in increasing exports. Therefore, late eighties onwards a certain degree of selectivity has been followed by the government for focusing special attention. Fourteen sectors have been identified including marine products, processed foods, jewellery, electronic goods, readymade garments etc. for making thrust in international markets.

India pursue trade policies to improve exports of the above thrust sectors with an idea to reduce the trade deficit and to remove disequilibrium in the balance of payments. Liberal trade policies are those that reduce government controls and replace direct intervention with price mechanisms (such as tariffs). For the benefit of exporters, advance licenses, export promotion for capital goods (EPCG), duty drawback, 100 percent export oriented goods (EOU's) an Export processing zones (EPZ), which are meant for facilitating imports for export promotion.

4.1.6 Foreign trade policy of India 2009-2016

The thrust of the new foreign trade policy of India 2009-2016 as well as the earlier one is to double to India's export of goods and services. It further states that the long-term policy objective for the government is to double India's share in global trade by 2020. The Marine Products Export Development Authority (MPEDA) goes even further and its vision document brought out in 2017 wanted exports to increase from the current level of .61 million MT to at least 2 million MT by the year 2015. The new national policy clearly states that there will be no qualitative restrictions on export of marine products. Through promotional measures including fiscal incentives for critical development of infrastructure for exports, duty free import of inputs for exports, setting up export zones, and providing full refund of all indirect levies and taxes.

The government as a developmental endeavour, always considered promotion of marine products export. Any development in the marine fisheries sector, including export promotion, cannot be pursued without taking into consideration certain basic characteristics of Indian fishery resources, which are given below.

- Limited and renewable natural resources embed in a complex food chain
- Found more inshore than offshore a- availability per unit area
- A common property resource
- A protein rich food resource ensuring food security of the people

- Source of livelihood for millions of people both in production and marketing

The growth in India's marine products exports is described in Indian rupee terms by the ministries and export promotion agencies. In the year 2008-2009, India's marine products exports earnings was worth Rs. 8608 crores and according to the chairperson of MPEDA, in 2007-2008, the earnings was worth only Rs. 7621 crores and hence there is a 13 % growth.

4.1.7 India's Seafood Growth Country Profile

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. About 90 % of the present production from the marine sector is from within a depth range of up to 50 to 70 meters and remaining 10 percent from depths extending up to 200 meters. While 93 percent of the production is contributed by artisanal, mechanized and motorized sector, the remaining 7 % is contributed by deep sea fishing fleets confining their operation mainly to the shrimp ground in the upper east coast.

India is one of the oldest civilizations in the world with a kaleidoscopic variety and rich cultural heritage. It is positioned between latitudes 8° 4' and 37° 6' north and longitudes 68° 7' and 97° 25' east with a geographical area of 3,87,263 sq. km (about 2.4 percent of the earth's surface area). The country is bounded by the Himalayas in the north, the Indian ocean in the south, the Bay of Bengal on the east and the Arabian sea on the west.

After independence in 1947, the country adopted a socialist style of development through centralized planning. The national five year plans were formulated and implemented to harmonize the use of resources for parallel

development of capital- intensive heavy industries, with labour intensive small scale industries and the rural and agricultural sectors.

Within three decades of independence, the country record achievements I technology and also attained self-sufficiency in food production through the green revolution. However, the growth of the country in this period and the worsening balance of payment situation led the government to undertake a series of reforms. Beginning in id-eighties, this reforms were mainly directed to minimize the state interference in business and liberalize the economy. These efforts culminated in the new economic policy of 1991 and a clear shift from pre-planning to pro-market growth model based on the principles of liberalization, privatization and globalization of the economy.

India now stands as the third largest economy in the world in terms of purchasing power parity (PPP) and the second fastest growing major economy in the world, with a GDP growth rate of 9.4 in the last fiscal year 2006-2007. However, in spite of marked developments in industrial and service sectors, agricultural sector continues to remain as the major determinant of the health of the economy. It contributes about 20% of the Gross domestic product (GDP) and employs about 60 % of the labour force in the country. Industries contribute about 26 % of the GDP and employ about 12 % of the labour force and tertiary sector contributes the rest and employs about 28 percent of the labour force. In the year 2007-2008 total GDP was 4723400. GDP from agricultural forestry and fishing was 782597. GDP from fisheries alone was 35650. GDP from fisheries as percentage to total GDP was 0.75 and GDP from agricultural forestry and fishing was 4.56

4.1.8 Fisheries Sector

The fisheries sector occupies a very important role in the socio economic development of India. Soon after independence in 1947, the government started focusing on the fisheries sector for two reasons: (1) to promote fisheries production I order to ensure food safety (subsequently foreign exchange earnings were also added) and (2) capacity building in fisheries through subsidization of various assets. As a result, starting from a purely traditional activity in the fifties, both aquaculture

and fisheries have now transformed into commercial enterprises. The sector has been recognized as a powerful income and employment generator as it stimulates the growth of a number of subsidiary industries and is a source of cheap and nutritious food.

Fishing is one of the oldest occupation of the mankind and even today it is. It is the key income earning sector of many maritime countries, both developed and developing. Fishing provides not only occupation to enormous people, but also a rich provider of immense food and related sources. The national planning committee, during the discussions for growth strategies in this sector in 1948, described the traditional fishing sector as "largely of primitive character, carried on by ignorant and ill-equipped fisherman". Their techniques are rudimentary; their capital investment is less. These explanations are broad enough to sketch an elementary picture of the traditional fishing sector in India.

4.1.9 Indian Fisheries

Before independence, in India, the marine fisheries production was of subsistence level. Like the other productive sectors under colonial economy, the fisheries sector was also under the muddles of poverty, lower religious and social status. After the drawn of Indian republic, the Government of India held many studies to evolve strategies to make the distracted economy stronger.

4.1.10 Administration of Indian Fisheries

The constitution of Republic of India has enlisted the respective powers of the union and states to make law and administer different sectors. Development and regulation of marine fisheries within the territorial water of Indian coast, known as inshore fisheries and of inland fisheries development and for improving the living conditions of fishermen. They assist the mechanization of fishing boats, arrange bank loans through Fisherman co-operative societies for purchase and improvement of crafts and gears and development of domestic marketing and also manage housing schemes for fishermen. They also establish boat building yards,

nylon net factories, fishermen training centres etc. Some state governments also set up fisheries corporations.

4.1.11 Role of Central Government

In the central government, there is no separate ministry for fisheries and different tasks of marine fisheries development, from exploration to marketing, fall under the administrative jurisdiction of ministries of Agriculture, Commerce and constituted food processing industries. The ministry of agriculture deals with fish production, the ministry of commerce handles the regulation and the task of promoting exports and the ministry of food processing industries looks after the development of fish processing activities.

4.1.12 Theoretical Approach to Fishing

Today the basic point of fishery management is the Maximum Sustainable Yield (MSY), defined as the greatest yield that the stock can reproduce year after year, however it is known that the key variables determining production possibilities from a fish population are rate of entry into fishable age rate growth of individual fish, natural mortality and fishing mortality. Thus, with the extension of EEZ, while opportunities to argue fish production and employment have been opened, they are yet to be efficiently exploited. In the event of inefficient exploitation and under exploitation, natural mortality would offset the net increase in the stock from the rate of entry into fishable age and growth. Exploitation of these opportunities possess complex biological, economic, social and political problems.

4.1.13 The scope of the fisheries resources in India

There is a vast potential of fisheries resources, which remain unexplored. Government should come up with helping hand to promote deep sea dishing without over exploiting it. Conditions of the landing centres should be improved to promote overall quality exports. The infrastructural facilities of the country like develop net of ports, domestic facilities should be promoted. The danger of over exploitation of resources should be in the minds of each as the destruction of the

resources without minding its existence may bring darkness in the immediate future. The flow of goods in a profitable and responsible manner should not be disrupted. Fisheries resources should be exploited in an optimum manner without disturbing the natural equilibrium of the habitat of fish. In addition to this, the resources procured from nature should be handled with utmost care during harvesting, processing and marketing to avoid wastages.

4.2 Organization profile of MPEDA

Marine Products Export Development Authority - MPEDA

The Marine Products Export Development Authority (MPEDA) was constituted in 1977 under the Marine Products Export Development Authority Act 1972. The role envisaged for the MPEDA under the statute is comprehensive covering fisheries of all kinds, increasing exports, specifying standards, processing, marketing, extension and training in various aspects of the industry.

India with a long coastline and abundant fishery resources has emerged as one of the leading seafood suppliers in the world. The Marine Products Export Development Authority, a nodal agency set up by the Govt. of India in 1972 for the promotion of seafood exports from India, gives a detailed account of India's seafood potential, products, processing units and export performance. The Seafood Industry of India has come a long way and today seafood is exported to nearly 70 countries from India. MPEDA functions under the Ministry of Commerce, Government of India and acts as a coordinating agency with different Central and State Government establishments engaged in fishery production and allied activities.

4.2.1 Objectives of the MPEDA

MPEDA has the following objectives and it is presented below

- i. Conservation and management of fishery resources and development of offshore fishing
- ii. Registration of exporters and processing plans

- iii. Regulations of marine -products export
- iv. Laying down standards and specifications
- v. Acting as an agency for extension of relief as per directions from Government.
- vi. Helping the industry in relation to market intelligence, export promotion. and import of essential items.
- vii. Imparting training in different aspects of the marine products industry, reference to quality control, processing and marketing.
- viii. Promotion of commercial shrimp farming.
- ix. Promotion of joint ventures in aquaculture. production. processing and marketing of value added seafood.

4.2.2 Work programme of MPEDA

MPEDA has the following work programs and it is presented below.

- i. Registration of infrastructure facilities for seafood Export trade
- ii. Collection and dissemination of trade information.
- iii. Projection of Indian marine products in overseas markets h participation in overseas fairs and organizing international seafood fairs in India.
- iv. Implementation of development measures vital to the industry like distribution of insulated fish boxes, putting up fish landing platforms, improvement of peeling sheds. modernization of industry such as upgrading of plate freezers, installation of IQF machinery, generator sets, ice making machineries, quality control laboratory etc.
- v. Promotion of aquaculture for production of shrimp and prawn for export
- vi. Promotion of value added Seafood's
- vii. Promotion of Tuna fishery.
- viii. Implementation of organic farming.
- ix. Conservation management.

4.2.3 Office Network of MPEDA

The Head Quarters of MPEDA is located at Kochi in Kerala. The regional offices of MPEDA in India includes Veraval in (Gujarat), Mumbai in (Maharashtra), Kochi in (Kerala), Chennai in (Tamil Nadu), Visakhapatnam in (Andhra Pradesh) and Kolkata in (West Bengal) and six sub regional offices in India are at Goa, Mangalore in (Karnataka), Kollam in (Kerala), Tuticorin in (Tamil Nadu), Bhubaneswar in (Orissa) and Guwahatti in (Assam) are functioning as field offices for implementation of various activities of the Authority besides engaging themselves in export promotion of marine products by providing guidance and assistance to the processing industry and the export trade.

Similarly, six regional centres at Kochi in (Kerala), Panvel in (Maharashtra), Valsad in (Gujarat), Thanjavur in (Tamil Nadu), Vijayawada in (Andhra Pradesh), and Bhubaneswar in (Orissa) and four sub regional centres at Kannur in (Kerala), Karwar in (Karnataka), Bhimavaram in (Andhra Pradesh) and Kolkata in (West Bengal) extend assistance to augment production of shrimp to sustain and increase exports. MPEDA has also set up three standalone laboratories, other than the one in Head Quarters, at Bhimavaram, Nellore in Andhra Pradesh & Bhubaneswar (Orissa) equipped with sophisticated equipments like LC MS for testing various parameters.

The authority operates two overseas Trade Promotion Offices, one at Tokyo (Japan) and the other at New York (USA) with Resident Directors as Head of offices. The objectives of the overseas Trade Promotion Offices are to promote seafood imports into the respective countries by liaising Indian exporters as well as overseas importers, developing contact with Government agencies/ officials to remove identified constraints, promote the image of Indian Products through publicity campaigns, identify market for new products, Create awareness On the capabilities of Indian processing, packaging, quality inspection procedures etc. and also to identify suitable joint venture partners for deep sea fishing, aqua culture projects, processing and marketing value added products etc. The adviser of Agriculture and Marine Products Division of the Indian trade Centre at Brussels

(under the Ministry of Commerce assists) MPEDA in its trade promotional activities in Europe, and liaises with the European countries.

Marine Product Export Development Authority (MPEDA), as a logical extension of its initiatives to project the capabilities of the seafood processing sector and to optimize the installed capacity utilization. MPEDA has been implementing various schemes aimed at increasing the production from culture and capture fisheries, value addition and marketing thrust. The Centre has identified value addition and production of super quality ready-to-eat marine products in consumer packs to achieve the target of \$ 6 billion worth of seafood exports by 2017.

4.2.4 Schemes of MPEDA

The plan schemes of the MPEDA are implemented under seven major heads namely

- i. Market Promotion.
- ii. Capture Fisheries.
- iii. Culture Fisheries.
- iv. Processing infrastructure and value addition
- v. Quality control
- vi. Research and Development
- vii. Viability gap funding

The market and its situations are always changing even with a slight stimulus and so the exporters should be well prepared to meet the unexpected changes any time. The products should be modified with the changing trends of the market. The export promotion council and MPEDA also give both financial and advisory support to the exporters. The council also come with market promotion schemes to promote export. Some of the product development and market promotion schemes which are most beneficial to exporters are research and development of new products, training in new technology by inviting overseas technical experts to India, assistance for setting up of chilled rooms at exporters premises, projection of resources potential from Indian serene and unpolluted water sources, printing and distribution of leaflets and booklets in different languages and

quality assurance in processing. Development of rapport between exporter and importer. Invitation to ensured experts for export promotional visit. Organizing international buyer seller meets and participation in specialized trade fairs.

4.2.5 Marketing Services

MPEDA complies and disseminates trade enquiries received from overseas buyers among exporters. In association with concerned agencies it sorts out trade disputes. It compiles and disseminates information about freezer space requirements for shipment of frozen cargo and liaises with shipping companies and airlines to meet the demands of the industry. It liaises with the government for conservation measures of over exploited resources like shrimps, lobsters, Sea cucumbers, seaweeds, and sea shells etc. marketing expertise is shared with exporters and those involved in fishing industry.

4.2.6 Head office

MPEDA functions under the ministry of commerce and industry, Government of India acts as a model agency coordinating with different central and state government establishment engaged in fishery production and allied activities. With this head office in Cochin, the authority has established field offices in all maritime states of India and development schemes for export promotion and aquaculture production of marine products are implemented through these field offices.

Apart from offices working in India, MPEDA also has two of its trade promotion offices functioning at Tokyo, Japan and New York, USA. To liaise with Indian ministries a trade promotion office is also functioning at New Delhi. At Vallarpadam, cochin a training centre for aquaculture is developed, to generate trained personnel on shrimp hatchery/shrimp farming management.

The regional offices of MPEDA are at Cochin, Chennai, Mumbai, Kolkata, Visage and sub-regional offices at Mangalore, Panaji, Kollam, Bhubaneswar and Tuticorian, they concentrate on discharging their duties related to the implementation of various plans and schemes of the authority on export

promotional activities and by providing guidance and assistance in processing export trade. The regional offices maintain a close association with the department of fisheries of state government, and also with the sea food industry and other organizations involved in export trade.

4.2.7 Trade Promotion Offices

To serve the market of Indian seafood MPEDA has two trade promotion offices working in Tokyo and New York. Japan is the leading market for mariner products and the office was incorporated in the year 1978. USA being the second important market, particularly for Indian shrimp, the export has increased over 15 times to Japan during the time period of 1984 – 70 to 2001 – 02, whereas a record of increase to 20 times has been measured during the year 1984 – 85 to 2001 – 02 to USA.

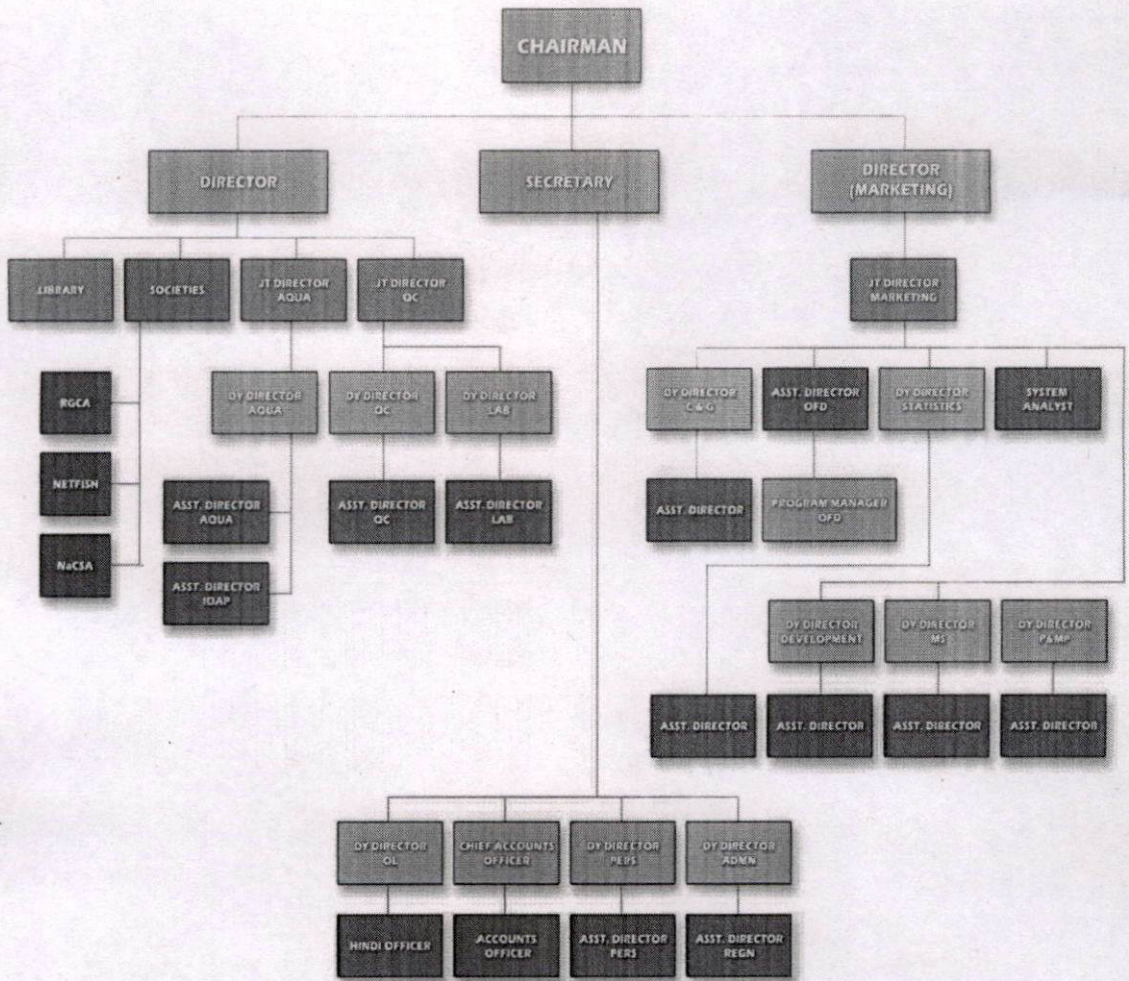
The main function of USA and Japan offices are as following:

- i. Collection of marine intelligence
- ii. Settlement of quality and trade disputes
- iii. Public relation activity
- iv. Assistance in undertaking market surveys
- v. Assistance to importers and exporters
- vi. Organized and coordinate visits of important persons and delegations
- vii. Arrangements
- viii. Promotion of joint ventures, technical arrangements and charter

4.2.8 Roles and responsibilities of MPEDA

- i. Providing infrastructural facilities for seafood export trade and registration
- ii. Collection of trade information and their dissemination
- iii. Promotional activities of Indian marine products are being done by MPEDA in overseas market
- iv. Implementation of schemes which is important for the industry by extending assistance for infrastructure development which leads to better preservation and modernized processing

- v. Promotion of deep sea fishing projects to increase the efficiency of fishing through test fishing, upgradation and joint venture & installation of equipment's.
- vi. Market promotional activities and publicity.
- vii. Provide training for fishermen, fish processing workers, aquaculture farmers and other stake holders in the respective fields related to fishing.
- viii. Conduct research and development for the aquaculture through Rajiv Gandhi Centre for Aquaculture(RGCA)
- ix. To prescribe for itself any matters required for protecting and augmenting the seafood exports from the country in the future.



Organization structure

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**EXPORT PERFORMANCE OF
INDIAN SEAFOOD INDUSTRY - AN ANALYSIS**

Chapter V

Export performance of Indian seafood industry - An analysis

Export performance of Indian Seafood industry

The prosperity of a country depends on many activities which it gets involved. Export is a developing activity which plays a major role in development of a nation. The role played by marine products in export process of the country is something which is inevitable. India has around 8118 kilometres of costal line, fresh water resources consist of 195,210 kilometres of river and canals, 2.9 million hectors of minor and major reservoirs, 2.4 million hectors of ponds and lakes, and about 0.8 million hectors of flood plain wetlands and water bodies. Marine products are abundantly available in the country which helps in earning foreign exchange by the way of exporting it. MPEDA (Marine Product Export Development Authority) is a force to help the country in promoting the export of marine products to various international destinations. It functions as a supporting body to the farmers in increasing their production, by way of providing all type of assistance. The authority got various kinds of schemes which would help in promoting the trade of marine products and in protecting the exporters from all kinds of threats.

The analysis of major items of marine export both in quantity and value wise is given below.

5.1 Item wise export of marine products

The major items of export of marine products include Frozen Shrimp, Frozen Fin Fish, Cuttle fish, Frozen Squid, Dried items, Live items, Chilled items and Other items.

A. Frozen Shrimp

Table 5.1 Quantity and value wise export of Frozen Shrimp

Year	Quantity(MT)	Growth	Value(Rs in Crores)	Growth
2006 - 2007	137397	100	4506	100
2007 - 2008	136223	-0.85	3941	-12.54
2008 - 2009	126039	-8.27	3779	-16.13
2009 - 2010	130553	-4.98	4182	-7.19
2010 - 2011	151465	10.24	5718	26.90
2011 - 2012	189125	37.65	8175	81.42
2012 - 2013	228620	66.39	9706	115.40
2013 - 2014	301435	119.39	19368	329.83
2014 - 2015	357505	160.20	22468	398.62
2015 - 2016	373866	172.11	20045	344.85

Source: Annual report of MPEDA

The quantity and value wise export of frozen shrimp in India is shown in table 5.3. In the year 2015 – 2016 the quantity exported was 373866 and value was Rs. 20045 crores. We took 2006 – 2007 as base year. Compared to the base year for the next few years it shows a negative growth but after that there is an increase in the growth rate by the following years. Especially in the year 2008 – 2009 after the anti-dumping duties came into effect, the number of Indian exporters to the United States in a significant way from 280 in 2005 to just 68 in the financial year 2008 – 2009. In that year the anti-dumping duty imposed was 10.17 per cent. Later by the involvement of Indian Government and MPEDA, US reduced their anti-dumping for Indian marine products to 2.37 per cent. During the year 2013 – 2014 the value of frozen shrimp increased drastically by 329 per cent. During the

year 2014 – 2015 the quantity wise export of frozen shrimp increase hugely by 160 per cent. This increase helped to increase the overall export of Indian seafood industry.

Frozen shrimp continued to be the major item of export in terms of quantity and value, accounting for a share of 39.53 per cent in quantity in the year 2015 - 2016. The year 2015 – 2016 was considered as the marketing year. This increase was due to the favourable measures followed by the government for the production and promotion of frozen shrimp export industry.

The overall export of shrimp during 2015-16 was to the tune of 3,73,866 MT. USA is the largest market imported (1,34,144 MT) for frozen shrimp followed by European Union (81,849 MT), South East Asia (65,188 MT), Japan (34,204 MT), Middle East countries (17,477 MT), China (9542 MT) and Other Countries (31,464 MT). (source annual report MPEDA 2015 – 2016)

Figure 5.1 Quantity and value wise export of frozen shrimp

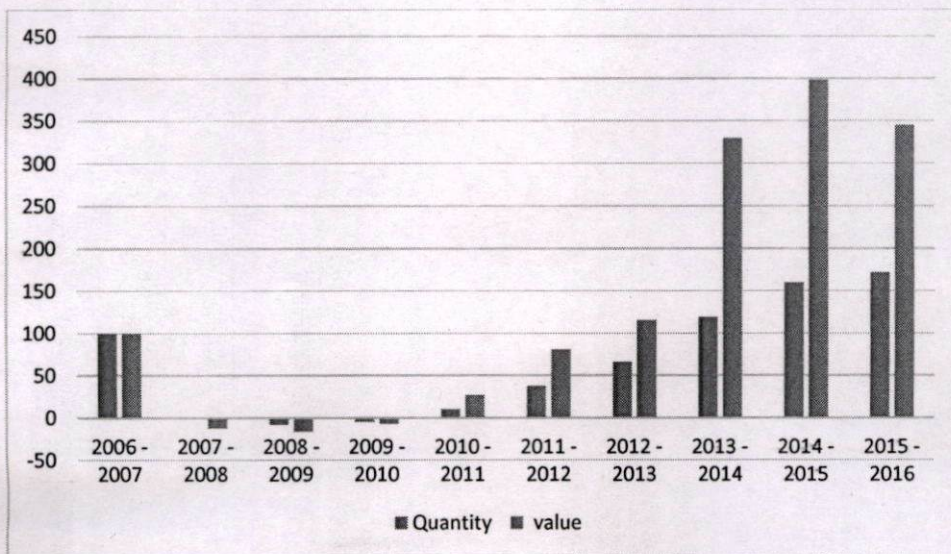
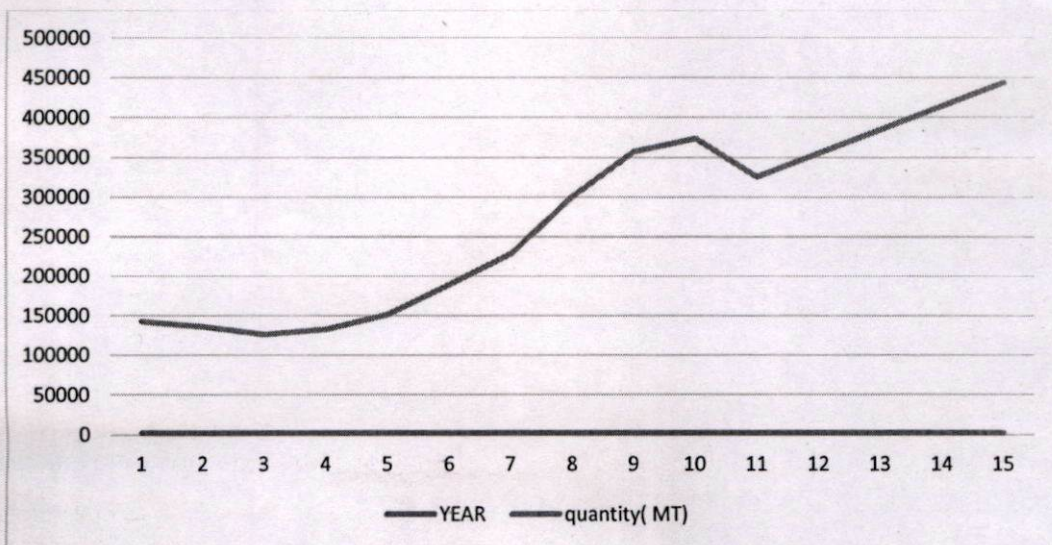


Table 5.2 Trend analysis for overall export of frozen shrimp

Year	Quantity(MT)	Growth
2017	376091	173.72
2018	405703	195.27
2019	435315	216.83
2020	464928	238.38
2021	492319	258.31

The above table shows that there will be a drastic positive increase in the quantity exported for the next five years. The trend analysis for the upcoming five financial years, shows a difference of 116228 tonnes increase in the export of frozen shrimp. The growth rate is also shown a positive trend. According to the trend analysis the year 2021 shows 258 per cent growth in the quantity wise export of Frozen Shrimp.

Figure 5.2 Overall export of Frozen Shrimp



B. Frozen Fin Fish

Table 5.3 Quantity and value wise export of Frozen Fin fish

Year	Quantity(MT)	Growth	Value(Rs in Crores)	Growth
2006 - 2007	257074	100	4051	100
2007 - 2008	220197	-14.34	3667	-9.48
2008 - 2009	132488	-48.46	4228	4.37
2009 - 2010	147838	-42.49	5448	34.49
2010 - 2011	270751	5.32	1452	-64.16
2011 - 2012	220200	-14.34	1303	-67.84
2012 - 2013	238543	-7.21	1722	-58.49
2013 - 2014	260979	1.52	2032	-49.84
2014 - 2015	312358	21.51	2623	-35.25
2015 - 2016	334240	30.02	2756	-31.97

Source: Annual report of MPEDA

Frozen Fin Fish is the second largest export item in the year 2015 - 2016, accounting for 334240 tonnes in quantity and Rs. 2756 crores in value. Value wise Export of Frozen fish has shown a negative growth of 31.97 per cent in the year 2015 – 2016 as compared to the base year 2006 – 2007.

The table shows the fluctuations in quantity and value wise export of frozen fish. In the year 2006 – 2007 the quantity wise export of frozen fin fish is 257074 tonnes and Rs.4051 crores in value.in the year 2008 – 2009 the quantity exported were decrease up to 87709 tonnes. This huge decline is due to the foreign markets especially China and USA tightened their TBT's (technical barriers to trade) NTB's (non-tariff barriers) to deny comparative advantage taken by developing countries. There is a dull in international market prior to the 2008-2009 global recession. In the year 2011 – 2012 it was 220200 tonnes in quantity and Rs. 1303.41 crores in value. The upward shift was due to the heavy demand of fin fish in countries like USA, Japan and newly emerging markets like Vietnam, Canada and Germany. Year 2015 – 2016 revealed the heavy increase in export of fin fish. The quantity was 334240 tonnes and Rs. 2756 crores for value, which when compared to the previous year was high. This increase was due to the favourable measures adopted by the Government.

Figure 5.3 Quantity and value wise export of Frozen Fin Fish

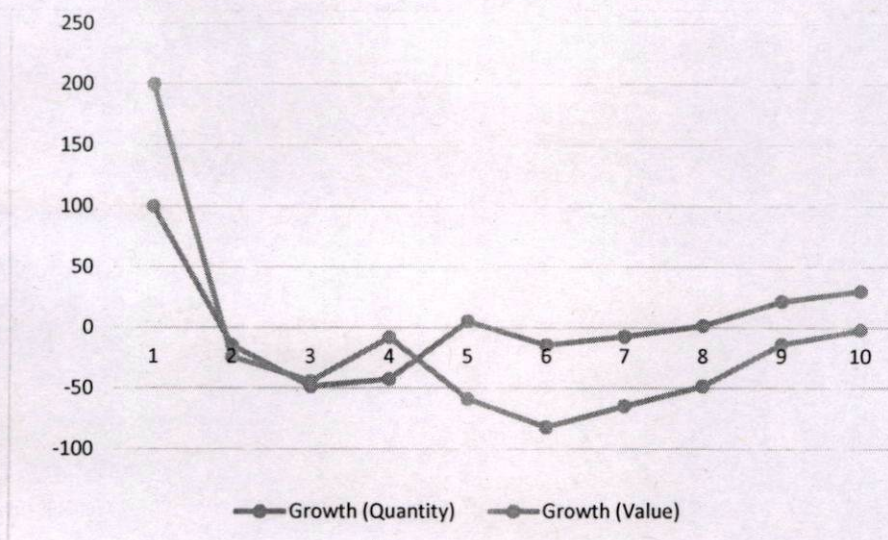


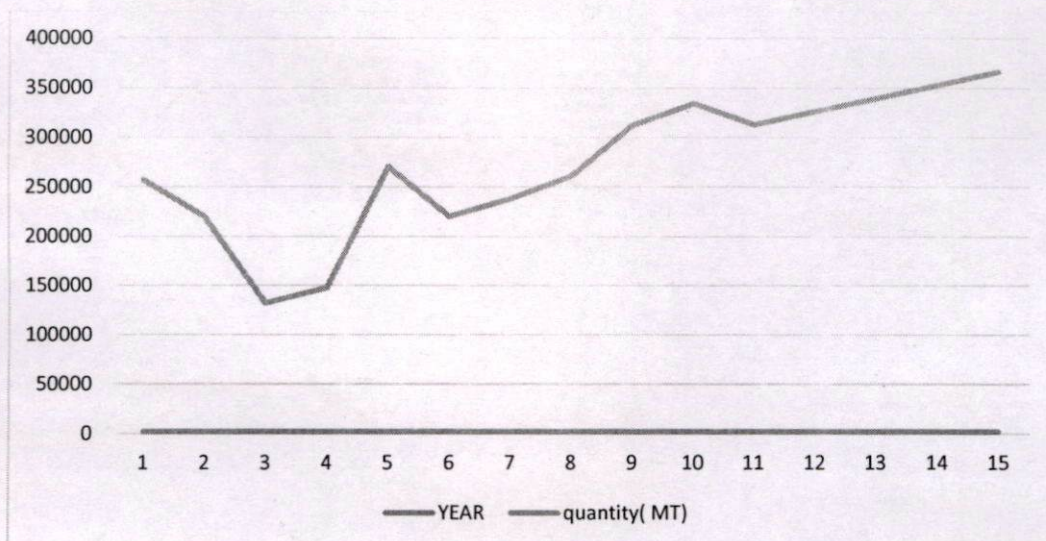
Table 5.4 Trend analysis for overall export of frozen fin fish

Year	Quantity(MT)	Growth
2017	317608	17.30
2018	323421	19.45
2019	329234	21.60
2020	335047	23.74
2021	340860	25.89

The above table depicts that there is a feeble increase in the quantity that will be exported in the upcoming years, as there is a varying trend. The year 2017 – 2021 shows an increasing of 53422 tonnes. The growth rate also shown a positive trend. So in the coming years shown a huge market for Frozen Fin fish.

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Figure 5.4 Overall export of Frozen Fin Fish



C. Frozen Squid

The main countries to which squid are exported are USA, Canada and Other European countries.

Table 5.5 Quantity and value wise export of Frozen Squid

Year	Quantity(MT)	Growth(Quantit y)	Value(Rs in crores)	Growth (Value)
2006 - 2007	52051	100	568	100
2007 - 2008	36577	-29.73	744	-29.76
2008 - 2009	55979	7.55	761	4.07
2009 - 2010	52357	0.59	923	-14.15
2010 - 2011	47252	-9.22	1104	-7.64
2011 - 2012	34172	-34.35	1346	-33.66
2012 - 2013	57125	9.75	1354	-29.76
2013 - 2014	61445	18.05	1386	1.14
2014 - 2015	69569	33.66	1275	107.32
2015 - 2016	81769	57.09	1615	162.60

Source: Annual report of MPEDA

According to table 5.5 frozen squid showed a good positive increase in the export figures except in the second and sixth year the quantity decreased to 36577 tonnes and 34172 tonnes respectively. The reason was due to the sanitation measures followed by the importing countries was not up to the mark for the Indian market. The last year 2015 – 2016 was showing a record figure for the export quantity and value wise of Frozen Squid.

The export quantity was 81769 tonnes and value was Rs. 1615 crores. From the table, in the year 2011 – 2012 the export quantity shown a huge decrease compared to the base year. This was due to the restrictions made by the countries like China and USA.

Figure 5.5 Quantity and Value Wise Export of Frozen Squid

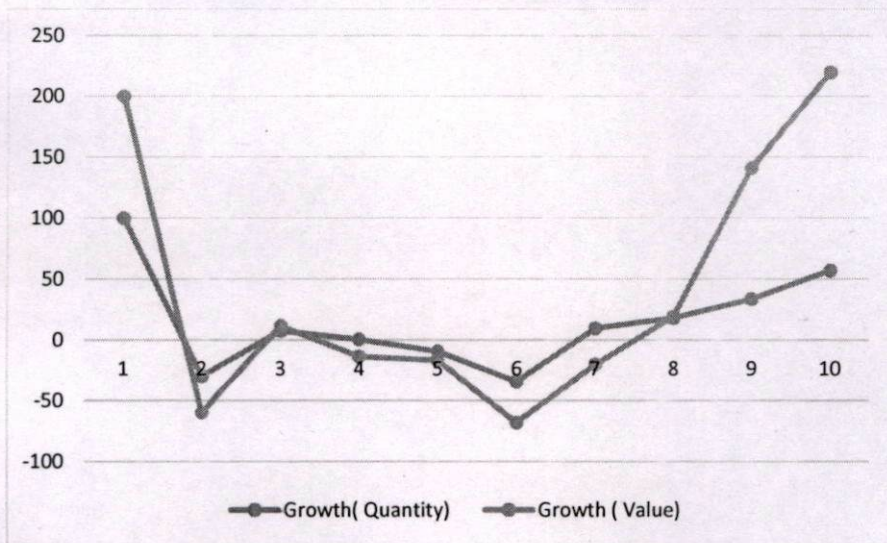
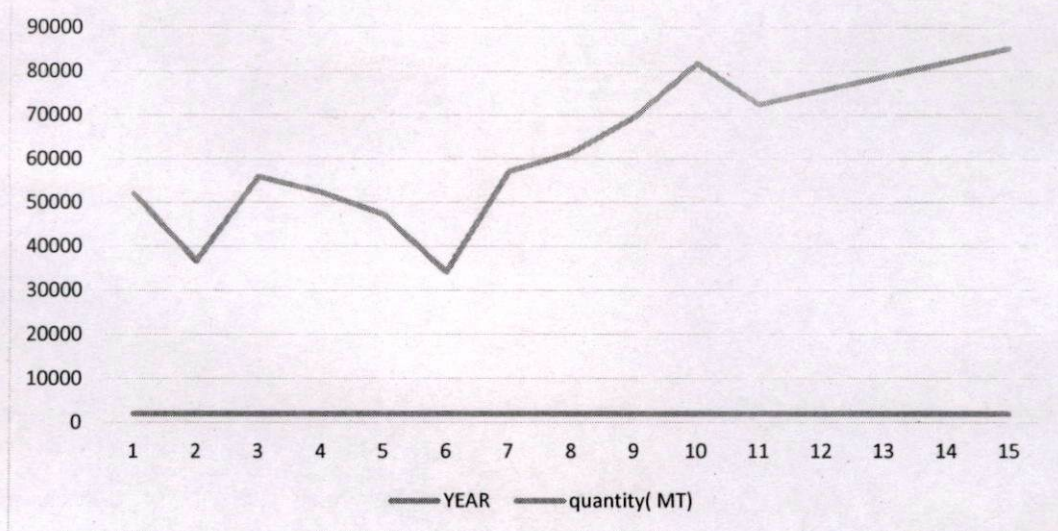


Table 5.6 Trend analysis for overall export of frozen squid

Year	Quantity(MT)	Growth
2017	72395	139.08
2018	75589	145.22
2019	78782	151.36
2020	81976	157.49
2021	85170	163.63

The above table shows a fluctuation in the exporting of frozen squid by the following years. Only a slight increase shown in the export of quantity. Compared to the actual data the trend analysis doesn't shown any huge increase. Only there is a chance for slight increase in the quantity exported.

Figure 5.6 Overall Export of Frozen Squid



D. Frozen Cuttle Fish

Table 5.7 Quantity and value wise export of Frozen Cuttle Fish

Year	quantity(MT)	Growth(Quantity)	Value(Rs in crores)	Growth (Value)
2006 - 2007	55090	100	756	100
2007 - 2008	46436	-15.71	746	-1.32
2008 - 2009	48151	-12.60	743	-1.72
2009 - 2010	63337	14.97	915	21.03
2010 - 2011	57159	3.76	1104	46.03
2011 - 2012	54671	-0.76	1346	78.04
2012 - 2013	63296	14.90	1354	79.10
2013 - 2014	68577	24.48	1386	83.33
2014 - 2015	82353	49.49	1833	142.46
2015 - 2016	65596	19.07	1636	116.40

Source: Annual report of MPEDA



The table shows the fluctuations in quantity and value wise export of frozen Cuttle fish. In the year 2006 – 2007 the quantity wise export of frozen Cuttle fish is 55090 tonnes and Rs.756 crores in value. During the next few years the export of frozen Cuttle fish decrease in quantity as well as value wise. In the year 2012 – 2013 it was increased to 63296 tonnes in quantity and Rs. 1354 crores in value.

The year 2014 – 2015 showed a great hike in Cuttle fish export industry as the quantity exported went up to 823535 tonnes. But in the year 2015 – 2016 the quantity exported was declined to 65596 tonnes. This was mainly due to the micro and macro elements content in cephalopods standards are more stringent than previous year. It shows a negative growth rate as compared to the previous year.

Figure 5.7 Quantity and value wise export of Frozen Cuttle Fish

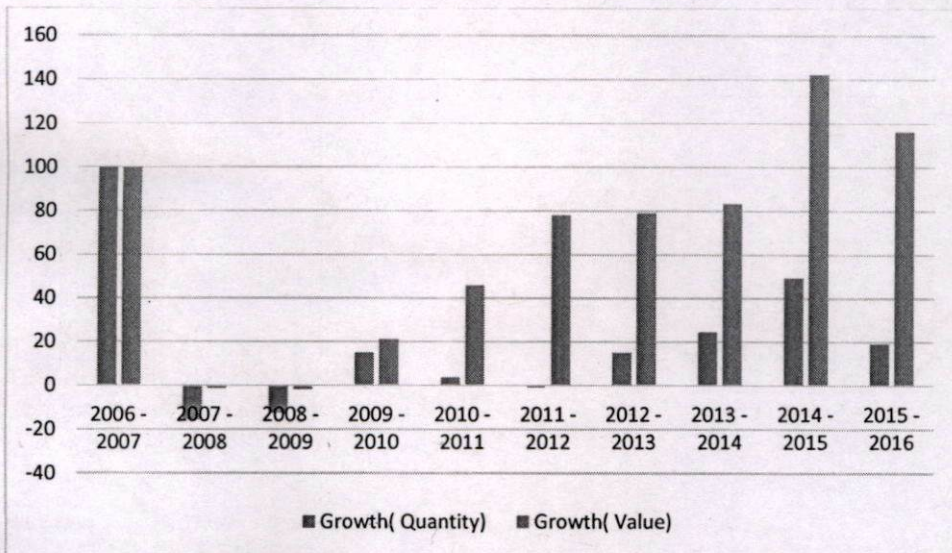
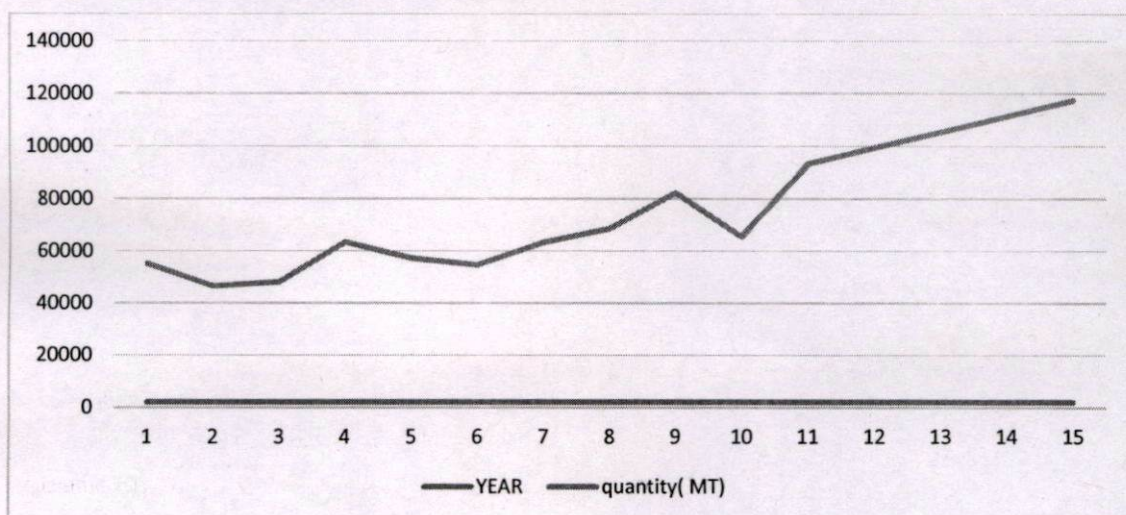


Table 5.8 5

Year	Quantity(MT)	Growth
2017	75316	36.71
2018	78016	41.62
2019	80716	46.52
2020	83416	51.42
2021	86116	56.32

The above table shows a stable increase in the export of Cuttle fish in the year 2017 – 2021. The increase is by 23992 tonnes. The trend shows a comfort zone for exporting of Frozen Cuttle fish in the future years.

Figure 5.8 Overall export of Cuttle Fish



D. Dried Items

The major items of dried category for export are dried fish, dried shark fins, dried Cuttle fish bones and dried fish maws. The table shows the quantity and value wise export of dried items.

Table 5.9 Quantity and value wise export of Dried Items

Year	Quantity(MT)	Growth(Quantity)	Value(Rs in crores)	Growth (value)
2006 - 2007	21649	100	161	100
2007 - 2008	23433	8.24	244	51.55
2008 - 2009	29430	35.94	384	138.51
2009 - 2010	36336	67.84	745	362.73
2010 - 2011	24293	12.21	183	13.66
2011 - 2012	22414	3.53	258	60.25
2012 - 2013	31688	46.37	420	160.87
2013 - 2014	47053	117.34	981	509.32
2014 - 2015	70544	225.85	1010	527.33
2015 - 2016	43320	100.10	725	350.31

Source: Annual report of MPEDA

In the year 2006 – 2007, the export quantity was too low. There was an increase in the export in the year 2009 – 2010. This was due to the increase of demand for dried items in the international market. But again the export quantity decreased by the following years.

The year 2011 – 2012, the export quantity was too low followed by a hike in the value. There was an increase in the export figures starting from 2012 – 2013, the quantity was 31688 tonnes and the value was Rs.420 crores. This was mainly due to the considerable use of dried items for various purposes by countries especially like China and Japan for medicinal purposes. The year 2014- 2015 recorded highest figure in quantity for export of dried items. But it face a huge decline in the quantity wise of export in the year 2015 – 2016. the quantity decreased to 43320 tonnes in the year 2015 – 2016. The major problem faced for the export of dried items is that their preparation lacked sanitation.

Figure 5.9 Quantity and value wise export of Dried items

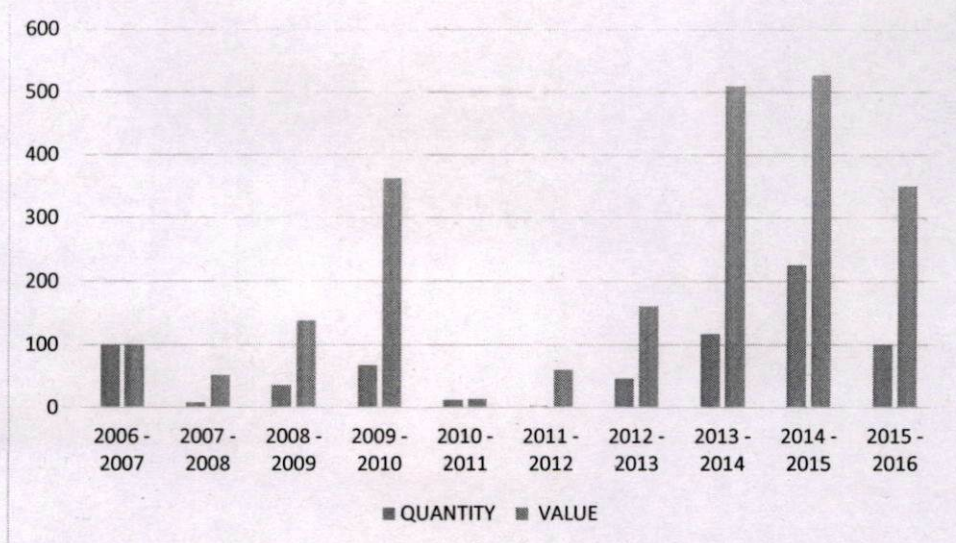
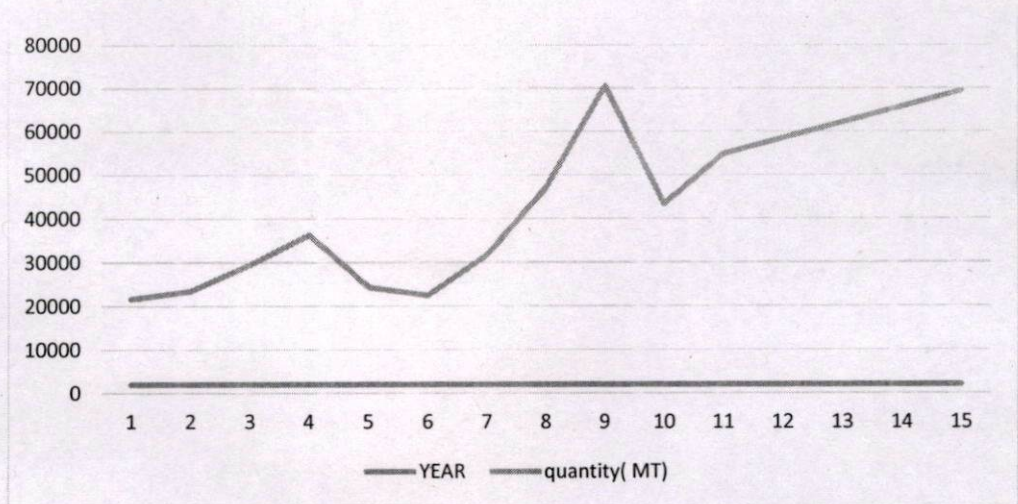


Table 5.10 Trend analysis for overall export of Dried items

Year	Quantity(MT)	Growth
2017	54920	153.68
2018	58538	170.39
2019	62157	187.11
2020	65776	203.82
2021	69395	220.54

The above table depicts the recovery of the quantity wise export of dried items compared to the base year 2006 - 2007. It shows an increase of 220.54% compared to the base year.

Figure 5.10 Overall export of Dried items



F. Live Items

Live items include live aquarium fish which are of different varieties; they also include other marine living organisms.

Table 5.11 Quantity and value wise export of Live items

Year	Quantity(MT)	Growth(Quantity)	Value(Rs)	Growth(Value)
2006 - 2007	2516	100	64	100
2007 - 2008	2520	0.16	67	4.69
2008 - 2009	3007	19.52	88	37.50
2009 - 2010	5073	101.63	132	106.25
2010 - 2011	5280	109.86	142	121.88
2011 - 2012	4199	66.89	154	140.63
2012 - 2013	4373	73.81	197	207.81
2013 - 2014	5080	101.91	218	240.63
2014 - 2015	5488	118.12	301	370.31
2015 - 2016	5493	118.32	308	381.25

Source: Annual report of MPEDA

From the table, during the year 2006- 2007 the quantity of live items exported was 2516 tonnes and it shows an increasing trend in the overall export. From that year the export of live items never shown a decreasing trend, it always held in a positive trend. But

in the value wise it shown a huge increase of 381.25 per cent compared to the year 2006 – 2007.

Figure 5.11 Quantity and value wise export of Live items

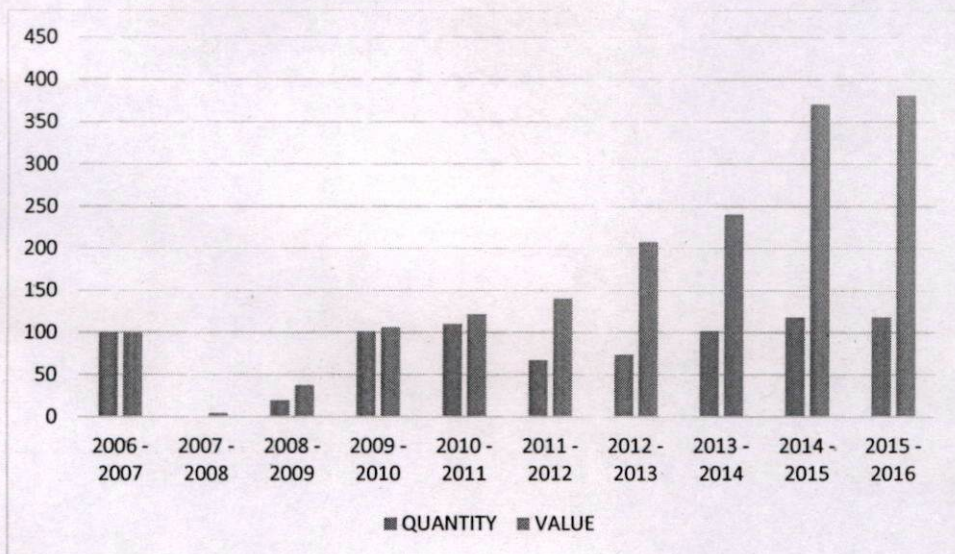
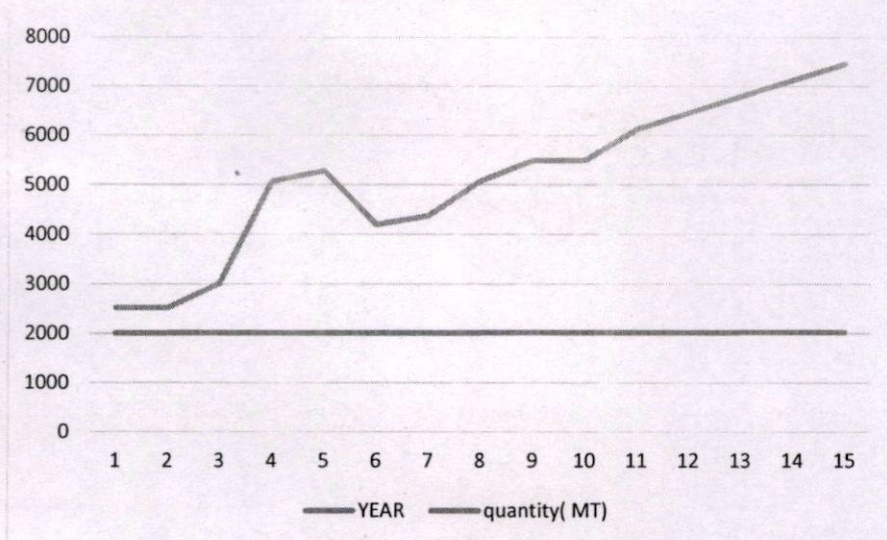


Table 5.12 Trend analysis for overall export of Live items

Year	Quantity(MT)	Growth
2017	6128	143.56
2018	6460	156.76
2019	6792	169.95
2020	7124	183.15
2021	7455	196.30

In the above table the trend shows that there will be increase in the export of quantity exported of live items. In the year 2017 – 2020 the trend shows a good positive increase of 196% compared to the base year.

Figure 5.12 Overall export of Live items



G. Chilled Items

Chilled items meant for export are clam meat, fish, fresh water fish, lobster, pomfret and shrimp. From the data collected and displayed in the table shows extreme variations.

Table 5.13 Quantity and value wise export of Chilled items

Year	Quantity(MT)	Growth(Quantity)	Value(Rs in crores)	Growth (Value)
2006 - 2007	6335	100	103	100.00
2007 - 2008	7016	10.75	119	15.53
2008 - 2009	16172	155.28	181	75.73
2009 - 2010	30047	374.30	268	60.19
2010 - 2011	7200	13.65	117	13.59
2011 - 2012	6541	3.25	118	14.56
2012 - 2013	21453	238.64	217	110.68
2013 - 2014	28817	354.89	264	156.31
2014 - 2015	31404	395.72	635	516.50
2015 - 2016	33150	423.28	809	685.44

Source: Annual report of MPEDA

From the year 2006 – 2007 the export quantity of chilled items shows an increasing trend. There was a downfall in the export quantity of chilled items for the year 2010- 2011, the quantity was 7200 tonnes and the value was Rs. 117 crores. In the year 2011 – 2012, the quantity was 6541 tonnes and the value was Rs.118 crores. From the year 2012 – 2013 the export quantity shows a huge increase. This was due to the favourable policies made by the government. In the year 2015 – 2016, the quantity exported was 33150 tonnes. The value of chilled items shows a huge increase of 685% compared to the base year. The items which performed well in the category of chilled items are pomfret and lobster.

Figure 5.13 Quantity and value wise export of Chilled items

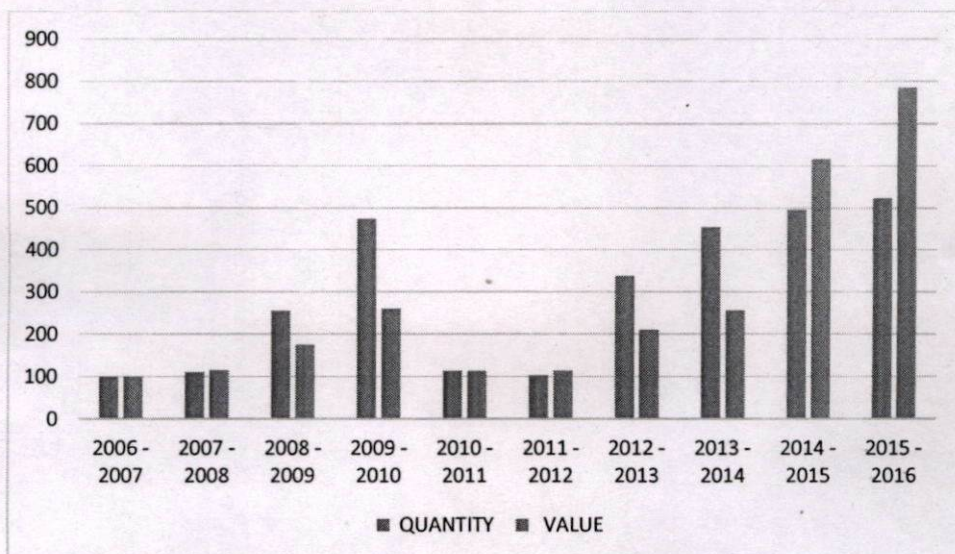
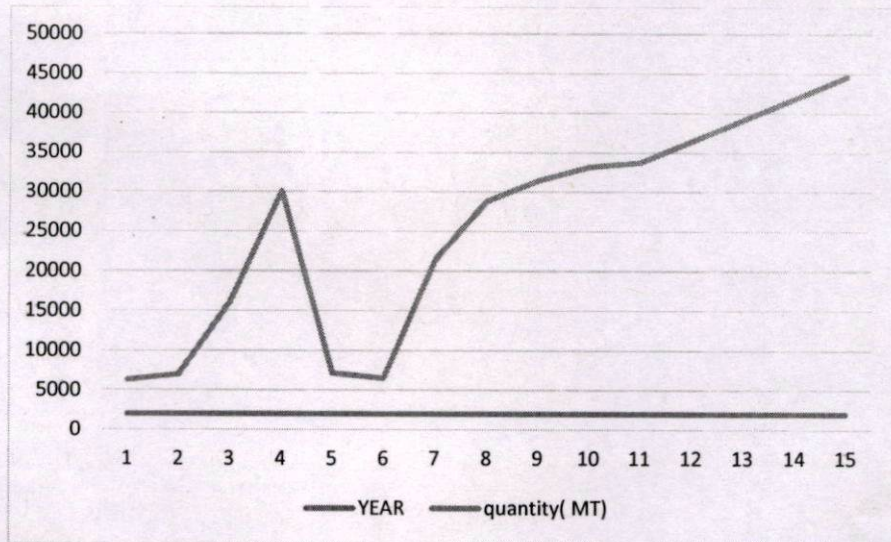


Table 5.14 Trend analysis for overall export of frozen Chilled items

Year	Quantity(MT)	Growth
2017	33774	433.13
2018	36494	476.06
2019	39215	519.02
2020	41935	561.95
2021	44655	604.89

The above table depicts a smooth growth in the export of chilled items. The trend shows the quantity exported has been increased by 10881 tonnes, which makes the chilled item the most exported item during the period under study. The value wise also it shows a positive impact

Figure5.14



H. Other Items

The other item includes items like frozen crab meat, IQF whole crab, pasteurized crab, stuffed crab freeze dried clam, fried fish and prawns, seafood vegetable mix, shark cooked and crushed, shrimp pickle, frozen snail meat, frozen surimi and frozen crab stick.

Table 5.15 Quantity and value wise export of other items

Year	Quantity(MT)	Growth(Quantity)	Value(Rs in crores)	Growth(Value)
2006 - 2007	56447	100	489	100
2007 - 2008	59363	5.17	539	10.22
2008 - 2009	70475	24.85	878	79.55
2009 - 2010	65101	15.33	701	43.35
2010 - 2011	67571	19.71	674	37.83
2011 - 2012	73698	30.56	777	58.90
2012 - 2013	73851	30.83	975	99.39
2013 - 2014	109212	93.48	1623	231.90
2014 - 2015	124947	121.35	2138	337.22
2015 - 2016	113949	101.87	1817	271.57

Source: Annual report of MPEDA

This category of items had shown positive trends for the year under study. It shows a slight decrease in the year 2015 – 2016. This was happened due to the micro and macro elements content in cephalopods standards are more stringent than previous year. The positive trend is mainly due to the customer's preference towards instant ready to eat food, especially for sea foods. The export quantity during the year 2014 – 2015 was 124947 tonnes and the value was 2138. The interest of people towards processed food was increasing day by day which made the export figure go up.

Figure 5.15 Quantity and value wise export of Other items

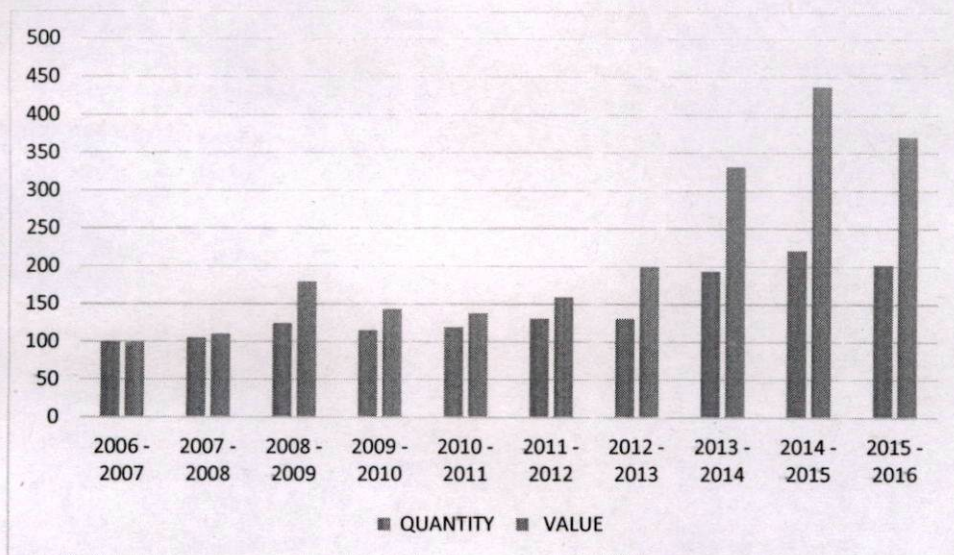


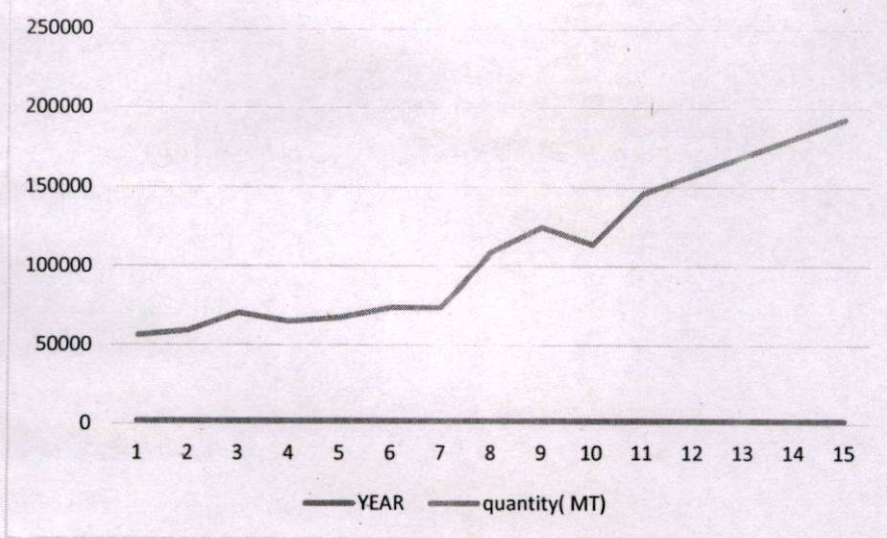
Table 5.16 Trend analysis for overall export of Other item

Year	Quantity(MT)	Growth
2017	145989	258.63
2018	157721	179.41
2019	169453	200.20
2020	181185	220.98
2021	192918	241.77

The above table depicts the exports of other items during the year 2017 -2021. The trend shows an increase by 46929 tonnes. So it is said to be the export of other items held in a healthy way.

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Figure 5.16 Overall export of other items



5.2 Overall export of marine products

Table 5.17 Export of marine products of MPEDA

Sl.No.	Year	Quantity (MT)	Annual Growth Rate	Value (Rs)	Annual Growth Rate
1	2006-2007	612641.00	100	8363.53	100
2	2007-2008	541701.00	-11.58%	7620.92	-8.88
3	2008-2009	602835.00	-1.60	8607.94	2.92
4	2009-2010	678436.00	10.74	10048.53	20.15
5	2010-2011	813091.00	32.72	12901.47	54.26
6	2011-2012	862012.00	40.70	16597.23	98.45
7	2012-2013	928215.00	51.51	18856.26	125.46
8	2013-2014	983756.00	60.58	30213.26	261.25
9	2014-2015	1051243.00	71.59	33441.61	299.85
10	2015-2016	945892.00	54.4	30420.83	263.73

Source: Annual report of MPEDA

The performance was reviewed on the basis of table 5.1. The year 2006 – 2007 was considered as the base year, the quantity exported was 612641 tonnes and the value was Rs. 8363 crores. The above table 5.1 shows the growth of marine products from 2006 to 2016. The marine products export has growth of 4.94% on quantity and 15.43% growth in value over the past 10 years. Comparing the overall marine products exports there is a major decline over the period 2007-2008 and 2015-2016.

There is a decline in imports in several foreign countries japan, USA, EU, China, South East Asia comparing 2007-2008 with 2006-2007. The major decrease is shown by USA 36612 MT (-16.33%) in quantity compared to year 2006-2007's 43758 MT and value wise there is decline of -24.55%. China also had a decline from 203513 to 139792 (-31.31%) in quantity wise and value wise -12.74%. This decrease in import by these major markets resulted in India's overall marine products export into the ever time decrease of -

11.58% during 2007-2008. The decline in export is due to the foreign markets especially China and USA tightened their TBT's (technical barriers to trade) NTB's (non-tariff barriers) to deny comparative advantage taken by developing countries. There is a dull in international market prior to the 2008-2009 global recession.

The major reason for the decrease in export during the year 2015 - 2016 is due to the micro and macro elements content in cephalopods standards are more stringent than previous year. The depreciation of euro, weaker economic condition in China, devaluation yen etc contributed to the decline in exports. Other factors contributed were the decline in capture fishery. USA and South East Asia are continued to be the major importers of Indian seafood as in the previous year. Frozen Shrimp continued to be the major export item followed by frozen fish.

Figure 5.17 Export of marine products of MPEDA (Quantity wise)

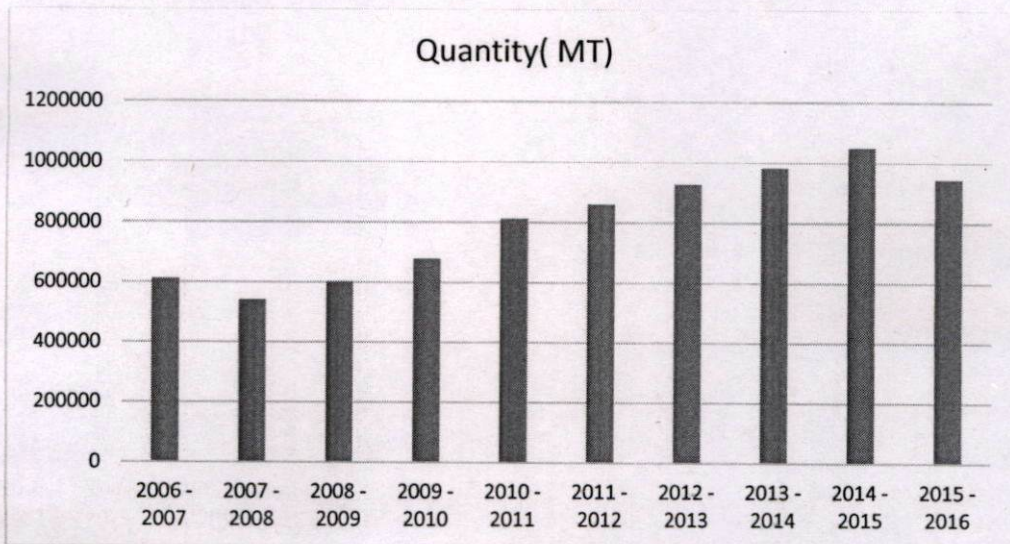


Figure 5.18 Export of marine products of MPEDA (Value wise)

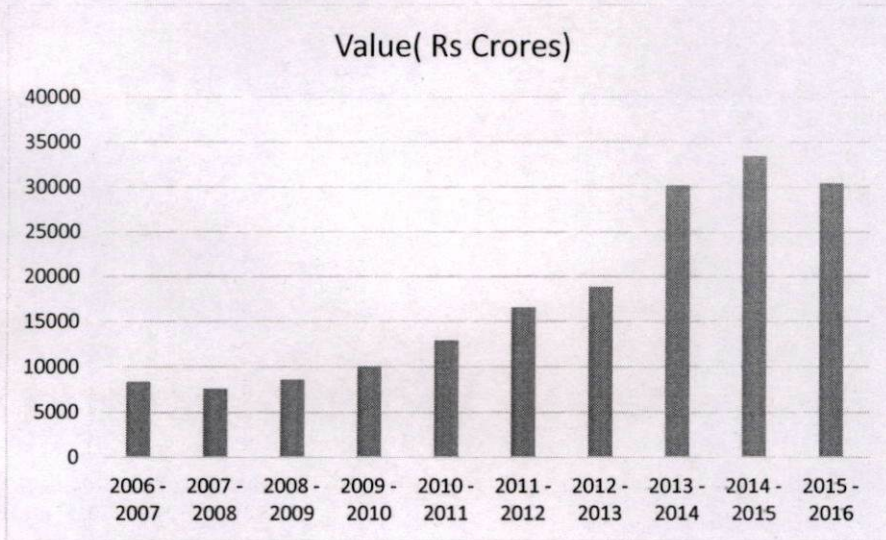
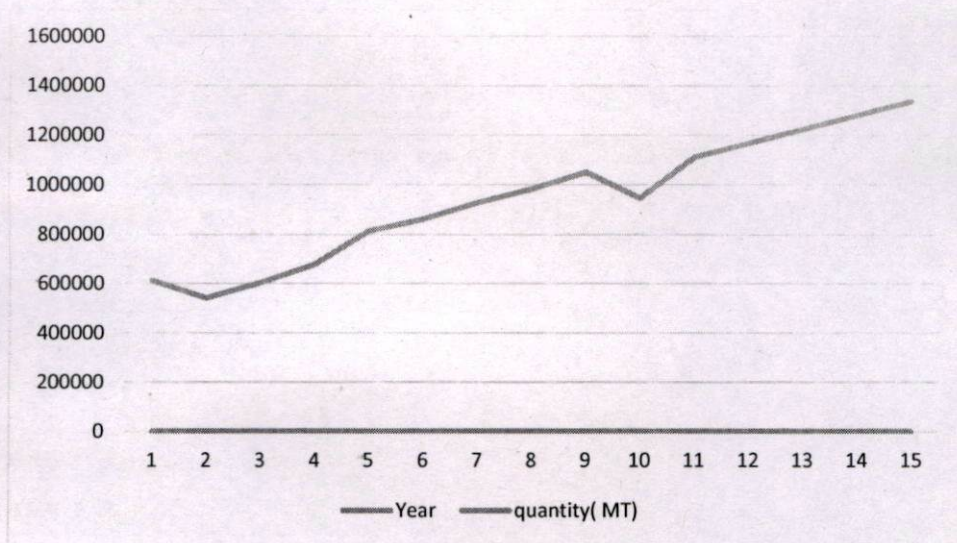


Table 5.18 Trend analysis for overall export of Seafood

Year	Quantity(MT)	Growth
2017	1110946	181.33
2018	1167121	190.51
2019	1223297	199.68
2020	1279472	208.85
2021	1335647	218.01

During the year 2006 – 2016 there has been a favourable growth of seafood export, due to the policies and schemes introduced by the government of India. Therefore, more exporters will enter into this industry in the upcoming years, and this will increase the growth of sea food export further as shown in the trend.

Figure 5.19 Overall export of Seafood



5.3 Market wise export of marine products – a comparison (2014 – 2015 & 2015 – 2016)

The major commercial destinations of export of marine products in India consist of USA, Japan, European Union, China, South East Asia, and Middle East. The analysis of the countries to which the marine products are exported is drawn below.

Table 5.19 Marketwise Export

Country		Share(%)	2014 - 2015	2015 - 2016	Growth(%)
JAPAN	Q	7.97	78772	75393	-4.29
	V	8.58	3040	2610	-14.13
	\$	8.61	502	403	-19.67
USA	Q	16.25	129667	153695	18.53
	V	28.38	8830	8633	-2.23
	\$	28.46	1458	1334	-8.52
EUROPEAN UNION	Q	19.7	188031	186349	-0.89
	V	20.75	6715	6311	-6.02
	\$	20.71	1106	970	-12.28
CHINA	Q	5.29	59519	50042	-15.92
	V	4.71	1349	1432	6.17
	\$	4.71	221	220	-0.34
SOUTH EAST ASIA	Q	34.77	409931	328900	-19.77
	V	24.65	8620	7499	-13.01
	\$	24.59	1416	1152	-18.63
MIDDLE EAST	Q	5.7	6408	53905	-16.57
	V	5.9	2020	1793	-11.24
	\$	5.9	333	276	-17
OTHERS	Q	10.32	12716	97609	-19.14
	V	7.04	2864	2140	-25.3
	\$	7.03	472	329	-30.25
TOTAL	Q	100	1051243	945892	-10.02
	V	100	33441	30213	-9.03
	\$	100	5511	5007	-14.94

Source: Annual Report Of MPEDA

Q: Quantity in Tons V: Value in Rs. Crores \$: USD Million

The decrease in export in international market was encountered in 2015-2016. Comparing 2015-2016 with 2014-2015 the export of marine products shown decreased growth of -10.02 per cent in quantity and -9.03 per cent in value. The decrease in marine products export is shown by Japan, European Union, China, South east Asia, Middle east, other countries. The major reason for decrease in export is due to the micro and macro elements content in cephalopods standards are more stringent than previous year.

USA continued to be the major importer of Indian seafood with a share of 28.46 per cent in terms of USD. USA imported 153695 MT of seafood in the current financial year. Export to USA had registered a growth of 18.53 per cent in terms of quantity but in value it showed a decline of 2.23 per cent in INR and 8.52 per cent in USD terms. Frozen Shrimp continued to be the principle item exported to USA with a share of 94.01 per cent in USD value. Exports of Vannamei shrimp to USA showed an increase of 22.48 per cent in quantity, but the value dropped by 5.32 per cent in USD terms. Similarly exports of Black Tiger Shrimp improved by 6.56 per cent in quantity but decreased by 30.35 per cent in USD earning.

South East Asia remains as the second largest market destination of Indian Marine products accounting for a share of 24.59 per cent in USD terms followed by European Union (20.71%), Japan (8.61%), Middle East countries (5.90%), China (4.71%) and Other countries (7.03%) respectively. However, the overall exports to South East Asia reduced by 19.77 per cent in quantity, 13.01 per cent in rupee value and 18.63 per cent in US \$ earnings.

The major South East Asian markets for Indian marine products are Vietnam with a percentage share of 74.91 per cent in US \$ terms followed by Thailand (10.83%), Taiwan (5.04%), Malaysia (3.37%), Singapore (3.29%), South Korea (2.31%) and Other Countries (0.25%) respectively. Among these, Vietnam alone imported 219384 MT of Indian seafood, the quantity is much more than that of any other individual markets like US, Japan or China.

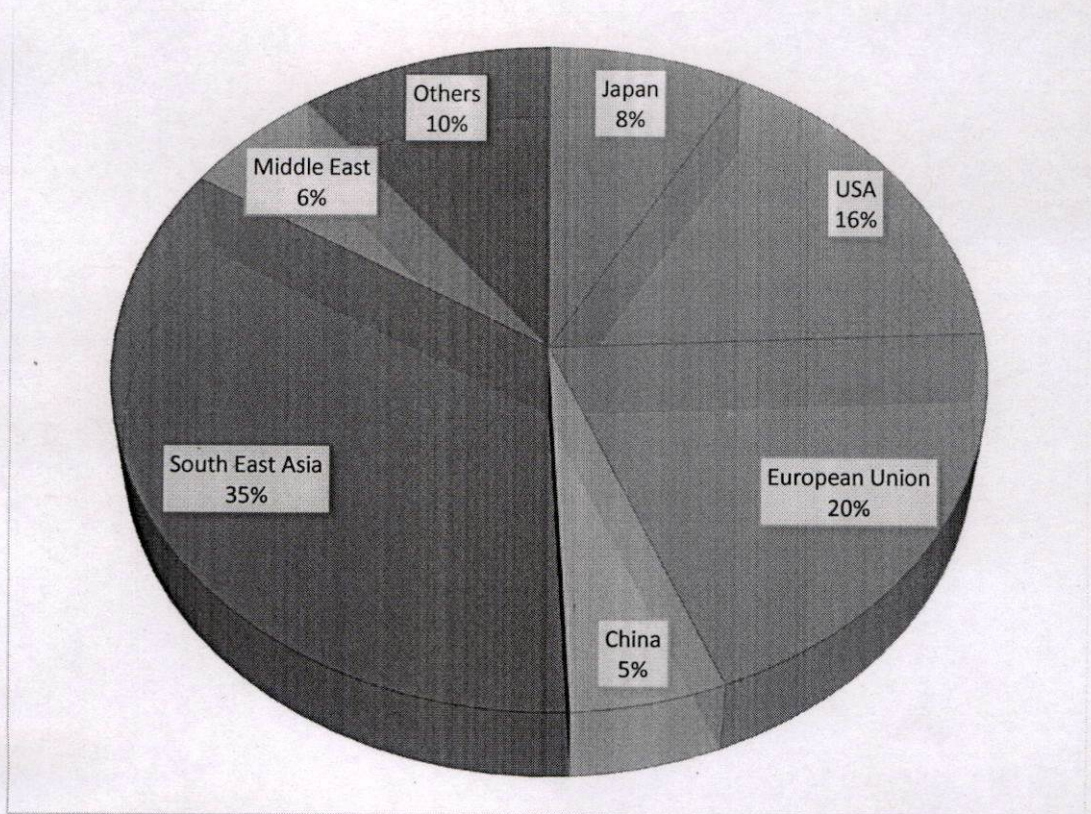
European Union continued to be the third largest destination for Indian Seafood with a share of 19.70 per cent in Quantity. Frozen Shrimp continued to be the major item of exports to EU accounting 43.92 per cent in quantity and 62.35 per cent in USD earnings out of the total exports to EU. Exports of Vannamei shrimp to EU improved by 8.31 per cent in quantity but showed a decline of 12.39 per cent in USD terms.

Japan is in fourth largest destination for Indian Seafood with a share of 8.61 per cent in USD earnings and 7.97 per cent in quantity terms. Exports to Japan decreased by 4.29 per cent in quantity and 19.67 per cent in USD terms. Frozen Shrimp continued to be the major item of exports to Japan accounting a share of 45.37 per cent in quantity and 78.40 per cent in USD earnings out of the total exports to Japan. Exports of Frozen shrimp to Japan increased by 12.39 per cent in quantity but decreased by 9.80 per cent in USD value. This year BT Shrimp export to Japan have improved in quantity from 9129 MT to 10367 MT with a growth of 13.57 per cent. However, the Unit Value decreased from 14.28 USD in 2014-15 to 9.6 USD in 2015-16 a steep drop of 32.77 per cent. Exports of Vannamei shrimp improved by 24.20 per cent in quantity but in value it decreased by 4.83 per cent in USD.

Compared to previous year Chinese market shows a recovery with a positive growth in Indian Rupee value by 6.17 per cent but in quantity and USD terms showed a negative growth of 15.92 per cent and 0.34 per cent respectively. Exports of frozen shrimp improved by 80.17 per cent in quantity and 49.51 per cent in USD terms. Exports of Vannamei and BT shrimp also improved substantially. This shows a shift from low value fish items to high value shrimp in Chinese market.

Exports to Middle East and Other Countries showed a negative growth in quantity as well as in value terms when compared to previous year.

Figure 5.20 Market wise export of 2015 - 2016



5.4 Major port wise export of marine products – a comparison (2014 – 2015 & 2015 – 2016)

Marine products were exported through 30 different sea/air/land ports. Vizag, Kochi, JNP, Pipavav and Calcutta are major ports handled the marine cargo. Exports improved from Mundra, Hyderabad, Trichy and Hill Land Customs when compared to last year 2014-15. Major Port wise export details are given below.

Table 5.20 Port wise export

Ports		Share	2015 - 2016	2014 - 2015	Growth(%)
Vizag	Q	13.61	128718	115672	11.28
	V	23.54	7161	7578	-5.51
	\$	23.59	1105	1251	-11.67
Kochi	Q	15.35	145193	162818	-10.83
	V	14.62	4447	4989	-10.88
	\$	14.6	684	822	-16.77
Calcutta	Q	9.63	91054	84994	7.13
	V	11.28	3430	3686	-6.93
	\$	11.33	530	609	-12.83
JNP	Q	13.29	125751	149585	-15.93
	V	11.3	3437	3939	-12.83
	\$	11.28	529	648	-18.42
Pipavav	Q	21.65	204799	243640	-15.93
	V	11.27	3429	3588	-4.42
	\$	11.21	525	588	-10.73
Krishnapatnam	Q	4.06	38412	30690	25.16
	V	7.12	2167	2066	4.88
	\$	7.13	334	341	-2.07
Tuticorin	Q	4.29	40591	42203	-3.82
	V	6.57	1999	2328	-14.14
	\$	6.58	308	383	-19.71
Chennai	Q	4.13	39021	46671	-16.39
	V	6.3	1918	2458	-21.97
	\$	6.33	296	405	-26.83
Mangalore	Q	8.88	83954	115470	-27.29
	V	3.45	1048	1363	-23.13
	\$	3.43	160	223	-28.03
Other Port	Q	5.12	48400	59500	-18.66
	V	4.54	1382	1443	-4.24
	\$	4.53	212	236	-10.29
Total	Q	100	945892	1051243	-10.02
	V	100	30420	33441	-9.03
	\$	100	4687	5511	-14.94

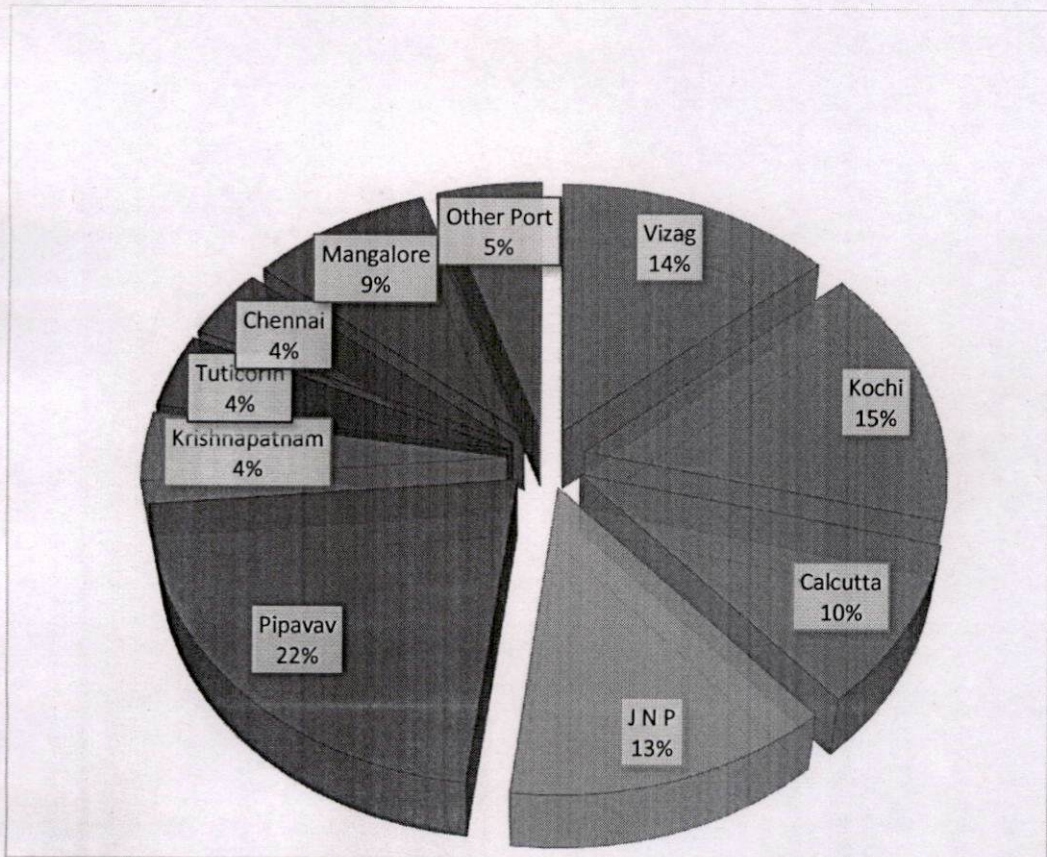
Source: Annual report of MPEDA

Q: Quantity in Tons V: Value in Rs. Crores \$: USD Million

Pipavav continued to be the major port of Indian seafood with a share of 11.27% in terms of USD. Pipavav exported 204799 MT of seafood in the current financial year.

Kochi port remains as the second largest port of exporting Indian Marine products accounting for a share of 14.6 per cent in USD terms. In the year 2015 – 2016 almost all ports shown a negative growth. This was mainly due to the micro and macro elements content in cephalopods standards are more stringent than previous year.

Figure 5.21 Port wise export of 2015 - 2016



5.5 Total Item wise export of marine products.

Table 5.21 Total item wise export of marine products

Item		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Fr. Shrimp	Q	13739 (7.22)	136223 (25)	126039 (21)	130553 (19)	151465 (18)	189125 (22)	228620 (25)	301435 (31)	357505 (35)	373866 (40)
	V	4506 (54)	3941 (52)	3779 (44)	4182 (42)	5718 (44)	8175 (49)	9706 (51)	19368 (64)	22468 (67)	20045 (66)
Fr.Fin Fish	Q	27075 (1.44)	220200 (41)	238544 (40)	260979 (39)	312358 (38)	347118 (40)	343876 (37)	324359 (33)	309434 (30)	228749 (24)
	V	1452 (17)	1303 (17)	1722 (20)	2032 (20)	2623 (20)	3284 (17)	3296 (17.48)	4294 (14)	3778 (11)	3462 (11)
Fr.Cuttle fish	Q	55701 (9)	45955 (8)	50750 (8)	63504 (10)	59159 (7)	54671 (6)	63296 (7)	68577 (7)	82353 (8)	65596 (7)
	V	797 (10)	744 (10)	761 (9)	923 (9)	1104 (9)	1346 (7)	1354(7)	1386 (5)	1833 (5)	1636 (5)
Fr. Squid	Q	47252 (7.7)	34172 (6)	57125 (10)	61445 (9)	87579 (11)	77373 (9)	75387 (8)	87437 (9)	69569 (7)	81769 (9)
	V	568 (7)	408 (5)	632 (7)	622 (6)	1010 (8)	1228 (7)	1378(7)	1731 (6)	1275 (4)	1615 (5)
Dried items	Q	24293 (4)	22414 (4)	31688 (5)	47053 (7)	79059 (10)	53721 (6)	72953 (8)	67901 (7)	70544 (7)	43320 (5)
	V	183 (2)	258 (3)	420 (5)	981 (10)	954 (7.39)	562 (3)	819(4)	998 (3)	1010 (3)	725 (2)
Live items	Q	2478 (0.40)	2498 (0.46)	3434 (0.56)	5492 (0.80)	5208 (0.64)	4199 (0.48)	4373 (0.47)	5080 (0.51)	5488 (0.53)	5493 (0.58)
	V	64 (0.76)	69 (0.9)	99 (1)	139 (1)	142 (1)	154 (0.92)	197(1)	281 (0.93)	301 (0.90)	308 (1)
Chilled items	Q	7200 (1)	6541 (1.20)	21453 (4)	28817 (4.24)	21118 (3)	21278 (3)	26868 (3)	19755 (2)	31404 (3)	33150 (4)
	V	117 (1)	118 (2)	217 (3)	264 (3)	257 (2)	357 (2)	537(3)	527 (2)	635 (2)	809 (3)
Others	Q	67571 (11)	73698 (14)	73801 (12)	80592 (12)	97145 (12)	114538 (13)	112841 (12)	109212 (11)	124947 (12)	113949 (12)
	V	674 (8)	777 (10)	975 (11)	902 (9)	1089 (8)	1488 (9)	1565 (8)	1623 (5)	2138 (6)	1817 (6)
Total	Q	61264 (100)	541701 (100)	602835 (100)	678436 (100)	813091 (100)	862021 (100)	928215 (100)	983756 (100)	1051243 (100)	945892 (100)
	V	8363 (100)	7620 (100)	8607 (100)	10048 (100)	12901 (100)	16597 (100)	18856 (100)	30213 (100)	33441 (100)	30420 (100)

Q: Quantity in tonnes

V: Value in Rs. crores

In the table 5.21 the above table reveals the quantity wise and value wise export of the seafood items from the year 2006 to 2016. In the year 2006 – 2007 the major item exported in terms of quantity was fin fish (44%) and in terms of value it was Frozen Shrimp. Especially in the year 2008 – 2009 after the anti-dumping duties came into effect, the number of Indian exporters to the United States in a significant way from 280 in 2005 to just 68 in the financial year 2008 – 2009. In that year the anti-dumping duty imposed was 10.17 per cent. Later by the involvement of Indian Government and MPEDA, US reduced their anti-dumping for Indian marine products to 2.37 per cent. In the year 2009-10 the total export was 678436 tonnes and it was increased drastically to 813091 tonnes in the year 2010-11, the reason behind this was the sudden increase in demand for the Indian seafood in United States. In the year 2014-15 the total seafood exports was about 1051243 tonnes, it was decreased to 945892 tonnes in the year 2015-16 and the reason behind this was the high cadmium content in the Indian seafood that was exported.

The items that have more demand in the market is frozen shrimp and frozen fin fish. In the year 2014 – 2015 it was a recorded figure in the overall export that is 1051243 tonnes in quantity and Rs. 33441 Crores. But from the year 2014 the quantity wise export of fin fish down to the second position and the frozen shrimp up to the first position in quantity as well as value. This was mainly due to the micro and macro elements content in cephalopods standards are more stringent than previous year. The depreciation of euro, weaker economic condition in China, devaluation yen etc. contributed to the decline in exports. Other factors contributed were the decline in capture fishery.

Figure 5.22 Total Quantity wise export of marine Products

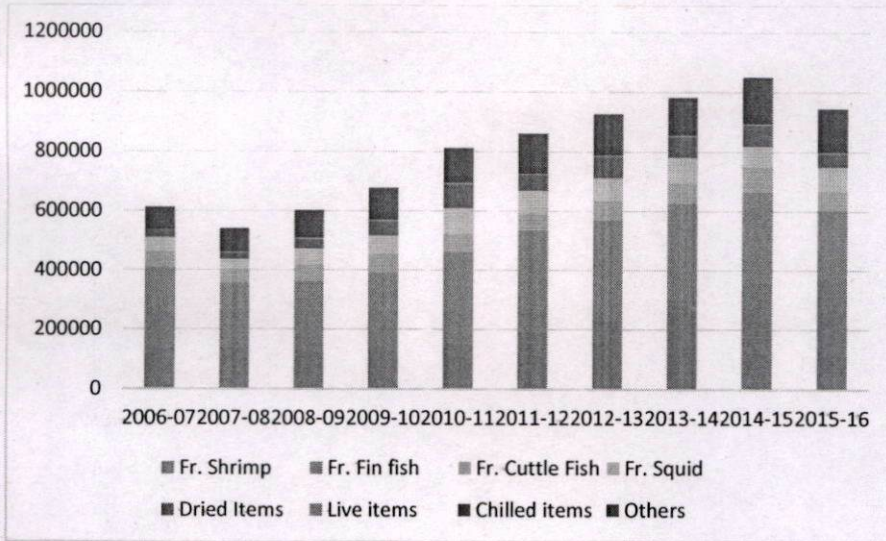
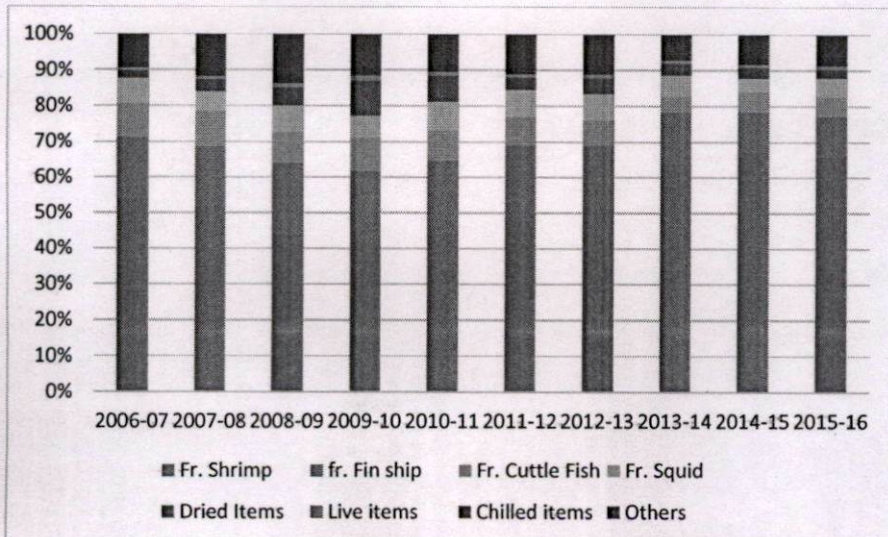


Figure 5.23 Total Value wise export of marine Products



**SUMMARY OF FINDINGS, CONCLUSION AND
SUGGETIONS**

Chapter VI

Summary of findings, conclusion and suggestions

Fish producing countries, apart from meeting the demand in domestic market, are exporting fish products to many countries to meet the demand in international market and also to earn foreign exchange. There are several items in the category of marine products which is meant for export of major destinations of the world. Export promotion is very essential for the development of Indian economy. Hence the government of India has been adopting various export promotional measures for the promotion and development of marine products. Export Promotion measures include the various policy decisions, schemes, concessions, incentives facilities offered to the exporters.

The Marine Product Export Development Authority was constituted in 1972 at Cochin for the overall development of marine product industry and promoting the export of marine products. The authority is concerned with regulation and growth of marine products. Special emphasis is laid on maintaining quality of marine products, processing, packing, storing, shipment, marketing etc. The authority conducts fairs and exhibitions and also takes part in international fairs. The authority advises central government on all matters related to seafood industry and its exports.

On a thorough study conducted in the previous chapter, some facts were identified. As mentioned earlier, as there are number of items under the marine products meant for export to different destinations, analysis has been done for those items and the following details has been found out:

6.1 Findings

1. In the year 2008 – 2009 after the anti-dumping duties came into effect on frozen shrimp, the number of Indian exporters to the United States declined in a significant way from 280 in 2005 to just 68 in the financial year 2008 – 2009. In that year the anti-dumping duty imposed was 10.17 per cent.

2. Later by the involvement of Indian Government and MPEDA, US reduced their anti-dumping for Indian marine products to 2.37 per cent. During the year 2013 – 2014 the value of frozen shrimp increased drastically by 329 per cent. During the year 2014 – 2015 the quantity wise export of frozen shrimp increased by 160 per cent. This increase helped to increase the overall export of Indian seafood industry.
3. Frozen shrimp continued to be the major item of export in terms of quantity and value, accounting for a share of 39.53 per cent in quantity in the year 2015 - 2016. The year 2015 – 2016 was considered as the marketing year. This increase was due to the favourable measures followed by the government for the production and promotion of frozen shrimp export industry.
4. USA is one of the principal buyer of Indian frozen shrimp the anti-dumping procedure initiated by the US government has affected the frozen shrimp export to US in the year 2008 - 2009.
5. Frozen Fin Fish is the second largest export item in the year 2015 - 2016, accounting for 334240 tonnes in quantity and Rs.2756 crores in value. Export of Frozen fish has shown a negative growth of 31.97 per cent in terms of value in the year 2015 – 2016. From the year 2006 the most exported item in terms of quantity is frozen fin fish. But after some years the export quantity should be decreased. This decrease is due to the foreign markets especially China and USA tightened their TBT's (Technical Barriers to Trade) NTB's (Non-Tariff Barriers) to deny comparative advantage taken by developing countries. There is a dull in international market prior to the 2008-2009 global recession.
6. The year 2015 – 2016 was showing a record figure for the export quantity and value wise of Frozen Squid. The export quantity was 81769 tonnes and value was Rs. 1615 crores. This was due to the favourable measures adopted by the government.
7. In the year 2011-2012 the quantity of frozen squid export decreased to 34172 tonnes and the value was Rs. 408.42 crores. The core reason was that the sanitation standards set by importing countries could not be met by Indian exporters.
8. The year 2014 – 2015 showed a great hike in Cuttle fish export industry as the quantity exported went up to 823535 tonnes. But in the year 2015 – 2016 the quantity exported

- was declined to 65596 tonnes. This was mainly due to the micro and macro elements content in cephalopods standards are more stringent than previous year.
9. There was an increase in the export figures of dried items starting from 2012-2013, the quantity was 31688 tonnes and the value was Rs.229.71 crores. The increase was mainly due to the considerable use of dried items for various purposes by countries especially like China and Japan for medicinal purposes.
 10. The year 2014- 2015 recorded highest figure in quantity for export of dried items. But it face a huge decline in the quantity wise of export in the year 2015 – 2016. the quantity decreased to 43320 tonnes in the year 2015 – 2016. The major problem faced for the export of dried items is that the procedure adopted for drying failed to satisfy sanitation standards.
 11. Major items of export of marine products includes frozen shrimp, frozen fin fish, Cuttle fish, frozen squid, dried items, live items, chilled items and other items.
 12. The decrease in export in international market was encountered in 2015-2016. Comparing 2015-2016 with 2014-2015 the export of marine products shown decreased growth of -10.02% in quantity and -9.03% in value. The decrease in marine products export is shown by Japan, European Union, China, South east Asia, Middle east, other countries. The major reason for decrease in export is due to the micro and macro elements content in cephalopods standards are more stringent than previous year.
 13. The decrease in import by the major markets resulted in India's overall marine products export into the ever time decrease of -11.58% during 2007-2008. The decline in export is due to the foreign markets especially China and USA tightened their TBT's (technical barriers to trade) NTB's (non-tariff barriers) to deny comparative advantage taken by developing countries. There is a dull in international market prior to the 2008-2009 global recession.
 14. In the year 2011-12 there only has been a slight increase in the overall export by Rs 48,920 crores, this is mainly due to the rate of inflation during this period which was around 9%.
 15. The export to USA during the year 2014-2015 has grown up to 16.94% and 13.39% in USD. This growth was mainly contributed by shrimp exports from India, which had a growth of 17.49% volume during the year.

16. In the year 2015 – 2016 USA continued to be the major importer of Indian seafood with a share of 28.46% in terms of USD. USA imported 153695 MT of seafood in the current financial year. Export to USA had registered a growth of 18.53% in terms of quantity but in value it showed a decline of 2.23% in INR and 8.52% in USD terms.
17. South East Asia remains as the second largest market destination of Indian Marine products in the year 2015 – 2016 accounting for a share of 24.59% in USD terms followed by European Union (20.71%), Japan (8.61%), Middle East countries (5.90%), China (4.71%) and Other countries (7.03%) respectively. However, the overall exports to South East Asia reduced by 19.77% in quantity, 13.01% in rupee value and 18.63% in US \$ earnings.
18. Japan is in fourth largest destination for Indian Seafood with a share of 8.61% in USD earnings and 7.97% in quantity terms. Exports to Japan decreased by 4.29% in quantity and 19.67% in USD terms.
19. Compared to previous year Chinese market shows a recovery with a positive growth in Indian Rupee value by 6.17% but in quantity and USD terms showed a negative growth of 15.92% and 0.34% respectively. Exports of frozen shrimp improved by 80.17% in quantity and 49.51% in USD terms. Exports of Vannamei and BT shrimp also improved substantially. This shows a shift from low value fish items to high value shrimp in Chinese market.
20. Exports to Middle East and Other Countries showed a negative growth in quantity as well as in value terms when compared to previous year.
21. In the year 2006 – 2007 the major item exported in terms of quantity was fin fish (44%) and in terms of value it was Frozen Shrimp.
22. In the year 2009-10 the total export was 678436 tonnes and it was increased drastically to 813091 tonnes in the year 2010-11, the reason behind this was the sudden increase in demand for the Indian seafood in United States.
23. In the year 2014-15 the total seafood exports was about 1051243 tonnes, it was decreased to 945892 tonnes in the year 2015-16 and the reason behind this was the high cadmium content in the Indian seafood that was exported.
24. from the year 2014 the quantity wise export of fin fish down to the second position and the frozen shrimp up to the first position in quantity as well as value.

6.2 Conclusion

The exports of marine products are constantly growing, because there are more favourable policies by the government for the marine product exporters. MPEDA is also conducting awareness programmes through seminars, exhibitions, meetings for the new exporters. The study about the market wise exports of seafood has revealed that the Indian marine products are wanted internationally. There is a potential for higher per capita consumption in our importing countries, including Japan and US. Export plays an integral role in the development of our country. Over the past few decades, the seafood sector has undergone massive changes. As a result there has been a considerable interest in its nutritional benefits. Seafood today is perceived as a health food. Technological development over the past decades have further contributed to the modernization and growth of seafood sector. Fishing is the source of living and fishery sector assumes special significance and contributes a dominant share of foreign exchange. It has earned around 6000 crore of foreign exchange a year through export of marine products. So it is concluded that MPEDA has a defined objective of boosting the marine product exports from India.

6.3 Suggestions

On the basis of findings and conclusion arrived the following suggestions are placed to the management of MPEDA so as to have more efficiency in operations and smoothness in the functioning of MPEDA and increasing the Indian seafood exports.

1. MPEDA should provide necessary assistance to adopt improved methods in various stages of live seafood exports for the exporters.
2. Increase number of value added products into the product range of dried items.
3. Upgrade the infrastructural facilities of all the other ports.
4. Concentrate more on aqua cultured raw materials to avoid the cadmium contamination and to promote exports.
5. Advertise in leading international magazines and ensure more participation in international trade fairs.

6. Government should adopt stringent quality control measures for promoting exports of aquaculture and marine sector, to help the exporters to create an acceptance for their products in the global market.

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