

CHAPTER III

PROFILE OF THE MARINE PRODUCTS EXPORTS

Introduction

Fisheries sector plays very important role in national economy. The marine fisheries sector in India has witnessed a phenomenal growth during the last five decades both quantitatively and qualitatively¹. India has huge potential for development of coastal aquaculture and is a world leader after China, contributing to about 5.2% of the total production in 2003(FAO 2005). With a vision to develop marine products exports, the Marine Products Export Development Authority has been trying to bring in technically and economically feasible technologies to Indian entrepreneurs.

Fishing has a big market industry in India. India by virtue of its water resources has seen a revolution in this fishing industry mainly after independence.² America had started buying marine products from India in the forties. A few years later, Japan and Europe emerged as potential markets and India was a major supplier of raw material. However, the cost of raw material

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1. Srinath,(2003) “An Appraisal of the exploited Marine Fishery Resources of India”, Status of Exploited Marine Fishery Resources of India, Central Marine Fisheries Research Institute, Kochi, pp.1.
 2. <http://countrystudies.us/india/107.htm>

increased as much as 80-85% of the selling price which spelt disaster. The main reason behind this phenomenon was that the market players failed to enter the value added sector. Besides, the firms failed to explore the potential growth in the purchasing power of the domestic consumers. Instead their strategy was to make easy money through raw material supplies.

By the turn of the 21st century, the buoyancy was lost and the problems facing the industry had taken away the attraction for entry of new firms. Very few firms have survived the rough period. Many have even failed to have an exit plan. All this elicits interest in the following study of two marine export firms in Calicut, Baby Marine Exports (a family business) and Uniroyal Marine Exports Ltd. (a public limited company), the former started in 1977 and the latter in 1994. It has been an uphill task for the firms in this industry to keep pace with globalisation. Indian Planning Commission recognized the need to support the development of fisheries and aquaculture with the necessary infrastructure, harvesting activities with well-equipped fishery vessels, shore-based facilities, cold chains and transport for marketing linkages up to retail outlets³.

While attempts must be made to overcome the world market challenges, it would make immense commercial sense for marine food producers to focus more on the domestic market which shows definite signs of expanding. According to reports on internal disposal pattern, over four-fifth of the country's fish catch is marketed as fresh or chilled, and forms staple food for the coastal population and inland landing centres, while close to six per cent of the catch is

3. Sasikala, 2008, Marine Industry in Kozhikode – A Case Study”, Conference on Global Competition & Competitiveness of Indian Corporate, Department of Science and Humanities, National Institute of Technology, Calicut.

used for drying and curing. Frozen fish production accounts for about five per cent and a similar quantum is used for reduction into fish meal. Changing lifestyles have also created demand for 'convenience foods' that are value-added fishery products of different descriptions covering extruded products, battered and breaded products, surimi and derivatives, pickles and curried products in restorable packing.⁴

Global Fisheries

In 1950, the newly founded Food and Agriculture Organization (FAO) of the United Nations began collection of global statistics. Fisheries in the early 1950s were at the onset of a period of extremely rapid growth, both in the Northern Hemisphere and along the coast of the countries of what is now known as the developing world. Everywhere that industrial-scale fishing (mainly trawling, but also purse seining and long-lining) was introduced, it competed with small-scale, or Throughout the 1950s and 1960s, this huge increase of global fishing artisanal fisheries. This is especially true for tropical shallow waters effort led to an increase in catches so rapid that their trend (10–100 m), where artisanal fisheries targeting food fish for local exceeded human population growth, encouraging an entire genera-consumption, and trawlers targeting shrimps for export, and dis-tion of managers and politicians to believe that launching more boats carding the associated by-catch, compete for the same resource⁵. Would

4. Chandrashekhar, 2010, <http://www.thehindubusinessline.com/2010/12/20/stories/2010122050371100.htm>

5. Pauly, D. 1997 Small-scale Fisheries in the Tropics: Marginality, Marginalization, and Some Implications for Fisheries Management, American Fisheries Society, Bethesda.

automatically lead to higher catches. The first collapse with global repercussions was that of the Peruvian anchoveta in 1971–1972, which is often perceived as having been caused by an El Niño event.

However, much of the available evidence, including actual catches (about 18 million tonnes⁶) exceeding officially reported catches (12 million tonnes), suggest that overfishing was implicated as well. But attributing the collapse of the Peruvian anchoveta to ‘environmental effects’ allowed business as usual to continue and, in the mid-1970s, this led to the beginning of a decline in total catches from the North Atlantic. The declining trend accelerated in the late 1980s and early 1990s when most of the cod stocks off New England and eastern Canada collapsed, ending fishing traditions reaching back for centuries⁷. Despite these collapses, the global expansion of effort continued⁸ and trade in fish products intensified to the extent that they have now become some of the most globalised commodities, whose price increased much faster than the cost of living index⁹.

In 1996, FAO published a chronicle of global fisheries showing that a rapidly increasing fraction of world catches originate from stocks that are

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6. Castillo, S. & Mendo, J. 1987 The Peruvian Anchoveta and its Upwelling Ecosystem: Three Decades of Change ICLARM Stud. Rev. 15, 109–116, Manila, Philippines.
 7. Myers, R. A., Hutchings, J. A. & Barrowman, N. J. 1997 Why do fish stocks collapse? The example of cod in Atlantic Canada. *Ecol. Applic.* 7, 91–106.
 8. Garcia, S. M. & Newton, C. 1997, *Global Trends: Fisheries Management* (ed. Sissenwine, M. P.) Am. Fish. Soc. Symp. 20, 3–27 (American Fisheries Society, Bethesda, MD,).
 9. Sumaila, U. R. 1998, Proc. Expo ‘98 Conf. Ocean Food Webs Econ. Product., Lisbon, 1-3 July (eds Pauly, D., Christensen, V. & Coelho, L.) ACP-EU Fish. Res. Rep. 5, 87 (ACP-EU, Brussels).

depleted or collapsed, that is, 'senescent' in FAO's parlance¹⁰. Yet global catches seemed to continue, increasing through the 1990s according to official catch statistics. This surprising result was explained recently when massive over-reporting of marine fisheries catches by one single country, the People's Republic of China was uncovered¹¹. Correcting for this showed that reported world fisheries landings have in fact been declining slowly since the late 1980s, by about 0.7 million tonnes per year¹².

The period of the Second World War saw massive catch increases in fisheries, particularly in the 1960s. However, crashes due to over-fishing began to be reflected in global catch trends in the 1970s, and intensified in the 1980s and 1990s. In response, the industrialized countries of the Northern Hemisphere, where over-fishing-induced catch declines appeared first, moved their efforts toward deeper waters, and toward the south to the coasts of developing countries, and beyond into the Southern Hemisphere, all the way to Antarctica. In the first decade of the 21st century, the global expansion of fisheries is completed and global catches, which peaked in the late 1980s, continue to decline, and the collateral damage to marine ecosystems and biodiversity continues to increase.

10. Grainger, R. J. R. & Garcia, S. M. 1996, *Chronicles of Marine Fishery Landings (1950-1994). Trend Analysis and Fisheries Potential* FAO Fish. Tech. Pap. 359 (Food and Agriculture Organization of the United Nations, Rome,).

11. Watson, R. & Pauly, D. 2001, Systematic distortions in world fisheries catch trends. *Nature* 424, 534-536.

12. Daniel Pauly, et al., 2002, *Towards sustainability in world fisheries*, Fisheries Centre, University of British Columbia, Nature Publishing Group, VOL 418, 8 August. www.nature.com/nature.

Several factors act to prevent the public in developed countries from realizing the depth of the crisis fisheries are over-reporting by China the fact that FAO combines declining fisheries catches with strongly increasing aquaculture production increased consumption, in developed countries, of marine products from developing countries and widespread denial by governments of the magnitude of their problems. In this study, the scientific developments which have led to a fisheries science being captured by fishing industry interests are summarized and the outlines of a new fisheries conservation science" focused on the maintenance of the ecosystems of fish populations are briefly sketched.¹³

Fisheries in Developing Countries

Economically healthy fisheries are fundamental not only to the restoration of fish stocks but also to improved livelihoods, exports, fish food security, and economic growth. Marine fishing operations are only part of the \$400 billion global marine industry, but economically healthy catch operations underpin the sustainability of supply and profitability of processing and distribution activities, a major source of employment, particularly in developing countries. "For each person employed at sea another three people are employed on shore," noted Willmann. "Fish is the main animal protein for over 1 billion people. It provides livelihoods for over 200 million people and 90% of these people are in developing countries"¹⁴.

13. Daniel Pauly, <http://www.mendeley.com/research/global-fisheries-brief-review>

14. Sunken Billions, 2008, World Bank, FAO Harp on Marine Fisheries, Friday, October 10, <http://wow.gm/africa/gambia/article/2008/10/10/world-bank-fao-harp-on-marine-fisheries>.

Indian Marine Fisheries Scenario

India is blessed with rich marine fisheries resources. According to the Ministry of Agriculture, Government of India, more than six million people depend on marine fisheries for livelihood. Coastal Indian states like Andhra Pradesh, Orissa, Kerala, Tamil Nadu, Karnataka, and West Bengal are major centers of marine product exports from India. The processing plants for freezing and canning of marine exports are mostly situated in these states. Frozen shrimp is the most important export item in this sector and it accounts for more than 60 percent of India's total exports of marine products. Shrimp cultivation and exports have generated significant employment in India. Shrimp cultivation and processing have created direct employment of about 300, 000 people and indirect employment to over 700, 000 in the country.

India, geographically seventh largest country, is situated in the south Asia, bounded by the Indian Ocean in the south, the Bay of Bengal in east and the Arabian Sea in the west. India is one of the most popular democracies in the world, borders china, Nepal and Bhutan to the north east, Pakistan to the west and Bangladesh to the east. India is dissipated on an area of total 3287,590 sq km with a 29, 731, 90 and 31, 44, 00 land and water area respectively. The nation is enjoying federal republic political framework, where there are 28 states and 7 union territories. India's GDP raises to \$2.965 trillion with a growth rate of 8.5%. Apart from exporting textile goods and petroleum products, India has also stepped up in the export of jewelers & gems, engineering goods, chemicals and

leather to its worldwide clients and earns more than \$ 140.8 billion export revenue. USA, UAE, China and UK are the major exporting nations.¹⁵

Indian fisheries is thus at cross roads now, there are problems of stagnation of total yield, dwindling catches in certain high value fishes, reduced earnings, increased costs of operation, resource depletion and in certain cases over exploitation. Fish constitutes an important part of the staple diet and a major source of animal protein in many parts of the world. Since 1985, developing countries have been producing a major and increasing share of the world supply of fish both capture fisheries and aquaculture has become the world's fastest growing food production system, with an average growth rate of 12% per annum over last decade. The sustainability of capture fisheries has now become a global issue. Given the current trends in price, demand and trade, economic incentives for an increased investment in both capture fisheries and aquaculture will remain high¹⁶.

Coastal environment plays a vital role in nation's economy by virtue of the resources, productive habitats and rich biodiversity. Fishery plays an important role in the Indian economy. It supports about one million fishermen. It continues to be a thrust area of India's development programmed due to its vital contributions to employment generation, food security and foreign exchange earnings. India, which ranks seventh in world fish production contributes about

15. <http://www.indianindustry.com/indian-economy/>

16. Ahmed. et al (1997), "A brief for fisheries policy research in developing countries" International Food policy research institute, pp 5-6.

6-7 per cent of global fish production in recent years.¹⁷ Fish production in India reached a level of about 6.40 million metric tons in 2003 – 2004 from 0.75 million metric tons in 1950-51, recording 751 per cent increase.¹⁸ On an average about 53 per cent of total fish production in India is from marine sector and her share in world export of fishery products is 2.40 per cent in terms of Us \$ realization.¹⁹ It is estimated that export of fishery products contributes 2.14 per cent of the total foreign exchange in India.²⁰

In 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 tones from marine sector, only 2.6 million tones are tapped. Fishing efforts are largely confined to the inshore waters through artisanal, traditional, mechanised 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% from depths extending up to 200 meters. While 93% of the production is contributed by artisanal, mechanised and motorised sector, the remaining 7% is contributed by deep sea fishing fleets confining their operation mainly to the shrimp grounds in the upper East Coast²¹.

17. Editorials, “Associations Related to Indian Fisheries Sector”, Fishing Chimes, Vol.23, No.3, June 2003, p.5.

18. Fishing Chimes, Vol.24, No. 7, October, 2004, p.31.

19. Siddhartha Roy, Statistical Outline of India 2003-2004, Tata Services Ltd., Mumbai, 2004,p.88.

20. Siddhartha Roy, op.cit., p.86.

21. India Seafood Resources, 2007, Marine Product Export Development Authority, Kochi.

Fish Production in the World and in India

Approximately 50 million people worldwide depend on fishing for all or most of their family earnings, while another 150 million depend on fish processing and the fleet servicing industry. More than 10 million work on 2.5 million small-scale fishing vehicles and account for 50% of the world's catch (FAO 2001). Fish production in the world rose from 23.50 million tonnes in 1950-51 to 140.48 million tonnes in 2003-04. Correspondingly, fish production in India has touched 6.40 million tonnes in 2003-04 from a mere 0.75 million tonnes in 1950-1951. The total fish production of our country stood at 6.87 million tonnes in 2006-07. The share of India in global fish production has grown gradually from about 2.66% during the 1960s and 1970s to 4.56% in 2003-04.²² Table1 shows growth in fish production in India has been at a faster rate than in the world; mainly due to increasing contribution from inland fisheries.

22. Ganesh Kumar and Datta, 2008, Impact of Science and Technology on Indian Fisheries Sector, S&T for Rural India and Inclusive Growth, India, Science and Technology. P.3 <http://www.nistads.res.in/indiasnt2008/t6rural/t6rur11.htm>

TABLE 3.1
FISH PRODUCTION IN WORLD AND INDIA, 1950-51 TO 2003-04
(MILLION TONNES)

Year	World	% change	India	% change	India's share
1950-51	23.50	-	0.75	-	3.19
1960-61	43.60	85.53	1.16	54.67	2.66
1970-71	66.20	51.83	1.76	51.72	2.66
1980-81	72.30	9.21	2.44	38.64	3.37
1990-91	98.26	35.91	3.84	57.38	3.91
2000-01	129.00	32.35	5.66	47.40	4.39
2003-04	140.48	8.90	6.40	13.07	4.56
2006-07*	--	--	6.87	--	--

Source: Economic survey 2006-07, *Annual Report 2006-07 Provisional Estimates

Contribution to Indian Economy and Prospects of Fisheries Growth

With fisheries sector comprising marine fisheries, freshwater and brackish water aquaculture and inland fisheries consisting of tanks and reservoir, the potentiality of this sector as a whole remains to be fully tapped and it remains a sector of much promise. The fisheries sector in particular is more complex enterprise that functions under integrated network of natural resources, other enterprises with forward and backward linkages with fisheries and other socio-political variables. The major functions of fisheries enterprises, viz. production, transportation, storage and processing involve value addition from labour, capital and management, which significantly influence the rapid economic development of the country.

Comparison and Growth of Fisheries Sector in India

In the last 25 years, unlike agriculture, the contribution of fisheries sector to GDP continued to grow at a rapid pace because of expansion of culture fisheries enterprise. The share of agriculture and allied activities in the total GDP is constantly declining. It was 34.69% in 1980-81 and declined gradually to 17.62% in 2004-05. In contrast, the contribution of fisheries sector to the total GDP has gone up from 0.75% in 1980-81 to 1.04 in 2004-05 (at current prices). Similarly, the share of fisheries in agriculture GDP (Ag GDP) has increased robustly from 2.17% in 1980-81 to 5.93% in 2004-05.²³ This sector is in fact pushing the agricultural growth upward for the past 5 and half decades. Comparison and growth of fisheries sector in India shown in table

TABLE 3.2
COMPARISON AND GROWTH OF FISHERIES SECTOR

Percent Contribution			
Period	Agriculture to Total GDP	Fish to Total GDP	Fish to Ag GDP
1980-81	34.69	0.75	2.17
1990-91	28.42	0.96	3.37
2000-01	22.26	1.18	5.32
2004-05	17.62	1.04	5.93

Source: National Account Statistics, CSO, GOI.

Investment in Indian Fisheries Sector

Allocation of funds to a particular sector is an indication of a push given for development of the sector. The outlay for fisheries sector was about

23. Ganesh Kumar and Datta, 2008, Impact of Science and Technology on Indian Fisheries Sector, S&T for Rural India and Inclusive Growth, India, Science and Technology. p 6 <http://www.nistads.res.in/indiasnt2008/t6rural/t6rur11.htm>

5.13 in the Ist Five Year Plan and it went to 2060.54 crores in the X plan shown in Table 3.3.

TABLE 3.3
INVESTMENT ON FISHERIES DEVELOPMENT

(Rs. in crores)

Plan	Total	Agriculture	Fisheries
I	1960	294	5.13
II	4600	529	12.26
III	7500	1068	28.27
IV	15902	2728	82.68
V	39322	4302	151.24
VI	97500	6609	371.14
VII	218730	12793	546.54
VIII	434100	22467	1232.82
IX	859200	42462	2070.00
X	1525639	58933	2060.54

Source: Planning Commission GoI 2001 & ICAR Report 2005-06.

Its share in the total plan outlay was hovering from 0.26% in I Plan to 0.52% in IV Plan and decreasing thereafter continuously and it received only 0.14% of total outlays in X Plan; in spite of that the sector has been growing at an annual growth rate of about 5% in the last 2¹/₂ decades. Similarly, its share in agricultural outlay has increased from 1.74% in I Plan to 5.62% in VI Plan and it is slowly declining since then and is about 3.50% in X plan.

However, the status of fisheries sub-sector is better, when compared to that of agricultural sector as a whole. Because, the percent allocation to agricultural sector in the total plan outlay started declining from IV Five Year Plan onwards and is continuously decreasing further, which is a great concern for the sector's overall growth. Its share in I Plan was about 15.00% and it went upto

17.16% in IV plan and is now only 3.86% in X Plan.²⁴ Considering the general importance given to agricultural sector, the preference received by the fisheries sub-sector in the plan outlays is still reasonable.

The marine fisheries sector occupies an important place in the socio-economic development of India. Recognized as a powerful income and employment generator, it stimulates the growth of a number of subsidiary industries, is a source of cheap and nutritious food and an instrument of livelihood for a large section of coastal population of the country. More than 6.0 million fishermen and fish farmers in the country depend on fisheries and aquaculture for their livelihood. The marine fisheries sector, which began as a subsistence operation by employing exclusively traditional crafts during the pre-independence days has today attained the status of capital intensive industry. Export of marine products plays a vital role in fisheries development in India by providing employment and income to millions engaged in fisheries, aquaculture, processing and allied activities. Due to its high importance a modest attempt has been made here to view the export performance of marine fisheries sector and identify its potentials for further development.²⁵

Fish Trade

Recent trends and developments in fish trade and marketing have prompted the need for a reassessment of investment opportunities and credit

24. Ganesh Kumar and Datta, 2008, Impact of Science and Technology on Indian Fisheries Sector, S&T for Rural India and Inclusive Growth, India, Science and Technology. p11 <http://www.nistads.res.in/indiasnt2008/t6rural/t6rur11.htm>

25. Neogy Rajyasri, 2010, "Export Performance of Marine Fisheries Sector in India-An Appraisal", Advances in Management, (Approved for inclusion in Cabell's Directory and Research Papers in Economics RePEc) Vol. 3 (12), Dec., pp.60-65.

needs of the fishery industry in the Asia and Pacific Region. Unlike the industrial fisheries of the developed world, fishery industries in the developing countries of Asia and the Pacific depend heavily on the artisanal sector for production and supply of raw materials and on small- to medium-scale fishing operations. While high value species are mostly processed for export, most of the medium and low value species, which form the bulk of the landings, are marketed fresh or are processed for the domestic market.²⁶

Rapid macro-economic developments in the economies of the region and changes in the expectations of consumers have led to a diversification of product forms even in the domestic markets and value addition has become one of the main features of the fish processing industry. Changing consumer preferences, in favour of easy-to-prepare processed fishery products, brought about by changing lifestyles, as well as a general increase in consumer purchasing power, have increased the demand for such value-added fishery products.²⁷ At the same time, the increasing consciousness and demand of consumers for quality fishery products has necessitated additional investments to cater to such demand. Initial investigations show favourable financial returns for value-added production of fishery products and indicate encouraging prospects. There is certainly scope to take advantage of such potential and for financially viable business opportunities. In this regard, the need for promotional efforts to introduce new and improved value-added fishery products through co-ordinated efforts between financial, marketing and fisheries institutions must be addressed.

26. Report, Government of India, 2004, No.30012/1/2003-FY (T-I), "Comprehensive Marine Fishing Policy", Ministry of Agriculture Department of Animal Husbandry & Dairying, New Delhi.

27. Ibid.

Such investments would not only cater to a vacuum in the domestic market, but would also help the impoverished coastal and inland fishing communities and the processors to enjoy better incomes and improved employment prospects. Value addition of under-utilized or low value species would also assist in improving their use for direct human consumption rather than for reduction for animal feed use. Value addition and utilization of often discarded by-catch would contribute towards a more sustainable use of scarce fisheries resources.²⁸

History of Marine Products Exports

Till the end of 1960, export of Indian marine products mainly consisted of dried items like dried fish and dried shrimp. Although frozen items were present in the export basket from 1953 onwards in negligible quantities, it was only since 1961 the export of dried marine products was overtaken by export of frozen items leading to a steady progress in export earnings. With the devaluation of Indian currency in 1966 the export of frozen and canned items registered a significant rise. Frozen items continued to dominate the trade. Markets for Indian products also spread fast to developed countries from the traditional buyers in neighboring countries.²⁹

Marine Products Trade

Trade in marine products can play an important role in promoting economic development especially in the less developed countries (LDCs). The

28. Report, 1997, Workshop On Financing Value-Added Production And Marketing Of Fishery Products In Asia And The Pacific Kuala Lumpur, Malaysia, FAO Of The United Nations, Rome. www.Fao.Org/docreP/006/W9250E/W9250E00.

29. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

export of marine products can play for imports of capital goods, technology, manufactured products and other essential commodities for a sustained growth of developing countries. Many developing countries have a comparative advantage in the production of marine products and export of these goods is the main source of foreign exchange earnings. In an export led growth model of trade it would be to the advantage of the developing countries to specialize in production of those goods where they have comparative advantage and to exploit the surplus production to earn the valuable foreign exchange. Such a policy will led to use trade as an engine of growth, as well as in ensuring rational allocation of resource. India, which is predominantly a fisheries economy, is no exception in this regard.

With significant rise in shrimp exports particularly to US, the country's marine products exports during the current fiscal year is likely to reach \$2.3 billion, having crossed \$ 2 billion in the first three quarters of 2010-11. Export realisations have achieved a major milestone in spite of several negative factors including recession and the weakening of Euro because of political unrest in some countries. During the nine months exports are ahead by 6.60% in volume, 18.92% in value and 24.70% in US dollar realisation compared to the same period last year.³⁰ In a reversal of trend, US is back as the prominent consumer of Indian shrimps and has helped in recording growth even as some markets like European Union show a decline.

Frozen Shrimp continued to be the major export item accounting for 48.61% of the total dollar earnings. Shrimp exports during the period

30. Ibid.

increased by 12.54% in volume, 33.94% in rupee value and 40.72% dollar value respectively. Export of frozen shrimp to US has registered a tremendous growth of 88.12% in volume and 149.05% in US \$ terms. Fish, the principal export item in volume terms and the second largest export item in value term, accounted for a share of about 36.01% in quantity and 18.33% in dollar earnings showed a decline of 3.36% in quantity when compared to the last year. Export to China has declined considerably both in terms of quantity and value. India's marine exports include black tiger shrimp, fresh water prawn shrimp, fresh sail fish, frozen versatile fish, frozen skip jack and frozen squid.³¹

Tamil Nadu Fisheries Scenario

Tamil Nadu has an important maritime state in the South East Coast of India endowed with rich marine and inland fishery resources. Tamil Nadu has immense potentials of commercially important pelagic and demersal fishes in the inshore, off-shore and deep sea fishing regions offering great scope for a variety of marine products. Tamil Nadu is one among the coastal States in India in the east coast having a coastal line of 1076 kms. The State has 13 coastal districts with 591 fishing villages consisting of 8.38 lakh fishery population, of which 2.81 lakh fishermen are actively engaged in fishing activity. Marine fishery resources comprise of 0.19 million sq.kms of Exclusive Economic Zone (EEZ) and a Continental Shelf of 41,412 sq.kms. The State shares 9.4 per cent of EEZ in the Country.³²

31. <http://www.financialexpress.com/news/seafood-exports-to-reach-2.3-bn/753514/0>

32. <http://www.tnstat.gov.in/publications.html>

The annual marine fish catch is estimated at 3.93 lakh tonnes and the State became the major exporter of marine products. Turning to Inland fishery, the fishery population was estimated at 2.61 lakh. Under Fish Farmers' Development Agency Programme, about 5000 hectares are being utilized for water aquaculture. For the development of Inland fisheries, there are 8 Fish Seed Production Centres functioning in the State. Presently, the total brackish water area spread over 56000 hectares is used for aquaculture production and beyond this, shrimp culture is being undertaken in 6066 hectares in the State. The State ranks eighth in fish production in the Country. The fisheries sector of the State provides employment opportunities and generates income and stimulates growth of subsidiary industries besides assuring nutritive food security. An amount of Rs.101.80 crore is expected to be spent under fisheries sector during 2009-10 and an outlay of Rs.112.65 crore is approved for 2010-11.³³

Tamil Nadu Geographical Coverage

Tamil Nadu is bounded by Karnataka and Andhra Pradesh in the north and Kerala in the west. The coastal eastern and southern boundaries are lapped by the waters of the Bay of Bengal and the Indian Ocean respectively. The eastern and western tips of the state are defined by the Point Calimere and Mudumalai wildlife sanctuaries while the northern extreme is Pulicat lake and the southernmost tip is Cape Comorin or Kanniyakumari - the Land's End of India. With an area of 130,058 sqkm and population over 55 million, Tamil Nadu is the 11th largest state in India. The Union Territory of Pondicherry is a small enclave

33. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p.62.
<http://www.tnstat.gov.in/publications.html>;

in the district of South Arcot. Traditionally, the land of Tamils has been divided into 5 major physiographic divisions - the Kurinji or mountainous region, the Mullai or forest region, the Palai or arid region, the Marudham or the fertile plains and the Neidhal or coastal region.³⁴

Tamil Nadu has a wealth of flora and fauna and some of its major wildlife sanctuaries like Mudumalai and Anaimalai (Indira Gandhi W.S) are situated in the hills of the Western ghats which is the habitat of elephants, tigers, bisons and a variety of monkey and deer. Of the 3000 and more plant species found in Tamil Nadu, a majority are found in the mixed deciduous forests of this region. One of the most noteworthy flowers is the Kurinji of Kodaikkanal which blooms once in 12 years. Cinchona from which quinine - a drug for treating malaria - is extracted and eucalyptus grow abundantly in the Nilgiris.

Forests of medicinal herbs are found in Palani hills and Courtallam. Palmyrah trees grow by the thousands in Tirunelveli and its products are used as raw materials for several cottage industries. Rubber is the main plantation crop in Kannyakumari and the more exotic sandalwood grows, though not in very large numbers, in the Javadhu hills of Vellore district. The perennial river of the state is the Cauveri which originates in Coorg in the neighbouring Karnataka. The fertile Coromandel plains are irrigated by the Kaveri and its delta in Thanjavur - Nagapattinam region is known as the granary of Tamil Nadu. The other rivers in the state are the Palar, Pennar, Vaigai and Tamiraparani. The arid,

34. [http://www.indiatourism.com/Tamil Nadu-tourism/Tamil Nadu-geography.html](http://www.indiatourism.com/Tamil%20Nadu-tourism/Tamil%20Nadu-geography.html)

desert-like land in the state is confined to a small area in Tirunelveli district and is known as the Palai.³⁵

The coastal Tamil Nadu comprises the Coromandel coast which has its northern half and the Fisheries coast which is the southern half. Mylapore, Poompuhar and Mamallapuram were the famous ancient ports on the Coromandel from where merchant ships sailed to Rome, Greece and the Far East. There are mangrove forests at Pichavaram and prominent bird sanctuaries at Pulicat Lake and Vedanthangal, though the latter is not on the coast itself. Once famous for its pearls, the Fisheries coast is a major tourist attraction since it has some of the most important pilgrim centres in India³⁶.

Fisher folk Welfare Schemes in Tamil Nadu

With a view to improve the economic conditions of the fisher folk, the State implements many Welfare Schemes to the members who have enrolled in the Cooperative Societies. In order to alleviate the sufferings and also to uplift them, there are 1366 Co-operative Societies inclusive of marine fishermen (550 Nos.), Marine Fisherwomen (384 nos.), Inland Fishermen (315 Nos), Inland Fisherwomen (84 Nos.), other types (21 Nos.), District Fishermen Federation (11 Nos.) and Tamil Nadu Fisheries Federation (one number) functioning in the State.³⁷ In these Societies 5.62 lakh of fishing population were enrolled as

35. Ibid.

36. [http://www.indiatourism.com/Tamil Nadu-tourism/Tamil Nadu-geography.html](http://www.indiatourism.com/Tamil%20Nadu-tourism/Tamil%20Nadu-geography.html)

37. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p.64. <http://www.tnstat.gov.in/publications.html>

members in the State. In addition to this, the following other schemes are also implemented in the State shown in Table 3.4.

TABLE 3.4
FISHERFOLK WELFARE MEASURES

S. No.	Category	Total (Nos.)	Total Members (Lakhs)
1	Marine Fishermen Cooperative Societies	550	3.21
2	Marine Fisherwomen Cooperative Societies	384	1.43
3	Inland Fishermen Cooperative Societies	315	0.77
4	Inland Fisherwomen Cooperative Societies	84	0.13
5	Other types of Societies	21	0.07
6	District Fishermen Cooperative Federation	11	0.01
7	Tamil Nadu State Apex Fisheries Cooperative Federation	1	0.01
	Total	1366	5.62

Source: Policy Note on Fisheries, 2009-10, Govt. Tamil Nadu.

Marine Fishery Resources Potential in Tamil Nadu

Tamil Nadu is endowed with one of the largest and richest fisheries in India. The State has 1.9 lakh sq. m of EEZ covering the three coastal zones already described, besides 21 coral islands in the Gulf of Mannar, with rich habitats of corals, coastal lagoons (Pulicat lake and Muthupet swamp) and estuaries. There are 5 major rivers, 51 reservoirs and innumerable tanks. These natural resources harbour a variety of finfish, shellfish and aquatic plants. The unique topography of Tamil Nadu with the Gulf of Mannar and Kanyakumari in the south, and Pulicat Lake, which is the second largest lagoon in the country, in the north, has resulted in an abundance of endemic species and a large number of high value potential resources. They include spiny lobsters, crabs, flower shrimps, coral fish, sea bass, groupers, sea breams, mullets, gastropods (abalones,

chunks) pearl oysters. Nearly one-third of the seaweed resources of the Indian Ocean are found along the coast of Tamil Nadu, particularly the Gulf of Mannar (CASI, 2000)³⁸.

Commencing from the early survey of 1927-28 with “Lady Goschen” and with the valuable work done by the shore fishing Survey Stations at Madras, Cuddalore, Mallipattinam, Rameswaram and Cape Comorin and also exploratory Fishing Stations of the Government of India at Tuticorin and Madras, there is a fund of information available on the Fishing grounds off the Tamil Nadu Coast. Important fishing grounds have been located opposite to Pulicat, Ennore, Madras, Sadras, Cuddalore, Portonovo, Tranquebar, Nagapattinam, Point Calimere, Adirampattinam, Pamban, Rameswaram, Tuticorin, Cape Comorin and Colachel. Wadge Bank is the richest fishing ground in the Tamil Nadu Coast. South of Cape Comorin about 88 kms.³⁹. Tamil Nadu District wise coastal length shown in Table 3.5.

38. Ibid.

39. Ibid, p.77.

TABLE 3.5
DISTRICT WISE COASTAL LENGTH OF TAMIL NADU

S. No.	Name of the District	Coramandal Chennai point calimere	Palk Bay	Gulf of Mannar	West Coast (Kanyakumari - Neerodi)	Total
1	Chennai	19.0	0	0	0	19
2	Thiruvallur	27.9	0	0	0	27.9
3	Kanchipuram	87.2	0	0	0	87.2
4	Villupuram	40.7	0	0	0	40.7
5	Cuddalore	57.5	0	0	0	57.5
6	Nagapattinam	124.9	63.0	0	0	187.9
7	Thanjavur	0	47.2	0	0	47.2
8	Thiruvarur	0	45.1	0	0	45.1
9	Pudukottai	0	42.8	0	0	42.8
10	Ramanathapuram	0	95.8	141.0	0	236.8
11	Tuticorin	0	0	163.5	0	163.5
12	Tirunelveli	0	0	48.9	0	48.9
13	Kanyakumari	0	0	11.5	60	71.5
	Total	357.2	93.9	364.9	60	1076.0

Source: CMFRI, 2009-2010.

Tamil Nadu Marine Fisheries Development

The coastline of Tamil Nadu has a length of about 1076 kms constitutes about 15% of the total coastal length of India and stretches along the Bay of Bengal, Indian Ocean and Arabian Sea⁴⁰. Tamil Nadu has the second longest coast line in India⁴¹ and Exclusive Economic Zone of 200 miles from the coast⁴². Tamil Nadu is the third largest marine fish producing State in the Country⁴³. The State has a fishermen population of about 7, 90,408 lakhs, and export of marine products from the State during 2009-2010 amounted to 401566 metric tons.⁴⁴ Tamil Nadu marine fisheries development shown in Table 3.6.

40. Ramesh, ENVIS Center for Coastal Zone Management and Coastal Shelterbelts, Institute for Ocean Management, Anna University, Chennai.

41. Ibid, p.8.

42. Sreenivasan.R, 1984, Report on Export Potential Survey of Marine Products Tamil Nadu., MPEDA, Cochin, pp.1.

43. Ibid., p.38.

44. Sathiadhas, 2009-2010, Head SEETT Division, CMFRI, Kochi-18.

TABLE 3.6

TAMIL NADU MARINE FISHERIES DEVELOPMENT

S. No.	Particulars	Details
1	Length of Coast line (Kms)	1,076
2	Percentage of total coastal length in India (%)	15
3	Position of longest coast line in India	2
4	Continental Shelf (in Sq.Km)	41,412
5	Exclusive Economic Zone (in Million Sq.Km) Extends to 200 nautical miles from shore	0.19
6	Coastal Districts	13
7	Coastal Blocks	25
8	Number of fishing villages	581
9	Number of landing centres	352
10	Fishermen population	7,90,408
11	Number of fishermen families	1,92,152
12	Density of coastal population/fishing village	1,360
13	Literacy rate (%)	67
14	Number of mechanized fishing units	7,711
15	Number of motorized fishing units	22,478
16	Number of non-mechanized fishing units	24,231
17	Employment in marine fisheries 1.Total employed a) Primary b) Secondary 2. Inhabitants of coastal villages a) Primary b) Secondary	 2,25,102 2,70,122 2,06,908 1,04,509
18	Marine fish production (tones), (2009-2010)	4,01,566
19	Fish Products Export (2009-2010)	4,01,566
20	Value of marine fish at primary level (Rs. Crores)	1,773
21	Value of marine fish at retail level (Rs. Crores)	2,967
22	Total private capital investment in fishing units (Rs. Crores)	1,828
23	Per capita investment per active fisherman (Rs.)	81,223
24	Contribution to GSDP at current prices (2006-2007) (%)	1.1
25	Fishermen's share in consumer's rupee (%)	61

Source: Compiled by: Dr.R. Sathiadhas, 2009-2010, Head SEETT Division, CMFRI, Kochi-18.

Fish Production in Tamil Nadu

Fish production is comprised of marine and inland fish and fishery products. The marine fish production accounts for more than 70 per cent of the

total fish production in the State. The rest accounts for inland fish production. The fish production in the State had marginally improved from 5.58 lakh tonnes in 2007-08 to 5.63 lakh tonnes in 2008-09. The total consumption of fish had been increased due to the rise of population, rapid urbanization and change in the consumption pattern. In order to meet out the increasing demand for fish, the State had set up 'Fisheries Development Mission' and Tamil Nadu Fisheries Development Corporation (TNFDC) and enhanced the fish production and thereby to generate employment and income and sustain livelihood.

The Fisheries Development Mission was implemented in selected pockets of five coastal districts viz. Ramanathapuram, Nagapattinam, Thanjavur, Pudukottai and Thoothukudi during 2008-09. The scheme was being implemented at an estimated cost of Rs.20.00 lakhs in the State. Further, in order to conserve the fishery resources, the State had imposed a fishing ban during the breeding season for a period of 45 days from April 15 to May 29 in the East Coast region and June 15 to July 29 in the West Coast. The Government had provided Rs.200/- per family during fishing ban period. During 2008-09, a sum of Rs.719.97 lakhs was being disbursed to 143994 fishermen families.⁴⁵

Fish Export in Tamil Nadu

The State dominates high potential for fish culture and it is one of the leading exporters of fish in the country. The processed fish is being exported through Chennai and Tuticorin ports. Among the two ports, the Chennai Port occupies 4th rank in the quantity of exports and 2nd rank in the value of fish

45. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, pp 62-63. <http://www.tnstat.gov.in/publications.html>

exports whereas Tuticorin port ranks 6th position both in the quantity of export and value of fish exports. The state shared 13.41 per cent of quantity exported and 23.79 per cent of the value of fish exported in the country during 2007-08.

Tamil Nadu is well ahead in the industrial activities through dispersing industrialisation. The State attracts foreign direct investment to strengthen the capital in the industrial sector. To promote the industrial activities in dynamic, the State is creating a favourable industrial climate in the State by announcing Industrial Policies, IT Policies from time to time and provides industrial assistances to the entrepreneurs.⁴⁶

Growth Performance of Tamil Nadu Fish and Fish Products Export

The state fish and fish product export had plummeted from 58482 tonnes in 2001-02 to 73327 tonnes in 2009-10. The total value of export of fish had also witnessed a fall from Rs. 201640 lakhs to Rs.198207 lakhs during the respective ninth years⁴⁷. The growth performance of Tamil Nadu fish and fish products export is presented in table 3.7.

46. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p 66.

47. <http://www.tnstat.gov.in/publications.html>

TABLE 3.7
GROWTH PERFORMANCE OF TAMIL NADU FISH AND FISH
PRODUCTS EXPORT
2001-2002 TO 2009-2010

Year	Quantity	Value
2001-2002	58482	201640.00
2002-2003	70147	250787.00
2003-2004	68462	207116.00
2004-2005	70809	206804.00
2005-2006	72418	199572.00
2006-2007	72883	206805.00
2007-2008	72644	181314.00
2008-2009	68397	177220.00
2009-2010	73327	198207.47
Total	627569	1829465.47

Source: MPEDA, 2010, Chennai-40.

Q: Quantity in Tonnes, V: Value in Rs. Lakhs

Ornamental Fish in Tamil Nadu

The fisheries sector is important for Tamil Nadu economy and society. As one of India's leading fish producing States, Tamil Nadu has long looked to the fisheries sector as a source of livelihood for thousands of fishermen and their families. And in that sector, the ornamental fish niche is one that is attracting increasing global attention. The Food and Agriculture Organisation of the United Nations (FAO) describes it as “a widespread and global component of international trade, fisheries, aquaculture and development.” The FAO estimates the industry to be worth \$15 billion – when non-exported product, wages, retail sales and associated materials are taken into account. Statistics reported to FAO

from member States indicate that the world export value in 1998 of ornamental fish was \$174 million, with imports valued at \$257 million.⁴⁸

The world trade in ornamental fish is estimated at \$2.2 billion, 98 per cent of which are tropical fish. Singapore and Malaysia are the leaders in the global ornamental fish trade. Since 1985, the value of international trade in exports of ornamentals has increased at an average growth rate of approximately 14 per cent per year, says the FAO. Developing countries account for about two-thirds of the total export value. Malaysia is expected to increase its annual production of ornamental fish to 800 million, worth about \$51.5 m on 2010. At present, Malaysia's annual production stands at nearly 500 million. More than 550 local and exotic varieties – over 250 species – are captive bred in Malaysia for the domestic and world markets, fetching the country an estimated \$38 million annually.⁴⁹

The biggest market is the US, where about 10 per cent of households have aquariums with ornamental fish. According to the FAO, with the levelling off or decline in production from many capture fisheries, people are looking for other ways of harnessing aquatic biodiversity. “One useful option is the sustainable harvest and culture of ornamental fishes. In many developing countries, the harvest of fresh and marine ornamental fish provides income in areas where little other options exist for employment.” Given that Tamil Nadu has a great level of unemployment, the ornamental fish sector may well be an

48. Kumar 2010, <http://www.thehindubusinessline.com/2010/02/09/stories/2010020952191700.htm>

49. Ibid.

avenue of income for the state's jobless youth. The Government should now do its best to promote the sector and ensure that it thrives.

Tamil Nadu Industrial Policy

The present 'Global Economic Slowdown' has its impact in the State economy also. The manufacturing sub-sectors of the State economy viz. textiles, wearing apparels, leather, wood products, chemicals, non-metallic minerals, basic metals, software and hardware of IT industries, transport equipments, automobiles have experienced lower production compared to that of the previous year's level due to lower demand and power shortages.⁵⁰

Tamil Nadu Industrial Policy 2006-07, focused on stimulating further industrial development. It aims to attract investment, facilitates manufacturing capacity and enables global manufacturing competence and competitiveness of local industry. The Industrial Policy 2006-07 has the following visions to be achieved by 2011 like to create additional two million jobs, to raise contribution from manufacturing sector to GSDP from 21 per cent to 27 per cent, to double Tamil Nadu's annual exports to Rs.1,40,000 crore, to raise Tamil Nadu to a position of pre-eminence in innovation and high technology and raise the competitiveness and efficiency of Micro, Small and Medium Enterprises (MSMEs) and agro based industries for increasing value addition and giving better income to the farmers.⁵¹

50. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p.70. <http://www.tnstat.gov.in/publications.html>

51. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p.71. <http://www.tnstat.gov.in/publications.html>

The Liberalisation Policy 1991 increased the FDI into the country. The FDI inflow depends on the investment climate, availability of tax concession, incentive packages and infrastructure facilities. FDI inflows bring into the State not only the investment but also the Foreign Technology Transfers. Between April 2000 and March 2009, Tamil Nadu Region attracted Rs.21078.90 crore and stood at the fifth position at the national level.⁵²

Marine Fishery Resource Potential in India

A working Group constituted by Ministry of Agriculture in August 1990 had revalidated the fishery resource potential of Indian EEZ at 3.9 million tonnes of which 2.21 million tonnes are within a region of depth up to 50 mtrs. It is found that the resource within 50 mtrs. depth regions is at present exploited to the optimum level. The resource potential beyond 50 mtrs. is estimated at 1.69 million tonnes. Some of the commercially important resources under exploited beyond 50 mtrs. depth regions are tuna (2.09 lakhs tonnes), Tunnies (2.42 lakh tonnes), Ribbon fish (2.16 lakh tonnes), Perches(1.25 lakh tonnes), Cat fish (0.63 lakhs tonnes) . The details of fishery potential of the Indian EFZ, Marine Fisheries in Indian Economy and Marine Fishermen Census of India could be seen in appendix. A, B and C.

Marine Products Exports – An Overview

Marine Export in India

Indian marine products trade has been in the limelight ever since the economy was liberalized in the early years of the last decade. In India, major

52. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p.85. <http://www.tnstat.gov.in/publications.html>

share of export earning is mostly concentrated on few commodities. Exports are the major focus of India's trade policy. Many items are freely exported from India. Foreign trade is important to the economy because of the country's need to import a variety of products. India exports a huge number of products and imports equally a good number of required products.

Export earnings are given considerable economic importance under the current World Trade Organization (WTO) regime. According to the statement made by Marine Product Export Development Authority (MPEDA), Indian seafood exports had crossed \$ 1 billion consecutively for the past 10 years. Against a target of \$ 1.376 billion for 2003-2004, seafood exports were \$ 1.330 billion and the quantity exported was 4.12 lakh tonnes against 4.67 tonnes in 2002-2003. In rupee terms also there was a shortfall of Rs.789.30 crores as the final export figures for 2003-2004 were Rs.6, 091.95 crores against Rs.6881.31 crores recorded in 2002-2003⁵³.

The inadequacy of infrastructure facilities right from landing of catches to the shipment stage tends to be a major constraint in the way of post-harvest activities including export endeavor. Marine products exporters are worried about the sharp fall in the marine products catch. They urge that comprehensive conservation measures be taken, including a total ban on fishing activities in the country. The major problem faced by exporters at the moment is the shortage of catch. The marine catch has stagnated over the last few years⁵⁴.

53. Annual Report, 2005, MPEDA, Kochi.

54. Ibid.

Indian exporters suffer from a number of handicaps in the matter of export related infrastructure, cost of finance and transaction cost. The transaction cost for Indian exporters is indeed quite high when compared to what competitors in neighboring countries bear. Exporters are also experiencing difficulties in the matter of the Duty Entitlement Pass Book (DEPB) scheme. This scheme is essentially for refund of duties in the form of credit and, as such is similar to Duty drawback scheme. Fierce competition, thinning profit margins, high transaction cost and volatility of the rupee, dollar rate are a combination of factors that could drive the most venturesome of exporters away from the export business⁵⁵.

Marine products are one of the most important processed food exports from India and represent an important potential growth area for the Indian economy. Exports of Marine products from India has increased from about US\$ 46 million in 1970-71 to more than US\$ 1.85 billion in 2006-07 (Figure 1). It is estimated that by 2010, exports of marine products from India will touch US\$ 4 billion. USA, Japan, Australia and the European Union are traditional major export markets of India. China and Middle-Eastern countries are perceived as potential big markets for India's marine exports⁵⁶.

Marine Products Export Growth

Marine exports from the country have posted a 10% growth in

55. Ibid.

56. Niladri Saha, Parthapratim Pal, "Marine Product Exports and Its Impact on Female Employment: A Case Study from West Bengal", http://www.thecommonwealth.org/gtinformation/164419/164436/167061/marine_case_study/.

value during the first six months of this fiscal as per figures submitted recently by the Marine Products Export Development Authority (MPEDA) to the Union commerce ministry. Given the trend, exports were likely to touch the Rs 8,000-crore level by the end of this fiscal, especially in the backdrop of the ensuing Christmas and New Year season which should boost shipments in a big way, feel exporters. During the period April to September, 2, 10,494 tonne of marine products was exported earning Rs 3,704.87 crore compared to 1, 98,026 tonne worth Rs 3,373.2 crore during the same period last year. Even value in dollar terms went up by 4.36% to \$810.3 million from \$776.47 million. However, the unit value realisation though remaining static around the \$4 a kg level, was marginally down to \$3.85 from \$3.92. Shrimp, though the main item in the export basket accounting for over 60% of the value earned, recorded a decline in quantity while the rupee realisation was up by 6.35%. From 73,155 tonne it was down to 68,869 tonne this year while the earnings were up to Rs 2,349.05 crore from Rs 2,208.82 crore last year.

Marine Products Exports Trend

Marine products exports from India were on the rise thanks to increasing demand from global markets. Prices have declined in global markets but demand growth would compensate for lost value, exporters said. Good harvests have led to a fall in cost of feeds and raw materials and this would insulate the industry somewhat from falling prices, traders here said. Unit value realisation in global markets has come down by 35-45 per cent in the year as supplies from several south-east Asian countries have gone up. The average price for a kilogram of shrimp last year was \$16-18. This has declined to \$8-10 this

season. This trend has had limited impact, with trawling operations here being somewhat impacted. Sections of fishing boat owners have decided to stop trawling for the time being as prices were unviable. Prices of marine products fell by 20-30 per cent in the local markets in the last few weeks. Exporters seized this opportunity to step up exports this year, and the volume growth could be as much as 10 per cent month-on-month between 2003 and 2004.

Sources in the Seafood Exporters Association (SEA) told exports would be more than the target of Rs 6500 crore set for the current fiscal by the Marine Products Export Development Authority [MPEDA]. In 2003-04, export was 4, 12,017 tonne valued at Rs 6091.95 crore. Shrimp accounted for 65 per cent of the total value of exports and demand for the product was rising in the US market, exporters pointed out. Industry sources said they expected the anti-dumping duty imposed by US authorities to be reduced later in the year when the final verdict on the case would be passed. It was imposed in August 2004. The final decision of the US commerce department was expected on December 16. Exporters told Business Standard that demand for marine products other than shrimp were also on the rise. Cuttle-fish, ribbon-fish and squid were in great demand in the China market. Export of Indian marine products to China was on the rise⁵⁷.

Marine Products Export Comparison

Since the fall in the export earnings during 2003-04, the dollar earnings have increased steadily till 2009-10. During 2009-10 for the first time in

57. 'Indian marine exports likely to touch \$4 billion by 2010', The Business Standard: January 31, 2005.

the history of Marine product exports, the export earnings have crossed 2 billion US dollars and Rs.10,000 crore mark. Export has crossed all previous records in quantity, rupee value and US \$ terms. Exports aggregated to 678436 tonnes valued at Rs.10048.53 crore and US Dollar 2132.84 million.⁵⁸ Compared to the previous year, this recorded a growth of 12.54% in quantity, 16.74% in rupee earning and 11.75% growth in US \$ earnings as shown Table 3.8.

TABLE 3.8
EXPORTS DURING 2009-10 COMPARED TO 2008-09

Export Details	2009-10	2008-09	Growth (%)
Quantity Tonnes	678436	602835	12.54
Value Rs.crore	10048.53	8607.94	16.74
\$ Million	2132.84	1908.63	11.75

Source: www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

Major Region wise Marine Products Export

European Union (EU)

European Union (EU), continued to be the largest market with a share of 29.89% in US \$ realisation. China maintained the second place with a share of 17.80%, followed by Japan 13.06%, USA 10.01%, South East Asia 14.76%, Middle East 5.49% and Other Countries 8.99%.⁵⁹ Exports to countries like Libya, Reunion islands, Australia, Puertorico, Dominican Republic, Kenya, Tanzania, Ukraine, Brazil registered a positive growth. Details of major region wise marine products export are given in the table 3.9.

58. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

59. Ibid.

TABLE 3.9
MAJOR REGION WISE MARINE PRODUCTS EXPORT

Country	Share %	QV\$	2009-10	2008-09	Variation	(%)
Japan	9.24	Q:	62690	57271	5419	9.46
	12.83	V:	1289.58	1234.04	55.56	4.50
	13.06	§:	278.58	278.62	-0.05	-0.02
USA	4.93	Q:	33444	36877	-3433	-9.31
	10.08	V:	1012.52	1021.55	-9.03	-0.88
	10.01	§:	213.52	227.29	-13.76	-6.06
European Union	24.29	Q:	164800	155161	9638	6.21
	29.99	V:	3013.33	2854.07	159.27	5.58
	29.89	§:	637.40	635.34	2.06	0.32
China	21.27	Q:	144290	147312	-3023	-2.05
	17.82	V:	1790.89	1296.39	494.50	38.14
	17.80	§:	379.70	281.90	97.79	34.69
South East Asia	22.01	Q:	149353	88953	60400	67.90
	14.72	V:	1479.55	873.09	606.46	69.46
	14.76	§:	314.85	191.08	123.77	64.78
Middle East	5.15	Q:	34907	27177	7730	28.44
	5.51	V:	553.55	475.72	77.83	16.36
	5.49	§:	117.05	105.20	11.85	11.26
Others	13.11	Q:	88953	90083	-1130	-1.25
	9.05	V:	909.11	853.11	56.00	6.56
	8.99	§:	191.77	189.22	2.55	1.35
Total	100	Q:	678436	602835	75601	12.54
	100	V:	10048.53	8607.94	1440.59	16.74
	100	§:	2132.84	1908.63	221.21	11.75

Source: www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm
Q: Quantity in MT, V: Value Rs. Crore, §: US Dollar in Million

Major Port wise Marine Products Exports

Exports were effected from 19 Sea/land/air ports. The major ports in the order of US \$ earnings were Pipavav (16.94%) Kochi (15.61%), JNP (15.54%). Chennai (13.03%), Vizag (9.34%), Calcutta (8.82%), Tuticorin (6.81%), Mumbai (4.59%), Mangalore (.4.01%).⁶⁰ Ports like Pipavav, JNP, Chennai, Kolkatta, Mumbai, Mangalore, Goa, Ahemedabad, Trivandrum and Agarthala have shown an increase in the exports compared to the previous year while ports like Vizag, Tuticorin, Hill Land Customs, Karimganj showed a

60. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

declining trend. Export from Kochi port showed an increase in quantity as well as in rupee realization where as there was a decline in US \$ terms by 0.69%. Export from Mundra port also showed an increase in terms of quantity and rupee value however there was a short fall in US \$ realization. There was no export from ports like Kandla, NSICT and Port Blair. Details of port wise export are given in the Table 3.10.

TABLE 3.10
MAJOR PORT WISE MARINE PRODUCTS EXPORTS

Ports		Share (%)	2009-10	2008-09	Variation	(%)
Pipavav	Q:	26.83	182052	163866	18186.02	11.10
	V:	16.66	1673.74	1408.35	265.40	18.84
	\$:	16.94	361.21	307.69	53.52	17.39
Kochi	Q:	15.37	104281	98537	5743.73	5.83
	V:	15.69	1576.19	1504.98	71.20	4.73
	\$:	15.61	333.02	335.35	-2.33	-0.69
JN Port	Q:	19.06	129318	126853	2465.68	1.94
	V:	15.57	1564.42	1487.28	77.14	5.19
	\$:	15.54	331.46	329.52	1.94	0.59
Chennai	Q:	6.78	45991	39043	6947.93	17.80
	V:	13.08	1314.10	1078.44	235.67	21.85
	\$:	13.03	277.80	240.80	37.00	15.37
Vizag	Q:	4.70	31863	32277	-413.73	-1.28
	V:	9.39	943.29	897.93	45.37	5.05
	\$:	9.34	199.24	199.85	-0.61	-0.31
Calcutta	Q:	6.91	46901	33625	13275.63	39.48
	V:	8.88	892.48	720.36	172.12	23.89
	\$:	8.82	188.10	159.96	28.14	17.59
Tuticorin	Q:	4.10	27782	29354	-1571.80	-5.35
	V:	6.83	686.45	693.76	-7.32	-1.05
	\$:	6.81	145.22	153.59	-8.38	-5.45
Mumbai	Q:	0.35	2349	2319	30.19	1.30
	V:	4.60	462.67	176.56	286.11	162.04
	\$:	4.59	97.97	38.60	59.38	153.83
Mangalore	Q:	8.70	59000	33083	25917.07	78.34
	V:	3.98	400.33	238.44	161.89	67.89
	\$:	4.01	85.43	52.81	32.62	61.78
Others	Q:	7.21	48899	43878	5021	11.44
	V:	5.32	534.86	401.84	133.02	33.10
	\$:	74.92	113.38	90.46	22.92	6.05
Total	Q:	100	678436	602835	75600.73	12.54
	V:	100	10048.53	8607.94	1440.59	16.74
	\$:	100	2132.84	1908.63	224.21	11.75

Source: www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

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

Major items wise Marine Products Export

Frozen shrimp

The foundation for the exports of frozen marine products, which is a revolutionary milestone in the history of marine products exports of India. The present status of the marine products exports of India is a tribute to his vision and the pioneering start he gave to the marine products export sector. Frozen shrimp continued to be the major export item accounting for 41.40% of the total US\$ earnings. Shrimp exports during the period increased by 3.58%, 10.65% and 5.21% in quantity, rupee value and US \$ value respectively. There is a slight increase in unit value realization of 1.57%.

Fish, the principal export item in quantity terms and the second largest export item in value terms, accounted for a share of about 38.47% in quantity and 20.21% in US \$ earnings. There is an increase of value realisation of Ribbon fish inspite of the short fall in quantity by 12.45%. There was also good landing of Leather Jacket. Frozen mackerel, Anchovy, Kati fish etc. also showed a positive growth where as Tuna export has considerably decreased, Fr. Cuttlefish recorded a growth of 25.13%, 21.39% and 16.30% in quantity, rupee value and dollar terms respectively. However, there is a decline in the unit value realization (7.06%). Items like dried items, live items and chilled items also showed a substantial growth compared to previous year. Export of Fr. Squid showed an increase in quantity but there is a fall; in rupee & US dollar realization. Unit value realization also declined by 13.95%.⁶¹ Export of Live

61. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

Lobster, Live crab and Baigai showed an increase in exports where as the export of Ornamental fish showed a decline in US \$ terms. The major item wise marine products export present shown Table 3.11.

TABLE 3.11

MAJOR ITEM WISE MARINE PRODUCTS EXPORTS

ITEMS	Share (%)		2009-10	2008-09	Variation	(%)
Frozen Shrimp	19.24	Q:	130553	126039	4513.66	3.58
	41.62	V:	4182.35	3779.80	402.56	10.65
	41.40	\$:	883.03	839.28	43.75	5.21
Frozen Fish	38.47	Q:	260979	238544	22435.60	9.41
	20.23	V:	2032.33	1722.34	309.99	18.00
	20.21	\$:	430.94	375.24	55.70	14.84
Fr Cuttle Fish	9.36	Q:	53504	50750	12754.88	25.13
	9.19	V:	923.83	761.05	162.78	21.39
	9.18	\$:	195.69	168.27	27.42	16.30
Fr Squid	9.06	Q:	61445	57125	4319.15	7.56
	6.20	V:	622.63	632.35	-9.71	-1.54
	6.20	\$:	132.24	142.87	-10.63	-7.44
Dried Item	6.94	Q:	47053	31688	15364.71	48.49
	9.76	V:	981.11	420.75	560.36	133.18
	9.79	\$:	208.72	92.51	116.20	125.61
Live Items	0.81	Q:	5492	3434	2058.27	59.93
	1.39	V:	139.14	99.00	40.14	40.55
	1.38	\$:	29.52	21.82	7.69	35.24
Chilled Items	4.25	Q:	28817	21453	7363.60	34.33
	2.63	V:	264.49	217.34	47.15	21.69
	2.62	\$:	55.87	48.39	7.48	15.46
Others	11.88	Q:	80592	73801	6790.85	9.2
	8.98	V:	902.84	975.33	-72.68	-7.45
	9.23	\$:	196.84	220.24	-23.40	-10.62
Total	100	Q:	678436	602835	75600.73	12.54
	100	V:	10048.53	8607.94	1440.59	16.74
	100	\$:	2132.84	1908.63	224.21	11.75

Source: www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

Q: Quantity in MT, V: Value Rs. Crore, \$: US Dollar in Million

Frozen shrimp was the single largest item of export accounting for 51.70% in the total export value for the year 2010-11. Fish, the principal export item in quantity terms and the second largest export item in value terms,

accounting for a share of about 30% in quantity and 14.24% in US\$ earnings, showed a decline of 16.48% in quantity terms and a decline of, 12.64% and 7.25% in rupee and US\$ value realization respectively.⁶²

Marine Fishing Industry

Marine Global Fishing Industry

The fishing industry includes any industry or activity concerned with taking, culturing, processing, preserving, storing, transporting, marketing or selling fish or fish products. It was defined by the FAO as including recreational, subsistence and commercial fishing, and the harvesting, processing, and marketing sectors. The commercial activity is aimed at the delivery of fish and other seafood products for human consumption or as input factors in other industrial processes. Directly or indirectly, the livelihood of over 600 million people in developing countries depends on fisheries and aquaculture.

The practice of fishing has a very long history. It was mentioned in ancient texts such as the Bible, and it is likely and almost certainly that it predated biblical times by many centuries. However, while there were plenty of fish when there were only a few million people on Earth, and there were few dangers related to over-fishing, we are struggling with a global population of many billions of people now. Considering this, how long can the fishing industries be sustained.⁶³

62. Annual Report ,2010-2011, Department of Commerce ,Ministry of Commerce and Industry, Government of India, Udyog Bhawan, New Delhi 110 107, INDIA, http://commerce.nic.in/publications/annualreport_chapter9-2010-11.htm

63. Daman Prakash <http://www.mendeley.com/research/global-fisheries-brief-review>

Marine Fishing Industry in India

Fishing in India is regarded as a flourishing industry. This industry is still in a primitive stage in the country as it suffers from various tropical climatic changes. In India, fishing is considered as a bright and prosperous industry. With short supplies of fish on land, India looks to the sea that holds huge promise and it can supply vast quantity of fish. Fish is a rich source of high grade proteins. Fish oil industry is still in infancy and exports of marine products and overall growth of fishing industry have increased tremendously over the past few years. It was quite surprising that fishing industry in India is almost in a primitive stage in spite of having a really long coastal line of near about 6100 kms and a broad continental shelf particularly in several parts along the West Coast. Another probable reason is that modernisation on a limited scale began after the independence of the country.⁶⁴

Capacity of Indian Marine Industry

The marine products industry has a capacity to process 14,000 tonnes of fish a day (mostly for freezing), but about 80 per cent of the capacity is not being used currently. This is because of two reasons. First, sea catch is stagnating. Second, the capacity is built to process peak catch. India has 409 modern freezing plants, of which 221 are approved by the European Union. In a bid to utilise the capacity, marine exporters want procedures eased for importing fish for processing and onward exports. Table 3.12 presents the built up capacity of the Indian marine products export industry.

64. Ibid.

TABLE 3.12
CAPACITY OF THE INDIAN MARINE PRODUCTS EXPORT
INDUSTRY

Name of the State	No. of Exporters	No. of Process Plants	Freezing Capacity (Ton.p/d)	No. of Cold Storages	Storage Capacity	No. of Fishing Vessels
Kerala	287	124	1585.77	169	23086.50	2963
Tamil Nadu	202	48	524.55	67	5900.00	1562
Karnataka	43	14	186.40	26	3540.00	3226
Andhra Pradesh	95	52	779.50	53	7200.00	717
Goa	9	7	104.00	9	1275.00	420
Gujarath	64	55	2216.03	57	22925.00	426
Orissa	30	21	220.00	20	2460.00	414
Maharashtra	268	41	1327.11	39	19372.00	2932
West Bengal	99	37	340.00	30	3500.00	0
Delhi (UT)	92	--	0.00	1	15.00	0

Source: Marine Product Export Development Authority, 2007, Kochi.

India is the third largest fish-producing nation in the world, exporting to 73 countries. It has the potential to grow further in view of the growing demand in trading blocks such as the European Union, United States, Canada and Middle East. There has been huge transformation in the Indian marine industry over the last few years many of which have not been highlighted or marketed in the international area. In 1997 the EU banned Indian marine products, citing lack of hygienic and phytosanitary measures in the industry, this was a landmark as thereon India has come a very long way. The challenge was on and India spearheaded quality control and HACCP was put into place. Today we have excellent facilities, competitive labour and our infrastructure is catching up fast.⁶⁵

65. Report,2008,The Seafood Exporters Association Of India, 'Seafood House', Willingdon Island, Cochin - 682 003, [Http://Www.Seai.in](http://Www.Seai.in)

Indian Marine Products Market Structure

Before 1960, the markets of Indian marine products were largely confined to neighboring countries like Sri Lanka, Myanmar (formerly Burma), Singapore etc. when our exports were dominated by dried items. This situation changed with the development of technology/modernization; dried products gave way to canned and frozen items. The product shift also resulted in market shift. More sophisticated and affluent markets viz. Japan, USA, Europe, Australia, etc. became our important buyers. Several marine products processing units with modern machinery for freezing and production of value added products were set up at all important centers in the country for export processing.

For a long time USA was the principal buyer for our frozen shrimp but after 1977, Japan emerged as the principal buyer of the product, followed by the West European countries. Japan retained its position till 2001-02 as the single largest buyer for our marine products accounting for about 31% in the total export value. During the year 2002-03 and 2003-04 USA emerged as the single largest market for our marine products. During the year 2004-05, the European Union has collectively become the largest importer of Indian marine products and it retained its position since 2005-06. During 2008-09 European Union (EU) continued as the largest market with a percentage share of 32.6% in \$ realization followed by China 14.8%, Japan 14.6%, USA 11.9%, South East Asia 10%, Middle East 5.5% and Other Countries 10.6%. May be due to the prevailing economic recession export to EU, USA and Japan declined

6.08%, 10.18% and 8.80% respectively, all other countries increased their import of marine products from India during the year.⁶⁶

Marine Fisheries in Five Year Plan Period

Fisheries development and planning is undertaken through the Five-Year Plans formulated by the government since 1951. The initial Five-Year Plans, starting from the 1950s, focused more on the 'development' of the sector, and on increasing production, while it was only in the Ninth and Tenth Five-Year Plan period that the need for conservation and management was explicitly recognized. To meet the increasing demand for fish for food and non-food uses, the 10th Five Year Plan envisages increased fish production from 6.2 million tons in 2002-2003 to 8.2 million tons by the end of plan period (2006-2007). This could be achieved through focusing efforts on sustaining gains already made in production; protecting the productivity of inland and marine fisheries, increasing production through expansion of area and new technical breakthroughs, adding value to the produce and ensuring quality and creating increased livelihood venues through remunerative and assured marketing opportunities.⁶⁷

Eleventh Five Year Plan period (2007-2012) enhanced the production of fish from Indian waters on an environmentally sustainable and socially equitable basis, Address the hitherto unexplored potentials of Indian fisheries like island fisheries and non-food fisheries, Conservation of aquatic resources and genetic diversity, preservation of health of ecosystems, increasing profitability of fishers and aqua-farmers through an integrated approach from

66. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

67. Fish For All - Recommendation and Action Plan Kolkata, West Bengal, 18-19 December 2003.

production to consumption, promoting fish as health food and meeting the changing requirements of both domestic and export markets, strengthening of infrastructure in harvest, post-harvest, value-addition and marketing and upliftment of fishers and aqua-farmers communities with gainful employment opportunities and capacity strengthening.⁶⁸

Fisheries Legislation in India

The backdrop of fisheries legislations enacted in India traces back to 1857, when The Indian fisheries Act was endorsed. It was meant to regulate reverence fisheries and fisheries in inshore waters, to prohibit the use of poisons and dynamite in fishing, and to protect fish resources in selected waters through regulation of, among other things, the erection and use of fixed engines the construction of weirs, the use of nets of certain types and dimensions⁶⁹.

The present day scenario is governed by various sets of enactments essentially having bearing on the marine fisheries sector. These legislations include Maritime Zones Act (1976) which recognizes the sovereign rights to conservation and management of living resources in the Indian EEZ, in addition to their exploration and exploitation. Another important regulation governing the marine fisheries is Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act (1981) and Rules (1982). Fisheries within the 12-mile territorial limits are managed under the Marine Fishing Regulation Acts (MFRAS) of the maritime States of India. The main emphasis of MFRAS is on regulating fishing vessels in the 12-nautical mile territorial sea, mainly to protect

68. <http://www.ncscm.org/sicom/costal-fishing.htm>

69. Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p.349.

the interests of fishermen on board traditional fishing vessels. Thus, the Act has been mainly used for the purpose of maintaining law and order at sea. The MFRAS were enacted only for regulation of fishing vessels along only for regulation of fishing vessels along the coastline of the state, the Gujarat MFRA provides for protection, conservation and development of fisheries in inland and for regulation of fishing in the inland and territorial waters of the state of Gujarat and for regulation of fishing in the inland and territorial waters along the coastline of the State.

The Coastal Regulation Zone Protection Act, (1986) outlines a zoning scheme to regulate development in a defined coastal strip. The Notification defines the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action in the landward side, up to 500 m from the high-tide line (HTL) and the land between the low-tide (LTL) and the HTL, as the CRZ. The Environment Protection Act, (2002) authorizes the Central government to protect and reduce pollution from all sources, and prohibit or restrict the setting and/or operation of any industrial facility on environmental grounds.⁷⁰ The Biological Diversity Act (2002) provides for the conservation of biological diversity, the sustainable use of its components and, significantly, the fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and related matters.

Marine Fishing policy enables sustainable and responsible fisheries in addition to tapping the opportunities in domestic and export market.

70. Sathiadhas, R., 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p.350.

The Marine Fishing Policy of 2004 delineates 'Territorial Waters' as the subject of maritime states. Fisheries beyond this limit fall under the purview of the 'Exclusive Economic Zone'. The Central Government provides financial assistance under the central sector schemes and sponsored schemes for fisheries sector.

In India, hardly 14 per cent of the active fishermen in the marine fisheries sector have ownership on craft and gear in 2004 and another 3 per cent possess only gears. The proportion of owner operators in marine fisheries declined over the years with the increasing capital requirement for possessing motorized and mechanized fishing units. In the mechanized sector, 12 per cents, motorized sector 9 per cent have ownership on crafts and gears⁷¹. Most of the non-motorised units are operating as family enterprises, not even realizing the operating cost of the labourers. Lack of finance and credit facilities does not allow these fishermen to go for modernization and come out of the vicious circle of poverty and low-income trap.

Disguised unemployment and diminishing returns: During 2003-2004, 12.20 lakh people are employed in active fishing in the primary sector and another 15 lakh in the pre and post-harvest sector in the secondary sector in the secondary sector and one lakh people employed in the tertiary sector.

It is estimated that about 18 to 20 million people in India are depending on marine fisheries sector for their livelihood. The proportion of catch by mechanized sector as a whole increased from 40 per cent during 1980 to 68

71. Sathiadhas, R., 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p 351.

per cent in 1997 and again declined to 66 per cent in 2003. At the same time, the number of active fishermen depending on mechanized fisheries increased from 1.14 lakh to 2 lakh and again increased to 4.1 lakh respectively during the same period. It should be noted that the annual per capita production of active fisherman during the period has increased from 5260kg in 1980 to 8130kg in 1997 and drastically declined to 4175 kg in 2003.⁷² This clearly indicates the high prevalence of disguised unemployment in the mechanized fisheries sector. The pressure for employment in active fishing is increasing more than proportionate to the harvestable yield in the open access marine fisheries. The fishermen involved in active fishing is more than the absorbing capacity of the fisheries sector and has led to lower per capita production, increased pressure on fishing which results in juvenile fishing, large level discards and thus ultimately causing serious threats to resource sustainability and environmental stability.

Employment in fisheries sector has undergone rapid structural changes during the last few decades. Among those engaged in the mechanized sector, 75% work in trawl fisheries and the rest 25% in other sectors. In the case of motorized sector, 50% are engaged in ring seine fishery alone. There is a wide disparity in income between those engaged in different sectors. The number of annual fishing days per worker reveals that the level of employment for hired labourers as well as those not having sufficient equipment is low and they are very much underemployed. The seasonal nature of fishery and the risk and

72. Sathiadhas,R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p.352.

uncertainties associated with marine fishing entangled the fishermen in the low-income trap.

The current scenario of marine fisheries in terms of fishing fleets clearly indicates a situation of “too many boats chasing too few fishes”. Overcapitalization in the mechanized sector and under employment in non-mechanized sector is rampant issues, which creates regulatory, and conservatory problems for sustainable production on one hand and socio-economic problems on the other. The continuous changes and up gradation of existing fishing technologies not only increase the efficiency of craft and gears but also marginalize the fisherfolk who are not able to cope up with the changes. Similarly in motorized sector technological upgradation in the form of size of the net and boat has increased over the years. Boats fitted with 2-3 OB engines are very common which enhanced their mobility and fishing capabilities. In the mechanized sector expanded fishing activities with extended fishing days of even more than five days per trip is very common. With this acute competition, both inter and intra sectoral level has marginalized a number of fishermen who are depending on labour intensive technologies for their livelihood.

Marine Fisheries Rules and Regulation

The operation of foreign fishing vessels in Indian EEZ is regulated under provisions of the Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981 and Rules there under. Besides restricting fishing operations in certain areas such as shrimp grounds in the Sandheads and off Quilon, the rules in general restrict the fishing beyond 12 nautical miles along the east coast and 24 nautical miles along the west coast. In the case of territorial waters the fishing

activity is regulated by the respective maritime state governments under marine fisheries regulation acts or by executive orders. The states of Maharashtra, Karnataka, Kerala, Tamil Nadu, Orissa, Goa, Andhra Pradesh, west Bengal and the Union Territories of Pondicherry have enacted Marine Fishing Regulations Acts.

Fishing Policy

The new policy on deep sea fishing has been announced in March, 1991, which involves three new schemes namely leasing of Foreign Fishing Vessels for operation in the Indian EEZ, Test Fishing by engaging foreign fishing vessels and Joint Ventures between Indian and foreign companies in deep sea fishing, processing and marketing. The salient features of the policy are as Leasing of foreign fishing vessels like Long terms leasing of foreign fishing vessels for operation in Indian Waters will be allowed in terms of the Maritime Zones of India Rules, 1982, Leased vessels should be preferably new. However, second hand vessels also will be taken on lease subject to satisfactory performance of the vessels. Test fishing will be governed by the provisions of Maritime Zones of India Act, 1981, Merchant Shipping Act, 1958 and the Maritime Zones of India Rules 1982' (as amended from time to time) and the broad guidelines specified herein. All data generated including details of operations during test fishing will be made available to the Marine Products Export Development Authority (MPEDA) and the Fishery.⁷³

73. www.mpeda.com

New Marine Fisheries Act

Marine Fisheries (Regulation and Management) Act 2009 contains 'hidden ideas' of granting permission to foreign vessels to conduct industrial fishing in Indian seawaters. The industrial fishing in any part of the world had caused depletion of fish which is evident in Somalian seashores and the proposed Act did not ensure the livelihood security and moreover the stakeholders also get affected. In a memorandum submitted to the Union Agriculture Minister, the Association pointed out that the proposed Act ignores the basic idea that seawaters is for the betterment of the fishing folk in India, who entirely depend on it for their livelihood. The Act did not envisage a pricing mechanism; helpful to the fishermen for the catch they bring ashore even if the resources are meant for exports or domestic consumption. Though it is a state subject, the scope of the state to interfere is not streamlined in the Act.⁷⁴

The Regulation of Foreign Vessels Act, 1981, has strictly restricted the entry of foreign vessels into Indian seawaters. But its usurpation goes uninterrupted. If this violation goes on unhindered, the Association feared that the enactment of new law would not deter them as it all matters on enforcement. Besides, the Murari Committee is vehemently categorical in barring the entry of industrial fishing. Foreign industrial fishing vessels and the Indian fishing boats are treated alike in the proposed Act in the matter of licensing. The stark difference of the profit-making and livelihood making is not differentiated and the right of the citizens.

74. Sajeev Kumar, 2010, Kochi, <http://www.thehindubusinessline.com/2010/02/11/stories/2010021152751900.htm>

Foreign Trade Policy Measures in India

In the wake of global economic slowdown, India's merchandise exports faced significant adverse impact. Exports, which had grown by 48.1% during April to September, 2008, suffered a decline during the next 12 months from October, 2008 to September, 2009, due to the shrinkage of the demand worldwide and particularly the contraction in demand in the traditional markets of our exports. In May, 2009, the exports declined by as high as 34.2% in US\$ terms. The downward trend was arrested from October, 2009 onwards and our exports ended up with an export figure of US\$ 178.75 billion in 2009-10 against US\$ 185.30 billion in 2008-09, which indicates an overall decline of 3.5% in dollar terms. The growth in exports since October, 2009 can be attributed to growth in some sectors, but is primarily due to the lower base effect of the exports in the corresponding months of previous financial year. This year, exports have registered a growth of about 27% in US\$ terms and it is expected that we exceed the merchandise export target of US\$ 200 billion by the end of 2010-11.⁷⁵

The Foreign Trade Policy (FTP), 2009-14 was announced on 27th August, 2009 in the backdrop of a fall in India's exports due to global slowdown. The immediate and the short term objective of the policy was to arrest and reverse the declining trend of exports as well as to provide additional support especially to those sectors which were hit badly by recession in the developed world. The Policy envisaged an annual export growth of 15 per cent with an annual export target of US \$ 200 billion by March 2011 and to come back on the high export growth path of around 25 per cent per annum in the remaining three

75. <http://www.tradechakra.com/indian-economy/exports/index.html>

years of this Foreign Trade Policy i.e. up to 2014. The long term policy objective for the Government is to double India's share in global trade by 2020. Problems relating to various provisions of exim policy were taken up with DGFT whenever larger interests of marine products exporters are affected.

As an immediate relief, the Government provided a policy environment through a mix of measures including fiscal incentives, institutional changes, procedural rationalisation, and efforts for enhanced market access across the world and diversification of export markets. Towards achieving these objectives, several steps were announced in the Policy. Some of the important steps included addition of new markets under the Focus Market Scheme, coverage of Africa, Latin America and large part of Oceania under Focus Market Scheme (FMS) and the Market Linked Focus Product Scheme (MLFPS), increase in incentives available under the Focus Market Scheme from 2.5% to 3% and for Focus Product Scheme (FPS) and MLFPS from 1.25% to 2%, introduction of EPCG Scheme at zero duty for specified sectors, and the grant of additional duty credit scrip to status holders.

Thereafter, as promised in FTP, to continue regular interaction with stakeholders to maintain a close watch on the performance of the policy in the field, a number of interactions were held with members of Board of Trade, Open Houses with exporters and sectoral reviews with EPCs. Constant dialogues were held with all key stakeholders in industry and the exporting community for sectoral assessment of exports at regular intervals.

The recovery has been fragile and economies around the world are still emerging out of the shadows of a grim recessionary period. The IMF

projections indicate that the world economy is recovering at varying speeds for different regions. Though, there had been marginal improvement in some of the developed economies like US, UK, Germany, France, Japan etc., the nervousness continued in the markets about the fiscal situation and sovereign indebtedness in several high income countries of Europe. In this setting, it was expected that the developed countries would aim at economic recovery through consolidation and export led growth, which would pose a challenge to Indian exporters in accessing overseas markets for their products. The uncertainty surrounding Indian exporters' prospects, therefore, continued to linger. Though the exports growth moved towards the positive trajectory from October, 2009 onwards, our exports were not yet out of the woods.

Under this global situation of slow recovery, it was necessitated to take stock of the situation so as to make mid course corrections. Accordingly, sectoral reviews were continued in the current financial year 2010-11, and the first such review for 2010-11 was undertaken in July 2010. It was observed that despite the measures announced in the FTP and additional support extended in January and March, 2010, some sectors continued to face difficulties. It was also realized that there was a shroud of uncertainty continuing over the fragile nature of global economic recovery. Even as global economic rebalancing had been proceeding apace, it was not going to be an easy patch for Indian exporters. In view of resource constraints, it was not simply possible to sustain support to all sectors and there was need to calibrate the support measures appropriately.

On the other hand, exports of certain products had been placed under restriction in view of domestic situation i.e. inflationary pressures and

unemployment. It was also essential to be conscious of the need for and the inevitability of fiscal consolidation. Keeping all these factors in mind and based on the sectoral review held in July, 2010, need based additional initiatives were undertaken in the Annual Supplement 2010-11 to FTP 2009-14, announced on 23rd August, 2010. While emphasis on stability of policy regime was continued, additional measures were announced to support exports particularly for the labour intensive sectors. In order to promote technological up gradation, zero duty EPCG and Status Holder Incentive Schemes were expanded and validity extended. It will add to expansion and modernisation of production base at a time when investment is drying up in export industry.

Trade policy measures taken by the Government and the RBI this year focused on mitigating the adverse impact of the global recession on the Indian economy and on checking inflation. In addition to the three stimulus packages announced in 2008-09, measures by the RBI and the Government in the Union Budget 2009-10 and 2010-11 and the Foreign Trade Policy (FTP), 2009-14, announcements made in January, 2010, additional measures were taken in March, 2010, the Annual Supplement to FTP released in August, 2010 and the measures announced on 11th February, 2011, to help the export sector in general and the employment intensive sectors affected by the world recession, in particular.⁷⁶

International Trade Organizations

International trade has assumed paramount importance in world

76. Annual Report 2010-11 http://commerce.nic.in/publications/annualreport_chapter3-2010-11.htm

economy since the formation of WTO followed the marathon GATT Uruguay Round talks. Almost all countries, including many who had hitherto taken an autarkic stance, have been drawn into the vortex of world trade, thus ensuring that the slightest ripple in the farthest corner of the globe has some effect in our country, or, for that matter, all countries. Hence, it is time to take stock of the situation, now that the WTO has completed a good seven and a half years, to have an estimate of how India has fared in the new regime of decreasing tariffs and vanishing quotas, and to attempt to divine what the future has in store for us. To achieve this end, it is necessary to bring together brilliant minds concerned with international trade, so that a fruitful exchange of seminal ideas can apprise us of where India actually stands, what lies on her road ahead, and what should be done so that she embarks upon a comfortable journey to prosperity.⁷⁷

General Agreement on Tariffs and Trade (GATT)

The General Agreement on Trade and Tariff (GATT) was set up on October 30, 1947 in Geneva with 23 countries as its founder members, and India was one of them. It was originally set up as a temporary arrangement to bring about trade liberalisation. India has always been an active champion of multilateral trade negotiations. GATT later became an important and permanent set-up to attend to all trade issues among member countries. Its membership also got enlarged to practically all the members of the United Nations, except the communist countries and East European countries.⁷⁸

77. Research Paper, "Post-WTO trade Scenario- An Indian Perspective" on 8th and 9th November, 2002 at Darbar Hall, Great Eastern Hotel, Kolkata, <http://www.dgciskol.nic.in/>

78. <http://www.indiaagronet.com/indiaagronet/Fisheries/Fisheries.htm>

From 1947 to 1967, GATT sponsored six rounds of multilateral trade negotiations mainly with a view to bring down the trade barriers by persuading countries to bring down their import levies with a view to greater exchange of goods and more trade flow. The sixth round brought the weighted average tariff of major trading nations to be reduced by 2% on raw materials and 7.7% on industrial products. GATT played a prominent role in the settlement of trade disputes between two countries. The Uruguay Round, terminated in Marrakesh in 1994, has been the 8th Round, and it is the last GATT Round. The next Round, which could be (though that seems highly unlikely), launched at the next WTO Ministerial Conference, to be held in Singapore in December 1996, will be the first WTO Round.⁷⁹

World Trade Organization (WTO)

The World Trade Organisation (WTO) is an international organisation dealing with the rules of trade between nations. There are a number of ways of looking at the WTO. It is an organisation for liberalising trade, a forum for governments to negotiate trade agreements and a place for them to settle trade disputes. The WTO came into force on 1 January 1995, but its trading system is half a century older. Since 1948, the General Agreement on Tariffs and Trade (GATT) had provided the rules for the system. The WTO has 148 members, together accounting for 90 percent of world trade.⁸⁰

Almost six years have elapsed since various trade agreements were signed under the auspices of World Trade Organization (WTO, 1995). One

79. <http://www.wto.org/report/paper> 287

80. <http://www.wto.org>.

agreement considered most effective in reforming food and agricultural sector was the Agreement on Agriculture (AoA). The essence of AoA liberalization was that markets should be distortion-free, a standard thinking in neoclassical economics. AoA translated this thinking by aiming for improving market access and export competition and reduction in domestic support. This in-turn was to be achieved through tariffication of quantitative restrictions, and time-bound reduction in existing tariffs, export subsidies and domestic support. An important assumption in the neoclassical thinking is that there is complete information in the markets and elimination of tariffs and subsidies will lead to free trade among nations.

However, markets are not characterised by complete information preventing a smooth and distortion-free trade. This aspect is extremely important in the global trade in food products. Traditional economics textbooks cite food and agricultural markets/products as examples of perfectly competitive markets with homogeneous products; however, nothing can be farther from the truth. Individual food products are not homogeneous across countries; different countries and firms adopt different performance standards and safety and quality norms; and, moreover, buyers cannot ascertain quality of food products merely by physical inspection. As a result, AoA by itself cannot guarantee removal of all barriers to trade. Two other WTO agreements address this concern. They are: Agreement on Sanitary and Phytosanitary Measures (SPS) and Agreement on Technical Barriers to Trade (TBT).⁸¹

81. <http://www.wto.org/article/25/eto>

Legal and Economic Approaches of the WTO

Economic analysis which focuses on the gains for the country itself suggests that, under conditions which are likely to be the most frequent, a country should not hesitate to adopt unilaterally a free trade policy. By doing so, the country will improve its welfare with respect to the situation with no international trade (autarky) or less trade. The tremendous success of WTO has been due to the fact that it has been able to combine both the legal and economic aspects in a mutually acceptable way. As underlined in the comments about section 11.2.1, the basic WTO principles do not impose any constraint on the level of protection: they do not impose a free trade view. The founding fathers of the GATT-WTO were intimately convinced about the value of free trade, but they were also politicians good enough to know the power of politics of protection at home.

Without the capacity to impose free trade to countries unwilling to follow this policy by their own will, the WTO has been able to succeed only because it has been able to improve transparency. Countries have progressively realized the costs of their own protectionist policies for their own consumers - individual consumers or industrial users. By doing so since 1947, the WTO liberal approach has favoured a steady movement towards freer trade on a multilateral basis. Tariffs on industrial goods have been reduced from 45 to 4 percent by OECD countries which have participated to the GATT-WTO process since the start. In a nutshell, the WTO is not done for "virtuous" (or lucky) governments which can follow a freer trade policy without strong opposition from domestic vested interests. Rather, the WTO is an institution which is useful

for "normal" governments struggling with strong vested lobbies on the road to freer trade and which need help from their fellow governments facing the same ordeal. The key GATT-WTO instrument for launching and sustaining this trend of "joint liberalization" has been Rounds of trade negotiations, where each government trades concessions in its import regime for foreign concessions in the foreign import regimes.

The WTO framework consists in three components. First, it is a set of agreements dealing with a large range of topics, from agriculture to industry and services, from intellectual property rights to trade related investment measures, as well as dealing with special fields of concerns, such as anti-dumping, subsidies or safeguards. Second, it is a series of Round negotiations, leading over time to freer trade in a wider number of activities. Lastly, the WTO is an organization, with a permanent staff of around 600-700 persons, and several bodies, such as the Appellate Body.⁸²

This study of the WTO has implications for the fish sector. The most important lesson flowing from the WTO texts has already been underlined the focus on non-discrimination is essential for political as well as economic reasons. The second lesson comes from the Round technique, it is much easier to get compromises when there is a large choice of possible trade-offs. In other words, there is an incentive to integrate, more completely than before, fish and fishery products in the general bargain of future WTO Rounds.

82. [http://www.wto.org/spsfisheries repot/795](http://www.wto.org/spsfisheries_repot/795)

Sanitary & Phyto - Sanitary Measures

India is one of the world's topmost producer of Marine Products and posses a huge source and prospects in this trade. Seafood Processing Industry in our country is now facing a serious threat due to poor sanitary and hygienic practices and lack of proper infrastructure facilities. This is high time for us to improve the sanitary and hygienic practices; otherwise we loose the export market to a great extent because the consumer sensitivity regarding healthy and safe food is improving day by day with the fast paced development of technology, medicine and communication. In order to meet the SPS measures we have to make a sea of changes throughout the entire system. Full commitment and involvement of Management, Workforce and Government is required to get the things happen.

Two nodal agencies for processed food exports have been identifies in Indian at the national level. These are the Agricultural and Processed Food Export Development Authority (APEDA) and the Marine Products Exports Development Authority (MPEDA). While MPEDA is responsible for overseeing all fish and fishery products exports, other processed food product exports are the responsibility of APEDA. Given reductions in tariffs and domestic support and expected reduction in export subsidies, increasing food product exports requires searching for new opportunities in terms of better market access and enhanced competitiveness in export markets.⁸³

83. www.mpeda.org/report.

WTO Agreements on SPS and TBT

Trade liberalization, hoped to be achieved through WTO Agreement on Agriculture (AoA) is expected to lead to export promotion and import substitution opportunities for Indian food sector. However, these opportunities cannot be exploited unless serious attention is paid to two important WTO agreements – Agreement on Sanitary and Phytosanitary Measures (SPS) and Agreement on Technical Barriers to Trade (TBT). Due to the ‘experience’ and ‘credence’ nature of food products, trading partners impose import restrictions based on food safety and quality concerns. These concerns are legitimised by SPS and TBT agreements.⁸⁴ Hence, to obtain maximum possible benefit from these agreements, India will have to improve its safety and quality norms to match the Codex standards and participate effectively in Codex standard setting meetings. Moreover, it must ask for substantial amendments to some of the articles of these agreements which seem discriminatory in nature. Finally, India will have to strengthen import monitoring mechanisms so that domestic food and phytosanitary laws are effectively applied to imported food items.

Trade Implications of SPS and TBT

Under the auspices of WTO, SPS and TBT agreements were signed along with many other agreements including AoA. In fact SPS and TBT agreements have not received the kind of attention they should have from industry and researchers alike. There is a lot of confusion regarding understanding the difference between SPS and TBT agreements. SPS agreement aims to protect human, animal and plant life or health from pest and diseases

84. Ibid.

arising out of imports of food and agricultural products. On the other hand, TBT agreement deals with product specifications which include size, shape, weight and packaging material requirements including labeling and handling safety.

The sanitary and phytosanitary measures that conform to the international standards, guidelines and recommendations will be deemed necessary to protect human, animal or plant life or health." For food products, the international standards, guidelines and recommendations refer to the guidelines suggested by the Codex Alimentarius Commission (CAC). An important CAC guideline for food processing companies is to follow a food quality management system called Hazard Analysis and Critical Control Points (HACCP). In fact, United States (US) and European Community (EC) have already made this system mandatory for food processing firms. EC put a ban on imports of fish from companies in Gujarat which did not adopt HACCP system (IE,1999). Moreover, about 100 crores of herbal product exports from India, targeted for 1997- 98, were severely affected as US planned to impose ban on imports of these products if they did not confirm to HACCP (EFP, 1997). Indian marine products processors, in their bid to remain competitive in the US market, are taking help from foreign consultants at exorbitant cost to implement HACCP in their production units (CP, 1997).⁸⁵

Hazard Analysis and Critical Control Points (HACCP)

Consequent to the promulgation of US marine products Regulation on HACCP on 18th December 1995, it has become mandatory that every processor and importer has to comply with HACCP with effect from

85. Ibid.

18.12.1997. MPEDA constituted HACCP Cell in early 1996 to assist the Indian marine products industry for the effective implementation of HACCP. The major activities of the HACCP Cell are organizing training programmes in HACCP basic principles, audit etc. for the benefit of technical personnel in the marine products industry and related departments. So far, 32 such programmes were organized for the benefit of over 900 technical personnel. Assisting the seafood establishments in the preparation of HACCP manual, certification of such manuals, certification of HACCP compliance etc. So far, 26 processing establishments in India are issued with HACCP compliance certificate by MPEDA. Inviting Consultants from US FDA, NMFS, FAO / INFOFISH. From time to time these facilitate in updating knowledge on HACCP and strengthen the technical base of MPEDA and the industry. Technical personnel of MPEDA are trained in India and abroad on various aspects of HACCP including HACCP Audit.

Non Agricultural Market Access (NAMA)

Non Agricultural Market Access (NAMA) relates to trade negotiations on non-agricultural or industrial products. In the NAMA negotiations, WTO Members discuss the terms or modalities for reducing or eliminating customs tariff and non tariff barriers on trade in industrial products. The product coverage under NAMA includes marine products, chemicals, rubber products, wood products, textiles and clothing, leather, ceramics, glassware, engineering products, electronics, automobiles, instruments, sports goods and toys. On tariffs, the negotiations take place on bound tariffs which are the bindings taken during the negotiations at the WTO. In the NAMA negotiations

there are tariffs on which no bindings have been taken and these are known as the unbound tariff lines. Based on the commitments taken by India, at the commencement of the Doha Round in 2001, India has more than 31% of its NAMA tariff lines as unbound.⁸⁶

Non-Tariff Barriers

Non Tariff Measures (NTMs) refer to those measures on international trade that are not in the form of a tariff or a tax. These measures include trade related procedures such as documentation, certification and inspections, technical regulations, standards, import related measures such as restrictions, prohibitions, seasonal duties, tariff rate quotas, foreign exchange controls including artificial exchange rates, public procurement practices. Certain NTMs such as imposition of anti-dumping and safeguard duties do have the effect of imposition of tariffs. Of course, countries tend to impose some restrictions on imports that some measures are intended to protect human, animal and plant life and health. These are known as Sanitary and Phytosanitary (SPS) measures. Non Tariff Barriers (NTBs) are a sub-set of NTMs. NTBs are considered unfair measures discriminating against imports and therefore violative of the obligations under the Agreements of the WTO.⁸⁷

Market Service and Promotional Measures

Market services and market promotion have assumed special significance in view of the growing stiff competition from other marine products exporting countries in all overseas markets. Consequent on the large scale

86. Annual Report 2010-11 http://commerce.nic.in/publications/annualreport_chapter8-2010-11.htm

87. Ibid.

development of commercial scale shrimp farming in several shrimp producing countries in Asia and Latin America, the shrimp exporting countries are making all efforts to maximize share in all major world markets. There is need for stepping up of our promotional programmes in major overseas markets and developing better rapport with trade and officials in the importing countries⁸⁸

Market Diversification

Marine Sector to ensure the Imports for technological up gradation under EPCG in fisheries sector (except fishing trawlers, ships, boats and other similar items) exempted from maintaining average export obligation. Duty free import of specified specialized inputs / chemicals and flavoring oils is allowed to the extent of 1% of FOB value of preceding financial year's export. To allow import of monofilament logline system for tuna fishing at a concessional rate of duty and Bait Fish for tuna fishes at nil duty. A self removal procedure for clearance of seafood waste is applicable subject to prescribed wastage norms.

Product Development

Marine products form a considerable segment of the post-harvest utility of marine fish resources. There has been considerable structural change in the seafood processing and export industry for the last few years. There is a growing demand for “ready-to-cook” or “ready to serve” type of seafood, hygienically prepared and attractively packed convenience foods to match the changing needs of urban population.⁸⁹

88. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

89. Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p.357.

The marine products processing and marketing has become competitive all over the world and exporters are switching over to value addition to increase profit. Product diversification always promotes price discrimination and enables us to realize maximum forex earnings. It further helps us to enhance the employment opportunities of coastal rural women. The emergence of value added products are accelerated by the current demand pattern of the major seafood markets in exporting. Today the affluent society is gradually shifting towards value added products. An additional export of almost one-lakh tones of value added products in our marine products could easily corner about Rs.1500 crores of foreign exchange earnings and generates regular employment opportunity of about 35000 fisherfolk.

The shift in demand towards value added products mainly in the export markets have opened an excellent opportunity for the seafood sector that requires to be tapped. Promotion of diversified value added products accelerates our forex earnings in exports and provides a multiplier effect on employment front especially for weaker sections and womenfolk. Continuing support and adequate training to women self help groups engaged in the preparation of value added products and marketing. The most viable alternative to maximize our forex earnings from marine shrimp landings is to focus on export of value added ready to eat products.

Market Access Initiative (MAI)

Under MAI scheme, financial assistance is provided for export promotion activities on focus country, focus product basis. Financial assistance is available for Export promotion councils (EPCs), Industry and Trade

Associations (ITAs), Agencies of state government, Indian commercial missions (ICMs) abroad and other national level institutions/eligible entities as may be notified. Financial assistance is also provided for contesting litigations in the foreign country concerning restrictions/anti dumping duties etc. on particular products of Indian origin, as provided under the market access initiative (MAI) Scheme. DOC provides funds for capacity building for up-gradation of quality to national level Institutions and EPCs to organize training programmes for the skill improvement of the exporters for quality up-gradation, reduction in rejection, product improvement as provided under the Market Access Initiative (MAI) Scheme of DOC. Central Government will assist in modernization and up-gradation of test houses and laboratories to bring them at par with international standards.

Export Promotion Councils

There are at present eleven Export Promotion Councils under the administrative control of the Department of Commerce and nine export promotion councils related to textile sector under the administrative control of Ministry of Textiles. These Councils are registered as non -profit organisations under the Companies Act/Societies Registration Act. The Export Promotion Councils perform both advisory and executive functions. These Councils are also the registering authorities under the Export Import Policy; 1997-2002. These Councils have been assigned the role and functions under the said Policy.⁹⁰

90. http://www.indembassysuriname.com/export_promotion_councils.html

India Trade Promotion Organisation

India Trade Promotion Organisation (ITPO) is the nodal agency of the Government of India for promoting the country's external trade. ITPO, during its existence of nearly three decades, in the form of Trade Fair Authority of India and Trade Development Authority, has played a proactive role in catalysing trade, investment and technology transfer processes. Its promotional tools include organizing of fairs and exhibitions in India and abroad, Buyer-Seller Meets, Contact Promotion Programmes, Product Promotion Programmes, Promotion through Overseas Department Stores, Market Surveys and Information Dissemination.⁹¹

Development of Internal Marketing System

Post-harvest fisheries activities including processing, product development, transport and marketing provide greater employment to labour than the harvesting sector. As the demand and price of fish keep continuously increasing in the domestic and export markets, the opportunities for the above activities also keep growing. Fresh fish, once inaccessible to distant locations still a few years ago are now easily available due to the vast improvements in handling technologies coupled with advanced transportation. However, the infrastructure for fish marketing in India is still principally oriented towards the export market.

Not only the export markets but also the internal marketing system should be supported by appropriate policies reoriented from time to time depending upon the market conditions. Not much thrust has been given on the

91. <http://www.indiatrdefair.com>

development of the development of the markets and towards improving marketing efficiency per se. The need of the hour is to develop wider perspective from marketing angle in terms of product, price, promotion and physical distribution with supportive factors such as market research and communication. Policies should follow market rather than markets follow policies.⁹²

The observation that 85 per cent of catch is channeled to the internal marketing system and the rest exports should be restructured to give balanced importance. Cooperative marketing should be strengthened since hardly 5 per cent of the fish in the internal marketing system is currently marketed by cooperatives and the rest is through private marketing agencies and traders. Thrust should be given for promoting value added products and support price for commercially important varieties. Identifying and cataloguing of pharmaceutically important marine products and utilization of idle capacity of processing plants for internal marketing are viable options.

Development of Infrastructure and Marine Fisheries Information System

Infrastructure development contributes substantially to the growth of marine fishing and growth of its ancillary sectors. The physical infrastructure in fisheries comprises 2244 landing centres (otherwise termed as primary markets) six major fishery harbours and 28 minor harbours. Among these landing centres only a few have well-developed landing and berthing facilities. This acts as an impediment since a lot of wastage occurs in handling the catches at the

92. Sathiadhas,R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fishereis Forum Proceedings, University of Agricultural Sciences, Bangalore, p 360.

landing centres. The fishery infrastructure for handling and processing includes freezing plants, pre-processing centres (peeling sheds) and cold storage.⁹³

The development of fishery sold at domestic and export markets. The number of freezing plants increased from 264 to 372, number of ice-making plants increased from 131 to 148 and that of registered peeling sheds from 83 to 900 during 1977-1996 periods. The increase in cold storage facilities and thrust for preservation and quick transportation of fish improved our distribution and marketing system.

Earlier marine fishing was closely confined to the coastal and adjoining regions. By the mid of 1990s, it has been observed that about 50 per cent of the fish is consumed fresh in and around producing centres, 43 per cent in demand centres located up to a distance of 200 km from the coast and 7 per cent goes to the centres located beyond 200 km in our internal marketing system (Sathiadhas, et.al., 1997). The reluctance of the consumers towards iced-fish has also changed. The extent of spoilage of fish at distribution channel has been considerably reduced due to the intensive use of ice, technological improvements in processing, improved transportation facilities, targeted awareness campaign measures by state and central government agencies.⁹⁴

The marine products of India have attracted many ultimately become advantageous for the fishing community. The fisherfolk got better prices for their catches and gained respect and recognition in society as primary for their

93. Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p 361.

94. Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fishereis Forum Proceedings, University of Agricultural Sciences, Bangalore, pp 364-365.

catches and gained respect and recognition in society as primary producers of raw materials for marine products export industry. A pre-requisite for planning coastal zone developments in the capture fisheries sector is the information base on the potentialities of human resource involvement, the magnitude of facilities such as fishing crafts, gears and other infrastructure available and the extent of current resource exploitation.

Growth of fishery sector essentially coupled with development of infrastructure facilities. The growth of marketing communication also has enunciated development of the sector fetching better prices to the producers. Also coastal zone management is also based on information gathering and dissemination, which forms the basis of the strategies developed. Region-wise Geographical Information System of the coastal agro-climatic zones for coastal zone management and development should be prepared in consultation with experts from capture and culture fisheries. Periodic dissemination of information on prevailing prices of commercially important varieties of fish in different markets will be much useful to fishermen, traders and consumers. Adequate fishery infrastructure like freezing/ice plants, cold storage units may be established in the marketing centres which will help to store excess catch during the glut and sell it for a good price later.

Duty Entitlement Passbook (DEPB) Scheme

Duty Entitlement Passbook scheme is to neutralize incidence of customs duty on import content of export product. Component of customs duty on fuel (appearing as consumable in the SION) shall also be factored in the DEPB rate. Component of Special Additional Duty shall also be allowed under

DEPB (as brand rate) in case of non-availment of CENVAT credit. Neutralization shall be provided by way of grant of duty credit against export product.

Export Quality Control

Quality & Food Safety is the foundation of any food processing industry. In the sea food industry, quality control is a very vital element as quality of the products processed is highly heterogeneous and perishable in nature, particularly under tropical conditions. Realizing this, the industry has adopted modern methods of handling, processing besides adequate quality control measures to improve the quality of marine products. As technology advance and public awareness grows, consumers are becoming increasingly demanding in terms of the choice, quality, freshness, nutritional value and microbiological safety of food.

An advance in food technology has helped to curtail opportunities for microbiological hazards and significant developments in laboratory diagnosis such as the novel techniques developed viz: Polymerase Chain Reaction (PCR), High Performance Liquid Chromatograph coupled with Mass Spectrometry (HPLC with MS MS). This facilitates not only the detection of pathogens / residue levels much more quickly but also to a level of minute sensitivity. These developments have contributed to major improvement in ensuring safety of food. To cope up with the increasing demand for safe food and to satisfy the needs of health and quality conscious consumers of the global marine products market.⁹⁵

95. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

Export Quality Logo in Indian Marine Products

With the objective of obtaining greater credibility and confidence for Indian marine products in the international markets, the Marine Products Export Development Authority (MPEDA) has launched its export quality logo. The introduction of the new logo is expected to improve and extend the market for Indian marine products. The affixing of the quality logo would enhance the appeal of the product among the buyers.⁹⁶

Nila Seafoods of Tuticorin in Tamil Nadu exporter has become the first Indian manufacturer-exporter to be awarded the MPEDA quality logo. While constantly striving to improve their infrastructure and their products, the company has one of the most sophisticated and best processing plants in India. The logo is expected to give a shot in the arm to Nila, a major exporter to the Japanese seafood markets. MPEDA for its part will initiate logo promotion programmes in Japan through its trade promotion office in that country. The promotion is expected to assist the wholesalers and retailers in the Japanese markets in projecting this product among the customers, thus enabling superior quality right from the catch to the table. Nila specialises in sea-caught white and flower shrimp grades. The flower caught from the Tuticorin seas commands a premium price in the international markets. Caught in the wild, these products are preferred by several top-end customers in the big supermarket chains and their prices were found to remain relatively steady even when the prices of other common grades fluctuated. Soon the Indian pink brown, known to be tasty and

96. Anwar Hashim, 2010, President of the Seafood Exporters Association of India (SEAI) <http://www.thehindubusinessline.com/2010/08/27/stories/2010082751661800.htm>

widely used by the Tempura chain of restaurants, is expected to be packed by Nila with the quality logo.⁹⁷

Quality Control and Promotion of Exports Complying with WTO Regulations

Quality assurance in the domestic marketing channel will enable the parallel development of the internal marketing system, which is highly essential to withstand and market collapse and price crash in the export market at any point of time (Sathiadhas and Narayanakumar, 2002). The marketing and distribution system in the fishery sector of the country is not well equipped with quality maintenance mechanism comprising essential marketing infrastructure and proper administrative procedures. In the light of HACCP regulations, the government as well as industrialists has been increasingly complying with the quality standards of the export products.

However, quality maintenance in the internal distribution system of fresh and processed fish is also essential. Quality concern attracts utmost priority in the present day markets.⁹⁸ On the basis of real field level observations, adequate care for the post-harvest quality assurance of marine resources should be emphasized. In addition, proper and cost-effective preservation facilities should be provided at all retail outlets. Preservation or cold storage units can be established on cooperative basis or by the local bodies extending the facilities by nominal charges.

97. Ibid.

98. Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fishereis Forum Proceedings, University of Agricultural Sciences, Bangalore, p 358.

Eco-labelling

Eco-labelling is a voluntary method of environmental performance certification and labeling that is precise around the world. An “eco-label” is a label which identifies overall environmental preference of a product or service within a specific product/service category based on life cycle considerations. The idea that eco-labelling would lead to improved management of marine capture fisheries is recent origin. Unilever PLC/NV and the World Wide Fund for Nature (WWF) first publicly promoted it at their Marine Stewardship Council (MSC) initiative in early 1996. Despite the international community’s general acceptance of product eco-labelling, the approach has caused controversy in several international arenas, including WTO Sub-Committee on Trade and Environment. General concerns about eco-labelling are its potential to act as a barrier to trade and its coherence, or lack of it, with international trade rules.⁹⁹

More specific concerns arise when applying eco-labelling to products from marine capture fisheries because these have special characteristics. At any point of time, eco-labelling is marker-based economic instrument that seeks to direct consumer’s purchasing behaviour so that they take account of product attributes other than price. Consumer’s preference are expected to result in price and/or market share differentials between products with eco-labels and those that either do not qualify for them or whose producers have not qualified for them or whose producers have not sought to obtain them.

99. Sathiadas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p.359.

The large and progressive global fisheries trade, especially from developing to industrialised countries, indicates the potential of eco-labelling as both an incentive to improved fisheries management and a barrier to trade. There is increasing acceptance on the part of those who are familiar with eco-labelling that such labels should not be used to discriminate against those who cannot afford to develop and implement those who cannot afford to develop and implement the management practices needed for sustainable fisheries management. Governments, industry and consumers should promote international collaboration in order to agree on basic principles for the introduction and use of eco-labels in fisheries and aquaculture.

Subsidies

Subsidies have long been part and parcel of the fishing industry, partly because of the public good nature of fisheries management and associated research, but also because of the precarious livelihood experienced by most fishing communities. The WTO definition of subsidies is chiefly concerned with the trade effects on conservation or fisheries management. In WTO terminology, subsidies in general are identified by “boxes” which are given the colours of traffic lights: green (permitted), amber (slow down or be reduced), red (forbidden). The Agriculture Agreement has no red box, although domestic support exceeding the reduction commitment levels in the amber box is prohibited; and there is a blue box for subsidies that are tied to programmes that

limit production. There are also exemptions for developing countries (sometimes called an “S&D box”, including provisions in Article 6.2 of the agreement).¹⁰⁰

“Green box” subsidies are allowed without limits, provided they comply with the policy-specific criteria set out in the Agriculture Agreement. Amber box include measures to support prices, or subsidies directly related to production quantities. These supports are allowed (5% of agricultural production for developed countries, 10% for developing countries).

The reduction commitments are expressed in terms of a “Total Aggregate Measurement of Support” (Total AMS), which includes all supports that are not for specific products, in one single figure. In the current negotiations, various proposals deal with how much further these subsidies should be reduced, and whether limits should be set for specific products rather than conditions with the single overall “aggregate” limits. Blue box is the amber box with conditions designed to reduce distortion. Any support that would normally be in the amber box is placed in the blue box if the support also requires farmers to limit production.

Subsidies that distort trade are not promoted in the WTO regime and consequent measures to reduce the same are highly debated. The pros and cons of its implementation on fisheries sector require to be examined with reference to its far-reaching implications. Hence there is increasing pressure from Indian scientist community to club all the subsidies together, instead of being placed in separate boxes. India would not be adversely affected if these were

100.Sathiadhas.R, 2005, Policy Issues for Marine Fisheries Management in India, The seventh Indian Fisheries Forum Proceedings, University of Agricultural Sciences, Bangalore, p 360.

clubbed together, as the aggregate measure of support (AMS) to Indian agriculture is still well below the de minimus of 10per cent. AMS were calculated as the sum of product-specific and non-product specific support, as the former is significantly negative in the Indian case. If India avails of the input subsidies to the resource commitments even now under WTO provisions, the non-product-specific support may come down to less than half of the present condition. Anti-dumping and anti-subsidy duties or safeguard measures must be invoked in time. Imports should comply with standards and the TRIPs system needs to be strengthened (Rao, 2004).

Value-added Products in Marine Industry

The dietary habits of the people all over the Globe are changing fast and India is gearing up to produce and supply value added products in convenience packs by adopting the latest technologies and by tapping the unexploited and under exploited fishery resources. Marine Products Export Development Authority vision is to achieve the export of 5 Billion US \$ worth marine products by 2014-15that too with the 75% contribution of value added items. Value addition has been considered as the thrust area. Indian marine products processing units will be encouraged to go in for value addition and export through setting up new units, expanding their capacity and diversifying their current activities etc for value addition during the coming years. Foreign collaboration, investments, tie ups in marketing of value added products and fish

import for further processing and export in value added forms will be encouraged.¹⁰¹

Value-added Products Trends in National and International Markets

Regarding domestic markets, a trend in ‘a ready-to-cook and ‘ready-to-eat’ product was observed. On the Asian international market, increased marine products sales directly to the retail sector played an important role in the development of value-added fish products, particularly in Japan. In addition to traditional Asian export markets for marine products, China’s booming economy is offering new opportunities to marine products exporters of the region. Fisheries the value-added products which are presently being exported from the Asia and Pacific countries to regional and non-regional markets and which include a variety of live, chilled, frozen, dried, canned and other fish, shrimp or cephalopod- based products.

Marine Trade in Liberalisation and Globalisation Era

Marine Trade in Liberalisation Era

During the early years of liberalization it was difficult to observe the impact of the policy on production and export. Therefore, an attempt has been made in this study to examine the composition, growth and instability of marine products production and export at the national level.

The liberalization of the Indian economy has provided opportunities for marine exports. To step up the rate of growth of marine exports, the government of India has embarked on a major programme of macro-

101. www.mpeda.com/inner_home.asp?pg=publications/exportreview/trends.htm

economic stabilization and structural adjustments through new trade and industrial policies. In the new economic police, adjustments in the exchange rate of rupee were sought to bring it inline with the equilibrium in order to improve the seafood international competitiveness. An in depth analysis of global competitiveness of seafood is necessary as Indian exporters could exploit opportunities in export of marine products. The WTO as global regulatory mechanism is bound to dominate the years to come. Keeping the above situations in view, the present study is undertaken to gain an insight in economic constraints to the technological impact on output, domestic and global trade, global competitiveness of marine products, major constraints in both production and exports and impact of WTO on Indian marine exports industry.

India is equipped to face the challenge in the wake of liberalized trade regime. Further, the export market is exposed to high amount of risk because of complex and changing marketing environment. The changes have become intense in recent years in view of trade liberalization. Demand and supply vary over the years due to technological and industrial development in the target market, development of substitutes and new end uses and also due to changes in the marketing capabilities of competing sources of supplies in the third world countries. Therefore, it is imperative for us to study the market opportunities and to evolve a package of appropriate marketing strategy and policy on long term basis in order to improve the export trade in marine products. This however requires the complete knowledge of export market for marine products including the aspects such as export competitiveness, price relationship,

direction of trade and other related issues. Results of the study would be of value in formulating export policy decisions as well as for the marine industry.¹⁰²

Marine Trade in Globalization Era

In the era of globalization a reassessment of supply potential, domestic and international demand scenarios and export potential becomes most essential. Keeping in view the above point's present study is a modest attempt to analyze the trade constraints to the exports of marine products in the selected state of Tamil Nadu in India. The problem of the efficient international trade policies were undoubtedly never posed with as much acuity for the developing countries, more particularly in India, than in the new context generated by the phenomenon of globalization with its procession of consequences unprecedently in the economic history. From where need for essentially revisiting the involved theses on the stakes (industrial and trade) of globalization, to especially locate the dangers which it is carrying in reference to multiform imbalances which affect the nations and the dubious future the poorest countries whose populations are more than ever victims of process of exclusion.¹⁰³

Globalisation in Developing Countries

Globalisation is the new buzzword that has come to dominate the world since the nineties of the last century with the end of the cold war and the break-up of the former Soviet Union and the global trend towards the rolling ball. The frontiers of the state with increased reliance on the market economy and

102. www.mpeda.org/liberalisation/articl/4768

103. Boutaleb Kouider and Chaib Baghdad, 2008, "The international trade policies in the context of néo-liberal globalization: which prospects for the countries of the South?" "Paper presented to the Conference on Empirical issues in International Trade & Finance, Indian Institute of Foreign Trade (IIFT), Kolkata, 23-24 December.

renewed faith in the private capital and resources, a process of structural adjustment spurred by the studies and influences of the World Bank and other International organisations have started in many of the developing countries.¹⁰⁴

Also Globalisation has brought in new opportunities to developing countries. But globalisation has also thrown up new challenges like growing inequality across and within nations, volatility in financial market and environmental deteriorations. Another negative aspect of globalisation is that a great majority of developing countries remain removed from the process. Till the nineties the process of globalisation of the Indian economy was constrained by the barriers to trade and investment liberalisation of trade, investment and financial flows initiated in the nineties has progressively lowered the barriers to competition and hastened the pace of globalisation.¹⁰⁵

Globalisation in India

In early 1990s the Indian economy had witnessed dramatic policy changes. The idea behind the new economic model known as Liberalization, Privatization and Globalization in India (LPG), was to make the Indian economy one of the fastest growing economies in the world. An array of reforms was initiated with regard to industrial, trade and social sector to make the economy more competitive. The economic changes initiated have had a dramatic effect on the overall growth of the economy. It also heralded the integration of the Indian economy into the global economy. The Indian economy was in major crisis in 1991 when foreign currency reserves went down to \$1 billion and inflation was

104. Globalisation: Imperatives, Challenges and the Strategies, p.39.

105. *The Indian and Global Business - Jan 2004, P.30.*

as high as 17%. Fiscal deficit was also high and NRIs were not interested in investing in India.¹⁰⁶

India opened up the economy in the early nineties following a major crisis that led by a foreign exchange crunch that dragged the economy close to defaulting on loans. The response was a slew of Domestic and external sector policy measures partly prompted by the immediate needs and partly by the demand of the multilateral organisations. The new policy regime radically pushed forward in favour of amore open and market oriented economy.¹⁰⁷

India gained highly from the LPG model as its GDP increased to 9.7% in 2007-2008. In respect of market capitalization, India ranks fourth in the world. But even after globalization, condition of agriculture has not improved. The share of agriculture in the GDP is only 17%. The number of landless families has increased and farmers are still committing suicide. But seeing the positive effects of globalization, it can be said that very soon India will overcome these hurdles too and march strongly on its path of development.¹⁰⁸

Globalisation of Fisheries

Trade liberalisation based on comparative advantage has become an integral part of international relations in today's globalising economy. According to some, trade liberalisation contributes to national development, resulting in a wide range of benefits such as increased employment, decreased

106.Chandrasekaran, Balakrishnan , 2009, Impact of Globalisation on Developing Countries and India, <http://economics.about.com/od/globalizationtrade/l/aaglobalization.htm>.

107.Ojha, 2002, "Globalisation and Liberalisation" Prospects of New World Order, Third Concept International Journal of Ideas.

108.Velayudham 2008, Globalisation Trend and Issues, Page 3, 66.

wage differentials and enhanced access to technology. This particular study, supported by the United Nations Conference on Trade and Development (UNCTAD), was conducted in order to explore the relationships between trade liberalisation and women employed in India's fish processing industry.¹⁰⁹

Globalization and Liberalization, especially because of the WTO obligations and the Free trade regional arrangements will raise new challenges for the Indian economy. However, it will also bring new opportunities, which need to be harnessed. India is also embarking on a new generation of economic reforms that are attuned to global realities and global opportunities. Human Right Activists protested against globalization. They remarked that globalization was only to help the rich and in no way connected with the growth of developing countries like India. Globalisation encourages free trade which affects the economy of poor people and their food security. They sighted the example of our polity to permit import or raw fishery products to India for processing and export. This would have negative impact on our fisheries developmental activities and ultimately fishing would become a none economically viable livelihood for poor fishermen.¹¹⁰

Globalistaion Challenges in Marine Fisheries

The marine sector has been selected in the Component two of the most poverty sensitive and is also braving the winds of globalization. By establishing an effective network as well as informed participation, through an

109.The Impact of Trade and Globalization on Gender in India, A Case Study of Women Workers in the Fisheries Sector, <http://www.csrindia.org/index.php/globalization-on-gender>.

110.UNCTAD Project. 2009 'Strategies and Preparedness for Trade and Globalisation in India', The United Nations Conference on Trade and Development (UNCTAD)-Government of India- DFID, <http://www.fishglobal.org/abouttheproject.htm>

effectively functioning trade portal, dissemination and enhanced awareness through newsletters and radio programmes on issues relating to globalization, and undertaking analytical studies on specific issues, MPEDA and SEAI.¹¹¹

The issues selected for further examination such as escalating fuel prices and operating costs as a matter of great concern for the sustainability of fishing activities by a large number of small scale and artisanal fishermen; traceability requirements, export capabilities of small fishermen, identification and documentation of restrictions on exports of fish and fish products, would strengthen the trade and poverty. Selection, identification and perspectives on the issues are sought to be guided and enriched by discussions and deliberations with the stakeholders across the value chain. In this way that the perspective on the issues would be holistic and representative of the sectoral interests. While specific interventions are of significance it is more useful to keep the broader picture of networking in perspective. The network should involve poor producers so that the objectives of promoting pro poor globalization approaches are realized. We wish our marine sector all success in their efforts towards reaching this overarching goal.

Globalisation and Marine Trade Legislation

The Indian marine products processing and export industry is a major source of income and employment for many people. Either employed as factory labour or working in the supply chain from capture/harvest to processing and export. Handling, packaging and processing of fish and fishery products exported from India into Europe, Japan and US has to conform with importing

111.<http://www.seafoodsource.com/newsarticledetail.aspx?id=472>

country legislation.. Implementation of legislation to upgrade the handling and processing practices in the supply chain, from capture to factory gate, would be more complex and would be likely to result in changes to the livelihood assets, strategies and outcomes of fishermen, traders and service providers involved.

The introduction of further new legislation that may affect labour and waste disposal.. Export industries in developing countries may be seriously affected by importing country legislation, with consequent negative impacts on employment and smallholder livelihoods, but there is often inadequate knowledge about the nature and extent of this. Very little research has been done on either previous or future impacts of EU and FDA legislation on the livelihoods of the poor, directly or indirectly employed in the Indian fisheries export sector. The lack of relevant knowledge is a constraint to the setting and implementing of policy in respect of the poor, and poverty alleviation in the Indian post-harvest fisheries sector.¹¹²

Marine Fisheries Management and Sustainability

Marine Fisheries Management

Traditional regulatory schemes used in marine capture fisheries include output controls, technical measures, and input controls. Output controls include total allowable catch (TAC) for the fishery, and trip or bag limits on vessel landings and technical measures include catch. Over fishing and habitat loss are serious threats to global fisheries. World marine capture fisheries production in 2002 was nearly 80 million metric tons. The enormity of the

112.Project (2009) Globalization and seafood trade legislation: the effect on poverty in India <http://www.dfid.gov.uk/r4d/SearchResearchDatabase.asp?ProjectID=2909>

production can be visualized by a single trawl net, whose catch is so large that the fish are crushed by their own weight. Input controls on fishing effort, the oldest type of fishery management tool, include gear restrictions, vessel licenses, and seasonal restrictions. Most fisheries are managed using a combination of these measures¹¹³.

In many cases these regulatory tactics have proved to be ineffectual in sustaining fishery stocks (populations), and have led to a number of harmful unintended consequences for both fishers and consumers. For example, the historical management practice used for Alaskan halibut and sablefish (among other fisheries) involved establishment of a TAC, along with gear restrictions and seasonal restrictions. Because fishers do not have a property right to a share of the TAC, they respond to shortened seasons by acquiring more gear and larger vessels so that they can capture more fish in a shorter period of time.

The result is an intense race for fish, or derby, which in turn may require regulators to further reduce the season openings. Derbies create an incentive for fishers to acquire larger vessels and more gear than they would otherwise need, thus leading to overcapitalization and a need to further shorten the season. Due to derby effects, the fishing season in the central Gulf of Alaska halibut fishery was reduced from over 150 days in the early 1970s to about 3 days in the early 1990s, yet the total catch approximately tripled. The race for fish, combined with various subsidy schemes designed to build larger domestic fishing fleets, has led to excess fishing capacity and financial hardship for fishers.¹¹⁴

113.Hackett, 2002, Fisheries, Marine: Management and Policy, www.waterencyclopedia.com/forum/en

114.Ibid

An important problem with both open-access fisheries and traditional fishery management tools is that fishers do not have a property right to a share of the available fishery stock prior to capture. Because fishers do not have a property right to fish until capture, the harvest by one vessel imposes a rule of capture externality on all others by reducing the remaining stock of fish. When the rule of capture externality is operating, fishers have an incentive to overcapitalize in vessel, crew, and gear¹¹⁵.

Fisheries management objectives highlighting the long-term sustainable use of fishery resources as the overriding criterion of conservation and management and lists several measures as examples of appropriate management, such as avoidance of excess fishing capacity, the need to take into account the interest of fishers, including those engaged in subsistence and small-scale fisheries; conservation of aquatic habitats and ecosystems and protection of endangered species; correction of adverse environmental impacts. In the discussions on the management article of the Code, a rather intensive exchange of views regarding the relationship between management and international trade had prevailed; however, as a consensus could not be achieved, a section proposed by the delegation of Japan on the subject was not included.

Many fishery products are traded in the international market place and it can be argued that the demand pull originating from these markets affects resource exploitation and, therefore, constitutes an important variable for resource management. On the whole for fisheries, demand can be seen as influencing future supplies resulting from adjustments caused by management

115.Ibid

regimes. To a certain extent, present effective demand will determine future potential supply and to this extent cause a supply/demand gap or contribute to equilibrium. If this line of responsibility holds, it would be justifiable to involve those responsible for the (business) administration of the demand, in the administration of the management regimes as well.¹¹⁶

State Level Fisheries Management

Fisheries management in India can be categorized into management of fisheries in the EEZ and in the territorial waters. According to the Constitution of India, the Central (Federal) government has jurisdiction over the fisheries in the EEZ, while the State (Provincial) governments have jurisdiction over fisheries in the territorial waters.

Fisheries management is undertaken mainly through licensing, prohibitions on certain fishing gear, regulations on mesh size and establishment of closed seasons and areas, under the Marine Fishing Regulation Act (MFRA). Zones are demarcated by each State based on distance from the shoreline (from 5 km to 10 km) or on depth. These inshore zones, where trawling and other forms of mechanized fishing are not permitted, are perhaps the most important space-based fisheries management measure in place.¹¹⁷

Fisheries Sustainability

Furthermore, developed countries may be in a position to make

116. Erhard Ruckes, 1996, The Code Of Conduct For Responsible Fisheries: Implications For Caribbean States, Paper presented at the Workshop on the Role of Financial Institutions in Strengthening National Fisheries Industries and Privatization of Fisheries Investments in Small island Developing States, Port of Spain, Trinidad and Tobago, 24-28 June, Senior Fishery Industry Officer (Marketing) FAO, Rome, Italy.

117. <http://www.icsf.net/icsf2006/jspFiles/indianFisheries/fisheriesManagement.jsp>

significant and costly changes to management systems as required by the principles and criteria. A significant concern arises from the fear that developing countries are not able to meet the environmental standards other countries set for product groups, afford the costs of certification, or find it more difficult to comply with all of the ecolabelling programmes' chain of custody requirements. Imports from countries that cannot meet the labelling standards may sell their products in other developing nations where there are fewer consumers willing to pay more for environmentally friendly marine products.

In addition, in developed nations where consumers have higher average incomes, and may have a willingness to pay additional for products with an ecolabel, products without an ecolabel will be de facto discriminated against. This certainly seems to be the case with organic agriculture products. The majority of the production and consumption of organic produce is in developed nations.¹¹⁸

Economic losses in marine fisheries resulting from poor management, inefficiencies, and over fishing add up to a staggering US\$50 billion per year, according to a new World Bank-FAO report. Taken over the last three decades, these losses total over \$US2 trillion, a figure roughly equivalent to the GDP of Italy. Strengthened fishing rights can provide fishers and fishing communities with incentives to fish in an economically efficient and socially responsible manner. Phasing out subsidies that enhance redundant fishing capacity and harvesting effort will improve efficiency. Greater transparency in

118.FAO Corporate Document Repository, Originated by: Fisheries and Aquaculture Department
Title: Product Certification and Ecolabelling for Fisheries Sustainability.

allocation of fish resources and greater public accountability for fisheries management and health of fish stocks will help ecolabelling initiatives to certify sustainable fisheries¹¹⁹.

Indian Marine Products Exports Constraints

Though India has done well in this sector, there are a number of external issues which have affected this sector. One of the major problems faced by the marine exporters from India came in the form of a ban by EU on these products in 1997. In 1997, the EU imposed ban on the import of Indian fish and fishery products based on the findings of deficiencies in hygiene and phytosanitary conditions in many of the processing units in India. This forced the government to lay down stringent norms for exporters of such products. The government also initiated a major drive to improve the standards of the processing plants in India. This led to a major shake-up in the sector as many of the processing plants could not afford the required investment and closed down. It also led to significant consolidation of the industry. Interestingly, the emphasis on higher standards has also affected the nature of work and the pattern of employment in this sector. This has particularly affected the women workers who are engaged in the processing of shrimp and other marine products¹²⁰.

The growth was achieved despite global economic recession leading to lower consumption of high-end marine products. There were also problems such as anti-dumping duties imposed by the US on shrimp imports from India, export rejections on some seafood consignment to the EU on quality

119. Ibid.

120. Ibid.

concerns and problems with the Japanese markets. Despite the adverse global economic challenges and India-specific problems, the volume of marine products exports grew four per cent to 5.31 lakh tonnes during April-January 2009-10. Export earnings in dollar terms have increased by over four per cent to \$1.704 billion.¹²¹

Shrimp exports continued to dominate marine products exports and accounted for 44 per cent of the total volume. However, shrimp volumes have been coming down over the years and today account for just 20 per cent. Even in foreign exchange earnings, shrimp accounted for 44 per cent of the total realisation. Close to 40 per cent of the total volume of exports was contributed by frozen fish. Although there was no significant growth in volumes on a year-on-year basis, the value realisation has moved up close to 10 per cent. The bulk of the frozen fish exports would have been contributed by China which has been importing low-value fishes such as ribbon from India in recent years.

Constraints of Indian Marine Industry

Fishing in India suffers from several climatic disadvantages. Firstly, India being a tropical country, fish does not keep fresh for long time without proper refrigeration. Modernization in this context means replacing fishing craft by power driven boats, providing facilities of quick refrigeration of fish to avoid its putrefaction. It also includes arranging canneries for surplus fish, utilizing discarded portions of fish for making fertilizers, providing refrigerated road transport facilities to inland markets and the marketing of fish on

121.Punnathara, 2010, Kochi <http://www.thehindubusinessline.com/2010/04/02/stories/2010040252441700.htm>

cooperative lines. Hence, steps are being taken to introduce modernization in the fishing industry of India in order to bring better results in this particular area.

India's marine products export industry has to make faster strides to catch up with the global trends in the sector. Apart from ensuring high quality standards, promotional efforts have to be stepped up enormously to register the needed level of progress in the exploitation of high sea pelagic of Indian Exclusive Zone. The marine industry in our country, especially the value added when through a difficult globalise period. Shortage of raw-material and comparatively depressed international market continues to effect the performance of the marine products industry.

The Indian marine products processing industry is well developed with post-harvest infrastructure covering over 215 ice plants, nearly 500 shrimp peeling plants, close to 400 freezing plants, 500 cold storage units and a handful of plants for canning, fishmeal and surimi. Interestingly, but not surprisingly, about 95 per cent of the country's marine products processing units are concentrated in 20 major clusters in 12 maritime States where fish catches is the highest. Export-oriented units follow quality and risk management systems. There are nearly 230 units approved by the European Union. The EU is the single largest buyer of Indian marine products. The industry's total installed freezing capacity is well over 7,200 tonnes a day, but fully used only during peak fishing season. Commercial production of 14 major fishery products is destined for over

40 overseas markets. Shrimp production line accounts for two-third of export earnings.¹²²

The Indian marine products export industry is one of the most important segments of Indian economy in terms of output, foreign exchange earnings and employment generation. Contribution of fisheries to Indian GDP is about 1.3 % (2006-07) which forms about 5.2 % of the agricultural GDP. There is a good demand of Indian marine products, particularly of the Indian tiger prawns. But a detailed analysis shows that even though Indian exporters seem a satisfied lot today there are danger signals for the future. This year the export of prawns from India decreased from 65% to 52%. Challenges like lack of value addition, lack of technological skills and facilities and concern over hygienic standards can create a threat for Indian exports.¹²³

Another issue facing the marine products industry is the “wastes” generated while processing. In the case of cuttle fish, only about 65 per cent of the animal's body is edible. The ‘waste’ thus generated is a nuisance and need to be disposed off. However, with some support from the government, all the wastes can be converted into useful by-products, such as bio-diesel. Marine products industry generates about 400,000 tonnes of discards. To give a perspective of the magnitude of the wastes, India exported 602,835 tonnes of fish in 2008-09.¹²⁴

122. Chandrashekhar, 2010, <http://www.thehindubusinessline.com/2010/12/20/stories/2010122050371100.htm>

123. Jitarani Udgata, etal 2008, “Enhancing Indian Tiger Prawn Exports: A Branding Approach”, Paper Presented to the Conference on Empirical issues in International Trade & Finance, Indian Institute of Foreign Trade, Kolkata, 23-24 December.

124. <http://www.thehindubusinessline.com/2010/02/19/stories/2010021952791800.htm>

India adopted economic policy reform programme in the year 1991, which focused on liberalization, openness, transparency and globalization. Since then Indian economy is going through a transition phase where restructuring of various sectors has taken place¹²⁵. The marine products industry is enjoying the status of a major foreign exchange earner in India nearly over last thirty years. Source of this comparative advantage lies in large raw material base and availability of cheap labour. Over the years the marine products industry has evolved from being exporter of raw materials in the sixties to that of high value added finished products by the turn of the century.

In this study an analysis of both quantitative and qualitative performance of different components of the marine products industry is carried out since 1991 to explore how the relaxation of tariff and imposition of non-tariff barriers have influenced the functioning of the industry. Emphasis is placed on analyzing the effectiveness of domestic policy to complement and supplement the global position through creation of proper incentives to reap advantage of the competitive World market. In value chain India has started concentrating on high value, high quality marine products and for the total export of the sector the realization value has remained always higher than that of the real exchange rate.

The Fisheries sector is the small industrial sector of modern India as well as the small net foreign exchange earner of the country. In spite of that, India's share in world exports of marine products is too low as compared to that of other nations, specifically, the Asian Giants. In fact, the overall picture of the

125. Anindita Adhikary, et al, 2008, "Export Performance of North East India: Few Empirical Issues", Paper presented to the Conference on Empirical issues in International Trade & Finance, Indian Institute of Foreign Trade (IIFT), Kolkata, 23-24 December.

marine products trade in India is one of great potential but under-performance. This potential is particularly important in light of the liberalization in marine products trade foreseen under the Uruguay Round agreement of GATT negotiations, as well as ambitious export-led growth and liberalization programs undertaken by the Indian government since 1991.

The abolition of the MFA quotas creates opportunities for developing countries, but also exposes them to additional competition from other, formerly restrained, exporters. The outcome for any individual country therefore, depends heavily on its policy response. Countries that take the opportunity to streamline their policies, and improve their competitiveness, are likely to increase their gains from quota abolition.

This study attempts to treat rigorously the issue of India's competitiveness of marine products exports vis-à-vis its major Asian competitors in major regional markets of the world using Constant Market Share analysis, before and after liberalization of MFA quota, separately, in two phases. Then we have tried to compare the entire situation by observing whether there exists any structural break in the values of exports of these Asian countries to the major regional markets of the world over the entire period of our study especially between the decades of Pre-WTO and Post -WTO. India's share declines if we compare the two extreme years of the entire time period along with some other competitors. Our study concludes that if India does not pay adequate attention to make its exportable more competitive vis-à-vis others, both on price and quality aspects, the free market in international marine products trade will not permit India to remain as a distinguished exporter.

SPS Compliant - Constraints

India has an elaborate system of quality inspection and certification before any product is exported. In recent times, more rigour has been brought into this process and the domestic system is evolving in response to the reported number of rejections of exportable commodities. The Export Inspection Council (EIC) is the apex-designated agency that is charged with this responsibility. For brevity, SPS compliant exports are facilitated by the EIC, which imposes a system three of inspection and certification, namely consignment- wise inspection; in process quality control and a food safety management system based certification.

However, for brevity we may recall that under the Consignment Wise Inspection (CWI), each export consignment is inspected and tested by the recognised inspection agencies. Samples are drawn on the basis of statistical sampling plans, inspected and tested for verifying the conformity of products to the prescribed standards. In view of growing concern the world over regarding health and safety parameters of food items being imported, international standards on Food Safety Management Systems like HACCP/GMP/GHP have been developed. Based on such standards, which are being prescribed by several of India's trading partners such as European Union and other countries. EIC has introduced certification of product quality integrated with the systems approach. Currently, Fish & Fishery Products, Egg Products and Milk Products are being certified under the above system.

Processed food products are gaining in importance in the export basket of India. There appear to be two key issues relevant for SPS compliant

exports like the pre-shipment inspection and certification by the exporting country and the import procedures and detention in the destination countries. Since, there are no uniform or homogenous product lines, there are wide variations in relevant food safety norms and over time, food safety standards have tended to become more complex and vary substantially amongst countries.

Marine Fisheries Sector Crisis

The fisheries sector faces a growing crisis. Increasing population pressures, growing demand for fish, growing trade in fish products with increasing imbalances between production and consumption areas and failures in governance are leading to unsustainable levels of exploitation of living aquatic resources and destruction of aquatic ecosystems. In many developing countries the catches are declining, perpetuating a spiral into poverty for increasing numbers of small-scale fishers and landless communities for which fishing is often a livelihood of last resort.¹²⁶ Exports of marine products have been inconsistent and on a declining trend which can be owed to the adverse market conditions prevailing in the European and American markets. The anti-dumping procedure initiated by the US Government has affected India's shrimp exports to the US.

The Global Financial Crisis (GFC) in October 2008 had started from the fall of the Lehmann Brother of U.S.A. The GFC has led to financial crunch all over the developed economies and thereby lowered down the purchasing power of the people. This has resulted that the developed economies

126. Profish Fisheries Factsheet, 2006, The World Bank's Global Program On Sustainable Fisheries, Number 1, pp.1. www.worldbank.org/fish.

has been slipped into Economic Recession. The International Monetary Fund had declared that U.S.A. and the other world countries would be suffering from recession in 2007. It predicted that Global Growth would be at the negative rate of 1.3 per cent. The World Bank (WB) forecasted that the growth of World Economy would be in the negative rate of 2.9 per cent in 2009 and announced that the World is experiencing a 'Rare Recession' with 'Global Trade' expected to fall for the first time since 1982.¹²⁷

The economy of India is the fourth largest in the world. India's foreign exchange reserves are over US\$ 102 billion and exceed the forex reserves of USA, France, Russia and Germany. This has strengthened the Rupee and boosted investor confidence greatly. Infrastructural inadequacy constrains economic growth, particularly in the backward States and in the agriculture sector. There is a need for higher foreign investment, in the form of foreign direct investment (FDI) and FII. Such investment triggers technology spillovers, assists human capital formation, contributes to international trade integration and particularly exports, helps create a more competitive business environment, enhances enterprise development, increases total factor productivity and, more generally, improves the efficiency of resource use.¹²⁸

The recent recession is termed as 'Rare Recession' in the developed economies heavily affecting the exports from India to these countries. A sharp contraction is resulted in demand for Indian goods in the global market and massive job losses in various sectors across the country. This affected the

127. Statistical Hand Book, 2011, Animal Husbandry, Fisheries and Forest, Department of Economics and Statistics, Government of Tamil Nadu, p70.

128. <http://www.indianindustry.com/indian-economy/>

export-oriented sectors like marine products, textiles, leather, gems and jewelers, petroleum products, and automobiles that are major portion of the India's export basket.

Under the CSS for development of infrastructure of marine fisheries the Government of India has sanctioned 7 major fishing harbours, 58 minor fishing harbours and 189 fish landing centres. Out of these, 7 Major Fishing Harbours , 44 Minor Fishing Harbours and 189 Fish Landing Centres have been completed and put to use. The remaining fishing harbours and fish landing centres are at various stages of construction.¹²⁹

Constraints of Fisheries Development

Despite the government's broad-based policies and set objectives, desired success in the fishery sub-sector could not be attained due to several constraints, such as inadequate credit facilities, scarcity of fish fry and absence of adequate regulatory measures in the management of common-property water bodies. Joint ownership of ponds was once identified as a major obstacle to pond-culture fishery (Rahman and Ali, 1986). Recently, the situation has changed to a great extent. Today, the leasing of ponds to outsiders for cash and solely for fish-cultural activities by an owner or several co-owners has become the norm. Not all ponds are equally suitable for every kind of aquaculture. Soil type, water quality, availability of water, geographical location, pond-size and depth, and water-holding capacity influence and affect fish-cultural activities. No data are available on ponds that are located in ecological zones. In the case of capture-fisheries, some of the major factors affecting the desired rate of development and limiting

129.<http://www.researchandmarkets.com/reports/687785/>

access to fish and fish products are inadequate knowledge, over-fishing, degradation of water-quality due to indiscriminate use of insecticides and pesticides and industrial wastes, unregulated fish conservation laws, absence of socio-economically desirable advances of fish technologies, low research output, improper management of fisheries, strict controls of the fish trade by intermediaries.¹³⁰

Impact of Japanese Tsunami in Indian Marine Trade

The impact in India would be most on shrimp farmers off the coast of Andhra Pradesh, Tamil Nadu, Orissa and West Bengal. Black tiger shrimps which are reared and harvested by these coastal farmers are much in demand and the major constituent of marine products exports to Japan. Frozen large de-veined black tiger shrimps are a high-value delicacy in Japanese markets fetching high returns to the Indian farmer and the exporter. The setback for Indian marine products exports comes on the back of recession in Europe, the biggest marine products export destination for India, appreciation in the value of the rupee against the euro and the economic collapse of Greece, Spain and Portugal. However, export figures for April-December 2010 suggest that Europe was still able to retain the top slot accounting for 26.14 per cent of the total marine products export realisation.

Japan was the third most important export destination after the US and accounted for 15.12 per cent of the country's total marine products exports in value. Frozen shrimp continues to be the major item in the export basket accounting for 48.61 per cent of the total foreign exchange earnings. Not only

130.<http://www.thehindubusinessline.com/2010/01/28/stories/2010012851632000.htm>

does shrimp export fetch high returns but unit value realisation from these exports has also been rising. During the first nine months of the current fiscal unit value realisation from shrimp exports have risen by over 25 per cent. Much of the black tiger aquaculture and exports is pursued along the East Coast of India. Although exports to Japan are also dominated by exporters from the East Coast, the biggest players are from West Bengal, sources in SEAI said. While marine products exports for the current year are not likely to be immediately affected, the next could year could start on a sour note, the sources warned. And they pointed out that revival of exports to Japan could take two to three months.¹³¹

Shortage of Power in Marine Industry

Marine industry told that shippers are forced to hold reefer containers in their factories, thereby, incurring huge costs towards power consumption and delays in shipments, which are mainly Christmas/New Year contract consignments to Europe, the US, Far East and West Asia destinations. With the commencement of the peak marine products season from Kochi, the shortage of reefer plug points in the terminal is a matter of concern for exporters. Due to the shortage, the terminal operator is forced to restrict acceptance of reefer containers to the terminal, and many containers have to wait for two or three days to enter the export container yard inside the Terminal.¹³²

EU rejection of Indian shrimp

The rejections of Indian shrimp (scampi) by the European Union

131.Punnathara, www.thehindubusinessline.com/todays-paper/tp-agri-biz-and-commodity/article1541394.ece

132.Sajeev Kumar, 2010, Kochi, <http://www.thehindubusinessline.com/2010/10/13/stories/2010101351211600.htm>

(EU) have fallen drastically after the modalities of testing the exports for the banned antibiotic nitro furan were modified on September 2009. A cursory examination of the data provided by the EU reveals only one rejection through a notification by the EU Secretariat on January 11, 2010. There were over 50 rejections last year by the EU, mainly before the introduction of the revised testing formula in September 2009. Some of the rejections were due to the presence of nitro furan metabolite. The EU alerts all member countries of the presence of banned substances and sub-standard import consignments mainly through the Rapid Alert System for Food and Feed.¹³³ Indian exporters pointed out that the allegations were timed with the announcement of the sunset review of anti-dumping duties for Indian shrimp exports to the US. They also testified to the high and exacting standards of testing by the EU that had resulted in alerts being issued to developed countries such as Denmark, Canada, Turkey, Spain and the UK over and above scores of developing country exports from Asia, Africa and South America.

Catch Certificates Issue

The Marine Products Export Development Authority (MPEDA) has put in place a series of measures to issue catch certificates for marine products caught along the Indian coastline and meant for exports to the EU region. The measures would fall in line with the requirements of global organisations such as the FAO and regional fisheries management organisations such as the Indian Ocean Tuna Commission. The move is expected to fetch

133. Punnathara, 2010, Kochi, <http://www.thehindubusinessline.com/2010/01/27/stories/2010012751211000.htm>

reasonable price to fishermen while preventing unregulated, illegal and unreported fishing for the healthy growth of the fishery sector, MPEDA pointed out.

EU brought out the new regulation that required all marine products exports to the region, be it fish, squid, cuttlefish or octopus, and should be validated with catch certificates. The catch certificate has to be prepared by the fishing industry and validated by the Government Authority, which in turn has to monitor a percentage of the applications in extensive detail. The Government has mandated MPEDA to scrutinise and validate the catch certificates. Exporters are also worried that they may not enjoy a seamless transition from the pre-catch certification era to a post-event era. While the bulk of the systems and processes for implementing the catch certification norms are reportedly ready, they still fear initial glitches could hinder their consignments, even after the EU is notified of the agency which is to extend the certification and other processes and systems are in place.¹³⁴

Anti-Dumping Duties

As a result of the anti-dumping duties, Indian marine products exports to the US declined from 61,703 tonnes valued at \$424.51 million in 2002-03 to 33,382 tonnes valued at \$211.06 million in 2009-10 – a sharp decline of 50 per cent in value and nearly 46 per cent in quantity. From being the biggest export destination, the US current accounts for just 5 per cent of the country's marine products exports and 10 per cent of the value.¹³⁵

134. Punnathara, 2009, Kochi, <http://www.thehindubusinessline.com/2009/12/31/stories/2009123150351300.htm>

135. Punnathara, <http://www.thehindubusinessline.com/2010/06/19/stories/2010061952011600.htm>

Anti-Dumping Duty on Indian Shrimp Exports

The US has raised the average anti-dumping duty on Indian shrimp exports to 2.67 per cent up from 0.79 per cent. The increase follows the Fourth Administrative review by the US authorities. While the duties for mandatory respondents such as Devi Sea Foods Ltd and Falcon Marine Exports continue to be low at 0.38 and 0.89 per cent respectively, the rates for some other companies have been raised sharply. The industry has 30 days to respond and file its comments regarding the preliminary findings.

The final report will also take into consideration the comments and observations of the Indian shrimp export industry. Seafood Exporters Association of India (SEAI) said “With the dumping duty being scaled down consistently over the last few years, this revision is the first serious setback for Indian shrimp exporters. Under the Fourth Administrative Review, three countries witnessed a downward revision in their rates. While the revision was upward for India alone, the rates have been scaled down for Vietnam from 25.76 per cent to 2.89 per cent, for Thailand from 4.15 per cent to 3.19 per cent and for China from 112.8 per cent to 1.36 per cent”. The anti-dumping, which was initially imposed at a steep level of 10.17 per cent, had posed formidable challenges to Indian shrimp exports.¹³⁶

Anti-Dumping Duty imposed by the US

Generally the growth trend was reflected in most of the items, especially frozen fish, cuttlefish and squid. Exports to all countries, except the US

136. Punnathara, 2010, Kochi <http://www.thehindubusinessline.com/2010/03/12/stories/2010031254041700.htm>

and South East Asia increased substantially. The European Union continued to be the main market with a share of 31% in quantity and 33.36% in value, followed by the US with a quantity share of 11% and value share of 20.73%. Japan stood in the third place though it had a higher share in terms of quantity at 16% but a value share of 19.43%. Exports to China were picking up, especially in quantity where there was nearly 25% rise and 14% increase in value. Exporters felt that though the anti-dumping duty on shrimp had its impact on shipments to the US, traditional items like squid, cuttlefish, etc that were earlier shipped out to the EU had now found their way to the US. Incidentally, exports from Kochi port topped in quantity with a share of nearly 22% followed by Pipavav and JNPT. Traditionally low-value fish tuna has now found its way into the international market in a big way. It has only been recently that efforts began to export tuna and given the value-addition done, the results have started showing. Over a dozen tuna items from chilled ones to dried flakes and frozen fillets have helped in seeing exports go up to 6,360.83 tonne earning over Rs 30 crore from 5,702.03 tonne worth Rs 23 crore last year. MPEDA has in its vision document stressed the need to improve tuna catch and also its value-addition¹³⁷.

Anti-Dumping Duty Rates

The marine products exporters told anti-dumping duty rates for some of the Indian companies which were under review were revised upwards because there was a discrepancy between their export rates to Japan and those to the US. These differential rates were deemed as dumping by the US Department

137. Marine exports register 10 per cent growth in H1, The Financial Express: November 22, 2006.

of Commerce and the US International Trade Commission. After the steep, yet graded, reduction in rates from 10.17 per cent earlier to 0.79 per cent last year, the upward revision of average rates for the industry as a whole is a setback for the sector. Shrimp exports to the US have fallen drastically by well over 70 per cent from \$140 million before the anti-dumping duties came into vogue to \$40 million. Even in volume terms, shrimp exports to the US have been showing a consistent decline, from 71,000 tonnes during January-June 2006 to 5,900 tonnes in 2007 and further to 5,400 tonnes in 2008. Buoyed by the sharp reduction in anti-dumping duty to 0.79 per cent, export volumes staged a decent recovery to 8,600 tonnes during the first half of 2009. But the revision of the anti-dumping duties could upset future growth by volume and value. Anti-dumping duty had a major impact on shrimp exports to the US which plummeted from \$409 million in 2003 before the duty imposition to \$142 million in 2008. This fall was despite the total US shrimp imports rising from \$3.76 billion to \$4.09 billion during the same period. The position of the US fell further to just seven per cent of the Indian seafood exports by volume and 13 per cent by foreign exchange earnings.

Indian shrimp exporters also stand to gain compared with exports from some of the competing destinations. Shrimp imports from Ecuador will attract an anti-dumping duty of 2.09 per cent, Thailand 4.51 per cent, Vietnam 25.76 per cent and China 112.81 per cent, SEAI sources pointed out. Though 170 Indian shrimp exporting companies came up for review, the respondents were restricted to Devi Sea Foods Ltd and Falcon Marine Exports Ltd. The preliminary review estimates that Devi Sea Foods would be attracting an anti-dumping duty of 0.39 per cent, while Falcon Marine would be at 0.79 per cent.

While Devi Sea Foods would be exempt from paying anti-dumping duty since the findings have placed its rates at sub-0.5 per cent or the de-minimum levels, Falcon Marine and all other Indian exporters would have to pay duty at 0.79 per cent. The Indian shrimp exporters were optimistic that the final administrative review would validate the preliminary findings and reduce the anti-dumping duties to very low levels.¹³⁸

Marine Fish Marketing Constraints

India has a long sea coast where marine fishing is a big business. Several lakhs of people are engaged in capturing, processing and marketing fish and fish products. Nine states viz. Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Orissa and West Bengal have sea coast where marine fishing is done.¹³⁹

Fishery plays an important role in India's economy in augmenting food supply, in generating employment, raising nutritional levels and earning foreign exchange. The fish production has shown a steep rise during the last four decades. The structure of fish marketing has been changing considerably since the days of technological improvements in the fishing industry. The rapid pace of technological changes in the production methods has posed challenges to the marketing system. The infrastructure developments have enabled to have fresh fish to more consumers and new markets. The infrastructures include good roads, ordinary truck transport, transport by insulated vans, supply of ice, cold storage at landing port markets and consuming markets, processing units. However, they

138.Ibid.

139.<http://www.indiaagronet.com/indiaagronet/Fisheries/Fisheries.htm>

are quite inadequate as against the requirements and at some places they are lacking.¹⁴⁰

Marine fishing is carried out in the sea coast while the consumer are spread over not only in towns and cities along the sea coast but also in the inland towns and cities quite far away. This needs quick transport, efficient marketing agency, modern transport equipment. The problem of marketing fish is compounded due to highly perishable nature of fish. This needs storage including cold storage facilities both at landing centres and consuming centres. Such facilities are developed in some states and at important landing port markets. But by and large these facilities are quite inadequate. The fishermen in general are unorganised and some of them still carry out fishing operation by country or traditional boats and hence their catch is small, which poses marketing problems.

Marine Products Demand and Supply Elestricstics Constraints

Much has been written about the need for appropriate price and non-price, exchange rate policies for promoting marine exports of developing countries. The relatives' importance of price and non-price factors has been debated over years. Also relevant is the distinction between individual and aggregate marine exports in respect of their response to prices and other relevant polices. Supply Constraints rather than external demand constraint has often been considered as an important factor in inhibiting the growth of marine products of developing countries. However, much of the debate on these issues hinges on the

140. Jeffery, Williamson, Wider Annual Lecture 6: Winners and Losers over two centuries of Globalisation, p.49.

adequacy of empirical evidence on the quantitative significance of various factors affecting supply and demand for marine products exports.

The magnitude of income elasticity of demand determines whether growth in developed countries can provide a boost to the exports of developing countries; the size of price elasticity of demand determines how shifts in export supply will affect revenues. Finally, the export supply function indicates the relatives' influence of relevant price and non-price factors and associated policies in stimulating the supply of factors. The responsiveness of marine products to price and income changes in export and world markets has been estimated in the past. However, price responsiveness of exports is often analyzed without differentiating supply from demand response and many models do not specify supply and demand relationships clearly and separately. Nor is sufficient account taken of lags in the response of demand and supply to price changes.

Summary

The state of Tamil Nadu has a remarkable marine products export profile compared to other maritime state in India. Tamil Nadu has an important maritime state in the South East Coast of India endowed with rich marine and inland fishery resources. The state dominates high potential for fish culture and it is one of the leading exporters of fish in the country. The state fish export had plummeted from 72644 MT in 2007-08 to 68364 MT in 2008-09. The total value of export of fish had also witnessed a fall from Rs.1813 crores to Rs.1768 crores during the respective years. So in the next chapter t analysed trade constraints to the exports of marine products in Tamil Nadu – India.