

[741]

NUPI Working Paper

Department of International
Economics

Fisheries Trade in India: Understanding Potentials and Barriers

Meenakshi Rajeev



Utgiver: NUPI
Copyright: © Norsk Utenrikspolitisk Institutt 2008

ISSN: 82-7002-202-0

ISBN: 978-82-7002-202-1

Alle synspunkter står for forfatterens regning. De må ikke tolkes som uttrykk for oppfatninger som kan tillegges Norsk Utenrikspolitisk Institutt. Artiklene kan ikke reproduseres – helt eller delvis – ved trykking, fotokopiering eller på annen måte uten tillatelse fra forfatterne.

Any views expressed in this publication are those of the author. They should not be interpreted as reflecting the views of the Norwegian Institute of International Affairs. The text may not be printed in part or in full without the permission of the author.

Besøksadresse: C.J. Hambros plass 2d

Adresse: Postboks 8159 Dep.
0033 Oslo

Internett: www.nupi.no

E-post: pub@nupi.no

Fax: [+ 47] 22 36 21 82

Tel: [+ 47] 22 99 40 00

Fisheries Trade in India: Understanding Potentials and Barriers



Meenakshi Rajeev*
Institute of Social and Economic Change, Bangalore,
India

e-mail: meenakshi@isec.ac.in

* The author wishes to acknowledge valuable support from Mr Sibananda in preparing this paper.

Acknowledgements

This research paper was initiated during my visit to the Norwegian Institute of International Affairs (NUPI) in October, 2007. I am extremely grateful for the support of NUPI. I would like to express my heartfelt gratitude to Prof. Arne Melchior of NUPI who first proposed this study and thereafter I had many useful discussions with him. I am also extremely grateful to Prof. Anne Katrine Normann from Norwegian College of Fishery Science at the University of Tromso, for her support. I thank the Institute for Social and Economic Change, Bangalore and our Director Prof. N Jayaram for all the support provided to complete the paper. My sincere thanks to my Colleague Ms B P Vani for many useful suggestions.

I had useful discussions with a number of Government officials and I thank them all. I am especially grateful to the officials of MPEDA, and particularly to Dr Vishnu Bhat, Director, for sparing his valuable time. Dr Sinappa of Agriculture University , Fisheries Department, had been extremely helpful. I also thank the Fishermen's Association and the Boat Owners' Association for useful discussions.

My sincere thanks go to Mr Sibananda for assisting me in various ways in completing the work. None of these organizations and people however, share any responsibility for the errors that remain.

Preface

This paper is a contribution to the project "International trade regulating organisations and South East Asian regionalisation of trade agreements", undertaken jointly by NORUT (Northern Research Institute, Tromsø), the University of Stavanger and NUPI; also with the participation of FHL (Norwegian Seafood Federation) and EFF (Norwegian Seafood Export Council). Financial support from the Norwegian Research Council, project no. 177974/I10, and co-funding from EFF and FHL, is gratefully acknowledged.

Meenakshi Rajeev, Institute of Social and Economic Change, Bangalore, was a visiting fellow at NUPI in 2007 and she then agreed to write this paper focusing on India's fisheries sector. Such a paper seemed particularly relevant in the light of the upcoming negotiations between EFTA (the European Free Trade Association) and India about a free trade agreement, where the first round of negotiations was held in October 2008. Trade in seafood is an important issue for both parties, and the sector is important for the livelihoods in some of India's regions. This paper examines production, trade and policies related to the seafood sector in India, and we hope it will provide useful background information for the free trade negotiations as well as for increased economic cooperation between Norway, EFTA and India. We thank Meenakshi Rajeev for her efforts and timely completion of the paper, which also contributes to the realisation of NUPI's plans for extended research cooperation with India.

Oslo, 21 October 2008.

Arne Melchior

Project manager, NUPI

1. Introduction

The fisheries sector assumes significance in the Indian economy in several respects. The most important amongst them is the providence of livelihood to many poor households especially located in the coastal areas. These households can generate income from the sector due to the fact that many varieties of marine fishes have been exported from the country including chilled and dried items, fish oil, shrimp and prawns. Thus from the point of view of employment and income generation, international trade has considerable significance as well. It is the trade aspect of the sector that would be the focus of the current paper.

Including India, indeed in many developing countries prosperity of the fisheries sector relies largely on the international trade. The total volume of world export of fisheries products which was U S \$ 64 billion in 2003, witnessed a 54% increase from the volume of export recorded in 10 years back. Around half of the world's exports of fish and fish products originates from the developing countries (Ministry of Commerce, Government of India, www.commerce.nic.in). This is higher than the combined exports of the important cash crops and rice from these developing nations. In particular by considering India we observe that even though India's trade share in this sector is only 2.64% in 2006–07 to the total global trade (with total global trade amounting to about US\$ 70 billion¹), in rupee terms it constitute a non trivial amount of Rs 83630 million. Also an increasing trend being prominent shows further relevance of trade for the sector.

These developments have taken place with the existence of plethora of barriers to trade (both tariff and non tariff) and they have affected trade pertaining to both developed and developing nations. India is no exception. While it faces both tariff and non-tariff barriers it also imposes high tariff in case of imports. In case of India though currently imports constitute only a small proportion in total trade, one must also not forget its relevance in the long run. India till now has a restrictive stand as far as fish import is concerned. Though the concerned government authorities are in favour of imports to some extent (at least for the purpose of re-export) fishermen's association is showing its opposition. In this context it is also important to remember that India is now going ahead with a number of trading agreements with different nations. While countries open up their markets for India , India also needs to reciprocate. Given such varied economic and political dimensions, it is necessary to take a stock of the situation. This assumes all the more importance in the light of the proposed trade agreement with EU.

¹ Source: Virtual University of Agricultural Trade Report, www.vuatkerala.org

In this background we have carried out discussions with various stake holders of the industry and tried to present a status of the sector both on the basis of such primary information as well as analyzing secondary data. In particular, the paper tries to shed light on the so far untouched issue of imports. Thus, Section 2 examines the fisheries sector in India in terms of output and growth, in order to provide a background for the discussions that follows. Section 3 analyses the trade data concerning this sector and make forecasts on the basis of the existing trends. It in particular looks at the direct of trade and trade with Norway. The most recent Indo-Norwegian cooperation in cage culture development is discussed in the next section and potentials of EU-India trade agreement are taken up in Section 4. Under this trade agreement as duties on different items of trade will be a topic of discussion, it is relevant to understand the current tariff structure and therefore this aspect has been considered in Section 5. Trade potentials of new items such as processed semi-cooked products have been discussed in the penultimate section. A concluding section follows thereafter.

2. Production and Growth

Indian fisheries sector can be classified in 3 main categories depending on the type of water bodies. They are: (1) marine fisheries sector, (2) inland fisheries sector and (3) fish grown in brackish water. Profitable trade in this sector has been possible due to both supply and demand side factors. As far as supply side is concerned, India is endowed with a large production base. India has a coastline of 8118 kilometers with an exclusive economic zone (EEZ) stretching over 2.02 million km², and a continental shelf area of 0.5 million km². India has inland water sources covering over 190,000 km² and open water bodies with a water-spread area of over 6.6 million hectares (Government of India, 2000). Brackish water area available for aquaculture is 1.2 million hectares (MPEDA, 2001), of which, according to the Aquaculture Authority of India (AAI, 2002), some 157,000 hectares (1570 sq. km) was under shrimp aquaculture in 2002. Potential of fish production from marine and inland sources has been estimated at 3.9 million tonnes (2.2) million tonnes in the inshore and the rest in the offshore waters (Government of India, 1996) and 4.5 million tonnes, respectively.

In this context it is useful to compare India's production with few other Asian countries. Indeed as per the FAO Reports (<ftp.fao.org>) the world aquaculture production of fish, crustaceans and molluscs, reached 39.8 million tones by weight in 2002, amounting to about US \$ 53.8 billion in value terms. Comparing with the previous year one observes a 5.3% increase in volume and 5.7% increase in value. As is well known, China is the largest aquacul-

ture producer and its production reached 27.8 million tonnes in 2002, revealing a percentage increment of 6.6%. In value terms (US \$ 28.4 billion) shows an increment of 8.3% for China. Thus for the world excluding China, aquaculture production was 12 million tonnes (US \$ 25.4 billion) in 2002 representing a 3.3% increment in volume but a 5.9% decline in value compared to 2001. While India's production is about one-sixth of China, it is a major producer in Asia. India produced about 2.2 million tonnes of fish, crustaceans and molluscs in 2002 which had been valued at US\$ 2.5 billion. Comparing with few other Asian producers we observe that Indonesia has a production level of 0.9 million tonnes (value US\$ 1.4 billion), Japan shows 0.8 million tonnes of production in the same period (value US \$3.4 billion) Bangladesh production was about 0.8 million tonnes (value US \$ 1.1 billion) and Thailand produced 0.6 million tonnes with value US \$ 1.4 billion. Thus India's production of fish, crustaceans and mollusks has been considerable in comparative terms depicting a comfortable supply.

As far as domestic demand is concerned, FAO (2002) estimates as per capita availability of fish in India to be 4.8 kg in 1997–98, which, when estimated for the fish eating population in the country (constituting 56 percent of the total population), works out to about 9 kg (Dehadrai and Yadava, 2004). In coastal areas, fish consumption is usually higher – perhaps twice the normal rates. In addition to the domestic demand, as mentioned above, there is export demand. In the export market, especially with respect to shrimp, India experiences considerable demand. Indian fish is exported to USA, Europe and also to the Asian countries. There is a well-developed processing industry as well. This provides import demand for fish for re-export. Thus the sector assumes considerable significance in the context of international trade. In this background this paper mainly concentrates on the international trade aspects of the fisheries sector in India with special reference to Norway.

The favourable supply and demand conditions have led to generation and growth of income from this sector. To have an idea about the income generated from this sector one can look at the gross domestic product figures pertaining to this sector. For the purpose of accounting and computing national income, the economy in India is divided into primary, secondary and tertiary sectors. Within the primary sector there are four major sub-sectors, viz., agriculture, animal husbandry, forestry and fisheries sectors. India is currently the third largest fish producer and second largest producer of freshwater fish in the world (Government of India, 2005). If we consider India's GDP from this sector, an increasing trend is prominent even though its share is falling; this is mainly due to an increase in share of services sector in total GDP (Table 1). Its share in the primary sector GDP however, is showing an increasing trend.

Table 1 : GDP from fisheries sector (at constant prices 1999–‘00, Rs crores²)

Year	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Primary Sector GDP	446515	445594	473530	439321	483274	483080
GDP from fisheries sector	19245	19719	20633	21788	22852	23207
Growth of fisheries sector GDP		2.5	4.6	5.6	4.9	1.6
Share in Primary Sector GDP	4.3	4.4	4.4	5	4.7	4.8
Share in total GDP	1.07	1.05	1.04	1.06	1.03	0.97

Source: Central statistical organization

Indeed, between 1951 and 2004, India’s fish production increased eight-fold from 0.75 million MT to 6.4 million MT, with marine catches contributing about 3 million MT (Government of India, 2005).

According to the FAO statistics gross value of landings in case of India in 2003 was US \$ 4845 million. If we compare India with few other nations we observe that total landings of Norway and UK were US\$ 1583 (in domestic ports in 2003) and \$ 1037 (including aquaculture, in 2002) respectively. Total landings figure has been far too high for China at US \$ 46 billion.

It is also important to note in the context of India that some 11 million people depend upon the sector for livelihood. Much of the employment generation in the coastal areas has been built around the export industry. In terms of exports from India, sea food stands at the 10th place. Thus, no doubt, fisheries is considered to be one of the vital sectors contributing to economic growth, livelihood support and poverty alleviation in the country. Given its export potential it is therefore necessary to understand the international trade scenario concerning the sector.

3. Fisheries Sector Trade

There are four distinct channels through which fish is marketed in the country. These are: (i) local fresh fish trade; (ii) processed fish trade; (iii) export trade; and (iv) domestic urban trade (Salagrama, 2004). Fishmeal trade is another important market chain catering to poultry and aquaculture sectors. It is estimated that, in 1997–98; about 780 thousand tonnes of fish out of a total production of 5.3 million tonnes (roughly 15 percent) was used for ‘non-human’ uses (FAO, 2002), which could be for fish meal purposes. The ‘traditional’ market chains – involv-

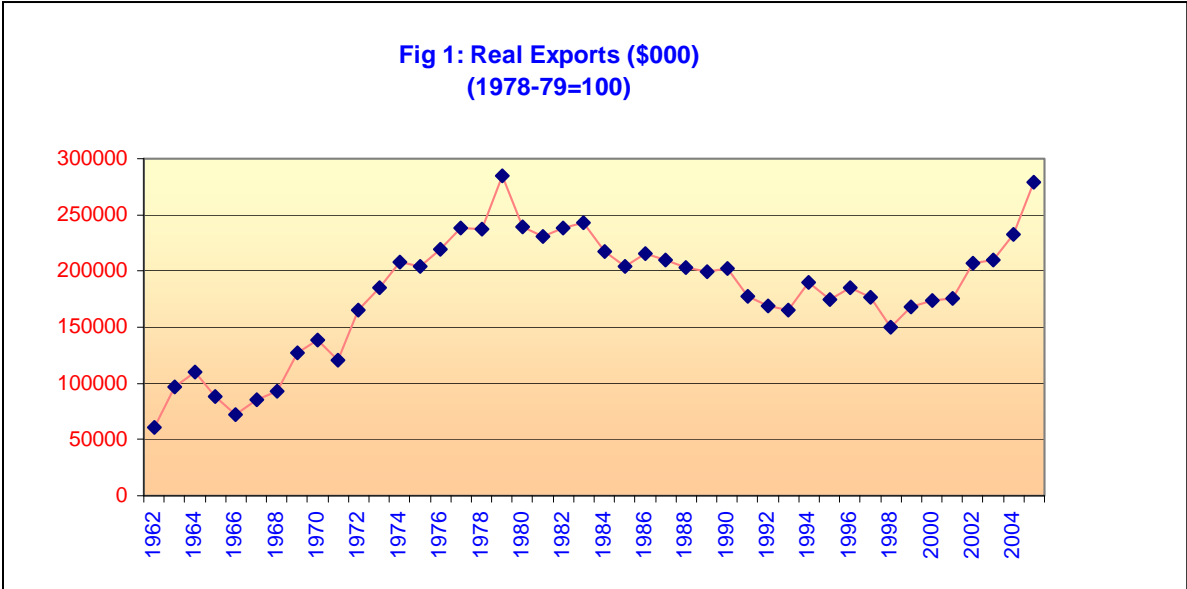
² Rs 1 Crore= Rs 10 Million; Rs 1 Lakh /lac= Rs 100,000; \$1 = Rs 38.

ing local and processed fish trades – are informally organised and remain significant because they provide employment to a large number of the poor, mainly women.

3.1 Export: Macro Trend

India has been exporting varieties of fisheries items for a long time now. India’s fish exports even in real terms show an impressive growth from the decade of 1960s till about 1980–81. Though a downward trend is visible thereafter, it picks up from 1999–’00 again. In Fig. 1 , we have considered the real exports (deflated by fisheries sector export deflator, base 1978–79) and the growth rates are presented in Fig. 2. Though as expected growth rates are fluctuating showing even negative growths, a positive growth trend is visible for the recent years.

Fig.1 Fisheries exports from India in real terms (in \$000)

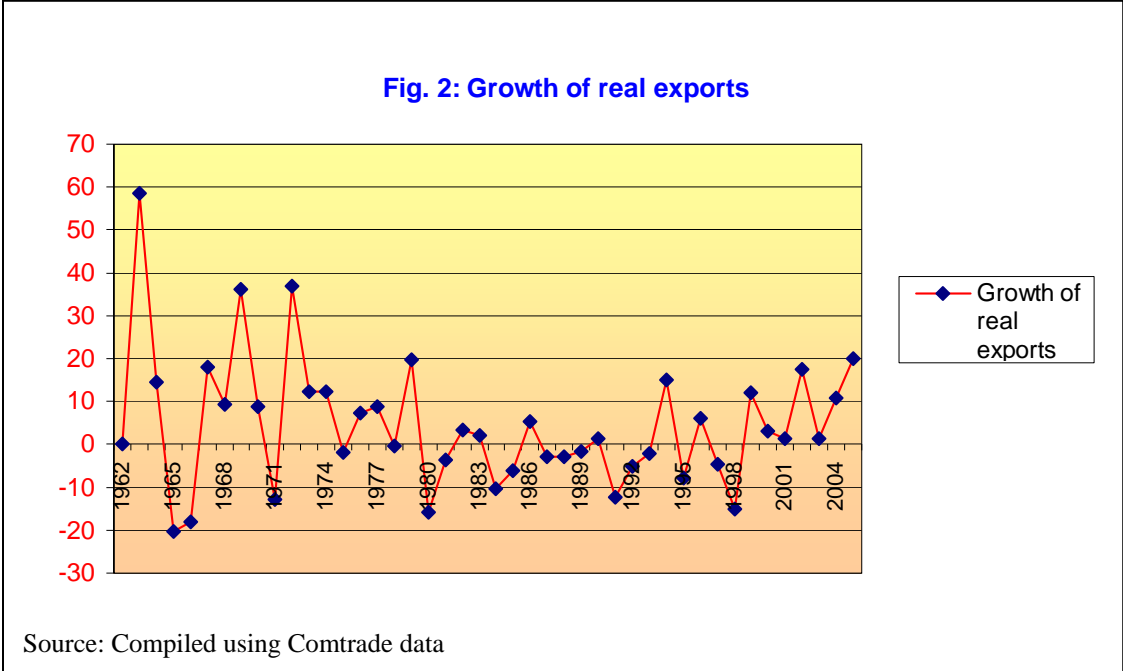


In terms of overall exports from the country, seafood stands at tenth place, accounting for 2.7 percent of total export earnings in 2001. Among seafood exporting countries, Indian exports stood at 17th position in terms of quantity and 12th in terms of value (Mathew, 2003), its export share in the world seafood market is about 2.4 percent (Kulkarni, 2005). Shrimp is the most important species in the export market chains and its contribution to overall exports went up from a mere 13 MT in 1953 (Kurien, 1985) to 110,275 MT during 1999–2000 (MPEDA, 2001). Over time, finfish exports have shown rapid growth in the export basket, accounting for nearly 35 percent of the volume of export trade in fisheries in 2004–5. Al-

though this means that the contribution of shrimp to overall exports declined from about 59% in 1978–79 to a little under 30 percent in 2004–5 in terms of volume, it still accounts for 63.50 percent of the total value of the exports (MPEDA, 2006).

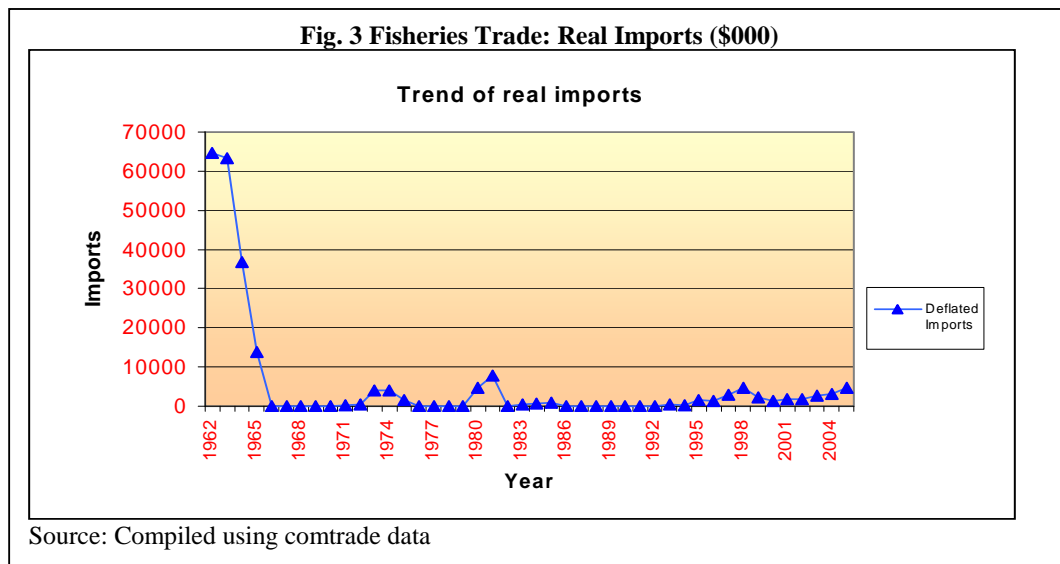
The growth rates of exports are explicitly depicted in Fig. 2. Though as expected growth rates are fluctuating, it is interesting to note that growth rates are negative almost about the same number of years as they are positive till 1998. Only in the current decade there is a consistent trend of having positive growth. Non-tariff barriers, fluctuating productions are some of the reasons for such trends.

Fig.2 Growth rate of fisheries exports in India (real terms)



3.2 Import: Overall Trend

In the Indian fisheries industry, the situation for imports is quite different from that of exports. From being a country where no imports were allowed, imports quickly increased when the borders were opened, though the level of imports is still very low (see Fig. 1 and 3). Unlike in the case of exports, imports do show a rather haphazard trend. Our analysis of real imports³ data for a long period of 1962 to 2005 shows that though in the initial years imports were high, it fell drastically later and remain low till now. From the year 2000, however, an increasing trend is visible. Currently, India's imports consist primarily of fishmeal. The one other product India has been importing is hilsa from Bangladesh. In 1998, 97% of the imports of fresh and frozen fish came from Bangladesh.



3.3 Projection of Exports and Imports⁴

We next tried to project future exports and imports of India using simple time trend to the time series data available. Given the nature of import data, at this stage it is rather difficult to bring in other variables that may significantly influence imports, in order to arrive at a more meaningful projection⁵.

First using the **exports data** two types of models are explored, viz., an ARIMA fit and a cubic fit. Using the cubic fit we next tried to forecast for the next 5 years. It must be noted here is that since we only use the time trend these forecast would contain errors. Nonetheless

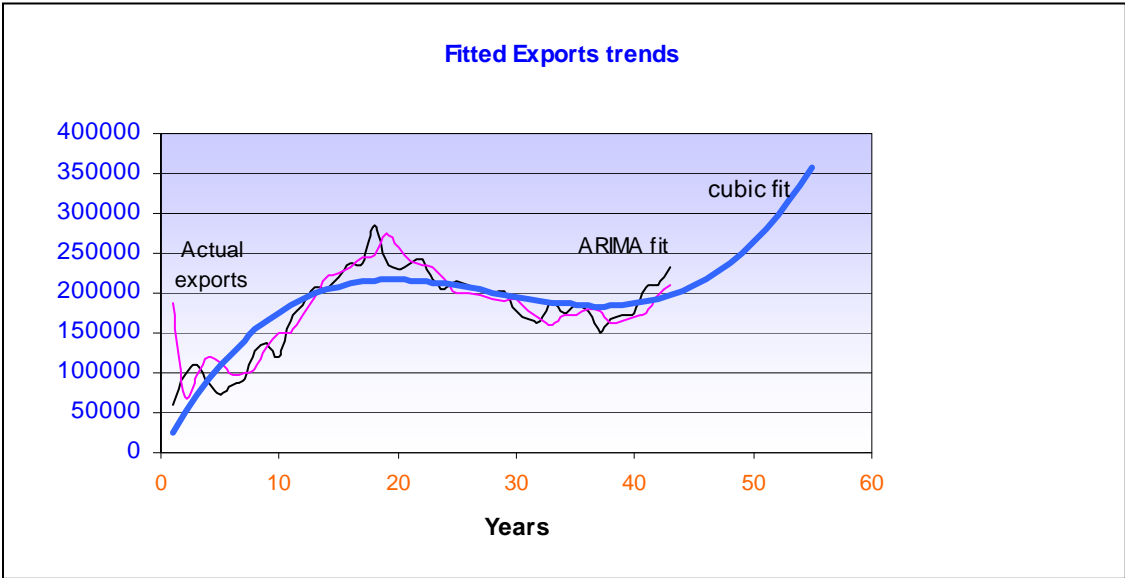
³ Import is deflated using import price index of food items as separate import price index for fisheries items does not exist.

⁴ I acknowledge help from my colleague B P Vani in carrying out this exercise.

⁵ We have made certain unsuccessful attempts in this regard and decided to restrict ourselves to the time trend alone for forecasting purposes.

they provide some crude estimate of what to expect in the future. (ARIMA fit is not used for projection as it is not appropriate to make long run projections using this model).

Fig.4 Actual and Fitted exports trend and projections (using cubic fit)



Source: Computed by author

Projected exports show a growth rate if about 5 to 6%.

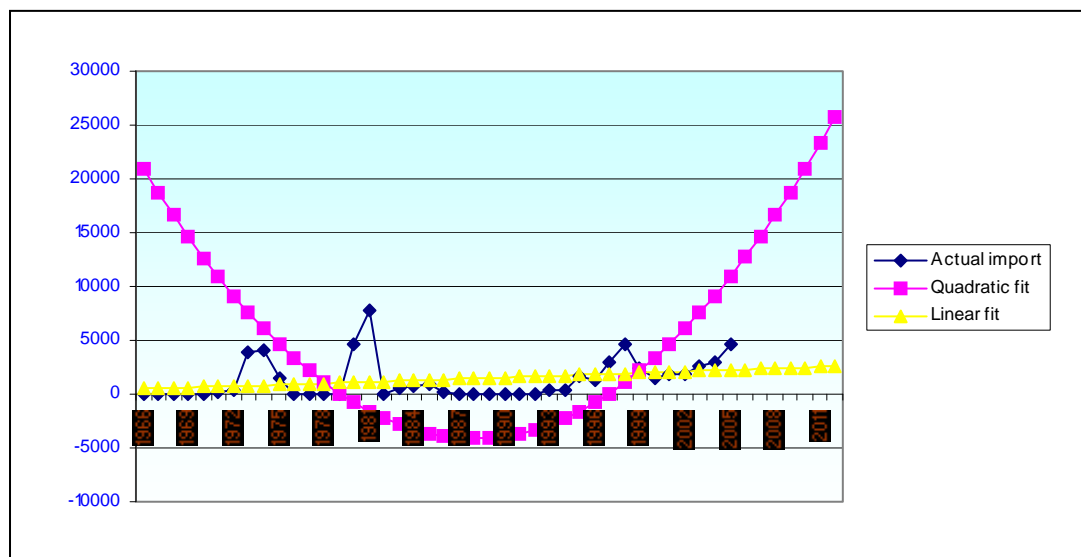
Table2: Projection of Exports in \$'000

Year	Projections using cubic fit	Growth rate of Projected Exports
2005	203250.4	
2006	210092.4	3.4
2007	218167.8	3.8
2008	227550.8	4.3
2009	238315.1	4.7
2010	250534.9	5.1
2011	264284.2	5.5
2012	279636.9	5.8
2013	296667.1	6.1
2014	315448.8	6.3
2015	336055.9	6.5

As mentioned above, given the haphazard nature of the data ,to arrive at a fitted trend and forecast is a rather difficult task for imports. A linear as well as a quadratic fit have been tried on this data set (estimation results are presented in the Appendix.). The figure below shows the fitted trends , together with the actual imports. Based on the two fitted trends two sets of

estimates for the next 7 years has been computed , one (quadratic fit) representing a more optimistic trend.

Fig. 5 Actual and Fitted Imports (in \$'000)



Source: Computed by Author

The projected growth rates show that under the optimistic scenario growth rate may increase to about 10 to 12% (table 3) while under the linear fit, growth rate is seen to be around 2 %. Nonetheless a positive growth rate is apparent and hence India can be considered as a potential market in the near future. With various trade negotiations going on and the opening up of agricultural trade (even with hesitancy) may lead us if not to the optimistic scenario may be something better than a 2% growth.

Table 3: Projection of Imports (in \$'000)

Year	Quadratic fit (optimistic)	Growth rate under Optimistic scenario	Linear Fit	Growth rate under linear fit
2006	12688.58		2290.763	
2007	14607.57	15.1	2336.308	2.0
2008	16630.26	13.8	2381.853	1.9
2009	18756.66	12.8	2427.398	1.9
2010	20986.76	11.9	2472.943	1.9
2011	23320.58	11.1	2518.488	1.8
2012	25758.1	10.5	2564.033	1.8

Thus if we go strictly by the linear trend there is expected to be no significant change in fish imports in the near future. However, in the post liberation period external sector of the Indian economy is fast changing. Agricultural imports have indeed increased at a rapid rate. Thus it

would not be surprising if a growth rate higher than what is forecasted by the linear trend takes place in the near future. The quadratic trend which provides an upper bound in the present scenario gives an idea of what can be expected in a most optimistic situation. Thus these two trends together provide us a bound within which future imports may fluctuate. .

Of course one important issue with respect to imports is the **regulatory barriers both tariff and non-tariff**. Thus it is the relaxation of these barriers that will critically determine whether a quadratic trend will be at all relevant or not. This limitation has to be borne in mind.

3.4 Real Effective Exchange rate and Imports

The real effective exchange rates based on total trade-based weights (source: Reserve Bank of India) show that correlation between export and reer is 0.518 with significance level of 0.12. Reer and import correlation is 0.162 with significance level of 0.65. Thus both these correlations are not statistically significant. Price does not therefore appear to be a crucial factor in determining trade in this sector. Other tariff and non tariff barriers are possibly acting as restraining factors. (However, given the recent changes in exchange rate it is necessary to calculate this with the most recent exchange rate to get a current picture).

3.5 Direction of Trade

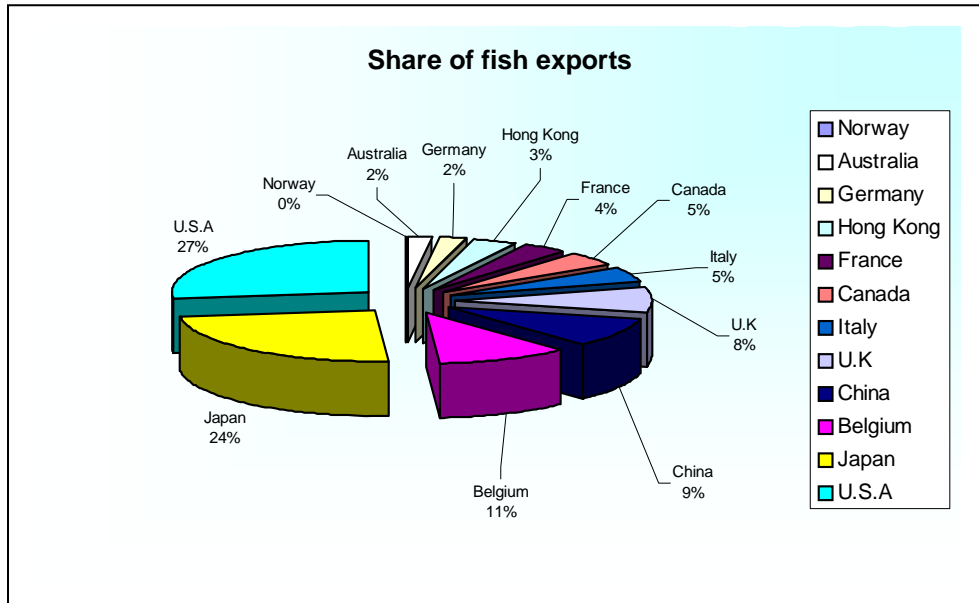
India's trading partners are from across the world including USA, countries from EU and Asia. In export the highest share however, is that of USA (above 20%), followed by Japan, Belgium, China and UK (Table 4, Fig 6). Many argue that India is largely dependent on specific export markets, which reduce the Indian exporters to the position of price takers, and they are unable to charge higher prices in spite of rising costs of fuel, labour, maintenance and basic necessities (Kulkarni, 2005).

Table 4: Export of fishery and marine products from India (Rs crores)

Country	2000-01	1999-2000	1998-99	1997-98	1996-97
Norway	253.12	79.17	175.5	37.71	149.81
Australia	5,665.83	3,171.22	3,593.93	1,726.17	867.25
Canada	7,453.30	6,277.69	3,529.99	2,546.84	1,836.01
Germany	5,342.15	5,398.55	2,529.87	1,909.26	3,737.12
France	7,575.82	5,641.12	4,096.79	2,312.64	4,381.73
Belgium	8,913.80	6,191.74	4,747.32	3,029.56	7,688.49
Italy	13,415.64	10,023.16	8,578.57	6,120.52	11,160.68
Hong Kong	8,389.56	5,501.96	4,518.50	7,419.07	13,722.50
U.K	27,820.53	19,742.94	13,730.54	8,036.39	18,046.76
China	52,895.48	37,922.50	21,663.03	42,686.23	26,235.42
U.S.A	108,332.95	77,759.63	62,254.59	51,016.72	38,048.03
Japan	231,203.54	209,988.21	205,304.57	207,645.20	168,889.20
Total	628,780.38	504,355.50	432,966.45	445,291.78	396,129.07

Source: Compiled using data from the Ministry of Commerce, Government of India (GoI).

Fig. 6 Share of different countries in India's fish exports from major countries, 2006-07



Source: Compiled using data from the Ministry of Commerce, GoI.

To begin with Japan however had the highest share in India's exports followed by USA (Table 4). India's export to USA over the years increased substantially by about 3 folds to have the top position. Amongst the exporters Norway has the lowest share.

China, Thailand, Vietnam, Indonesia, Mexico, Greenland and Ecuador are the major competitors of India in the main shrimp export markets. The relative compound growth rate of shrimp export from India indicates that the country is lagging behind other shrimp exporting countries both in terms of volume and value. Moreover, some of these countries import Indian shrimp for reprocessing and, as Kulkarni (2005) notes, the final consumers of Indian fish in the northern markets are not aware of the origin of their fish as 'more than 60 percent of India's export to south-east Asia are re-exported after processing'.

For the promotion of exports, marine products export development authority has been constituted with its main office in Kochi (or, Cochin), Kerala, which takes various actions for improving fish exports from India.

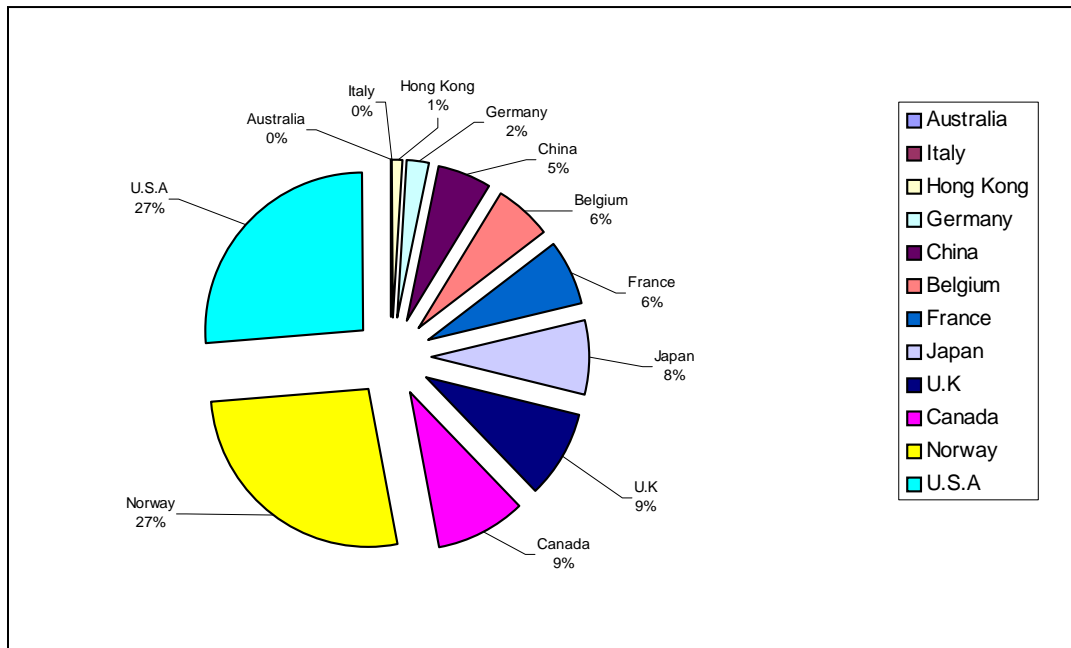
As mentioned above India is a net fish exporting country and imports have not been very important to the economy. Though there was a small surge in imports in the mid-1990s (which accounted for a little under 1 percent of the net exports), this was mainly to address the under-utilisation of processing factories in some states (notably in Kerala), and when this did not work out to be viable, the share of imports slid back once again. While India's imports are much lower than exports highest share is that of USA closely followed by Norway. There has been a significant jump in India's import of fishery items from Norway (Table 5, Fig. 7).

Table 5: Total Import of Fish and Crustaceans, Molluscs and other Aquatic Invertebrates, from some selected Countries including Norway (figure in Indian Rupee crores).

Country	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Australia	1.79			41.05	21.67	0
Italy	21.12	34.08	82.34	10.83	45.72	0.23
Hong Kong	51.44				0.22	12.99
Germany	0.29		148.68	0.42	23.22	27.28
China	3.37	9.33	129.66	44.51	1.41	64.07
Belgium		117.02	60.74	122.49	36.27	72.27
France	5.36	23.92	131.22	13.5	67.05	77.12
Japan	1.78	1.26	39.17	24.1	196.07	91.33
U.K	3.58	148.44	182.35	95.96	327.52	104.14
Canada	0.05			34.37	79.73	112.12
Norway	0.77	117.67	14.72	99.34	161.59	315.67
U.S.A	408.79	308.28	466.88	523.48	1,189.74	315.94

Source: Compiled using data from the Ministry of Commerce, GoI.

Fig.7 India's import share of fish and crustaceans, molluscs and other aquatic invertebrates from major exporting countries (presented in Table 5), 2006-07



Source: Compiled using data from the Ministry of Commerce, GoI.

If we look over the years Norway in fact started with no imports in 1997–98 and over the years have been able to strengthen its position.

The competitors of Norway are Canada, UK, Japan France , Belgium, China, Germany, Hong Kong, Italy and Australia.

Given our specific interest in Norway in this paper we examine the disaggregated trade between the two countries.

3.6 India – Norway Trade in Fisheries Sector

From the import data presented above we observe that India's trade with Norway is increasing at a fast rate and it has the largest share together with USA. Given this trend one can expect future growth of trade between the two countries. In this section we examine in detail trade between the two countries concerning the fisheries sector.

Table 6: Export from India ,commodity code: (03) Fish and Crustaceans, Molluscs and other Aquatic Invertebrates. Country: India- Norway

Sl. No.		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
1	Total export to Norway items of 03 code (Values in Rs. Lakhs)	85.92	170.12	8.43	21.88	2.83	75.92
2	%Growth		97.99	-95.04	159.54	-87.08	2,586.14
3	Total export of 03 code items from the world (value in Rs lakhs)	580,720.67	676,326.82	568,095.28	590,405.89	629,203.80	707,773.19
4	%Growth		16.46	-16	3.93	6.57	12.49
5	%Share of Norway (1 of 3)	0.01	0.03	0	0	0	0.01
6	India's total export to Norway (all commodities, value in Rs Lakhs)	25,894.76	34,276.16	34,779.23	46,642.97	57,646.14	82,972.37
7	%Growth		32.37	1.47	34.11	23.59	43.93
8	%Share of items under code 03 to all commodities export trade with Norway (1 of 6)	0.33	0.5	0.02	0.05	0	0.09

1 lakh = 10 million

Source-Government of India (GoI), Ministry of Commerce & Industry, Department of commerce

Table 7: Import by India from Norway , Commodity: 03 Fish and Crustaceans, Molluscs and other Aquatic invertebrates. Country: Norway-India

Sl. No.		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
1	Import of items under code 03 from Norway (Values in Rs. Lacs)	0.77	117.67	14.72	99.34	161.59	317.6
2	%Growth		15,107.43	-87.49	574.87	62.66	96.55
3	Total Import of the items with 03 code from the world (value in Rs lacs)	3,849.57	3,943.22	5,171.93	6,406.38	9,906.54	10,905.61
4	%Growth		2.43	31.16	23.87	54.64	10.08
5	%Share of Norway (1 of 3)	0.02	2.98	0.28	1.55	1.63	2.91
6	Total Import of all commodities from Norway (Rs lacs)	22,881.05	46,919.72	139,243.25	105,626.95	128,101.61	345,727.75
7	%Growth		105.06	196.77	-24.14	21.28	169.89
8	%Share of items under code 03 (1 of 6)	0	0.25	0.01	0.09	0.13	0.09

Source-Government of India, Ministry of Commerce & Industry, Department of commerce

Table 7 shows that share of imports of fisheries items from Norway is increasing over time in terms of India's global imports of this commodity as well as in terms of imports of all commodities from Norway. Right now however, import is minimal. If we look at the disaggregated level the major items Norway imports to India in the recent years are salmon, smoked fish including fillets flat fish, and other prepared and preserved fish (Table 8).

Table 8: Fisheries Sector: Important items Imported from Norway (\$000) Year:2004

Year	Commodity Code	Item name	Import from Norway (\$000)	Total Import of this product by India(\$000)	Share of Norway
2004	030329	Other salmonidae, excluding livers	99.493	99.8	99.7
2004	030420	Frozen fillets	20.430	919.0	2.2
2004	030541	Smoked fish, including fillets :-	99.295	122.9	80.8
2004	150420	Fats and oils and their fractions,	24.230	785.7	3.1
2005	030219	Salmonidae, excluding livers and ro	6.618	23.3	28.4
2005	030322	Other salmonidae, excluding livers	8.467	8.5	100.0
2005	030329	Other salmonidae, excluding livers	14.650	16.0	91.4
2005	030339	Flat fish (Pleuronectidae, Bothidae	6.728	8.7	77.1
2005	030420	Frozen fillets	96.997	3921.2	2.5
2005	030490	Other	7.584	111.4	6.8
2005	030541	Smoked fish, including fillets :-	225.379	231.4	97.4
2005	150410	Fish-liver oils and their fractions	40.045	704.3	5.7
2005	150420	Fats and oils and their fractions,	47.363	1135.2	4.2
2005	160420	Other prepared or preserved fish	10.703	68.9	15.5

Source: Compiled using Comtrade data

Thus right now import from Norway is confined to a few items only. The major item of import is Salmon. Fish oil (code 150410 and 150420) is another item of imports in the year 1996 and 1999 share of which has declined of late. Thus there is scope for increasing both in terms of number of items including processed items as well as in amount. Thus is scope for trade relation with Norway to increase in this sector. Right now there are certain barriers to trade with the European nations including Norway in the fisheries sector. If we look at the tariff structure (refer to Table 9 and Table E in the Appendix), India does not have any mutually beneficial tariff agreements with the EU countries. Also there are certain oppositions from the fishermen unions from India against the country going for a large scale imports (see Section 6).

In this respect however, it is noteworthy that India had a history of having trade relation with Norway in this sector. Indeed cage culture development with Norway dates back to 1952. This practice has been revived recently. In this regard the recent cooperative endeavour in cage culture development is significant.

4. Indo-Norwegian Cooperation in Fisheries Sector: Cage Culture Development⁶

Indo-Norwegian cooperation in the fisheries sector date back to 1952 when the first bilateral fisheries development project in the world was initiated by Norway in Kerala. Since then Norway has supported a number of fisheries related projects especially by providing technological inputs (Maritime, 2007). Recently on 14th August, 2007, Sri Mohan Kumar, Chairman, MPEDA, has signed a memorandum of Understanding with M/s Innovation Norway, a company owned by the Norwegian Government for developing cage culture in India .

The project is supposed to carry out a detailed survey of the potential sites in India, short list sites along the inshore regions and establish pilot-scale projects for commercial demonstration, after examining the techno-economic feasibility under Indian conditions, on a turnkey basis. In addition to the development of off-shore cage culture, the project also plans to examine the possibility of development of suitable health management packages for the cultured species.

After the EU-India trade agreements take definite shape trade relation with Norway pertaining to this sector is expected to increase. However, it must be kept in mind that trade in all varieties of fishes may not get boosted even after an agreement comes to force. Given the dependency of the poor population on this sector and the demands of the trade unions, India would try to reserve certain items in its negative list. Both countries need to sit and explore what items can be traded in a mutually beneficial way. The current status of the agreement and certain aspects of resistance have been discussed below.

5. Further Trade Potential in Fisheries Sector: India-EU Trade agreement⁷

In the India –EU summit at Helsinki on 13 October, 2006, political leaders of both regions felt the need for a broad based trade and investment agreement. There has already been significant preparatory work. The India-EU High Level Trade Group has been preparing the ground for these negotiations since October 2005 and its report will form the basis for further deliberation. Subsequently, on 28th June 2007, India and the EU began negotiations on a broad-based bilateral trade and investment agreement in Brussels, Belgium⁸. Both parties believe that a comprehensive and ambitious agreement that is consistent with WTO rules and principles

⁶ Information collected from MPEDA office, Cochin, Kerala.

⁷ Benefited from discussions with the Ministry of Commerce and MPEDA officials.

⁸ Source: ministry of Commerce http://commerce.nic.in/trade/India_EU_Joint_Stat.asp).

would open new markets and would expand opportunities for Indian and EU businesses. India and the EU are important trading partners and committed proponents of the multilateral system. Now the next step would be to carry out internal consultations on the recommendations of the High Level Group. The European Commission will need to request and receive a negotiating mandate from the Member States in the European Council. If these internal procedures are completed, negotiations could begin in 2008–2009.

As far as most recent development is concerned (January 27, 2008 Deccan Herald News item) India and European Free Trade Association, comprising Switzerland, Norway, Liechtenstein and Iceland, on 25th January, 2008, agreed to set up a joint task force for negotiating a broad-based trade and investment pact. Union Commerce & Industry Minister Mr Kamal Nath held talks in this regard with his counterparts in Davos, and accepted the recommendations of a joint study group, set up in December 2006, to explore the feasibility of such an agreement. The JSG submitted a report suggesting that both sides would ‘significantly benefit from a bilateral broad-based trade and investment agreement’. Mr Kamal Nath also announced the setting up of a joint task force (JTF) comprising officials from India and the European Free Trade Association (EFTA, founded in 1960) states to monitor the implementation of JSG’s recommendations.

According to the above report, the bilateral trade between India and EFTA in 2005–06 was \$7.4 billion, comprising exports of \$623.11 million and imports of \$6,852.25 million. Among the four EFTA members, India’s largest trading partner is Switzerland followed by Norway, Iceland and Liechtenstein.

It has been discussed at other forums the possibilities from this negotiation. It is expected that India will push for the removal of stringent quality norms for export to the European Union. Industry circle predicts that the restrictions on supplying ayurvedic (herbal) medicines to the EU countries, extremely low maximum residue limit (MRL) on products such as spices and registration problems faced by poultry and egg suppliers would be high on India’s agenda. The issues are likely to be brought up in the next India-EU high-level trade group meeting. India has been requesting the EU for a long time to relax the norms for supplying ayurvedic medicines, now classified as herbal medicines. The restrictions include a directive circulated in 2004 stating that companies wanting to export traditional herbal medicines to the EU must submit evidence to prove that the product has been in medicinal use for at least 30 years preceding the date of application, including 15 years

within Europe. 'This has been acting as a big technical barrier to trade for India and we will try to take it up in the bilateral agreement', a source said⁹.

EU in turn will also try to negotiate some of the items such as fisheries items to be brought under the agreement. According to Economic Times report of Nov 27, 2007, fishermen's union and planters union will oppose trade agreements concerning import of fish and cash crops produced in Kerala such as cashew. About 40 varieties of fish, cashew kernels and salted and roasted cashew are among the products which the stakeholders from India feel should be included in the negative list of items for India-European Union Free Trade Agreement (FTA). The suggestions came up at a meeting organised in Kochi by the Confederation of Indian Industry (CII) and the Ministry of Commerce to elicit the views of the stakeholders for preparing the negative list of items for Indo-EU Trade Agreement. Kerala Matsya Thozhilali Iykya Vedi President, Charles George wanted all 40 fish items to be included in the 'Most sensitive list' as the sector was experiencing 'untold sufferings' and deprivation, consequent to fish import from Thailand based on FTA. In India, about 8.5 million people are engaged in fishing as their sole means of livelihood. The catch from the sea was meagre and the operational costs are higher and most of them operate in traditional crafts.

The Association of Planters of Kerala said the Plantation sector, comprising tea, coffee and rubber are highly labour intensive. There are 1 million workers in Kerala alone in the sector. Under the SAARC agreement, when tea was allowed to be imported from Sri Lanka, India was badly hit. Though now it has been stopped, there should not be a repeat of the earlier agreement, was the view of the union.

The above reports are indicative of the fact that certain fisheries items will remain in the negative list of India. However, in order to understand the potentials of trade from these negotiations it is important to understand the current tariff structures and tariff and non-tariff barriers pertaining to the fisheries sector. Since the negotiations will be a two-way process we elaborate here not only the barriers India imposes but also the ones India faces in fisheries sector.

⁹ Economic Times Report, 27 Nov, 2007.

6. Current Tariff and Non tariff Barriers

6.1 Import Barriers

Currently, India imposes strong barriers on the import of fisheries items. While the official sources feel that import should increase at least for re-export purposes, fishermen's associations are opposing such moves (see section 6 for details). Even with such oppositions some amount of fish gets imported and imports figures are steadily increasing over time. However, our **interviews with the actual importers** reveal that barriers come from the official sources as well.

6.1.1 Non-Tariff Barriers on Imports¹⁰

In order to import fish, one requires a special import permit (SIP). This permit is given at an office in Delhi. In order to receive each consignment in the port, one needs to acquire fresh permits from Delhi. This creates an immense amount of hassles for the importer. It also raises the possibility of corruption on the part of the officials in charge of providing such permits. It has been alleged that sometimes the permits take considerable time and that adds to the cost of storage of fish at the port.

MPEDA is advocating for allowing it to issue such permits. This can be useful as MPEDA has offices in various states therefore, the entire process need not be Delhi-centric. Thus the process can be made decentralized. However, such changes are not initiated yet.

6.1.2 Barrier on Ornamental Fish Imports

Our interviews with the importers of live fish (ornamental fish) bring out the immense amount of difficulties they face. Only limited varieties of fishes are allowed. Rules also appear to be more stringent than most countries across the globe. However, as there is increasing demand for ornamental fish from the growing corporate sector, they are often brought through the illegal routes (revealed during our survey). Thus such stringent regulations have not served the real purpose but only led to corruption.

¹⁰ As revealed during our discussions with the importers and MPEDA officials.

5.2 Barriers on Exports

5.2.1 From EU¹¹

1. Harmonisation of testing procedures

The European Union has its own standards as a whole in addition to each member state having its own standard. Indian side feels that it is essential to harmonize these standards within EU so that the countries, which are exporting to EU could comply with one set of norms. Due to the prevalence of separate set of norms, there is increased number of rejections of marine products export to this part of the world.

There are instances of rejection of sea-food consignments exported from India to EU, specifically to Italy and France, for the presence of *Vibrio Parahaemolyticus*, a commonly found micro organism in coastal and estuarine waters. Indian authorities and exporters are of the opinion that the practice of judging sea food based only on total *Vibrio Parahaemolyticus* counts, without accounting for the virulence factors TDH/TRH is not appropriate.

2. Rejection on account of bacterial inhibitors/ unspecified antibiotics

There are instances of rejection of the Indian farm-raised and sea-caught marine products for the presence of bacterial inhibitors/ antibiotic residues without specifying the residue involved in such rejections. Health authorities involved in testing activities in India feel that harmful residues are not possible to be present in the sea caught products.

3. Rapid Alert System

The procedure for lifting rapid alerts by the member countries is not harmonized. In order to lift rapid alert, the number of minimum consecutive checks varies from member state to member state. For example, France checks 3 consecutive consignments for lifting rapid alert, while Spain insists on 10 and Belgium on 5 and so on. There is a need to harmonize this system.

4. Destruction of Consignments

Destruction of consignments which have been found to contain chlorophenicoland nitrofurran residues has been a major issue which India has taken up in various bilateral forum. As a result of these discussions many countries are now agreeing to return rejected con-

¹¹ This part is written using information gathered from MPEDA office at Cochin, Kerala.

signments to India. But consignments are still destroyed in UK and India is not in favour of this practice.

5.2.2 From USA

1. After the events of September 11, 2001, the US Government has taken a number of steps to enhance the security of the food supply. Accordingly, US Congress has passed the Public Health Security and Bioterrorism and Response Act of 2002. This Act has created indirect barrier for seafood exports from India as inspections have increased.
2. Indian export consignments have also been rejected under country of origin labeling norms.
3. While catching shrimps it needs to be ensured that sea turtles are not killed. In 1996 USA banned imports from India accusing that Indian fishermen are not using turtle excluder devices.
4. Similarly, Tuna exports need to have dolphin safe catching procedure labeling.

5.2.3 Non-Tariff Barriers from other countries

1. Saudi Arabia has been imposing a ban on India since 1984, as WHO reported India as a country affected by cholera at that time.
2. Chinese authorities do not have details of their norms.
3. Revised quarantine measures to be imposed by Australia on prawn imports would also create barriers to Indian exporters.

5.3 Tariff Barriers

5.3.1 Exports

India is faced with various tariff barriers with regards to the export of fisheries item. Barrier imposed by USA is discussed as an example. USA had imposed anti-dumping duty on Indian shrimps together with continuous bond requirements. This had acted as a serious trade barrier. The seafood exporters association of India had challenged this and filed a complaint before the US CIT challenging the amended bond directive. A meeting was later held in Geneva on 4–8 June, 2007. Subsequently since September, 2007, directive anti dumping duties have been reduced from 10.17% to 7.22%.

5.3.2 Tariff Barriers Imposed by India

India's general tariff (MFN) is high (about 30%) compared to the international tariff standards. However, certain countries are given tariff cuts under the existing trade agreements. We therefore discuss briefly the existing trade agreements relevant for the sector.

5.3.3 Trade Agreements

India has trade agreements with a number of countries which allow duty free export and imports including fisheries items.

The Government of India and Sri Lanka signed an agreement on December 28, 1999, and implemented from 2000. Under this agreement the two countries decide to make progressive reductions and elimination of obstacle to bilateral trade through a free trade agreement. A number of fisheries items are allowed to be exported to India by Sri Lanka duty free under this agreement. India also is a signatory of SAFTA (South Asian Free Trade Area) agreement in January 2004, which comprises the SAARC nations. In addition, under SAPTA (South Asian Preferential Trade Area) , preferential trade agreements are signed between India and other South Asian nations such as Bhutan. In case of fisheries items Bangladesh gets preferential treatment under SAPTA (see table 9). Maldives also gets preferential treatment for certain items under SAFTA.

Further, the Bangkok Agreement is an initiative under the Economic and Social Commission for Asia and the Pacific (ESCAP) for trade expansion through exchange of tariff concessions among developing country members of the ESCAP region. This agreement was signed on 31st of July 1975. Seven countries namely, Bangladesh, India, Lao PDR, Republic of Korea, Sri Lanka, the Philippines and Thailand met at Bangkok and agreed to a list of

products for mutual tariff reduction. Certain fisheries items get concessions in terms of import tariffs under Bangkok Agreement as well.

A preferential trade agreement was signed also with the Mercosur countries (Argentina, Brazil, Paraguay, Uruguay) in Jan 25, 2004. In India's offer list ornamental fish appears, however, no fisheries item appears in the offer list of the other countries.

5.3.4 Tariff Structure for Imports

India's general tariffs for fisheries items for all countries getting MFN treatment is 30% (ad-valorem). This appears to be uniform across almost all commodities. Our analysis of TRAINS data shows that India provides special treatment under SAPTA (to LDC) and tariff rate in such case is 15%. Two other special categories of countries that attract even 0 tariff are Sri Lanka and few countries that fall under Bangkok agreement. In the appendix we present two tables (Table C, D, E) showing India's tariff structures for 2005 for certain selected items that India imports from Norway. For example, in case Atlantic Salmon that India imports from Norway, we observe that tariff rate is 30%. Similarly another item India imports from Norway viz., oil produced from fish also attracts 30% tariff. Indeed Table 9 depicts tariff structure of a few selected fisheries item (such as Atlantic Salmon). As mentioned above more detail Tables are presented in the Appendix (Table C, D and E).

Table 9: Import Tariff of Selected Fisheries Items (Importing Country: India), 2005

Import Tariff in the year 2005 of Selected 03 code items				
Code	Item	Country	Tariff Rate	
03011000	Ornamental Fish		0.00	Preferential tariff for Bangkok agreement
03011000	Ornamental Fish	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03011000	Ornamental Fish		15.00	Preferential tariff for SAPTA (LDC) countries
03011000	Ornamental Fish	World	30.00	Basic customs duty (MFN rate)
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)		0.00	Preferential tariff for Bangkok agreement
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)	World	30.00	Basic customs duty (MFN rate)
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)		15.00	Preferential tariff for SAPTA (LDC) countries
03035000	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), excluding livers and roe	World	30.00	Basic customs duty (MFN rate)
03035000	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), excluding livers and roe	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03035000	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), excluding livers and roe		0.00	Preferential tariff for Bangkok agreement
03035000	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), excluding livers and roe		15.00	Preferential tariff for SAPTA (LDC) countries

Source: Compiled using TRAINS data

A careful examination of Table 9 and Table D and E in the Appendix reveals that tariff under Bangkok agreement and Sri Lanka agreement are nil. Under Sapta LDC regional agreement incorporating countries such as Bangladesh tariff rate is 15%. Rest of the World attracts MFN rate of 30%.

When we talk about India's tariff on fisheries items, the muddle over duty free imports of fish come to the fore. Observing the importance of this issue we tried to gather first hand knowledge on this issue by discussing with the stakeholders. We held discussions with the fishermen's association, boat owner association, fish exporters association and the MPEDA officials. The following section provides the highlights.

6. Muddle over duty-free import of Fish: Field Experiences

The main views put forward by the fishermen and boat owners' association presidents during our field visits are as follows.

- First concern is that of price dampening. Some of the common varieties such as cuttle fish, pomphret, anchovy, ribbon fish are caught in China and Thailand as well. Importing these items to India will dampen Indian price and adversely affect fishermen for whom this is the sole source of livelihood.
- Once Indian fishermen find it unprofitable to catch these fisheries items, the consequences are significant. This then becomes a problem of survival of the small fishermen. May be for the boat owners this is a question of profit margin, but it is not so for the poor fishermen.
- It is not only the fishermen whose livelihood depends on this industry but a whole chain of jobs is associated with the industry. They include boat workers, loading unloading persons and so on. This employment and livelihood angle is very crucial.
- Government organization such as MPEDA is propagating import of fish in order to process and re-export. This will however benefit the large entrepreneurs who own these processing units. It is difficult to check supply of such imported items to the domestic market once imports take place. Thus in a sense there is a conflict between capitalist and labour class.
- Another interesting argument is that fish imported from China or Thailand may not be of quality comparable to the Indian fish. Once they are processed and re-exported and there is some complain, that will impact indigenous fish exporters as well.

Our interviews with the *export association* however, reveal an opposite view.

- They are of the view that the concerns of the fishermen are genuine. However, the vested interest political groups for their own benefit exaggerate them out of proportion. Quoting the figures from the Ministry of Commerce, Government of India, association remarks that India imported fish worth Rs 890 million during the financial year 2006–07. Out of this, Hilsa alone worth of Rs 516.90 million is imported from Bangladesh for the consumption of the people of West Bengal in India and to export for the use of Bengali community abroad. Fish worth Rs 50 million was imported for the use of Foreign Embassy's and five-star hotels. Raw fish products worth Rs 110 million was taken outside India, converted to AFD products and brought back to India for exports. Thus at the end raw fish worth only Rs 215 million was imported by the processing establishments for processing and re-export. The association feels that the possibility that fishermen's livelihood will parish even if fish is imported for processing and re-export is a remote one.
- The Association strongly argues in favour of Government of India signing a free trade agreement with European Union. They have given a memorandum to this effect. They consider that this will benefit the fish processing industry and other industries of India.
- Association further argues that about 10 lakh workers are engaged in the sea food processing industry in India. Studies conducted in this area show that additional 5 million job opportunities can be created by importing fish for processing in India for export.

MPEDA officials also echoed same views during our interview. These views are summarized below.

- India has a very well developed processing industry. These units are following strict quality control norms that are EU certified. Indeed entrepreneurs of this sector have upgraded their facilities by investing heavily.
- Ironically however, 80% of their capacity has remained unutilized. This is a big loss to the industry.
- This is due to the fact that there is substantial scarcity of raw fish. Sea has been exploited sufficiently and the domestic production of cultured fish is also not been able to meet the demand of this sector.

- Under such circumstances if fish is imported from other countries and processed for re-export, that can only benefit the economy without hampering the business of the poor fishermen.

Thus we observe that while Government bodies and export associations are on one side, fishermen's unions are on the other. In India this is not a problem unique to the fisheries sector. Ever since India embarked upon its liberalization program from 1990–91 onwards, each drive to open up of the markets is looked either with skepticism or faced with protests. After opening up of a sector however, Indian side has most often gained than lost. A classic example is that of the telecom sector. With much hesitancy Government opened up this sector to end public monopoly. Today we observe unprecedented growth of this sector, decline of prices, and no loss of jobs and furthermore growth of secondary sectors like Business Process Outsourcing (BPO) Industry that depends on telecom sector.

Currently however, from the intensity of protests it appears that certain items may not be allowed for imports in the very near future. Nonetheless, within the fisheries sector, there are definitely items, import of which possibly will not attract much resistance from the trade unions. Processed and ready to eat fisheries products, marketed for the higher-end customers through super markets is a possibility. In order to understand the potentials for this segment of products we have carried out a small survey in certain metropolitan cities of India, concentrating on the fish eating population.

7. Potentials Demand for Processed Fish: A Survey Based Analysis

Indian has a well developed processed fish industry that is capable of processing and packaging fish for export. The industry indeed is under utilized. However, this industry does not generally produce finished and semi-finished products which are either ready to eat or can be consumed with minimal cooking. This may be due to the presumption that there is no demand for such products in India. While this was the case may be about ten years back, the situation is fast changing. With current 8%– 9% GDP growth, a robust manufacturing growth and an impressively growing services sector, there are a large number of professionals in the high income category who possess considerable disposable income and always hard pressed for time. Indian IT/BPO industry alone employs above 16,00,0000 professionals. The professional group though currently may not have high demand for such ready to eat products but are definitely potential customers in the long run. To understand the market potentials we

have carried out a survey of 100 such customers in Karnataka and Kerala. Though the survey is confined to these two states , Bangalore being a cosmopolitan city and an IT hub, we could get people from different parts of the country.

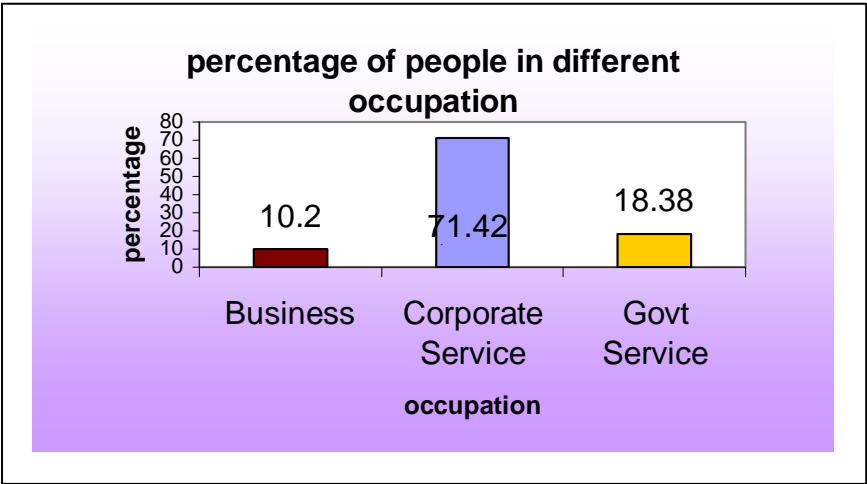
Survey Methodology

A structured questionnaire has been administered on the potential customers. The two stage sampling technique is used. First a shopping mall or a company is selected and then a number of visitors or employees are selected at random and if they are found to be consumers of fish the interview proceeded further. The survey is conducted in Bangalore in Karnataka and Cochin in Kerala. Sample size is 100¹².

Sample Profile

Most of our respondents are from the corporate sector (71%) and another 10% are having small and medium size business (Fig. 8). Professionals are not necessarily from the IT sector alone. Thus 80% of the respondents are in the higher middle income category who can afford to purchase processed, semi-cooked or ready to eat items.

Fig.8 Occupation of the respondents



Source: Field Survey

There are also a few respondents from (18%) engaged in Government sector jobs such as academic professions etc. Income-wise 80% of them earn Rs 0.3 million yearly or more. 25% of

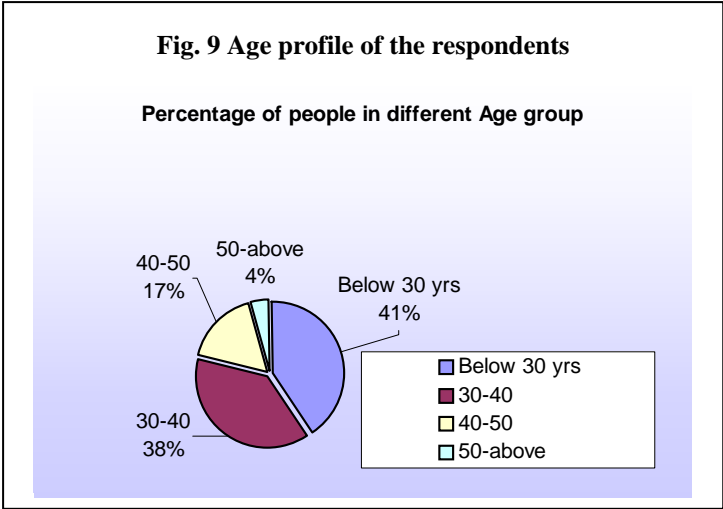
¹² Survey Questionnaire has been provided in the Appendix. Due to the reservations of the respondents, personal details (identifications) of the respondents have not been demanded in the survey. Survey has been conducted mainly in different malls and public places during the month Dec, 2007 and Jan, 2008 for about 10 days.

the respondents take fish almost every day while 53% take at least once a week. Thus in the respondent group we have are regular fish eaters.

Age profile-wise (Fig 9) most of our respondents are young professionals who are assumed to be more open to experimenting with new food items.

Out of these respondents 60% are married and 40% are unmarried; though the unmarried ones, usually from another state like Kerala or Bengal, too prepare their food on their own.

Source: Field Survey

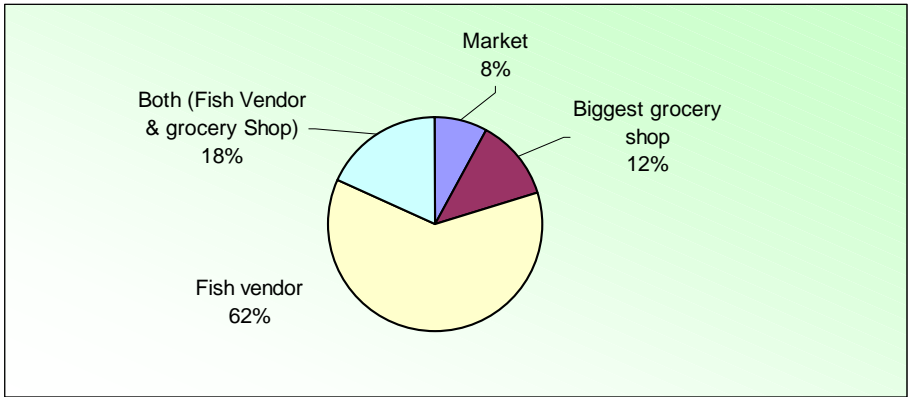


Findings

Though this sample is statistically not a representation of the population as the sample size is not considerably large, nonetheless some of the findings from the survey do provide indications about the market potentials.

If we look at the current fish consumption habits even amongst this comparatively richer section, one can find that (Fig.10) only 12 % of the consumers buy fish from big grocery shops which keep packed frozen fish. A large percentage of buyers purchase fish either from a fish vendor who comes door to door or sits in the road side (Fig 1).

Figure 10: Percentage of people Buying fish from Fish vendor/market and Biggest Grocery shop

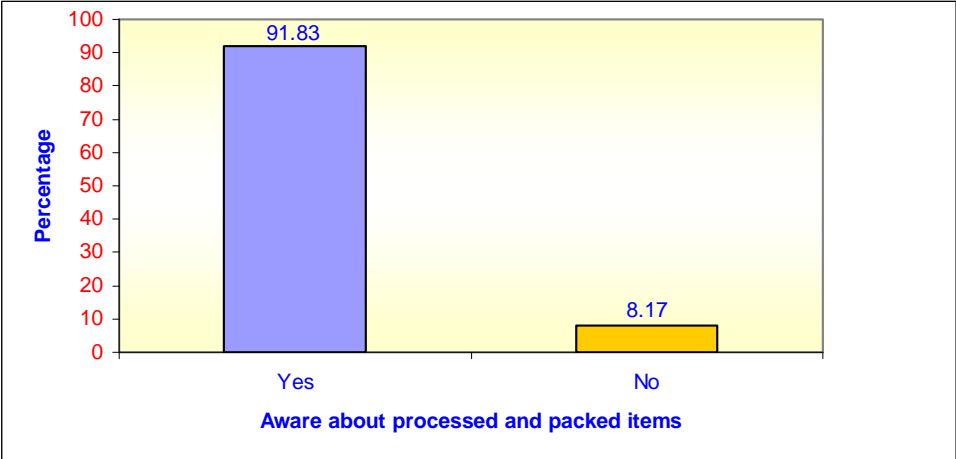


Source: Survey

A close examination of these respondents reveals that the consumers who buy fish items from big grocery shops are mostly in the highest income category within our sample (that is, yearly income Rs 0.5 million or more). However, it is also interesting to note that a large percentage of respondents (62%) within this income group purchase fish from vendor or market.

About 93% of the respondents reveal that they prefer either live or frozen fish that are caught and locally sold. Only 7% of the respondents show their affinity towards packed frozen fish items (Fig. 11). Most of them however, are seen to be aware of the tinned or ready to eat type of items. About 93% of our respondents are aware of processed and packed food (fig 2) and 77% are aware of the presence of tinned fish items such as tuna etc.

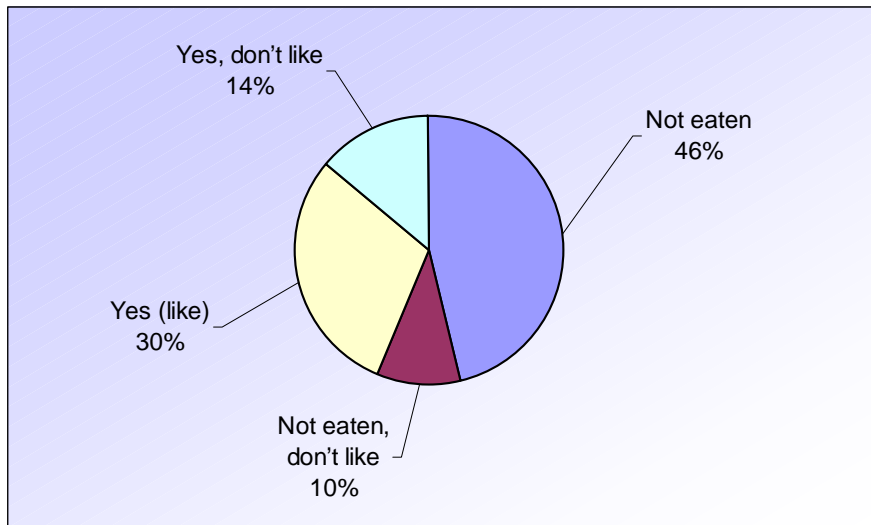
Fig.11 Percentage of people aware about processed and packed items



Source: survey

While they are aware of the presence of such items in the market about 46% have never tasted them (Fig.12) . Thus their awareness is found to be very limited.

Fig.12 Preference for processed fish items (percentage of respondents)



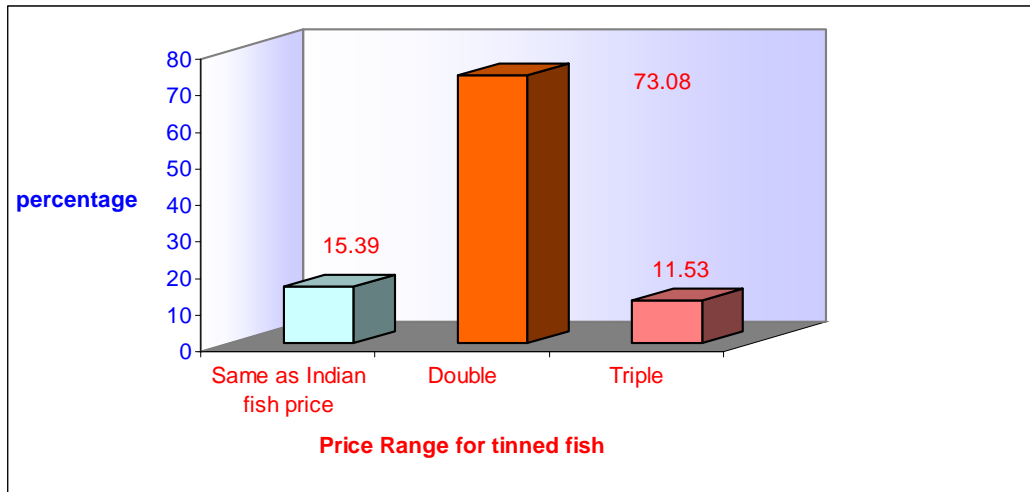
Source: Survey

Amongst another 44% who tasted, 14% do not like the products very much. This may be due to the fact that Indian packed and ready to eat fish market is not well developed at this stage. There are not many choices for the consumers. In particular, 10% of the respondents are averse to the idea and do not like to even taste. Those who consume such items also have them at most once in a month while they eat fresh fish from vendors at least twice a week.

The reasons for not preferring such items are stated as they are not as tasty as the fresh fish and often too costly. 67% of the respondents feel that that not easy availability, , taste and price are the main reason for not preferring to each these items. About 20% of the respondents specifically talks about price being too high.

When we examined the possibility that if quality of such products is ensured and more interesting products are brought to the market what should be the price they would be ready to pay, it is observed that 73 % of the respondents are ready to pay double the price of what they on an average pay for the Indian fish. Another 15 % can pay only as much as the Indian fish. (Fig. 13).

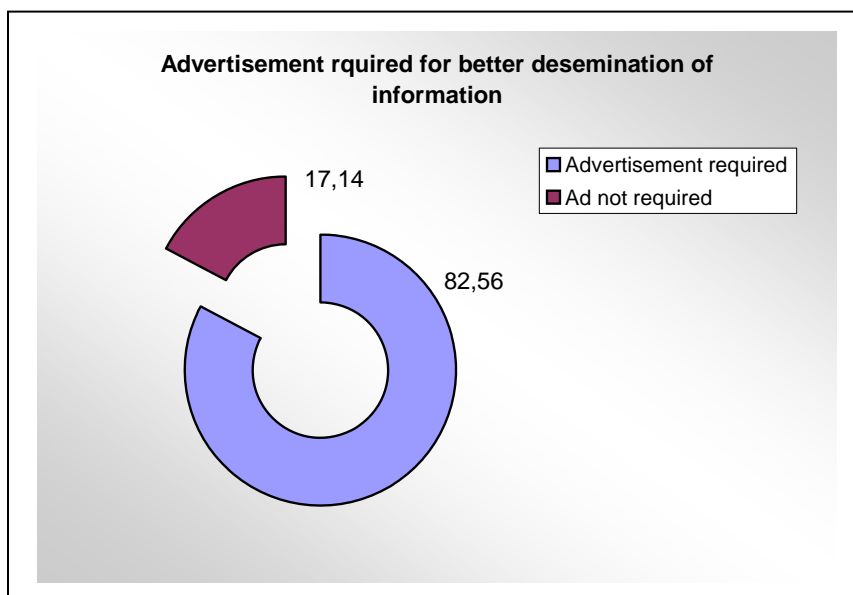
Fig.13 Price Range for frozen fish and Percentage of people willing to pay



Source: Field Survey

If the price is not exorbitant 62% of the respondents are interested in eating fisheries items especially marine products from European countries. However it has been felt that there is lack of information amongst consumers about such quality items. Advertisement is necessary for making people aware of such products. As high as 80% of the respondents feel that they do not have much knowledge about such products and through media if information is given one can make a better choice (Fig.14).

Fig. 14 Need for more information



Source: Field Survey

Summary Observations

During our survey we have observed that the Indian customers currently are somewhat hesitant to purchase processed fish products which may be semi-cooked or ready to eat. Most of them ascribe it to their likings for fresh fish rather than packed and imported. Some respondents also showed concern about quality. Especially the Muslim respondents are hesitant to eat non-vegetarian products from the Western countries as they fear it may contain pork. However, we strongly felt from our interactions that general hesitancy about quality, freshness etc. are stemming from lack of information. All these respondent consumers eat many other Indian products that may not be free from all impurities.

With the growth of the services as well as manufacturing sector there is a large professional group that has sufficient income. With nuclear family structure and both spouses working, time has become the most valuable commodity. Under such circumstances potentially there is a big market for fisheries and marine products that are processed, may be ready to eat, which has remain almost unexplored.

However, demand for such products needs to be developed through proper information dissemination showing the utility of the products. Advertisement in popular media therefore is a must to capture this market. Another important aspect however, is the price. As our survey shows if the prices are more than three times higher than the average Indian fish price, it is not acceptable to the Indian customers. Thus to begin with those products which can be exported by Norway to India at a reasonable price may be attempted. Efforts to popularize such products also have to be made side by side- as from our survey we observe that currently knowledge about processed fisheries products appears to be very limited.

Our survey has covered only individual respondents. There is also demand for fish from the hotels and restaurants. Hotel business at present is thriving in India and the Government has increased foreign direct investment limit in this segment to 100%. As a result many foreign-based hotels are already there in the major metros of India. US-based HVS International has firmed up plans to enter India, and industry players believe others like Ashford Hospitality Trust and IFA Hotels & Resorts among others are likely to follow suit. The government forecasts an additional requirement of 200,000 rooms by the turn of the century. A rapidly growing middle class, the advent of corporate incentive travel and multinational companies presence in India have boosted prospects for tourism. India's easy visa rules, public freedoms and its many attractions as an ancient civilisation makes tourism development easier than in many other countries. It is important to note that the luxury hotels will have demand for any exotic marine products regardless of price. This segment of the market

can also be tapped for the export of Norwegian Salmon and other such expensive varieties of fish.

8. Conclusion

After observing the positive effects of trade India is currently making extensive efforts to enhance the trade opportunities to improve its competitiveness in the world trade scenario. Consequently, a comprehensive Foreign Trade Policy (2004–2009) has been developed to improve the trading system. The objective of the new Foreign Trade Policy is the overall development of India's foreign trade.

Two major objectives of the foreign trade policy 2004–2009 are (1) to double India's percentage share of global merchandise trade by 2009 and (2) to act as an effective instrument of economic growth by giving a thrust to employment generation, especially in semi-urban and rural areas. To enhance growth in trade, India is taking various pro-active measures such as reduction of controls, bringing in transparency and simplifications in bureaucratic procedures, and reducing duties. Special attention is given to attract foreign direct investment. Sectors with significant export prospects and potential for employment generation in semi-urban and rural areas have been identified as thrust sectors, and *specific sectoral strategies* have been prepared.

In her effort to enhance export India also realizes the need to open up her economy for imports. Thus unilaterally India has been relaxing several of her earlier import restrictions. Amongst various sectors opened up agriculture and animal husbandry sector is slow to open up. This is mainly because still a large proportion of rural poor population (above 60%) depends on this sector. Prices of these essential commodities are also a major concern.

However, the scenario is changing even for these sectors if not as fast as the manufacturing and services sectors. Concentrating on the fisheries sector we observe from the above analysis that in India import of fish is still minimal. Currently Norway is one of the major exporters to India and import from Norway as well as total imports in fisheries sector is steadily rising from last 5 years or so. .

Since fishing is the occupation of a large number of poor households especially in the coastal region, import is always considered as a threat to their livelihood. This however, need not be always true. While a rapid growth may not take place immediately, situation is expected to change over time. This can be also seen from our field level experiences with the exporters associations and MPEDA officials who are strongly in favour of certain imports. At

this hour therefore, it is necessary to identify products, trade of which are not going to have detrimental effect on the business of the poor fishermen. Collaboration in technology concerning the fisheries sector can be an area of interest for both Norway and India. Similarly equipments and peripherals for ornamental fish is another area. India in fact has a good demand for ornamental fish but due to strict restrictions, importers find tremendous difficulty to import (as revealed by importers during our survey). This is one area which during EU negotiation one may highlight.

With liberalization and opening up of the market, the economy is undergoing significant changes. There is now a large group of population that can afford exotic seafood and other marine items, which India does not produce. There is substantial demand for these items from hotel industry as well. Processed semi-cooked product market is also not yet developed fully in India. These are certain product groups that may be explored initially. As our survey shows current knowledge of the consumers is very limited. Thus information needs to be enhanced. However, to reach a sizeable population, price has to be competitive as the purchasing power of the mass is still not high in India. Thus, though trade in this sector is not expected to increase manifolds in the near future, there are definite chances of new opportunities of trade to come up.

References

- AAI. (2002). *Aquaculture Authority News*. 1(1), Chennai: Aquaculture Authority of India.
- Dehadrai, P V., & Yadava, Y S. (2004). *State of the Indian Farmer: A Millennium Stud*. 13. *Fisheries Development*. Delhi: Academic Foundation.
- Deccan Herald. (2008). India, EU FTA float task force, Retrieved January 27, 2008, from web site, <http://www.deccanherald.com/Content/Jan272008/business2008012648809>
- FAO. (2000). *Fishery Country Profile: The Republic of India*. Retrieved September 2007, from website <http://www.fao.org/fi/fcp/en/IND/profile.htm>.
- FAO. (2002). *The Impact of World Trade Organization Agreements on Fish Trade*. FAO Fisheries Circular 977. Rome: Food and Agriculture Organization of the United Nations. Retrieved September 2007, from website www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/005/Y4325E/Y4325E00.htm.
- GOI. (1996). *Handbook on Fisheries Statistics*. New Delhi: Government of India, Ministry of Agriculture Department of Animal Husbandry and Dairying.
- GOI. (2000). *Handbook on Fisheries Statistics 2000*. New Delhi: Government of India, Ministry of Agriculture Department of Animal Husbandry and Dairying.
- GOI. (2005). *Annual report 2004–2005*. New Delhi: Department of Animal Husbandry and Dairying, Ministry of Agriculture, Government of India. Retrieved September 2007, from the website <http://dahd.nic.in/rep/2005/English/Text.pdf>.
- Kulkarni, P. (2005). *The Marine Seafood Export Supply Chain in India: Current State and Influence of Import Requirements*. International Institute for Sustainable Development (IISD). Retrieved September 2007, from website www.tradeknowledgenetwork.net/pdf/tkn_marine_export_india.pdf.

- Kurien, J. (1985). Technical Assistance Projects and Socio-Economic Change: Norwegian Intervention in Kerala's Fisheries Development. *Review of Agriculture, Economic and Political Weekly*, XX (25 and 26), 22–29.
- Mathew, S. (2003). *Trade in Fisheries and Human Development: Country Case Study– India*. Asia Pacific Regional Initiative on Trade, Economic Governance and Human Development.
- MPEDA. (2001). *MPEDA: An Overview*. The Marine Products Export Development Authority.
- MPEDA. (2006). *Export Performance, 2004–05*. Retrieved on September 2007, from website <http://www.mpeda.com>.
- Salagrama, V. (2004a). *A study of market supply chains in fisheries in the southern districts of Orissa*. Study done for Oxfam (GB), Bhubaneswar. Integrated Coastal Management, Kakinada. Retrieved September 2007, from website <http://www.onefish.org/id/243733>.

Appendix

Appendix A.1

Table A: India's Import share of Important Fisheries items: Disaggregated Scenario

Year	Product Code	Product Name	Import share in total trade
1996	230120	Flours, meals and pellets, of fish	49.0
1996	030269	Other fish, excluding livers and ro	41.3
1996	051191	Other :- Egg yolks :- Products of	4.1
1996	150420	Fats and oils and their fractions,	2.1
1996	150410	Fish-liver oils and their fractions	2.0
1996	030613	Frozen :- Shrimps and prawns	0.6
1996	030741	Cuttle fish (Sepia officinalis, Ros	0.5
1996	030379	Other	0.1
1996	030110	Ornamental fish	0.1
1996	030322	Other salmonidae, excluding livers	0.1
2000	030269	Other fish, excluding livers and ro	34.5
2000	230120	Flours, meals and pellets, of fish	23.8
2000	051191	Other :- Egg yolks :- Products of	22.2
2000	150410	Fish-liver oils and their fractions	7.3
2000	030749	Cuttle fish (Sepia officinalis, Ros	3.5
2000	150420	Fats and oils and their fractions,	2.4
2000	030612	Frozen :- Lobsters (Homarus spp.)	2.3
2000	030613	Frozen :- Shrimps and prawns	1.8
2000	030379	Other	0.8
2000	030374	Other fish, excluding livers and ro	0.2
2005	230120	Flours, meals and pellets, of fish	54.7
2005	030269	Other fish, excluding livers and ro	13.6
2005	030613	Frozen :- Shrimps and prawns	10.2
2005	030420	Frozen fillets	6.9
2005	030741	Cuttle fish (Sepia officinalis, Ros	4.2
2005	150420	Fats and oils and their fractions,	2.0
2005	030379	Other	1.9
2005	150410	Fish-liver oils and their fractions	1.2
2005	160590	Other	0.7
2005	030559	Dried fish, whether or not salted b	0.7

Source: Analysis of COMTRADE data

Table B: India's Export share of Important Fisheries items: Disaggregated Scenario

Year	Product	Product Name	Export share in total trade
1996	030613	Frozen :-- Shrimps and prawns	64.28
1996	030379	Other	18.18
1996	030749	Cuttle fish (Sepia officinalis, Ros	5.03
1996	030741	Cuttle fish (Sepia officinalis, Ros	4.22
1996	030420	Frozen fillets	1.66
1996	030612	Frozen :-- Lobsters (Homarus spp.)	1.09
1996	030269	Other fish, excluding livers and ro	0.80
1996	030624	Not frozen :-- Crabs	0.65
1996	030374	Other fish, excluding livers and ro	0.51
1996	051191	Other :- Egg yolks :-- Products of	0.51
2000	030613	Frozen :-- Shrimps and prawns	63.25
2000	030379	Other	19.87
2000	030749	Cuttle fish (Sepia officinalis, Ros	3.50
2000	030612	Frozen :-- Lobsters (Homarus spp.)	3.22
2000	030741	Cuttle fish (Sepia officinalis, Ros	3.12
2000	051191	Other :- Egg yolks :-- Products of	0.84
2000	030624	Not frozen :-- Crabs	0.78
2000	030420	Frozen fillets	0.58
2000	030614	Frozen :-- Crabs	0.53
2000	030490	Other	0.45
2005	030613	Frozen :-- Shrimps and prawns	53.51
2005	030379	Other	13.95
2005	160520	Shrimps and prawns	7.70
2005	030741	Cuttle fish (Sepia officinalis, Ros	7.01
2005	030749	Cuttle fish (Sepia officinalis, Ros	5.29
2005	160420	Other prepared or preserved fish	1.71
2005	030614	Frozen :-- Crabs	1.37
2005	030420	Frozen fillets	1.26
2005	030269	Other fish, excluding livers and ro	1.10
2005	030624	Not frozen :-- Crabs	0.78

Source: Analysis of COMTRADE data

Table C :Selected Fisheries Products (especially that are Imported from Norway) and the Import Tariff Structure, 2005

Product Code	Product Description	Name	AdValorem	Measure Name
03032200	Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)		0.00	Preferential tariff for Bangkok agreement
03032200	Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)	World	30.00	Basic customs duty (MFN rate)
03032200	Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03032200	Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)		15.00	Preferential tariff for SAPTA (LDC) countries
15041010	Cod liver oil	World	30.00	Basic customs duty (MFN rate)
15041010	Cod liver oil	Sri Lanka	0.00	Preferential tariff for Sri Lanka
15041010	Cod liver oil		15.00	Preferential tariff for SAPTA (LDC) countries
15042010	Fish body oil	Sri Lanka	0.00	Preferential tariff for Sri Lanka
15042010	Fish body oil		15.00	Preferential tariff for SAPTA (LDC) countries
15042010	Fish body oil	World	30.00	Basic customs duty (MFN rate)
15042020	Fish lipid oil	World	30.00	Basic customs duty (MFN rate)
15042020	Fish lipid oil	Sri Lanka	0.00	Preferential tariff for Sri Lanka
15042020	Fish lipid oil		15.00	Preferential tariff for SAPTA (LDC) countries
16042000	Other prepared or preserved fish	World	30.00	Basic customs duty (MFN rate)
16042000	Other prepared or preserved fish	Sri Lanka	0.00	Preferential tariff for Sri Lanka
16042000	Other prepared or preserved fish		15.00	Preferential tariff for SAPTA (LDC) countries
03042030	Seer	World	30.00	Basic customs duty (MFN rate)
03042030	Seer	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03042030	Seer		15.00	Preferential tariff for SAPTA (LDC) countries
03042040	Tuna	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03042040	Tuna		0.00	Preferential tariff for Bangkok agreement
03042040	Tuna		15.00	Preferential tariff for SAPTA (LDC) countries
03042040	Tuna	World	30.00	Basic customs duty (MFN rate)
03042050	Cuttlefish	World	30.00	Basic customs duty (MFN rate)
03042050	Cuttlefish		15.00	Preferential tariff for SAPTA (LDC) countries
03042050	Cuttlefish	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03042050	Cuttlefish		0.00	Preferential tariff for Bangkok agreement

Source: Analysis of TRAINS data

Table D: Trade agreements

Country	Partner	Status of the Negotiation	Agreement Type
India	ASEAN	Negotiation in progress	Bilateral FTA
India	Afghanistan	2003	Bilateral FTA
India	Bangkok Agreement	1975	Regional Trade Agreement
India	Bangladesh	Negotiation in progress	Bilateral FTA
India	Bhutan	1995	Bilateral FTA
India	BIMSTEC	2004	Regional Trade Agreement
India	Chile	Negotiation in progress	Bilateral FTA
India	China	Under study	Bilateral FTA
India	Egypt	Negotiation in progress	Bilateral Trade Agreement
India	GCC	Under study	Bilateral FTA
India	GSTP	1989	Inter-Regional Trade Agreement
India	Indonesia	Under study	Bilateral FTA
India	Mauritius	Under study	Bilateral FTA
India	MERCOSUR	2005	Bilateral FTA
India	Nepal	1996	Bilateral FTA
India	SAARC (SAFTA)	2006	Regional Trade Agreement
India	SACU	Negotiation in progress	Bilateral FTA
India	Singapore	2005	Bilateral FTA
India	Sri Lanka	1998	Bilateral FTA
India	Thailand	2003	Bilateral FTA

Source: UNDP, THE GREAT MAZE Regional and Bilateral FTAs in Asia, Trends, Characteristics, and Implications for Human Development: Policy Paper, Asia-Pacific Trade and Investment Initiative, UNDP Regional Centre in Colombo, December 2005, Table 1, Pp.21-29.

Table E: Import Tariff of Few Additional Fisheries Items, 2005

Tariff 2005 of 03 code items				
Code	Item	Country	Tariff Rate	
03011000	Ornamental Fish		0.00	Preferential tariff for Bangkok agreement
03011000	Ornamental Fish	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03011000	Ornamental Fish		15.00	Preferential tariff for SAPTA (LDC) countries
03011000	Ornamental Fish	World	30.00	Basic customs duty (MFN rate)
03019100	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorh</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03019100	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorh</i>)		15.00	Preferential tariff for SAPTA (LDC) countries
03019100	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorh</i>)		0.00	Preferential tariff for Bangkok agreement
03019100	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorh</i>)	World	30.00	Basic customs duty (MFN rate)
03021100	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhy</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03021200	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorboscha</i> , <i>Oncorhync</i>)	World	30.00	Basic customs duty (MFN rate)
03021200	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorboscha</i> , <i>Oncorhync</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03021200	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorboscha</i> , <i>Oncorhync</i>)		15.00	Preferential tariff for SAPTA (LDC) countries
03021200	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorboscha</i> , <i>Oncorhync</i>)		0.00	Preferential tariff for Bangkok agreement
03023200	Yellowfin tunas (<i>Thunnus albacares</i>)	World	30.00	Basic customs duty (MFN rate)
03023200	Yellowfin tunas (<i>Thunnus albacares</i>)		7.50	Preferential tariff for SAPTA (LDC) countries
03023200	Yellowfin tunas (<i>Thunnus albacares</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03023200	Yellowfin tunas (<i>Thunnus albacares</i>)		0.00	Preferential tariff for Bangkok agreement
03023400	Bigeye tunas (<i>Thunnus obesus</i>)		0.00	Preferential tariff for Bangkok agreement
03023400	Bigeye tunas (<i>Thunnus obesus</i>)	World	30.00	Basic customs duty (MFN rate)
03023400	Bigeye tunas (<i>Thunnus obesus</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03023400	Bigeye tunas (<i>Thunnus obesus</i>)		15.00	Preferential tariff for SAPTA (LDC) countries
03023500	Bluefin tunas (<i>Thunnus thynnus</i>)	World	30.00	Basic customs duty (MFN rate)
03026100	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops spp.</i>), <i>Sardinella</i> (<i>Sardinella</i>)		0.00	Preferential tariff for Bangkok agreement
03026100	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops spp.</i>), <i>Sardinella</i> (<i>Sardinella</i>)	World	30.00	Basic customs duty (MFN rate)
03026100	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops spp.</i>), <i>Sardinella</i> (<i>Sardinella</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03026100	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops spp.</i>), <i>Sardinella</i> (<i>Sardinella</i>)		15.00	Preferential tariff for SAPTA (LDC) countries
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)		0.00	Preferential tariff for Bangkok agreement
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)	World	30.00	Basic customs duty (MFN rate)
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)	Sri Lanka	0.00	Preferential tariff for Sri Lanka
03032200	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>)		15.00	Preferential tariff for SAPTA (LDC) countries

Source: Compiled using TRAINS data

Appendix A.2

Survey Questionnaire

Survey of the Potential Customers for Fish Related Products

1. Name : (optional)
2. Male/Female
3. Married: yes, No
4. Age: below 30 yrs, 30—40, 40—50, 50 and above.
5. Occupation

6. Family Income (husband + wife) Annual : a) Below 2 lakhs
b) 2-3.5 lakh
c) 3.5-5 lakhs
d) 5 lakhs and above

7. Original state
8. Apart from fish what other non-veg item you consume?

9. What item you eat most frequently ?

10. How frequently you eat this item?

11. How frequently you eat fish

12. Are you buying fish from a fish vendor or bigger grocery shop like food world?

13. If both what are the frequencies : vendor: super market/Store:

14. What kind of fish item you like (indicate preferences): fresh water live: frozen: Processed Items:

15. Are you aware that there are tinned fish item (like tinned tuna): Yes/No

16. Are you aware that there are processed and packed fish items(like fish cutlets):

Yes/No

If you are aware

17. Have you eaten and Do you like tinned fish? (specify variety)

18. Do you have demand for frozen/processed fish items (cutlets etc.) (specify item-wise details)

19. What price range of processed fish would be within your budget (double of the fresh fish, triple....)
20. How frequently you take processed/packed fish item: more than once in a month , once in a month or once in a while (once in six months).
21. What is the reason for not eating such items regularly: price, not tasty, unhealthy, any other.
22. If the quality of such items are fully ensured and brought from say European countries will you be consuming? Yes/ No
23. If you are not aware of such items are you interested to get some information (say through TV ads). (details)
23. If you get to know that such items exist and one can make Indian dishes out of them then will you be interested?
24. Do you think such items in general should be advertised to spread more knowledge amongst the consumers? Which medium?
25. What price range is needed to make you buy such products :same as Indian fish price, you are ready to pay more if it is exotic marine /sea food item. (specify range for prices)
26. Do you think you would like to eat salmon/ herring / or other such marine items which are currently not available?
27. If yes what should be the approximate price per kg of frozen item (item-wise details).