CHAPTER I

Introduction

In the world, for aquaculture production India is on second position and in Indian economy Seafood sector attributes significantly by providing occupation to more than 14.5 million people in the country. The sector has been recognized as a most commanding foreign exchange earner, ancillary Industry creator, and generator of employment. Fish is a low cost food having high nutrition value.

There is a significant change in eating habits of the people around the world. India is blessed with extensive coastal line of 8129 Kms, brackish water bodies offers immense potential to develop the fisheries in two million sq. kms of special economic zone and hectors 1.2 million. Only 2.6 million tonnes capacity has been tapped as against an anticipated fishery prospective of 3.9 million tonnes from seafood sector, For the year 2014-15 India has targeted US$ 4.2 Billion which is 20% growth over last year.

In the world, for aquaculture production India is on second position. Indian seafood is exported to more than 100 countries in the world and proud of being second largest producer of aquaculture among the world fish producers. After China, India is having biggest market for the shrimps in the world, Europe is the second largest buyer followed by Japan and US in on the fourth position.

For last many years the state of Maharashtra ranks first in exports revenue and in Industrial output. It contributes nearly 28% of Indian exports and 14% of national Industrial output. 65% of the people are employed in agriculture and allied activities. Accounts for 15.4% of India’s total GDP highest amongst all states & CAGR of 16.5% in last eight years. Industrial, physical, and social infrastructure has been developed well in state of Maharashtra. Maharashtra is having two biggest cargo terminals and 53 small ports with has coastline of 740 Km. apart from three international and five domestic airports. Jawaharlala Nehru Port Trust (JNPT) is countries largest container terminal and many minor ports are under development with participation of private sector.
Maharashtra exported worth US$ 82 billion in fiscal year 2012. Exports from the state have increased at a CAGR of 27.4% between year 2007-08 and 2001-12. Major exported are gems & jewellery, software, textiles, cotton yarn, metal products, engineering items, plastic items, pharmaceuticals, readymade garments, processed food & agriculture products, etc.

Maharashtra contributes to 15% revenue & 20 % quantity out of total seafood exports of India and hence it is on 4th position by revenue after Andhra Pradesh (21%), Kerala (17%) & Gujarat (16%). As off 2012 in Maharashtra there are 268 seafood exporters, 41 process plants having freezing capacity of 1327 tonnes per day and 30 cold storages having storage capacity of 19372 tonnes and 2932 fishing vessels. In inland fish production, Maharashtra lags behind.

The seafood has been divided in four major categories

1) Surimi: is a seafood paste blocks manufactured out of various finfish verities

2) Crustacean : is a seafood having shells for ex. all kinds of Lobsters & Shrimps.

3) Cephalopods: is a type of fish soft fish for ex. all kinds of Squid, Cuttle fish & Octopus etc.

4) Finfish: is all kind of fish having fins for ex. Pomfrets, Tuna, Mackerels, KF etc.

More than thirty two various types of fish includes Pomfrets, Harpodon neherias, Sardine, Red snapper, Shrimps, Ribbon fish, Mackerel, Cattle fish, Anchoviella, Otalithes, Bombay duck (Bombil) are easily available in cost line of Maharashtra. Maharashtra accounts for more than 70% share production of total inland fish. Following regions the major inland fish producing districts Mumbai, Thane, Ratnagiri, Raigad & Sindudurg.
So, having such an access to sea wealth to Maharashtra call for careful study of promoting these products in international markets according to international standards. Hence the sample of exporters in nearby Mumbai & Thane area are taken to understand their needs, issues, Govt. policies there in the changes required & the influencing factors for orbital change in growth.

This study is mainly conducted keeping in mind the prospective international markets which outlines the influence of marketing on the specific determinants as mentioned in objectives. For example impact of International marketing on seafood exporters to increase revenue and the influence of Quality, Packing, Logistic, Credit facility, Branding, Advertising & Promotion, Competitive advantages, Technology and Pricing etc.

On the quality front, India has become most preferred supplier of seafood in the world in most of the world markets. Maharashtra achieved a phenomenal turn over in exports marine products of Rs 18,856 crores in the year 12-13 which was all time record, in terms if quantity and in export earning in US$ it broke its own records of past. In terms of Qty. total qty of 928 kило tonnes and in value near to 19 thousand crores which is US$ 3.5 billion was the pick in year 12-13. With this successful year the registered growth was in tune of 7.7% in qty and 13.6 percent in export revenue. The product frozen Shrimp alone persisted as a large export earning product contributing a major share of 51.4 percent of forex earning out of total earnings of US$. Marine products has maintained its position of primary export product in terms of quantity and 2nd biggest export product in terms of turnover, which has contributed to 37% share in volume and near to 17.6% share in export earnings in US$. Marine products have displayed a exponential growth in year 2012 by exporting chilled fish, squid, frozen cuttle fish, and dried fishery products.

Out of total export earning of India the seafood exports has around 1.5% share which can be doubled in next 5 years by increasing the processing capacity and by international marketing. Due to adaption of HACCP and BRC the seafood manufacturing plants in India has gain the highest quality control standards w.r.t international standards. At the moment 60% out of 447 seafood processing plants are approved by European Union. These plats have processing capacity of over 18,500 metric tonnes. Plants which are approved by EU has Hazard Analysis and Critical Control Point (HACCP) and British Retail Consortium (BRC) quality control system which in accordance with world standards which ensures product output of highest
quality. These standards are generated with technical help for merchant exporters, retailers, manufacturers and also provides the guidance for the inspection authorities for Food Safety, Packaging and Packing Materials, storage and distribution.

These standards are designed to evaluate food production and help implementation of good manufacturing systems to ensure the production of products for its consistency in safety, legalities and quality. The companies which have opted for these standards are regularly audited by independent authorities and have to submit reports of self assessment on regular basis to concerned authorities.

Indian seafood products has got growing requirements from various countries in the world. This demand is creating the challenges to changed the business model and the dynamics of seafood industry export. This increasing demand is calling for a ardent need to change our infrastructure and putting pressure on getting more resources from marine industry. Value addition is a key to increase the revenue it has been has been considered as the thrust area. By tapping unexploited and underutilized marine resources country is driving towards manufacturing the and supplying value added products in consumer friendly packing by using contemporary technology. With the export target of US $ 4.2 Billion in FY 13-14 the contribution of value added marine products is likely to be 70%. In view of this in coming years the Indian seafood industry is pursuing to go for additional capacities, modernization programs , diversification from their traditional way of manufacturing, setting up modern export units in special export processing zones to manufacture value added products. Some of the value added products are mentioned below\(^1\) for the ready reference.

- **Battered And Breaded Products**
- **Coated Fish Products**
- **Fish Curry In Retortable Pouches**
- **Fish Kure**
- **Fish Pickle**
- **By-Products**
- **ReadyToServe FishCurry - ABoon ToBusy HomeMaker**

\(^1\)Source: CIFT and Interviews
Value addition and product diversification

In most of the seafood manufacturing countries seafood products with is a buzz word for the discussion in the food processing sector because of the increased realisation of valuable foreign exchange. The modern food habits along with the fast life has created an enormous demand for ready to make or ready to eat food products.

1) **Improved market forms- chilled/frozen fish:**

*Dressed and gutted fish:* Hygienically gutted fish fetches higher price in the retail as well as export markets. Dressed and washed fish can be distributed in consumer packs in ice. Vacuum packaging and active packaging further improves the shelf life of the products.

*Fish steaks:* The steaks of seer fish, pomfrets and other high valued fishes are packed in consumer packets and kept in chilled/frozen condition. The shelf life of steaks can be improved by vacuum packaging, modified atmosphere and active packaging techniques.

*Fish fillet:* frozen or chilled Skinless fillet has a potential as a raw material to be used for producing range of products with value addition.
**Marinated fish:** Fish steaks or fillet pieces can be marinated with salt and spices and packed in thermoformed trays. Ready to fry marinated fish/shell fish shrimp, mussel, oyster, squid, cuttlefish etc. can be stored up to 3-4 weeks at 4°C. Frozen marinated fish steaks are also available in the market. Cured product like mackerel is suitable for marinating with spices.

2) **Live fish trade:**

A recent trade in international fish trade is the growing demand for fish and shell fish. Live fishes are sold across South East Asian countries as a luxury item. There is a great demand for live fish and they fetches maximum price compared to all other forms of value added products as it maintains the highest freshness. The fishes are transported live in air cargo maintained at very temperatures to slow down the metabolic activities of the fish. However, it is a costly operation and the high rate of mortality adds to operational cost. Some of the most valued live fishes in the trade are lobster, clam, eel, groupers, mussels etc.

3) **Convenience fish products:**

**Breaded and battered products:** Out of various cephalopods, shell fish and finfish variety of breaded and battered value added products can be produced which has a high demand in the world market. The product is dipped in a batter of flour followed by coating with bread crumbs. For getting the fish taste, a minimum of 50% of the fish meat is required in the final product. Fish fingers, fish balls, cutlets, burgers, coated shrimp, lobster, oyster etc. are the widely consumed products in the restaurant trade. Many products are coated and immediately frozen, or they may be pre-fried, and then frozen for distribution and sales to consumers and food service establishments.

**Specialty fish products:** Seafood value added products which are ready to eat and ready to cook in customer friendly packing of has increasing acceptance and demand. Some products mentioned below has an inherent demand these are speciality products includes fish pickle, fish soup powder, fish wafers, fish noodles etc.

4) **Extruded fish snacks:**

A number of studies have demonstrated that it is possible to develop extruded snack foods fortified with fish mince. Mince from fish species like carp, sardine, channel cat fish,
ribbon fish, big eye snapper and salmon etc. are successfully coextruded with cereals to produce a variety of snack food products. Extrusion technology can be effectively employed for profitable utilisation of bycatch and low value fishes like thread fin breams, croaker, lizard fish etc. Fish based extruded snacks have got very good marketing potential.

5) **Ready to serve products in flexible pouches:**

Fish curry in a ready to consume form processed in flexible retort pouch is having high demand in the domestic market. The fish curry is aseptically packed in the containers and processed at a temperature of 121°C in an over pressure autoclave. It can remain in acceptable condition upto 1 year at room temperature.

6) **Functional foods:**

In coastal India, seafood has prominent role to play in their regular diet, it has high nutritional value with valuable ingredients like omega-3 polyunsaturated fatty acids, (EPA) eicosapentaenoic, (DHA) docosahexaenoic, bioactive peptides etc. EPA and DHA concentrates can be prepared from the fish oil and fortified into food stuffs like breading, milk based products, mayonnaise etc. Apart from this peptides and protein concentrates can also be added to food formulation to improve its nutritional and functional value.

7) **High valued products from fish/shell fish waste:**

Massive amount of waste is generated while manufacturing and processing of fish which can be reprocessed. Approximately, bone and the skin amounts to 30 percent of waste after filleting of fish. 60 to 75% is the weight of the fillet i.e. is depending on the type of fish. Waste of fish parts is a exceptional ingredient for manufacturing of high priced items of food with high protein. To improve the fish processing quality and improve the aspect of environment the proper use of fish wastes is necessary. Solid waste of around 50 to 80 percent is the waste which gets generated while processing the seafood raw material. High collagen is in available in bone and the skin which is about 30% of waste. Fish processing generates solid wastes that can be as high as of the original raw material.

Some high valued products from fish processing discards are
- Fish oil/omega-3 concentrates/PUFA: pharmaceutical and nutraceutical value
- Chitin/chitosan/glucosamine – Pharmaceutical and food value
- Fish calcium and other minerals: Pharmaceutical value
- Fish protein concentrates and their hydrolysates- food and nutraceutical value
- Collagen/gelatine/collagen peptide: pharmaceutical and nutraceutical value
- Fish ensilage and foliar sprays: Agricultural and pet feed formulations
- Fish maws and Isinglass: Beverage industry

As the exports in value added from is encouraged, to fuel its rapid growth in overseas markets & to sustain it for long term basis the collaborative approach like Foreign collaborations, Foreign direct investments, Fish import for further processing, Technology transfers, Licensing, Strategic alliances, Partners for establishing the distribution network needs to be considered. Along with this the conscious efforts on International Marketing will influence an effective penetration in overseas markets.

The present study has attempted to analyze the international marketing system adopted by seafood exporters in Maharashtra find the gaps in various areas influencing international market reach and suggested the suitable contemporary marketing methods and suitable measures to increase the revenue.

Indian Govt. has targeted US$ 4.2 Billion for 2013-14  

(Fig. 1)

Present scenario of Indian seafood industry:
• Export of fish products increased to 9,28 killo tons (Rs. 19,000 crore) in the year 2012-13 from 15732 tons (Rs. 3.92 Crore) in 1961-62.

• Average unit value realization increased from 1.29 US $ per kg in 1970s to 3.52 US $ per kg in 2010

Opportunities for seafood industry:

• India with vast water resources can increase the fish production thereby its exports: describe on the coastline of India, its fishing potential, catch /
• year, aquaculture area, aquaculture production/year, inland fisheries potential including rivers, reservoir etc (Reference: CMFRI).
• Among many developing countries India has acquired excellent seafood processing amenities: Fish processing units operating in India has its own competencies and capabilities.
• It has skilled labour force
• India has strong research institutional set up to guide the industry in many areas

Most important products of export:

White frozen prawn is on forefront get major export value amounting to 49 percent of earnings in US$. Prawn imports exponentially shoot up to 24.86% increase in quantity, in value around 43%, and in US$ by about 38%.

Growth of around 22% in INR and US$ realization of around 16% has been attended by frozen Cuttlefish with price improvement by 25% which is remarkable. With respect to export of frozen squid it reported the downward trend in quantity by about 8%. At the same time frozen squid export reported up word trend i.e. 22 % in INR with forex realization of 17.5% with price increase realization of 34% in value and reduction in quantity by by around 12%.
With 40% in quantity and around 19.5% in forex earning in export value fish export has been able to maintain its ranking as 2nd biggest in terms of export quantity.

**Major Export Markets for India:** With 39.90 percent in volume and 25 percent in forex earnings through export to South East Asia who is the biggest importer of Indian marine products. Second place of import countries are from European Union has around 23% share and America is on 3rd place with 17 percent then Japan with 13 percent, China import share is 7.5 percent, 5 percent share of ME i.e Middle East countries and balance 8% is from other countries in the world.

Table - 1

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2 Seafood association of India
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<td>Q 6531.00 5,789.00 742.00 12.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CANADA</td>
<td>1.99</td>
<td>V 330.81 241.27 89.5 37.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>$ 70.23 53.28 16.95 31.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOUTH AFRICA</td>
<td>0.89</td>
<td>Q 7702.00 5,242.00 2460.00 46.93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.25</td>
<td>V 207.61 142.16 65.46 46.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.24</td>
<td>$ 43.43 31.55 11.88 37.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUSSIA</td>
<td>0.07</td>
<td>Q 8333.00 9,597.00 1264.00 13.17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Imports from America of Indian seafood has shown the profound increase of 37% in quantity and 45.5% of foreign exchange generation on account of frozen prawns and cephalopods. As such America’s seafood market growth in imports as a whole has is showing orbital change in quantity as well as in value which is 210% & 210% respectively. The main import is of Vannamei shrimp as a product.

Import from Japan showed the accelerated market increase in quantity and forex value which is 21% and 22% respectively. This has followed by 120% stupendous increase in quantity and 220% in value of chilled products imported from India.

Whereas import from China declined drastically reporting negative growth of 47% in quantity and 40% in terms of export earnings. However on positive note imports from South Asian countries reported profound growth for Indian seafood. For example the frozen prawn had a volume growth of 222% and 356% in foreign currency earning as compared to previous years.

As mentioned earlier USA has played major role by increasing imports from India for frozen prawn products reporting 48% and 47.5% in quantity and value. Vannamei prawns become a export leader in shrimp category reporting dispatch to many countries 40700 MT of Vannamei prawns in year 2011-12.

When exporting to middle east countries Indian exporters could realize the price by almost 26% but reported negative growth in quantity of around 13%.

India is as such not in forefront of exporting live fish however compared exponential growth reported in Frozen fish and Shrimp products live fish showed a marginal growth of 8.5% and 3% in value in year 2011-2012.
Radical reduction in dried fish trend was seen last year i.e. in terms of quantity it was negative 32% on value it was 41% decline and in value it was 44%. As such dried fish from India had the good demand from Asian countries but the reason for decline was unknown.
The details are given in the following Table – 2.

**Export of Marine Products seafood type wise performance of India 2011-12**

<table>
<thead>
<tr>
<th>Item</th>
<th>% Share</th>
<th>Year 11-12</th>
<th>Year 10-11</th>
<th>difference</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>FROZENPrawn</td>
<td>Q: 22</td>
<td>189125</td>
<td>151465</td>
<td>37660</td>
<td>24.86</td>
</tr>
<tr>
<td></td>
<td>V: 49.26</td>
<td>8175.26</td>
<td>5718.13</td>
<td>2457.13</td>
<td>42.97</td>
</tr>
<tr>
<td></td>
<td>$: 49.63</td>
<td>1741.20</td>
<td>1261.81</td>
<td>479.39</td>
<td>37.99</td>
</tr>
<tr>
<td>FROZENFISH</td>
<td>Q: 40</td>
<td>347118</td>
<td>312358</td>
<td>34759</td>
<td>11.13</td>
</tr>
<tr>
<td></td>
<td>V: 19.79</td>
<td>3284.15</td>
<td>2623.89</td>
<td>660.25</td>
<td>25.16</td>
</tr>
<tr>
<td></td>
<td>$: 19.48</td>
<td>683.50</td>
<td>583.48</td>
<td>100.02</td>
<td>17.14</td>
</tr>
<tr>
<td>FRCUTTLEFISH</td>
<td>Q: 6</td>
<td>54671</td>
<td>59159</td>
<td>-4488</td>
<td>-7.59</td>
</tr>
<tr>
<td></td>
<td>V: 8.11</td>
<td>1346.72</td>
<td>1104.57</td>
<td>242.15</td>
<td>21.92</td>
</tr>
<tr>
<td></td>
<td>$: 8.06</td>
<td>282.72</td>
<td>244.62</td>
<td>38.10</td>
<td>15.58</td>
</tr>
<tr>
<td>FR SQUID</td>
<td>Q: 9</td>
<td>77373</td>
<td>87579</td>
<td>-10207</td>
<td>-11.65</td>
</tr>
<tr>
<td></td>
<td>V: 7.40</td>
<td>1228.19</td>
<td>1010.57</td>
<td>217.61</td>
<td>21.53</td>
</tr>
<tr>
<td></td>
<td>$: 7.49</td>
<td>262.72</td>
<td>223.67</td>
<td>39.04</td>
<td>17.46</td>
</tr>
<tr>
<td>DRIEDITEM</td>
<td>Q: 6</td>
<td>53721</td>
<td>79059</td>
<td>-25338</td>
<td>-32.05</td>
</tr>
<tr>
<td></td>
<td>V: 3.39</td>
<td>562.65</td>
<td>954.94</td>
<td>-392.30</td>
<td>-41.08</td>
</tr>
<tr>
<td></td>
<td>$: 3.35</td>
<td>117.66</td>
<td>212.22</td>
<td>-94.56</td>
<td>-44.56</td>
</tr>
<tr>
<td>LIVEITEMS</td>
<td>Q: 0</td>
<td>4199</td>
<td>5208</td>
<td>-1009</td>
<td>-19.37</td>
</tr>
<tr>
<td></td>
<td>V: 0.93</td>
<td>154.61</td>
<td>142.15</td>
<td>12.45</td>
<td>8.76</td>
</tr>
<tr>
<td></td>
<td>$: 0.93</td>
<td>32.46</td>
<td>31.46</td>
<td>1.00</td>
<td>3.18</td>
</tr>
<tr>
<td>CHILLEDITEMS</td>
<td>Q: 2</td>
<td>21278</td>
<td>21118</td>
<td>160</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>V: 2.15</td>
<td>357.42</td>
<td>257.54</td>
<td>99.88</td>
<td>38.78</td>
</tr>
<tr>
<td></td>
<td>$: 2.11</td>
<td>74.03</td>
<td>56.93</td>
<td>17.10</td>
<td>30.03</td>
</tr>
<tr>
<td>OTHERS</td>
<td>Q: 13</td>
<td>114538</td>
<td>97145</td>
<td>17393</td>
<td>17.90</td>
</tr>
<tr>
<td></td>
<td>V: 8.97</td>
<td>1488.24</td>
<td>1089.67</td>
<td>398.57</td>
<td>36.58</td>
</tr>
<tr>
<td></td>
<td>$: 8.95</td>
<td>314.16</td>
<td>242.72</td>
<td>71.44</td>
<td>29.43</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Q: 100</td>
<td>862021</td>
<td>813091</td>
<td>48931</td>
<td>6.02</td>
</tr>
<tr>
<td></td>
<td>V: 100</td>
<td>16597.23</td>
<td>12901.47</td>
<td>3695.76</td>
<td>28.65</td>
</tr>
<tr>
<td></td>
<td>$: 100</td>
<td>3508.45</td>
<td>2856.92</td>
<td>651.53</td>
<td>22.81</td>
</tr>
</tbody>
</table>

<sup>3</sup> Seafood association of India
STATEWISE EXPORT PERFORMANCE OF MARINE PRODUCTS DURING 2011-12

<table>
<thead>
<tr>
<th>MARITIME STATE</th>
<th>QTY</th>
<th>QTY %</th>
<th>Value in Rs. Lakh</th>
<th>Value in US $ Mill</th>
<th>Value % in US $ Mill</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHERS</td>
<td>12746.00</td>
<td>1%</td>
<td>13892.84</td>
<td>28.57</td>
<td>0.8%</td>
</tr>
<tr>
<td>GOA</td>
<td>32357</td>
<td>4%</td>
<td>24951.37</td>
<td>51.87</td>
<td>1.5%</td>
</tr>
<tr>
<td>KARNATAKA</td>
<td>91967</td>
<td>11%</td>
<td>73717.01</td>
<td>154.51</td>
<td>4.4%</td>
</tr>
<tr>
<td>ORISSA</td>
<td>22778</td>
<td>3%</td>
<td>86186.44</td>
<td>184.08</td>
<td>5.2%</td>
</tr>
<tr>
<td>WEST BENGAL</td>
<td>45268</td>
<td>5%</td>
<td>124380.91</td>
<td>266.26</td>
<td>7.6%</td>
</tr>
<tr>
<td>TAMIL NADU</td>
<td>60780</td>
<td>7%</td>
<td>214488.01</td>
<td>454.03</td>
<td>12.9%</td>
</tr>
<tr>
<td>MAHARASHTRA</td>
<td>173051</td>
<td>20%</td>
<td>251886.87</td>
<td>529.42</td>
<td>15.1%</td>
</tr>
<tr>
<td>GUJARAT</td>
<td>198870</td>
<td>23%</td>
<td>259286.42</td>
<td>540.00</td>
<td>15.4%</td>
</tr>
<tr>
<td>KERALA</td>
<td>146385</td>
<td>17%</td>
<td>278238.61</td>
<td>588.82</td>
<td>16.8%</td>
</tr>
<tr>
<td>AP</td>
<td>77820</td>
<td>9%</td>
<td>332694.31</td>
<td>710.82</td>
<td>20.3%</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>862022.00</strong></td>
<td><strong>100%</strong></td>
<td><strong>1659722.79</strong></td>
<td><strong>3508.38</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 3
## Production of Fish in States During 2006 – 2011 (In milo. tonnes)

### Table 4

<table>
<thead>
<tr>
<th>State/Union Territory</th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Andrapradesh</td>
<td>856.93</td>
<td>1,010.08</td>
<td>1,252.78</td>
<td>1293.85</td>
<td>1349.94</td>
</tr>
<tr>
<td>2. Arunachal Pradesh</td>
<td>2.77</td>
<td>2.83</td>
<td>2.88</td>
<td>2.65</td>
<td>3.035</td>
</tr>
<tr>
<td>3. Assam</td>
<td>181.48</td>
<td>190.32</td>
<td>200.15</td>
<td>218.82</td>
<td>227.242</td>
</tr>
<tr>
<td>4. Bihar</td>
<td>267.04</td>
<td>319.1</td>
<td>300.65</td>
<td>297.4</td>
<td>299.91</td>
</tr>
<tr>
<td>5. Goa</td>
<td>102.39</td>
<td>33.43</td>
<td>86.21</td>
<td>84.33</td>
<td>93.27</td>
</tr>
<tr>
<td>6. Gujarat</td>
<td>747.33</td>
<td>721.91</td>
<td>765.9</td>
<td>771.52</td>
<td>774.902</td>
</tr>
<tr>
<td>7. Haryana</td>
<td>60.08</td>
<td>67.24</td>
<td>76.29</td>
<td>100.46</td>
<td>96.195</td>
</tr>
<tr>
<td>8. Himachal pradesh</td>
<td>6.89</td>
<td>7.85</td>
<td>7.79</td>
<td>7.75</td>
<td>7.381</td>
</tr>
<tr>
<td>10. Karnataka</td>
<td>292.46</td>
<td>297.69</td>
<td>361.85</td>
<td>408.05</td>
<td>481.579</td>
</tr>
<tr>
<td>11. Kerala</td>
<td>677.63</td>
<td>667.33</td>
<td>865.99</td>
<td>663.12</td>
<td>681.613</td>
</tr>
<tr>
<td>12. Madhya Pradesh</td>
<td>65.04</td>
<td>63.89</td>
<td>68.47</td>
<td>66.12</td>
<td>56.451</td>
</tr>
<tr>
<td>13. Maharashtra</td>
<td>595.94</td>
<td>556.45</td>
<td>523.1</td>
<td>538.35</td>
<td>576.987</td>
</tr>
<tr>
<td>14. Manipur</td>
<td>18.61</td>
<td>18.6</td>
<td>18.8</td>
<td>19.2</td>
<td>20.2</td>
</tr>
<tr>
<td>15. Meghalaya</td>
<td>5.49</td>
<td>4</td>
<td>3.96</td>
<td>4.21</td>
<td>4.557</td>
</tr>
<tr>
<td>16. Mizoram</td>
<td>3.76</td>
<td>3.76</td>
<td>2.89</td>
<td>3.04</td>
<td>2.901</td>
</tr>
<tr>
<td>17. Nagaland</td>
<td>5.8</td>
<td>5.8</td>
<td>6.18</td>
<td>6.36</td>
<td>6.585</td>
</tr>
<tr>
<td>18. Orissa</td>
<td>342.04</td>
<td>349.48</td>
<td>374.82</td>
<td>370.54</td>
<td>382.503</td>
</tr>
<tr>
<td>19. Punjab</td>
<td>86.7</td>
<td>78.73</td>
<td>86.21</td>
<td>122.86</td>
<td>97.04</td>
</tr>
<tr>
<td>20. Rajasthan</td>
<td>22.2</td>
<td>25.7</td>
<td>24.1</td>
<td>26.91</td>
<td>23.708</td>
</tr>
<tr>
<td>21. Sikkim</td>
<td>0.15</td>
<td>0.18</td>
<td>0.17</td>
<td>0.17</td>
<td>0.18</td>
</tr>
<tr>
<td>22. Tamil nadu</td>
<td>542.28</td>
<td>559.36</td>
<td>534.17</td>
<td>534.17</td>
<td>596.547</td>
</tr>
<tr>
<td>23. Tripura</td>
<td>28.63</td>
<td>36.25</td>
<td>36</td>
<td>42.27</td>
<td>49.231</td>
</tr>
<tr>
<td>24. Uttar Pradesh</td>
<td>306.73</td>
<td>325.95</td>
<td>349.27</td>
<td>392.93</td>
<td>417.479</td>
</tr>
<tr>
<td>25. West Bengal</td>
<td>1,359.10</td>
<td>1,447.26</td>
<td>1484</td>
<td>1505</td>
<td>1615.313</td>
</tr>
</tbody>
</table>
27. Chandigarh 0.17 0.21 0.24 0.24 0.242
28. Dadra Nagarhaveli 0.05 0.05 0.05 0.05 0.05
30. Delhi 0.61 0.61 0.72 0.72 0.82
32. Puducherry 39.66 39.01 40.3 41.94 41.949
33. Chhattisgarh 137.75 139.37 158.7 174.24 228.207
34. Uttarakhand 3.03 3.09 3.16 3.49 3.818
35. Jharkhand 34.27 67.89 75.8 70.5 71.886
Total 6,869.05 7,126.83 7,616.09 7851.61 8294.68

**Indian Seafood Exporters the Emerging Issues:**

**A. New Food and Safety Modernization Act:**

The act of FFDC i.e Federal Food Drug and Cosmetics has been amended, multiple provisions of the law can be found to original Bio-Terrorism act. The FSMA also mandates biffing up the scrutiny of food imports. For all food import consignments it has become mandatory to follow all documentation which are made to meet safety standards that are in line with or equivalent to standards of United States. The FSMA will increase frequency of inspections; recordkeeping was made mandatory, extended. Other countries governments might provide such certifications or other so-called third parties accredited in advance. In the law of FSMA the provisions have been made to certify accrediting laboratories, to testing of food, conduct sampling tests. In 2012 the inspection related law has been put in practice which requires the reregistration of all the exporting companies starting 1st Jan 2013. All companies including all Indian companies requires to be registered for every two years freshly. Presently all foreign companies who are exporting are fully registered as per Bio Terrorism act. There are 6785 Indian companies out of 275000 producers registered with FDA, there are many companies which are still to get re-register.

**B. The impact on Indian Industry: consignments to Japan an antioxidant Ethoxyquin found is an Issue:**
The Ethoxyquin is an antioxidant, found in consignment sent to Japan has jeopardised the Indian seafood exporters' business. At the beginning, Japan had already rejected over 50 shipments of shrimps exported from India, while over 100 consignments were lying in various cargo terminals in Japan awaiting for the fresh test to be done for the acceptance. This resulted in cancellation of majority of orders from Japan which has reduced the Shrimp business drastically. The shrimps cultivated from east of India has major sufferings on the business they have been asked to ensure the safety standards according to safety regulations of Japan. They will accept on seafood which has used lower key antioxidant in fish meal. Last year, Japan food safety commission has already announced revised regulations and ensured the compulsory testing for ethoxyquin in shrimp consignments from India on the basis of the default standard of 0.01 ppm. The countries exporters feel that they will not be affected these norms of safety standards and business will not be made suffer on these grounds. It has further worsen the issue of drastic price reduction of shrimp in the Indian local market. Ethoxyquin is a quinolone based antioxidant and an important ingredient in shrimp feed with almost all shrimp units in India using it. Japan permits a minimum residue level of 1 ppm for fish. There is complete embargo put by all Japanese importers, have asked not to ship any cargo till case is sorted. Odisha and West Bengal regions were the most affected areas which made suffered almost 1,00,000 families involved in aquaculture. As per records around 80 per cent of the black tiger type of shrimp produced in these regions are regularly getting exported to Japan. The news has spread in the world in Seafood Industry and it has further affected the demand of shrimps from India. Based on this news the European importers acted very quickly and also stopped the imports of the shrimps from India which was again a big blow to India seafood export. It has shattered the image of India is another challenge for face lifting. Requirements of registration under the old Bio-Terrorism Act, a changed Food Drug and Cosmetics Act and the new FSMA call for the appointment of a United states agent for communications with FDA. The most important responsibility of agent has always been to act as a single window to communicate between the foreign food supplier and the United states FDA. Therefore in most cases the Indian companies tend to appoint the American importer as an agent to communicate with American FDA.

C. Issues of Seafood trade with importing countries

Indian seafood exporters often face certain obstacles in their attempts to capture markets. Common problems include the lack of awareness on customs procedures, frequent rate changes in customs and other levies, procedural complications with regards to customs, absence of a special nodal agency in the importing country ambiguity regarding international standard, discriminatory testing norms compared to competitors, unfamiliarity with various rules and regulations and frequent changes in polices of importing countries without any advance information. Recent changes in specification and regulations of some of our important markets
such as the EU and the US have highlighted the need to address trade impediments in a systematic manner. Although Indian seafood has a strong footing in the EU market the continuing economic slowdown has started affecting our seafood exports.

Going through their requirements, it is evident that China has also changed the parameters of testing the fish in prescribed form, on account of this one more challenge is required to be faced by Indian exporters. These difficulties can only be overcome against strict adherence of the norms and testing of fish according to country related standards.

**D. The Foreign Supplier Verification Program (FSVP):**

The basic purpose is to verify activities on the part of the food supplier and on administrative burden is put on the importer. Implementation of rule, all though it has not yet been released, it has been clearly identified as expensive program. The food has to be manufactured according to the hazard analysis and preventive control requirements hence this program has been designed to ensure that importers have in place internal controls to verify that the food they bring into the United States is not adulterated. The expectation is that The law's by itself inflexible requirements which may result into increasing significant additional expenses for importers, these expenses in turn have the potential to impact foreign exporters. This program uses the tool of self-implementation coming to force from beginning of this year, however unless the rule has been finalized the importer are unlikely to take any further action for its implementation. It is also unclear that this may happen on self-certification basis. But it will certainly have the eventual consequences on importers or exporters not have an instant impact, which may be significant. In any case compliance to FSVP is mandatory.

The provisionsunder thevariousWorld trade agreements have impacted the different dimensions onthefisheries sector. Theagreement hascreated opportunitiesas well as invitedthreats. Itissignificantto note that the sectorhas performed impressively in terms of exports growth and increased diversification in commodity and countries exported.

However there are manychallengesfacedby Indianfisheries trade inrelationto the NAMA, Technicaland barriers which are non-technical to trade, Subsidies, Anti-dumping, measures to sanitary and phyto-Sanitary, domestic trade and Free Trade Agreements. The major implications are discussed below.

**E. Tariff Barriers:**
As far as United States and Japan is concerned these tariff trade is not considered as a major trader barrier to Indian seafood industry. But is acting as a trade barriers in many developing countries like Europe, China and Asian countries. European Union has nominated inspection agency. Export certification of all processing plants is required while dispatching any seafood consignment to Europe. One cannot ignore the fact that European Union is biggest seafood importer from India. Indian agency is the Export Inspection Council (EIC) However with regards to Exim policy of India it has been mentioned that all marine products can be exported freely but not without pre-inspection certification given by Inspection Authority of India. There can be few exceptions made which depends up on the processing unit certification, product and the country of export. The wild life protection act of 1972 has the mention of this clause. Indian seafood has the product mix of frozen fish, cephalopods, shrimps and value added products these verities account for around 90% exports of Indian seafood. The third largest importer is Japan for Indian seafood exports which attracts 4.1% tariff rate in Japan. Second biggest Indian seafood importer is America charges nominal duty of 1 percent. Further, European Union, being the volume importers, have tariff duty of 10.2% as an average, China also follows the same, European Union, Japan and preferential tariff treatment for the trade is given by United States according to generalized system of preferences also called as GSP but the tariff rate of 18% is on Indian products including seafood which is the height tariff as compared to other countries.

**F. Non Tariff Barriers:**

As per the European Union requirements, on 17 August 2001 Indian government has issued a notification giving specification of the limits for various heavy metal residues and antibiotics, pesticide in seafood products. As per EXIM Policy of Government of India the International Organization for Standardization (ISO) 9000 has been recognized. Exporters together with seafood processors, avail special incentives if these companies are working according to ISO 9000. As per Indian EXIM policy, exporting organizations having ISO 9000 certification were awarded “special Import License” (SIL) to import up to five% of their f.o.b. value. Due to number of several consignments of refutation of Seafood importers in past especially in the European Union countries based on finding out the prohibited carcinogenic antibiotics similar to nitro-furan and chloramphenicol in addition to extra bacterial inhibitors similar to aminoglycosides and macrolides. Hence the assessment of companies under ISO 9000 has become
mandatory for all exporters which gives high credibility to Indian exporters in the international markets. Most of the Multinational companies are having this credibility.

G. Subsidiaries for India:
As such the fisheries subsidies are not in big value, from an over-fishing and overcapacity viewpoint, the role of marine industry is to get better recognized with in India. Given a demarcation of the outline of SCM Agreement, export subsidies are prohibited even if the government treats yearly budget plan of Marine Products.

In India the legal administration of (FDI) foreign investment has undergone recent changes. This has made possible to stop other countries to do excess fishing in Indian EEZ. The scheme like buy back of vessels was launched with the intention of curbing the local fishing capacity, for e.g. In Indian waters countries like South Korea and Taiwan could have no result in such fishing, while vessel owners of distant water fishing nations are given the subsidies who can interested in transferring their excess fishing capacity to exporting companies in India.

The subsidy has been prohibited by the marine product development authority. The careful analysis of all the existing schemes shows that the attribution of this incentives is not more than half percent of total export value of India’s seafood export so, it has not been welcomed by exporters. There are many incidences of misusing subsidy schemes by fishermen themselves in India. The trawler owners and operators has left decision to individual level of they should take the fishing trip or not based on subsidies on fuel in view of tax earnings to be waived off are given in many other states in India by may fishing industries which is a vital criteria for most of the fisherman to decide. Though many times, the reason for giving incentive schemes may not be legitimate but based purely on political, social contemplation. Generally fuel quota is in the name of owner of trawler or vessel which acts in his favor to get benefit in such a transaction, owner and the crew members are sharing the cost of operations among themselves. It generally seen that illegally, the trawler owners will always like to buy the fuel for fishing through available resources and also sell their fuel quota to the buyers in local markets. They enjoys these benefits by selling of his fuel quota in the open market as there are many awaiting to get the fuel at the cheaper cost, and his cost of running and operational cost of fishing which includes fuel cost, are
together spread as a common expense between workers and the owners. Here in this cost issue, the operator of the fishing vessel / trawler bearing partially bearing the costs of operations.

Whether, nature of fisheries are aiming for huge or medium volumes or value for fisheries, for both rich and poor fishers, the entry to fishery is free of charge. So there is no accessibility & cost issue for entry.

Government has to put some norms effectively to stop competition for the local fisheries assets within local area, which predominantly addresses the issues of vessels less than 20 meters length. The aim is to stop the conflicts arisen by the foreign vessels sailing in India EEZ zones. Gaining unfair access fishing vessels is a major issue to the national resources. Prevention of subsidized to distant water, within national legislation there has to be protection procedures included to stop these activities in legal way.

**Eco-labeling:**

Multiple concerns regarding the implications of voluntary Eco - labeling for the small-scale and in developing countries fisheries are getting articulated, specifically in regard of the eco labeling program for fisheries established by MSC in 1997.

Till 2002 from developing countries none of the fisheries were certified for eco-labeling, in spite of market demand and the organizations from many parts of the world for MSC certification from India except from couple of village like Tuticorin in Tamilnadu -specific crab, sardine and mackerel. There are multidimensional concerns about Eco-labeling in developing countries  As far as Indian is concern it has a threat of losing the market to many developed countries jeopardy the business on account of eco-labelling. Developed countries are having increasing preference of eco-labelling. Now the concern here is cost aspect in order to be in line with eco-labeling standards of the world. It demand complete process change of manufacturing and cultivating, there by investment related to it. In order to compensate their higher costs of certification and they can go for certification. Last but not the least as the certification of unit is seafood there is a doubt of implementation of eco-labeling in product fisheries.

**Maharashtra fishery Industry:**
Maharashtra has profound size of pie among Indian’s total production of marine fish, through its God gifted 728 kilometers of sea cost blessed with fishing area of 111500 sq. km. Though over past two decades, Maharashtra enjoys a major pie in seafood industry there has been sharp declined in marine production of India.

In Maharashtra area near Mumbai and district of Thane are among the most potential areas contributing big volume out of the total Maharashtra fish production. In this state of Maharashtra, more than 32 inland marine fish varieties available. Some prominent fish is, prawns, shrimps, harpodon, bombil, neherias, otalithes, ribbon fish, pomfretsanchoviella, cattle fish and mackerel collectively accounts for more than over 65% production is allocated out of total local fish of Maharashtra.

Illegal fishing is the main challenge addressed by the marine fisheries of Maharashtra which directly attributes to reduction of local sea wealth on account of foreign trawlers / vessels and trawlers belonging to other states who creates the immense pressure of the on the coast line of Maharashtra. Which ultimately resulted reduction in marine fish production of Maharashtra and has hampered the fast growth during the last twenty thirty years. With the intention of understanding and to handle this challenge, Govt. of India and Govt of Maharashtra needs to have serious intervention and introduce concepts of creating various Zones in sea cost in the fishing policy of India. There is no system or procedure to check the weakening of marine resources. Truly speaking, for exploiting the deep sea resources, the current situation of fishing vessels / trawlers available in state does not qualify or has this competence.

The training is another challenge faced by the fishing industry along with exposure levels and the sophistication levels. There is no increase in number of such schools in last 30 years, hence needs immediate attention, it has attended the stagnancy. The sharp reduction in local water area and reducing numbers of fish curing yards in the state. It is quite disturbing to see the unpromising future. It is needles to emphasize that the seafood vertical and government department has to develop fisheries sector in production areas of fresh water shrimp culture, seed production of carp fish, independent fish farming and aquarium management skills needs to be developed. These department together has to develop and strengthen the various training program relating fishery industry, there is ardent need to educate fishing techniques which are
latest and marketing management of fish to fishermen and to dissemination the required information.

Employment of modern technologies, innovativeness, and motivation to industry is going to play an important role along with requirement for more innovative ideas to be implemented in this sector, transmission technology to this industry extending the same to workers for skill development and for their implementation. Training needs of fishermen, educating fisherman on scientific techniques to be adapted and their impact on production with its efficacy to be practice. Next important is active participation in media preferably public will help to generate more revenue it has proven relationships with each other. Also one should not ignore the power of IT sector help to see and create the real time market happening, may be cooperative business models can be also adopted, introduction of new communication technology, like GPRS, installation of related software systems for real time marketing information to fish man are the biggest impediments in today’s seafood industry in Maharashtra.

**Need of Study:**

The present study was undertaken for the benefit of Seafood export industry in Maharashtra to specifically identify the improvement areas which will help to increase the revenues and bring the orbital changes. As such there is an increasing demand in overseas markets for the sea food products. The study focuses on finding out the gaps between the demand the availability contemporary of products.

In daily business pressures may make management latent to look at the influencing parameters concerning to their business independently.
Thus, the parameter which are influencing Quality, Packing, Logistic, Credit facility, Branding, Advertising & Promotion, Competitive advantages, Technology and Pricing, New Product development, Value added products etc. are taken for this study neutrally.

This Thesis “IMPACT OF INTERNATIONAL MARKETING ON SEAFOOD EXPORTS TO INCREASE REVENUE OF SEAFOOD EXPORTERS: A STUDY w.r.t. MAHARASHTRA’S SEAFOOD EXPORTERS” tries to help those, responsible for changing the export climate in seafood industry and want to realize the importance of impact of international marketing on their business. The study tries to identify the areas improvement and the suggestions have been given for its implementation.

**Statement of Problem:** The major problems of international marketing arise from environmental differences. The success in overseas markets, therefore, depends considerably on the amount of knowledge the exporter possesses, with regard to factors included in PESTLE with some addition of variables like competition, culture, international marketing systems etc. The overseas market must be understood in the right perspective, since these differ in a variety of ways they have direct relation and relative importance and the impact of above factors on each other. The ignorance about the complexities of the foreign market is suicidal. Further, the degree of involvement concerning various areas of marketing research expresses the seriousness attached of that activity by the export firms. Hence to evaluate the seriousness of the impact the focus is on in collecting various information such as political, cultural, social, market, business practices, competition, economic are included.

Maharashtra having wealth of 740 Km of coastline access calls for careful study for promoting these products in international markets according to international standards. Hence sample of exporters in nearby Mumbai & Thane area are taken to understand their needs, issues, Govt. policies there in the changes required & the influencing factors for orbital change in growth.

**Challenges for increasing the export from Indian seafood industries:**

1) **Under utilization of processing capacity:**
Currently, the seafood industry is not running under its full capacity. Hence, the quantum of export is limited. It is definitely possible to increase the capacity/day as we have a plenty of raw
material available both from aquaculture and marine sector. (Give some data on current capacity and export: Reference: MPEDA)

2) **Sustainability and environmental friendly issues:**
In India, very little attention is paid towards the sustainability and environmental friendly measures. Irresponsible harvesting of juveniles of shrimp and fishes leads to depletion of fish resources. Hence, sustainability of fishery resources is very crucial for maintaining a sustainable production from seafood industry. If this issue is not taken care off, the importing countries may impose ban on the export of certain fish products which are not harvested sustainably. The recent introduction of ‘Catch Certificate’ system to Indian fisherman by MPEDA for addressing illegal, unreported and unregulated (IUU) catch issues may be used as a step to tap this sustainability issue in long term.

3) **Very low level of Value addition and product diversification:**
The export from Indian seafood industry is mainly concentrated on frozen shrimp, cephalopods, and fish. Very little attention has been paid towards the production and export of value added and diversified products. Most of the units are engaged in frozen whole and gutted forms of fish. Out of 479 units in India, only 0.5 % are engaged in the export of speciality products and 3% are exporting canned fish products.

4) *Adopting advanced Fish preservation techniques:*
Today’s consumers are demanding high nutritional and safe products with minimum changes in nutritional and sensory changes. Thus, non thermal preservation technologies are becoming important. The producers can adopt innovative fish processing technologies to supply a commodity with minimum changes that from original raw material.

5) **Prevailing Quality and safety issues :**
Although quality control measures like HACCP, GMP, SSOP are introduced in the Industry very early, still various quality and safety issues prevail leading to frequent rejection. Major causes for rejection include microbial contamination, violation of histamine content, heavy metals,
antibiotics and pesticide residues etc. Different importing countries have different standards and guidelines for this contaminants.

6) **Competition from other countries and capture of new markets:**

The industry should deliver to the expectations of the importing countries to overcome the strong competition from other countries. Majority of the South-East Asian countries are outplaying India in terms of the export earnings mainly due to their ability to supply consistently high quality product and diversified value added products. India is concentrating the export to mainly EU, USA, Japan and to China. It has to look for new markets like Latin America, Africa, parts of Asia and Oceania

This study is mainly conducted keeping in mind the prospective international markets which outlines the influence of marketing on the specific determinants as mentioned in objectives. Using the background literature and assistance of people's expertise in business practices and international business. For example impact of International marketing on seafood exporters to increase revenue and the influence of Quality, Packing, Logistic, Credit facility, Branding, Advertising & Promotion, Competitive advantages, Technology and Pricing etc.

Making use and taking assistance of people's expertise in business practices and international business and the background literature and, important a list of marketing variables on the firm's export offering has been developed. This listing was then checked in personal interviews with the executives of exporting small and medium-sized firms as to its completeness.

**As a result, the following listing of Possible Problems or Information Areas are: -**

1) Problems in live fish trade
   a) No exports are taking place as off date
   b) Packing and Transportation of live fish
   c) Industry at an infant stage

2) Diversified Products
   a) Most of the exporters are presently only IQF (Individual Quick Freezing) products instead of value added
3) Seafood Analog Products
   a) Only one manufacturer in India means almost no existence of this high demand export product.

4) Products manufactured out of Fish Waste
   a) No fish waste utilization

5) No manufacturer has any kind of tie up with any International Company.

6) Apart from attending / participating in international exhibitions no other or specific initiative is taken for International Marketing.

7) Compared to International players India lacks in
   a) creating awareness of products
   b) highlighting competencies
   c) Does not attract foreigners to visit Indian exhibition
   d) No value added products
   e) Inconsistency of supply
   f) Latest Technology
   g) Inconsistency in packing material and new material availability
   h) Weak Branding
   i) No serious support, efforts, preemptive measures plans & assistance by government bodies to boost seafood industry exports.
      • No restriction on fishing methods
      • No restrictions on net size
      • No restrictions on catching juveniles.

8) Majority of Business is done in Bulk packing

9) Issues in Logistic: Efficient Infrastructure, Congestion & strikes at cargo

10) High input cost on account of Electricity, inefficient Labour, diesel, overfishing in breeding season and early mortality Syndrome.