India Globalisation Project
Preliminary work for the state of Orissa

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By

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Executive Summary

1. Export of fish and fish products have grown rapidly in the state of Orissa. In the last decade the export value has grown by more than three folds whereas the quantity has grown by more than one and half times.
2. In the previous year the total exports of fish and fish products from Orissa was more than 3.7 billion of rupees and more than 10,000 metric tons.
3. There is no point of export of marine products in Orissa, hence all the export items have to be go via the ports in the neighbouring states. The major port of export for fish and fish product from Orissa is Vishakhapatanam (conducting 70% of the volumes of Business), followed by Kolkata (27%) and Chennai (about 3%).
4. There are as many as 25 registered export firms and 17 registered processing plants involved in export of marine products from the state.
5. The major items exported are frozen Shrimps, Scampi, Pomfrets, Ribbon fish, Seer fish, Cuttle fish, Crab and processed items like Cooked Shrimp, Fish Maws, and dry fish.
6. These products are exported to markets like Japan, The USA, The European Union countries, China, Far eastern countries, Gulf counties, Australia, Canada and others.
7. Frozen shrimp is the overwhelmingly dominating item of export among the marine products exported from Orissa, making up more than 75% in volume and 95% in value of the total exports.
8. Japan is the largest importer of higher valued items like shrimps and Pomfrets followed by the USA and the EU, where as China is the largest market for the lower value items like Ribbon fish and Dry fish followed by the other South East Asian countries.
9. In the recent years there have been a lot of changes in the processing industry, mostly in terms of quality improvement and hygiene maintenance. There was a period in 1996-98 when the import from India was banned by the EU countries and The US, because of the poor quality of handling and processing operations resulting in poor quality of exports. Subsequently, most export firms have complied with the quality standards of these countries and the ban on imports has been lifted.
10. Now there is stricter enforcement of quality standards in the export firms through the prescribed National standards by the GOI. It is monitored jointly by the Export Inspection Agency and the Marine Products Exports Development Authority.
11. All this has resulted in higher quality products, accepted universally, and also the emphasis on more product development and value addition.
12. At the same time there is higher cost of production and more investment for the industry, whereas there is no additional returns as the price have fallen rather than growing in the international markets.
13. Due to some fiscal problems the market in China for the lower value product has gone down which has resulted in even greater emphasis on shrimps.
14. Over all scenario of exports of fish and fish products from the state looks promising.

Main Report

Section 1: Background

At a workshop organised by the Natural Resources Institute (UK) in Visakhapatnam (India, 21-22 June 2001), it was agreed that Catalyst Management Services Pvt. Ltd. (CMS) would undertake certain preliminary work in connection with the project, identifying the major items of export from the state of Orissa and mapping the flow of the products from the landing site to the point of export.

Section 2: Scope of the Study

To map the flow of fish and fish products exported from and through the state of Orissa (India); from fish landing site to (Indian) port of despatch.

The map is based on available recorded information with key informants at selected seaports, government departments/agencies, and private businesses. Gaps identified in such information will inform the nature and structure of further research.

Section 3: Methods

- Available recorded secondary information was collected from various government departments and institutes through personal visits and interviews of government officials.
- Various publications by the fisheries department and other central institutes were referred to.
- A number of export firms and processing plants were visited both in the state of Orissa and Andhra Pradesh, and their key staff were interviewed.
- Visits were also made to the major fishing harbours, and a number of boat owners and agents in the harbours were interviewed.

Limitations:

1. Information available from ports was limited.
2. There was no reliable record of the prices, cost and margins at the various points in the supply chain. Figures in the present report are estimations based on information obtained through discussions.
3. The study did not include fieldwork with any people involved in fishing or processing.

Section 4: Introduction

General information about Orissa

Orissa with its 480 kms of coastline and 24,000 sq. kms. of continental shelf[1] has six coastal districts viz. Balasore, Bhadrak, Kendrapara, Jagatsinghpur, Puri and Ganjam. It is one of the main maritime states in eastern India, with 8% of the coastline and 4.5% of the country's continental shelf. It has 329 fisherman villages with a total population of 175,000, dependent mainly on marine resources for livelihoods. Orissa has 4 fishing harbours, 23 jetties, and 66 fish landing centers[2].

The coast (of Orissa) can be divided into two regions, the north comprising (Balasore, Bhadrak and Kendrapara districts) and the south (Jagatsinghpur, Puri and Ganjam districts). The north is shallow muddy and calm with extensive river deltas, and the south has surf beaten beaches. The Chilika Lagoon (Ganjam-Khurda Districts) is the largest of its kind with a minimum water spread area of 1035 sq kms opening to the Bay of Bengal. 128 fishing villages with more than 100,000 people are almost solely dependent on fisheries[3].

Marine Capture Fisheries:

Marine capture fisheries can be divided into two main categories, namely
1. Coastal or, inshore
2. Deep sea

Fishing in the coastal area within 30 Kms of the coast line is the most important sub-sector of the fisheries industry. Fishing vessels range from traditional non-mechanized crafts ('huli' and 'dingi') to medium size trawlers (SONA boats). Coastal fishing has always been the main focus of fishing activities and resources are intensively exploited, resulting in increase in production (last 5-10 year period); with a catch of 156,000 Metric Tons (1997-98) as against the maximum sustainable yield estimated to be 125,000 MTs. Of these, almost 65% is the capture of mechanized vessels and the rest of non-mechanised boats[4]. Inshore fisheries in Orissa has crossed sustainable production levels.

Deep Sea vessels operate beyond 22 kms from the shoreline. No license has been issued to any deep sea-fishing vessel under the Orissa Marine Fisheries Regulation Act (OMFRA). There is usually confrontation with vessels from neighbouring states whose deep sea fishing encroaches on territorial waters of the state.

[1] up to 200 mt depth
[2] Fisheries Management, Monitoring, Control and Surveillance in the state of Orissa, Paper Presented by Niten Chandra , Director Fisheries, Govt. of Orissa, Feb'2000
[3] Management & Conservation of Marine resources in Orissa, Dept. of Fisheries, Govt. of Orissa, 2000
[4] Interview with Mr. Barala, JFO, Directorate of Fisheries, Govt. of Orissa

Lack of proper infrastructure, and inadequate shore facilities has resulted in very slow progress of mechanisation of traditional crafts. There is no deep sea fishing vessel in the state nor is there any plan private or public for promotion of deep sea fishing. The general status of marine fisheries is much behind other neighbouring states.

Inland fisheries and aquaculture activities:

Ongoing efforts are made for promoting inland and coastal aquaculture for domestic consumption and export. Inland fisheries can be divided into two categories, i.e. fresh water and brackish water fisheries.

The fresh water fisheries resource comprises 114,822 hectares of small and big tanks and ponds; 256,000 hectares of small, medium and large reservoirs; and 155,400 hectares of rivers and canals. The brackish water area comprises of 79,000 hectares of Chilika Lake; 297,850 hectares of estuaries; 32,587 hectares of brackish water tanks and 8,100 hectares of backwaters[5]. Most of the freshwater fish produced in Orissa is marketed in fresh form for domestic consumption; mainly towns and cities of Orissa, and Howrah (Calcutta). A small portion (10-15%) goes for drying and salting, to be sold in hilly tribal areas in and around the state, esp in North-Eastern India. The contribution of this relatively low value sector to the export market is negligible. The exception is fresh water shrimp or scampi. The state fisheries department and MPEDA have jointly taken up a fresh water aquaculture programme since 1991-92. Since then, there has been an increase in the production of scampi, and its export from the state which has risen from negligible quantities in 1992-93 to almost 215,000 kg in 2000-2001, valued at Rs. 111 million[6].

As for brackish water aquaculture, it is overwhelmingly dominated by a single species, namely the Black Tiger Prawn. This has a very high demand in the export market, and was a rapidly growing sector in the 90s. The production of aquaculture BT Prawn was non-existent in Orissa before 1991, when the state fisheries department and MPEDA initiated various schemes for promoting prawn culture. By 2000-2001, brackish water prawn culture covered 8000 hectares producing more than 600 MT of BT Prawn. The rapid growth 1991-96, was followed by stagnation. The main reasons

- The spread of viral diseases and costs thereof since 95-96 has depressed the industry.
- Unsustainable methods of cultivation by farmers, has increased vulnerability to diseases, and damaged the environment.
- Public reaction against brackish water prawn culture in the Chilika Lake, which occasionally took a violent form has led to action against illegal farming.
- Natural disasters like the 1999 cyclone and recent floods.

Recently the Supreme court has issued guidelines for brackish water aquaculture. Prawn culture will probably stay and grow, overseen by environmental concerns.

[5] Fisheries Management, Monitoring, Control and Surveillance in the state of Orissa, Paper Presented by Niten Chandra , Director Fisheries, Govt. of Orissa, Feb'2000

[6] Interview Dated 14 Aug,2001 with Mr. B C Behera, Dep. Director, MPEDA, Bhubaneshwar.

Section 5: Map of flow of export of Fish and fish products from Orissa

Exports of fish and fish products from Orissa gathered momentum only in the last decade. Before that, only very small quantities of unprocessed frozen captured prawn were exported, mainly to Japan. Till as late as 1991-92, they were the only export (of fish and fish products) from Orissa. After intensive promotion by MPEDA and influenced by the growth of exports in neighbouring states, the export value/potential of other fish like pomfret and seer was realised. Various schemes and subsidies offered by government helped. The mid 90s saw a rapid growth in export firms, and with it quantities and value. More varieties of fish and products were exported, and new destinations emerged. Ribbon fish, some other 'low value' fish and dried fish were exported to China and South East Asian and gulf countries.

Since then, exports have seen continuous growth, from 3800 MT valued at Rs. 530 million in 1990-91 to more than 10,000 MT valued at Rs. 3,800 million in 2000-2001 (Source MPEDA, Bhubaneshwar Office).

A map of flow of fish and fish products (including aquaculture) exported from or, through the state of Orissa, from fish landing site to the port of despatch is developed below, through five steps.

Step 1 : Export points

In Orissa:

Paradeep port is the only possible export port. But Paradeep does not have container services, essential for exporting food products. It cannot be used for fish and fish products. There was an attempt at making container services available at Paradeep in 1991-93[7], which failed due to lack of volumes.

Outside the state:

- In the last year, three ports were used for export of fish and fish products from Orissa, namely
    - Vishakhapatanam
    - Kolkata
    - Chennai

Table 1: Port wise export of seafood from Orissa for the year 2000-01

Name of the Port & export through this port	Vishakhapatanam	Kolkata	Chennai	Total
Quantity in Kg	7,401,645	2,878,242	364,604	10,644,491
Value of export in Rs	2,457,565,565	1,217,352,765	116,072,240	3,790,990,570
% of total exports quantity wise	70%	27%	3%	100%
% of total exports value wise	65%	32%	3%	100%

(Source MPEDA, Bhubaneshwar Office)

According to exporters, Vishakhapatanam is preferred despite higher container service charges and carrying and forwarding charges because of uncertainty in traffic to/through Kolkata. There have been instances of the road route to Kolkata being blocked for 3-4 days, unacceptable for a perishable like fish. Only export houses in the northern districts of Balasore and Bhadrak prefer Kolkata. Service charges in Chennai are the lowest in the entire eastern coast of India, and the port is preferred by some exporters.

Opinion is divided on whether Paradeep would be able to sustain container services. The official reason for non-availability of these services is that volumes of flow are too for viability. There seems to be some conflict on which comes first – a guaranteed minimum volume of flow or establishment of services. Underlying that conflict is probably the fear of established export houses that availability of container services at Paradeep could sharpen competition with new exporters attracted by the services, especially for local raw material.

[7] Statistics of Marine Products Exports, MPEDA, 1995

Step 2 Available recorded information for the last five to ten years on exports from these sea-ports:

The required information was not available (or forthcoming) from port authorities. The Marine Products Export Development Authority (MPEDA), constituted by the central government to act as a co-ordinating agency for central and state government establishments engaged in fisheries production and allied activities was the main source. The present report relies heavily on information from MPEDA Bhubaneshwar.

- There are 25 registered seafood exporters in Orissa. Four of them have lost EIA approval for non-compliance with GOI standards. (List at Annex 1.)
- A few exporters do not have processing plants of their own, and hence use plants of other exporters on a lease/hire basis. There are a total of 17 registered seafood processing plants in Orissa, of whom again four have lost EIA approval code and are therefore non-functional. (List at Annex 2.)
- Three exporters, namely the Messrs. Falcon Marine Exports Ltd, Surya Udyog Group (comprising Surya Udyog Ltd and Aaditya Udyog Ltd), and Navyuga Exports Limited control 80% of the total business. Falcon was adjudged 'best exporter' at the national level by MPEDA for making largest amount of prawn export by any single firm in the country for two consecutive years. It individually contributes almost 50% to total exports from Orissa[8].
- Choice of port depends on source of material, location of processing plant, and availability of transport services and carrying & forwarding services.

Variety of fish and fish products exported, their quantities and values

- The table below gives varieties of fish and fish products, with quantities and values, exported from Orissa in last 5 years (from 1996-97 to 2000-2001)

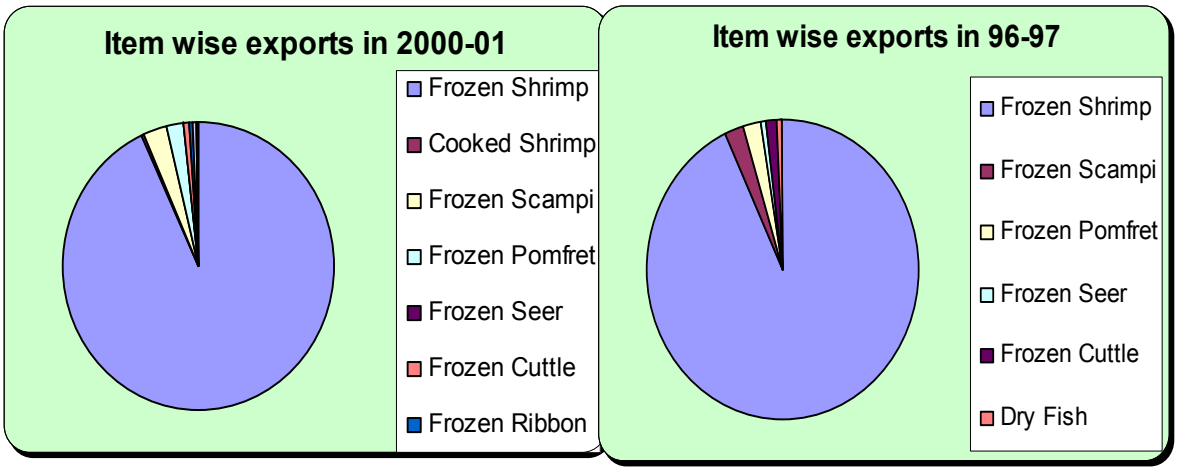
[8] Interview dated 11 August, 2001, with Mr. Rajendramany, Asst. Director, MPEDA, Bhubaneshwar

Table 2: Variety wise export of fish and fish products from Orissa in last 5 years.

Item	2000-2001			
	Qty In Millions of KGs	% share in total exports	FOB value in Million of Rs	% share in total exports
Frozen Shrimp	7.88	74.07%	3532.10	93.17%
Cooked Shrimp	0.02	0.20%	3.59	0.09%
Frozen Scampi	0.21	2.02%	111.44	2.94%
Frozen Pomfret	0.58	5.48%	76.66	2.02%
Frozen Seer Fish	0.03	0.33%	3.30	0.09%
Frozen Cuttle Fish	0.43	4.03%	25.20	0.66%
Frozen Ribbon Fish	1.18	11.07%	18.53	0.49%
Frozen Cut Crab	0.07	0.63%	7.59	0.20%
Dry Fish	0.03	0.25%	3.88	0.10%
Frozen Sole Fish	0.20	1.92%	8.70	0.23%
Total for the year	10.64		3,791	
Item	**1999-2000**			
	Qty In Millions of KGs	% share in total exports	FOB value in Million of Rs	% share in total exports
Frozen Shrimp	8.25	86%	3228.13	97%
Frozen Scampi	0.05	1%	28.71	0.85%
Frozen Pomfret	0.27	3%	26.81	0.8%
Frozen Seer Fish	0.24	3%	16.61	0.5%
Frozen Cuttle Fish	0.30	3%	15.22	0.5%
Frozen Ribbon Fish	0.40	4%	8.34	0.25%
Frozen Cut Crab	0.04	0%	5.72	0.17%
Total for the year	9.57		3,330	
Item	**1998-99**			
	Qty In Millions of KGs	% share in total exports	FOB value in Million of Rs	% share in total exports
Frozen Shrimp	7.25	77.1%	2574.56	93.5%
Frozen Scampi	0.15	1.6%	55.07	2.0%
Frozen Pomfret	0.58	6.1%	59.01	2.1%
Frozen Seer Fish	0.08	0.8%	5.27	0.2%
Frozen Cuttle Fish	0.36	3.8%	19.31	0.7%
Frozen Ribbon Fish	0.97	10.3%	37.03	1.3%
Dry Fish	0.03	0.3%	3.05	0.1%
	9.41		2753.30	

Item	1997-98			
	Qty In Millions of KGs	% share in total exports	FOB value in Million of Rs	% share in total exports
Frozen Shrimp	7.06	69.5%	2286.22	92.1%
Frozen Scampi	0.13	1.3%	48.67	2.0%
Frozen Pomfret	0.54	5.3%	52.71	2.1%
Frozen Seer Fish	0.24	2.4%	13.18	0.5%
Frozen Cuttle Fish	0.27	2.7%	12.43	0.5%
Frozen Ribbon Fish	1.66	16.4%	50.25	2.0%
Frozen Eel Fish	0.07	0.7%	2.85	0.1%
Dry Fish	0.10	1.0%	10.72	0.4%
Frozen Fish (Mixed)	0.07	0.7%	5.82	0.2%
Total for the year	10.15		2423	
Item	**1996-97**			
	Qty In Millions of KGs	% share in total exports	FOB value in Million of Rs	% share in total exports
Frozen Shrimp	7.43	77.3%	2182.33	92.5%
Cooked Shrimp	0.00	0.0%	0.00	0.0%
Frozen Scampi	0.15	1.5%	53.69	2.3%
Frozen Pomfret	0.53	5.6%	49.98	2.1%
Frozen Seer Fish	0.22	2.3%	13.90	0.6%
Frozen Cuttle Fish	0.57	5.9%	32.06	1.4%
Frozen Ribbon Fish	0.53	5.6%	11.42	0.5%
Frozen Mackarel	0.05	0.6%	4.12	0.2%
Dry Fish	0.13	1.3%	12.80	0.5%
Fish Maws	0.0002	Negl	0.0060	Negl
Total for the year	9.6		2360	

(Source : MPEDA, Bhubaneshwar Office)



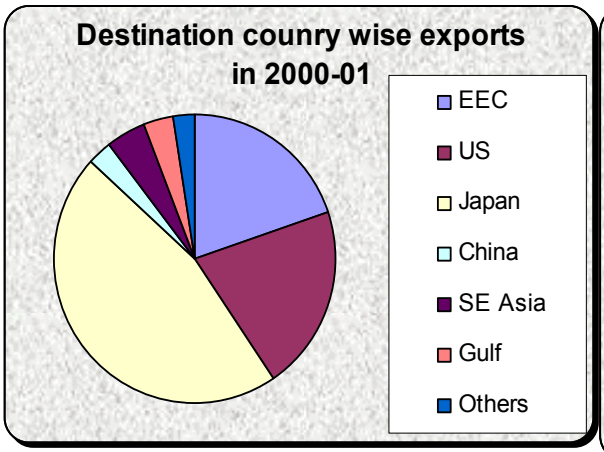
- Overall exports from Orissa have shown a continuous growth in the last 5 years, in terms of value increasing from Rs.2.3 billion (1996-97) to Rs.3.8 billion (2000-2001).
- There was a slowdown in1998-2000, when EU and US had banned fish imports from India. There was an actual fall in quantities exported, but a price rise prevented fall in value exported.
- Frozen shrimp (includes scampi) is an overwhelmingly dominating item contributing almost 95% of the total value of exports each year. There is continuous growth in value; 2.2 billion rupees 1996-97 to 3.6 billion rupees 2000-01. Quantity has stagnated at 7.4 to 8.2 thousand MT.
- Japan is the biggest market for shrimp from Orissa, the single largest buyer. Reportedly, Japanese firms have taken highest quality products and also paid the highest prices, with fewer restrictions on imports.
- But there is a growing trend of new varieties of fish and products exported for the state, e.g. cooked shrimp and frozen cut crabs in recent years.
- Frozen ribbon fish, which developed as an important export item after it found a market in China, shows a rapid growth in the initial years, reaching 16% of total export quantity wise and 2 % value wise in 1997-98, has experienced a fall after the crash of the China market. After that, it is again growing as a export item, as can be seen from the figures for the year 2000-01.
- Other major fish items like frozen pomfret and seer, have shown an increase in the absolute terms, but are stagnating in percentage contribution terms due to the rise in the contribution of shrimps.
- More details are at Annex 3.

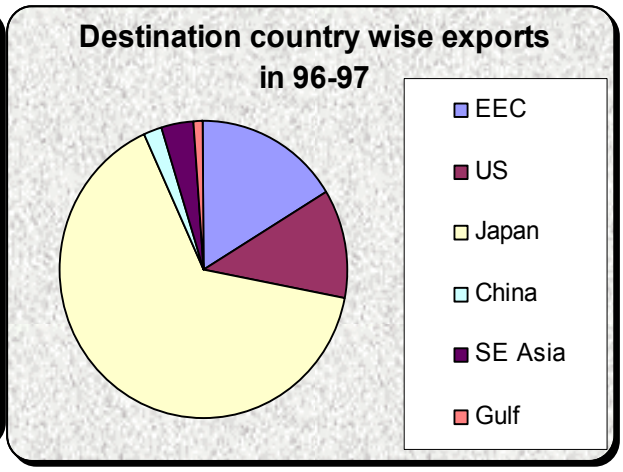
Export destinations and export procedures

- Orissa exports fish and fish products to about 20 countries all across the globe.
- Traditionally Japan, the USA and the EU countries have been the major importers from Orissa receiving about 75% of the exports from Orissa and contributing almost 85% of the total FOB value.
- The following table gives the percentage of exports to different countries/regions, from Orissa in the last five years:

Percentage of total export	2000-2001		1999-2000		1998-1999		1997-1998		1996-1997	
	Qty Wise	Value wise	Qty Wise	Value wise	Qty Wise	Value wise	Qty Wise	Value wise	Qty Wise	Value wise
EEC	17.2	19.7	14.8	14.3	7.7	6.7	4.6	4.3	21.8	16.3
US	18.8	20.9	27.1	28.8	28.0	33.5	16.9	16.5	12.5	11.7
Japan	36.0	46.1	38.4	48.0	45.1	52.7	40.4	63.4	48.8	65.0
China	13.1	2.8	9.4	2.1	10.4	1.8	20.1	3.7	8.7	2.0
S.E. Asia	5.9	4.6	4.8	3.5	4.5	2.8	8.8	5.6	6.0	3.5
Gulf	6.6	3.4	4.5	2.2	4.4	2.5	5.6	3.2	1.9	1.1
Others	2.4	2.4	1.1	1.0	0.0	0.0	3.6	3.4	0.4	0.4

(Source: MPEDA, Bhubaneshwar Office)





- It can be seen that Japan is the leading importer, followed by the USA and the EU.
- In the early 90s, Japan took as much as 85%, and was the sole buyer for most exporters. Gradually, exporters diversified to other markets and buyers.
- In the recent years USA has emerged as an important market, overtaking the EU as the second largest buyers of seafood products from Orissa.
- China is the largest market for most of the lower value fish and products like ribbon fish, cuttle fish and diverse dried fish. In the last 2-3 years there were reportedly major problems (defaults in payment) with some Chinese firms. The crash in South East Asian economies also forced some of their firms to default on payments. That led to a sharp fall in the exports to China, and SE Asian countries. Volumes and prices of fish varieties exported are reported to have gone down sharply. A recovery in 2000-01 is reported in terms of volume, but not prices.
- More information is at Annex 4.

Export Procedures

For an export license:

- The firm first has to submit to both MPEDA and the Export Inspection Agency (both central government details of the proposed processing plant layout and locations.
- EIA authorities inspect premises and the Chief Controller of imports and exports issues import/export approval (including a code number for the firm).
- The firm approaches MPEDA for registration as a marine exporter, granted after technical inspection of plant for compliance with quality conditions prescribed by the National Standards for Export of Marine products from India.
- MPEDA may suggest improvements before registration
- Generally MPEDA waits for the firm to get its first purchase order from an overseas importer before issuing certification.

Apart from these requirements, generally the following steps are to be followed in exporting a consignment:

- The overseas importer, or representative/ agents in India visit plant premises.
- A sample of the raw material and quality of processing operations is assessed.
- Based on that, price and process of transaction are negotiated.
- On some occasions, exporters visit importing firm overseas to verify credentials.
- The importer places a purchase order.
- Depending on the terms and conditions agreed, either the importer furnishes a letter of credit to the exporter's bank or, a telegraphic transmission process is agreed.
- The exporter prepares the consignment as per agreed specifications and transports the material to the carrying and forwarding agent (of the export/import agent) at the port.
- The exporter gets the bill of loading against his material and files a report with MPEDA on prescribed formats.
- Once the MPEDA certification for the consignment is obtained, it is submitted to the bank along with the bill of loading.
- Then according to whatever agreement was reached during the negotiation, the actual transaction takes place. In case of letter of credit, the importer has already placed the required amount in the Indian bank of the exporter, which is transferred to the exporters account once the sufficient documents are furnished. In telegraphic transfer arrangement, the consignment must reach the importer first, and on his satisfaction, the importer releases payment usually through the TT.

Step 3: Most exported fish varieties / products:

The three most exported items from Orissa, quantity wise are

1. *Frozen Shrimp*
2. *Frozen Ribbon Fish*
3. *Frozen pomfrets*

In terms of FOB value the three most exported varieties from Orissa are:

1. Frozen Shrimps
2. *Frozen scampi*
3. Frozen Pomfrets

Step 4: map of the flow from the harvest landing site to the port or, export point:

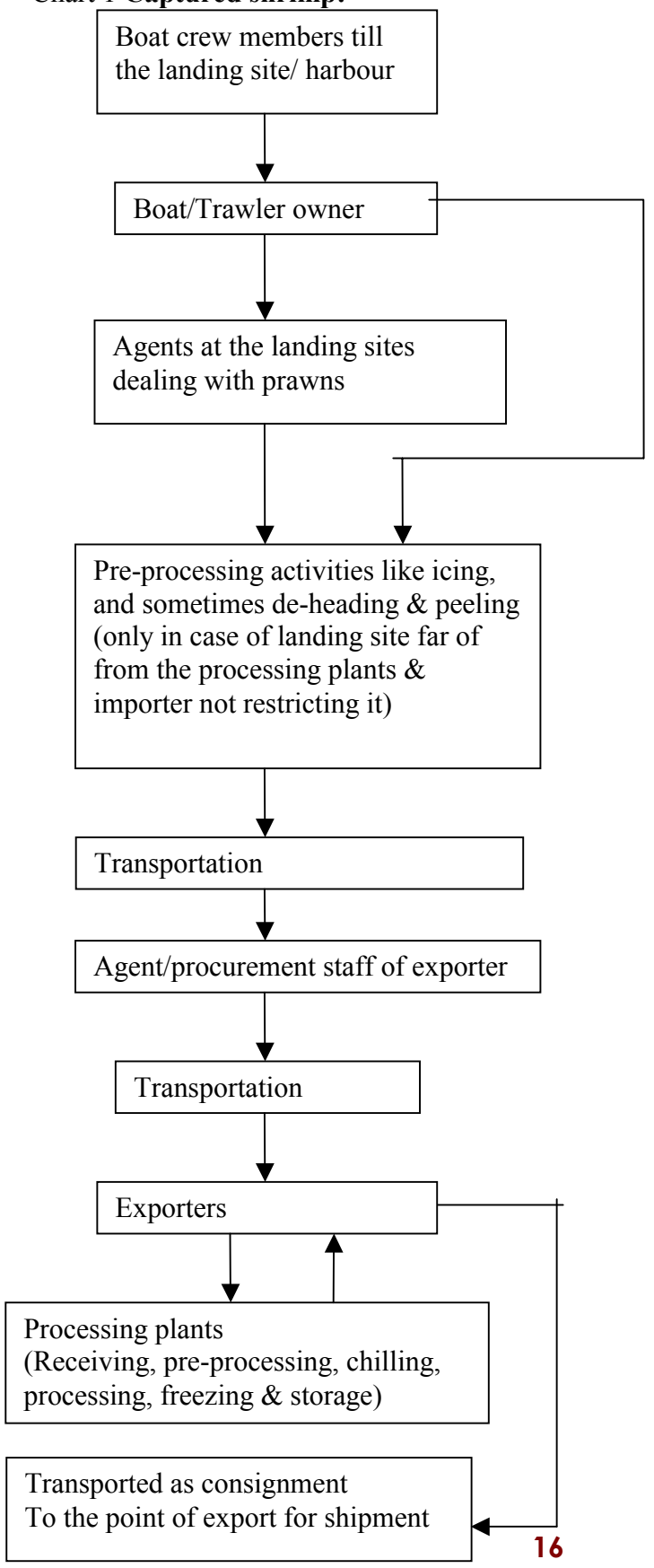
Frozen shrimp exported from Orissa includes Black Tiger prawn, (70-80%), white sea tiger prawn, pink-brown prawn and other lesser varieties. The Black Tiger prawn comes from two sources:

1. Captured from the sea
2. Cultured

Captured BT prawn and the other shrimps follow the same flowchart (with minor variations); see Chart 1 below. Cultured BT prawn follows the same supply chain route as frozen cultured scampi (sweet water prawn); see Chart 2 below.

Other exported varieties, different varieties of fish, follow a similar route from landing site to point of export. There are some differences in the way the high value fish (Pomfrets, seer; Chart 3 below) and the way low value fish (ribbon fish; see Chart 4 below) are handled. Numbers of intermediaries varies according to whether raw material is landed at a major fishing harbour or in a far away small landing site, according to facilities available at landing sites (ice, transportation, preprocessing facilities). Price and stages raw material passes through before reaching an exporter varies.

Chart 1 **Captured shrimp:**



About 1,300 trawlers and more than 10,000 other crafts (Traditional - mechanised and non-mechanised, beach landing crafts and Catamarans) operate across the coastlines, all focussing on shrimp catch.
Total shrimp catch varies between 8000 to 9000 MTs, and has stagnated in recent years. (Handbook of Fisheries Statistics Orissa, Directorate of Fisheries, 1996-97)
Price varies from Rs 100/- to Rs 850/- per kg according to the count of catch.
On-board icing and some pre-processing activity like icing and segregation according to size at landing sites is done in this stage.

The number of agents for shrimp procurement operating in different landing sites is unknown. It is estimated to be around 500.
They purchase about 80% of the total landings of shrimp.
They operate in a margin ranging from Rs.15/- to Rs.50/- per kg depending on the quality of the catch.
Bulking up of material and transportation is their responsibility.

There are 25 registered exporters of marine products dealing in shrimps. List of exporters provided in annex 1.
Export price range from $ 8 to $ 21 depending on size. There is a heavy fall in prices in recent months, with average prices ranging around $ 9 per Kg.
Export volumes of shrimp provided in table 2.

List of processors provided in Annex 2. All of them are involved in shrimp processing.
Margins up to Rs 25 – Rs 100 per kg. It is much higher for plants having EU certification.
The exporters own most plants.
Reliable information on costs not available.
But the cost of processing has gone up steeply after the EU norms are in force.
Almost the entire landing of shrimps in the state passes on to these processing plants.
The major value addition at this stage include preprocessing activities like de-heading, peeling and de-veining, processing like flake icing, grading, weighing, packing & glazing and post processing works like freezing, packaging and storage & shipment.

Information on captured Prawn:

Persons or group involved:

The crew members in the trawlers or, boats bring the catch from sea. They segregate their catch in terms of value, and items like prawn and some other high value fish are put immediately in the on-board insulated ice boxes. Once the catch is brought to the landing site, it is sold by the boat-owner to the agents dealing in prawns. In some cases, a few export companies also put their procurement staff at the harbours or, fish landing sites. Prawn being the item with highest demand is sold off immediately after landing. Generally, the boat/trawler owners take some amount in advance for the running charges like fuel etc from the agents or, the staff of the export firm. In such cases, they have an obligation to sell their catch to the same agent who has advanced them. The material is put on fresh ice and some times a few pre-processing activities are also carried out, like de-heading and peeling. After the new norms of EU and USFDA (which require all these activities to be carried out in the processing plant itself) have come to force, demand for these services has gone down drastically.

In case of harbours the agents or, staff directly transport the material in the insulated vans to the processing plant owned or, contracted by the exporter. In case of smaller landing sites, the material is taken by the local agents to the exporter's agents, who do the bulking up and send it to the exporter. Here the material is processed, packed and frozen and sent to the port of export as consignment.

Volumes: The volumes of export of frozen shrimp in quantities and values and installed capacities of the registered processing plants is provided in Annex 2 and 3.

Prices, costs and margins:

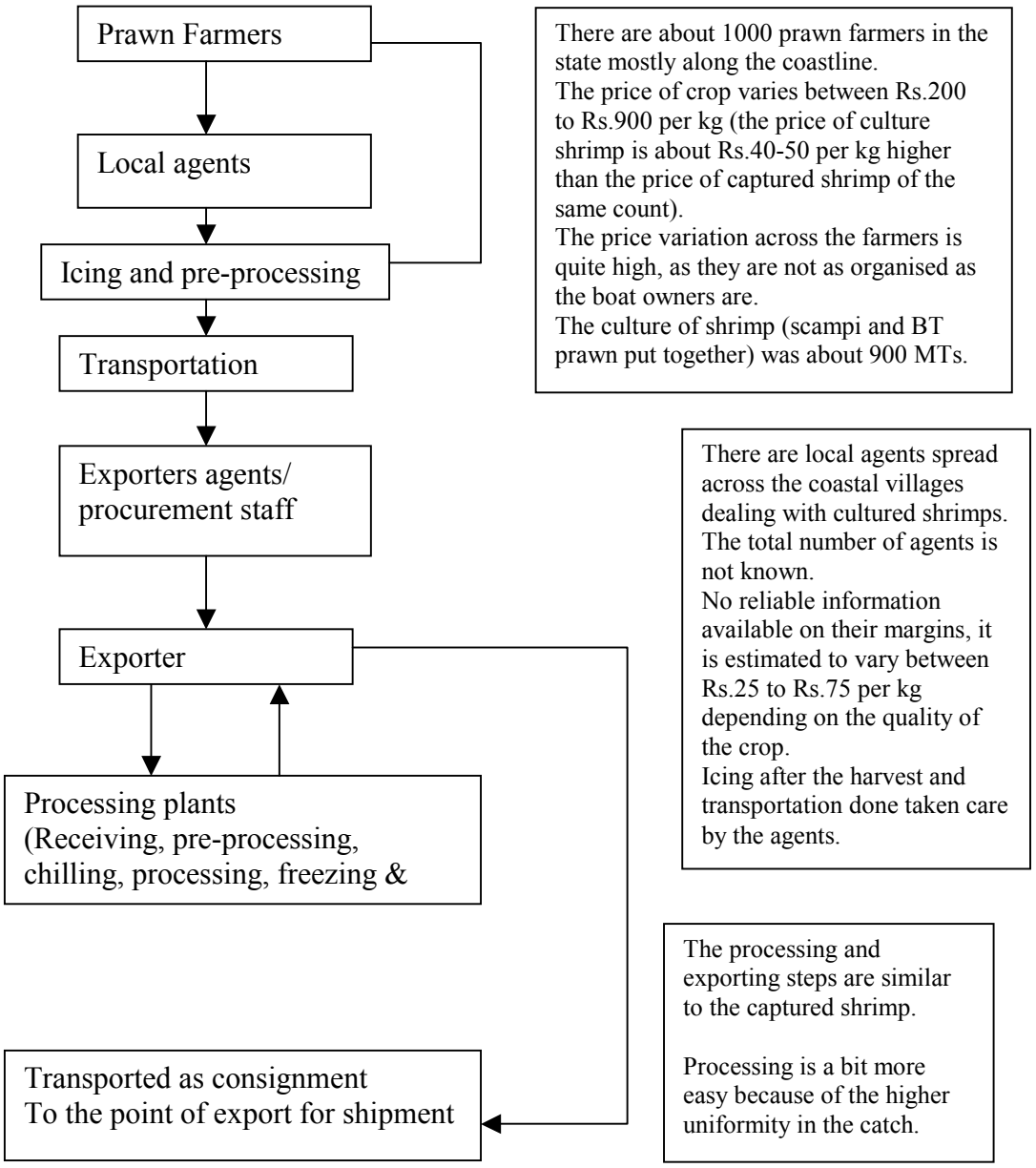
- Prices are generally determined by the prevailing international prices, which are highly fluctuating.
- The boat owners in major jetties and harbours have formed their association and fix the price for shrimps and some high value fishes in accordance with the prevailing export market price. This is done every fortnight or, month. Hence with in that period, generally the actual price of the shrimp is nearer to that prescribed by the union with minor variations.
- The count (i.e. the no of pieces making 450 gms of weight) is the largest factor that influences the price of the catch, others being the colour and freshness etc.
- There is a difference between the price that the boat owners get if they sell it directly to the exporter and that if they sell it to a middleman or, agent. This difference ranges from Rs. 15/- per kg for the highest count shrimp to Rs. 50/- per kg for lowest count. This amount is what the agents get as margins.
- If there is any pre-processing activity done in the landing site, generally the boat owner association manages it and charges extra to the buyers for it.
- The cost of transportation from the landing site to the processing plant is borne by the exporter. Mostly, the exporter makes arrangements for own insulated vans so that there is no quality deterioration during the transportation.

- In most cases the exporting firms own the processing plants. Otherwise the exporter hires the services of the processing plant of another exporter. The charges in such circumstance range from Rs. 25/- to Rs. 150/- per kg depending on the type of processing and packing required.
- The margins of the processors and the agents generally remain constant irrespective of the international price fluctuations, whereas the prices that the exporter and the boat owner get are vulnerable to fluctuations.

Trends in recent years

- The share of shrimp in the total export is increasing over the years both in terms of value and quantity. But the growth rate in quantity is much lesser than that in value of export. In fact, though there has not been any decrease in the total catch, but because of more number of players, per boat catch has reduced considerably.
- The growth in shrimp culture has affected the demand for the captured shrimp. Compared to the captured shrimp which is wild, the cultured shrimp are more homogeneous in size and quality, hence command better market.
- In the recent years there has been a lot of efforts at modernising the processing plants India, especially at systematizing shrimp processing for exports.

Chart 2 **Cultured Black Tiger and Scampi:**



Information on Cultured BT Prawn and Scampi:

Persons or, group involved:

In case of cultured BT prawn or, Scampi, the prawn farmers play the major role of producing the material. The quality and size of the produce depends a lot on how the culture activity was carried out. A number of export firms also have their own prawn culture farms, which feeds material to their processing plants. Most of these prawn culture farms are along the coastline, because of the easy availability of brackish water required for BT shrimp.

Generally the prawn farmers take money in advance either from the local agents or, from the export firms, to meet the cost of culture with a buy back arrangement. As it is a cost intensive crop, with high risk of failure most farmers do not want to take the risk of investing themselves.

Most of the time, the harvest date for the farmer is known in advance, so that the local agents / exporter's staff come to the culture farm itself and buy off the produce immediately after the catch. It is then put in Ice, and sent on insulated vans to the processing plant. The rest of the steps are similar to the captured prawn.

Volumes: The volume of cultured scampi produced in the state has been growing rapidly as it is emerging as a major item of demand in the international markets. From negligible levels of production in the early 90's it has come to 215 MTs last year. Similarly for the BT prawns the total culture crop in the previous year was about 600 MT.

Prices, costs and margins:

- The average per kg price for the cultured shrimps and scampi has always been higher than the captured item, mainly owing to overall larger size and more uniformity in quality of the produce compared to the wild captured variety.
- The margins enjoyed by the agents and the processors are also slightly higher to the captured prawn.
- The uniformity in size and quality also makes the processing much easier, and the cost of processing comes down.

Trends in recent years

The share of cultured item in the shrimp exports has been growing continuously. But the rapid growth in culture witnessed in the early 90s has slowed down because of

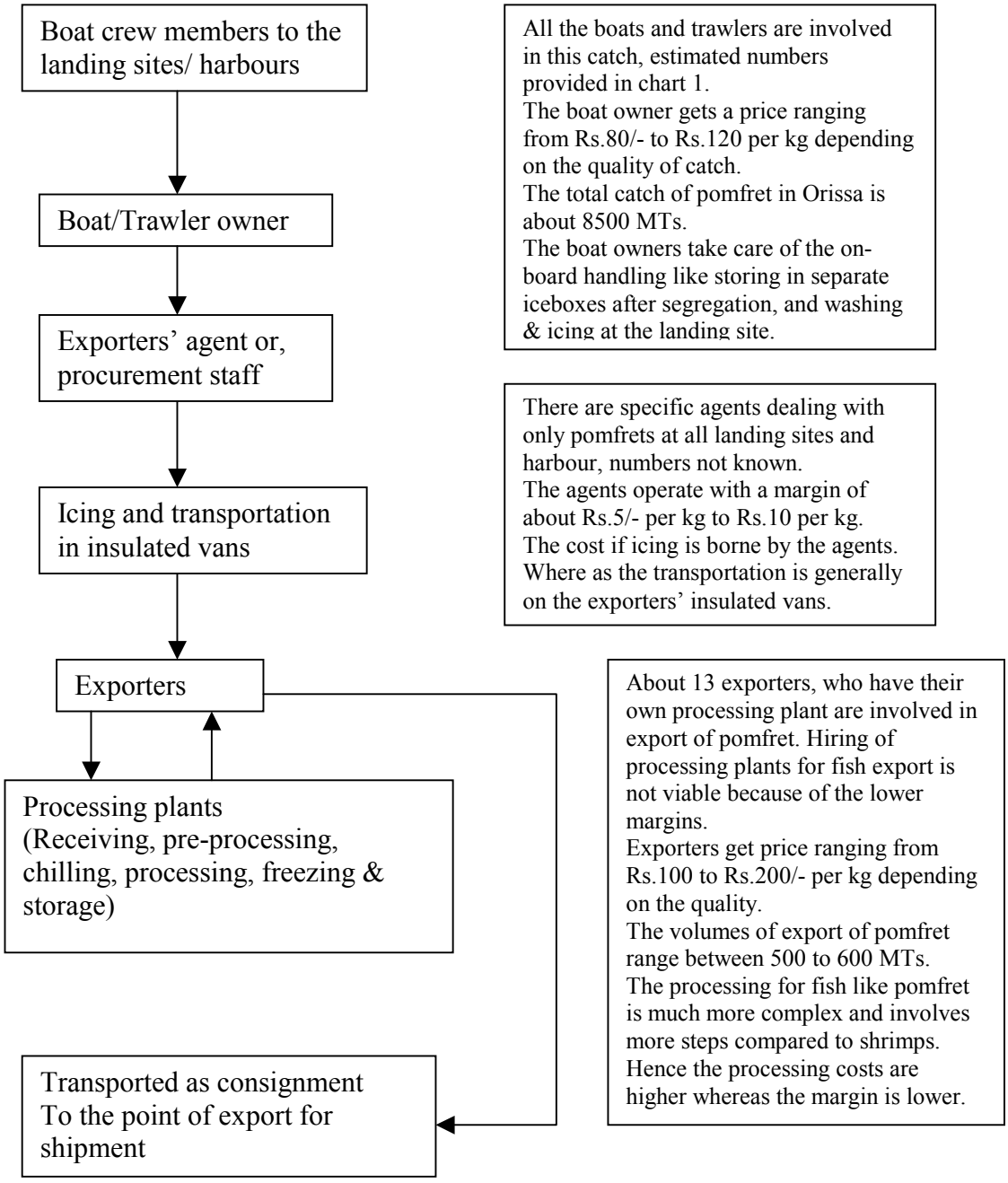
- Increased risk of disease (especially as no insurance cover is available to the farmer)
- Natural calamities causing heavy losses to the farmers.
- Unavailability of quality seed, forcing the farmers to depend on wild seeds which is banned by the government.
- Stringent control measures prescribed by the Aqua-culture Authority affecting the new entrants.

- The heavy loss suffered by many farmers has discouraged others from initiating that activity.

The lack of hatcheries has emerged as a major bottleneck in culture of prawns, especially as the collection of wild seeds has been banned for aquaculture farms as it endangers the natural multiplication of prawn.

In case of scampi culture, it is still in the promotional stages. In fact the fisheries department has schemes of introducing the culture in many interior districts of Orissa, as a major cash crop. In the future years, scampi culture is expected to grow manifolds.

Chart 3 High value fish like Pomfret

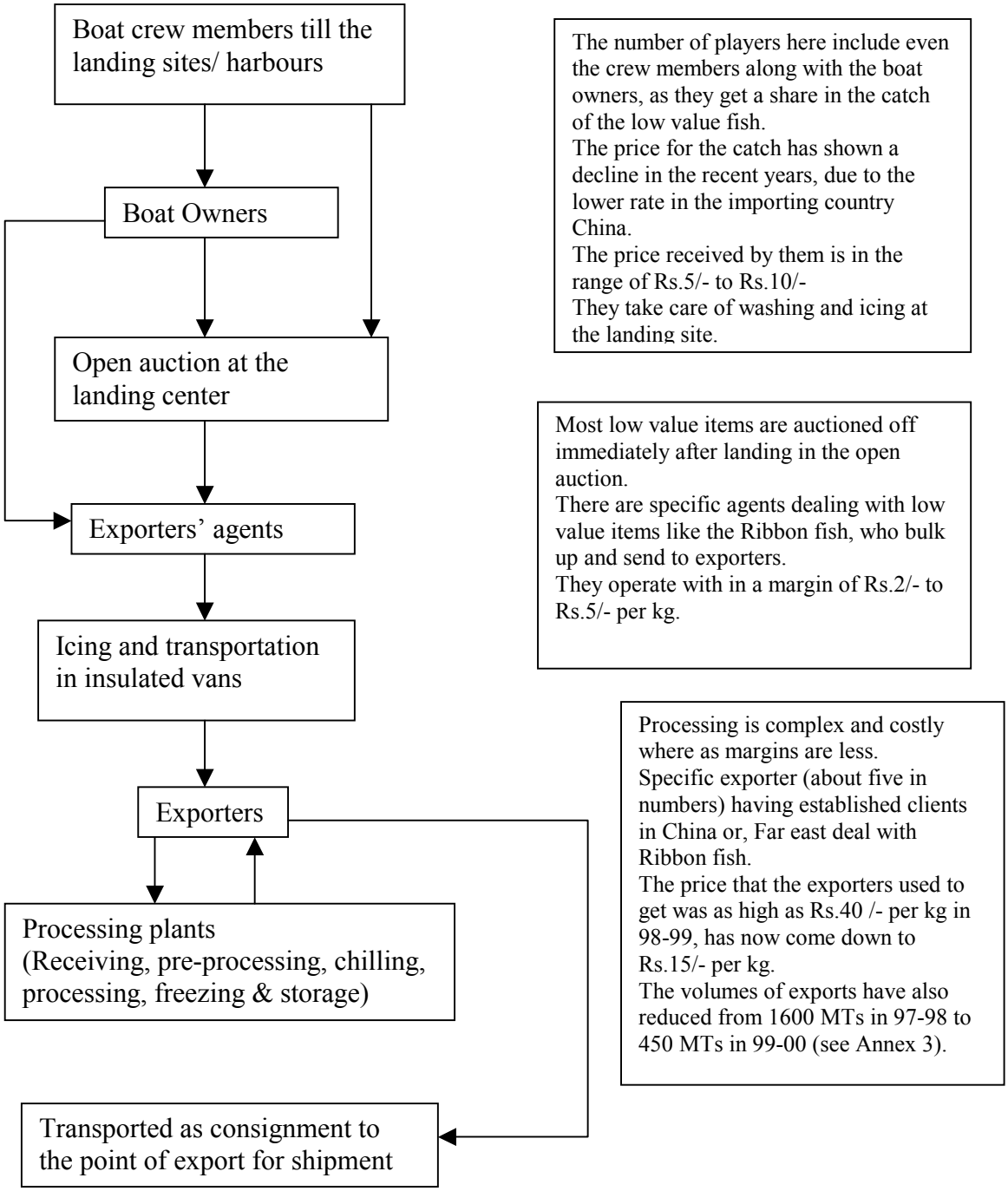


Information on Pomfret:

The supply chain of Pomfret is very similar to that of the captured shrimp in terms of handling practices and the different players involved. The points of deviation are listed below:

- There are specific agents in the landing sites and harbours who deal only in Pomfret. They purchase the material from the boat owners, bulk up and supply directly to the exporters.
- There is a lot of demand for the pomfret catch from the exporters of the outside states like Andhra Pradesh and even Tamil Nadu. A few exporters from outside the state have also appointed their own agents in the major harbours and procure at higher prices.
- But the boat owners still prefer the exporters of the state, as they can approach them for help and assistance in difficult times. Similar to the Prawn trade, here also there is the system of taking advance from the agents for the running costs and submit their catch to them after landing.
- The prices and margins available to different players in pomfret are again much lower than that of the shrimp. The boat owners receive a price of about Rs. 90/- per kg, and the agents and the processors operate with in a margin of Rs. 5/- to Rs. 10/- per kg. Such low margins makes it unviable to have many players in the supply chain, hence there is a growing trend of exporters directly procuring the material from the harbours and landing sites rather than through agents.
- The exporters get about Rs.120 to Rs.240/- per kg depending on the quality of product.
- As the handling and processing of fish items is a bit more complex and costly compared to shrimp, the exporters are primarily interested to deal in shrimp. Most of them do business in fish, mainly on demand from the clients, and increase the volume of business going in the off-season.
- In the recent years there is a trend of diversification of the clients and destination countries, as well a growing domestic demand for Pomfret and other marine fish items in the metro cities like Mumbai and Delhi. A major portion of the catch is sold in the domestic markets, and only a small fraction goes for export.

- Chart 4 Low value fish like Ribbon fish



Information on Ribbon Fish:

In the low value fish items like Ribbon fish, the boat crew members get a share of the catch from the boat owner. Generally these items are sold in open auctions in the landing centers and harbours.

There are not many layers of agents in the supply chain, due to the low margins in which the trade has to be conducted. Mostly the exporters themselves put their staff in the landing sites and harbours to procure the catch.

Ribbon fish emerged as an exportable item only in the mid 90s with the emergence of China as a major importer. It saw a rapid growth in exports in the initial years, reaching a peak in terms of quantity and value of exports in 1998-99. But due to the payment problems from the Chinese firms, the trade crashed. And from a peak value of up to Rs.40/- per kg, the price has gone down now to Rs.15/- per kg (see annex). This along with the limited market options for it has come as a major disincentive for the export of the Ribbon fish.

After the payment problems from the Chinese firms, the major exporter have stopped exporting there especially export of low value items. There are some specific exporter who have developed good relationship with few Chinese firms, doing the business in Ribbon fish. Apart from China, Hong Kong, Singapore and some other far-east countries have started import of Ribbon Fish. In the previous year, quantity wise there was a recovery in the export of Ribbon fish from the state, but the price become even lower.

Changes in the quality monitoring of the export firms:

The export of marine products has always been an important source of foreign exchange for the state. Because of this, government had turned a blind eye to the quality aspects in the processing plants. Any firm, interested in entering the business was given a license without checking its capacity and quality norms. This resulted in mushrooming of export firms in the early 90's, which saw a rapid growth in exports of fish and fish products (especially frozen shrimps) from the state. But with time, the poor hygiene conditions of the plant and poor maintenance of quality norms caught the eye of the importing countries. The European Union countries and USA started pressing the government to ensure the quality of the marine products from India. But the processing industry which was earning a huge amount of foreign exchange was given a free hand to grow. When the ban on imports from India came in 1996-97, it was a rude shock to the industry. It was realized that even other smaller countries like Bangladesh, Indonesia were producing more hygienic products than the Indian firms. Most of the export firms did take measures to improve the hygiene conditions in the processing plants, organize their activities systematically so that quality of the product can be assured. By now in the state 9 out of the 13 active processing plants have taken up HACCP (Hazard Analysis and Critical Control Points approval, mandatory for USFDA approval) and 2 plants have already got EU clearance. The government has also now come out with a revised National standards to be employed for quality checking in all processing plants across the country. The national standards cover all the basic requirements of EU standards, and are monitored by MPEDA and EIA jointly. Also MPEDA has given a deadline of September 2001 for all the plants to upgrade to the revised national standards, failing which their registration and EIA approval code would be withdrawn. In Orissa, for 4 out of the existing 17 processing plants, the EIA code has been withdrawn for failing to fulfill the national standards. More stringent actions are in the pipelines.

This has also created an entry barrier for the new firms to enter the trade. Now it requires much higher capital investments, and technical capabilities to get the EIA code of approval.

Relationship with the importing firms:

Unlike the relationship between other players in the supply chain, the relationship between the exporter and the importer in the destination country is very much businesslike. All aspects of their roles and responsibilities are clearly defined and written in a contractual agreement. None the less the faith and trust developed during the numerous interaction over the years acts as the single most important factor in smooth transaction of business. It also pays to maintain long term relationship with importing firms, as they can create more business in their countries for the exporter. Similarly, if there is a problem between the exporter and one of the importing firms, then this can cause other importers in the same country to lose faith on the export house affecting the business of the exporter. Because of the older ties that many Japanese firms have set up with the exporters from the state, it still remains the largest buyers of shrimp from Orissa. Traditionally always the Japanese firms have taken the best quality material for the highest prices.

In specific items like the ribbon fish, China is the only market for the catch. This situation results in a buyer controlled market, and the exporter have to sell the products in the China market at whatever rates available to them. This makes them vulnerable to price fluctuations in the Chinese markets.

Section 6: Some issues affecting the export of Marine products from the state

- No fishing zone (Turtle Sanctuary)

The Government of Orissa through a notification has prohibited fishing with in a seaward radius of 20 Kms from the high tide line of Orissa from Jatadhar river mouth to Devi river mouth and from Chilika mouth to the Rushikulya mouth, a length of 40 Kms, for a period of 5 months from January to May each year. This area is the site of congregation of the rare Olive riddle Sea turtle, an endangered species. But, this restriction hits the fishermen very badly, as the same area has highest concentration of high value items and also the period of ban also intersects with the peak season of fish catch. Further the government has notified the Gahirmatha (marine) wild life sanctuary, with total area of 1435 sq KM, including reserve forests (mangrove), mud flats and accreted sand bars. It restricts the fishing activities in the area.

In spite of the ban, some illegal fishing activities goes on in these areas. A state level monitoring team has been constituted to review the proper enforcement of the provisions against illegal fishing in Sea turtle congregation areas.

- TED (Turtle exclusive devices):

The USFDA regulations, makes it mandatory for each trawler to fit Turtle Exclusive Devices (TED) in the net, so that the fishing activities do not endanger the turtles. MPEDA has been providing the TEDs on a promotional basis to all trawlers. Initially, USFDA insisted on fitting the TEDs manufactured by them, but later on they have agreed to TEDs developed by Central Institute for Fisheries Engineering (CIFE) being used by the trawlers.

But the trawler owners have lots of resistance to use the TEDs as it allows a safe passage for the captured fish also while allowing the turtle to pass through. In their opinion the fish catch is reduced up to 40% if the TEDs are used. Whereas in the experiments carried out by MPEA and CIFE, the loss of fish catch is not more than 2%. MPEDA is in the process of promoting more and more use of TEDs and is also advocating with the government to bring a notification making it mandatory for the Trawlers to use TEDs.

- Lack of uniformity in rules and regulation across the coast (Orissa Vs AP/WB)

Fisheries being a state subject the monitoring activities are under the state government fisheries department. Hence according to the trawler owners, all the notification regarding the no fishing zone, use of specific mesh size and use of TEDs affect the Orissa fishermen, where as trawlers from neighbouring states regularly encroach on the territory

of Orissa with out regard for this notification. There are more numbers of trawlers from outside the state fishing in the territorial waters of Orissa than those of Orissa-fishermen. Lack of proper monitoring and inspection by the state government marine fisheries patrolling units, encourages this. This causes major loss to the fishing community in the state.

- EU norms, investments Vs. returns

The enforcement of quality norms by The European Union countries and USA has increased the cost of investment for the processing plant. There is a greater rigor at record keeping, and the number of personnel (especially technical specialists) to be employed has gone up. According to the exporters a middle sized (10 MTs per day) processing plant, requiring to upgrade itself to the EU standards has to invest up to Rs.15 millions initially, and about Rs.2.5 millions every year for maintaining the standards. There are no additional returns to the exporters for making this high level of investment, as there is hardly any difference in price offered by Japan and that offered by the EU or, the USA. In the initial years of enforcement of the regulations the first plants to upgrade their quality did get additional returns whereas later on it has ceased.

- Excessive dependence on Japan as a destination country

With more than 60% of the export (value wise) going to Japan, the exporters are very much dependent on the Japanese market for their product. Any price fluctuation there (as has been happening in recent months) hits the industry very hard. Though there have been efforts at identifying more markets, but the continuation on Japanese markets is going to be there for some time.

Traditionally the Japanese market is prone to more uncertainty and price fluctuations than the EU and US markets.

- Primary focus on prawn,

More than 90% of the exports are that of frozen shrimps and Scampi. This has led to a situation of over exploitation of the prawn resources of the state, at the same time focus at developing other value added products has lessened. Decreasing prices of prawn in international markets (due competition from other smaller countries like Thailand, Singapore, Malaysia, Bangladesh) has affected the industry so hard because there is virtually no other product to compensate for the loss.

- Issues surrounding prawn culture

The rapid growth of prawn culture, and quick income from it has led to the practice of converting paddy farms to prawn farms. A number of environmental concerns have been raised over the issue, and the Supreme Court of India has come out with certain guidelines for prawn cultivation. It has also set up an aquaculture authority to monitor the enforcement of the guidelines. On the ground implementation of these guidelines are yet to take shape, and unless measures are taken right from the beginning for this, the situation will worsen.

- Facilities available at the landing sites and fishing harbours

Lots of improvements have taken place in the processing industry to satisfy the quality norm desired by the importing countries. But in the landing sites (especially the far off and small ones) lack of facilities is hindering progress. In some sites even ice has to be procured from a distance, and transportation is not readily available. This results in deterioration of quality of the catch resulting in lower prices for the catch to the fishermen.

- Role of credit services and other supports in the supply chain

No formal finance services are available to the boat owners, which makes them dependent on the agents or, the exporters for credit and advance. This results in their obligation to submit the produce to the same party, where they lose the bargaining power for a better price. There have been some initiatives at organising the fishermen and form their association, which can take up provisioning of all essential services in the landing sites and the harbours. But a lot is yet to be done in this regard.

Annex 1

LIST OF SEA FOOD EXPORTERS FROM ORISSA

Sl. No.	Name and Address of Exporter	Name of the Chief Executive
1	M/S Suryo Udyog Limited A-68, Sahidnagar BHUBANESWAR-751007	Sri Amarendra Dash
2	M/S Aditya Udyog A-68, Sahidnagar BHUBANESWAR-751007	Smt. Annapurna Dash
3	M/S Suryo Foods & Industries Ltd A-68, Sahidnagar BHUBANESWAR-751007	Sri Amarendra Dash
4	M/S Falcon Marine Exports Ltd A-22, "Falcon House", Ist Floor, Cuttack Road, BHUBANESWAR-751006	Sri Tara Ranjan Patnaik
5	M/S Patra Exports Pvt Ltd Matimandap Sahi Puri-752001	Sri Santosh Kumar Patra
6	M/S Utkal Udyog 246, Lewis Road, BHUBANESWAR-751014	Sri Sachikanta Routray
7	M/S SK Exports Pvt Ltd 246, Lewis Road, BHUBANESWAR-751014	Sri Sachikanta Routray
8	M/S Kay Pee Exports Pvt Ltd Flat No.307 Mahadev vihar Bomikhal, Cuttack Road, BHUBANESWAR-751010	Sri Kailash Kishore Das
9	M/S Noble Aqua Pvt Ltd A-228, Sahid Nagar BHUBANESWAR-751007	Sri P K Johnson
10	M/S Seal and Fisheries Pvt Ltd A-118, Sahid Nagar BHUBANESWAR-751007	Sri Rajendra Nath Mishra
11	M/S Konark Aquatics & Exports Pvt Ltd Plot No.1, Sahid Nagar BHUBANESWAR-751007	Sri Tarakanta Mohapatra
12	M/S Bijaya Marine Products AT:Atharnala Patna PO: Gopinathpur, Dist: Puri-752002	Sri Naba Kishore Das
13	M/S K K Patnaik & Co. 308, Sahid Nagar, BHUBANESWAR-751007	Sri Klamilni klanta Patnaik

14	M/S AB Marine Products Pvt Ltd AT/PO: Panaspada, Via: Brahmagiri, Dist:Puri-752011	Sri Pradipta Kumar Sahoo
15	M/S Niladri Exports 376, Goutam Nagar, BHUBANESWAR-751014	Sri Rajeev Ray
16	M/S Sabri Food Products HIG-137, Kanan Vihar, BHUBANESWAR-751031	Sri P G Sasi
17	M/S Sri Jagannath Exports and Imports AT:Atharnalapatna PO:Gopinathpur Dist:Puri-752002	Sri Bijay Krushna Das
18	M/S S.Chanchala Combines AT:Atharnalapatna PO:Gopinathpur Dist:Puri-752002	Sri Naba Kishore Das
19	M/S Fishco Aqua Exports Pvt Ltd Chakratirtha Road, Puri-752002	Sri Bibhuti Bhusan Das
20	M/S P & P International Pvt Ltd Plot No. 1451, CDA, Sector-6 Abhinab Bidanasi, Cuttack-753014	Sri Satyasiva Patnaik
21	M/S Capital Freezing Complex 139, Sector-A, Zone-b, Mancheswar Industrial Estate, Bhubaneswar-751010	Smt Lokeswari Devi
22	M/S Essbee Marine Exports Pvt Ltd A-42,Sahid Nagar Bhubaneswar-751007	Sri Sanatan Balabantaray
23	M/S Oceanic Marketing Pvt Ltd Plot No.1451: Abhinab CDA Sector-6, Bidanasi Cuttack-753014	Sri Niranjan Mohanty
24	M/S Spak Enterprises Pvt Ltd 40-A: B J B Nagar, Bhubaneswar-751014	Sri Ajay Kumar Mahapatra
25	M/S Prag Exports Pvt Ltd Bamphi Sahi, Tala Telenga Bazar, Cuttack	Sri Parthasarathi Das

(Source : MPEDA, Bhubaneshwar Office)

Annex 2

LIST OF PROCESSING PLANT, COLD STORAGES, CHILL STORE, ICE PLANT AND PEELING SHED WITH E.I.A CODE NO. OPERATING IN ORISSA

Sl No	Name and Address	E.I.A code No.	Capacity of Processing Plant	Capacity of cold storage	Capacity of Chill room	Capacity of Peeling Shed	Capacity of Ice Plant
1	M/S Bijaya Marine Products AT:Atharnalapatna PO:Gopinathpur Dist:Puri-752002	343	09.5MT	50.0 MT	-	6.5 MT	-
2	M/S Sri Jagannath Exports and Imports., AT: Atharnalapatna, PO:Gopinathpur, Dist:Puri-752002	387	04.0 MT	40.0 MT	-	3.0 MT	-
3	M/S Chanchala Combines AT: Atharnalapatna, PO:Gopinathpur, Dist:Puri-752002	358	14.0 MT	130.0 MT	-	-	15.0 MT
4	* M/S Patra Exports Pvt Ltd At:Gokhara PO:Brahmagiri, Dist:Puri-752002	344	10.0 MT	100.0 MT	-	1.5 MT	-
5	* M/S Veejay Impex Chakratirtha Road Dist:Puri-752002	346	12.0 MT	80.0 MT	-	-	-
6	M/S Suryo Udyog Ltd Industrial Estate, Paradiph Garh, Paradip, Dist: Jagatsinghpur	335	31.5 MT	320.0 MT	-	6.0	20.0

7	M/S Falcon Marine Exports Ltd., 1067, OSIC Industrial Estate Paradiph Garh, Paradip, Dist: Jagatsinghpur	336	17.0 MT	230.0 MT	-	1.0 MT	-
8	M/S Aditya Udyog AT:Telengapentha Dist: Cuttack	370	23.0 MT	300.0 MT	40.0 MT	1.5 MT	10.0 MT
9	M/S Utkal Exports M/S.S.Bgro(INDIA)Ltd(Leasee) Industrial Estate Mancheswar, Bubaneshwar-751010	333	08.5 MT 03.5 MT	50.0 MT 90.0 MT	- -	0.5 MT -	- -
10	M/S Falcon Marine Exports Ltd 138,Zone-B Mancheswar, Bubaneshwar-751010	332	10.0 MT	130.0 MT	-	1.5 MT	-
11	* M/S Capital Freezing Complex (A)M/S SK Exports Pvt Ltd(Leasee) * (B)M/S Noble Aqua Pvt Ltd(Leasee) 139, Sector-A, Mancheswar, Bubaneshwar-751010	379 368	08.0 MT 03.0 MT	50.0 MT 40.0 MT	- -	- -	- -
12	M/S Sunshine Packaging Industries (A)M/S Alsa Marine & Harvest Ltd (Leasee) 138, Sector-A, Zone-B, Mancheswar, Bubaneshwar-751010	331	11.0 MT	80.0 MT	-	1.5 MT	-
13	M/S The Capital Freezing Complex Champajhar Dist:Khuruda	384	14.0 MT	100.0 MT	-	5.0 MT	-

14	M/S Suryo Foods and Industries Ltd AT/PO: Kuruda Dist:Balasore	380	06.0 MT	250.0 MT	15.0 MT	2.0 MT	-
15	M/S Kalinga Marines and Transport Pvt Ltd M/S NavayugaExports Ltd(Leasee) AT:Shampur, PO:Ghatikia Bhubneswar	355	28.0 MT	400.0 MT	-	7.0 MT	10.0 MT
16	M/S Sealand Fisheries Pvt Ltd Biruan, N.H.%, Dist:Balsore	342	08.0 MT	110.0 MT	-	2.0 MT	10.0 MT
17	* M/S SL Textiles Pvt Ltd S-3/81 & 82 Mancheswar Industrial Estate Bubaneshwar-751010	-	04.0 MT	40.0 MT	-	-	-

- The E.I.A Code No. of approval was withdrawn due to non fulfillment of GOI standards. Hence defunct. (Source : MPEDA, Bhubaneshwar, Office)

Annex 3

ITEM-WISE EXPORT OF MARINE PRODUCTS FROM ORISSA

		Year 2000-2001			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	7,884,594	3532099782	448	74%	93%
2	Cooked Shrimp	21,732	3585365	165	0%	0%
3	Frozen Scampi	214,953	111441793	518	2%	3%
4	Frozen Pomfret	583,090	76662744	131	5%	2%
5	Frozen Seer Fish	34,650	3295188	95	0%	0%
6	Frozen Cuttle Fish	429,120	25195534	59	4%	1%
7	Frozen Ribbon Fish	1,178,550	18530566	16	11%	0%
8	Frozen Cut Crab	66,682	7593948	114	1%	0%
9	Dry Fish	26,610	3884466	146	0%	0%
10	Frozen Sole Fish	204,510	8701184	43	2%	0%
	TOTAL	10,644,491	3790990570	356		

		Year 1999-2000			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	8,252,888	3,228,126,359	391	86%	97%
2	Frozen Scampi	51,626	28,711,353	556	1%	1%
3	Frozen Pomfret	271,561	26,809,030	99	3%	1%
4	Frozen Seer Fish	244,518	16,607,768	68	3%	0%
5	Frozen Cuttle Fish	299,440	15,224,999	51	3%	0%
6	Frozen Ribbon Fish	402,980	8,336,385	21	4%	0%
7	Frozen Cut Crab	44,789	5,723,669	128	0%	0%
	TOTAL	9,567,802	3,329,539,563	348		

		Year 1998-1999			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	7,251,840	2,574,557,515	355	77%	94%
2	Frozen Scampi	150,115	55,066,160	367	2%	2%
3	Frozen Pomfret	575,585	59,010,685	103	6%	2%
4	Frozen Seer Fish	75,395	5,274,430	70	1%	0%
5	Frozen Cuttle Fish	356,256	19,311,520	54	4%	1%
6	Frozen Ribbon Fish	972,032	37,032,992	38	10%	1%
7	Dry Fish	30,245	3,054,745	101	0%	0%
	TOTAL	9,411,468	2,753,308,047	293		

		Year 1997-1998			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	7,062,810	2,286,215,682	324	70%	92%
2	Frozen Scampi	127,829	48,668,019	381	1%	2%
3	Frozen Pomfret	540,695	52,706,527	97	5%	2%
4	Frozen Seer Fish	244,599	13,177,675	54	2%	1%
5	Frozen Cuttle Fish	270,114	12,429,163	46	3%	1%
6	Frozen Ribbon Fish	1,661,316	50,252,852	30	16%	2%
7	Frozen Eel Fish	74,560	2,851,990	38	1%	0%
8	Dry Fish	100,960	10,718,823	106	1%	0%
9	Frozen Fish (Mixed)	74,577	5,816,835	78	1%	0%
	TOTAL	10,157,460	2,482,837,566	244		

		Year 1996-1997			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	7,434,903	2,182,333,572	294	77%	92%
2	Frozen Scampi	148,396	53,692,571	362	2%	2%
3	Frozen Pomfret	534,861	49,980,906	93	6%	2%
4	Frozen Seer Fish	218,752	13,903,800	64	2%	1%
5	Frozen Cuttle Fish	570,220	32,057,675	56	6%	1%
6	Frozen Ribbon Fish	534,760	11,420,561	21	6%	0%
7	Frozen Mackarel	53,912	4,123,488	76	1%	0%
8	Dry Fish	127,705	12,804,922	100	1%	1%
9	Fish Maws	170	5,966	35	0%	0%
	TOTAL	9,623,679	2,360,323,461	245		

		Year 1995-1996			Share in total	
Sr No	Item	Qty in KGs	FOB value in Rs	Price per KG	Volume	Value
1	Frozen Shrimp	6,206,966	1,677,349,909	270	92%	95%
2	Frozen Scampi	98,862	34,727,255	351	1%	2%
3	Frozen Pomfret	154,750	38,396,789	248	2%	2%
4	Frozen Seer Fish	39,716	2,828,494	71	1%	0%
5	Frozen Cuttle Fish	93,845	5,293,677	56	1%	0%
6	Frozen Ribbon Fish	131,120	2,665,533	20	2%	0%
7	Dry Fish	44,915	2,675,551	60	1%	0%
	TOTAL	6,770,174	1,763,937,208	261		

Annex 4

DESTINATION COUNTRY WISE EXPORT OF MARINE PRODUCTS FROM ORISSA

	Year 2000-2001			Average	Share in total	
Sl. No	Country	Quantity in KGs	FOB Value in Rs.	price per kg	Volume	Value
1	EEC	1,832,631	747,647,565	408	17%	20%
2	US	2,002,173	794,013,225	397	19%	21%
3	Japan	3,827,845	1,746,656,320	456	36%	46%
4	China	1,391,464	107,263,004	77	13%	3%
5	SE Asia	625,128	175,712,048	281	6%	5%
6	Gulf	704,865	127,963,066	182	7%	3%
7	Others	260,385	91,735,342	352	2%	2%

	Year 1999-2000			Average	Share in total	
Sl. No	Country	Quantity in KGs	FOB Value in Rs.	price per kg	Volume	Value
1	EEC	1,419,788	477,509,372	336	15%	14%
2	US	2,589,522	958,165,592	370	27%	29%
3	Japan	3,673,761	1,597,292,918	435	38%	48%
4	China	898,562	70,642,669	79	9%	2%
5	SE Asia	456,030	116,733,463	256	5%	4%
6	Gulf	428,416	74,452,420	174	4%	2%
7	Others	101,723	34,743,129	342	1%	1%

	Year 1998-1999			Average	Share in total	
Sl. No	Country	Quantity in KGs	FOB Value in Rs.	price per kg	Volume	Value
1	EEC	721,072	184,913,008	256	8%	7%
2	US	2,633,755	922,918,620	350	28%	34%
3	Japan	4,240,885	1,449,890,775	342	45%	53%
4	China	977,520	48,527,611	50	10%	2%
5	SE Asia	420,959	77,098,388	183	4%	3%
6	Gulf	417,275	69,959,645	168	4%	3%

	Year 1997-1998			Average	Share in total	
Sl. No	Country	Quantity in KGs	FOB Value in Rs.	price per kg	Volume	Value
1	EEC	469,756	105,992,401	226	5%	4%
2	US	1,713,589	409,142,083	239	17%	16%
3	Japan	4,101,843	1,573,749,774	384	40%	63%
4	China	2,046,119	92,495,644	45	20%	4%
5	SE Asia	889,269	138,122,071	155	9%	6%
6	Gulf	573,469	79,241,633	138	6%	3%
7	Others	363,465	84,093,960	231	4%	3%

	Year 1996-1997			Average	Share in total	
Sl. No	Country	Quantity in KGs	FOB Value in Rs.	price per kg	Volume	Value
1	EEC	2,097,089	383,893,818	183	22%	16%
2	US	1,199,792	276,924,436	231	12%	12%
3	Japan	4,696,140	1,533,400,104	327	49%	65%
4	China	835,205	47,174,353	56	9%	2%
5	SE Asia	579,916	83,481,168	144	6%	4%
6	Gulf	179,777	25,193,739	140	2%	1%
7	Others	35,760	10,255,843	287	0%	0%