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**CHAPTER - II**  
**SEAFOOD INDUSTRY - AN OVERVIEW**

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### 2.1 Introduction.

Fish and fishing community have been intimately interwoven with Indian population from pre-historic time. Originally, it was regarded as hereditary avocation carried through generations with the entire family getting involved in some or the other. It had been regarded as meanest of all professions carried on exclusively by lower class of people. But with the change of time, it is gratifying to note the revolutionary changes in the outlook of fishers. Radical changes after Independence have emerged. Seafood processing is now carried out by sophisticated methods of freezing, canning, fishmeal, etc.

### 2.2 Nature.

Seafood industry is peculiar in character with no matching counterparts. It wholly and solely depends upon the grace and mercy of nature. The fish is available only in a particular season and the availability is unpredictable. As it is well known, this industry, unlike any other sector, depends for its raw material entirely on supplies from stock of marine species in uncharted beds. Existence of stock is subject to the vagaries of nature and, therefore, the availability is unpredictable.

The most desirable way of disposing off fish landings is to make them reach the customer in edible condition

as speedily as possible. Being highly perishable and contaminable food material, time, temperature and sanitation are the three basic factors which determine the perishability. Surplus and seasonal glut in landing beyond the capacity of available channel of marketing have to be preserved for all season and up-Ghat marketing. Freezing, canning, curing, drying, etc. are the main methods of processing and preservation.

### 2.3 Raw Material.

Among several varieties of marine fish caught at the coast of Uttara Kannada District, oil sardines, mackerels, prawns, form the mainstay of fish. Cat fish, shark, pomphret, seers, etc. are also commercially important. Mackerels, oil sardine and prawns together constitute 90% of the total marine landing in the past. The coast is known for more than 100 varieties of fishes, of which 35 varieties are commercially important. These fishes form the raw material for seafood industry in the area.

### 2.4 Season.

Seafishes are seasonal in their availability. The season starts from September and ends in May every year. It is stated that September to February is the season of bulk landing. Hence, it is seen that the last quarter of the calendar year is the period of bulk landing. The violent fluctuations of the annual catches that occur, do not determine whether a fishing season is a failure, average or bountiful. The variations in quantum of pelagic fishes like oil sardine and mackerels are notable and significant. However,

May to August is a period of slack landing. The specific characteristic to be noted is that, it is annual, monthly and daily variation, creating seasonal and sporadic glut that form at once the basis and problem of seafood industry in the area.

## 2.5 Historical Perspectives.

During earlier days, dried cargo had to be carried all the way to different parts of the country. As modern methods of preservation were not developed, selling of fresh fish or preservation in the form of dried fish were the only alternatives. In the wake of attainment of Independence by India, the traditional seafood industry had to face several setbacks, which plunged the entire fishing, processing and exporting fraternity into very great difficulties. Most of the countries like Burma, Ceylon, as well as other countries, which became free from colonial powers, were forced to curtail many of the items of import to stabilise their economies. Dried seafood was the one item that faced severe cuts by import market. While Ceylon (now Sri Lanka) affected a partial curtailment on import of dried seafood from India, Burma had completely stopped the import. All this has affected the fishing folk.

As the adverse development was harrasing the fishing sector all over India, certain enterprising industrialists in Cochin in Kerala State were carrying out hectic experiments with modern techniques of freezing and canning for preservation of marine products. The success achieved by these experimentalists in early 'fifties kindled high hopes was chiefly linked with fishing, while ushering in the golden dawn of a new era for the seafood export

industry in India. Karwar did not wait long to grab the opportunity to initiate modern seafood industry in taluka.

The Indian seafood industry made its beginning almost four decades ago at Cochin on organised basis. The only buyer of seafood at that time was USA. The Industry spread its tentacle from Cochin to other parts of the country and gradually, almost all maritime States were involved in the processing of seafood on organised basis.

#### **2.6 Modern Seafood Industry.**

Introduction of mechanization of fishing heralded a new phase in the fishing frontier of Karnataka. The traditional occupation of a few coastal fishermen has been converted into a gigantic industry. Today this industry has been identified as one of the major contributing factors to the economy of the coastal belt of Karnataka. Realising the higher potential inherent in the industry as important foreign exchange earner for national exchequer, both Central and State Governments took serious steps in increasing the fish landing. By the end of 1958, certain amount of mechanization of fishing craft was achieved. A proliferation of freezing and canning plants all along the coast was the result. As early as 1971, a seafood processing unit was initiated by P.M.Tandel, realising the importance of preservation followed by Food International and Karnataka Fisheries Development Corporation.

The industry provides not only food to the people but also gainful employment to thousands and revenue to Government.

Hence, all Government, semi-Government and private agencies have become active in identifying and tapping the potentialities of the industry. The Department of Fisheries, Directorate of Fisheries, Central Marine Research Institute, Marine Product Export Development Authority, North Kanara Fish Marketing Federation, Karnataka Fisheries Development Corporation, Binaga Ice and Cold Storage, Food International are some of the agencies of the Government, corporate and private sector.

## 2.7 Varieties of Fishes and Seafood.

The coast of the district is rightly called as the 'mackerel coast'. Mackerel, a variety of fish, is available in abundance on this coast. Besides Mackerel, oil sardine, white sardine, cat-fish, ribbon fish, prawns, sharks, crabs, lobsters, silver-bellies, oysters, are some of the other varieties of the fish and seafood available on this coast.

The love of Karwarians for fish is no less than the love of proverbial Bengalis for fresh water fish.<sup>1</sup> The peculiarity is that almost all communities at Karwar consume fish. Non-fish eating people in the area can be counted on finger-tips. People are healthy despite majority belonging to the low-income group. The fish consumption supplements all the essential nutrients to the body. Valuable protein and minerals enter the human biological system through fish intake. The study on the development of fisheries indicates that the per-capita consumption per annum of the fish remained at 10.4 kgs. in Karnataka as against 1.46 kgs. at all India level.<sup>2</sup> Every housewife hesitates to light her cooking gas without fish. Fish is a staple food with adequate vitamin content.

## **2.8 Development of Industry, Preservation and Marketing.**

When the fisheries sector was not developed, coastal belt was known for its calm and quiet together with the ever-present rolling sound of sea in the background. A few fishermen here and there used to catch fish in the traditional method. The life on the coastal belt was inactive.

Rapid strides have been made over the years for landing and berthing of the mechanised boats. In addition to the marketing yards, freezing plants, fish processing units and curing yards dotting the coast-line, the belt is today known for human activity.

Because of modernisation, it is transformed into a gigantic industry. The term industrialisation is often used in a broader sense as an equivalent to any form of economic modernisation.<sup>3</sup> The mushrooming of ice-plants, both in private and public sector, has been helping the preservation of fresh fish for its sale in hinterland and also the export.

Fish being a perishable and contaminable food item must be made to reach the destination (where the consumers are available) as fast as possible. As modern methods of preservation were unknown, a major portion of the catch used to go waste. Additional catch beyond the local market for fresh fish was a sheer waste. But today, because of the infrastructure, which helps in the preservation, like ice-plants, cold-storages, freezing and frozen storage, preservation through canning, marketing of both fresh and processed fish both in the national and international market has boosted



up not only to meet the current demands but also the potential demands during the off-season.

## 2.9 Infrastructure.

Before the advent of mechanization in fishing, 'rampani' operations were widespread along the coast. Also the coast was full of curing yards. With the introduction of mechanization, the industry has changed the scene. Curing yards are found superfluous.

Major event in mechanization of fishing was the advent of purseine boats in 1975. Their introduction has revolutionised the fish-catch. Trawlers, Gillnetters, indigenous crafts, cast-nets and some other factors in the modern fishing front, which assist the operation. The ice-plants, cold storage, road transport to the docks, diesel oil bunks, are the other infrastructure for smooth running. Besides, an auction hall, as well as marketing of catches through North Kanara District Marketing Federation and the Karnataka Fisheries Development Corporation are the added advantages for the development.

TABLE 2.1  
TABLE SHOWING DETAILS RELATING TO INFRASTRUCTURE.

Boats	District	Taluka
Purseine	113	45
Trawlers	674	76
Gillnetters	471	131
Traditional Boats	4998	1433
Rampani	82	69

Source: Department of Fisheries, Karwar.

## 2.10 Achievements of the Industry.

Undoubtedly, the industry is well developed and has achieved a lot. Today it is a great export earner.

TABLE 2.2  
TABLE SHOWING ACHIEVEMENTS OF SEAFOOD INDUSTRY  
DURING 1983-84 TO 1986-87.

Sr. No.	Year	Quantity (m.tonnes)	Value (Rs.)
1.	1983-84	35,381.60	11,35,63,590
2.	1984-85	39,437.60	13,57,48,820
3.	1985-86	76,836.90	21,61,55,830
4.	1986-87	47,719.20	17,18,00,490

Source: Department of Fisheries, Karwar.

Table 2.2 gives details related to the fish catch both in terms of quantity and amount since last four years. It also shows that the fish catch both in quantity and money showed a favourable trend till 1985-86. But during the year 1986-87, the quantum of fish catch has come down from 76,836.90 to 47,719.2 m.tonnes though the money value is showing increasing trend. It is necessary that more efforts are required to increase the fish catch or otherwise the target of 4 million tonnes catch by 1989-90 as laid down by the Planning Commission for 7th Plan Period would remain a dream.

It is in this context, effort be guided towards the development of fisherfolk in general and fisherwomen in particular.

## 2.11 Present Status.

The present seafood industry is consisted of government, corporate and private sector. It involves dealing with fresh fish, preservation of fish by freezing, canning, fishmeal oil, curing and drying. The various activities of the seafood industry are given below:-

### 2.11.1 Fresh Fish Dealings:

Waiting fisherwomen with empty baskets and purses full of money seem quite anxious on the landing centre. Their curiosity increases when they see the bavuti (meaning a piece of cloth hung on mast indicating a heavy catch) of the fish boat coming towards the landing centre. Fisherwomen get themselves ready for fishing deals. The atmosphere seems quite lively as women are adept at bargaining on wholesale.

The next noisy and crowded place is the fish market, surely the most interesting place where one can experience fisherwomen's straight-forward nature and the overwhelming abundance of fish. It encounters unforgettable sights and smells one experiences while passing through the crowd. The heaps and baskets full of fish and seafood of different varieties and sizes, fresh from beach, increases the curiosity of the buyers. The atmosphere is lively for the buyer is torn between the love for the fish and exorbitant price he must pay for it. Customers slip out with a cluster of hooked fish in hand.

Also the sight of women carrying headloads of fish and coming to town from nearby places is not uncommon during the bulk landing season.

### 2.11.2 Canning:

In early days, canning assumed much importance. Being a ready eat food, it caught good market. Their thriving days were when shrimp in large quantities were being canned for export. Frozen shrimp then emerged as an important export product. But canning of shrimp gradually came down, which has resulted in the closure of many canning plants.

North Kanara District Co-operative Marketing, Karwar, was the only unit which used to pack fish for internal market and the defence services. Due to the lack of shrimp catch, canning was given up in 1983-84 and it was leased to a private entrepreneur for a period of 10 years. At present, the private entrepreneur carries on canning under the new name 'Food International' since 1986. Mackerels, sardines, etc. are the fishes used for canning.

### 2.11.3 Freezing:

It is another method of preservation. Shrimp, mackerels, lobster-tails, frog-legs, sardines, etc. are the items being frozen. It is the latest innovation in fishing front and it is the biggest export earner.

At present, there are three units, namely, Binco, KFDC and Cornet. Binco and KFDC plants seem working actively. Cornet has discontinued its functioning. Further, a new plant called Apollo Seafood has come up in Majali village, which is five kilometres away from Karwar, during 1987-88.

### 2.11.4 Fishmeal and Oil:

Initially, the fishmeal and oil had no significance. Many of the fishes used to go waste. To make use of the trash fish, fishmeal plant owes its existence.

Fishmeal is a name given to a meal produced from fish by cooking and pressing process which eliminates the major part of water and the fat retaining all the protein, minerals, vitamins and the growth factor. It is in the form of dried powdered fish after removal of oil from the trash fish and fish wastage. The fishmeal

and fish oil are simultaneously produced. Today it is a highly valuable protein feeding stuff with easily assimilable protein. It is used mostly for animal and poultry diet. It is used as a manure also. Fish oil is used in the manufacture of soap. Today there is a single fishmeal and oil plant managed by Karnataka Fisheries Development Corporation. The plant, however, does not employ women labour force.

#### 2.11.5 Drying and Curing:

Drying and curing is the traditional avocation of the fishing community. This sector is unorganized one. It is engaged in by quite a few providing lucrative employment to them. Currently it is being undertaken on a small scale by individual fisherwomen and on a large scale by merchants employing fisherwomen as labour.

The main varieties available for curing and drying are mackerels and sardines. This sector is quite active during abundant landings of these varieties. It is sad to note that though it commanded a thriving trade in the past, it has lost its moorings.

At present, there are 6 curing and drying yards distributed along Karwar belt.

TABLE 2.3  
TABLE SHOWING DETAILS OF DRYING AND CURING IN  
KARWAR TALUKA (AREA WISE)

Sr. No.	Place	Salt Curing	Platform	Curing Tanks	Acre	Area Gunta	Anas
1.	Majali	5	3	-	5	0	0
2.	Karwar	3	12	3	2	1	0
3.	Einge	4	24	2	8	6	2
4.	Arga	2	-	1	0	25	8
5.	Chendiya	7	18	5	1	13	8
6.	Kodar	2	-	-	0	16	12

Source: Department of Fisheries, Karwar.

Total yards in the district are 14, of which 6 are in Karwar taluka. After introduction of purseines, fish landing through 'rampani' nets, has decreased. Purseine landing is concentrated in two place, namely Baitkol and Karwar. Hence, utility of fish curing yards located away from the landing centres, has decreased and the yards have become useless. Some of the yards are converted as prawn peeling sheds and godowns for storing boats and nets.

TABLE 2.4  
TABLE SHOWING DETAILS OF SEAFOOD PROCESS AND ANCILLARY UNITS.

Sr. No.	Name and address	Freezing	Ice	Fishmeal	Canning	Frozen Storage	Cold Storage
1.	Binga Ice & Cold Storage, BINGA.	2.5 tonnes	20.0 tonnes	-	-	130.0 tonnes	50.0 tonnes
2.	Karnataka Fisheries Development Corpn. BAITKOL.	16.0 tonnes	15.0 tonnes	10.0 tonnes	-	150.0 tonnes	60.0 tonnes
3.	Food International KARWAR.	-	-	-	2.0 tonnes	-	-
4.	Arya Durga BINAGA.	-	20.0 tonnes	-	-	-	-
5.	Talekar Pvt.Ltd. CHENDIYA	-	10.0 tonnes	-	-	-	-

Source: Department of Fisheries, Karwar.

Table 2.4 clearly shows tht there are 4 ice-plants, 2 freezing plants, 2 frozen storages, a fish meal plant, a canning plant and 2 cold storages.

**2.11.7 Growth of Seafood Processing Units and an Ancillary Industry in Karwar Taluka compared to Uttar Kannada District.**

If we take district as a whole seafood sector is not well developed in Karwar. Though it has coastal belt of 42 kms. as mentioned earlier consisting 29.1 percent of total 144 kms. of Uttar Kannada district, number of seafood process units and ancillary units have been limited to 12 against 39 units in the district. This has been revealed in Table 2.5.

TABLE 2.5

TABLE SHOWING GROWTH OF SEAFOOD PROCESSING UNITS AND ANCILLARY UNITS IN KARWAR TALUKA COMPARED TO UTTAR KANNADA.

Sr. No.	Types of Plant	Karwar	Uttar Kannada
	Freezing Plants.	2	4
	Frozen Plants	2	4
	Cold Storages	2	4
	Ice Plants	4	15
	Canning Plant	1	1
	Fishmeal and Oil	1	1
	Total	12	39

Source: Department of Fisheries, Karwar.

**2.12. Fishermen and Seafood Sector:**

**Fishermen:**

Before Independence, this sector received little attention. It is a sad fact to note that fishermen as a class were neglected a lot till the country's seafood industry started proving its inherent potential to emerge as a high ranking export earner.

Schemes with specific objective to improve the socio-economic conditions were initiated right from the dawn of the Independence and the Government focussed attention on this sector

right from the First Five Year Plan. In spite of that, fishermen, by and large, are still subject to most of the same conditions which kept them economically paralysed. Modernisation through mechanised fishing, seafood preservation, etc. have by no means helped fishing fold in upgrading their standards. Uncertainty of fish catch like their uncertain life in the sea is a continuing feature. It is a hard reality that certain intermediary level drains up a good share of the benefits before reaching destination of fisherfolk. Heavy economic burden imposed on fishermen is one of the reason as to why their lot does not improve. The present financial status of most of the fishermen remained what it is. It is the need of the hour to lessen the burden of fisher-folk.

To improve the socio-economic condition of the down-trodden, including fishing fold, several schemes have been adopted. Financial assistance is being given to construct houses to sink drinking water wells. Fishermen have been allotted house sites in coastal villages. With the introduction of mechanization, fish catch has increased. Measures like mechanized boats, establishment of processing and preservation, marketing centres, education and training, which are the basis to strengthen the economic base have been provided. But despite these, fisherfolk remained poor. Problems of fishermen are enormous. Though there is good income on sale of seafood because of zooming prices, it is seen that only an insignificant share of high prices seeps down to the actual toilers.

Fishing industry has thrived over the years. The men and women catching, selling, processing and preserving have remained what they were. Off-season, they remain unemployed whereas even in season they remain under-employed.



Today, the seafood processing industry has attracted the attention of all. The importance of seafood in recent times has increased tremendously. This has been due to various reasons like shortage of food growing population, etc. Fishing on commercial and organized scale is developing rapidly. Seafood at present possesses a high level of technical knowhow. Fish preservation is a serious concern of today. Modern seafood industry would take care of it.

The industry has immense potential for exploitation of marine resources. Outlook for the future is quite promising. Fisheries development and fisherfolk development have become controversial issues. This is rather a sad fact which demands correction soon.

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