Chapter 3

PROFILE OF THE STUDY AREA: RATNAGIRI DISTRICT
## Chapter 3

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#### RATNAGIRI DISTRICT

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CHAPTER 3

PROFILE OF THE STUDY AREA
RATNAGIRI DISTRICT

3.1 LOCATION OF THE STUDY AREA

The study area identified for this research is Ratnagiri District. In order to understand this study it is appropriate to have a brief background of the study area. In the following few paragraphs brief outline of Ratnagiri Dist. has been presented.

3.2 HISTORICAL BACKGROUND

Ratnagiri was controlled by King of Satara since 1731. There after the king surrendered the control to the British. Bijapur dynasty constructed a fort at Ratnagiri and the same was strengthened by Shivaji the Maratha king. The fort is located on a headland near the harbor. Ratnagir is one of the ports of the Konkan coast. In this fort Thibaw – King of Burma and later on Veer Savarkar were confined.

In this area it is a belief that after performing pilgrimage, Pandavas, in the 13th year, had settled in the vicinity of Ratnagiri district. So also after the famous war between Pandavas and Kauravas at Kurukshetra, Viravat Ray – the king of this region had accompanied them there.

Ratnagiri district is located in the south-western part of Maharashtra State on the Arabian Sea coast. On the eastern side of this district there are Sahyadri hills and on the West, Arabian sea is there. This region is known Konkan Region. This region was ruled by several dynasties namely, Mauryas, the Nalas, the Silaharas, The Chalkyas, the Kadambas, the Portuguese, the Marathas and the British. After India’s independence in 1948 the then princely state of Sawantwadi was merged with the Indian union and thereafter it was merged in the then Bombay Province in 1956. In the year 1960 when Maharashtra State came into existence Ratnagiri became a district. Again in the year 1981 this Ratnagiri was further divided into two districts namely Ratnagiri and Sindhudurg.
This Ratnagiri district has nine tehsils namely: Mandangad, Dapoli, Khed, Chiplun, Guhagar, Sangmeshwar, Ratnagiri, Lanja and Rajapur. Shastri, Bor, Muchkundi, Kajali, Vasisthi and Savitri are the principle rivers of this district. Ratnagiri is the headquarter of the Ratnagiri District. It is the birth place of Lokmanya Tilak and many other eminent personalities. This district is world famous for the Alphanso (Haapus) mangos. There is heavy rainfall and because of it has highly eroded landscape in the Konkan region. The land in the valley is fertile and rice and coconut cultivation are the main crops. Cashew nut and other fruit cultivation is being promoted.

3.3 GEOGRAPHICAL PERSPECTIVE

Ratnagiri is the 6th district in the Konkan Region. It is situated at latitude 17°N and longitude 73°E. Total area is 8,208 km² (3,169 sq mi).

Ratnagiri district has a 167 KM long costal area; fishing is one of the important economic activities in Ratnagiri District. The coastal area of Ratnagiri is surrounded by hilly area (about over 80 per cent) and this turns out to be advantageous for fish farming activities. Ratnagiri has been equipped with the required infrastructure like cold storages and fish processing houses.

Ratnadurg fort, Gitabhavan, Light house, An aquarium, College of Pisciculture, Thiba palace are the places worth visiting. At Ratnagiri there is a domestic aerodrome, a radio station and television transmission centre. The two beaches on both the sides of the Ratnadurg fort are a special attraction as one beach is of pure white and the other one is of black sand.

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Map of Ratnagiri district is given below:

Fig. 3.1 : Map of Ratnagiri District
Demographics

According to the 2011 census Ratnagiri district has a population of 1,612,672. So far as density of population is concerned out of 640 districts Ratnagiri stands 311\textsuperscript{th} rank. The density of population is 196 habitants per sq. Km. (510 p.sq.mi.). During the decade 2001-2011 the growth rate of population was 5.96%. It has a sex ratio of 1123 female for every 1000 males. It’s literacy percent is 82.43%.

3.4 TRANSPORT

Ratnagiri is connected to state capital Mumbai by National Highway Number 66. This highway further goes to state of Goa and Mangalooru in Karnataka. Ratnagiri is a railway station on Konkan railway. At Ratnagiri aerodrome is there but no commercial flights are operated as yet. There are many small ports on the shore and through small boats water transport is available.

3.5 FISHERY INDUSTRY IN INDIA

Ratnagiri district is one of the most important maritime districts of the State with the coastal belt extending about 200 miles. In the north it goes upto Boria and Reddi in the South. The fishing industry from Ratnagiri is solely dependent upon the exploitation of the marine resources.

From the socio economic point of view this district is considered as underdeveloped. Fishery activity is also not developed in true sense. It has rich fishery resources; however the available potential has not been fully utilized. This is mainly because of the traditional fishing methods. The region also lack of infrastructural facilities like communication, roads, and cold storages for the preservation of the fish catch. Lack of education and literacy among the fishermen of this area is also one of the major reasons for this backwardness. This leads to underdevelopment of the region.

Fish

Flora and fauna of Ratnagiri is very rich and has a very good variety also. The yearly estimated fish catch of this district is 20,000 tons. There are shell fisheries also in the area in the creeks, backwaters and estuaries along the coasts.
Fishing Gear

On the basis of fishing gears this district can be grouped as follows:

(A) Gill nets;
(B) Long lines;
(C) Seine nets;
(D) Bag nets; and
(E) Cast nets.

A) Gill Nets

Wavri Net

This is a surface drift net used all along the coast. This net consists of 20-25 pieces. Each piece varies from 140x240' in length and 15' in breadth. Mesh size is 3" to 4" (Stretched). The hemp and cotton twine varying from 9-15 piles of 18 to 20 counts are used for preparing the nets. There is a gradual change witnessed so far as switching over to nylon gill nets made out of 210 to 250 Danier yarn of 9-12 piles. The traditional hemp and cotton twine nets cost about Rs.25 to 40 while thenylong nets costs between Rs.80 to 140. These nets are used for catching pomfrets, tuna, silver bar, eer fish etc. Usually the fishing period is from September to December and in late summer during April and May.

Pas or Saranga Jal

For exclusively catching pomfrets there is one more type of net known as Saranga Jal is used. It net consists of 20-40 pieces, each piece measuring 240' in length and 15' in breadth with mesh size of 5" to 6". The material used in the construction of the same material which is used in Wavri net is used in this net also.

Ghol Net

As the name suggests, the net is used mainly to catch Ghol fish. The net consists of 12 to 16 pieces, each piece measuring 120' in length and 10' in breadth with mesh size of 6".
Budi Net

This net is used mainly for catching big fishes like Sharks, Skates, Rays, etc. This net is prepared of hemp twine of 24 piles and is a bottom set gill net. Each unit consists of 7 to 10 pieces, each piece measuring 100' in length and 12' in breadth.

B) Long Lines

In this type of fishing Mustad hooks Nos. 1, 2, 3 and 6, 7, 8, 9 are most commonly used. Length of each line varies from 500' to 1,200' and about 100 hooks are suspended from one line. At a time 7 to 12 lines are used. The hooks are baited with pieces of catfish, ribbon fish and squids depending upon the size of the hooks used. This method is replacing the bottom set gill nets which are rather costly. This is mainly used in catching catfishes, port hole fishes and sharks.

C) Seine Nets

The net consists of three pieces known as (i) Karel, (ii) Modan, and (iii) Ghol; their measurements are as follows:

<table>
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<tr>
<th>Piece</th>
<th>Length</th>
<th>Height</th>
<th>Mesh</th>
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<tr>
<td>Karel</td>
<td>24'</td>
<td>18' to 27'</td>
<td>1 1/2&quot;</td>
</tr>
<tr>
<td>Modan</td>
<td>21'</td>
<td>28' to 30'</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Ghol</td>
<td>18'</td>
<td>31' to 33'</td>
<td>3/4&quot; to 1/4&quot;</td>
</tr>
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Rampan Net

In Rampan net of 100 pieces, Karel part consists of 60 pieces; Modan consists of 22 pieces and Ghol consists' of 18 pieces. These nets are used mainly at Malvan and Devbag which are usually consisting of 200 to 300 pieces of the above mentioned components. The net is used to catch shoal fishes like mackerel and sardines.

Dhangad Jal

This is another type of seine net consisting of 7 to 8 pieces, each piece measuring 100' in length and 12' in breadth having a mesh size of 7" to 8". The net is used for catching Karel and surmai and the net is prepared of hemp twine.

Jot Net

The method of operation of this net is very similar to that of 'purse-seine'. The net is 60' in length and approximately 9' in breadth. The mesh size varies from 1/2" to
1½” and is prepared out of hemp twine. Malvan is an important fishing centre located south of Ratnagiri. This net is solely used at Malvan. Jew fishand catfish are the main fish catches.

D) Bag Nets

Dol

This net is funnel shaped and has five distinct portions such as:
1) Mhor 2) Chirate 3) Katra 4) Majola and 5) Khola

The mesh size diminishes from 9” to ½” from Mhor to Khola. The length of the net varies from 80’ to 120’. These are fixed with help of barrels. This type of Dol let is used between Bankot to Dabhol as the water current is fairly strong in this area. Usually the fishes catch include jew fish, ribbon fish, mandeli, Bombay ducks and Prawns.

Boksh : This is a miniature dol net operated in the creeks.

E) Cast Net – Pag

The net is prepared from cotton twine and has a circumference of 125’ and a radius of 12’ to 18’. Mesh size varies from 1/8” to 1”. Fishes caught in the net are sardines, mackerels and prawns.

Fishing Season

The fishing season starts from September and continues upto the end of May. During the monsoon practically there is no fishing except in the creeks. The varieties in the district include: Sharks, skates, rays, mackerels, sardines, tuna, surmai promfret, karel, dagol and catfish

(1) Sharks, skates and rays: They are caught throughout the fishing season with the help of long-lines and bottom-set gill-nets.

(2) Mackerel and sardine: They are caught in the Rampan-nets from November to February.

(3) Tuna and Surmai: They are caught in the surface drift-nets from September to December.
(4) **Pomfrets**: This variety is caught in surface as well as bottom set gill nets. The season is between September to December and April – May.

(5) **Silver bar or karli**: These are mostly caught in bottom-set gill-nets from January to May.

(6) **Dagol and catfishes**: These are mostly caught by long-lines throughout the fishing season.

### 3.6 FISHERMEN

The estimated population of fishermen in the district is about 70,000. Out of this about 16,000 are currently engaged in fishing activity. This fishermen population is spread over in 118 fishing villages on the west coast. Caste wise composition of the fishermen reveals that it comprises of Bhoi, Koli, Kharvi,Gabit, Muslim and Christian communities.

With a view to provide educational facilities to fishermen's children, the Fisheries department has established fisheries schools at Ratnagiri, Sakrinata, Mithbao and Tarkarli.

### 3.7 DISPOSAL OF CATCH

For preservation of the fish cold storages are required which are lacking in Ratnagiri district. The fisheries department has established 21 fish curing yards along the coast and fish are cured with salt for preservation. There are a few private cold storages of the exporters but those are not sufficient considering the potential available in the district. The salt cured fish is made available throughout the year. Over 5000 tonnes fish is cured annually. Salt curing is the only effective method followed by the fishermen.

There are fish markets developed at Chiplun, Lanje, Sangameshwar, Kankavali, Phonda (Goa), Sawantwadi, Ratnagiri. The fish merchants also transport the fish to outside district market located at Mahad, Miraj,Kolhapur, Karad, Satara and Belgaum. Over 1,731 tonnes fish is transported in this manner. Some fish exporters are also having their collection centers at Ratnagiri and they also have located their cold storages. They export the fish to European countries.
Part of the wet salted fish catch is also sent to Chennai for domestic consumption as well as for subsequent export to Sri Lanka and elsewhere.

Unsalted dry fish is the cheapest variety is consumed by the poorest class in the interior of the district. Dabhol, Bankot and Vijaydurg are relatively large centers where the dry fish is collected. The fish is sent to the interior markets in the district and to the markets in the neighbouring districts like Kolaba and Kolhapur.

3.8 CO-OPERATIVE SOCIETIES

There are twelve fishermen's co-operative societies in the district. The progress of the cooperative movement has not caught up the desired space. For paucity of the funds a few of the societies cannot process the fish for value addition. Now the position is gradually improving and some societies with the government support are doing good work. It is hoped that this will provide necessary impetus to the cooperative societies.

3.9 FISHERY INDUSTRY SCENARIO AT RATNAGIRI

Ratnagiri, having more than 17 lacs (district) population, is one of the important fishing centres on Arabian Sea on the south western part of coastal area, in Maharashtra. Overall Ratnagiri can be divided in three i.e.

1. Coastal zone,
2. Hill zone, and
3. Middle zone.

The fishery sector plays a very vital role in the Indian economy. It has taken up various issues like food and nutrition security, support to improve socio-economic conditions of the fishing communities, providing employment large number of youth, livelihood support. According to a rough estimate the fisher sector provides employment and income to over 5 million fishers and fish farmers. Majority of these fishermen live in over 3600 coastal villages. During the past half century the fish production of India has registered a sizable growth. In the year 1950 it was just 0.75
million tonnes and it has reached to 9.58 million tonnes in the year 2013-14. The fishers primarily depend on fisheries in these waters for their livelihoods.

The fisheries sector in India contributes to nearly Rs. 220 billion which is 1.04 % of the total national gross domestic product (GDP) and 5.34 % of agricultural GDP. The sector is one of the major contributors to foreign exchange through export. In India, the seafood export industry is mainly with the private sector. India earns US $ 1.9 billion (Rs. 8,600 crores) by exporting fish and fishery products.

The inland fisheries of our country include both capture fisheries and aquaculture.

Capture fisheries had been the major source of inland fish production till mid eighties. But, the fish production from natural waters like rivers, lakes, etc., followed a declining trend" primarily due to proliferation of water control structures, indiscriminate fishing and habitat degradation (Katiha, 2000).

The declining resources and the power (energy) crisis has substantially increased the cost of fishing have led to an increased realisation of the potential and versatility of aquaculture as a viable and cost effective alternative to capture fisheries. During the past decades the inland (aquaculture) fish production has increased from 0.51 million ton 1984-85 to 4.22 million t in 2008-09, while for inland capture fisheries the same has declined from over 0.59 million t in 1984-85 to 0.33 million tin 1994-95 and 0.5 million tin 2003-.04. (Anon., 1996a, b; Anon., 2000; Gopakumar et al., 1999,

Dehadrai, 2003 : - The percentage share of aquaculture has increased sharply from 46.36 to 84.33. It is primarily because of 4.25 fold increase in freshwater aquaculture. Its share in total inland fish production has also increased from 27.95 to 65.83% (Anon., 1996a, b; Anon., 2000). Still, it has greater scope for enhancing fish production.
Among the countries bordering the Indian Ocean, India, has the benefit of a large coastal line of 8129 km, 2.02 million sq. km. km of EEZ and 0.5 million sq. km of continental shelf has a catchable annual marine fishery potential of 4.41 million tonnes and occupies a unique position. Besides, there is rich availability of vast brackish water spread along the coastal line which offers ideal sites for coastal Mariculture. Among the world countries, India ranks second in aquaculture and sixth in capture fisheries production, and one of the leading nation in marine products export.

The role played by the fishery industry in India’s socio-economic development is commendable. Apart from providing employment for a large section of fishing community it is a generating voluminous foreign exchange to the country. This fish industry has a vast potential for development of subsidiary industries along its fishing activity. It provides livelihood for a large section of the economically backward coastal population of the country. During the past four decades the fishing community is adopting technology and modern techniques of fishing as a result of which the production has gone up substantially. In spite of this development there is ample scope for further utilization of the marine resources.

Status

Over the last four decades the aquatic systems of the world have undergone a rapid transition. The consumption of per capita fish has been doubled from about 8 kg in the early 1950 to about 22.3 kg in 2012. Fish exports have crossed the traditional agricultural crops

Impact of Global Warming Could Affect the World’s Fisheries

Climate change is an unavoidable threat to fisheries. The impact of excess greenhouse gas emission due to fossil fuel combustion in energy generation, and industry, deforestation and intensive agriculture. Worldwide this climate change has been recognized as the greatest threat. Small scale fishery industries have a negligible role in contributing the climatic change but they will be the first victim of the climatic changes. It may be in the form of falling productivity, species migration and extinction of some species, hurricanes etc. As against this coastal fishing activity the fish farmers may stand to benefit from the expansion of the areas where aquaculture is viable due to increased temperatures and rising sea level. However, gradually these
benefits will also decline due to reduced water quality and availability, increased disease incidence and damage to freshwater aquaculture by salination of groundwater.

3.10 THE IMPORTANCE OF FISHERIES

The Asia-Pacific region dominates both fisheries and aquaculture, particularly in terms of the number of people working in these sectors: 86% of fishers and fish farmers worldwide live in Asia. China will be affected the most. Asia produces about 52 per cent of the world’s fish production.

Livelihoods

According to the World Bank report of 2005, livelihood of over 520 million is depended upon the fishery and aquaculture. Since 1950 the fisheries have grown by 400%. Most of the growth is in small scale fisheries. It is hoped that more people will turn to fishing activity in times to come.

Trade

According to FAO 2009 report, amongst the foodstuff fish is the widely traded in the world. Over 37% of the fish produced is traded internationally.

3.11 SUMMARY

In the chapter the researcher has brought out a brief profile of the study area which is very vital to understand the observations and findings in right perspective. A concise review of the Indian Fishery industry has also been covered in this chapter. A brief introduction of the fishery industry at Ratnagiri and its importance has also been presented in this chapter.