CHAPTER VII

CONCLUSION AND SUGGESTIONS

7.0 INTRODUCTION

The main objective of this chapter is to sum up main findings and to draw conclusion of the study. Some suggestions are also given in this chapter to change the situation and improve the condition of marine fishing occupation in the study region. The present research work is related to geographical study of marine fishing in the South Konkan of Maharashtra State, with a view to identify the resources of marine fishing, methods of fishing, marketing of fish, role of cooperative societies and problems related to fishing. The given suggestions would be useful for future research work and planners to improve the condition of people engaged in marine fishing.

7.1 FINDINGS AND CONCLUSION

1. Due to the south-west monsoon period, the fishing ban period starts from the month of June and ends in months of August in the coastal area of India. The fishing ban period starts from 10th June to 15th August in Maharashtra state every year.

2. Out of the total respondents, 53.89 percent of family heads are in an age group of 35-59 years. A large concentration of head of the household in this age group is an advantage to their household.

3. Majority, of the fishermen belongs to Hindu religion (46.67%), followed by Muslims (33.89%) and Christian (11.67%) religion in the study region. The study reveals that majority of the fishermen community belongs to the Other Backward Class (41.11%), followed by S.C. (21.67%), S.T. (21.11%), and only 16.11 percent belong to open category. Generally, fishermen are locally known as a Koli community.
4. The literacy rate of the head of fishermen household is 73.89 percent. It indicates that the high literacy rate among the head of the household of fishermen. But the percentage of heads of household of fishermen community, completed education up to graduation level is very low. The illiterates are 26.11 percent in the study region.

5. The fishermen are classified into main four types, i.e. small boat owner fishermen, large boat owners fishermen, owners of the fishing trawlers and boat less fishermen. Out of the total respondents, 50.40 percent fishermen belong to the small boat owners fishermen and 26.17 percent fishermen are the large boat owners. The proportion of owners of the fishing trawlers have comparatively low and it is only 4.82 percent. The boatless fishermen are the people who work either for the large boat owners or the fishing trawlers and their percentage is 18.60.

6. From the study, it is evident that there is concentration of family members in the age group of 35-59 years. This concentration of family members in this productive age group helps the family in the actual fishing and its related activities. The sex ratio of the fishermen community is 1036 females per thousand male populations.

7. Over all literacy rate of the fishermen family members of the fishermen community is 71.20 percent. This indicates that there is high literacy level among the fishermen community. But the percentage of family members pursuing education beyond secondary education is very less. The percentage of females pursuing education beyond higher secondary is very less.

8. Marine fishing is the traditional occupation of the fishermen families. The fishermen have less chance to select other occupation and also no other source of economic activities. Out of the total working population of fishermen families, 54.85 percent are engaged in the primary occupation and most of the members are engaged in the marine fishing and agricultural activities. The working population
in the secondary occupation is also related to the marine fishing i.e. marketing of fish and supply of fishing materials.

9. Generally, the marine fishing occupation is divided into two broad categories, i.e. actual fishing and related activities of fishing. The actual fishing activity is mainly done by the young fishermen. Due to the risk, the participation of fisherwomen in the actual fishing is negligible. Other related fishing activities include marketing of fish, net making, processing of fish and supply of ice and fuel. Fishermen and fisherwomen both are engaged in the other related activities of fishing. Marketing of fish is mainly carried out by the fisherwomen. Net making and processing of fish are carried out by fishermen and fisherwomen.

10. Mechanised boats are totally modern and they are utilized by the commercial fishing operation by the fishermen. Non-mechanized and traditional fishing boats and crafts are used by the traditional fishermen community. There are 86.10 percent fishermen still using the non-mechanized fishing boats and crafts in the study region.

11. Fishing nets are used to catch fish from the water resources. The use of fishing nets depends on the types of fish and season of fishing. Gill net type of net is mainly used in all region of the South Konkan and in all season for fishing of Pomphret, Tuna, Silver bar, Seer fish etc. Drift net is used for catching of Sharks, Skates and Ray fish. The Bag net is used by the traditional fishermen and used for catching the fish of Jew fish, Ribbon fish, Bombay duck and Prawns. Generally, Trawl net and Purse-seine net have used in the mechanized fishing boats by the modern fishermen. There is less percentage of fishermen using Trawl net and Purse-seine net found in the study region.

12. License of marine fishing is an important thing for the fishermen. Due to license of fishing, fishermen get benefits from the government for the development of fishing occupation, such as government subsidies on purchasing
the new fishing equipments, loan etc. Out of total respondents, only 38.89 percent fishermen are license holders in the study region.

13. The traditional fishermen go for fishing into the sea at 4.00 am and return the same day at 11.00 am to 1.00 pm. In the modern and mechanized fishing practice, the fishermen spent more than two days to six days for fishing in the sea.

14. Transportation is the key factor for the marketing of fishing resources. Since it is a perishable commodity, it has to be marketed immediately. Fishermen have used various sources of mode of transportation in the study region. Mainly fish is transported by the bullock cart and manually in the remote areas of the study region. Motor cycles, van and van with refrigeration are used by the young fishermen, but its percentage is less.

15. Fishery cooperative societies are the shield for the fishermen community. The study reveals that 63.89 percent fishermen are members of the societies in the study region for the main purpose of getting loan and fishing equipments.

16. Fishermen take loan and credits mainly for purchasing the new fishing equipments and repairing old fishing equipments. The fishermen have taken credit from the fish merchants and cooperative societies, because from these two sources the fishermen get loan easily as compared with other sources. But the interest rate on the loan is high as compared with other sources. National banks and Commercial banks are providing loan at low interest rates to the fishermen but they require various documents from the fishermen for sanctioning of loan. And also this process is very lengthy.

17. There is no significant change in the percentage of annual and per day fishing expenditure of the fishermen in the mechanized and non-mechanized fishing practice. Crew wages is a major share in the fishing expenditure in the both
fishing methods. Fuel is the second most important expenditure for the mechanized fishing, but the share of it is less in non-mechanized fishing practice. Boats and engine repair and net repair share are more in the mechanized fishing than non-mechanized and traditional fishing practice.

18. The fisheries cooperatives in India developed into a four tier structure i.e., Primary cooperative society, District level federation, State level federation and National level federation. The primary cooperatives societies play an important role at village level. They supply credit and loan, fishing equipments, training of the fishing, cold storage facilities, transportation facilities and marketing of fish.

19. There is unequal distribution of number of primary fishery cooperative societies and members of societies in the study region. The study reveals that during the year of 2010-11, in Ratnagiri taluka there were 29 primary fishery societies, which stands first in the South Konkan.

20. The fishery societies of Sakharinate, Asgoli, Dandi and Kelus are the older societies in the study region. They are mainly concentrated for the development of fishermen and fishing activities.

21. The working staffs of the societies are only males. There is a variation in the numbers of the working staff of the societies. There are only two societies, which have their own building and the remaining seven societies have been taken the building on rent. There is a variation in the fees of registration. The average registration fee is Rs. 100 per fishermen. There is a positive growth rate in the members of the societies in the study region.

22. The few cooperative societies in the study region provide the facilities to the members of societies. They provide loan and credit, training of fishing, supply of fishing equipments and fuel on subsidies, marketing of fish, and facilities of cold storage. But few societies are totally neutral about this matter.
23. The marketing of fish mainly depends upon the availability, consumption and demand. The fish marketing is normally done at the collection centers, situated in the area of fish landing centers. Fresh fish are sold daily in fish landing centers.

24. Auctioneers, wholesaler, retailers and vendors are common channels or intermediaries in the marine fish marketing in the study region. Fish passes through channels from landing center to the consumers. The channels are involved in providing services of head landing, processing, preservation, packing and transporting of fish. Auctioneers, wholesalers and retailers are mainly dominated by the fishermen. Vendors are dominated by fisherwomen in the study region.

25. The fish markets open at two times, i.e. morning and evening. It starts from 7.00 am and closes at 8.00 pm. Most of the fish markets are located on the coastal area. Retailers and other fish merchants utilize their own stalls and others take it on rents. The stalls are constructed with the help of local construction materials.

26. Cold storage, ice supply, fresh water, toilet and transportation facilities are required for better development of fish market centers. But in the study region there is a shortage of these facilities. So the fish traders are facing problems.

27. Fish is mainly sold to consumers into two forms i.e. fresh fish and dry fish in the study region. Fresh fish is used in daily meals and dry fish is used at the time of off-season. There is a variation in the selling of fish from 2001 to 2012 in the study region. The average selling of fish per day per fish trader is 17 kg in fresh fish and 7 kg in dry fish. Auctioneer sells 1075 kg / day; wholesaler sells it as 775 kg, 475 kg by retailers and only 25 kg by the vendor.

28. Most of the fish traders belong to age group of 35-59 years. This sector is mainly dominated by the fisherwomen because fishermen are engaged into actual fishing operation.
29. The fish traders are also becoming members of the cooperative societies because they require loan and credit for this occupation. The main purpose of taking a loan is for purchasing of new shops and development of fish shops. The cooperative societies and fish merchants are main sources of credit and loan to the fish traders.

30. The literacy rate of fish trader and his family is high (68.33%). But the percentage of graduates and others is very low (6.67%).

31. The study observes that the members of the fish trader families are mainly engaged in the primary occupation, such as agricultural and fishing activity. This is the main source of the income of the family members.

32. Marketing expenses in fish marketing depend upon the fish trader. Auctioneers invest higher percentage on the labour cost (59.9%), followed by ice (10.18%), electricity (5.59%) and telephone (5.51%). Wholesalers have invested higher percentage on ice (27.52%), which is followed by labour (21.47%), transportation (21.07%) and packing (15.06%). In Retailing high expenses are on the labour (32.38%), followed by ice (28.36%), packing of fish (16.07%) and transportation of fish (13.62%). The vendors spend high expenses on transportation (43.44%), ice (33.33%) and packing of fish (22.21%).

33. The average price spread at the study region from different fish varieties in the year of 2012-13 ranged from as Rs.14 per kg for varieties of Golden Achovy, Horse mackerel, Indian mackerel to Rs.240 per kg for Prawns. Lobster (Rs.91/kg), Pomfret (Rs.88/kg), Jew fish (Rs.38/kg) and Cattle fish (Rs.33/kg) recorded a comparatively higher spread in the study region.

34. The share of fishermen in the consumer rupee is an important indicator of marketing efficiency. The marketwise analysis shows that the fishermen share in the consumer rupee in comparatively higher than Maharashtra. Shrimp
(79.08%), Seer fish (77.25%), Silver bar (75.09%) and Hilsa shad (74.00%) fish are recorded the maximum share of fishermen in the consumer rupee.

35. The point of first sales the high value fishes are sharks, pomfrets, mackerels, seer fish and lobster are comparatively stable than the other varieties during the period across the different seasons, whereas low value fishes like Oil sardines, Goat fish, Big Jawed, Silver bar, Cattle fish was less stable demand at the points of first sales. At the point of last sales the varieties like Sharks, Oil sardines, Pomfrets, Mackerels and Prawns comparatively stable price than the other varieties. A few high value fishes like Sharks, Mullets, Pomfrets and Cephalopods enjoyed comparatively stable prices in both the points of sales.

7.2 SUGGESTIONS

A) DEVELOPMENT OF FISHING ACTIVITY

1. It is time to respect nature by endearing to extend the fishing ban period from 15th June to 15th August to maintain the growth of fisheries and to prevent the fish coming to bread in the mangroves from getting disturbed and destroyed. Effective implementation of ban in the territorial waters as fishing and prevention of its violation is necessary, especially during the monsoon season. The breeding grounds of fish must be utilized properly to harness fishery resource at optimum level and not to destroy the nurseries of fish fauna. The patrolling boats and monitoring fleet are necessary to curb illegal fishing during ban period and they must be in a good condition. Poor fishermen should be given subsidies for loss of income during this period.

2. Do not allow hospital waste and commercial debris to be dumped in the creeks. The urban sewage and industrial wastes should be treated before pumping them into the sea and coastal waters need to be regularly monitored pollution.
3. The government of Maharashtra, in collaboration with non-government organization can conduct training programmes of repairing of fishing boats. The impart training to the youth in the fishermen community in the operation of mechanized vessels and other modern techniques in fisheries. The fishermen training centre offers a course meant for training in fishing craft and gear, fundamentals of navigations, maintenance and operation of diesel engine, weaving and mending of modern nets.

4. The government should support the fishermen for purchasing new mechanized boats and other equipments on the installment basis. The government should provide the facilities of mending sheds, workshops and hygienic facilities in the market centers.

5. It is observed that low value fish is generally discarded by the trawlers and fishermen in the landing centers. Awareness should be created among fishermen about its detrimental ecological effects on the sustained growth of fishery resources. It can be used for production of value added food products like protein, concentrates, water sausages, soup and cattle feed. For this purpose, it is proposed to set up a separate fish processing industrial estate in the coastal region.

6. It is also proposed to provide further relief to the fishing community by way of subsidy to cover the fluctuation of rates in the diesel prices. With a view to give relief to the traditional fishermen compelled to buy kerosene at high prices from the open market, a special quota of kerosene should be requisitioned from the government of India.

7. General insurance scheme for fishermen envisages providing insurance to all active fishermen in the age group of 18 to 60 years, living below the poverty line. The fishermen marginally above the poverty line should also be covered under the scheme. The benefits should be paid in all accidental deaths, including death occurring on the high seas due to natural calamities.
8. Development of fishermen village under which the eligible fishermen would be provided with the basic civic amenities like housing, drinking water and a common place for recreation.

9. Awareness needs to be created among fishermen community by organizing seminars, conferences and training programmes related to fishery resource development in a regional language.

10. All of the fishing landing centers need to be given proper attention by the government of Maharashtra to develop necessary infrastructure to promote fishery activities on large and commercial scale without affecting the existing environment.

11. The government should provide the most essential life saving devices like the floating ring, life jacket and mask to all fishermen at free of cost to take with them in the boat while fishing in order to avert accidents in the sea.

12. In view of the fact that mechanization has been highly successfully increasing output should be chalked out to bring the remaining traditional fishermen of the South Konkan under the mechanization.

13. Trawlers should be restricted from fishing in the near shore waters where traditional and small scale fishermen enjoy customary rights over the resources. The local government should reserve the coastal waters up to depth of 10 fathoms for the exclusive use of the traditional fishermen. Prohibit purse seining in the inshore water. So fishing zone for small fishermen and trawlers and other big mechanized boats should be clearly defined and enforced.

14. The government should promote use of Information and Communication Technology (ICT), particularly for enabling fishermen, cooperatives and groups to get a better price for their products and for increasing safety in the sea.
15. The government should improve availability of credit facilities to fishermen and fish traders through cooperative societies or self help groups.

16. The fishery department should establish at the Block level for the proper supervision. The staff of fishery department should visit the community, periodically to offer suitable suggestive fishing methods.

**B) DEVELOPMENT OF FISH MARKETING**

1. Local government should provide stalls and shades to fish traders on rent. They also should provide common cold storage facilities and continuous supply of electricity in the fish market centers.

2. State government should construct the fish landing centers along with that in the area of landing centers government should provide basic facilities such as drainage, fresh waters, electricity and toilets.

3. The government should create and improve facilities for cleaning and processing fish under hygienic conditions at landing centers and harbors and should develop clean fish markets with availability of water and sanitation facilities and should learn from the example of existing market such as the one in Margoa, Goa.

4. In the existing marine fish trade, the venders, who are mainly illiterate women, preserve fish even without ice pieces. This does not keep the quality of fish for longer time. Modern fish preservation facilities should be provided at the market centers.

5. The landing centers should provide with minimum facilities like shades, cold storage and refrigerated facilities. Regulated marketing system should be introduced so that producer fishermen will get a better price and consumers can purchase fish at reasonable price.
6. Prices of fish commodities in the daily market centers should regulate and notified by competitive authorities i.e. Directorate of fisheries on regular basis. This will resolve the major problem of high soaring prices of various fish commodities which are out of reach of a common man in the study area.

7. The government should provide a financial assistance to local bodies and fishermen for construction of stalls, purchasing of insulated boxes, motor cycles or auto rickshaws fitted with insulated boxes and deep freezers, providing subsidy to fishermen for purchasing the new mechanized and non-mechanized fishing boats and fishing nets.

C) DEVELOPMENT OF FISHERY COOPERATIVE SOCIETIES

1. The fishery cooperative societies should try to increase the membership. They should try to convey the fishermen community by telling them the importance and benefits of fishery cooperatives. The awareness of members of fisheries societies should increase as they try to attend the annual general meeting carefully.

2. Fishermen’s cooperative societies should develop their own processing units at the landing centers. It will not only check the distress sale but will add to the value of the fish. The additional gain through processing can be distributed among the member of societies and this will increase their net share in the fish trade.

3. State government should provide financial support to the primary fishery cooperative societies for development of societies and fishermen community. They should provide computers with internet connection at cheaper prices. Government should also assist the societies for purchasing of modern equipments of fishing.
4. State government should make rule for appointment of female staff members in the primary fishery cooperative societies. They should give extra benefits for female membership of societies.

5. State government should arrange the workshops and training programs for staff and members of fishery cooperative societies.

Thus, it is hoped that the present study of marine fishing resource and marketing with a geographical perspective will reflect not only on the fishermen community, traders for their prosperity but also contribute to their economic development in an effective manner.