CHAPTER - VIII
SUMMARY AND CONCLUSIONS

In developing countries the labor market depends on agriculture and its allied sectors. Furthermore, the rural areas show hidden unemployment. Success of agriculture and allied sectors to a large extent depend upon the environment which is more fragile in developing countries than the developed countries.

Pisciculture is basically a rural activity. Most of the poor people of India are located in the rural areas. Aquaculture consists of forward and backward linkages. Both the linkages have played a key role in rearing the economic profile of the rural poor. A dynamic aquaculture that has significantly raised income has also had spin-off multiplier effects on the rest of the economy through increased consumer and producer demand.

In land fisheries are playing a significant role in the global economy. The world inland fish production was 65.00 million tonnes during the year 1996. However it increased to the level of 572.00 million tonnes by the year 2014. It shows a abnormal growth. The increased effort over time and space is the consequence of over increasing demand worldwide.

Similar is the case with the Inland fisheries sector of India. It has witnessed a phenomenal growth during the last five decades both quantitatively and qualitatively. The inland fish production was 3.40 Lakh tonnes during the year 1950-51. However, it increased to 42.30 lakh tonnes by the year 2013-2014. This increase is the result of improvements in the harvesting methods, increase in the fishing effort and extension of innovation activities.
The Inland fisheries sector in Tamil Nadu also witnessed rapid growth. The Inland fish production was 3,45,376 tonnes during the year 1999-2000. However it increased to 5,83,426 tonnes by the year 2013-14. The difference leads to 2,38,050 tonnes. This phenomenal growth also brought in imbalance in the exploitation across the regions and among the resources.

In the recent years the imperative needs for uplifting the rural sector for achieving an overall development of the economic status of the inland Fishermen Community has been recognised. The marine fishery sector is essentially rural and is composed predominantly of fishing villages. The development of this sector would thus largely depend upon the improvement of economic and social status of the fishermen communities. In spite of the significant role played by the fishery sector in contributing export earning to the state economy and providing employment facilities to the rural sector. In Nagapattinam the majority of fishermen belong to low income groups and economically backward and socially deprived segment of the society. Most of them live below the poverty line. The major share of the benefits must have been enjoyed by the fishermen which requires a new strategies for their upliftment.

The landing centres in Nagapattinam district differs in their economic development as well, this is indicated by the infrastructural facilities, depth of the shore, quantum of catch etc. All these factors do make for differences in the type of craft and gears used. Traditional no-mechanised crafts are still playing a major role in fishing operations. There is much scope, however, for better exploitation inland of resources for the development of inland fishermen in the state.
The fisheries development depends on many interrelated environmental factors. Most important among them are (a) Seasonal variations that influences the availability of fishing days, types of fish and overall fishing period, Institutional finance, the availability of which is in appropriate quantity time and adequate major can play a vital role in weeding out the financial bondage between fishermen and traders and will change the entire market structure.

It is observed in the Nagapattinam District of Tamilnadu that agriculture is the principal occupation for most of the people in this region. However pisciculture becomes one of the important subsidiary sectors in the district. Small farmers, marginal farmers and agricultural labourers mainly participate in the fisheries activities.

Among the total respondents, a majority of the fishermen are illiterate followed by higher secondary, secondary qualifications respectively. However, very few fishermen have vocational and general higher qualifications.

Fish production comprises indigenous and exotic carp culture. Indigenous major carp culture includes catla, rohu, mirgal and catfish which have different feeding habits, whereas the exotic carp culture includes silver carp, grass carp and common carp, which have normal habits. However, Nagapattinam District, the fishermen maintain a composite fish culture.

In tune with the trends at the national and international level in fisheries, the fisheries sector in Nagapattinam also witnessed phenomenal growth. The total fish production was 1,21,150 tonnes during the year 2010-11. However, by the 2013-214 it increased to the level of 11, 318.44. The Government of Tamilnadu promoted Inland fisheries in Nagapattinam by giving them subsides and other facilities.
In this study, author has observed that there is a positive impact of the fish culture on the income generation of sample households. This shows that the first hypothesis has been disproved.

If the level of education is higher, (in this region) the production of fish is high. A person’s productivity is the result of his knowledge and his wisdom. If the technical knowledge and infrastructural facilities increase in the vicinity of rural villages, it has an impact on the growth of fish production.

In the market, demand for the fishes is always more than the supply. However prices of fish are not increasing. It is due to ignorance, illiteracy, poverty and lack of organizational behaviour if fishermen. As a result the fishermen get in consumer’s rupee is around 60 per cent remaining 40 per cent goes to middlemen. The price of fish is determined by the interaction of demand and supply conditions both at the landing centres and retail markets. The fish market in Nagapattinam District is not fully developed on modern lines. At present production or landing centres, fishes are disposed by auctional method. The practical difficulties involved in handling of such perishable commodities. Improved marketing systems will ultimately provide higher financial return to fishermen communities, particularly those who are remote than urban areas. Moreover it will also assist to optimizing the fishery resources.

The fishermen’s average income is Rs. 24,000 per annum. Due to low income, the traditional fishermen are living below the poverty line. Middlemen and capitalists are exploiting them. Owing to the backwardness, ignorance, lack of awareness, the fruits of the fisheries industry are not reaching the fishermen.
The concept of micro finance had its origin in the Tamilnadu State. Later on it spread to the other parts of India. It ensures the best participation of poor fisherwomen in the credit programme. Socio-economic upliftment of fisherwomen depends on their financial independence.

Thus, it is observed, that there is a positive impact of Fish Farmers Development Agency on the growth of fish production. This shows that second hypothesis has been disproved.

Sustainable fishing demands a sound fisheries management policy. It implies the rational exploitation of fisheries. It involves allocation of fish resources, formulation of rules and their enforcement. In sort, there must be an effective fishery management based on the notion of sustainability, efficiently and equity through effective monitoring, control and surveillance measures. In the absence of sound fisheries management, there will be a tragedy of the commons. The fishermen have to incur heavy costs on seed, fishmeal and other accessories. The cost of labour is also increased. Therefore, they have to borrow from the financial agencies.

It is observed that there is a positive impact of the fisheries industry on employment generation. This disproves my third hypothesis.

The lakh of political will and determination to take and implement connective steps sincerely and efficiently has further aggravated the situation. It becomes the stumbling block in the way of taking measures for sustainable fisheries development. Due to these and many other factors i.e. the fisheries managers and administration have utterly failed to change within the fisheries sector for sustainable growth. The development of fisheries characterized by conservation, sustainability and freedom from pollution, requires collecting effort of all the stake holders in the fisheries sector, which is lacking to a great extent.
As in the case with many Governmental programmes, the benefits of the Government measures for fisheries development were taken either by the rich farmers or by the non-fishermen entrepreneurs. These people having easy access to the concerned government offices able to influence the officers, to take the benefits of subsidy, government loans, supply of accessories and other needs at concessional rates. The traditional fishermen were denied and deprived of these facilities to a large extent.

The fisheries industry faces the problems of backward and forward linkage activities. The backward linkages include production, marketing of fish seed and feed, whereas forward linkages comprise transportation, cold storage, processing and export and so on. In addition to this, fishermen are not able to get sufficient financial support from the Government Financial Institution. Due to this factor, fishermen are forced to depend more and more on money lenders, businessmen and landlords. These people charge a higher rate of interest. In this way, the middlemen exploit the fishermen.

Still, the fisheries sector provides employment to million of people both directly and indirectly. It also plays a crucial role in improving the nutritional level as well as earning a lot of foreign exchange by way of international trade.

Due to ignorance, lack of awareness, and technological lengths as well as the typical process of banks and governmental organizations, the fishermen are not benefited by the government programs and schemes.
FINDINGS
Credit Sources and Usages

1. Credit plays an important role in the livelihoods of fishermen. Credit is required for a wide range of household consumption needs and for productive purposes such as purchase of boat, nets and improvement in fishing technology.

2. The fishermen need credit for household consumption during the lean season, for social functions such as marriage and death etc. They even need credit for construction and for repair of houses.

3. The sources of credit to fisher folk can be categorised as formal and informal. Formal sources of credit consisting of banks, financial institutions, co-operatives and finance provide through developmental schemes of the government. Formal credit it mainly provided by commercial banks under schematic lending including IRDP, and other Central and State schemes. NABARD refinance to marine fishery sector constitutes a negligible per cent of the total refinance. Main reasons for poor lending to marine fisheries sector are high overdues of previous loans and inability of marine fisherfolk to provide adequate collateral security.

   The strength of the financial institutions are that they have wide branch network, the interests are relatively low and have clearly laidout systems and procedures. The weakness are that the outreach is very poor to apathy towards. small borrowers, the transactions cost high and are highly rigid in lending policies such instance on collateral security.

   The informal sources have a very good outreach and provide timely adequate credit, including for consumption, social functions, production and contingencies. The credit amount depends more on the familiarity relationship between the lender and the borrower and the interest rate of collectral security.
Traders charge interest on loans indirectly by buying fish at lower price that the effective rate of interest charged by the traders are always very high compared to the market rate of interest.

There are a few Non-Governmental Organisation (NGOs) who have started saving credit programmes among marine fisherfolk through Self-Help Groups (SHGs). For lending they mainly rely on mobilizations of saving. But the amounts being very small, credit base solely on the saving of the community, is not adequate to meet the requirements of the fishermen.

4. The co-operative sector has very little impact to cover very negligible percentage of credit which provides to its members. The primary co-operatives are capital starved and most of them are defunct. They seem to be active only during the time of schematic lendings to facilitate the selection of beneficiaries.

5. Informal sources provides nearly 80 per cent of credit of which 60 per cent was for consumption and 20 per cent for production purposes with in the informal sources of credit traders/money-lenders accounted for 70 per cent of the total credit, 8 per cent labour contractors, relatives and friends and less than 2 per cent is from NGO and SHGs.

Marketing Structure and Channels

1. Marketing channels comprise the involvements of intermediaries and their linkages in the overall procedure of fish transfer form producer or consumer – They differ highly from agriculture product marketing, because fish is a highly perishable commodity and also suffers from lack of open and perfect competition. Both the factors imply the presence of a highly monopolistic market controlled by a few big fish traders.

2. Limitations of demand in local market, high risk, high investment and absence of direct contact with consumer ultimately make producers
dependent on traders. Furthermore, supply has a limited role as prices are mainly influenced by external demand and markets. All these lead to creation of enough scope for intermediaries to stake their own share at every stage in the price, to maintain their role. Absence of marketing any resolution and the apathy of financial institutions, at large, compel small fishermen to go in search of advance money that will then limit open competition. The marketing channels are more or less similar at all landing centres in the district and state.

3. There exists a system of open auctioning at all landing centres in the district. But the entire procedure appears to be just a formality held for namesake as many fishermen are tied under the credit contract with the trader-cum-wholesaler-cum-wholesaler-cum-money-lender. These wholesalers have their own control in fixing the catch price, as they are deal with a substantial segment of the catch by sending it to markets outside the state. When the fish is sold to the local retailers, auctioning takes place. But such transactions are also not widely prevalent as the quantum of marine fish sold in the local markets is little. Particularly retail marketing is done by the women in the local markets.

4. Fish catch passes through a number of stages from producers to consumers through landings, processing, packing, preservation, transportation etc. The system and mechanism applied at various levels depends on the varieties, species of fish, final destination for marketing mode of transportation and form of product like fresh fish, dried fish, iced fish, prawn, shark and so on. Availability of adequate infrastructural facilities in the vicinity of landing centres clearly facilitate these operations and also regulates fish catch. The fish price fluctuates and varies between landing centres depending upon these factors and is also affected by the role of intermediaries involved in the process.
5. Price determining factors for fish have been identified as quantum of catch, quality of fish, financial dependence of fishermen on traders who are also the money-lenders, and the competition facing by the fishermen from the buyers.

**Suggestion**

The State Government in collaboration with the central govt-should take the following steps to reduce the threats and the weaknesses which contribute much for the backwardness of the fisheries industry in general and the Nagapattinam district in particular:

The supply-demand gap to fish and fishery products needs to be narrowed through domestic marketing to reap maximum benefits. Regular supply needs to be ensured to even small towns and villages through appropriate distribution channels.

Transportation of fish from the areas of production to the areas of demand, both in nearby and far away markets has to be done in the quickest possible time and in an efficient manner. The conventional or non-conventional energy based refrigerated containers or insulated vans, need to be made available on roadways, railways, and airways by the governmental agencies for the benefit of the fish producers as well as the consumers.

With a “Retail Revolution” underway in the country, the fisheries sector should not miss the opportunity. In view of the increased preference for processed food items, corporate houses need to be encouraged into the business of fish trade. To achieve this, an assured supply, grading, standardization and packing techniques should be promoted among the producers, companies, assemblers, collection agents, processors etc.
Awareness about the health benefits of fish consumption should be increased through advertisements and slogans in print and electronic media. The mindset of people about fish as a non-vegetarian food item needs to be changed. Agencies such as NFDB should take the initiative in this regard.

Fishermen and fisherwomen societies, farmers’ societies, self-help groups and production companies need to be promoted and supplied to have the benefit of collective bargaining in getting a remunerative price for their produce as no organized or regulated market exists in the fisheries sector. Buy-back mechanism may be promoted between the trader or assembler and the aqua farmers for which marketing enterprise development needs to be done in the production zones.

For the benefit of small petty traders, and head loaders, cycles with small ice boxes may be provided on subsidy or Iqans so that these poor folk do not lose their livelihood and get isolated as a consequence of establishing new ones, besides developing the existing domestic markets.

Promotional incentives like floor space or shops should be made available for the stakeholders involved in domestic marketing of fish and fishery products. Financial credit should be provided by banks. Exemption from VAT etc should also be given for these food items.

Entrepreneurship development programmes need to be conducted by appropriate agencies with technical backstopping from the fisheries technologists, for the fisheries graduates, fisheries diplomats, men and women interested in venturing into fish retailing to offer quality, convenient and healthy fishery products to the domestic consumers. To supplement these efforts and harness the maximum benefit market demand needs to be created and sustained through customer orientation, customer retention, and better customer service.
The State Government concerned should see that sufficient loans are provided by the nationalized banks. Moreover banks should not insist on higher down payments and also securities of various types while providing loans to the needy and deserving fishermen.

The Fisheries department must see that they are able to supply sufficient fish seed to the fishermen within the required time.

The provision of credit to the fishermen is not enough, as the monitoring the services are also very important to prevent misuse (other purpose) of credit facilities.

The various poverty alleviation programmes should be framed to help the fishermen.

In order to encourage the performance of inland fishermen co-operative societies and individual fish culturists who produce more, they are to be awarded appropriately at state level.

A separate marketing division should be establish in the fisheries department of every state in the country with adequate budget provision to create new markets and develop existing ones for fish and fishery products and to ensure market accessibility to the producers as well as the consumers. The marketing division should be headed by professionals possessing at least a Master of Fishery Science or Master of Fisheries Economics or a Degree with an MBA in marketing.

The Government authorities in consultation with the insurance companies should frame a suitable insurance policy to ensure safety and security to the life and fishing assets of fishermen. There should not be any
delay in the settlement of insurance claims which may otherwise push the fishermen into the clutches of the moneylenders.

Sufficient cold storage facilities need to be created for fish and fishery products in major production centers and terminal and retail markets.

Very few know about the medical and health care advantage in consuming fish. In fact, nobody knows, apart from a few doctors and scientists, about the good medical value of eating fish. There is a need to promote the awareness of the medicinal value in consuming fish, among the public. This responsibility must be taken up by the government.

Recently the “Reliance Fresh” which is owned by the Ambanies, has entered into the retail chain by opening vegetable markets. However, they are not selling fish in any form, though they are selling eggs at all retail vegetable markets. Governments have to take steps to encourage big industrialists to enter into the fishery trade. In order to encourage them, it is necessary for the Government to provide some membership to the big entrepreneurs, as it is now in admitting fishermen as members of the governmental committee. If this is done, then there will be faster fish marketing development in the country.

Market research is needed to ascertain the demand for various types of fish and fishery products viz., fresh, processed, quantity, affordability etc., among the different classes or categories of consumers in the society so as to produce them and create value addition and processing facilities. Fish consumption quantity and pattern should be used as an indicator to assess fish production.
The ultimate objectives of fisheries development should be:

a) Ensuring “Nutritious Food Security” of the people as an affordable and alternative source of animal protein.

b) Creating a market-driven demand which would stimulate further production, and

c) Ensuring rural employment and improving the economy of all the stakeholders involved in the fisheries sector all over the country.

It is suggested that the State Governments of Orissa carry out a high level review of the health of inland fishery sector in their states, increase the resource flow to it in terms of budgetary and credit support, and take steps to more actively monitor the progress of different programmes and schemes formulated for this sector.

**Institutional Reforms**

The marine fishery sector, theoretically, is well-endowed with grassroots and support institutions. There is supposed to be network of primary fishermen’s cooperative federated regionally and then at the state level. The inland fishery cooperatives in most locations are as good as defunct. It appears they were established for the purpose of distributing some funds under fishery schemes. Many cooperatives thus registered do not have any sustained activities in terms of input supply, common marketing or common ownership of assets such as boats, nets, iceplants and godowns.

It is recommended that the fishermen’s cooperative structures in the state be taken up for institutional strengthening. This will require on the one hand, reduction of political and bureaucratic interference in the cooperatives and on the other sustained educational work with the members about the benefits of cooperation. That kind of awareness-raising can best be done by NGOs.
In addition to cooperative institutions, the other important support institutions for the fishery sector are banks. The attitude of bakers towards the fishery sector is lukewarm or negative, which is reflected in the low share of fisheries sector credit going to the marine sub-sector. Bank branches in coastal areas do not have any special inclination in lending to the marine fisheries sector.

Also it is recommended that the banking institutions in the coastal districts be given a special target for landing to the marine fishermen and also special exposure to the credit needs of the marine fisheries sector. NABARD and Fisheries Department may have to jointly take the initiative.

**Designing and Delivering New Financial System**

Some concrete actions for the improvement of delivery of credit and related financial services – savings and insurance – among the fisherfolk are suggested. Credit itself is needed for different purposes and products have to be designed with different attributes. The recommendations are based on an analysis of their needs, the realistic possibilities for improvement in formal credit delivery agencies, and using the strengths of the informal sector.

**Savings:**

- Saving is a important economics need which should be addressed before starting any credit programme. Creating a reserve of savings helps the fisherfolk to meet their lean season consumption and contingency needs. This reduces their dependence on traders/money-lenders and by reducing the interest pay-out, increased the effective income. In case the savings can be pooled, these can also be used to make small loans to each other for consumption as well as small trading needs. So far effort has been made in this regard by a few NGOs, who have invested
substantial time in mobilising savings through thrift groups among fisherfolk. Therefore, they have substantial starting out advantage.

- It is recommended that NGOs should be given financial resources to strengthen their savings and credit programmes among the fisherfolk. In addition, NGOs should also be given technical assistance to improve the quality of their programmes.
- Some NBFCs offer attractive interest rate as compared to the banks and also provide insurance coverage to the depositors. Their reach and network is wider than of NGOs. Therefore, NBFCs can become important channels for organising a savings network among the fisherfolk. We recommended promoting such a network in the fishing areas to provide savings services to the fisherfolk.

**Consumption Credit**

- Small consumption loans are needed during the learn season or when the fisherman goes to deep sea for fishing. The loan amount is small and usually below Rs. 10000. This loan is currently provided on a lumpsum basis by the traders or boat owners in April or May each year in lieu of a labour contract. The boat owners/godown owners also provide daily credit to the fisherman family for their small consumption needs.
- It is recommended catering to this need through fisherfolk self help groups promoted by NGOs. In a Self Help Group (SHG) the members know each other and also their needs and priorities, they also exert social pressure for recovery. Thus it is an effective channel for distribution of small loans with little transaction cost. The interest rate is to be decided by the SHG and would be is the range of 24 of 36 per cent per annum with weekly repayment.
- The second category of consumption loans are for medium terms, these include children’s education and social contingencies. The loan amount is usually a few thousand. These loans are partially paid back when the
fisherman has enough surplus after one or two seasons, and the balance rolled over, putting the fisherman in a debt trap.

- The long-term consumption loans include house construction and marriage. For this the loan amount varies from Rs. 1000 to 10,000. Currently these loans are provided by money-lenders and they charge an interest rate varying from 48 per cent to 60 per cent per annum.

- It is recommended that concessional programme of HUDCO and housing finance companies such as HDFC may be used by NGOs for channeling housing loans to fishermen, under housing development schemes like, India Awas Yojana.

Production Credit

- Small credit needs in this category are mainly for petty trade, usually below Rs. 10000/- and used for fish trading by the fisherwomen. Usually these loans are for a day and for working capital and repaid next day. At present these are provided by auction agents at an effective interest rate of 100 per cent and above per annum.

- It is recommended to form self-help groups of fisherwomen by NGOs active in the areas. In the long run, the well established SHGs can be linked with branches of local commercial banks.

- Production loans required for the medium term include repair of boats and nets and investment in fish processing and trading. The loan amount varies from Rs. 5000 to 10,000 and is currently available through fish traders.

- It is recommended to use traders to provide such loans since they are in day to day touch with the fishermen and can easily collect the loan. However, the traders will require to be motivated to play this role. For this, they have to see some profits for themselves, without bearing undue risk. For the former, a commission can be given to traders, while for the latter, they can be given to traders, while for the later, they can be
extended a third party guarantee. The loans could be given buy an NGO or an innovative bank willing to lend through traders, to be paid back after a season and interest could very from 18-21 per cent per annum, plus a 3 per cent commission for the trader.

- Long-term production loans, exceeding Rs. 10,000 are needed for purchasing boats and nets, and for motorising of country boats.
- It is recommended to use banks and NBFCs, on the basis of savings history. The loan amount could be four to six times the amount of saving with the commercial bank or NBFC. The loans should be provided for a period of five years and they should charge a moderate interest rate.

**Insurance**

- There are two insurance needs among fisherfolk: one for life insurance, particularly loss of life on sea while fishing; and the other for assets, particularly boat and net, against natural calamities and theft.
- It is recommended that the existing/insurance companies, LIC and GIC should be motivated to devise appropriate schemes for fishermen to meet these insurance needs. Already a few NBFCs offer life insurance cover to their depositors as an incentive, and this can be adopted by NGOs also for their SHG members.

**Role of Outside Agencies**

We have made some suggestions above – at the policy, institutional and product levels, respectively. Given the nature of the problems related to credit for marine fisherfolk, and for them. Thus it becomes necessary for “outside agencies” to take a more pro-active stance in ensuring that they are acted upon and understood by the relevant institutions. While the outside agencies may not be in a position from which it can directly influence the concerned institutions, they can play the role of a coveynor, facilitator, analyst and even educator of policy-makers and credit providers in the marine fishery sector.
It is recommended that the central and the state government should take all the necessary steps to protect the fishermen community by controlling and preserving marine environment and ecology which will help the fishermen in sustainable fishing in the sea for their livelihood security and socio-economic development.

**Recommendations**

- Farmers shall be given ample training on creation of cages with the available materials/ low cost & quality materials, proper laying of cages in the reservoirs/water resources and detection of disease in the fishes and its treatment.

- One of the main constraints in the fish production is the mismatch between demand and supply of fish seed. Vagaries of monsoon affect the availability of water for a longer period in the water bodies which is essential for stocking and breeding. This forces the farmers/growers to stock the advanced fingerlings instead of early fingerlings. If the farmers stock the early fingerlings and breeds it to advanced fingerlings, more income may be generated. Hence, a technology involving a short period of breeding *viz* months may be propagated by TNFU for better integration with farming.

- Linking of seed growers and lessees of tanks should be more resolute for enhanced stocking.

- Fish feed in the right mixture of carbohydrate, protein, fat and minerals play an important role in the healthy harvest of fishes. Development of farm made fish feeds to reduce input cost is the need of the hour as the cost of fish feed forms major cost component of fish production.

- Inspite of practicing of inland fisheries and aquaculture from time immemorial, there have been bottlenecks in harvesting the optimum
potential and these constraints should be identified and necessary solutions evolved.

- For increased production, the growers should be trained in identification of diseases and prevention of diseases in the fishes. Ensuring disease free health of fishes through feed will be more effective. Hence, similar to the mineral mixture of TANUVAS for the livestock/cattle, Tamil Nadu Fisheries University should evolve systemwise, culturewise feed mix production. The funds under SBGF for this may be dovetailed.

- Synchronization of Water Resources Department and Fisheries Department is essential for holistic water management and release of water in consultation with fisheries department for fisheries development.

- As reservoirs contribute 1% in the harvest, more focus shall be on culturing in Panchayat tanks, Minor Irrigation tanks. Hence, watershed maps shall be prepared by the department for leasing for culturing. While leasing panchayat tanks for this purpose, to incentivize the panchayats, the income generated from the lease may be appropriated to the concerned panchayats.

**Area for Further Research**

1) The study of fisher folk community is one area, which requires immediate attention in Nagapattinam, such studies are lacking.

2) The technological development area which needs to be research.

3) Proper sociological analysis of the process of managing fisheries is necessary. The study of social impact is must as they can jeopardize the success of fisheries interventions. Gender, age, community, education, householder etc., are important social issues, which requires sociological analysis in the context of fisheries system.

4) Economics of Inland fish culture in Nagapattinam District.
5) An in depth study of productivity, profitability and efficiency measures of ponds culture in Nagapattinam
6) Price trends and marketing efficiency of fish production in Nagapattinam
7) Role of fishermen co-operative societies in sustainable fishery development
8) Social and ecological problems of Inland fish culture.