

Co-management and Livelihood Enhancement Planning in Coastal Artisanal Fisheries

Co-management Report



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**Report of co-management meetings conducted with representatives of
artisanal fishing villages in Villupuram, Pondicherry and Cuddalore Dt.
of Tamil Nadu**

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Executive Summary

This report covers a series of discussions conducted both at settlement as well as district levels over a period of a year and a half. These discussions, initiated with executive committee members of the traditional Panchayats, culminated in three district level discussions where representatives of different villages tried to arrive at a consensus on various co-management related issues. All the meetings were minuted and the agenda of the district level meetings was based on the collation of settlement level discussions. Representatives of the Fisheries Department at the district level participated in the meetings at Cuddalore and Villupuram while the director of fisheries of Pondicherry participated in the co-management meeting held there.

There is a general consensus among the fishing community that the artisanal fishing sector is facing a crisis and that the community needs to work with the government to arrive at mechanisms for fisheries resources management. There is also a consensus that provided there is government support, enforcement of regulations on destructive fishing practices and gear use can be facilitated by local communities. There is also a recognition that many of the issues facing the artisanal fishers are related to practices in vogue by the mechanised sector.

These co-management meetings constituted an important first step in operationalising fisheries co-management in these districts. However these meetings must be followed up by concrete steps by the Department and civil society to consolidate on the progress and convert the consensus arrived at during these meetings into specific actions on the ground.

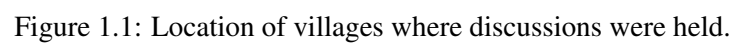
Part I

Main Report

Co-management in fisheries has been described as “a sharing of responsibility and authority for resource management between the government and the local resource users/community”.¹ There are many examples of fisheries co-management initiatives around the world, most of which indicate that co-management is not a participatory process to a static decision regarding management, but an adaptive management strategy² in which stakeholders utilise available scientific information^{3,4} and adjust fishing practices in accordance to the availability of the resource and ultimately move towards and ecosystem based approach.⁵

The Food and Agriculture Organisation of the United Nations, supported a one and a half year action research programme entitled “Co-management and livelihoods enhancement and diversification in coastal artisanal fisheries”, in May 2007. The project, implemented by the Foundation for Ecological Research, Advocacy was part of the United Nations team for Tsunami Recovery Support, based out of Chennai. Among the major goals of this project were to explore fisheries co-management, within existing institutions including traditional Panchayats and with support from institutions such as the Fisheries dept. The concerned objective was to develop a common understanding among the fisher folk and other stake holders regarding issues of sustainable fishing practice, possibilities in setting up a community based fisheries management system building up towards fishery co-management initiatives.

Among the major activities conducted as part of this component were meetings with office bearers of the traditional Panchayats in 56 artisanal fishing settlements across the Villupuram and Cuddalore districts and the Union Territory of Pondicherry. A map showing the location of the project villages is presented in figure 1.1. These settlement based meetings were followed by district level discussions which were attended by representatives of fishing communities, the concerned officer from the Fisheries Department and representatives of civil society organisations, some of who are partners in this initiative. The primary objective of the district level meetings was to develop a consensus on the issues pertaining to co-management of artisanal fisheries and then derive a set of action points or recommendations for the Department.



Chapter 2 Outcomes of the District Level Meetings

Pondicherry

A discussion was held on the 19th of June, 2008 at Hotel Mass in Pondicherry. A total of 33 persons participated in the meeting which included, leaders and representatives of the artisanal fishing communities from seven fishing villages of Pondicherry, the Director and officials of the Fisheries Department, Mr. Muralidharan, Fisheries Coordinator of the FAO and representatives of various non-government organisations participated. This included the Pondicherry Multipurpose Social Service Society (PMSSS)¹ and International Collective in Support of Fishworkers (ICSF).

The major issues raised by the fishing communities were as follows:

1. A mesh size restriction of 120mm for trawlers and 38-43mm for FRP boats should be enforced by the government. It was felt that this ought to be regulated by the government.
2. A buy back arrangement for ring-seines should be considered by the government simultaneously with a ban on the net.
3. Near shore trawling must be stopped so fishing for artisanal fishers improves. This can be enforced together by the community and the department.
4. Over exploitation of resources due to excessive number of craft and gear needs to be reversed by reducing the number of vessels used. The traditional Panchayats should limit the number of crafts allowed to operate.
5. Re-introduction of some of the economically important but increasingly rare species such as seer and pomphret should be tried. The government may try to take up activities such as ex-situ breeding and ranching of these species.
6. Discharge of pollutants from industrial areas is adversely affecting fish catches. The government needs to take action against the polluters and ensure adequate effluent treatment is taken up before release.
7. Mechanisms that enable fishing communities to work with the department need to be put in place.

¹A partner organisation on the project.

8. Alternative and non-destructive fishing techniques such as long lining need to be encouraged by the government through dis-incentives for destructive fishing and incentives for practices such as long lining.
9. The fishing community needs to take the initiative to manage their own resources and reduce over exploitation of the resource base.



(a) The Director Fisheries presenting to the group.



(b) The Additional Director in discussion.



(c) Presentation by FAO coordinator.



(d) A group discussion in progress.

Figure 2.1: Photographs from the meeting held at Pondicherry.

Villupuram

The district level meeting for Villupuram was held on the 26th of August, 2008 at Graham Hall in Anichankuppam. 56 leaders and representatives from 10 of the artisanal fishing villages, the Inspector of Fisheries, and representatives of various non-government organisations participated. This included the Pondicherry Multipurpose Social Service Society (PMSSS), a partner organisation of FERAL on the project and International Collective in Support of Fishworkers (ICSF).

The salient points of discussion were as follows:

1. A general agreement that rampant ring seine use was affecting the resource base and suggestion that ring seines with small mesh sizes should be withdrawn and only those with large sizes be allowed to operate. A buy back arrangement for the nets was suggested and a system of monitoring by village Panchayats was recommended.
2. It was suggested that the government ensure that ring seine nets with a size smaller than 60mm be stopped at the manufacturing level itself and appropriate action be taken against manufacturers of banned nets. It was felt that this would be easier to do than to try enforcing the restrictions once the nets had been purchased by fishermen.
3. There was a consensus that in-shore trawling was resulting in damage to the fish resource base. It was suggested that the government ensure that trawling is not permitted up to 10km from the shore.
4. Treatment of effluents from factories prior to release into the sea was another demand made by settlements near industrial areas. This was supported by the other representatives and the government urged to take necessary steps.
5. There was an agreement that the 45 day ban would be better implemented if compensation is paid at the correct time. It was also felt that the compensation amounts needed to be rationalised.
6. There was a concern that deep sea fishing by foreign ships was causing a depletion of the fish base. The government was urged to strictly ban deep sea fishing by foreign boats.
7. It was agreed that the use of gill nets at night during breeding season tends to deplete the population of prawns. A self regulation on the use of nets at night during this season was suggested.
8. It was felt that provided the government and other organisations initiated and facilitated co-management, these resource management measures would be taken up by the traditional Panchayats and implemented.



(a) The Inspector of Fisheries delivering his address.



(b) Discussants during the meeting.



(c) Group discussions underway.



(d) Another group discussion.

Figure 2.2: Photos from the district co-management discussion at Villupuram.

Cuddalore

The district discussion on fisheries co-management, between the representatives of the fishing villages and government agencies was held on the 19th of September, 2008 at Hotel Saradha ram in Chidambaram. A total of 56 persons participated in the meeting including representatives and leaders from 18 fishing villages. The Assistant Director of the Fisheries Department, Mr. Muralidharan, Fisheries Coordinator of the FAO, Mr. Sathyamurthy, Government representative and member of fisheries welfare society-Cuddalore district, representatives of various non-government organisations participated. The NGO representatives from CREED Chidambaram also participate and were a partner organisation on the project.

The salient outcomes of the discussions were as follows:

1. Ring seine operations have adversely affected the fishery resource base and need to be banned. Communities are willing to support the government in the implementation of such a decision.
2. In shore trawling and pair trawling are destroying juvenile fish and need to be restricted to areas beyond 10km of the coastline.
3. The minimum mesh size should be increased to 28 mm and should be enforced by the government through measures such as cancelling licenses of net manufacturers involved in the production of nets with smaller mesh sizes.
4. It was felt that deep sea fishing by foreign vessels was causing resource depletion and the government ought to ban these vessels from operating in Indian waters.
5. The group agreed that the 45 day ban could be extended to artisanal craft as long as compensation is paid to the fishers.
6. It was felt that both the government and the fishing communities had a role to play in enforcing bans and restrictions on activities such as ring seining and near-shore trawling. It was felt that this would improve the livelihoods of artisanal fishers.
7. The landing of juveniles and their sale as poultry feed was considered a problem. It was suggested that the traditional Panchayats monitor and stop this activity.
8. Release of effluents from prawn farms into backwaters was considered harmful to the fish resource and the government was urged to monitor and control effluent discharges. Similarly discharge of industrial effluents into the sea was seen as a threat for which action from the government was sought.
9. It was felt that prawn hatcheries were fattening and selling prawns at a third of the market rate resulting in lower incomes for fishers. The government was urged to intervene and ensure export of prawns and help increase prices.



(a) Additional Director Fisheries, Cuddalore speaking.



(b) Fisheries Coordinator FAO-UNTRS making his presentation.



(c) Group discussion underway.



(d) Another group discussion.

Figure 2.3: Photographs from the co-management meeting at Chidambaram.

The process of raising issues of fisheries resource management with the fishing communities was easily initiated. This is probably an indicator of the high levels of awareness of a crises in the sector among its primary stakeholders. However moving from a state of awareness to one where concrete decisions are being taken to manage these resources scientifically will not be simple. In the course of these discussions we found a lot of common concerns. The rampant violation of ban against near shore trawling and pair trawling is one example. The increasing use of the ring seine and easy access to nets with small mesh sizes is another. The community is clearly concerned about issues of sustainability as well. Most villages and discussions brought out concerns about harvesting of juveniles, destruction of habitats and environmental pollution.

While there were some instances of willingness to take on tasks of monitoring and controlling destructive fishing practices, by and large, the community expected the government, particularly the fisheries department to be the initiating and enforcement agency. What is needed is a consolidation of these meetings and discussions into a realistic action plan wherein the relationship between the community and the fisheries department is transformed into a partnership for sustainable management of fisheries resources. There are three specific areas where interventions can be made:

1. A strengthening of institutions for the management of fisheries within the artisanal sector. While traditional Panchayats are presently in the best position to represent the community, this is not the only model. There are other issues with traditional Panchayats, such as the lack of representation of women and their concerns which need to be addressed.
2. The creation of a formal mechanism for co-management wherein opinions and views of stakeholders are taken on board by the department and vice versa. No such mechanism exists in Tamil Nadu yet and many lessons can be learnt from efforts of SIFFS in Nagapattinam and Allapad (Kerala).
3. Injection of scientific data and analysis into *local* decision making. This is a crucial ingredient which is absent from many fisheries related policies, largely because datasets from institutions such as CMFRI and the Fisheries Department are too coarse to be used at a local level. An example of this is the prevalent opinion that ring seine nets are a cause for depletion of fishery resources. This is contested by many scientists who believe that the net specifically targets high fecundity shoaling fish species and does not affect the other species.

Part II

Annexures

Appendix A

Minutes of district level meetings and discussions

Pondicherry

A meeting on Co-management of Fisheries was held on the 19th of June, 2008 at Hotel Mass in Pondicherry. Leaders and representatives of the artisanal fishing communities from Pondicherry, the Director and officials of the Fisheries Department, Mr. Muralidharan, Fisheries Coordinator of the FAO and representatives of various non-government organisations participated. The participating NGOs included Pondicherry Multipurpose Social Service Society (PMSSS), a partner organisation of FERAL on the project and International Collective in Support of Fishworkers (ICSF).

The inaugural address was given by Mr. R S Bhalla, Trustee and Senior Research Fellow of FERAL; following which was an elaborate presentation made by Mrs. Ramalakshmi, Director of Fisheries highlighting the status of fisheries of the region - the problems, solutions and challenges faced by the artisanal sector as well as the Government's role in maintaining their occupational welfare were covered.

Following the Director's presentation was a talk by Mr. Muralidharan, Fisheries Coordinator, FAO of the UN, regarding Co-management as the solution to the present fisheries crisis. He cited two examples of Nagapattinam in Tamil Nadu and Allapad in Kerala where fisherfolk successfully adopted co-management about a year ago. In Allapad, the fisherfolk formed a council which regulated the usage of craft and gear as well as the frequency of operation. As specified by them, the fishermen are allowed to fish only once a day and only two boats were to be used as a carrier per vallam. This apparently has led to an increase in the fisheries resource. In Nagapattinam efforts are still ongoing with about 54 villages actively participating in this programme where a committee meeting was conducted with the Fisheries Commissioner and demands for ban on ring seine were put forward. In brief, his talk highlighted the success of co-management and the need for it to be widespread along the entire coast in order to manage the existing resources which would directly affect the community.

Following this was a presentation made by Mr. Gaspard, field coordinator FERAL who has been coordinating the co-management meetings at the village level. The presentation consisted of the consequent compilation of these meetings, which were essentially opinions and recommendations made by representatives of the traditional fishing Panchayats regarding the present scenario prevailing in the sector, concluding with the importance and need for co management as an actual solution to their existing problem.

In order to obtain a clearer perspective on the problems being faced by the artisanal community (as opposed to the general views stated within the sector), the gathering was required to form three smaller

groups and the minutes of the discussion were recorded by the FERAL team. This aim of this discussion was to get specific views from the representatives which in turn would feed into better management strategies, and form the basis for a co-management strategy for fisheries. Topics discussed were those commonly encountered during the village level meetings of the respective districts. Following are the opinions and suggestions that were given by the representatives.

Questions	Decision	Action Points
Using mesh size of 120 mm in trawlers; For FRPs and Kattumarams 38-43mm mesh size	Agreed	Government should regulate the mesh size for various boats
Ban of ring seine eg.: Kerala; Govt. should give subsidy for the ring seine.	Agreed	Government should enforce it.
Fishing in the inshore area by trawlers and other big boats; They should go further out to sea for fishing, this will improve fishing for the artisanal fishermen.	Agreed	Government and community should regulate it.
Presently, the no. of trawlers and FRPs have increased and also due to new technologies in fishing, the resource has decreased.	Agreed	Community and Panchayat should regulate it.
Due to improper fishing methods, some fish species populations are under threat eg: pomfret, seer fish, etc	Agreed	Government should take necessary action like sea ranching like in Japan
Release of toxic chemicals from factories may affect the fish population in the region of Kalapet and Pillaichavady.	Agreed	Government should take proper action against the factories and ensure the factories treat the effluent effectively before releasing into the sea without causing any harm to fish population.
For improving their livelihood they should work in a cooperative manner.	Agreed	Government and community must work together.
The government should enforce deep sea long lining, it is less destructive; it also reduces resource competition between the fishermen.	Agreed	Govt. should enforce them and give loan for them for their sustainable development.
Due to lack of management as well as resource competition fisheries wealth has reduced.	Agreed	Community should take the initiative to manage their own resources.

This group activity facilitated an understanding about Co-management and the need for it to manage the available natural resources. In view of this, the leaders of the fishing community agreed to adopt this management strategy as well as promote it along the coast in the hope of a sustainable future. The meeting was concluded with the vote of thanks which was given by Mr. Kumaran, FERAL.

Villupuram

A district level meeting on Co-management of Fisheries was held on the 26th of August, 2008 at Graham Hall in Anichankuppam. Leaders and representatives of the artisanal fishing communities, the Inspector of Fisheries, and representatives of various non-government organisations participated. This included the Pondicherry Multipurpose Social Service Society (PMSSS), a partner organisation of FERAL on the project and International Collective in Support of Fishworkers (ICSF).

The inaugural address was given by Mr. R S Bhalla, Trustee and Senior Research Fellow of FERAL; following which was a talk given by the Inspector of Fisheries, Mr. Chandran (Marakkanam) highlighting the status of fisheries of the region and the Government's role in maintaining their occupational welfare.

A 2 minute footage of the ring seine discard which had occurred in July, in Veerampattinam- a fishing village in Pondicherry was shown soon after Mr.Chandran's talk. This had also featured in the local news channel. The purpose of showing this footage was to create awareness about the negative impacts of using the ring seine as well as enforce the consequences of utilising destructive fishing gear. Following this was a presentation made by Mr. Gaspard, field coordinator FERAL who has been coordinating the co-management meetings at the village level. The presentation consisted of the consequent compilation of these meetings, which were essentially opinions and recommendations made by representatives of the traditional fishing Panchayats regarding the present scenario prevailing in the sector, concluding with the importance and need for co management as an actual solution to their existing problem.

In order to obtain a clearer perspective on the problems being faced by the artisanal community (as opposed to the general views stated within the sector), the gathering was required to form two smaller groups and the minutes of the discussion were recorded by the FERAL team. This aim of this discussion was to get specific views from the representatives which in turn would feed into better management strategies, and form the basis for a co-management strategy for fisheries. Topics discussed were those commonly encountered during the village level meetings of the respective districts. Following are the opinions and suggestions that were given by the representatives.

Questions	Decision	Action points
Ring seine usage: Do they lead to a decrease in fish populations; Catching all size ranges from small to large	Agreed	Government should ban only ring seine with small mesh size(Addanthavalai) and not big mesh size (Penthavalai). Government must provide compensation for the ring seine. Monitoring can be carried out by village Panchayats.
Government should ban the manufacturers from producing small size mesh and enforce the law to produce the mesh size with a minimum of 60 mm.	Agreed	Government should take appropriate action against the manufacturers producing ring seines with small size mesh sizes.
Due to technology development overfishing is followed which results in decline of fish population.	Dis agreed	
Inshore trawling of mechanised boats using trawl nets causes damages to the eggs and juvenile fishes. So they must do fishing beyond 5 km from the sea shore.	Agreed	Government should monitor the mechanised boats from inshore trawling and the distance to be increased as 10 kms.
Discharge of effluent from the factories into the sea leads to the death of fishes	Agreed	Effluent should be treated properly before release into the sea.
During ring seine operation when the net is fetched out, diesel is poured in the accumulated net to make the fishes struggle for respiration. This contaminates the seawater.	Dis agreed	
The seasonality ban of 45 days is executed every year to preserve the fish population with compensation is feasible	Agreed	They prefer that the compensation and rations to be provided at the specific time so that the motive of the ban can be successful moreover the compensation amount provided should be justified to meet today's costs
Indian government permits deep sea vessels to do fishing along Indian coasts which leads to depletion of fish resources.	Agreed	Indian government must strictly ban deep sea fishing along the Indian coasts
Government can create opportunities for an alternate job for 6 months other than fishing so as to sustain the fish population.	Dis agreed	
Using Gill nets in the mating season during nights leads to depletion of prawn population in the near shore region.	Agreed	Fishermen must use these nets only during the day
By co management method if the high populated coastal villages coordinates to protect the fish resources automatically it would be followed by the other fishing villages.	Agreed	Government and other organisations should initiate them.

This group activity facilitated an understanding about Co-management and the need for it to manage the available natural resources. In view of this, the leaders of the fishing community agreed to adopt this management strategy as well as promote it along the coast in the hope of a sustainable future. The meeting was concluded with the vote of thanks which was given by Mr. Vijay, FERAL.

Cuddalore

A meeting on Co-management of Fisheries was held on the 19th of September, 2008 at Hotel Saradham in Chidambaram with Leaders and representatives of the artisanal fishing communities from Cud-

dalore district, the Assistant Director of the Fisheries Department, Mr. Muralidharan, Fisheries Coordinator of the FAO, Mr Sathyamurthy, Government representative and member of fisheries welfare society-Cuddalore district, representatives of various non-government organisations participated. Included CREED Chidambaram, a partner organisation of FERAL on the project.

The inaugural address was given by Mr. R S Bhalla, Trustee and Senior Research Fellow of FERAL; followed by Vijai on FERAL's approach's in data collection through out the project. Mr. Muralidharan, Fisheries Coordinator, FAO of the UN, regarding Co-management as the solution to the present fisheries crisis. He cited an example in which Allapad of Kerala where fisherfolk successfully adopted co-management about a year ago. In Allapad, the fisherfolk formed a council which regulated the usage of craft and gear as well as the frequency of operation. As specified by them, the fishermen are allowed to fish only once a day and only two boats were to be used as a carrier per vallam. This apparently has led to an increase in the fisheries resources. Efforts are still ongoing with the Fisheries Commissioner and demands for ban on ring seine were put forward. In brief, his talk highlighted the success of co-management and the need for it to be widespread along the entire coast in order to manage the existing resources which would directly affect the community.

Mr Sathyamurthy emphasised the need for co-management in view of the present scenario prevailing within the community. Followed by the Assistant director of Fisheries Mr Tamilmani highlighted the status of fisheries of the district - the problems, solutions and challenges faced by the artisanal sector as well as the Government's role in maintaining their occupational welfare. In order to obtain a clearer perspective on the problems being faced by the artisanal community (as opposed to the general views stated within the sector), the gathering was required to form three smaller groups and the minutes of the discussion were recorded by the FERAL team. This aim of this discussion was to get specific views from the representatives which in turn would feed into better management strategies, and form the basis for a co-management strategy for fisheries. Topics discussed were those commonly encountered during the village level meetings of the respective districts.

Following are the opinions and suggestions that were given by the representatives of the villages during the co management meetings.

Questions	Decision	Action Points
Usage of Ring seine has largely reduced the population of fishes and resources.	Agreed	Government should ban Ring seine and monitoring should be by village Panchayats
Due to inshore trawling the juveniles are destroyed	Agreed	Trawling (retaimadi) should be stopped in inshore waters; can be done beyond 10km
28 mm mesh size has been adopted as minimum mesh size in Arab countries so can this be followed in our country for Ring seine	Agreed	Government can enforce it and this can be monitored by cancelling the license of net manufacturers who do not follow
During Ban season deep sea fishing is carried out in Indian coasts is also a reason for fish depletion.	Agreed	Government should monitor it
The seasonality ban for 45 days is only practised by MB. Should this be enforced for all. Can the Ban period be extended from 45-60 days to improve resources?	Agreed	Compensation required during the ban. Ban season of 45 days is enough.
If Government cannot ban ring seine and inshore trawling of MB. This has to be enforced by fishing communities so as to improve artisanal fishers livelihoods.	Agreed	Government 75% and community 25% must work together.
Juveniles were discarded at sea 10 years ago but at present it is brought to shore and sold as poultry feed.	Agreed	Village Panchayat can monitor this.
Effluent from Prawn hatcheries cause harm to juveniles at estuary region.	Agreed	Government to monitor the effluent discharges
Effluent from industries contaminates sea water which is also a reason for depletion of fish species.	Agreed	Government to monitor the effluent discharges
Small prawns are purchased at prawn hatcheries which is fattened and sold at a low price; affecting the price of marine prawns from 600 to 200 INR at present.	Agreed	Government to promote export through quality check.
Due to technology improvement, devices such as GPS, mobiles and motor boats trace out the exact place of fishes and capture all .	Disagreed	These instruments are helpful to find direction
Vawwa, Sudai and kathazhai are some of the fishes which have decreased considerably over a period of ten years.	Agreed	Government to ban ring seine

This group activity facilitated an understanding about Co-management and the need for it to manage the available natural resources. In view of this, the leaders of the fishing community agreed to adopt this management strategy as well as promote it along the coast in the hope of a sustainable future. The meeting was concluded with the vote of thanks which was given by Mr. Gaspard, FERAL.

Appendix B

Minutes of meetings held at specific settlements

Pondicherry

Pannithittu

Issues confronting the village:

- Use of ring seine nets
- Use of Trawling nets
- Use of Small size nets
- Overfishing in the deep sea.

Suggestions for overcoming the same:

- Government should ban the ring seine operation and give adequate compensation to them.
- The mesh sizes below 40mm should be banned by government to preserve the juveniles
- The license of the companies which manufacturing below the 40mm net size should be cancelled.
- Use of trawling nets should be banned.
- Deep sea fishing should be reduced.
- Ring seine user themselves should come forward and give up the operations of ring seine gear.
- Sea patrol can be used to monitor the fishing gear, so as to manage the sea resources.
- The government should grant loans to fisherman for promoting large size mesh.
- The latest fishing techniques can be introduced to enhance the livelihoods of fisherman and for managing the resources.

Livelihoods

1. Due to occupation decline they are pushed to poverty line
2. Grant of scholarships for education will be useful
3. Getting priority in Government recruitment.
4. Fishing equipments can be financed by Government as loans
5. The Government can give priority and facilitate for Catamarans so that the resources can be preserved.

Fishing fleet has been increased at present comparing with the past ten years. The use of Catamarans has reduced partly but the launch of FRP has increased the fishing fleet.

At present the facilities are high so there is no development in their livelihoods.

In the past the number of nets were less and the catch was high but at present it is inversely proportional.

Credit sources

1. The middleman is the only source for small scale fishers because they only provide loan with less formalities.

Trade

1. The role of different stakeholders and Ring seine nets is the main cause for decline of their trade
2. Government to provide loans for trade.

Narambai**Issues confronting the village:**

- Usage of Ring seine gear
- Use of trawling nets
- Ban on fishing during spawning is not taken seriously by neighboring villages in Tamil Nadu.
- Ban on fishing season government is providing compensation only to mechanised boat owner.

Suggestions to overcoming the same.

- The Government alone should ban the Ring seine net.
- The Government should provide compensation even to fisherman who are using kattumaram and FRB.

- The neighboring villages should also follow the rules imposed by the Government during the fish spawning season.
- Diamond net was introduced two years before by government to manage the fish resource but that was not viable for the fisherman.

Livelihoods and Infrastructure:

Fishing fleet has been increased at present comparing with the past ten years. The use of Catamarans has reduced partly but the launch of FRP has increased the fishing fleet.

At present the facilities are high so there is no development in their livelihoods.

In the past the number of nets were less and the catch was high but at present it is inversely proportional.

The fisherman are given subsidy for fuel but the fuel station is only at Thengathittu jetty which is of no use for them. So if they have a fuel station close by it would help.

Insurance

1. The fishing co-operative society does not cover any insurance policies for assets.
2. The Government can render support to implement insurance act through boat owner's Associations.
3. Personal insurance policies are not functioning

Credit sources

1. The only source of credit is through neighbours.

Marketing:

1. The role of different stakeholders and Ring seine nets is the main cause for decline of their trade
2. Government to provide loans for trade by reducing formalities to promote artisanal fishers.

There were contradictions in the number of assets .

As per our survey the number of FRPs were 43, but now three has been sold. Fisherman are unaware of the regulation to prevent resource overexploitation.

Nallavadu (North)

Issues confronting the villages:

- Ring seine gear
- Near shore trawling

Suggestions to overcoming the same:

- The Ring seine manufacturing should be banned
- Near shore trawling should also be banned.
- The neighboring villages should also respect the ban on fishing during the fish spawning period.
- Various regulations on fishing can be imposed by different stakeholders for resource management.

Livelihoods

- Fishing fleet has been increased at present comparing with the past ten years.
- The use of Catamarans has reduced partly but the launch of FRP has increased the fishing fleet.
- At present the cost of living is high so there is no development in their livelihoods.
- In the past the number of nets were less and the catch was high but at present it is inversely proportional.
- Government can facilitate the fishers for a secondary occupation in the Ban season.

Insurance

1. The fishing co-operative society does not cover any insurance policies for assets.
2. The Government can render support to implement insurance act through boat owner's Associations.
3. Personal insurance policies are not functioning.

Credit sources

The middle man is the only credit source available. Since the small scale fishers are unable to get loans through banks because the formalities are high. They are unable to mortgage their assets as well.

Trade

1. The trade is only through auction to head loaders who sell in the local market
2. Government to provide loans for trade to the small scale fishers

There was no contradictions in the data. The mechanised boat fishers are the only beneficiaries from the government during the ban season, whereas the small scale fishers are not applicable.

Solai Nagar (North)

Issues confronting the village:

- Usage of Ring seine gear.
- Near shore trawling
- Suggestions for overcoming the issues:
- The Ring seine manufacturing should be banned .
- The Government should grant loans to fisherman for promoting them to do deep sea fishing.
- Like foreign countries, only particular type of nets only allowed to catch particular fish in a year to manage the resources.
- The neighboring villages should also respect the ban on fishing during the fish spawning period.

Livelihoods

Fishing fleet has been increased at present comparing with the past ten years. The use of Catamarans has reduced partly but the launch of FRP has increased the fishing fleet. At present the needs are high so there is no development in their livelihoods. In the past the number of nets were less and the catch was high but at present it is inversely proportional.

Insurance

1. The fishing co-operative society does not cover any insurance policies for assets.
2. The Government can render support to implement insurance act through boat owner's Associations.
3. Personal insurance policies are not functioning for the past three years.

Credit sources

The middle man is the only credit source available. Since the small scale fishers are unable to get loans through banks because the formalities are high. They are unable to mortgage their assets

Trade

The trade is carried out through head loaders by auctions.

1. The role of different stakeholders and Ring seine nets is the main cause for decline of their trade
2. Government to provide loans for trade.

Periyakalpet

Issues confronting the village:

- Industrial waste
- Government policies
- Allowing foreign ships to catch fish in the rock area.

Suggestions to overcoming the same:

In regard to industrial waste concerned govt. departments should do monitoring to find out how much damage is industrial waste causing to fish depletion. Also they felt that government should not allow the foreign ships to catch fish in the rock area, they considered that rocks are ideal place for the fish to spawn. Further, they emphasised that ban on fish during the fish spawning period, should be follow by all the villages.

Livelihood

- Fisherman livelihood has been increased at present comparing with the past ten years.
- Fishing will be viable for only two years and not more.
- At present the prices are high so there is no development in their livelihoods. I
- n the past the number of nets where less and the catch was high but at present it is inversely proportional.
- The fisherman are given subsidy for fuel but it is not worth because it has to be collected for Thengaithittu jetty.
- A secondary occupation in the close by factories during the ban season can help them to sustain their Livelihoods.

Insurance

1. The fishing co-operative society does not cover any insurance policies for assets.
2. The Government can render support to implement insurance act through boat owner's Associations.
3. Personal insurance policies are not functioning

Credit sources

1. The only source for coastal fishers is only through neighbours because they only borrow for their day's living and moreover it can be repaid back in a short period.
2. The assets mending charges loans are borrowed as mortgage loans from the local lenders at 3% rate of interest.

Trade

1. The Ring seine nets is the main cause for decline of their trade
2. Government to provide loans for purchase of nets and boat mending for coastal fishers.
3. They should also reduce the formalities for loans because they don't accept the fishing assets as security moreover the immovable properties possessed by them is not beyond 100 meters from the coast, which is not accepted as security

Marketing

Merchants from Kerala are ready to purchase but it only happens through middle man and they are paid on weekly basis.

Chinnakalapet**Issues confronting the village:**

- Usage of Ring seine gear should be completely banned .
- The use of trawling nets should also be banned.
- Neighboring villages I.e., TN are not obeying the ban on fishing during fish spawning season.

Parties responsible for these issues:

1. Ring seine user
2. Trawling nets user

Suggestions to overcoming the same:

- The Government alone should ban the Ring seine net.
- Government should also provide compensation while banning the ring seine net .
- If the government is unable to give compensation to the ring seine user, at least they should monitor the size of the mesh closely.
- Various regulations on fishing can be imposed by different stakeholders for resource management.

- The neighboring villages in Tamil Nadu should also respect, the ban on fishing during fish spawning season.

Livelihood

- Fisherman livelihood has been increased at present comparing with the past ten years. However fishing will be viable for only two years and not more.
- At present the prices are high so there is development in their livelihoods.
- In the past the number of nets were less and the catch was high but at present it is inversely proportional.
- The fisherman are given subsidy for fuel but the fuel station is only at Thengaithittu jetty which is of no use for them. So if they have a fuel station close by it would help.

Insurance

- The fishing co-operative society does not cover any insurance policies for assets.
- The Government can render support to implement insurance act through boat owner's Associations.
- Personal insurance policies are not functioning

Credit sources

The only source for loans is through neighbours.

Trade

- The role of different stakeholders and Ring seine nets is the main cause for decline of their trade
- Government to provide loans for trade.
- The fisherman are unaware of the MFRA.

Pillaichavady (Pondy)

Issues confronting the villages:

- Usage of Ring seine gear
- The use of trawling nets .
- Discharges from the factories close to the village is also a reason for the resource depletion.

Suggestions to overcoming the same:

- Various regulations can be imposed to different stakeholders for managing the resources.
- The neighbouring villages should follow the ban on fishing during fish spawning season.

Livelihood

- Fisherman livelihood has been increased at present comparing with the past ten years.
- Fishing will be viable for only two years and not more
- At present the prices are high so there is no development in their livelihoods because they spend on their Children education..
- In the past the number of nets where less and the catch was high but at present it is inversely proportional.
- The fisherman are not given subsidy for fuel

Insurance

- The fishing co-operative society does not cover any insurance policies for assets.
- The Government can render support to implement insurance act through boat owner's Associations.
- Personal insurance policies are not functioning

Credit sources

- The only source for coastal fishers is only through neighbours because they only borrow for their day's living and moreover it can be repayed back in a short period.
- The assets mending charges loans are borrowed as mortgage loans from the local lenders at 3% rate of interest.

Trade

- The Ring seine nets is the main cause for decline of their trade
- Government to provide loans for purchase of nets and boat mending for coastal fishers.
- They should also reduce the formalities for loans because they don't accept the fishing assets as security moreover the immovable properties possessed by them is not beyond 100 meters from the coast, which is not accepted as security.

Basic needs

- Secondary occupation is a must.
- Priority to fisherman community in education would help them to adopt them in a different occupation.
- Provide loans for secondary occupation.
- The fisherman are unaware of the MFRA.

Kanagachettikulam**Agenda of the meeting**

- What are the problems they facing in fishing.
- And how to solve the problems with different stakeholders.
- What are the issues and suggestions regarding co-management of artisanal fisheries.

Discussion

Issues confronting the village:

- There are two types of ring seine which are used by the fisherman I.e., Penthavalai and Adanthavalai.. However Only they want to ban the Adanthavalai,because it is catching all the fish.
- Mechanised boat catching the fish near the sea shore by using Senaakunivalai.
- Industrial wastes are drained into the sea which also causes the fish depletion..

Parties responsible for these issues.

- Parties using the small mesh size.
- Company

Suggestions for overcoming the same.

- To ban the use of Adanthavalai with help of Fisheries dept.
- Govt. should ban the production of Surkkuvalai.
- Also Fish buyers should not buy the fish from the surukkuvalai owners.

Role of different players.

They suggested to organise meeting with different stakeholders, so that they can discuss this issue in the meeting.

Specific action points - what needs to be done in the village itself by the leaders/community

They felt most of the issues pertaining to fish depletion was not in their hands. However they had realised that the need for co-management effort and expressed their willingness to participate in such kind of meeting to solve the resource related problems.

Villupuram District**Vasavankuppam:****Reasons for fish depleting:**

1. Ring seine usage is the main reason for fish depletion.
2. Trawl boat is also another reason for fish depletion.
3. Casting bombay duck nets for a period of 24 hours is also a cause for fish depletion.
4. Technology improvement like GPS, Eco sound and cell phones are reason for fish depletion.
5. Government is not implemented is marine regulations so far.
6. During the spawning period, government should provide enough compensation to the fisherman. So that they will not catch fish during the ban period.

Santhiriyankuppam:**Reason for fish depletion:**

1. By using trawl boat both small and big fishes were caught, because of this fish reproduction is decreasing.
2. Foreign ships are catching fish in the deep sea by using three different types of nets to target small and big fishes. Indian government should ban such kind of fishing practice.
3. Ring seine usage should be banned by the government.
4. Before banning the ring seine use, the government should also provide ample time for the fisherman.
5. Government should provide 6 months alternative jobs in a year for the fisherman.

Puthupettu Puthukuppam**Reasons for fish depletion:**

1. Fish depletion are occurs due to natural disasters like earth quake and Tsunami.

2. Nowadays different types of nets came into existence, that is also one of the reasons for fish depletion.
3. Kalapet, Soda factory waste water discharged into the sea, is also a reason for fish depletion.
4. Catching Mathi fish through mosquitoes nets is causing problems for other fishes reproduction.
5. Government should strictly enforce the marine regulation act, so that Trawl boats will not do fishing in the near shore.
6. Fisherman are not selling the prawns for good price, because of shrimp farm existence.

Pillai Chavady

Reasons for fish depletion:

1. Ring seine usage is the main problem for fish resource depletion.
2. In one of the government organised meeting, government people asked signature from 50 peoples from each village to ban the ring seine operation, but unfortunately none of villages cooperated.
3. Trawl nets is also threats for fish resource.
4. Small scale fisherman are struggling to sell their fish, because ring seine operators selling it in large scale.
5. Diesel bunk which provides subsidy is situated in Cuddalore district, similar like one can be established in Villupuram district to help the Villupuram district fisherman.

Panichamedukuppam

Reason for fish depletion:

1. Spawning fish and juvenile fishes are affected by trawl boats.
2. Ring seine nets are catching both small and big fishes because of this fish depleting.

Suggestions to overcome the same:

1. Only government can ban the ring nets operation.
2. Government can not ban ring nets usage immediately, it should provide compensation to the fisherman who are using it.

Nochikuppam

Reasons for fish depletion:

1. Ring seine usage is major problem for fish depletion, so government should ban the ring seine operation.

2. Near shore trawling is causing damage to the fish resource, so trawl boats should do fishing 15km away from the shore.
3. Technology improvement is also paving way for fish resource depletion. By using new technology, they are over exploiting the fish resource.
4. Foreign ships should be banned from fishing, because they are catching tonnes of fish in a day.
5. Industrial wastes discharged into the sea is also a problem, because of this lots of fish are dieing.
6. To ban the traders buying fish from the ring seine users.

Nadukuppam

Reasons for fish depletion:

1. Near shore trawl boats catching even small fishes because of this fish resource is depleting. So trawl boats should do fishing 10km away from the shore.
2. One ring seine net, one day catch fish, which will be livelihood for 10 families for a period 10 days . So government should directly involve in this matter and ban the ring seine.
3. Foreign ships are fishing in the deep sea, which reduce the fish resource significantly. Government should cancel their license .
4. During the 45 days ban, government should increase the compensation amount to the fisherman.

Muthaliarkuppam

Reasons for fish depletion:

1. Ring seine nets is the main cause for fish depletion, it catches big as wells as small fishes, because of this small fisherman are affected.
2. Fishing in the rocky area is affecting fish settlement and small fishes.
3. Fishing through trawler boat, is destroying the small fishes.

M. Puthukuppam

Reasons for fish depletion:

1. Ring seine manufacturing companies should be banned, because of ring seine fish resource are depleting.
2. If big villages are gather for co management, small villages will come forward automatically.
3. Small scale fisheries put mullam wood and leaves for catching fish, but the trawler boat user, disturbing the wood and leaves while they catch fish because of this small fisherman are affected.
4. If the trawl boats catch fish 15 km away from the shore, small fisherman will not be affected.

Kunimedukuppam**Reason for fish depletion:**

Ring seine user should be banned. Kunimedu kuppam has banned ring seine.

1. The practice of casting Bombay duck nets in the evening and taking it next morning should be stopped. This will help the fisherman who is targeting the prawn.
2. To catch small mathi fish, mosquitoes nets is used, that should be stopped.

Suggestions to overcome the same:

1. Fishing community is not getting any relief through government. So government should look into this matter.
2. Government is providing various schemes for the agrarian, but they are not doing so for the fisherman.
3. After Tsunami, government have not given any reliefs to this village
4. Fishing can be done 6 months in a year, for the remaining 6 months period government should provide alternative jobs.
5. Fish resource increase or decrease are in the hands of fishing community, government should realise and do needfuls to the fishing community.

Kaipenikuppam**Reason for fish depletion:**

1. Fish are depleting because of ring seine usage, so government should ban the ring seine and also make an order stating, the mesh size which is below 60mm should not be manufactured.
2. Near shore trawling causes harms to fish eggs and juveniles.
3. The practice of casting Bombay duck nets in the evening and sorting out fish in the next morning should be stopped. So that prawn catchers will benefit immensely.
4. Govt. should provide diesel in subsidy. The subsidy diesel bunk is not established in Villupuram district.
5. Due to industrial waste discharge, fish resource is depleting.
6. To enhance the fishing community life, government should provide loans.

EgiyarKuppam:**Reasons for fish depletion:**

1. Ring seine nets should be banned completely, then automatically fish resources will increase.
2. Trawl nets are catching even small fishes, so to avoid that mesh size should be changed.
3. As per the marine act Trawl boats should do fishing only in 5 or 6 nautical miles from the shore. Government should monitor this closely so as to avoid near shore trawling.

Chetti Nagar**Reasons for fish depletion:**

Ban the ring seine users

1. Normally fish lays eggs near the shore which is destroyed by the trawl nets. So trawl nets should be used 12 bagam (Bagam is a local measurement corresponding to a fathom) that is to say approximately 18 km from the shore.
2. During the fish spawning period, 45 days ban on fishing should be strictly implemented. Government should help the fishing community during that period.
3. Generally Bombay duck nets (Nakku valai) are cast in the evening and sort the fish in the next day morning, this practice is preventing prawns coming near to the shore.
4. New technology is also one of the main reasons for fish depletion, because fisherman over exploiting fish by using new technology.

Azhagankuppan**Co-management Issues:**

1. Catching all kinds of fish by the ring seine user should be banned. Before banning the Govt should give some time for the present users.
2. By using ring seine in the trawler boat, they are catching even the juveniles.
3. Kattumaram peoples are affected by near shore trawling.
4. To control the fish mob, ring seine users pouring diesel in the fish catch, that causes pollution problem in the sea.
5. Govt should ban the companies which manufacture small size mesh.

Anumanthaikuppam:**Reasons for fish resource depletion:**

1. Generally after Tsunami, fish availability are less.
2. After Tsunami, jelly fish is not available, before that jelly was used avail twice in a year.
3. Govt. should provide compensation packages to the fisherman during the 45 days ban on fishing.
4. Trawl boats should catch only mathi fishes, the net mesh size should be changed such a way . Otherwise they will catch small fishes which is used for poultry feed.
5. By use of new Technology 60% of fish community life is enhanced. But at the same time fish is also over exploited.

Suggestions to overcome the same:

- Ring seine can be used during the rainy seasons, during the other months it should be banned.
- During the ban period, Tamil Nadu government also provide compensation to the fisherman
- Government should provide loans to enhance the fishing community life through bank.

Anniciakuppam:**The reason for the fish depletion is ring seine users catching lots of fish.**

1. Mosquitoes net users catching juvenile fishes like Azarai, Mathi, because of this all the juvenile fishes are depleting.
2. Juvenile fishes like Azarai(local name) were caught for poultry feed.
3. Foreign ships are allowed to catch fish in the deep sea, that is also paving way for fish depletion. Indian Government should control this foreign ships for managing the fish resource.
4. Ban on use of trawling nets near the shore will help the fisherman to preserve the resource.

Suggestion to overcome the same:

1. Government should ban the ring seine use
2. Foreign ships should be banned from fishing in Indian territory.
3. Catching fish by using line should be encouraged.

Cuddalore District**C. Puthupettai****Issues confronting the village**

1. Ring seine
2. water current changes
3. Trawler boats
4. Overfishing

Parties responsible for these issues

1. Ring seine users
2. Trawler boats
3. Motorised boats

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Regulating the motorised boats

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should monitor the motorised boats.

The non availability of some species in this village are

1. Vawva ,
2. Sudai
3. kathali.
4. Nowadays they purchase the big ring seine and Vallam from Kerala which is banned in that state and catch large no of fishes from the sea.

Annapanpettai**Issues confronting the village.**

1. Ring seine usage
2. The ring seine usage and small mesh usage is the main reasons for resource depreciation because it gathers a lot of shrimps and by catches.
3. Industrial wastes are drained into the sea which is a reason for the resource decline. Since the prawns are hatched at the river mouth, the chemical discharges from the Nellikuppam sugar factory is one of the reasons for this species decline .
4. Inshore fishing is carried out by mechanised boats.

Parties responsible for these issues.

1. Parties using the small mesh size.
2. The industrial estate is situated at the neighbouring village and as for now two factories are under construction.
3. Large scale fishers

Suggestions for overcoming the same.

1. Ban the use of Ring seine in the larger fishing villages.
2. The ban season should be followed strictly and the compensation for their living should be made avail at the exact time.

Role of different players.

The co management meeting can enhance to step ahead to preserve the resources.

Specific action points

The resource preserving is not possible on their part, since the only known occupation for them is fishing and they are striving to sustain their livelihoods in a tough competition .The Government is the decision maker and implementer.

Velingarayanpettai**Issues confronting the village:**

1. Ring seine
2. Sea atmosphere changed after the Tsunami
3. Chemical discharges from factories

Parties responsible for these issues

1. Ring seine users
2. Climatic changes
3. Chemical factories

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Effluent should be treated properly before discharge into sea.

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should take appropriate action against the chemical factories which releasing the effluent.

The non availability of some species in this village are

1. Neer Sudhumbu
2. Kurakathalai
3. Tharatai

Comments

Before the launch of ring seine there were different types of nets for different fishes,whereas now it is a single net.

Thamanampettai**Issues confronting the village**

1. Ring seine
2. Near shore trawling
3. Frequent trawling of trawler boats
4. Chemical discharges from factories

Parties responsible for these issues

1. Ring seine users
2. Trawler boats
3. Chemical factories

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Effluent should be treated properly before discharge into sea.

Specific action points

1. Government should take necessary action against ring seine users.
2. Near shore trawling should be restricted
3. Government should take appropriate action against the chemical factories which releasing the effluent.

The non availability of some species in this village are

1. Kannakatha
2. Kavalai
3. Sudumbu
4. Mathi

Suriya Nagar**Issues confronting the village**

1. Using ring seines
2. Trawl nets
3. Increase in vessels
4. Frequent trawling of trawl boats in inshore region and capture large no of fishes which leads to reduction in fish population.
5. Effluent discharged from the industries is the major responsible for the reeducation of fish population because the ill effect the effluent affect the fish fertility and some time it may causes death to the fishes.

6. Most of the fishes came and lay their eggs in brackish water at the river mouth. By using nets in the river mouth they catch the brood fishes is one of the reason for decrease of fish population.

Parties responsible for these issues

1. Ring seine users
2. Trawler boats
3. Net users at river mouth.
4. Chemical industries

Suggestion to overcome the same

1. baning of ring seine
2. Trawler boats should not do frequent and inshore trawling
3. Effluent should be treated before release into the sea without causing any ill effects to the organisms in the sea.
4. Government should regulate fishing for mechanised boats I.e should not do inshore fishing.

Specific action points

1. Government should ban the ring seine usage.
2. Government should ban the tying of nets at river mouths
3. Government should monitor the mechanised boats doing inshore fishing.
4. Government should take appropriate action against the industries which release the effluent in to the sea.

Subbauppalavady**Issues confronting the village**

Ring seine

Parties responsible for these issues

Ring seine users

Suggestion to overcome the same

Stop the use of Ring seine

Specific action points

Government should take necessary action against ring seine users so as to sustain the livelihoods of small scale fishers.

Sothikuppam**Issues confronting the village.**

1. Ring seine usage
2. They are aware it is a destructive method, but fishing is the only occupation for them. Due to the decline of Resources artisanal fishing is not dependable or stable so they are forced on to use this destructive method.
3. Industrial wastes are drained into the sea which is a reason for the resource decline.
4. Technology development is one of the major issue for resource decline. The fisherman with the help of fish finders or GPS are able to identify the fish shoals as well as the marine protected areas.

Parties responsible for these issues.

1. Parties using the small mesh size.
2. The industrial estate is situated close by and the government is more concerned in development of industries rather than preserving resources.

Suggestions for overcoming the same.

1. Ban the use of Ring seine by providing compensation.
2. The navy patrol can help in monitoring to follow the regulations.

Role of different players.

The co management meeting can enhance to step ahead to preserve the resources.

Specific action points

The resource preserving is not possible on their part, since the only known occupation for them is fishing and they are striving to sustain their livelihoods in a tough competition. The Government is the decision maker and implementer. Alternative technical jobs can be a solution.

Issues of resource decline.

Since the fishes are hatched only in deep sea, the deep sea fishing (Vessels) is also a destructive fishing according to them. The Government is the main cause for the decline of resources because they already knew it is a destructive fishing and has not taken any action for the resource preservation.

Reddiyarpettai**Issues confronting the village**

1. Using of ring seines. The annual catch of the village fisherman is captured in one day by the ring seine users.
2. Frequent trawling of trawl boats using trawl nets capture huge number of fish in the sea is the major reason for the depletion of fish population.
3. Increase in vessels for capturing fishes in the sea is also one of the reason for depletion of fishes.
4. Effluent discharged from the industries is the major responsible for the reduction of fish population.
5. Availability of fishes in the sea is less after tsunami due to changes occurs in the bathysphere.

Parties responsible for these issues

1. Ring seine users
2. Trawl nets
3. Chemical industries

Suggestion to overcome the same

1. Banning of ring seine
2. Reduce the trawl net usage.
3. Effluent should be treated before release into the sea without causing any ill effects to the organisms in the sea.

Specific action points

1. Government should ban the ring seine usage.
2. Regulate the various mechanised boat users.
3. Government should take appropriate action against the industries which release the effluent in to the sea.

Pudhukuppam**Issues confronting the village**

1. Ring seine usage
2. They are at present 10 nets. The artisanal fisheries are unable to have enough catch.

3. Technology development is only a boon for large scale fishers. The fisherman with the help of fish finders or GPS are able to identify the fish shoals as well as the marine protected areas.
4. Inshore trawling is being done near this village.

Parties responsible for these issues.

1. Parties using the ring seine.
2. Mechanised boats who are doing inshore trawling.
3. The government is more concerned in development of large scale fishers rather than preserving resources.

Suggestions for overcoming the same.

1. Ban the use of Ring seine by providing compensation.
2. The fisheries inspector can help in monitoring the banned nets.

Role of different players

The stake holders have to cooperate for the preservation of resources.

Specific action points

The government should implement the rules strictly to preserve the resources.

Ponnanthitu**Issues confronting the village**

1. Coral reefs present in the sea bed which act as breeding ground for most of the fishes which is destroyed by using trawl nets in mechanised boats.
2. Operation of nets in the river mouth capture the brood fishes when they enter in to the estuary region and selling it to hatcheries.
3. Release of oils, grease and diesels from the boats and ships causes ill effects to the fishes.

Parties responsible for these issues

1. Trawler boats and trawl nets
2. Fisherman of the neighbouring village
3. Hatcheries

Suggestion to overcome the same

1. Government should extend the ban period for fishing up to 60 days for all types of boats.
2. Mechanised boats should not do inshore fishing.
3. Nets should not be tied at river mouth.

Specific action points

Government should restrict the operation of nets at the river mouths.

Pillumedu**Issues confronting the village**

1. Ring seine usage in near shore region i.e within 20 fathoms.
2. Frequent trawling in inshore region using trawl nets will cause damage to the sea beds and also the reduction of marine species.
3. Increased in vessels for capture fishes leads to reduction of fish population.
4. Climatic changes such low rainfall is also one of the reason for reduction in fish population because plank tonic growth is rich during rainy seasons which is a major feed for most of the fishes in the sea.

Parties responsible for these issues

1. Ring seine users
2. Trawler boats and trawl nets

Suggestion to overcome the same

1. Banning of ring seine
2. Government should extend the ban period for fishing up to 60 days for all types of boats.
3. Mechanised boats should not do inshore fishing

Specific action points

1. Government should regulate the distance for fishing boats
2. Government should ban the ring seine usage.

Petrodai**Issues confronting the village**

1. Ring seine
2. industrial discharge
3. bathysphere changed after tsunami

Parties responsible for these issues

1. Ring seine users
2. Chemical factories

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Effluent should be treated before discharge at sea

Specific action points

1. Government should take necessary action against ring seine users.
2. Monitor the chemical discharge if they have undergone proper treatment.

The non availability of some species in this village are

1. Kala,
2. squids,
3. Prawns

Periyakuppam**Issues confronting the village**

1. Ring seine
2. industrial discharge
3. Frequent trawling
4. Inshore trawling
5. Bathymetry changes after tsunami

Parties responsible for these issues

1. Ring seine users
2. Chemical factories
3. Trawl boats

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling
3. Chemical discharges should be treated before discharge at sea

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should regulate the modernised fishers.
3. Monitor the chemical discharge if they have undergone proper treatment.

The non availability of some species in this village are

1. Paarai,
2. vawva,
3. Keluthi
4. kurakathalai

Paterdi**Issues confronting the village**

1. Usage of modernised nets such as Ring seine
2. Trawl nets
3. Inshore trawling is the major problem for the depletion of fish population.
4. Small fishes get caught in the trawl nets of ships which is of no use to them and the catch for artisanal fishers the catch is not appropriate.

Parties responsible for these issues

1. Ring seine users
2. Trawl boats
3. Deep sea vessels

Suggestion to overcome the same

1. Banning of ring seine
2. Mechanised boats must not do inshore trawling.
3. Banning of deep sea vessels to capture fish in Indian coastal areas.

Specific action points

1. Government should ban the ring seine usage.
2. Monitor the mechanised boats from doing inshore trawling.

Nayakerpettai**Issues confronting the village**

1. Discharge of effluents into the sea which reduce the fish population due to its toxicity.
2. Ring seine usage reduce fish population size as well as fecundity rate. With this gear they capture huge number of fishes ranging from small to large size, prawns and mollusc's from the sea.
3. Due to the use of trawl nets the sea bed becomes flat which is not suitable breeding ground for some fishes.

Parties responsible for these issues

1. Ring seine users
2. Chemical factories
3. Mechanised boats

Suggestion to overcome the same

1. Banning of ring seine
2. Effluent should be treated properly before release or it should not be released into the sea.

Specific action points

1. Government should enforce the law against companies which release the effluent without proper treatments.
2. Government should ban the ring seine usage.

The non availability of some species in this village are

1. Neersuthumbu,
2. Kurakathalai,
3. Keluthi T
4. Thowkarai
5. Vawva

Nanjalingampettai**Issues confronting the village**

1. Ring seine
2. Chemical discharges
3. Parties responsible for these issues
4. Ring seine users
5. Chemical factories from SIPCOT area is the major causes for the depletion of fish.

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling
3. Specific action points
4. Government should take necessary action against ring seine users.
5. Government should regulate the modernised fishers.

The non availability of some species in this village are

1. Neersuthumbu,
2. Nethili,
3. Kathalai,
4. White prawn.

Comments

1. Availability of fish resource getting decreased after tsunami is because of the water current changes at sea beds.
2. Deforestation is also one of the reason for the decrease in fish population,because it affects the rainfall. Rain is also one of the major factors for the increase of fish resources in the sea.

Nallavadu**Issues confronting the village**

1. Ring seine
2. Trawl nets
3. Overfishing by usage of latest technologies like Fish finders,GPS,Cell phones,motorised boats

Parties responsible for these issues

1. Ring seine users
2. Deep sea fishing in international zone. They catch with the help of trawl nets in which the small fishes are also caught but thrown in the sea dead .It is not worthy for them but the catch appropriate for the artisanal fishermen is ruined.

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should regulate the modernised fishers.

The non availability of some species in this village are

1. Kanakathai
2. Suda
3. Kavalai
4. Prawns

Nadumudasalodai**Issues confronting the village**

1. Ring seines
2. Trawl nets
3. Frequent fishing
4. Water discharged from the hatcheries into sea contaminates that region
5. Capturing of brood prawns and selling it to hatcheries.
6. Effluent discharged from the industries is the major responsible for the reduction of fish.
7. Changes occurs in the sea beds after tsunami.

Parties responsible for these issues

1. Ring seine users
2. Chemical industries
3. Prawn hatcheries
4. Trawl nets users
5. Mechanised boats

Suggestion to overcome the same

1. Banning of ring seine
2. Effluent should be treated before release into the sea without causing any ill effects to the organisms in the sea.
3. Regulating the modernised boats.

Specific action points

1. Government should ban the ring seine usage.
2. Government should take appropriate action against the industries which release the effluent in to the sea.
3. Should formate a time table for different assets to reduce competition.

Comments

20 years before they used only catamarans for capturing the fishes but nowadays they use modernised assets for capturing fishes is the major reason for the depletion of fish population in the sea.

Muzhukuthurai**Issues confronting the village**

1. Overfishing
2. Ring seine
3. Near shore trawling
4. Parties responsible for these issues
5. Ring seine users
6. Trawler boats
7. Motorised boats because they do frequent fishing(all boats)

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Regulating the nets on a season basis.

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should monitor the net usage and near shore trawling.

The non availability of some species in this village are

1. Sudai
2. Koorakathalai
3. Parai
4. Kiluthi
5. Kanakatha

M.G.R. Thittu**Issues confronting the village**

1. Near shore trawling
2. Frequent trawling of trawler boats

3. chemical discharge from the factories
4. Deep sea fishing by foreign fishermen using electric nets
5. Destruction of coral reefs in Sedhu samuthiram plan

Parties responsible for these issues

1. Trawler boats
2. Deep sea vessels(ships)
3. Industries

Suggestion to overcome the same

1. Control the international fishing vessels to fish in the Indian coastal region
2. Controlling near shore trawling.
3. Effluent should be treated properly before discharge into sea.

Specific action points

1. Government should restrict international fishing.
2. Government should take appropriate action against the chemical factories which releasing the effluent.
3. Government should enforce the law against near shore trawling.

M.G.R Nagar**Issues confronting the village**

1. Ring seine
2. Near shore trawling
3. Trawl nets
4. Spreading of nets on the mouth of the river
5. Water current changes after tsunami

Parties responsible for these issues

1. Ring seine users
2. Trawler boats
3. Motorised boats
4. Fisherman of the neighbouring village

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Regulating the motorised boats
4. The net should not be tied at the river mouth

Specific action points

1. Government should take necessary action against ring seine users.
2. Government should monitor the motorised boats and net tying at river mouth.

The non availability of some species in this village are

1. Paarai
2. vawva
3. Keluthi
4. kurakathalai

Comments

Use of nets in the river mouth which leads to formation of sand dunes in the river mouth and leads to depletion in fishes in the river.

Madavapallam**Issues confronting the village**

1. Ring seine
2. Casting nets at spawning places
3. Near shore trawling

4. Parties responsible for these issues
5. Ring seine users
6. GPS users
7. Chemical factories

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Specific action points
4. Government should take necessary action against ring seine users.
5. Near shore trawling should be restricted.

The non availability of some species for the past 6 years in this village are

1. Kannakatha
2. Mathi
3. Prawns
4. Kavalai
5. Modhakandai

Comments

The catch sustainable for 10 years to artisanal fishers is caught in a single day by the Ring seine users

Kuzhaiyar**Issues confronting the village**

1. Ring seines
2. Trawl nets
3. Water discharged from the hatcheries mix with water and affect the quality of the water and leads to reduce the survival rate of fishes in this regions.
4. Effluent discharged from the industries is the major responsible for the reduction of fish population because the ill effect of the effluent affects the fish fertility and some times it may cause death to the fishes.

5. Frequent trawling of trawl boats in the sea which capture large no of fishes leads to reduction of fish population.
6. Capturing of brood prawns and selling it to hatcheries.

Parties responsible for these issues

1. Ring seine users
2. Chemical industries
3. Prawn hatcheries

Suggestion to overcome the same

1. baning of ring seine
2. Effluent should be treated before release into the sea .
3. Specific action points
4. Government should ban the ring seine usage.
5. Government should extend the ban period for fishing up to 60 days for all types of boats.
6. Government should take appropriate action against the industries which release the effluent in to the sea.

Kumarapettai**Issues confronting the village**

1. Discharge of effluents into the sea which reduce the fish fecundity and some times it may leads to death of the fishes at sea.
2. Ring seine usage reduce the fish population. The total catch of a month by artisanal fishermen is captured in one effort by Ring Seine users.
3. Water current changed in the sea after Tsunami

Parties responsible for these issues

1. Ring seine users
2. Chemical factories

Suggestion to overcome the same

1. Banning of ring seine
2. Effluent should be treated properly before release in to the sea.

Specific action points

1. Government should enforce the law against companies which release the effluent without proper treatments.
2. Government should ban the use of ring seine.

Comments

5 years before large no of turtles come and lays their eggs in the sea shore region, but now a days it is rare to see the turtle in the sea shore region.

Kalaingar Nagar**Issues confronting the village**

1. Technology development in nets like specified net for specific fishes
2. Using motor engines in the boats creates sounds,vibration in which some fish are dead and also it scatters the fish shoals.
3. Water discharged from the hatcheries mixes at sea and contaminates these region.
4. Ring seine
5. The fishes lays their eggs in the river mouth or in Estuary region. These fishes by the operation of nets at the river mouth leads to reduction of fish.

Parties responsible for these issues

1. Ring seine users
2. Prawn hatcheries
3. Fisherman of the neighbouring villages

Suggestion to overcome the same

1. baning of ring seine
2. Restricting the operation of meshes at the river mouths.

Specific action points

1. Government should ban the ring seine usage.
2. Government should extend the ban period for fishing up to 60 days for all types of boats.
3. Monitoring the tying of nets at the river mouth.

Indhira Nagar**Issues confronting the village**

1. Near shore trawling
2. Frequent trawling of trawler boats
3. Trawl nets
4. Ring seine usage
5. Changes in flow of water current in the sea after Tsunami

Parties responsible for these issues

1. Ring seine users
2. Trawler boats

Suggestion to overcome the same

1. Government should regulate the mesh size.
2. Controlling the near shore trawling.
3. Government should expand the ban period up to 60 days.
4. Regulate the mechanised boats

Specific action points

1. Government should enforce the law against near shore trawling.
2. Government should ban the ring seine usage.

Comments

1. 3 years ago they do fishing only up to 6 to 8 hours but now they do fishing up to 5 days continuously.
2. 10 years ago they release the captured juvenile fishes back into sea but now they sell this small fishes to the poultry and prawn hatcheries as feeds.

Chittirapettai**Issues confronting the village**

1. Ring seine
2. Overfishing

3. Usually the FRPs used to fish at the shore about 10-15 metres but for the past 5 months due to non availability of fish they have to fish at 60 metres.

Parties responsible for these issues

1. Ring seine users
2. All the motorised fishermen

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Regulate the modernised asset users.
3. Specific action points
4. Government should take necessary action against ring seine users.
5. Should regulate and form a time table.

The non availability of some species in this village are

1. Sudai
2. Thatakavallai
3. Kala
4. Kiluthi

Chinoor (South)**Issues confronting the village**

Ring seine usage in near shore region. Through the ring seine they capture large no of fishes which contains small to large size fishes. The annual catches of Artisanal fisher men of the village is caught by the ring seine users in a month. Frequent trawling in inshore region using trawl nets will cause damage to the sea beds and also in the reduction of marine species.

Parties responsible for these issues

1. Ring seine users
2. Trawl boats using trawl nets
3. Suggestion to overcome the same
4. Banning of ring seine
5. Mechanised boats should not do inshore trawling

Specific action points

Ring seine was banned in Kerala state likewise Tamil Nadu government should strictly ban the ring seine usage .

The non availability of some species in this village are

1. Suthumbu,
2. Vaalai,
3. Sudai
4. Veludan

Chinoor North**Issues confronting the village**

1. Ring seine
2. Inshore trawling
3. Frequent trawling
4. Trawl nets

Parties responsible for these issues

1. Ring seine users
2. Trawler boats
3. Motorised boats

Suggestion to overcome the same

1. Ban the use of Ring seine
2. Controlling near shore trawling.
3. Specific action points
4. Government should take necessary action against ring seine users.
5. Government should monitor the motorised boats.

The non availability of some species in this village are

1. Neersuthumbu,
2. Valai,
3. Vawva,
4. kathalai,
5. Savvalai.

Availability of fish was within 10 to 15 fathoms 6 years ago but at present it is in 30 to 40 fathoms.

Chinnavaikal**Issues confronting the village**

1. Ring seine usage in near shore region within 20 fathoms makes the artisanal fishermen un viable.
2. Frequent trawling in inshore region using trawl nets will cause damage to the sea beds and also in the reduction of marine species.
3. Water discharged from the prawn hatcheries into the sea will affect the water quality and become unfit for organism to survive for a certain distance.
4. Increase in vessels for fishing and also increase of motor operation in boats create vibration which leads to reduction of fish population.
5. Capture of new breed prawns and selling to hatcheries is also one of the reasons for reduction in prawn.
6. Climatic changes such as reduction in rainfall is also one of the reason for reduction in fish population because fish lays their eggs during rainy season.

Parties responsible for these issues

1. Ring seine users
2. Trawler boats and trawl nets
3. Prawn hatcheries

Suggestion to overcome the same

1. baning of ring seine
2. Government should extend the ban period for fishing up to 60 days for all types of boats.
3. Mechanised boats can do fishing beyond the given nautical limits

Specific action points

1. Government should regulate the distance for fishing boats
2. Government should ban the ring seine usage.

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