



Bay of Bengal Large Marine Ecosystem Project



ICSF-BOBLME Training programme on enhancing capacities of fishing communities 23-26 October 2013 • Gulf of Mannar, India

Report of the

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**Enhancing Capacities of Fishing Communities for
Resource Management**

Ramanathapuram district, Tamil Nadu

23 – 26 October, 2013

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Acronyms used

BOBLME	Bay of Bengal Large Marine Ecosystem Project
CBD	Convention on Biological Diversity
CMFRI	Central Marine Fisheries Research Institute
CSMCRI	Central Salt and Marine Chemicals Research Institute
CSO	Civil Society Organisations
EAF	Ecosystem Approach to Fisheries
EDC	Eco-Development Committee
GOM	Gulf of Mannar
GoMBRT	Gulf of Mannar Biosphere Reserve Trust
GoMNP	Gulf of Mannar Marine National Park
ICSF	International Collective in Support of Fishworkers
MAB	Man and Biosphere Programme
MPAs	Marine Protected Areas
NGO	Non-Governmental Organisation
PAD	People's Action for Development
RFTU	Ramnad district Fish worker's Trade Union
SHG	self-help group
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WLPA	Wild Life (Protection) Act

1. Background

Fishing communities in the Bay of Bengal region have depended for generations on coastal and marine resources for their lives and livelihoods. Over time they have developed ecosystem - and fisheries - related knowledge and skills, and have evolved institutions that regulate their interactions with each other, with the resource base and with the outside world. In a context where natural resources, including fisheries resources, are under pressure, the need to work closely with local communities, enabling them to play an integral role in resource management is increasingly evident. Also evident is the need to enhance efforts towards training and capacity building of local communities to take on such roles.

To date, however, efforts in this direction have been limited at best. Hence, the International Collective in Support of Fishworkers (ICSF) with support from the Bay of Bengal Large Marine Ecosystem Project (BOBLME) held workshops and training programmes in five countries in the Bay of Bengal region to enhance the capacity of fishing communities to engage with issues related to management and sustainable use of coastal and marine fisheries resources and habitats. Programmes were held in India, Bangladesh, Myanmar, Indonesia and Thailand. ICSF and its partner agencies in each country worked with fishing community representatives, including youth and women. The programmes also sought to strengthen the fishing community organizations and enhance their linkages and working relationships with local level functionaries responsible for fisheries and coastal resources management.

In India, two sites were chosen - the Sundarbans in the state of West Bengal and the Gulf of Mannar in the state of Tamil Nadu. In the Gulf of Mannar, the training programme involved documentation of traditional knowledge that local communities have about their local ecosystems; organizing interactive awareness and discussion workshops for local communities on issues related to the local ecosystem, steps needed for ensuring conservation and sustainable use of resources; facilitating the development and consolidation of community proposals for conservation and sustainable use of resources; and organizing a vision-building and convergence process among the key stakeholders using and managing resources in the Gulf of Mannar.

2. Introduction

The Gulf of Mannar, India is a shallow bay in the southern state of Tamil Nadu. It spreads across two districts - Ramanathapuram and Thoothukudi. The Gulf is an important are of marine biodiversity, with its unique ecosystem (coral reefs, mangroves and sea grass beds). In 1986, the Gulf of Mannar Marine National Park (GoMNP) was declared under the Wildlife (Protection) Act of 1972 (WLPA)¹. The Park spreads over some 560 km² and includes 21 islands which are uninhabited. The National Park constitutes the core area of the Gulf of Mannar Biosphere Reserve formed under the Man and Biosphere (MAB) Programme of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Though the WLPA has provisions that require the rights of communities who live there/depend on the resources to be settled, and requires the occupational interests and innocent passage of fishers in territorial waters under protection, be protected, these have not been implemented in Gulf of Mannar.

¹ In India, national parks and wildlife sanctuaries are declared in both terrestrial and coastal and marine ecosystems under this Act.

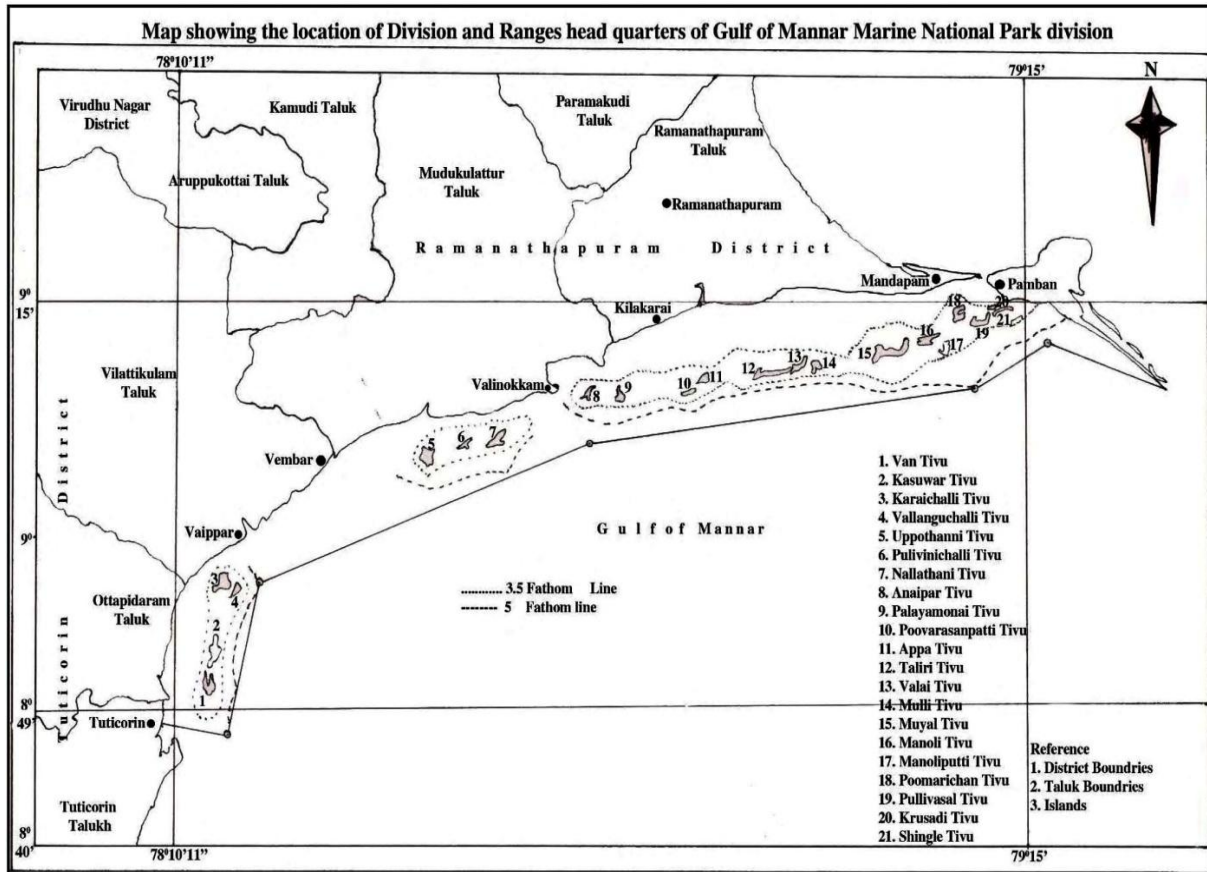


Figure 1 Map showing the location of Division & Ranges head quarters of Gulf of Mannar Marine National Park division

Source: GOMNP Notification, 1986

The notification of the National Park in 1986 means entry into and resource use from the National Park is prohibited. Nevertheless, strict implementation of regulations began only in early 2000.

3. Fishing community

There are about 125 fishing villages² (31 villages in Thoothukudi³ District and 94 villages in Ramanathapuram District) and 35,000 active fishers in the Gulf of Mannar. The fishing community here, and across the maritime states of India, are not homogenous; they belong to various castes. These communities have distinct social, cultural governance structures and traditional practices. Community institutions such as the caste, *panchayats*, *peddalu*, *padu* etc. are mostly organized along caste, kinship or religious lines. These institutions play an important role in resolving conflicts, regulating and allocating resource use, enabling equitable access to resources and providing some form of social insurance. Besides the traditional organization of fishing communities, they are also organized into sectors such as the mechanized sector - boat owner associations, trade unions, cooperatives, self-help groups, gear-based associations, and federations.

² Throughout this report, village means the fishing hamlet and not the revenue village.

³ This training programme was limited to the Ramanathapuram section of the Gulf of Mannar as the fishing community in Thoothukudi district was not interested in participating.

ICSF has been working with fishing communities in the Gulf of Mannar since 2006. Along with the Ramnad District Fishworkers Trade Union (RFTU)⁴ ICSF has carried out a study of the social impact of the protected area on the fishing community, and conducted two workshops on the social dimensions of marine protected areas. These workshops brought together fishers, RFTU, concerned state agencies and civil society organisations (CSOs) to work towards a sustainable fishery in the region that balances the livelihood needs of the community with conservation goals with the active collaboration of all stakeholders in the decision making process. As a part of this on-going engagement, ICSF with RFTU produced a film, *Shifting Undercurrents: Women Seaweed Collectors of the Gulf of Mannar*, which has won awards at the Jeevika Festival as well as at the CMS Vatavaran 2014. ICSF is also collaborating with RFTU and the fishing community to document the traditional knowledge of the fishing community.

As a follow up to the training programme, ICSF also plans to hold a workshop with the Tamil Nadu State Planning Commission in 2014, which will bring together government agencies and fishing community representatives to work towards ensuring all stakeholders are able to participate in resource management in the region. The decisions/resolutions taken by the community in the training programmes conducted in the Gulf of Mannar (which are detailed in this report) will contribute to the discussions at the workshop with the State Planning Commission.

4. The training programme

4.1. Objectives

The objectives of the training programme in the Gulf of Mannar are to enhance the capacity of fishing communities, drawing on their traditional and experiential knowledge and institutions, to:

- Relate their knowledge systems with an ecosystem approach to fisheries
- Explore and propose ways of enhancing sustainable and equitable resource use, and the role that communities can play
- Engage with functionaries at different levels responsible for fisheries and environment, towards developing a common vision and convergence in perspectives for achieving conservation and sustainable use of resources.

4.2. Venue

The training programmes were held at two locations in the Gulf of Mannar. The first programme was held at Pamban on 23-24 October and the second one at Ramanathapuram town on 25-26 October, both in Ramanathapuram district. They brought together 108 and 79 participants (men and women) from the fishing community in Pamban and Ramanathapuram respectively. On 23 October, in Pamban there were 17 men and 28 women, on the second day it was 15 and 48 respectively. In Ramanathapuram, on the first day, there were 25 men and 27 women and on the second day it was 8 and 19 respectively.

⁴ RFTU was formed in 1999. It is a member of the National Fishworkers' Forum (NFF). The union has 18,200 members in 126 coastal villages in Ramanathapuram District, including both the Palk Bay and the GOM area. The membership of the union includes small-scale fishermen, women and workers on trawlers. The union also has members from the Sea Cucumber Collectors and Harvesters Union, Keezhakarai. Some of the successful initiatives of the union include: demanding the effective implementation of the provisions of the MFRA; imposition of a ban on dynamite fishing, and its implementation through community-level structures; imposition of a ban on metal tools (scrapers) for collecting seaweed; preventing trawlers from fishing in coastal waters within three nautical miles of the shore; and gaining recognition of the right of women to benefit from savings-and-relief schemes.

4.3. Resource persons

The resource persons for the programmes were:

- Robert Panipilla, an independent researcher with extensive experience in documenting the traditional knowledge of fishing communities and currently preparing the first marine biodiversity register for the Kerala State Biodiversity Board
- Dr B Johnson, scientist working on fisheries management, Central Marine Fisheries Research Institute (CMFRI)
- Dr P S Asha, scientist who has worked on sea cucumber ranching in CMFRI
- Dr M Ganesan and Dr V Veeragurunathan, scientists working on seaweed biology and utilisation from the Central Salt and Marine Chemicals Research Institute (CSMCRI)
- T Marirajen, Executive Director and J George, Program Coordinator from People's Action for Development (PAD), a social organisation that aims to improve the people's situation in the Gulf of Mannar region through various democratic and community-based means
- Dr M Kasim retired Principal Scientist, Chennai Office, and CMFRI.

The team from ICSF consisted of Ramya Rajagopalan, Sumana Narayanan and Vishnu Narendran. Two observers, Aarthi Sridhar and Marianne Manuel from Dakshin Foundation, a non-profit which has been working with coastal communities and has recently brought out a handbook for the community on the Coastal Regulation Zone notification, were also present.

4.4. Programme structure and agenda

The agenda for both meetings (Pamban and Ramanathapuram) was based on earlier discussions with communities on their views on management of resources and keeping in mind the larger objectives of the BOBLME Project on supporting critical habitat management in transboundary areas such as the GoM. A meeting was also held with resource persons on 09 October 2013 at the ICSF office in Chennai to finalize the agenda (see **Appendix I**) and programme structure.

5. Meeting at Pamban (23-24 October 2013)

The meeting was held at Barkat Mahal in Akkalmadam village of Pamban *panchayat*⁵. The meeting was scheduled to start at 10 a.m. since the participants were coming from several villages that are poorly connected by public transport. The women especially have to finish their housework and send the children to school in the morning. However, in spite of scheduling a late start, the meeting began only at noon since very few participants were able to make it earlier. There were 45 and 36 participants on October 23 and 24 respectively.

The training programme started with a welcome note by Ramya Rajagopalan. Explaining the concept behind the meeting, she said that coastal and marine resources are of fundamental importance to the fishing community. She stressed the need for an ecosystem approach for conservation, management and sustainable use of fisheries resources and the important role of traditional knowledge and of community participation in this process. She requested participants to share what is discussed here at the meeting with others in their villages. She said that having everyone in the community involved in this process was important so that when community representatives approach the government with a management plan, they should be able to represent the entire region. She also shared details of the other planned meeting in Ramanathapuram and the workshop to be organized by the State Planning Commission to understand issues being put forward by fishing communities in the GoMNP. It is important those community representatives are able to share the community's proposals on management with the Planning Commission and relevant government

⁵ An administrative division of local government consisting of a group of villages.

departments. This will also convincingly demonstrate to the government that communities are serious about, and competent to play a role in managing resources. She then outlined the programme for the two-day meeting.

Traditional knowledge and fishing communities

Robert Panipilla made a presentation on 'Traditional knowledge and fishing communities' (a case study from Thiruvananthapuram based on his work in developing marine biodiversity register for the state of Kerala). He talked about his research on mapping the knowledge of traditional fishing communities in a 20 km stretch from Puthukurichi to Valiyathura in Thiruvananthapuram district in the neighbouring state of Kerala. He stressed the importance of documenting the expertise of those who directly interact with nature with their traditional knowledge and experience in order to unearth hidden facts regarding nature and its resources. He spoke of the highly skilled fishers from Mariyanadu and Valiyathura. In Valiyathura, the sea comes in and the beach disappears during June-July which is the monsoon period. During these months the fishers use an old jetty to push their boats into the sea and then jump in after their boats. With their help, he mapped the coral reefs and smaller reefs known as *thara paaru*. He elaborated on how, due to declining catches in the 1970s, the villagers decided to create artificial reefs with broken pots, sacks, tyres etc. He also added that some new species (i.e. new to Kerala) have been recorded during his research.

Ecosystem Approach to Fisheries Management

Dr B Johnson of CMFRI presented on an 'Ecosystem approach to fisheries management in the context of the Gulf of Mannar'. Johnson highlighted the importance of an ecosystem approach, how it can be implemented in the Gulf of Mannar, including the potential problems during implementation, and the major stakeholders to be involved in such a project. He also spoke in general about the fisheries resources of the Gulf of Mannar and the problems that beset them. He concluded by saying that the principles of an Ecosystem Approach to Fisheries (EAF) are not new, but there is very little practical experience in their implementation and translating the goals of EAF into operational objectives and action is now the key challenge to sustainable fisheries. He stressed the need for support from all stakeholders and institutions for this shift in management strategy.

5.1. Group discussion

Post-lunch, the participants were divided into two groups to discuss issues surrounding seaweed harvesting and fishing and to collate proposals from community members regarding their management. A third group on sea cucumbers had also been planned but was not organized as the sea cucumber divers were not present.

Resource persons initiated each of the group discussions with presentations, followed by discussions by community members. Discussions continued till lunch the next day and in the final post-lunch session each group presented their management proposals.

5.1.1. Group 1: Fisheries (Pamban)

Johnson in his presentation provided an overview of the biodiversity of the Gulf of Mannar, noting that the region has 117 hard coral species, 441 fish species, and 147 seaweed species. The president of RFTU questioned the data on seaweed species, saying he felt there were only some 50-60 species. He wanted to know the source of the data and whether the report was available. Johnson replied that the data was based on CSMCRI studies. Johnson continued with his presentation, speaking of the slow rate of coral growth, ranging from 0.6 to 1.2 mm annually. He then highlighted some of the destructive practices such as the use of cyanide in fishing. Johnson also provided an overview of the legal system in place - the WLPA, the Tamil Nadu Marine Fisheries Regulation Act, 2000 and the gears that are banned under the latter. He also spoke of how regulations, such as which boats can

fish where, the kind (power) of motors that can be used, and where certain gears can be employed, are often disregarded.

Quoting several studies, he stressed the need for reducing catch, pointing out that size of the fish caught is also decreasing while the mesh size is getting smaller. Johnson highlighted the negatives of using gear such as *thallu madi* (push net) and *roller madi* (modified trawl net) which destroy the ecosystem and the problem of discards by trawlers. Tharuvaikulam in Thoothukudi district, he said, has a self-regulation of not using *izhu valai* (trawl net) because the community feels this is a destructive gear; only gill nets are used. He also drew participants' attention to other successful community-led management measures such as limiting seaweed collection to 12 days a month by the women seaweed collectors and the 3-day 4-day rule in the neighbouring Palk Bay where trawlers and artisanal boats go out to fish on alternate days (3 and 4 days respectively) in a week. This measure came about because the state agencies held meetings with the various community stakeholders (trawler owners, artisanal fishers etc.) and evolved this rule. The rule is mostly self-regulated. Johnson said that such measures are often supported by the government and therefore more such options can be explored here today. He also suggested that alternate livelihoods should be explored to provide supplementary income to fishers. He mentioned CMFRI's role in developing sea ranching techniques for some species such as *kadal vraal* (prawns). He offered help from CMFRI's side if the community was interested.

Following this, T Marirajen of PAD noted that the management plan for the Gulf of Mannar was not developed with community involvement though there are several laws and policies at the national and international level which support community involvement in managing resources. At the international level, the Convention on Biological Diversity (CBD) recognizes the importance of addressing issues related to governance, participation, equity and benefit-sharing, and of securing the full and effective participation of indigenous and local communities in the establishment and management of existing and new protected areas. As India is currently (till October 2014) presiding over the CBD, it is a good opportunity to question the government on its implementation of the CBD, he said.

Marirajen then drew participants' attention to the framework questions (see **Appendix VII**), given as an aid for the discussion on issues such as the kind of norms/regulations required, how these can be effectively communicated, and how compliance can be ensured. Marirajen suggested that the discussion could be started by listing the fisheries-related livelihoods of the Gulf of Mannar and then move on to the problems involved.

However it was decided to note down the various gears employed, since often bans are based on gear. A participant pointed out that not all nets are species-specific; often a gear may be used for multiple species. It was also noted that not all gear and all species are banned for use/collection respectively. He said this would mean a very complicated list. The group finally agreed to list by species but at a larger level such as seaweeds, conches, fish, jelly fish etc., and noting which of those could or could not be harvested or collected. Since seaweed was being discussed by the other group, participants decided not to discuss it. Some were totally banned, others were restricted by size etc. and on other species there was no restriction in catching/collecting at all. The information generated was recorded in tabular form.

Accessing the islands

The islands were also listed as a resource since they are of importance to the community. In the case of the islands, it was felt access should be allowed. Several participants made the point that before the islands came under the jurisdiction of the forest department⁶, the community freely used the

⁶ Currently, the islands are managed by the forest department, but before the national park's creation in 1986, some of the islands were under the jurisdiction of the revenue and the fisheries departments. In July 1987, the islands were declared reserve lands (Ramanathapuram District Gazette dated 24th July 1987).

area while protecting the resources on it⁷. They recalled there were a lot of trees on the islands and that they used to nurture these. The islands were also a refuge in bad weather. The plants must be taken care of i.e. watered regularly and so on. Kasim suggested that perhaps the older generation could be asked to list out self-regulations that were in place when the islands were accessible. Kasim also suggested that church records might have information. A participant noted that the Marakkayar⁸ would have records because they would give leases for specific things such as to harvest the coconut trees on the island etc.

Non-fishery threats to the ecosystem

An RFTU leader highlighted the need to take into account the non-fisheries threats to the region: power plants (coal, nuclear), the Sethusamudram Canal, industries etc. There was also a general discussion on regulation of activities on the coast (not specific to the Gulf of Mannar) through legislation such as the Coastal Regulation Zone Notification of 1991 and 2011 which place restrictions on developmental activities but are often violated.

Need for bans on resource collection

There was then a discussion on whether a ban - partial or total - was needed. In the case of resources like sea turtles, pipefish, sea horses and sea cows (dugong) participants felt a ban was not needed since these species are not of economic importance to the community and hence not harvested. They did note that these species sometimes get accidentally caught in their nets and even if they release them; the animal is unlikely to survive. In the case of pearl oysters, they said there is a restriction (pearl oysters below a certain size cannot be collected) but as the population is non-existent, self-regulation is adequate since small ones will get thrown back into the sea. Overall, participants were well-informed on which species were banned or on which restrictions applied.

There was concern expressed that the ban on some species such as sea snakes made no sense since these were not usually caught or harvested as they had no market value. So the reason for the ban was unclear. Participants also pointed out that often banned items (those with commercial value) are sold in some regions of the state without the government cracking down on such sales. In some cases, the forest department officials themselves are unable to identify contraband species that are being sold. They also noted that in the case of seaweeds, while there is no ban on collecting seaweed, the islands offshore where the seaweeds grow is a prohibited zone.

One of the resource persons noted that because of the national park there is a ban on the harvest of many resources, even though the same species can be caught in other regions. A participant noted that while free diving (traditional method of conch collection) is banned, there is no ban on diving for conches with oxygen cylinders. The traditional fishers of Thoothukudi have gone to court objecting to this. He pointed out free diving has less impact on resources since the diver is not able to stay under water for long.

The group felt that sea cucumber populations are healthy but it would be good to have a regulated harvest. For this they said that a licensing system for divers like in the old days when chank (conch) divers were given government licences could be followed. They also noted that in general the fishing community does not use destructive gear such as dynamite fishing and cyanide. They demanded that government should buy the sea cucumbers directly from them and that way the government

⁷ Before the forest department took over all the islands in 1986, Krusadai, Pullivasal, Mulli, and Shingle islands were with the fisheries department, two were with private individuals (Muyal island with the Marakkayar and Nallathani with a Keezhakkarai resident), Karaichalli, Vilanguchalli, Kasuvar, and Vaan islands were with the port department. The remaining islands (Poovarasampatti, Valimunai, Poomarichan, Manoliputti, Manoli, Valai, Tailari, Appa, Anaipar, Puluvnichalli, and Upputhanni) were already with the forest department.

⁸ Traditional headman of the Muslim fishing community.

can keep track of what sizes are caught. An RFTU leader added that though the forest department claims that they are slow growing species with a low reproductive rate other sources such as CMFRI says that a sea cucumber releases 6,00,000 eggs every six months⁹.

Fish species, participants felt, required no bans since controlling what gets caught in the net is difficult and because these are food species. For sharks and some other species, the group said these species get caught no matter what net is used, so the ban is impractical. A participant also pointed out that the current 45 day fishing ban which is in place, is in the wrong season (April-May). It should be in the rainy season when breeding occurs. Kasim replied that all states follow a uniform closed season, because varying seasons (to match the different rainy seasons) would mean that fishers would keep moving during their closed season to other areas.

In the case of *sanghu* (conches), the participants said there were 10 species found in the area that were banned. They felt that there should be no ban as the scrutiny in the national park is much higher compared to other areas.

Protecting the endangered dugong

The group also noted how they could protect specific species like dugongs. Some participants felt that artisanal fishers do not impact dugongs so the community cannot do much to actively protect them. The group discussed the feeding grounds (sea grass beds) of dugongs and what gear impacts these areas. It was suggested that an experiment to see if controlling gear could help the dugongs was suggested - for example to pick an area around an island, which is closed for a year from human activity. It was felt that this would improve the general biodiversity of the area, including the fish resources. However, some of the participants questioned the logic of closed area for increasing fish population, as they felt that fish is a moving resource and they cannot be enclosed completely. While others felt, the closed areas might increase the fish population a little. It was finally suggested that a scientific experiment be carried out. It was also suggested that stopping trawling would make a big difference to dugong population¹⁰.

Need for controlling gear use

The RFTU president urged the community to control fishing methods in the area. The participants then discussed what kind of gear control was needed. There were suggestions to stop people from using mini trawl nets. It was noted that while those present might not use this gear, there are others who do and the collective community must stop them as it affects everyone. A participant suggested that such nets, if found deployed, should be cut. Other problematic gear identified were *podu kannu valai* (small mesh gill net), *thangoosi valai* and *narumbu valai* (monofilament nets). The last one, said a participant, was originally promoted by the government. However there were objections to identifying monofilament nets as a problem, noting that it is used because it is sturdier than *nool valai* (made of cotton; English name unknown) which lasts for few years but requires a lot of maintenance. This began a discussion on the merits of the nets. Another participant pointed out that earlier with multifilament nets more fish was being caught but now even with the sturdier monofilament nets, the catch is less. Unfortunately, participants said, no one uses *nool valai* now and everyone uses *narumbu valai*. It was agreed that this is exactly why this needs to be controlled.

⁹ The mean fecundity index of *Holothuria spinifera* was found to be 1770. See: Asha P.S. Reproductive aspects, larval and juvenile rearing of *Holothurla* (Theelothurla) *spinifera* Theel. SPC Beche-de-mer Information Bulletin 22-July 2005.

¹⁰ While there is no resource status study on dugongs, the Gulf of Mannar has highest number of dugong sightings recorded in India. Based on this sighting data, it is suggested that the dugong population in the Gulf is about 77-158 individuals (Source: Pandey, C.N., K.S. Tatu and Y.A. Anand (2010) Status of dugong (*Dugong dugon*) in India. GEER Foundation, Gandhinagar. 146 pp.

One participant said that it was one thing to point fingers at the government but first the community must look inward and analyse; so many things are 'easy' to do that is why *rettai madi* (pair trawl) and *surukku madi* (ring seine) are common but do they actually help the community? Is the community's livelihood better? It was felt that pair trawls, ring seines, and monofilament nets should be banned.

However, some participants expressed concern that banning monofilament nets will adversely impact many people as it is commonly used. Others suggested that ways and means of reducing dependence on this net be explored. For example, it could be used only in daytime. This was met with objections from those who catch crabs saying they use the net at night for crabs. This led to a suggestion that perhaps the net can be used at different times in different areas. In principle, it was agreed that artisanal fishing methods must be made more ecologically-sound and therefore livelihood-friendly. Whatever is identified as wrong must be stopped; such as trawling.

Setting up new community regulations

The discussion then moved on to what kind of regulations this would involve government or community-led. It was felt that self-regulation would be best as often government bans are not viable on the ground or do not make sense (see earlier discussion). Participants agreed that any community-led measures could be tried for two to three years and then checked for efficacy. The participants also acknowledged that not everyone will play by the rules but the rest of the community must stand up to those who break the rules. Participants agreed that, irrespective of whether government bans make sense to them, they must look to control trawlers and other fishing methods which are destructive.

Consensus

The group then turned to addressing how the entire community can be brought on board. Participants felt that for a while, monthly meetings at villages will be needed, where these issues are raised repeatedly otherwise the message cannot spread. It was noted that in some areas, villages already meet on the first of every month; something along these lines could be done for the rest of the GoM.

Participants noted that while some restrictions on fishing may not be meant for the purpose of resource management, they have the added benefit of conserving resources such as the one-day off from fishing when someone in the village dies. Hence such regulations should also be listed. Existing self-regulations were also highlighted such as the no-fishing-on-Tuesdays rule. Participants expressed hope that these ideas could spread across the region but they were pragmatic in acknowledging that it will take time to convert people to these ideas of sustainable use and to get them to accept the community management plan. The group also recognized that it would be hard to force people to participate in meetings but hopefully, after this meeting, they can talk to people in their villages, and can slowly convince them.

One participant pointed that while this is a challenge, if the community is successful it will be a good answer to the government's litany that the community has no unity, no control over its own people and that the people cannot work together as a community to solve problems. The government often claims that each village does its own thing¹¹. He added that this programme and the follow up plans are a good opportunity to prove the government wrong on this. The government will respect and

¹¹ All the groups in Pamban and Ramanathapuram discussed at what level they want to take resource management forward - whether at village (hamlet), panchayat village, and union etc. level. They unanimously decided that the village (hamlet) would be appropriate as not all in the fishing community are members of the union. They also considered working at the panchayat level but decided against it, as panchayats often have non-fishing groups as well.

listen to the community if the community is able to successfully work together and conserve resources. Then the government will be ready to talk to us like equals and we can make recommendations to them, he added.

The group pointed out that the thinking should be as a collective; not as the people of this village or that. The community needs to stand together as the artisanal fishers and must work together to ensure their livelihoods are sustainable.

Implementation and monitoring systems

It was agreed that implementation and monitoring of any management plan has to be at village level. The current group here today cannot do this. A committee of perhaps three women and three men from the village is needed. Also a district level committee to keep an eye from above is required. The unions can be also involved in some way. For dispute resolution, there needs to be regular meetings between village representatives and the union can moderate.

Monitoring the ecological parameters to see if the management plan has been successful, the group felt, needs the aid of scientists. This led to a discussion of what aspects could be handled by the community. It was agreed that at least for species like sea turtles that nest on the beach, the community can keep track of the nesting, not disturb them and not collect the eggs. The community will just keep track, and if need be, release the hatchlings into the sea. Participants also agreed to ensure this is done systematically, scientists can be asked for help in developing a methodology. This raised the question of what the community would do if they find a protected species like the sea turtle on the islands. Should this information be relayed to someone? It was agreed that the union or the forest department would be informed by the village committee. A participant asked if any documentation of this would be required, such as photograph, but it was felt that was not as important as quickly relaying information.

Co-operation with the government

The group felt that the government should be told what measures the community has been taking to protect the ecosystem. The group also emphasized that the government alone cannot conserve the region, fishers must join hands with the government. However, one task that the community can ask the government to take up is to stop trawling near the islands.

Outcomes (Pamban)

Existing community regulations:

- Don't catch dugongs or use nets that hurt dugongs
- Avoid destructive fishing practices like use of dynamite and poisons

Suggested regulations:

- Ban *kedai valai* (set gill net) and reduce the use of monofilament nets. Which other gear are destructive and must be banned has to be discussed
- Trawling must be stopped (the government must step in for this)
- Protect the resources in the islands; completely rocky areas (calcareous deposits) will be protected from fishing.

Communication and Voluntary Compliance:

- Through village level meetings, information will be spread on responsible fishing techniques, the new management plans, and regulations, and to ensure compliance.

Monitoring:

- District and *taluk* level monitoring committees should be formed; NGOs should be part of these monitoring committees.

Conflict Resolution:

- Through district level fisher organizations, boat owner associations, fisheries department.

Reviewing management plans:

- Representatives of fishers, researchers should do joint research year around to assess the status.

Suggestions for dugong protection:

- They will not use nets that are harmful to dugongs
- Trawls and push nets should not be used in dugong habitat
- Monitoring committees will be formed in each village
- There must be specific passage for the fishing vessels to reach fishing grounds, especially for trawlers.

5.1.2. Group 2: Seaweed (Pamban)

Ganesan from CSMCRI initiated the discussions in the seaweed group by introducing himself and his organization's work. He said CSMCRI has over 20 years experience in the region and in seaweed culture, including species like pepsi paasi (*Kappaphycus alvarezii*¹²). He added that CSMCRI has been trying to investigate how seaweed can be harvested sustainably. CSMCRI, he said, is researching on culture methods of native seaweed species but it is at an experimental stage and these are slow growing species. Towards this they have collaborated with the government through the Gulf of Mannar Biosphere Reserve Trust (GoMBRT¹³) to hold meetings with local communities such as the one held recently in Madurai. This meeting aimed to work with the community and traders to ensure that metal scrapers are not used and that there is a closed 45-day period. He also highlighted CSMCRI's interventions in conflict resolution. Recently in Keezhakkarai a lorry loaded with kattakorai paasi (*Sargassum spp.*) was seized and the forest department called in CSMCRI because corals were attached to the seaweed¹⁴. The forest department was concerned about destruction of corals. But CSMCRI informed them that seaweed does not grow on live corals. He then noted that at an earlier meeting in Chennai, he had come to understand that the women in the Pamban area wanted to be involved in decision-making about these resources and hence he was here to see how he can be of help.

Declining resources

The women seaweed collectors then spoke about their day-to-day issues regarding seaweed collection. The women noted that kanji paasi (*Gracilaria edulis*) was hardly available now. They ascribed this to the spread of an introduced seaweed species saying that since it was introduced to Krusadai Island they have seen a reduction in *G. edulis*. The lack of marikozhundu paasi (*Gelidiella spp.*) near this island was also ascribed to the same introduced species' growth. These have returned only after this species was removed (by the government as it was suspected it of

¹² *K. alvarezii*, a red alga, native to The Philippines, was introduced into the GoM by CSMCRI several years ago as a livelihood activity (carageenans etc., used in the food industry, are extracted from the alga). Cultivation technology for the alga was developed by the organization and sold to Pepsi Foods which encouraged women to cultivate the alga and sell it to the company. Hence, the local name for the alga-pepsi paasi.

¹³ The Gulf of Mannar Biosphere Reserve Trust (GOMBRT), was a special purpose vehicle, set up in 2002 for conservation and sustainable use of the reserve's coastal biodiversity, funded by the government and the UN Development Programme (UNDP).

¹⁴ CSMCRI has brought a publication titled, "Seaweed Collection from the Natural Beds of Gulf of Mannar is a Legitimate Livelihood Activity of the Fishing Tribes".

being an invasive), they noted. However, *G. edulis* harvest continues to be low. They also collect kotha paasi (also called ver paasi i.e. *Gracilaria spp.*).

Ganesan countered that the introduced species (which CSMCRI had introduced) had no impact on the growth of other seaweed, the women remained unconvinced. Ganesan noted that from Jagadapattinam to a little before Devipattinam, women continue to harvest *G. edulis* even though the introduced species is grown alongside. This was a point on which Ganesan and the women did not agree upon. He also spoke about harvesting methods and harvesting cycles.

Alternate livelihoods

Ganesan also talked about GOMBRT and its project offering alternate livelihood for fishers and others. One of the seaweed collectors from Chinnapalam shared their experience of this project. She noted that instead of ensuring sustainable use of resources, the eco-development committee (EDC)¹⁵, set up under the aegis of GoMBRT, tried to place restrictions on the community. Each village had an EDC through which loans of up to USD 5000.90 could be taken per village. Self Help Groups (SHGs), formed under this or earlier projects, were encouraged to register themselves and avail of loans. Loans were not given to individuals. The loans, the villagers were told, were to help them develop small businesses to supplement their incomes. However, the women found that individually they would invariably get very small amounts which were inadequate to seed a business. Participants said they were told that this loan was not to stop them from carrying out their traditional livelihoods, but was just a supplementary income-generating opportunity. However, a couple of months into the scheme, they were told that the loan was in lieu of pursuing their traditional livelihoods. The loans were supposed to take care of their income. At this point, the participants said, they returned the money and quit the scheme.

Soon after, the government started saying that they would not let the women go within 500 m of the islands and this area would be marked off with buoys. The women point out that this is where the seaweed is and this is where the water is shallow enough to collect seaweed.

Diminishing seaweed populations

The discussion then moved on to seaweed populations. Ganesan cautioned the women that there was considerable reduction of seaweed population since 2005 and stressed the importance of protecting them. He said this information is based on surveys/research done by CSMCRI¹⁶. He said that *Gracilaria edulis* numbers had come down drastically. He said that a small population is holding out in Valai Island, possibly because access to this island is difficult.

Existing community strictures

The women also shared with Ganesan the existing community strictures on seaweed collection. A participant spoke of how earlier there were hardly 50 families collecting seaweed, now there are 350 families and so the women felt collection must be regulated. Therefore they reduced the number of collection days from 30 to 12 per month because if they collect daily then the seaweed has no time to grow. They go six days during the full moon and again six days during the new moon. They don't go during *perukku* (when waters are high) because that's when the seaweed grows well. Sometimes

¹⁵ Not everyone in the fishing village is a member of the EDC and there has been a difference of opinion within the community on the functioning of the EDC.

¹⁶ Ganesan's presentation provides data showing a decrease in landings of *Gracilaria edulis* from 2000 onwards from 600+ tonnes (dry) to about 200 tonnes (dry) in 2012.

they even miss a day or two in these 12 days because of some illness or social event in their families, but they don't compensate for such missed days. In addition, they don't use metal scrappers while collecting seaweed. They only use their hands but the dead corals cuts our skin, said a participant from Chinnapalam, showing the old scars on her fingers, so they now tie rags around their fingers. The women also said that they wear slippers so they do not hurt their feet. These self-regulations have been followed for the past five years. However, the women said, that this is only in Chinnapalam village.

Resource collection

The women also spoke about which islands they visit; Krusadai, Palli, Manoli, Manoli-Putti, Poomarichan, Muyal, Mulli, and Valai where they collect seaweed. To the north of Krusadai lies Shingle Island where they used collect *Gracilaria edulis* and *Sargassum spp.*, but not anymore.

In some islands other villages also collect seaweed but in the islands of Krusadai, Palli, Poomarichan, the women of Chinnapalam do not allow outsiders because they use metal scrappers. Ganesan pointed out that other villages have stopped using scrappers as well. The Chinnapalam women agreed this was true but said that this was the original reason for stopping Keezhakkarai and Erwadi villagers from collecting seaweed in these islands. Other villages don't have regulations like us, they said. Unlike others (Keezhakkarai, Erwadi villages for example), the women from Chinnapalam collect seaweed only for 3-4 hours a day. Replying to a query by Ganesan, the women said that some 10 years ago they used to collect seaweed from Shingle Island but now there is no seaweed on the island.

Seaweed management regimes

The discussion then shifted to management of resources. Appreciating their existing restrictions, Ganesan said he would like to suggest some alternative management measures for the women's consideration. He said that if a village is collecting from five islands, how about if collection is rotated between islands every month. That is the first month, collection is only on one island then the next month it moves to island 2 and the 3rd month to island 3 and so on. This way the seaweed on each island will have 5 months of uninterrupted growth. The women gave him a patient hearing and then said the problem with this is that they depend on the winds and currents to reach the islands. Since this is unpredictable they cannot be sure of following this plan. Also they felt that their harvesting the seaweed helps promote growth of seaweed and they were concerned that other species may eat the seaweed if it stays unharvested for long.

Ganesan then explained that CSMCRI's research on seaweed growth has found that if the seaweed is not harvested for a couple of months, growth is good. Accepting his statement, the women said their concerns about access are still valid and they could not see how this could be surmounted. They added that if they were in trawlers it would not be an issue but in their small boats it can be a problem. They however agreed it might be possible to follow a similar method within each island i.e. rotate collection between sections of the island. This would, of course, need further discussion, they noted.

Discussing how to improve collection methods, Ganesan suggested they cut the seaweed 10 cm from base using a knife and not pull it with the holdfast, especially for *Gracilaria edulis*. He said that pulling *G. edulis* out by the holdfast is the cause for the seaweed's decline and not because CSMCRI-introduced seaweed is being grown nearby. He said even for other seaweeds, like *Sargassum spp.*, it is a good policy to follow.

Rajagopalan asked the women if the other villages had self-regulations as well about seaweed collection. The women were not sure and were asked to communicate with other villages and obtain this information as it would be relevant if a larger management plan is to be developed. Rajagopalan

suggested that CSMCRI scientists could be asked for help regarding procurement and correct use of knives for seaweed collection.

The discussion on this topic continued on the second day, when a woman leader recapped the discussion and asked the other women whether they could rotate between islands or within the islands. After much discussion of the suggestion made by Ganesan on their seaweed collection routine, the women agreed that they will now collect seaweed alternately in the islands. They said that alternating collection between islands every six day period is difficult as some islands have far less resources than others. So they agreed that for six days every month (the full moon period) they will go to Krusadai and Poomarichan. For the new moon period of six days, the first month collection will be in Krusadai and Poomarichan, the second month it will be in Muyal and Manoli and back to Krusadai and Poomarichan in the third month. It was suggested that any such plan could be tried out for 3-4 months and then tweaked if needed. They also noted that they already have a 45 day ban from April 1 to May 15.

Interactions with the government

Ganesan also asked them if there is any government system to keep track of how many people are working in this sub-sector. The women said they have asked the government to issue identity cards to the women but we have not heard anything from the fisheries department. Ganesan said that perhaps we could work together to figure this issue of identity cards from the fisheries department which allows the women to go to specific islands on specific days. This would be similar to the tokens given for fishing. The women, however, felt this is not feasible since they cannot be sure of weather conditions and cannot be sure that they will be able to get to the specified island on the correct day. It is easier for fishers, they said, since their boats (trawlers and such) are larger.

They also noted that if the government issues identity cards, the women would ensure they carry it with them when collecting seaweed. They also requested that the forest department not harass those with valid cards. A participant suggested that the cards be renewed annually. The women agreed with Ganesan's suggestion that the government could also be asked to offer insurance packages such as those available to fishermen.

Seaweed marketing

The discussion then went on to marketing of the seaweed. The women informed the group that they sell dried seaweed to a local trader, who is also from the village and he sells it to someone in Madurai. The trader, typically, buys the seaweed for USD 0.50 per kg. Earlier the trader would take the wet seaweed now they only want dry seaweed¹⁷. The women said they have contemplated producing agar themselves but were unsure of how to go about it. Ganesan gave them a brief on what products (agar and algin) of the seaweed is used for products such as toothpaste, lipstick, ice creams, cakes etc. The global industry is worth USD 16,653,425,016.6 and India's share is hardly two per cent as there are very few places of seaweed collection, he said. He then pointed out that in order to set up an agar-producing unit, the investment will not be more than USD 34,000 and also pointed out that the main recurring costs would be power and labour. The other input cost is seaweed. Typically, he said, the cost of raw materials (in this case seaweed) is 15-20 per cent. He said a kilogram of *Gelidiella spp.* in Mumbai will cost USD 1.67. The women said they had discussed options with some government agencies (CMFRI) about this and they had been informed that from 200 kg of seaweed, one can get just 7 kg of agar. Ganesan said it would be closer to 20 kg of agar. Ganesan also spoke of how the government cannot afford to stop the women from collecting

¹⁷ In Pamban, drying seaweed is difficult since the women do not have a clean space for this purpose. Note: Different seaweed species fetch different prices but the discussion did not go into specifics.

seaweed since this is the only place in the country and therefore stopping collection will shut down some 20 factories that process the seaweed.

Ganesan also listed the infrastructure (shed, large containers for the seaweed, electricity, water, labour) needed and the basic process for seaweed processing. The women felt that they could handle the labour or can be organized within the village but fresh water would be a problem as the villages do not have a regular supply, nor is there any freshwater source. The women informed Ganesan that even digging a bore well would not help; currently water is piped from Akkalmadam. Hence the women felt there was no point in discussing the idea any further. Instead, the women were interested in knowing how they could bypass the middlemen/traders and sell the seaweed directly to the industries. Ganesan offered to help them to get in contact with a company. He assured the women of getting USD 1.08/kg seaweed instead of the current USD 0.5/kg if selling directly was feasible. He said if the women could wash the seaweed, even in sea water, dry it, then this higher price could be easily obtained. The women said the only problem with that is that the local trader maybe a relative and is usually from the same village. The social ties make it difficult for the women to cut the trader out of the chain. And many of the women borrow money from the trader and therefore have to sell the seaweed only to him.

Accessing the islands

The women pointed out that their families had been using the islands for generations. Several of them spoke of how their parents and grandparents used to camp in the islands, fish there, tend to the trees, with the permission of the Raja of Ramnad. Some of the villagers were also hired by the Raja to protect the islands, later when the islands were handed over to the fisheries department, the community used to pay a lease to the government to use the island resources. Rajagopalan asked the community to collect more information on this aspect - both oral and written proof of their traditional use of the islands.

The women also reiterated that they would not collect Schedule 1¹⁸ species (turtle, dugong, sea cucumber, pipefish, sea horse, and certain types of chanks). If someone is found collecting these banned species, they will identify the person to the village *panchayat* or to the government as required.

The women also noted that the government often accuses the women of destroying the corals. The women pointed out that they don't break the corals and also don't let anyone else destroy them. In fact, the women try to avoid walking on the dead corals, choosing sandy areas to move on.

Monitoring and implementation of community management plan

The women decided for monitoring and communicating decisions, they would use the village-level trade union meetings, village level meetings, and *gram panchayat* meetings. However any communication to the government would be through the union. Compliance with rules and restrictions will be ensured through village meetings and village strictures.

The women agreed that to monitor implementation of rules they would work with the forest department officials. It was suggested that villagers select people from within the community to

¹⁸ Under the WLPA, species can be added to one of six Schedules. Species in Schedules I-IV cannot be hunted, traded in; violators face a fine plus a prison sentence. Occasionally the State might declare a species in Schedules I-IV to be vermin and thus allow hunting for a specified period of time in a specified area. For example: man-eaters provide varying degrees of protection, with Schedule 1 species – including tiger, elephant - getting the maximum protection. Schedule V, however, lists vermin that can be freely hunted such as crow, mice. Schedule VI lists plants whose cultivation/ planting is prohibited.

form an island monitoring team. This monitoring team would report to the village heads. If a trespasser is a local then the community will deal with him, if he is from a neighbouring village, they will talk to the concerned *panchayat*, and if the trespasser is from a different area then the forest department could take over. Another option discussed was to divide the islands between villages for protection. This was considered a good plan by the women. But they noted that since they cannot stay overnight on the islands, if someone does something (illegal or destructive) there in the night, the community will not be able to catch him. They agreed that they could report it to forest department, just like they already report the presence of dead animals like the whale that washed up last month on one of the islands. It was also suggested that since the men go daily to sea, they can keep an eye on the islands.

They also proposed to have a district level committee for monitoring that will have two people from each village. It was felt that a village meeting once in six months is needed to collect information on changes in seaweed etc. which can be shared with scientists.

Resolving disputes

For settling disputes, the women said that if it is a village level problem they will try to solve it at the village meeting or if it is between villages, they will have a combined village meeting. The union can be involved if it cannot be solved among them. As a last resort, they will approach the police.

There was also a suggestion of designating one man and one woman from each village to resolve issues at meetings with the forest and fisheries departments, instead of bringing in the union each time as not everyone is a member of the union. But others felt that since there are union members in each village, the union would be a better option.

Monitoring efficacy of management

To review progress in conserving the seaweed areas, the women said they would request the help of scientists. Perhaps a review could be done annually and the management plan changed according to this. The women also agreed that they could keep track of how much they harvest and in which areas, the type of seaweed collected and the date of collection to calculate the impact of these new plans and regulations. And they agreed that in the village meeting they would review this to see if it meets the objectives.

Ramya Rajagopalan urged the women to go back to the villages reflect and discuss the issues and proposals put forward in this programme with the rest of the community.

Outcomes (Pamban: Seaweed group)

Existing Regulations:

- They collect seaweed only 12 days/month - 6 days at new moon, and 6 days around full moon and they do not use any metal scrappers to collect it. This is a local regulation currently in Chinnapalam only
- There is a 45 day ban (April 1-May 15) on collection
- Only women from Chinnapalam and Thopukadu fishing villages are allowed to collect seaweed from the following islands - Krusadai, Pulli, Poomarichan.
- They do not collect Schedule 1 (banned) species like turtle, dugong, sea cucumber, sea lizard, sea horse, and certain types of chanks
- Destructive fishing practices are banned in their villages, they do not practice these (such as dynamite fishing)
- They don't break corals; in fact they avoid walking in those areas.

Suggested regulations:

- For 6 days every month (full moon period) they will go to Krusadai and Poomarichan. This is because the wind factor and wave height does not allow them to go as far as Manoli islands. Besides, the high cost for getting a boat to take them to Manoli is not affordable for most people
- For the new moon period of 6 days, the first month collection will be in Krusadai and Poomarichan, the second month it will be in Muyal and Manoli and back to Krusadai and Poomarichan in the third month. It was suggested that any such plan could be tried out for 3-4 months and then changed if needed
- If the government will provide ID cards for the women, they will carry it while going for collection and the forest department should not harass women with valid ID cards. The cards can be made renewable annually
- With guidance from CSMCRI, the women will cut kanji paasi 20 cm from base using a knife and not pull it with the holdfast, ensuring regrowth of seaweed
- CSMCRI will assist the women seaweed collectors in getting a better price by helping them link directly with markets
- Government should have an insurance scheme for seaweed collectors, like for fishers.

Communication and Voluntary Compliance:

- Village trade union meeting, village level *panchayat* meeting, Gram *panchayat* meeting, community based groupings (such as *Mutturayar*), district union meetings will be used to communicate these rules and regulations to the rest of the community
- Village level restrictions and *panchayat* rules and regulations will be used to make people comply with these rules and regulations.

Monitoring:

- The community and forest department officials will work together in monitoring and implementation. Outsiders who trespass into the island areas/or collecting banned species will be handed over to the forest department officials
- The community will form a monitoring team to protect the islands, those breaking the law will be reported to the village heads
- They will also select two people from each village to be a part of the district level committees.

Dispute Settlement:

- If it is a village level problem they will try to solve it in village meetings or Union meetings. In case it cannot be addressed in all these places, then they will approach law and order (Police) to look at the issue.

Review:

- After one year they will monitor to see if these regulations have achieved the goals and if needed will revise the goals.
- Village people will also keep an account of how much they harvest and in which areas, with the type of seaweed collected and the date to calculate the impact of these new plans and regulations.

After the group discussions, post lunch on the second day, each group presented the outcomes of their discussions to the entire gathering.

6. Meeting at Ramnad (25-26 October 2013)

The meeting was held at Aishwarya Meeting Hall in Ramnad town. Like in Pamban, the meeting here also started by noon. There were 52 and 27 participants on October 25 and 26 respectively.

Resource persons remained the same as Pamban. The programme began with an introduction to the objectives of the meeting, by Ramya Rajagopalan. She also briefly shared what had been discussed in Pamban.

A RFTU leader then spoke for a while; he blamed the government for pushing them away from the coast in the name of development. He also questioned the logic behind the government's decision to allow several coal-fired (thermal) power plants close to the sea, leading to the destruction of fisheries in coastal waters and heavy traffic of ships bringing coal for these power plants. He then reminded the gathering of the need for documentation of the fishing community's traditional knowledge regarding marine resources and the sea in order to protect the resources while ensuring sustainable use. We can only blame ourselves for destroying resources by employing unscientific methods of fishing, he added, calling for the community to plan for their own long term good and come up with a management scheme for the resources.

Rajagopalan then introduced Panipilla and his work. After Panipilla's presentation, participants spoke about their traditional use of the islands and the impacts of non-fisheries developments on the ecosystem. One participant spoke of his experience of visiting and staying on the islands for several days as a young boy accompanying his father. He recalled the islands being well-covered by palm trees and noted that some of the islands had small shrines to various gods. He beseeched participants to share their knowledge with those gathered here so that a strong representation can be made to the government. One of the women spoke of how they spent nights on the islands, how they cooked, camped and collected seaweed. Now all this is punishable and illegal, she said.

After this, Johnson made his presentation on the Ecosystem Approach to Fisheries. In addition, he elaborated on the non-fisheries developments that are impacting the marine environment such as industries, pollution and climate change. He spoke of the need to ensure livelihood security for fishers in any plan to protect and manage marine resources. Such plans must include community views and involve the community in the process, he said. He also noted that closed area, closed seasons, bans on gears etc. is the oft used management tools. Following his presentations, participants asked him if there were estimates on the impact of trawlers. Participants demanded that scientists (like Johnson) inform the government on the impact of trawling compared to that of artisanal fishing boats.

P. S Asha from CMFRI then made a presentation on sea cucumber resources of Ramanathapuram. She spoke in general about the sea cucumber fishery and the major regulations present in India and the problems with those regulations. She also spoke about the successful conservation measures followed by different countries for the protection of sea cucumber resources.

This was followed by group discussions, as in Pamban, with participants being divided into three groups - fisheries, sea cucumbers and seaweed.

6.1. Group discussion

6.1.1. Group 1: Fisheries (Ramnad)

The discussion started with the RFTU president talking about the need for protecting the resources of the Gulf of Mannar. He said the Gulf consists of not just the islands but also the coast. How we ensure sustainable use, conservation and protection of livelihood needs all at the same time, he asked. Another participant added that the community needs to tell the government all that it is doing to protect resources. There are community restrictions but there are some who continue to use destructive practices. The fishing community needs to name them, inform the government and demand action be taken, he said. It was noted that the Gulf has species that are not found in other areas which is why it is an important region and needs to be protected.

The RFTU leader stressed that marine resources must be used carefully so that there is enough for the current and future generations who are dependent on this livelihood. Members of the community have not amassed any great wealth for their children; they can at least take care of these marine resources and give that as their legacy to their children, he pointed out. Talking of changes in fishing through the years, a participant noted that in spite of so-called advances in gear; fishers today get less catch compared to earlier generations who used the traditional multifilament nets.

Highlighting the community's protection of the islands, a participant noted that some five years ago, a fire broke out (lightning caused some dry wood to start to burn) in Nallathanni island. He explained how he and his friends went there and put out the fire.

Community regulations

Much debate occurred on whether suggestions for government-imposed restrictions are given or they should discuss community-imposed ones. There was a discussion on the 45-day fishing ban and the majority were of the opinion that it is not followed by everyone. Already existing community norms should be included and must be communicated across the region felt many participants. This will highlight the community's efforts and will also shine light on any gaps. What constitutes a community initiative to protect species was much debated. Existing community restrictions were also discussed. Several bans, participants felt, may have evolved for other reasons but also may contribute to protecting the resources of the Gulf. For example, one day every month, they do not go fishing because they have a community meeting. In some areas it is a weekly occurrence. Participants felt the need to think about existing community strictures further because often their restrictions are couched within religious or other frameworks. An example of a tradition of praying at the temple every season when the kind of nets used is changed was shared. It was noted that, while religion serves a certain function, what is relevant here is that the community switches gears seasonally, targeting different species and thus giving the species which was fished a few months ago time to recover.

In some regions of the Gulf, people fish for only six months in a year (shore seine). The community does not catch species such as sea turtles, sea cows that are in the Schedules, these are instead protected by fishers. There is also a community ban on cutting trees and starting fires on the islands, it was noted.

However, a note of caution was introduced by a RFTU leader who said that the community must look for practical solutions. In some cases, for example, fishers cannot or will not switch gears. For example those who catch crabs cannot use a different gear. He stressed the need to be practical and the need to ensure that any rules formed are acceptable to everyone.

Gear control

Some participants called for pressurizing the government to ban monofilament nets. This led to disagreement as some participants felt it is an important net for some people. In the end, it was

decided to try and reduce the use of monofilament nets (especially those less than 36 mm mesh size). The group also called for reducing the use of ring seines and pair trawls. There was consensus among members that they can and will stop destructive fishing practices such as dynamite fishing.

Trawlers

There was a heated discussion on trawlers. While everyone agreed that trawlers are a problem and contribute in a big way to the destruction of resources, there was disagreement on managing this problem. There was also concern expressed that the community does not have the power to stop trawling; this can only be enforced by the government. While the group here can write down that trawlers must be banned, it will be just a paper sentiment. It was decided that the government be asked to ban trawling at least in the waters between the islands and the coast, and that only traditional fishers be allowed there.

Communication

The group also discussed how new community regulations can be communicated across the region. Several participants felt the union must take up the responsibility but the RFTU leaders noted this would be a tough task for the union, especially since not everyone is a union member. Accepting this explanation, the group decided that existing monthly community meetings could be used as a medium of communication and to spread the message of resource conservation. Other avenues, such as *gram sabhas* (village meetings), boat owner associations, notices posted in prominent places in the villages, SMSes, will be used as well. To convince people of the need to comply with regulations and actively participate in sustainable use of resources, a committee of interested community members can be formed.

Implementation of regulations

Several participants felt that monitoring the implementation of the regulations could be done in-house, without involving the forest or the fisheries department. Some participants disagreed on the grounds that in tight knit communities, the lawbreaker might be related to those implementing/monitoring regulations so it would be difficult to enforce the rules. The group agreed that only the fisheries department could be involved and a representative of a nearby village could be brought in so there is no bias. Others suggested that at least scientists be brought on board, since the community may need their advice.

In terms of dispute settlement, it was first suggested that the union could take responsibility but the union leaders were unwilling. They pointed out that much is expected of the union while members do not support the organization adequately, even calls for attending meetings are met with indifference. Union leaders felt that village bodies would be best suited to deal with disputes.

The group felt that monthly reviews to see if regulations are being followed should be carried out. A participant noted that like scientists using landing data, the community could track their catch (by species and quantity). While accurate and detailed information collection may not be possible, a reasonable estimate can be made and the data compared with the previous year to note trends.

Outcomes¹⁹ (Ramnad: Fisheries)

Existing Regulations:

- In some regions of the GoM, people fish only 6 months in a year; e.g.: shore seine is stopped during breeding season
- They do not catch species such as sea turtles, sea cows that are in the schedule list of WLPA
- There is a village level ban on fishing for one day in a week
- They do not cut trees or start fire in the islands.

Suggested Restrictions:

- They will not fish in the rocky and coral areas around these islands
- Trawling should be banned in the area between the islands and the coast, only traditional fishers should be allowed.

Communication and Voluntary Compliance:

- Village level meeting will be used to talk about fish production and other awareness on management
- Through gram sabhas, boat owner associations, posters, SMS etc. information will be spread among communities
- They will also put out advertisements in the traditional village-level notifications
- A gear protection committee, to oversee compliance with rules, will be formed. Of those who express interest in becoming members, a few will be selected by the traditional village *panchayat* to form the committee
- The committee will report to the traditional village *panchayat* and the union will provide support.

Monitoring:

- Village level monitoring committee formation
- Each such committee will also have representatives from neighbouring villages.

Conflict resolution:

- District and *taluk* level committees will be formed, where village level committees are members and they will sit together to resolve conflicts.

Review:

- Fishing and scientific community will join together and do a research once in six months to review these management plans.

6.1.2. Group 2: Sea cucumbers (Ramnad)²⁰

The concepts behind the questions given to the group were introduced by Kasim and Asha. The group then identified the various important resources on which the fishing community depends such as sea cucumbers, chanks, seaweeds, marine plants, sea grasses, fin fishes, and coral reefs. They noted that traditionally they collected most of these except corals though they have stopped collecting some of the above ones since they are banned.

¹⁹ All measures discussed/listed in the report are suggestions only. These were possibilities floated and discussed by a few representatives of the fishing community. It was made clear that any resolutions would come only after comprehensive village (hamlet) level detailed discussions so as to ensure a community-wide consensus.

²⁰ Note: Since only divers were participating in the workshop, the discussion revolved around traditional divers and their issues. Catching of sea cucumbers by trawlers was not a concern.

Community regulations

Talking of existing community strictures that contribute to conservation of sea cucumbers, a diver spoke of how nature imposes its own regulation on sea cucumber harvesting - only for six months in a year are the waters clear enough to collect sea cucumbers. Even within these six months (October to March), diving is carried out only for three months. In addition to this the sea cucumber divers have a weekly holiday. Another restricting factor in collecting sea cucumbers is the diver's ability to hold his breath and his eyesight. Younger divers can spot the sea cucumbers better. The group also highlighted the impacts of pollution on sea cucumber populations, noting that the government is not proactive on this front.

Like they used to traditionally, the participants said they would like to make use of the islands and the surrounding waters without damaging the environment and resources. Especially during bad weather, they should be able to stay on the islands. They also pledged to protect dugongs, turtles and other resources in and around the 21 islands. They also noted those years ago, they had opposed the destruction of corals by the construction industry.

Sustainable harvest

The major demand from the sea cucumber group was that the ban on three sea cucumber species - black (*Holothuria atra*), white (*H. scabra*), and nool attai (*Bohadschia marmorata*) out of 39 species available in this region, and a few chanks must be lifted so as to improve their livelihood. Assuming the three sea cucumber species are removed from the Schedule, the group felt that to ensure sustainable harvest, the authorities could provide licences for sea cucumber divers as in the case of chank divers of yore. Others involved in the sea cucumber trade should also be provided licences. There can also be restrictions on how much is harvested and what size of sea cucumbers are collected. Such licensees could be required to present their daily harvest to the authorities, who can then track the number of sea cucumbers harvested and their size.

New management plans

To ensure information communication, the traditional village *panchayat*, sea cucumber divers associations and unions can conduct a series of meetings at the regional, *taluk*²¹, and district level.

Village-level institutions can also be used to convince people to abide by regulations and to spread awareness about the need for protection and sustainable use of resources. The group felt that the community is not well equipped to set up a monitoring mechanism and therefore they would request the government to help them put together a monitoring mechanism. However, the actual work of monitoring the implementation of regulations would be carried out by monitoring committees, to be established in all the villages.

The group felt that all problems and issues could be resolved by village-level committees or by the union. Any dispute that cannot be handled by these bodies might require the government to step in.

The group suggested that there should be a committee comprised of fishermen, community leaders, monitoring committee members, members from NGOs working in this field, and scientists to review the management plan efficacy.

One of the resource persons sitting with this group noted that scientific knowledge of sea cucumbers is not extensive and that the traditional knowledge of divers should be taken into consideration when decisions regarding this sub sector are made.

The resource persons from CMFRI suggested that since diving for sea cucumber is possible only for half the year, during the off-season, divers can carry out ranching of sea cucumbers. They said that

²¹ An administrative division of local government, smaller than a district.

CMFRI would be able to provide seeds and the divers could stock these in their customary fishing grounds, thus enhancing sea cucumber populations while gaining a livelihood for the off-season. The scientists however introduced a note of caution, saying that sea ranching has not been tested in the field; therefore a pilot project to test feasibility would be needed.

Outcomes (Ramnad: Sea cucumbers)

Suggested Regulations:

- Remove three species - *Holothuria atra*, *H. scabra*, and *Bohadschia marmorata* - from Schedule 1 (of WLPA) and allow controlled harvest.
- The authorities may provide licences for sea cucumber divers (like they did for chank divers). All those involved in sea cucumber trade should be given licences.
- Divers/boat owners etc. may be instructed to present their daily harvest to the authorities. Like it was done earlier with chanks, size of sea cucumbers and numbers caught per day can be regulated.
- Through CMFRI, sea cucumber harvesters may be given training in sea ranching of commercially important sea cucumber species so that populations are enhanced and harvesters gain a livelihood during the 6 months when diving is not impossible.

Communication and Voluntary Compliance:

- The village *panchayat* and sea cucumber divers associations and unions will conduct series of meetings at the regional, *taluk*, district and state levels to make the people aware of these rules and regulations.
- The above mentioned village level institutions will be used to convince the people by a detailed awareness programme about the need for protection and guide them voluntarily to adopt or take responsibility of these practices.

Monitoring:

- Initially the people will request the government to come up with detailed rules with the participation of the fisherman community. Later to supervise the implementation of these acts and rules, the community will establish monitoring committees in all the villages.

Dispute Settlement:

- They will attempt to solve problems at the village level; inter-village disputes will be handled by the union; more complex problems will require the law to intervene.

Review:

- There should be an apex committee comprised of fishermen, community leaders, monitoring committee members, members from NGOs working in this field, scientists will be established with the help of government who supervises all the rules and regulations.

6.1.3. Group 3: Seaweed (Ramnad)

Dr V Veeragurunathan from CSMCRI was the resource person for the seaweed group. Seaweed collectors discussed the mode of harvesting and processing of seaweed. The women also noted that there were marketing problems; they are paid USD 0.17-0.18 per kg of wet seaweed though dried seaweed will fetch at least USD 0.83 per kg. Unfortunately, the women said, the traders refuse to buy dried seaweed.

The women shared details of how, when and where they collect seaweed. The group said that from March to May there is a self-imposed ban on seaweed collection. In addition, not all seaweed is collected throughout the year. *Ulva paasi* (*Gracilaria spp.*) is collected between December and February, while *Sargassum spp* is collected from May to August. *Gelidiella spp* is collected throughout the year, unlike pakoda paasi (*Turbinaria spp.*) which is collected from May to August

and again in November. *Gracilaria edulis* (kanji paasi) is collected from December to February and *Gracilaria spp* (ver paasi) is collected during April-May.

Resource collection

The women listed the islands they visit to collect seaweed; Yannai paar (near Erwadi village), Palliyarmunai (near Erwadi village), Nalla thanni (near Mundal village), Puluveni chali (near Mariyur village), Poomarichan, Upputhanni (near Vembar and Vypar), Appar (near Sethukarai), Valai (near Periyapattinam), Mulli (near Mandapam), Muyal (near Mandapam), Pulli, Idamuruvai, Kuppa paar, Kizhijan paar, Appar, Palliyarmunai, and Yannai par.

Community regulations

Explaining the community regulations that they follow, the women noted that since 2006, they have stopped using metal scrappers to collect seaweed. Instead they use their bare hands, although they tie rags around their fingers to protect them. This change came about because the women felt that the scrappers were an unsustainable collection method. They do not collect seaweed during March, April and May. Anyone breaking this taboo is punished with a fine at the village meeting. The village may also decree that traders not buy seaweeds from the law breakers.

On proposed regulations, in the case of *G. edulis*, based on discussions with Veeragurunathan, the women decided that they will not harvest those plants that have spores attached. These spores, they learnt, help in propagation of seaweeds. They now understand that from each spore nearly 4000 new seaweeds can grow, so in future such plants will not be harvested.

The women also agreed to another suggestion to leave a few specific smaller areas (3 by 4 meter) where seaweed will not be collected. Those who contravene this regulation will be fined, and repeated flouting of the regulation will lead to the transgressor being banned from seaweed collection in these areas. Implementation will be done through Muthurayar and other community groups.

Communication

The women also contemplated having a group separately for women seaweed collectors at the district level, where women from different villages or their representatives can discuss their issues and come to an understanding on the rules and regulations.

To spread the word on the new regulations, generate awareness for the need to follow such rules etc., the regular meetings held by the Muthurayar community, the village and the union could be utilised. A participant suggested that a few women leaders could be trained to spread the message among the women in the region regarding the importance of harvesting seaweed in a proper manner, and the need to comply with regulations.

Implementation and monitoring

They also proposed self-monitoring mechanisms to implement any new regulations. Violators could be dealt with by at the village meeting. To resolve disputes, the village meetings, women seaweed groups and the union can be useful forum.

Representatives from women groups could be selected to check if these regulations have been implemented and if the goals are achieved. This can also be discussed at the union meetings, it was felt. Another suggestion was that a representative of the seaweed collectors from each village can together monitor the 3 to 4 meter area, to see if the seaweed production has improved after a period of one year.

At this meeting, seaweed collectors demanded that during their self-imposed three-month ban, the government provide monetary compensation similar to what fishermen get during the monsoon ban. They also asked that the government issue identity cards for them.

Outcomes (Ramnad: Seaweeds)

Existing Regulations:

- Since 2006, they have not used metal scrappers for collecting seaweeds; instead they tie rags around their fingers²².
- Ban on collection from March to May. Defaulters are punished in the village meeting, a fine is charged, and traders are told not to buy seaweed from such people.

Suggested regulations and demands:

- In the case of kanji paasi (*G. edulis*), based on discussions with Veeragurunathan, CSMCRI scientist, they will not harvest those plants that have spores attached to it. The women understood that from each spore nearly 4000 new seaweed plants can grow.
- They will keep aside a specific area of (3m by 4m) where seaweed collection will not be allowed. This will act as a propagation source. This will be implemented with the help of all villagers. They will discuss this further in the village on the implementation. This will be discussed in the upcoming Muthurayar community group meeting.
- In case, there are people who violate this ban, they will charge them a fine of certain amount, and repeated violation of the ban will lead to stopping them from fishing completely in these areas. This will be implemented using Muthurayar community groups, as well as other village groups.
- The women have also been contemplating on having a group separately for women seaweed collectors at the district level, where all the women from different villages or their representatives can sit together and discuss their issues and come to an understanding on the rules and regulations.
- Seaweed collecting women demanded that during the months when women do not go to collect seaweeds, they would like to have some compensation from the government similar to what the fishermen get during monsoon ban. They also demanded that the government issue identity cards to them.

Communication and Voluntary Compliance:

- They will communicate these regulations through the Muthurayar community meetings, village meetings and union meetings
- Few women leaders can be trained, who can further then spread the message among the women in the village regarding the importance of seaweed collection in proper Mannar, and to comply voluntary. This message will then be spread across different groups as well.

Monitoring:

- They will have self-monitoring and self-regulations methods to implement the above regulations. For violators, they will have discussions at the village meeting.

Dispute Settlement:

- Village meetings and women seaweed groups can be used to solve conflicts. In case there are further problems, they will also get in touch with the union.

²² In December 2006, GoMBRT brought various stakeholders-forest department, scientists, seaweed collectors and traders, seaweed-based industries together to ensure sustainable harvest of seaweed. This meeting agreed up several guidelines for each stakeholder including the discontinuation of metal scrappers.

Review:

- Representatives from women groups should be selected to monitor if these regulations have been implemented and if the goals are achieved. This can also be discussed at the union meetings.
- Women from each village (seaweeds groups) can come together as a group, to monitor the 3m by 4m area, to see if the seaweed production has improved after a period of one year.

7. Final session

In the final session each group presented the management plans they developed. Officials from forest and fisheries departments also attended the final session at Ramanathapuram. After listening to the management plans of each group they responded positively to the demands and management plans proposed by the community, especially with regard to issuing identity cards to sea weed collecting women. The training programme ended on a positive note, with participants agreeing to go back and further discuss the proposed plans with the rest of the people in their villages and finalizing them.

Pillai Vinayagam, Assistant Conservator of Forests, Ramanathapuram said he was glad of this opportunity to talk to the fishing community and that his department had been planning to have village-level discussions as well. Community participation is essential in managing natural resources, he said. He suggested that the sea cucumber diver community keep raising their demand that the three sea cucumber species be removed from the Schedule and that the forest department will also do the same. He also spoke positively about the need for working together to protect marine resources while providing a livelihood to fishers. He commented that there are many cases against sea cucumber collectors and while they run afoul of the law, someone else is making money from the trade. If the government, community and NGOs work together, we can achieve a lot, he said. He highlighted the problem of pollution and stressed the need to be able to use resources in a sustainable manner. He also appreciated the community's efforts at self-regulation and promised to discuss the positive moves from the community with the wildlife warden. He ended by expressing a hope that the forest department and community would be able to work together to further this process urged the community to consider the forest department as their friend.

Dr M Karthikeyan, Deputy Director of Fisheries (Regional), Ramanathapuram said that his department will look into the matter of issuing identity cards to the women seaweed collectors. He also said that problems between trawlers and traditional fishers were absent in this district (Ramanathapuram) and offered to take legal action against trawlers whenever they violate the three nautical mile rule. He urged the community to inform the department whenever they spot a trawler fishing inside the three nautical mile limit.

An RFTU leader demanded that trawlers should not be allowed in the GoM. He said of all fishing methods, this was a troubling one that the artisanal fishers felt was detrimental to conservation and to their livelihoods. Another participant expressed concern that unsustainable fishing gear, like pair trawls and ring seines which were first used by trawlers in the Jagadapattinam area, continue to be widely used and called on the government to take action against these. Currently, those using such gear are only fined Rs 1000 or so, which, he felt, was inadequate.

Karthikeyan informed that they have recently booked many trawlers for using these nets and the fine is quite high. In addition the government, he said, does not give them diesel tokens for a month or two once they are booked for such infractions. He also noted that often it is traditional fishers who work on trawlers. He asked that the traditional fishers take a stand on this issue.

Marirajen stressed the need for a more pro-active role for the traditional village *panchayat* in terms of handling these issues.

Ramya Rajagopalan concluded the meeting by thanking everyone and noted that ICSF hopes to help in developing and implementing a community-led resource management plan in Gulf of Mannar. She noted that there several positive examples of such endeavours in other countries like Thailand. She added that the community proposals will also be presented to the Tamil Nadu State Planning Commission. So she urged the participants to start discussing these proposals with the rest of the community.

Appendix I Programme

International Collective in Support of Fishworkers

Enhancing Capacities of Fishing Communities for Resource Management

TRRM Training Centre, Pamban,

Ramanathapuram, Tamil Nadu

23-24 October 2013

Day 1	October 23, 2013
10:00 am - 10:30 am	Introduction to workshop: ICSF
10:30 am - 12:30 pm	<p>Traditional knowledge and fishing communities Presentation of case study from Trivandrum Robert Panipilla</p> <p>Presentation of case study from Gulf of Mannar People's Action for Development (PAD)</p> <p>Discussion</p>
12:30 pm - 1:30 pm	<p>Ecosystem approach to fisheries management in the context of the Gulf of Mannar B. Johnson, Central Marine Fisheries Research Institute (CMFRI), Mandapam</p> <p>Discussion</p>
1:30 pm - 2:30 pm	Lunch
2:30 pm - 3:00 pm	<p>Break-out groups on (i) Seaweed, (ii) Sea cucumber and (ii) Fisheries</p> <p>Group-wise presentations by resource persons: (i) Seaweed resources in the Gulf of Mannar: Issues of conservation and management M. Ganesan, Central Salt and Marine Chemical Research Institute (CSMCRI), Mandapam</p> <p>(ii) Sea cucumber resources in the Gulf of Mannar: Issues of conservation and management P.Asha, CMFRI, Tuticorin</p> <p>(iii) Fisheries resources in the Gulf of Mannar: Issues of conservation and management B. Johnson, CMFRI, Mandapam</p>
3:00 pm - 4:00 pm	Group Discussions
Day 2	October 24, 2013
10: 00 am - 12:00 am	Group discussions continued
12: 00 am - 1:00 pm	Recommendations from the three groups presented in plenary
1:00 pm - 2:00 pm	Lunch
2:00 pm - 4:00 pm	Discussion on recommendations with resource persons
4:00 pm	Final recommendations adoption

International Collective in Support of Fishworkers

Enhancing Capacities of Fishing Communities for Resource Management Training Programme

Hotel Aishwarya, Ramnad

Tamil Nadu

25-26 October 2013

Day 1	October 25, 2013
10:00a.m -10:30 a.m.	Introduction by ICSF
10:30a.m -12:30 p.m.	<p>Presentations on traditional knowledge and fishing communities</p> <p>Case study from Trivandrum Robert Panipilla</p> <p>Case study from Gulf of Mannar People's Action for Development (PAD)</p> <p>Discussions</p>
12:30 p.m. -1:30 p.m.	<p>Ecosystem approaches to fisheries management</p> <p>B. Johnson, Central Marine Fisheries Research Institute (CMFRI), Mandapam</p> <p>Discussions</p>
1:30 p.m. - 2:30 p.m.	Lunch
2:30 p.m. - 3:00 p.m.	<p>Break into groups: (i) Seaweeds, (ii) Sea cucumbers and (iii) Fisheries</p> <p>Presentation by resource persons:</p> <p>(i) Seaweed resources of Gulf of Mannar M. Ganesan. Central Salt and Marine Chemical Research Institute (CSMCRI), Mandapam</p> <p>(ii) Sea cucumber resources of Gulf of Mannar P.Asha, CMFRI, Tuticorin</p> <p>(iii) Fisheries resource of Gulf of Mannar B. Johnson, CMFRI, Mandapam</p>
3:00 p.m. - 4:00 p.m.	Group discussions
Day 2	October 26, 2013
10:00 a.m. - 12:00 a.m.	Continuation of group discussions
12:00 a.m. - 1:00 p.m.	Recommendations from the three groups presented in plenary
1:00 p.m. - 2:00 p.m.	Lunch
2:00 p.m. - 4:00 p.m.	Discussion on recommendations with resource persons
4:00 p.m.	Final recommendations adoption

Appendix II Feedback

Feedback questions

1. Was the information circulated useful? If yes, anything in particular?
2. Were the presentations by resource persons useful? If yes, which ones?
3. Was the workshop useful? If yes, why?
4. What should be the follow-up? By whom?

Feedback

T. Selvi, Keezhamundal

1. Fishing communities benefitted from this discussion. It helped to interact with the government officials directly (on the last day). We know that fisheries resources are depleting only because of trawling. Trawl nets destroy the fish eggs, larvae, and bottom layer of the sea. It brings all the resources to the land by harvesting these.
2. Yes, it was good to know how the coral reefs are formed in nature.
3. The information from ICSF and other NGOs are good, but it is important this is done at the village level.
4. It is important that the NGOs take this forward, like ICSF, RFTU and PAD.

C. Namburaja, Keezhamundal

1. It was useful, as it got the fishing communities to discuss their issues and proposals, and presenting the same to the government departments, and getting a response from government departments.
2. The information on traditional knowledge, fish aggregating devices and management of marine resources was valuable.
3. The discussion was useful, especially the information by forest, fisheries and scientists.
4. It is important these are taken up in the monthly meetings of communities, and by NGOs such as ICSF.

Anonymous

1. Till recently we did not know how to do our harvesting properly, on 23 October 2013 and 24 October, the training helped us understand how to harvest resource properly. It was very useful.
2. We understood information on different resources in the sea from these experts. GOM seaweed resources protection measures, forest protection and resource enhancement issues - we came to understand on these aspects. We understood about CSMCRI institute. We got to know how to keep the resources properly in GOM. The importance of traditional knowledge of fishing communities is now clearly understood by all.
3. We would like to cooperate further on such discussions with traditional fishers as we find it useful.
4. Village organizations, RFTU and other trade unions, scientists, NGOs all of them should work together and then take this forward.

Anonymous

1. We are not going to the islands now for fishing. Since the islands have been given to forest department, we have had a lot of problems, especially in accessing these islands - fines are

levied, and they (forest department) take away our nets. Our problems have increased after that. We need some action on these aspects.

2. Yes, it was very beneficial.
3. We are now confident of going to the islands and fishing with more confidence, as our fears have reduced.
4. It was good to hear everyone talk. We hope they will make all relevant arrangements for the same.

Anonymous

1. The fact that we could go the islands and fish has given us confidence. The discussion on monofilament ban and increase of fisheries resources, discussions on dugong was very useful.
2. Robert's talk on traditional knowledge, especially the way they go for fishing in Trivandrum was interesting.
3. The coming together of traditional fishing communities was useful.
4. Village organizations, RFTU, NGOs and scientists should work together at district level.

M Palraj, Arapukadu

1. Yes, beneficial. Island resources if protected, will increase the fisheries resources. These resources, especially the coral reefs, chanks sea fans-etc. have to be protected to increase fish production. Eezhu valai, thallu madi, monofilament nets have to be banned to protect the fisheries resources. This was explained by resource persons.
2. Yes, the banned list in schedule WLPA, are not harvested by fishing communities.
3. The discussions and inputs were useful. There is no damage due to traditional fishing communities; however, if the trawlers also follow similar principles, then fisheries resources will not get depleted.
4. Village level organizations, should come together and discuss with governments and other departments, and cooperate for conservation of resources.

Anonymous, Ramakrishnapuram

1. Yes. It was useful to know about the resources that are banned by the government. Some of the banned fish species affect our fishing practices.
2. Dugong conservation, adult fish species, seaweed collectors insurance, extent of the banned fish gear, monofilament gear (changes in that). Removal of the completely banned fish nets - suruku madi and karai valai.
3. The use of computers to describe the situation was useful.
4. Fishing communities and government officials should exchange further on this. We need to have continuous discussion on this issue.

Anonymous

1. Was useful. The information on fishery resources was useful.
2. The resources in fisheries and information on the oceans were well understood.
3. We understood the importance of documenting history of usage of the islands, especially information on those people who have worked earlier in these islands. (Oral history documentation).
4. The government should help us in such a way that it does not affect our livelihoods. The traditional fishing boats such as vallams are unable to fish close to the coast, and this is

affecting the communities. We want to fish in the Mukundarayar Chattriam area. Government should rectify this. In future years, we would like to fish with complete proof and documentation, to help establish our rights. We understood the importance of documentation of rights (and the documents that can be used to prove it.)

A Munieswari, Thavakadu

1. It was useful. We understood more about our fisheries resources and on duties and rights.
2. Was useful. We understood about the extent of the sea and the resources in these areas. We also understood the importance of protection of fisheries resources in this area.
3. Was useful. We understood how fishers have to be united, and the welfare issues, how it worked. The government schemes and their advantages and disadvantages were understood. In future we understood we have to document evidence to show that we are fishing.
4. In future, we will communicate our problems to other States and outsiders through these discussions, and videos. Once in two months such discussions have to be organized and issues discussed with resource people.

Anonymous

1. We learnt how to increase the seaweed resources, and also at what stage the seaweed needs to be collected and for which species, during this discussion. The advantages of women's groups were also interesting. The discussion meeting was also useful in putting across our concerns to the fisheries department people and forest department people.
2. From the scientists' presentations, we understood about the marine resources, seaweed resources, and how to increase marine and fisheries resources.
3. Yes, we decided to take seven decisions, including setting up of women's groups and how these decisions will be implemented. Besides this, we got an opportunity to inform the authorities about the need for identity card for women seaweed collectors. It was a participatory process, where we could discuss issues on self-regulation and monitoring.
4. The next step should be focused on increasing marine production, and provide suggestions for the women's seaweed harvesters, and implement schemes that promote the welfare of women fish workers. This can also be done through NGOs, and registered fish worker unions.

M. Andi, Therku Kudiirupu

1. Protection of marine resources and fisheries resources, how to protect them, and how to use them and for whom-we learnt about these aspects.
2. Detailed information on fisheries resources and traditional knowledge on fisheries resources was beneficial.
3. How to protect fisheries resources those are important to us, especially through self-developed (community developed) plans for conservation-these discussions helped us to focus on these aspects.
4. Awareness on fisheries resources and marine resources for fishing communities, and data on fisheries resources. We need to use the fisheries resources, so that even next generation also has access to it. We will do this through the Union, and NGOs. It is important to have these discussions once in three months.

Anonymous, Keezhakkarai

1. We got information on how to conserve fisheries resources, marine resources and also sea cucumbers.
2. Traditional knowledge of fishers, and the data and information on fisheries resources was interesting.
3. It was useful to have discussions with government, and also to understand their point of view and convey our points of views
4. District administration, and through ICSF, there should be discussions once in 3 months.

Appendix III List of Participants: Pamban (23 October 2013)

Arupukadu village

K Rakkathai
M Paulrar

Bharathi Nagar village

Dasan

Chinnapalam village

B Nagarani
Karuppayi
K Panchu
K Venieswari
M Lakshmi
M Maripichai
M Muniamma
M Panchavarnam
Munusamy
Nambu
R Bhagavathi
Sekar Raja
S Nagalakshmi
Subramani

Dhanushkodi village

N Mari

Keezhakkarai village

Jafar

Kundukal village

R Muneswari

Kuthukkal Valasai village

A Ulagammal
L Kesurani

Karaiyur village

S Malaisamy
T Selvarani

Mayakulam village

A Paulsamy

Nalupanai village

M Santi
P Kameswari

Natarajapuram village

C Parvathi
T Rani

Pamban village

Mari James

Ramakrishnapuram village

I Kandasamy
K Nambulakshmi
M Arumugam
M Umarani
Nambu Chetty
R Nambu
R Ramachandran
V Tamilarasi

Ramanathapuram

G Joseph

Rameswaram

G Pradeepan

Thoppukadu village

A Muneswari

P Muthu Nambu

S Subbulakshmi

Vadakadu village

N Karpagavalli

K Panchavarnam

Appendix IV List of Participants: Pamban (24 October 2013)

Akkalmadam village

L Annammal

Arumbakadu villge

M Palraj

Chinnapalam village

Chithravalli

Chetharaja

Chinnaponnu

C Papa

Elamma

Kaliamma

Kalidas

K Venieswari

Lakshmi

M Ponalalavu

Malairani

Mary

M Maripichai

M Muniamma

Muniasamy

Muniswari

Muneaswari

Munusami

Murugavalli

Muthamma

Muthukaruppai

Muthulakshmi

Muthumani

Muthupechi

Nagalakshmi

Nambu

Namburani

Pakiya

Panchu

Parvathi

Parvathy

Pasupathi

Posupurani

Rani

S Muthupechi

Subramani

Subramaniyan

Thangamma

Thulasi Iswaran

Umayasakthi

Dhanushkodi village

Mari

Natarajapuram village

C Parvathy

T Rani

Ponthukadi village

A Ulakammal

R Muneaswari

Ramakrishnapuram village

M Arumugam

Namlachi

Tamilarasi

Uma Rani

Rameswaram

N Karpagavalli

Thaavukadu village

A Muneaswari

Thopukadu village

Govindaraj

Muthuchami

Munia

N Palchami

Pongaladi

Subramaniyan

Visayalakshmi

Appendix V List of Participants: Ramnad (25 October 2013)

Dasan Muniyaraju from PAD

T Santhi

Bharathi Nagar village

C Ganesan

K Ganesan

K Panchavarnam

K Selvaraj

Muthayya

V Indira

Mariyam Nagar village

S N Vellachami

East New Nagar village

M Muniyasamy

Idinthakalputhur village

Chellamma

K Marivel

Rajathurai

S Murugesan

S Palson

Sundarajan

Kilackupudu Nagar village

Puthunachi

R Rekhamma

Thanga

Keezhakkarai village

Kalisku

Kanniyamma

Marimuthu

M Hameed Ilnasi

Saraswati

Keezhamunthal village

C Nambu Raja

Ganesan

Jeganathan

Appendix VI List of Participants: Ramnad (26 October 2013)

Mariyur village

Jayapal
Pandithevar
Shanmugavel

Sivagamipuram village

E Malliga
Ganesan
Gomathi

Menavarkuppam village

Ramasamy

Tuticorin

Murugan

Muthupettai Indiranagar village

Muthu
Rajalakshmi
Rani

Bharathi Nagar village

Chithra
Meenakshi
Muthammal
Muthayya
Nagammal
Panchavarnam
Rajammal
Rajathi
Sarasu
Seethamma
Sellakani
Sivapammal
Valli

Muthraiyar Nagar village

Ramalingam

Pakkirippapallivasal village

Kaliamma
Muniandi
Muthamma
Muthulakshmi
Nagasamy
Rathnammal

Pudukudiyiruppu North village

M Aandi
Karuppiah

Idinthakalputhur village

Muneeshwari
Rajeshwari

Shanmugavel Pattinam village

K Tamilmozhi
R Muniyammal
R Thalaijothi
S Papa

Keezhakkarai village

Haja Alaudeen
Hamid Ibrahim
Mohammed Farooq
Mohideen

Keezhamunthal village

T Selvi

Pakkirippallivasal village

Muniyandi

Ratnammal

Santha

Selvarani

Periyapattinam village

M Andi

Sivagamipuram village

B M Karuppaiya

Appendix VII Framework questions

1. What are the objectives for the Gulf of Mannar resources?
2. What kind of norms and regulations are needed?
3. How can these be effectively communicated/ disseminated?
4. How can compliance, especially voluntary compliance, be ensured?
5. What kind of surveillance and enforcement is needed?
6. What kind of dispute settlement mechanism is needed?
7. How can we keep track of whether the plan is being implemented? And whether it is meeting the objectives?

Appendix VIII Training materials

1. Booklet on An Ecosystem Approach to Fisheries (EAF)
2. Brochure on Small-Scale Fisheries: Their Contribution to Food Security, Poverty Alleviation and Sustainability
3. Leaflet on Draft Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the context of food security and poverty eradication.



Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project to lay the foundations for a coordinated programme of action designed to better the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

The Food and Agriculture Organization (FAO) is the implementing agency for the BOBLME Project.

The Project is funded principally by the Global Environment Facility (GEF), Norway, the Swedish International Development Cooperation Agency, the FAO, and the National Oceanic and Atmospheric Administration of the USA.

For more information, please visit www.boblme.org



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