Bay of Bengal Large Marine Ecosystem Project

ICSF-BOBLME training programme on enhancing capacities of fishing communities

Report of the
November 2013 - March 2014 • Thailand

BOBLME-2014-Socioec-08

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Acronyms used

APFIC	Asia-Pacific Fishery Commission
ARR	Andaman organisation for participatory restoration of natural resources
BOBLME	Bay of Bengal Large Marine Ecosystem Project
CCRF	Code of Conduct for Responsible Fisheries
CHARM	Coastal Habitats and Resources Management Project
CRM	Coastal Resource Management Group
DMCR	Department of Marine and Coastal Resources
DOF	Department of Fisheries
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Production
GPS	Global Positioning System
ICSF	International Collective in Support of Fish workers
MFF	Mangroves for the Future
NGO	Non-Governmental Organisation
SAN	Save Andaman Network Foundation
SDF	Sustainable Development Foundation
SEAFDEC	Southeast Asian Fisheries Development Centre
SWOT	Strengths Weaknesses Opportunities and Threats analysis
TAO	Tambon sub district Administrative Authorities

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 the 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 Fish workers (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.

Unlike in other training sites where the focus was on traditional fishing communities, the Thailand training programmes focused on enhancing the capacity of governmental departments, non-governmental organizations (NGOs) and various actors and organizations working on ecosystem-based marine and coastal resource management.

2. Introduction

Fishing has a long history in Thailand which is one of the top fish producing nations of the world. Thailand has a coastline of nearly 2600 km, with an exclusive economic zone of nearly 316,000 km^2 both in the Gulf of Thailand and Andaman Sea.

(FAO, 2009- http://www.fao.org/fishery/facp/THA/en)

There are 23 coastal provinces, of which seventeen border the Gulf of Thailand (east coast), and six are along the Andaman Sea (west coast). Fishing has been part of people's lifestyle, especially in the coastal provinces. The six provinces of the west coast are Ranong, Phang-Nga, Phuket, Krabi, Trang and Satun. The west coast (Andaman Sea) has a number of mangrove forests and sea grass meadows, making it a suitable habitat for dugongs.

According to the FAO Country Profile (2009), the number of people estimated to be employed in fisheries is nearly two million. The marine fishery includes the commercial and small-scale fisheries. While commercial fisheries use inboard powered vessels of over 5 gross tonnes, small-scale vessels are less than 5 gross tonnes, and use mostly only outboard or inboard engines (FAO 2009). The total marine fish production in 2012 was 1.6 million tonnes (FAO, 2014), valued at nearly 50,000 million baht

(http://www.fisheries.go.th/it-stat/yearbook/data_2554/Yearbook/Yearbook2011-1.2.pdf).

According to the 2000 intercensal survey of marine fisheries, of the 58,119 fishing boats, over 42,200 are with outboard motors, 13,263 are inboard powered boats, the rest being non-powered boats. The maximum number of fishing vessels is in Songhkla and Nakhon Si Thammarat, followed by Krabi, Phang Nga and Satun provinces.

(http://www.fisheries.go.th/it-stat/yearbook/data_2554/Yearbook/Yearbook2011-6.1.pdf).

The typical fishing gears used are medium to large-scale trawl nets by commercial fishers, while the small-scale fishers use small trawls, gillnets, push nets, lift nets, set bag nets, traps, hook and line, and other stationary gears as well (FAO 2009).

Agriculture and fisheries constitute the main livelihood option of the Thai people (35 per cent) and it is estimated that fisheries accounts for 2.5 percent of the total Gross Domestic Production (GDP) (Panjarat, 2008[1]). Rapid mechanization and over exploitation of resources has had an impact on the marine ecosystem since the 1980s. The situation became further complicated by the 2004 Indian Ocean tsunami with hundreds of thousands of people, mainly fishing communities, living in the coastal areas being affected (Panjarat, 2008). Post tsunami, many fishing communities in the country realized the importance of protecting their natural resources and many of them initiated their own management plans to conserve these ecosystems.

Table 1 Thailand fishery statistical information (2011)

	Phang Nga	Trang	Satun
Number of fishery establishments	4667	3789	4098
Number of fishery establishments-Marine capture fishery	4395	3775	3911
Total number of fishing boats	4806	3816	4179
Non-powered boats	237	563	101
Outboard powered boats	4428	2931	3357
Inboard powered boats	141	332	721
Number of fishermen during peak season			
Total	9382	8459	9889
Family members	6964	4739	6308
Employees	2418	3720	3581

Source : http://www.fisheries.go.th/it-stat/yearbook/data_2554/Yearbook/Yearbook2011-6.1.pdf

[1] Panjarat, S (2008) Sustainable Fisheries in the Andaman Sea Coast of Thailand: Division for Ocean Affairs and The law of the Sea Office of Legal Affairs, The United Nations New York, 2008

Figure 1 Map of Thailand provinces

Source:
http://upload.wikimedia.org/wikipedia/commons/thumb/c/c5/Thailand_provinces_en.svg/700px-Thailand_provinces_en.svg.png

2.1. Legal background to fisheries

Thailand's fisheries and marine resources are governed by a number of legal frameworks, some are related directly to fisheries, and others to marine biodiversity. The Thai constitution adopted in 2007 is one of the few in the region that provide the basis for community participation in management of natural resources[2]. Section 57 of the constitution, clearly calls for consultation with the community at all levels, before any planning or developmental activity is undertaken.

According to part 12 on community rights, section 66 of the constitution, clearly states that the local or traditional communities shall have the right to conserve or restore their customs, and local knowledge, amongst others, and participate in the management, maintenance, preservation and exploitation of natural resources, the environment and the biological diversity in a balanced and sustainable fashion. Section 67 clearly protects the right of regular and continued livelihood in the environment which is not hazardous to their health, welfare or quality of life.

The relevant legal frameworks from a fisheries management and marine biodiversity perspective are Fisheries Act, B.E 2490 (1947); Act governing the right to fish within Thai waters B.E. 2482 (1939); Act organizing the activities of fish market, B.E. 2496 (1953); Wildlife Reservation and Protection Act, B.E. 2535 (1992), The National Parks Act, B.E. 2504 (1961), The Act organizing the Activities of the Fish Market, B.E. 2496 (1953), The National Reserved Forest Act, B.E. 2507 (1964), The Forestry Act, B.E. 2484 (1941), and The Enhancement and Conservation of National Environmental Quality Act, B.E. 2535 (1992). Besides these, the other legal frameworks relate to food and animal feed quality (FAO, 2009). The Fisheries Act B.E. 2490 relates to the management and conservation of fishery resources, while the National Parks Act, and the Wildlife Reservation and Protection Act are more related to the declaration of protected areas such as national parks, marine parks and sanctuaries. The major fisheries management measures adopted in Thailand include area and seasonal closures, gear restrictions and limited entry (FAO, 2009). There are a number of notices issued under the Fisheries Act for conservation and management of fisheries resources.

The Department of Fisheries (DoF) and the Department of Marine and Coastal Resources (DMCR) are the two major governmental departments working for the development of fisheries in Thailand. DoF plays an active role in promotion of fisheries and aquaculture whereas DMCR has been given the mandate to develop appropriate regulations in order to achieve updated and effective managerial action with the objective of looking after and conserving the nation's fragile marine resources. Recently a new Bill[3] which emphasizes marine resource management with greater community participation has been proposed by DMCR and is under consideration by the cabinet. The draft Act calls for setting up of local management bodies for the protection of marine and coastal resources.

ICSF's local partner in Thailand for this project was Sustainable Development Foundation (SDF), an NGO that organizes rural communities that are dependent on natural resources for livelihood and food security. SDF has been working with fisher folk communities for more than 10 years along the Gulf coast, Andaman coast and Songkhla lake shore, and has established a strong local knowledge base. With fishing communities, they work mainly on community-based natural resource management, conservation and rehabilitation of coral reefs and fisheries, discouragement of destructive fishing practices, and development of secondary occupations. ICSF has been working with SDF for more than ten years, especially focusing on women in fisheries aspects, enhancing capacities of fishing communities, documentation of community based fisheries management, and documentation of issues in marine protected areas from a fishing-community perspective.

[2] http://english.constitutionalcourt.or.th/index.php?option=com_docman&Itemid=4&lang=en
[3] Marine and Coastal Resources Management Promotion Draft Bill B.E.

3. Objectives

The objectives of the training programme initiative are:

1) To build the capacity of fisheries related state departments, NGOs and local administrative bodies on multi-stakeholder collaboration in ecosystem based marine and coastal resource management,
2) To draw lessons from the workshop and prepare a handbook of directions on marine and coastal resource management, and
3) To apply the lessons from the training programme to formulate policies to facilitate sustainable ecosystem based marine and coastal resource management in the future.

4. Planning, background and schedule

SDF started consulting with concerned partners, namely state agencies and NGOs on this programme since August 2013. The first meeting, on September 25, 2013, formally introduced the project to the partners. At this meeting, a working group was formed. The participants included representatives from government bodies like Marine Fisheries Technological Research and Development Institute of the Department of Fisheries, and Department of Marine and Coastal Resources (DMCR). There were also representatives from NGOs, namely Save Andaman Network Foundation (SAN), Thai Sea Association, and the Mangroves for the Future Project (MFF); and representatives from fishing communities, namely Association of Southern Women Fisher Folks, and Association of Federation of Fisher Folks of Thailand. Case studies from Phang Nga, Satun, Trang and Ranong were selected for preparing video documentation and also to develop an action plan for fisheries management. The studies were selected by the working groups on the basis of the diverse ecosystems, geographical location they dealt with and difference in communities' approach in protecting the ecosystem.

Consultations and field visits to all the sites were also undertaken in November and December 2013, to talk to representatives of different sectors including state agencies, local organisations, communities and local NGOs. The main objectives were to carry out preliminary information gathering, understand local realities and problems so as to aid in developing guidelines on marine and fisheries resource management.

The second meeting was held on November 26, 2013 to analyse the progress in documentation in each area. It was found that work in Ranong province was not progressing well due to an untimely flood in the area. Therefore, the working group decided to stop work on this and give priority to the other three provinces.

SDF prepared video clips from the case studies of the selected community initiated management plans in Thailand done in the past as part of several projects with the help of local NGOs and organizations for the purpose of this training programme.

The training workshop for civil society organizations, was supposed to be held in January 2014. However, due to the political situation, it was organized only in March 2014. This workshop on multi-stakeholder ecosystem-based marine and coastal resource management was organized on March 18-20, 2014 at Chaofa room, Maritime Park and Spa resort hotel in Krabi province, Thailand. It brought together a total of 45 participants representing different governmental bodies, NGOs and other organizations.

5. Proceedings of the training workshop (March 18-20)

5.1. Day 1

The workshop started with Sama-ae Jehmudor, President of the Federation of Thai Fisher Folk Association welcoming the participants. This was followed by an inaugural address by Surajit Intarachit, Deputy Director General for Fisheries, Department of Fisheries where he spoke about the major activities of the Department of Fisheries and the importance of collaboration with various stakeholders in the sector. He stressed the importance of restoring ecological balance and the role fishing communities can play in maintaining the biodiversity and quality of the marine environment. Intarachit also spoke of the importance of monitoring progress of any ecological interventions that are undertaken. Such monitoring should keep in mind the environmental, social and economic aspects involved. Intarachit also extended his department's full support to the programme and thanked the organizers for inviting him.

Ravadee Prasertcharoensuk of SDF then gave the background of the BOBLME Project and outlined the objectives and programme for the two-day workshop. She also facilitated the workshop. The programme was divided into three sessions:

5.1.1. Session 1: Case studies

Concept and principles of multi-stakeholder ecosystem based marine and coastal resource management

The first session began with presentations on the three case studies on which the video clips were prepared. As mentioned already, originally, four case studies were planned but the work on Ranong Province was abandoned.

5.1.2. Case study of Trang province4:

Sustainable ecosystem based fisheries management of Lae Sae Baan (4 villages' conservation zone) area in Chao Mai beach national park in Trang province

Aren Prakong, Chairman of the Trang Fisher Folk Club and a community leader of Koh Muk village in the province and Dawan Sunlee, researcher and field worker, Save Andaman Network Foundation (SAN) presented the Trang province case study. Trang, a coastal province in southern Thailand, has abundant mangrove forests, sea grass beds, and coral reefs. Some important species found in the area are dugongs and sea turtles as well as several species of commercial importance like bream, squid, mackerel etc. The ecosystem health is very important for this province, as it affects the wellbeing of the fisher folk.

However, in the last few years, the ecosystem has been severely degraded, and fisheries resources were overexploited due to the rising market demand. There was an increase in commercial fishing, and the practice of banned fishing methods as well, such as poisoning and the use of explosives. The mesh size of fishing gear was also reduced drastically to less than two inches. These led to conflicts amongst the coastal communities themselves, and also to an increase in conflict between the communities and local government agencies. Tourism also witnessed a boom in the province during this period.

The Indian Ocean tsunami of 2004 was like a final nail in the coffin of the highly diverse Trang ecosystem. Trang was one of six provinces in Thailand badly affected by the tsunami. In addition to the loss of life and property of the community, the entire sea bottom got affected and coral reefs and sea grass beds got damaged. Nam Rap was the only village which was not affected and that was due to the presence of hundreds of acres of mangrove forest along its coastline. Realizing the

[4] To read the full case study: http://www.icsf.net/en/monographs/article/EN/110-time-for-a-sea-.html?limitstart=0
To view the video clip on the case study: http://www.4shared.com/video/xkwi58egba/_online.html

importance of mangrove forests and marine ecosystem, post-tsunami, the small scale fisher folk of four villages: Koh Muk, Nam Rap, Chang Lang, and Kian Tung Koo, came together and established a "Four Village Marine Conservation Zone" locally known as "Lae Sae Ban". An area of sea covering around 27,000 rai (10,675 acres) has been designated as a conservation zone called the Four Village Marine Conservation Zone. There are agreements about making use of the sea and its resources (ICSF, 2010-http://www.icsf.net/images/monographs/pdf/english/issue_110/110_all.pdf).

The communities established rules and regulations to protect and manage the marine resources, based on their experience and traditional knowledge. These communities decided not to fish with gears and techniques that will damage the marine ecosystem in the zone area and they also established a marine task force, locally called "Chor Kor Lae Trang", amongst themselves to monitor and patrol the area to control the use of illegal fishing gears. The task force monitors and patrols the sea so that the sea and its resources cannot be damaged and destroyed by drag-nets, fine-mesh nets, and diving for shellfish using breathing apparatus (ICSF, 2010). Results of the community protection movement have been good so far and species like mackerel which had long disappeared have returned.

> *It took almost a year to communicate with everyone and come up with a solution because explaining to people about zoning was not easy. Zoning helps to protect dugongs, sea grass, sea turtles, and other species. There is common management but each village has a different mechanism to cover their zone, to see what is (not) appropriate in their zone and capacity. But if somebody is involved in illegal fishing, it is not only up to the zone leader but also leaders of the four zones to work together to inform and make him understand why it is illegal. There is a result! Less use of illegal fishing!* - Aren Prakong

"Lae Sae Ban" is a good example of a highly positive and successful community initiative to conserve and protect marine and coastal resources and the four communities are currently planning to expand the zone boundaries further. Mr Prakong, while concluding, said:

> *We work together with the government, NGOs, and several other fishing groups. We are also working with Tambon administration organisation[5] and community. We have been making rules together because we know the value of the ecosystem more than anyone else. We might not be able to reinstate everything in one day, but it's a constructive step towards protecting the fragile ecosystem. We have agreed to protect the fish with zoning and not use unscientific methods. The community has developed coastal resource planning for zoning and conservation. We have no alternatives other than fishing. More and more new people are coming, and it's a big challenge before us to educate them about the laws and community agreements*.

5.1.3. Case study of Phang Nga province:

Ma Rui sub-district in Thab Put district, Phang Nga province, on multi-stakeholder ecosystem based and natural resource based management

Mr Amnaj Siripetch, fisheries expert, Development Group fisheries, Andaman Sea Fisheries Development Centre (Phuket) and Mr Ahmeed Khamneungkarn made the presentation on Phang Nga province. Their presentation was focused on the conflicts between the oriental hard clam pickers and oyster cultivators in Marui sub-district in Phang Nga province.

Background

The Ma Rui sub-district is one of the six sub-districts of Thab Put district covering an area of 45.455 km^2, and located in the southern part of Thailand. There are seven villages in this sub-district. The sub-district shares administrative boundary with Tha Sanook village, Moo 3, Tham Suer of Auo Luk district. The sub-district is located on the Marui fault line named after it. This region is

[5] A administrative body in the sub district level.

ecologically very unique, with large sand banks, mangrove resources and other estuarine resources. It is a low-lying area, where coastal area was formed as a result of land-slide and land erosion. The geographic features have resulted in a number of hot springs. There are two canals originating from the Surat Thani province that feed this area, which is upstream of Phang Nga bay. The unique ecosystem makes it a rich ground for fisheries including mullets, catfish, eel, tuna, banana shrimp and blue crab, among others. The sand banks running along the canals are home to the hard shell clams and oysters.

Mangrove resources are under the management of the Mangrove Resource Development Unit 21 under the Department of Marine and Coastal Resource. Mangrove areas have declined drastically after concessions were given for aquaculture development. This has, in turn, led to destruction of habitat, including mangroves, and a reduction in the population of hard clams.

Marui sub-district was well known in the past for the abundance of diverse ecosystems and natural resources; particularly for the oriental hard clam (*Meretrix casta*), called by local people as Hoi Pak Na or Thick Lip Clam. The inter-tidal sand flat located in the Khlong Marui River in Phang Nga bay on the border between the Marui sub-district of Phang Nga province and Ao Luek sub-district of Krabi province is the major habitat of the clams. The clams were harvested by villagers in and around the area for household consumption and also as an alternative livelihood option for fishing (APFIC, 2009)[6]

People used to collect clams during low tide either with bare hands or using a portable type of dredge. There was also presence of illegal dredgers[7] for collecting clams in the river mouth area for long time.

Oyster farming

In 2004, one of the villagers introduced a method used for oyster nursery in Surat Thani province by placing split coconut shells in a row in the river mouth as bait for luring the oysters and was very successful - oyster spats were quick to gather. Seeing the success of the experiment, more people started using this technique for nursing oysters and oyster culture on large scale started in the river mouth. Several people started to copy this method and oyster culture became very popular in the area due to low investment required in the beginning and potentials for better income when compared with other employment options. This also became an alternative to crew and operators of trawl nets and push nets, who were left unemployed, after these nets were banned in 2002.

Department of Fisheries (DoF) also supported this new initiative and they did some experimentation to check the possibility of using the method in inter tidal sand flat area. Though they did not do any follow up, the community realized the potential and started farming of oysters using the same methods in the river area. The growth rate and nutrient content of oyster spats in the river mouth area are better than in the sand flat; however the proximity of sand flat to the villages and the longer life span of materials used for the process in sand flat area due to comparative absence of aquatic organisms like algae and barnacles made this initiative more profitable.

In order to further reduce the investment and increase the profit, people started using more durable and easily available materials like motorcycle tyres instead of rapidly decaying coconut shells. More and more farmers got attracted to it seeing the good money. Introduction of materials like rubber tyres raised environmental concerns and the local government body subsequently banned any culture activity at the centre of the sand flat. Nevertheless more and more people took up culturing and started putting up their poles all around the sand flat causing immense damage to the ecology and direction of river flow and this in turn brought about the depletion of hard clam resources and the near end of an alternative option for several households. The locals felt that the degradation of the clam habitat could be due to change in current pattern, leading to more accumulation of

[6] http://www.apfic.org/attachments/article/1/372_Livelihoods_-_case_studies.pdf
[7] Dredgers are only allowed beyond 3000 meters from the shoreline.

sediments, resulting in reduction of clam resources (in 2006, they were able to harvest only 10kg per day as against 100kg per day previously). The oyster farming also had impact on the communities as well, as the change in structure of river bed, and flow affected some of the communal activities such as boat races. Though these issues were raised in several village meetings, solutions could not be found, as most of the villagers were dependent on oyster farming for their livelihoods.

Complete ban on oyster farming would require a greater amount of money to be given as compensation and finding an alternative employment for the farmers. Meanwhile a Coastal Resource Management (CRM) group was established in Marui sub district to manage the natural resources with the support and assistance of CHARM[8] Project. The group comprised of local communities, members of the TAO (Tambon Sub-district - administrative authorities) including the Kamnans, and representatives of DoF and DMCR as advisors. This group was established under the chairmanship of TAO, who signed an agreement with CHARM, for dealing with resource and environmental issues.

CRM then took up the issue of oyster farming and organized a workshop in July 2006 and gave a platform for all stakeholders to voice their opinion. The idea was to find an option to allow the oyster farming to continue, at the same time conserving the ecosystem. CRM after discussions with all the affected fishers then presented a solution from their part. The initial proposal was to remove all the equipment from the mudflats in the upstream and downstream areas. The mudflats were to be left free as a public area, where clam collection would be allowed to continue. The oyster farmers would remove the nursery equipment, and they would pay compensation through the CHARM Project for alternative livelihood options. After an initial disagreement, oyster farmers agreed to this and the majority of them supported the plan in a vote that took place on this issue.

An implementation group for the above plan was set up with recommendations from CHARM and the group immediately started the work to relieve the local fishers and reduce the seriousness of the problem. Five activities[9] were also identified for the affected oyster farmers after consulting with them.

Community mobilization and resource management

The villagers in the Marui sub-district realized started organizing themselves actively post 2004, to participate in community based resource management aspects. The villagers from Tha Krang village, Tha Nuer village, Tha Klan village, and Tha Tai village, came together to organize themselves for community based resource management activities. Multi-stakeholder committees for resource management with the government departments and different administrative units including the tambon and provincial units were formed to focus on community based natural resource management. The fishing communities started working with the Department of Marine and Coastal Resources, Department of Fishery and the Federation of Small-scale Fisher folk of Phang Nga bay. The video documentary completed as part of the project documents the initiatives of fishing communities in Ma Rui sub-district, to rehabilitate and restore the mangrove habitat in the region.

The Andaman Organization for Participatory Restoration of Natural Resources organized a meeting of resource persons to spread awareness amongst villagers on conservation and rehabilitation of mangroves. The first activity was to form networks, and to map the mangrove areas using GPS. This

[8] The Coastal Habitats and Resources Management (CHARM) Project was a 5 years (Nov. 2002-Nov. 2007) development and conservation project of the Royal Thai Government implemented by the Department of Fisheries (DoF) with support of the Commission of the European Communities (EC). The CHARM Project was made of the main issues identified by the preparation mission (horizontal and vertical integration, community and private sector ownership, human resources capacity, information for decision-making)and its main components were the promotion of co-management approach at the national, provincial and local levels, where institutional arrangements and technical operations were tested in two project areas, Phang Nga Bay on the Andaman Sea and Ban Don Bay on the Gulf of Thailand.

[9] Oyster grow out, fish cage culture, poultry husbandry, cattle husbandry, gill net fishing

mapping exercise made the community realize the extent of degradation and destruction to the mangroves due to shrimp farming in the region as well. The waste water from the aquaculture farms also had an impact on the villagers, as these were directly discharged into the canals, the main habitat for the hard clams. The exercise prompted the communities to work with the Department of Marine and Coastal Resources, and Department of Fisheries Resources, as part of the small-scale fisher folk federation. Suitable methods for managing and rehabilitating mangrove ecosystems were identified.

The communities identified four plots/areas in the sub-district that require rehabilitation and restoration activities for mangroves. These were initiated as part of the multi-stakeholder committee. The villagers reclaimed land from illegal activities including shrimp farms that did not have legal entitlements and concessions. The communities further highlighted the importance of hard shell clams to their livelihoods. Twenty years ago, when the ecosystem was in relatively good condition, the communities would earn up to 6000-7000 Thai baht/month by harvesting clams. However, due to the destructive practices followed by fishing communities and due to the culture practices, the breeding habitat of clams was destroyed.

The Tha Sanook community network works with the government departments, as well with other organizations in the region, to manage their natural resources. The communities have realized that their wealth is the ecosystem, and that economic incentives need to be part of the management framework along with food security. The detailed aspects on restoration of these four areas and formation of the community network are available in the case study documentary available at: https://www.youtube.com/watch?v=3AeD67f33O8&feature=youtu.be. Based on lessons learned, the multi stakeholder resource management committee hopes to set up a best practice model for sustainable marine and coastal resource management.

5.1.4. Case study of Satun province:

Multi-stakeholder marine and coastal conservation zone management in Satun

Hred Mengsai, the representative of association of fisher folks of Satun province and Manoch Rungratri, Director of research and development of Marine Fisheries, Department of Fisheries presented the Satun province case study. Satun province is located on the southwest coast of Thailand, and borders Trang, Phatthalung and Songkhla province, and is very close to Malaysia. Satun has abundant natural resources such as mangrove forest and sea grass beds; it is also home to the endangered dugongs, besides having inter-tidal sand flats in certain areas. Most of the local fishers are small-scale fishers in nature. According to government of Thailand figures, Satun has a population of 280,000 people, with 263 villages spread across 7 sub-districts, of which 116 are fishing villages, with nearly 10,000 fishers fishing during peak season.

In 2004, Satun province had the maximum number of inboard powered boats (based on Thai government statistics, 2004), especially involved in commercial fishery. Small-scale fishing forms 80 percent of the fishery, catching 20 per cent of the catch according to the fishing community. According to the Department of Fisheries Yearbook 2011-12, Satun province now has only 3,357 registered outboard engine boats and 721 registered inboard engine boats, with over 9,889 fishers[10]. Satun province has 331 registered boats (13,110 gross tonnes) that are commercially fishing with most of them using different types of trawl nets or encircling nets. Some of the Satun province fishing boats have two flags of registration, that of Thailand and Malaysia, so that they can operate in the waters of both states (Panjarat, 2008)[11].

[10] http://www.fisheries.go.th/it-stat/yearbook/data_2554/Boat/province/7.22.Satun.pdf

[11] Panjarat, S. 2008. Sustainable Fisheries in the Andaman Sea Coast of Thailand. The United Nations-Nippon Foundation Fellowship Programme 2007-2008. Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, The United Nations, New York, 2008. http://www.un.org/depts/los/nippon/unnff_programme_home/fellows_pages/fellows_papers/panjarat_0708_thailand .pdf

The threat to the ecosystem and fisheries in Satun province is similar to other areas along the coast of Thailand. There is an increasing impact on the marine ecosystem due to coastal development such as ports, urbanization etc. In addition to this, coastal erosion is also seen extensively according to fishing communities. Satun province is one of the few provinces that has never had its waters closed for conservation purposes or had conservation zone established till recently. The lack of any management measure was more due to the conflicts between the commercial and small-scale fishery sector, and also because of its proximity to Malaysia, any measure adopted could not be implemented.

The fishers in the province have formed the Small-scale fisher folk association in Satun in 1997, to focus on rehabilitation, conservation, management and protection of marine and coastal ecosystems. The association also networks with other organizations at the provincial, regional and national levels, including the Thailand Federation of Small-scale Fisher folk Association.

Four years back, the fishing communities in Satun province, realizing the need for some forms of conservation and management measures to protect the ecosystem and resources, started putting together a proposal for a conservation zone in the province. However, they also wanted to keep in mind the lessons learnt from installation of artificial reefs for improving fisheries, where the large scale fishing vessels benefitted more as they had GPS installed in their vessels. The small scale fishing communities felt that 80 percent of the benefits from the fishery are taken away by the commercial fishers, and hence the designation of the conservation zone might benefit the small-scale fishery establishments by allowing them to fish in near shore waters.

The association also felt the strong need to move from confrontation mode to collaboration mode between different stakeholders. These lessons were learnt by looking at the successful management of Mu Kor Pa Tra island national park where successful partnership worked. Based on this model, six multi-stakeholder consultations were organized from October 2013 to the present. The stakeholders included government departments, academia and fishing community representatives including small-scale and commercial fishers. After discussions, the committee has now identified an area behind the Talutao Island, from the top of the island to all the way to the bottom. Earlier practices followed by the community did not allow fishing near the Pak Bara beach; however, these practices have not been in vogue for many years.

Earlier in the 1990s, the small-scale fisher folk organized themselves and lobbied with the local governor for management measures to reduce the degradation of resources, especially demanding for a closed area. However, at that point, the discussions with the government authorities were more focused with the small-scale fishers, while the small-scale fishers realized that most of the damage was being done by the commercial fishing vessels. Discussions were initiated with government officials especially Department of Fishery to understand the technical aspects of conservation, resource management, and planning. While some villages such as the Bar Kan Koei village started their own conservation group in 1995, and actively lobbied against trawlers, it was not successful as there was no government support to stop and arrest trawlers.

One of the problems in implementing any conservation and management initiative in Satun province is lack of coordination between the existing number of organizations and government departments. There are marine conservation groups and fisher groups who have their own initiatives as well for resource management. Besides, there is a large network of Satun's People Assembly Network, locally called Lak Jang Satun, made up of various small community activity groups operating in Satun. One of the ten recommendations of this network includes marine resource conservation and environment. It is also important to note that with the increase in decentralization for the implementation of different policies and legislation of the Government of Thailand, it is essential that different stakeholders with conflicting interests work together for effective implementation and management of natural resources.

The Satun province serves as a model for participatory decision-making, as the decision to stop destructive fishing practices in certain areas actually was not imposed on the commercial fishers; rather it was based on a participatory decision-making process that involved them at all stages. Field works and public hearings were organized in different sub-districts inviting all stakeholders. The outcomes from these meetings were further distributed. However, it is felt that there is need for more awareness creation amongst the population of Satun province for effective resource management. The decisions taken at different meetings have been based on technical knowledge and on logical rationale for conservation and management of resources. This was essential to get everyone to understand and accept decisions.

One representative from pair trawls commercial fishery said,

> *"I am the one who was always blamed for the most destructive fishing. Today, I could not agree more on the establishment of the conservation zone because it will lead us to an abundant natural resources and I will definitely follow the agreements seriously."*

The establishment of the Marine and Coastal Ecosystem based Conservation has been successful because of the group work undertaken by different stakeholders. Many organizations have participated and worked with their full potential. In the future, there should be a regional strategy on the marine and coastal ecosystem based management in Satun province.

5.1.5. Brainstorming, discussion and concept summary

Marine and coastal ecosystems

Based on presentations of the case studies and the understanding of the participants, they came to the consensus that 'ecosystem' consists of the biotic and abiotic components of a specific area, and that the organisms within that area are dependent not only on each other but also have a complex relationship with the abiotic environment. The next point of discussion was on how to define '*scope of ecosystem'*? The participants shared a common perception that an ecosystem could either be small or large, but it should mutually be defined by all stakeholders involved in management of that particular ecosystem. More important is the competency of the stakeholders in management. Their perception of the ecosystems included natural living resources, that are linked with each other, and that can be managed effectively by definite stakeholders.

'Ecosystem based management' or *'space management'*: If it is found that an ecosystem is overused and imbalanced, that would lead to lack of sustainability. It is necessary to initiate ecosystem based management taking into consideration economic, social and environmental aspects. At the same time, it must value the resources, ecosystem and living creatures within that particular ecosystem. An effective ecosystem management must comprise of the following factors.

- Attention to all roles of concerned partners by encouraging all parties to take part, including the users and management parties, such as state sector, civil society sector, academic sector, etc.
- Attention to gender equality.
- There are diverse user groups.
- Management methods are based on local context.
- There is a common mechanism and integration of the operation.
- There are rules and regulations, both formal and informal that are agreed upon.
- There is information and awareness, and mutual aid at all levels.

5.2. Day 2

5.2.1. Session 2: Group discussions

Group Discussions: Understanding of the problems arising from the management of marine and coastal resources based on an ecosystem approach.

On the second day morning, there was a brainstorming session in groups, where the participants discussed among themselves the internal and external conditions related to marine and coastal resource management in Thailand, by analysing case studies in 3 areas which were presented by community representatives. Based on this discussion, participants prepared a chart on major strengths, weakness, opportunities, threats and also key issues that led to the success of the community management plans in each of these areas. From these charts, participants then culled out the potential strengths, weakness, opportunities and threats the different stakeholders might have to face while facilitating sustainable ecosystem based marine and coastal resource management in the future in other parts of the country.

5.2.2. Phang Nga province

Table 2 Strengths Weaknesses Opportunities Threats (SWOT) analysis - Phang Nga province

Strengths	**Weaknesses**
• Phang Nga was very rich in resources selling products to feed consumers. Marui had an effective community plan with coordination with external organizations. • Earlier projects of the government as well as some of the NGOs, to stop the practice of using illegal gear, has advocated for legal regulations for banning trawlers and drag net fishing boats. Several leaders were trained in this process. This was far more successful, as the community leaders understood conservation more than those who have been working on conservation for a long time, as the process towards conservation was clear, and the leaders also understood the problems and dynamics in advocacy.	• Community awareness on marine and coastal resource management, especially from a holistic picture was still low. • Women had little role in decision making. • The government-led and NGO-led projects carried out through leaders, resulted in extension mainly to leaders. • The operation was more issue oriented than ecosystem-based. • Leaders had little knowledge or understanding of ecosystem based management.
Opportunities	**Threats**
• Community was ready to work with external organizations that provided assistance to them, or wished to extend the project further, in areas such as tourism, community forestry, etc. • There were good mentors collaborating in the work for over 5 years who provided advice, such as oyster culture extended as organic oyster culture. • There were several organizations ready to take up any tasks.	• Not all concerned partners took part in the project. • Mission frameworks of State agencies, were not based on voluntary support from communities, their willingness into a project was not support. It was participatory process of functioning, while decision to initiate the project was governments. • Fisheries laws were not in favour of promotion of community rights in resource management. • There was no specific law related to marine and coastal resource management. • Though the Constitutional clauses (section 42, 57, Part 8[12]) relate to ecosystem management, there is lack of willingness to implement them.

[12] http://english.constitutionalcourt.or.th/index.php?option=com_docman&Itemid=4&lang=en

5.2.3. Trang province

Table 3 Strengths Weaknesses Opportunities Threats (SWOT) analysis - Trang province

Strengths	**Weaknesses**
• Community was aware of the need for resource management. • There were community networks, such as association of fisher folk of Trang, network of fishing women. These fishing community networks exist at the provincial, district and sub-district levels. • Conservation areas have already been demarcated by the community at the provincial level. These have been done through the traditional institutions. In certain areas, they have had discussions with the government, and co-management measures are in place. • There were concrete mechanisms to drive the project, namely local provincial committee for natural and environmental resource management of Trang.	• Community lacked coordination with one another. • Local leaders (sub-district chief, village head, and local administration organisations) lacked sincerity in giving assistance. • Most community members lacked knowledge on their rights and duties in marine and coastal resource management. • Local politics caused conflict, resulted in problems in development. • Local administration lacked systematic support. Some local administration had no structure or formalised action plan on resource development/management. • The multi-stakeholder committees with community and government participation, lacked mechanisms and tools in local resource management. • State personnel lacked clear understanding or enthusiasm for the project.
Opportunities	**Threats**
• There were academic institutions, such as Ratcha Monkhol Sri Vichai University, Prince of Songkhla University at Trang, giving technical support. • Private sector too gave support to local communities in marine and coastal resource management. • Tourism organizations were very aware of the importance of marine and coastal resource conservation.	• Lack of operational mechanism in addressing problems at local level. • Lack of continuity in the project because there were many volatile issues to address, such as expansion of pier, construction of coal-fired power plant, development of unregulated tourism. • Not all concerned partners took part in this project. • The constitution was in favour of ecosystem management, but there was still no enforcement. • There was no specific law related to marine and coastal resource management. • Fisheries laws were not in favour of the promotion of community rights in resource management.

5.2.4. Satun province

Table 4: Strengths Weaknesses Opportunities Threats (SWOT) analysis – Satun province

Strengths	**Weaknesses**
• Resource base was rich. • The communities had good knowledge on the sea and fisheries. • State agencies had knowledge and expertise specifically on fisheries. • There were many state agencies and private organisations providing support	• People lack awareness and consciousness. • There was competition for resources. • Many commercial fishing boats came near the shore for fishing. • Most fishing gears were illegal or destructive to resources, such as Poang Parng (fish trap), trawlers, drag net, seine net, etc. • Lack of knowledge on ecosystem management. • No registration of fishing boats. • Lack of committee specifically overseeing natural resources and the environment
Opportunities	**Threats**
• There was awareness-raising on conservation by outside organizations, such as EU, Code of Conduct (CCRF) and FAO. • There were activities on recovery of marine life of Department of Fisheries with collaboration among the people and NGOs requested for marine life stock. • Under the Fisheries Act, there are ministerial orders, that were used effectively for marine and coastal resource management was able	• Fishing boats from Malaysia fish frequently in Satun province. • There are legal loopholes in maritime spatial regulations, especially in the maritime border areas. • Insufficient channel for national communication on policy change. • Mega development projects do not allow local people to take part in decision making and limit access to information.

Below are the major weaknesses, opportunities and threats the participants felt the different stakeholders might have to face while facilitating sustainable ecosystem based marine and coastal resource management in the future in other parts of the country.

In the analysis of internal conditions, the following strengths were highlighted.

1. Thailand has diverse marine and coastal resources, with each area having a unique identity. These resources contribute to food security, livelihood and quality of life
2. Ecosystem-based management leads to collaboration, communication and understanding between diverse groups of people in the same area.
3. The group of users and stakeholders in marine and coastal resource management are aware of the need for joint protection, renewal and conservation of the resources.
4. Coastal communities have indigenous wisdom and knowledge in marine and coastal resource management, which is advantageous for the formulation of appropriate plans on marine and coastal resource management.
5. Coastal communities have awareness of the need for and give importance to collaboration, conflict resolution, and conservation of marine and coastal resources.
6. Modern technical knowledge and technologies are helpful in ensuring rapid and effective renewal and conservation of marine and coastal resources.
7. Marine and coastal resource management policy and development plan supports greater collaboration among concerned organizations.

8. Different groups within communities are aware of the plans for an ecosystem-based management project. The present approach of decentralization in fisheries, where the provincial and local governments are involved in implementation, helps in ecosystem based management as it takes into account ground reality and develops solutions that are appropriate. The natural resource policy of the Ministry of Natural Resource and Environment specifically refers to the ecosystem approach to fisheries management. Deterioration of marine and coastal resources has resulted in greater awareness among stakeholders of the need to address these issues. Greater communication and information sharing among the stakeholders has led to support for regulations and mechanisms in line with ecosystem based management.

Analysis of internal conditions has discovered the following weaknesses.

1. The use of inappropriate tools and the lack of knowledge-based ecosystem management have contributed to the deterioration of marine and coastal resources. This has affected food security, livelihood, production and quality of life for community members.
2. Small-scale fisher folk and coastal communities have limited knowledge of modern techniques related to protection, renewal and conservation of marine and coastal resources.
3. Most small-scale fisher folk are not registered with state agencies. Therefore, they are unable to access government support, such as access to scientific data, new fishing techniques and some financial support as well.
4. State agencies are not able to effectively implement the ban in the use of improper fishing gears at the provincial level due to lack effective monitoring, resulting in the deterioration of marine and coastal resources.
5. Community leaders, state and academic sectors, local organisations and NGOs do not work together to their full potential, which has resulted in ineffective marine and coastal resource management, and lack of unity in the area.
6. There is no functioning local management mechanism that has empowered concerning parties on marine and coastal resource management.

Analysis of external conditions has resulted in the discovery of the following opportunities.

1. Support from various organizations has contributed to development, improving skill sets, awareness raising and capacity building of fisher folk in improving themselves, changing their perception and resolving problems.
2. NGOs and private sector have had projects that help raise awareness on the need for collaboration and a participatory approach to resource management, involving all stakeholders.
3. Academic institutions have supported and developed ecosystem based management in local areas.
4. Private sector such as commercial banks are also interested in supporting projects on renewal and conservation, that provide opportunities for coastal communities access to support from other sectors such as increasing corporate social responsibility initiatives from resorts and other industries.
5. Organizations at the national and international level have been raising awareness on conservation and renewal of resources.

Analysis of external conditions has discovered the following threats.

1. Management of adjacent areas is an issue that needs greater attention, otherwise conservation and renewal of resources will not be achieved successfully.
2. People are more concerned with formulating policies without the participation of stakeholders. This has caused conflicts and led to deterioration of resources.
3. Laws on marine and coastal resource management do not support community and local participation, and do not recognize community rights.

4. Development policies that focus on economic activities with no emphasis on good governance will cause conflicts among stakeholders in marine and coastal resource management.
5. Formulation of measures and policies by state sector on marine and coastal resource management is done without considering the local reality.
6. Organizations are working according to their mandate without attempting collaboration. They also do not look at the management of coastal resources holistically and ecologically. This lack of communication has resulted in the actual problems/needs of communities not being addressed.

5.2.5. Session 3: Plenary discussions

Operational direction on multi-stakeholder ecosystem based marine and coastal resource management

A multi-stakeholder ecosystem based marine and coastal resource management system will achieve its goal and objectives only when stakeholders can translate the principles into methods of implementation. Therefore, it is necessary to learn the mechanism, process, methodologies and techniques that will lead to a successful multi-stakeholder ecosystem based marine and coastal resource management.

The discussion began with the topic on how to work with the communities.

Sonboon Khamhaeng, Coordinator, Save Andaman Network Foundation (SAN), said that, before community workers choose the instruments to use in a community, they should start with the analysis of the community. He added that local operation should be apt and time bound with the appropriate group of people. When working with communities, community workers should start with attentive groups and leaders initially. After that it can be extended to other groups. He also cautioned against working only with community leaders, as in the long run if the leaders are not strong enough, the work might come to a standstill.

Thanu Nabnian, Coordinator, Andaman Organisation for Participatory Restoration of Natural Resources (ARR), added to Khamhaeng's points saying that when working in a community, it is necessary to give them some time for self-realization after the initial awareness campaign, so that they can be aware of changes that have taken place. This would help in getting proper reactions and in confronting problems.

Amnaj Siripetch, scholar and fisheries expert, Department of Fisheries, said that workers should make sure of the involvement of other people in developing ideas, because it is an important principle while working in a community to consult experts in the field, instead of thinking/formulating ideas alone. And also he/she should keep looking for allies in the operation. He also noted that having mentors within the community will be a great advantage while working with them as the community would gain courage and confidence to work with community workers.

Pwat Kanjanawong, field worker, SDF, said that awareness-raising should start from their immediate problems. Workers must make the community realize the need for management. The practical knowledge of the community should be the guideline for initiating activities; this would help them to be effective. The active involvement of the whole community is important in each step from planning to implementation, he added. He also noted that in awareness-raising, it is good to facilitate the community to learn from practice. It is important to encourage collaboration, by giving attention to their concepts, knowledge and role and thereby pool their strengths for the project, especially from those who did not earlier agree with the project. He pointed out that facilitators must avoid supporting solitary leadership. At the beginning, facilitators should pool local knowledge and then seek additional information from outside.

Ravadee Prasertcharoensuk, Director, SDF concluded the discussion on working with communities by saying that it is necessary to have an appropriate management of the whole ecosystem, and to raise awareness, promote positive attitude, learning and understanding in community so that it

helps to understand the need for ecosystem based resource management. She added that there are several methods to achieve the objectives, such as organizing small forums, general assemblies, and meetings in the community, and collaboration with leaders for extending the work to the whole community. Selection of the method depends on analysis of the area. One or more methods could be adopted. She also noted that it is important that the local marginalized groups such as women and youth be included, by providing opportunities for their genuine participation.

Then the discussion moved to networking. Sonboon Khamhaeng, Coordinator, SAN, said that building partnerships is to bring together the group with shared goals and strategies. He added that a group could move forward only when they have a clear goal in mind. He noted that facilitators needed to be flexible according to the local situation and need to pay attention to communities' emotions and feelings, while fostering a sense of possession or involvement in the project. He cautioned that projects have failed in the past as communities felt no ownership over the project. Traditional organizations of the communities should be involved as a first step.

Ramida Sarasit, Vice president of Southern Women Fisher Folk Association shared her experience in organizing livelihood groups among women aimed at improving income generation. For such a project, she said, the livelihood group needs to have constant discussion and sharing within the group. This would include common activities such as shellfish collection and fishing, both formal and informal, as well as moral support.

Dawan Sunlee, researcher and field worker, SAN reminded the participants of the importance of providing opportunities for women to share their opinions and access information. It would promote participation of women in relevant activities. She also stressed the importance of arranging exposure visits and capacity building activities to foster group formation.

Ravadee Prasertcharoensuk, Director, SDF said that collaboration and network building aids in shifting the focus from just one area to collaborating with nearby communities who share the same goals. She added that it is also an operation with other organizations outside their community, so as to ensure sustainability of marine and coastal resource management.

Then the discussion moved towards management and conservation. Teunjai Pantorn, Marine and Coastal Resources Conservation Centre 6 (Trang), Department of Marine and Coastal Resources (DMCR), said that in the work on conservation and regeneration of resources, it is important to share knowledge with and raise awareness of the community. This would lead to better planning, definition of common tasks, and ultimately to action. She also added that to check the success of the conservation and renewal of resources, the implementers should take part in monitoring and evaluation after each step.

Apirak Sonkrak, Lecturer, University of Srivijaya, Trang Campus added that the resources are beneficial to everyone. Community workers need to work with all stakeholders to understand their perceptions, needs, expectations and worldview. Such interactions would help all stakeholders gain a holistic view of the resources, their use and ensure better resource management. She highlighted the need for awareness building, monitoring and evaluation for effective ecosystem management.

Thanadol Jantakwan, Scholar and fisheries expert, Fishery station, Department of Fisheries, Satun province, said all the work must be completed on time. Community workers might not have enough time to give attention to some problems. Therefore, according to him, plans must be pragmatic and feasible. Prioritising issues and tasks was essential, as exemplified by the case study of Phangnga province.

Pakphum Withantirawat, Coordinator, SAN, said that the formal declaration of conservation areas must start from the community, with technical support from the state, like the case of extending conservation zones from 3 km to 3 nautical miles in different parts of Satun province[13].

It was discussed that communities could draw a line, formulate regulations and declare a conservation area. What was required was the genuine participation of people living in the neighbourhood.

Jarunee Chiayvareesajja, Lecturer in Aquatic Science, Faculty of Natural Resources, Prince of Songkhla University, said that at present community-oriented research should involve all interested parties. While long term research has its uses, short term research projects are also needed as these can help in resolving problems. Academic work should involve collaboration between various parties, so that everyone has a sense of ownership over the research. Research conducted with stakeholders would help to reduce the gap in communication and lead to common resolution of problems.

Bunjong Narupornmaetee, Community enterprise farm stay, Stone Puddle farm stay (Bo Hin), Trang province, said that there should be collaboration between the local administration and the community. The community could present its conservation proposals to the local administration, who could integrate it into the area's master plan, and the village plan as well as in the budget. Such collaboration would also lead to better relationships and sharing of ideas with local leaders so as to open their worldview. It was a technique to help local leaders to become aware of issues, and thus open the doors for future collaboration.

Pakphum Withantirawat, Coordinator, SAN, then pointed out that according to the constitution and laws of Thailand, the intention of a local administration organization is to do everything to support the local community, but this rarely happens[14].

Mr Yuttana Tep-arunrat, Coastal and small-scale fisheries management division Head, South East Asian Fisheries Development Centre (SEAFDEC), said that economic, social and gender indicators should be defined when assessing or evaluating resource management measures. The changes in the status of the resource (due to implementation of measures) should be noted. These indicators need not be defined in monetary terms but could also be defined by how satisfied the community is by the measures. In the assessment, one could use simple indicators, such as changes in the average the size or number of crabs found. If required, a more detailed assessment could be requested from the relevant state agencies. There needs to be a change in the attitude of the state agencies towards the involvement of other stakeholders in resource management. The role of the state also needs to be revisited. In their experience, they found it best to collaborate with all the concerned local organizations. Sometimes it is not clear who will implement a project but it is best to develop good relationships with everyone irrespective of their involvement. This helps in smoothing out any wrinkles. He also noted that it was important to have an external evaluation to ensure transparency in project functioning.

Ravadee Prasertcharoensuk, said that there are various methods to manage the target area, depending on local problems, target population and expected outcomes. However, multi stakeholder ecosystem-based marine and coastal resource management should have a significant operational direction in working within the community, building network and natural resource management. She also added that use of different and diverse tools for the work with varied groups

[13] In Thailand, 3km from the shoreline is protected by legislation for small-scale fishery only; however coastal communities want to extend it to 5.4km (3 nautical miles), for better conservation and management of marine and coastal resources. However for adopting such a regulation, there needs to be consensus from both commercial and small-scale fishery sector, presently in Satun province, there is a conflict of interest regarding this.

[14] Section 57 of the Thai constitution
http://english.constitutionalcourt.or.th/index.php?option=com_docman&Itemid=4&lang=en

should depend on the level of awareness, understanding, knowledge and experience of stakeholders in the management of that particular ecosystem. What needs to be defined mutually is the ultimate goal that the stakeholders need to achieve, which will then lead to concerted action.

Ms Ravadee then concluded the session by saying that the actual experience of the workshop participants was found from sharing, and the operation to achieve management goals should take the following directions in the future for a successful management programme.

Ms Ravadee noted that in the past, community work and marine and coastal resource management in Thailand gave priority primarily to the resources without a holistic view that includes ecosystem, resources in marine life, mangrove, sea grass, etc. They were all separated from the people, although they are the direct and indirect users of resources now. Therefore, marine and coastal resource management in Thailand did not see the relationship and importance of the link in the form of ecosystem, as in the case of Marui sub-district in Thabpud district, Phangnga province. Although the multi-stakeholder ecosystem based resource management on oyster and hard clam was successful in resolving conflict, there are other occupations in the area as well. If the management is not holistic, new conflicts could surface. Therefore, an appropriate management of the whole ecosystem is necessary. She stressed the importance of raising awareness, and promoting positive attitude among the community members, so that they would see the need for ecosystem based resource management. She also added that there are several methods to achieve objectives, such as organizing small forums within the communities, general assembly in communities, community meetings, and collaboration with leaders to extend the work to communities, and so on. Selection of the method depends on analysis of the areas by those who go to work. One or more methods could be adopted, but one should not forget to work with local marginalized groups, such as women, youth, and others, by providing and creating opportunities for their genuine participation.

Development of collaboration and network building is an improvement of operation from focusing only on one's own area to collaborating with other areas that share the same goal.

It is also an operation with other organisations outside their community, so as to ensure sustainability of marine and coastal resource management. The methodologies include group formation, ecosystem building based on network of communities, initiation of collaboration mechanism, promotion of multi-stakeholder collaboration, reaching common agreements that effect action, organisation of forum for collaboration between communities and local administration and the government, extension of inter-ecosystem collaboration, and so on. For example, the case study on participatory sustainable ecosystem based fisheries management at Lae-sae Baan area in Chao Mai marine national park; Trang province shows a very good extension of collaboration in bay management, in four villages. It also ensures sustainability of marine and coastal resource management by developing mechanism for collaboration with external organisations, such as the state, private sector, academic institutions and NGOs, to ensure continuity of management in the area.

Ms Ravadee then said that the objectives of resource management within an ecosystem are to conserve, renew and manage marine and coastal resources in a sustainable way, and reduce conflict in the use and management of resources. The choice of methods depends on local context and ecosystem. The methods include promotion of conservation and renewal of resources, local research conducted with community and allocation of conserved areas. She then presented the example of Satun province.

One of the major problems in Satun province was the trespassing of Malaysian registered boats in Thai waters. This was in addition to Thai fishing boats using illegal fishing gears, such as trawlers, and drag nets, in coastal areas. These practices resulted in the deterioration of marine and coastal resources of Satun province. Therefore, the allocation of a marine conservation area at provincial level should not only consider scope of conserved area in Tarutao Archipelagos national park, but also avoid neglecting to consider overlapping border areas between Thailand and Malaysia so as to

prevent new conflicts. The important matter is that all parties should have equal role in consideration and analysis based on information. The case study shows the use of various methods in managing the area, which depends on local problems, target population and expected outcomes.

6. Lessons learned from the workshop

1) The discussions on multi-stakeholder ecosystem based marine and coastal resource management at this workshop were from diverse perspectives of governmental, academic, community organisations and NGOs. Common issues of multi-stakeholder ecosystem based marine and coastal resource management were identified during discussions, based on shared mutual learnings. The workshop and training also took note of the importance of mutual understanding of the people in the same ecosystem. They also have to take into consideration the values of different components in the ecosystem, such as societal, economic, cultural, environmental, and resource aspects. Good multi stakeholder ecosystem based marine and coastal resource management must start with understanding of problems in the ecosystem area. Analysis of stakeholders, internal and external factors, favourable and unfavourable factors of ecological management must be done first and then they should mutually define goals and strategies or direction for proceeding towards ecosystem based marine and coastal resource management.
2) Multi-stakeholder ecosystem based marine and coastal resource management should have a distinct operational direction and should use appropriate tools while working within a community or building networks depending on the level of awareness, understanding, knowledge and experience of the community. Stakeholders should also mutually define the ultimate goal that they want to achieve, which will then lead to concerted action.

7. Lessons learned from case studies

1) Case studies clearly show that ecosystem based marine and coastal resource management in any place needs to have a host organization/local organization that knows the local conditions well and plays a major role in coordinating with other stakeholders at the grassroots level continuously. The host organization should also keep an eye on each and every phase of the planning. It also requires formulation of a clear mission and plans for expected issues to be tackled and it should always try to stick to the given timeframe.
2) Community is the most important player as it constitutes the base for ecosystem based resource management, because the operational mechanism of the people is cultural in nature, primarily based on kinship and mutual trust. However, the traditional cultural practices have undergone some changes, due to the current changing social structures within the community, and other external influencing factors. The support and promotion from external organisations in public and private sectors, local organisations, academic institutions and NGOs would facilitate partnerships, cooperation and greater participation, which will then help achieve the goals of management based on roles and responsibilities of all stakeholders living and related to one another in the same ecosystem. It will also ensure operational mechanism, effectiveness of the operation, and sustainability through devising a system, rules and regulations, action plan, monitoring, evaluation and modification for effectiveness and continuity.
3) A database is another essential operational principle of ecosystem based resource management, because information helps reduce conflicts, and also provides opportunity for all parties to have equal access to information, being able to share and learn from facts that could be verified. The community members should be able to mutually discover facts. Moreover, the database being in place will be useful for development of strategic planning

that addresses the needs of all stakeholders in the area based on the potential of the ecosystem. It helps reduce overlapping of plans, activities and budget. It will also lead truly to achievement of the goal of local development.

4) Promotion and support of coastal community rights as provided by the constitution of 2007 is to recognize the importance of community participation. Integration of resource management with action plan of local administration organisation and collaboration of all stakeholders will lead to reduction of conflicts and to greater mutual respect. In this way, access to and use of resources would not be destructive, but reciprocal to the extent of the resources, community way of life, and mode of production. Furthermore, support and promotion should be provided for exchange programmes at local level among coastal communities and different partners. In this way, they would have a chance to mutually analyse and propose bills and policies on marine and coastal resource management.
5) Access and awareness of potential of all concerned sectors, and promotion and provision of learning processes, capacity building and participatory processes of consultation, would help develop processes of sharing. This would result in an agreement on the goal of the operation and mutual formulation of a common operational process. Furthermore, improvement of the operational model by encouraging concerned organisations to use their potential in the common operation that leads to change in the local area will also help all parties to have the right attitude and develop a sense of ownership rather than working on instruction. Moreover, integration of technical, scientific and technological skills with local indigenous knowledge will help develop a simple information system. It would also be a good tool for exchange among concerned partners at all levels.
6) Driving the work on gender-based resource management helps community members and various concerned organisations be aware and realize the importance of gender-based operations with operational processes that foster participation of both women and men, promoting greater participation of women, and enable women to take part in sharing and learning, which would be helpful in developing important activities further, such as conservation, renewal, solution, rules and regulations which are favourable to members, both women and men.

It is important that the applicants of community based ecosystem management have good understanding and a clear picture of the future of everything in the ecosystem, keeping in mind the sustainability of the system.

8. Recommendations

On policy:

There should be advocacy and collaboration with concerned organisations on multi stakeholder ecosystem based marine and coastal resource management by organizing forums on public policies on ‘ecosystem based resource management’ where decision-makers can share ideas and propose clear action plan of each organisation.

On implementation:

Results of this workshop, especially of the concept of multi-stakeholder ecosystem based marine and coastal resource management, and on the mechanisms, processes, methodologies and techniques that make multi-stakeholder ecosystem based marine and coastal resource management possible, should be documented and disseminated to state agencies, NGOs, academic institutions and community organisations as operational guidelines.

Continuous evaluation:

If a handbook is developed on the mechanisms, processes, methodologies and techniques of multi-stakeholder ecosystem based marine and coastal resource management, and distributed to

the target group, another workshop of this kind should be organized to assess if the target group has truly applied this concept in their area and to analyse the experience. It will be an evaluation of the handbook for further improvement.

Appendix I Programme

Day 1: 18 March 2014

Time	Detail
09.30-10.00	Registration
10.00-10.15	**Welcome speech** By Mr Sama-ae Jehmudor President of Federation of Thai Fisher Folk Association
10.15-10.45	Workshop opening and Background of the BOBLME Project By Mr Surajit Intarachit Deputy Director General for Fisheries, Department of Fisheries
10.45-11.00	Coffee/Tea Break
11.00-12.00	**Report for the workshop objectives, introduce participants and proposed the process model** Mrs Ravadee Prasertcharoensuk Director of Sustainable Development Foundation
12.00-13.00	Lunch
13.00-15.30	**Session: 1 concept "Marine and coastal resource management on the base ecosystem with participation on multilateral".** **Present by;** 1) Mr Ahmeed Khamneungkarn, Phang-nga, Representing local fishermen 2) Mr Hred Mengsai, Satun ,Representing local fishermen 3) Mr Aren Prakong ,Trang, Representing local fishermen 4) Mr Manoch Rungratri ,Director of Research and Development of Marine Fisheries, Department of Fisheries 5) Mrs Peralai Nuchmorn, Director of Fisheries Research and technology development, Department of Fisheries 6) Mr Amnaj Siripetch ,Scholars fisheries expert, Development Group fisheries, Andaman Sea Fisheries Development Center (Phuket) 7) Mr Prajuab Mokarat, Director of Marine and Coastal Resources Conservation Centre 6 (Trang), Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment 8) Mr Thanu Nabnian, Andaman Organization for Participatory of Natural Resources, Phuket province 9) Mrs Dawan Sunlee, Save Andaman Network Foundation, Trang province
15.30-15.45	Coffee/Tea Break
15.45-16.30	Brainstorming, discussion and concept summary **" Marine and coastal resource management on the base ecosystem with participation on multilateral**"
18.00-19.00	Dinner

Day 2: 19 March 2014

Time	Detail
08.00-08.30	Breakfast
08.30-10.30	**Session 2: Understanding of the problems arising from the management of marine and coastal resources on the base of an ecosystem.** **Present by;** 1) Mrs Sawwanee Samlee, Satun, Representing local fishermen 2) Mrs Minla Khamneungkarn, Phang-nga, Representing local fishermen 3) Ms Wilairat Yooso, Trang ,Representing local fishermen 4) Mr Manoch Rungratri, Director of Research and Development of Marine Fisheries, Department of Fisheries 5) Mr Prajuab Mokarat, Director of Marine and Coastal Resources Conservation Centre 6 (Trang), Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment 6) Mr Pakphum Withantirawat, Save Andaman Network Foundation, Trang province
10.30-10.45	Coffee/Tea Break
10.45-12.00	**Session 2: Ongoing participants discussion**
12.00-13.00	Lunch
13.00-15.30	**Session: 3 Mechanisms, processes, methods and techniques that make the management of coastal and marine resources on the base of ecosystem with participation multilateral.** Divided 3 Groups and presentation tools
15.30-15.45	Coffee/Tea Break
15.45-16.30	**Session 3:** Ongoing prepare their own tools
16.30-18.00	Rest
18.00	Dinner

Day 3: 20 March 2014

Time	Detail
08.00-08.30	Breakfast
08.30-09.00	Daily Schedule and clarification
09.00-10.30	**Session :3** ongoing participants present tools, discussion and recommendation
10.30-10.45	Coffee/Tea Break
10.45-12.00	10.45-12.00 Session :3 Ongoing participants present tools, discussion and recommendation
12.00-13.00	Lunch
13.00-15.00	**Session 4 : Moving forward and Recommendation** Mrs Ravadee Prasertcharoensu, Director of Sustainable Development Foundation
15.00	Back home safety

Appendix II List of participants

BOBLME Training workshop on ecosystem based management in Thailand.

18-20 March 2014

Maritime park and spa resort, Krabi province, Thailand

No.	Name	Position / Organization	Contact
1.	Mr Surajit Intarachit	Deputy Director General for Fisheries. Department of Fisheries	02 562 0524, 0-2562-0600 -15 intarachit@gmail.com
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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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