

Report of the Sub-regional Consultative Workshop of the Northern Andaman Sea

Bangkok, Thailand

13-14 March 2012



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SEAFDEC Secretariat
Suraswadi Building
Kasetsart University Campus
P.O. Box 1046 Kasetsart Post Office
Bangkok 10903, Thailand

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REPORT OF THE SUB-REGIONAL CONSULTATIVE WORKSHOP OF THE NORTHERN ANDAMAN SEA

Bangkok, Thailand, 13-14 March 2012

I. INTRODUCTION

1. The Sub-regional Consultative Workshop of the Northern Andaman Sea (Mergui Archipelago) was co-organized by the Southeast Asian Fisheries Development Center (SEAFDEC), with financial support by the Swedish International Development Cooperation Agency (Sida) through SEAFDEC-Sida Project, the Bay of Bengal Large Marine Ecosystem (BOBLME) Project, and the Asian Coastal Resources Institute Foundation (CORIN-Asia) on 13-14 March 2012 in Bangkok, Thailand.

2. The objectives of the Workshop were to review and follow up on issues and recommendations that were identified during the previous workshops, and on-site events/trainings, to develop a platform for agreements between Myanmar and Thailand on joint approaches to the management of habitat and fisheries, to improve the dialogue among key institutions involved; and to provide an opportunity for a group of “legal advisors” to get feedback on the scope, purpose and context of existing and planned legal and regulatory framework as basis for agreements.

3. A total of 67 participants from different agencies attended the Workshop, namely: national and local government of Myanmar and Thailand such as Fisheries, Transport, Environment, representatives of the academic and private sector. Representatives from international projects/organizations namely: IUCN, IOSEA, the Bay of Bengal Large Marine Ecosystem Project, CORIN-Asia as well as SEAFDEC officials also attended the Workshop. The list of participants is provided in **Annex 1**.

4. *Dr. Chumnarn Pongsri*, the SEAFDEC Secretary-General, welcomed the participants to the workshop. He said that the SEAFDEC-Sida Project in close collaboration with the BOBLME Project through CORIN-Asia has been promoting sustainable fisheries and protection of the marine environment of the Andaman Sea. The on-going dialogues to promote sub-regional arrangements have been gaining momentum since 2009. He encouraged the participants to come up with fruitful recommendations that would lead to substantial positive changes in the management of habitats and resources in the sub-region. His Opening Speech appears as **Annex 2**.

II. BACKGROUND AND OBJECTIVES OF THE WORKSHOP

5. *Ms. Pattaratjit Kaewnuratchadasorn*, SEAFDEC-Sida Project Manager, introduced the workshop background, objectives, expected outcomes and agenda, the Prospectus appears in **Annex 3**. While noted that two main ambitions in the Conduct of this Workshop, which are a) to verify and confirm the draft working model for the development of a management plan for the Myeik Archipelago (based on the Phuket January 2011) – being the *main target for the BOBLME/CORIN-Asia* and b) to synthesize and agree on priority (thematic) issues common to the two countries together with a recommendation for strengthened cooperation in the Northern Andaman Sea from Phuket up into waters of Myanmar in follow up to the sequence and recommendation

from on-site events in Myanmar and Thailand, respectively. This would be the target for **follow up by the SEAFDEC-Sida Project.**

6. In addition, Ms. Pattaratjit informed that there are four thematic areas that would be discussed by working groups during a later agenda point, which could be provided for more discussion among group members. The four thematic areas are as follows:

- a. Critical habitat management (seagrass, mangrove, others);
- b. Management responses to cooperation on trans-boundary and migratory fish stock (*Rastrelliger spp.*);
- c. Management of fishing capacity (vessel record, MCS); and
- d. Port monitoring and landings across boundaries.

III. RESOURCE PRESENTATIONS (BASELINES) ON THE HABITAT AND FISHERIES MANAGEMENT IN THE NORTHERN ANDAMAN SEA SUB-REGION

3.1 Country Reports

7. *Mr. Nyunt Win*, Assistant Director for the International Relation and Project Division of the Department of Fisheries (DOF) Myanmar, provided an overview of the marine fisheries, coastal habitat management and management of fishing capacity along the Andaman Sea side of Myanmar. He said that the marine capture fisheries is divided into in-shore fisheries, which is 5 nautical miles from shore in Rakhine and 10 nautical miles from shore in Ayeyarwady and Taninthayi, and off-shore fisheries. Further, he accounted the statistics of mechanized and non-mechanized fishing vessels, fishing gears, and foreign fishing vessels. In addition, he highlighted the issues of IUU fishing, mangrove destruction, implementation of MCS and port state measures. His presentation is attached as **Annex 4.**

8. *Mr. Kumpon Loychuen*, Chief of the Ranong Marine Fisheries Station, pointed out the marine fisheries of Andaman Sea on the area of responsibility of Thailand. He discussed the number of registered fishing gears of the provinces along the Andaman Sea and the fisheries production from these gears from 2000-2009. Moreover, he referred to the study of the Thailand Development Research Institute (TDRI) in 1991 which found out that pelagic and demersal fishes were overfished by 333.30 percent and 245.60 percent, respectively. Hence, the Government of Thailand through the Department of Fisheries implemented management schemes in the area. His presentation is found as **Annex 5.**

9. *Mr. Montri Sumontha*, Fisheries Biologist of the Ranong Marine Fisheries Station, revealed the results of the stock assessment of Indian mackerel, *Rastrelliger kanagurta*, in the Andaman Sea area of Thailand from 1997 to 2007. According to his presentation, 74 percent of Indian mackerels catch are from purse seines while 25 percent come from trawls. The main landing ports of the Andaman Sea are Ranong, Phang-nga, Phuket, Krabi, Trang and Satun with highest peak of operation is during the northeast monsoon. As a result, it was shown that the overall trends of both catch and CPUE were declining. His presentation appears as **Annex 6.**

3.2 Review of the recommendations from earlier BOBLME consultations

10. Prior to the detailed presentation of the results of the Thailand-Myanmar Stakeholder Workshop held on 13-14 January 2011 in Phuket, Thailand, *Dr. Somsak Boromthanarat*, Director of CORIN-Asia, shared the outputs of the aforesaid workshop as the proposed collaborative management structure and draft work plan with the specific purpose to facilitate a joint (Myanmar-Thailand) Management Plan for the Myeik/Mergui Archipelago. He suggested that the people who will compose units of the development of the management structure should be made up of the same set of individuals from both countries over time to ensure continuity in the discussions leading to a fruitful collaborative work and trans-boundary agreements on the Mergui Management Plan.

11. *Mr. Nick Innes-Taylor*, International Development Advisor to CORIN-Asia elaborated the details of the management structure for the development of the Management Plan for the Myeik/Mergui Archipelago. The structure included an “Executive Committee”, composed of senior-level decision-makers that will provide a strategic framework for the collaborative work. Furthermore there is a “Technical Advisory Group” that would provide technical advise to the “Planning & Management Committee” and various activity teams working on the ground. Finally, the “Planning & Management Committee” is a group of people responsible for drawing up detailed work plans. The Phuket Meeting, January 2011, suggested that this group convene every three months. In addition, this group is responsible for report-making and fiscal management of funds provided by the BOBLME Project or other sources. Mr. Nick informed that, ideally, there should only be six members from each country for the “Planning & Management Committee”. (**Annex 7**)

3.3 Review of On-site events organized by SEAFDEC-Sida Project in 2011

12. *Ms. Issarapon Jithlang*, the Regional Fisheries Policy Network (RFPN) for Thailand, reviewed information and results from the conduct of the on-site workshops on the integration of fisheries and habitat management and the management of fishing capacity organized in Myeik, Myanmar (March 2011) and in Ranong province, Thailand (July 2011). These two events had been organized by SEAFDEC-Sida Project in collaboration with Department of Fisheries of Myanmar and Thailand, respectively. She further stated that the objective of the on-site workshops were to provide information and raise awareness at provincial levels on the importance of coastal habitats like mangrove, coral reef and sea grass and the need to integrate into fisheries management. Management of fishing capacity, with information on vessel registration and licensing system, MCS implementation, legal and regulation measures also addressed status of trans-boundary species, Indo-pacific and Indian mackerel, fishing vessel record, port monitoring, MCS implementation and local knowledge in each of the areas. Her presentation is shown in **Annex 8**.

13. It was learned that there are in the eastern part of the Andaman Sea actually two “sub-regions”. The Southern Andaman Sea consists of Thailand, Indonesia, and Malaysia and includes the area from Phuket down into the Malacca Straits. On the other hand, North of Phuket stretching north towards the Ierawaddy Delta, Myanmar and Thailand comprise the Northern Andaman Sea. She further provided information on common issues raised during these workshops and some key recommendations made during the On-site Workshops.

14. *Dr. Rudolf Hermes*, Chief Technical Advisor of BOBLME Project, declared that the issues brought out are rich inputs for potential work plan activities under the collaborative management structure referred to under the Myeik/Mergui Management Plan. But, he also mentioned, that everything needs not to fit into that structure as there are several other options to address these and a range of other working groups, for example through direct support from BOBLME Project, as there are already (Bay of Bengal Large Marine Ecosystem) working groups on MPAs, Mackerels, sharks, etc.

3.4 Review of selected regional initiatives and projects

15. *Mr. Abu Talib Ahmad*, Special Department Coordinator of SEAFDEC/Marine Fisheries Resources Development and Management Department (MFRDMD), shared the preliminary results of the tagging program for Indian mackerel and short mackerel (*Rastrelliger brachysoma*) off the waters of South China Sea and Andaman Sea from 2007 to 2011 under the Japanese Trust Fund (JTF) program. The presentation focused on the Andaman Sea.

16. While noting that the taggings program along the Andaman Sea were conducted from 2008 to 2011 in Sin Kyun (Myanmar), Shwe Kyun (Myanmar), Ranong (Thailand), Satun (Thailand), Banda Aceh (Indonesia), Kuala Perlis (Malaysia), and Pulau Pangkor (Malaysia), in Thailand, of the 11,122 fish tagged, only three percent was recovered. There is no data yet for Indonesia, Malaysia, and Myanmar. It was also noted that a genetic study of the Indian Mackerel caught from Banda Aceh (Indonesia), Pangkor (Malaysia), Yangon (Myanmar), and Ranong (Thailand) is currently conducted by MFRDMD. His presentation is shown as **Annex 9**.

17. *Ms. Petchrung Sukpong* and *Ms. Maeve Nightingale* representatives from the International Union for Conservation of Nature (IUCN) elucidated the organization's program for both countries. It was learned that in the Andaman Sea, there are eleven seagrass species found on 96.95 square kilometers of seagrass area. In Phang-nga, Thailand, the seagrass cover is 25.31 square kilometers of which 3.2 square kilometers is declared as a seagrass conservation zone through a multi-stakeholder cooperation. Meanwhile, in Ranong, Thailand, there are seven species found in 1.5 square kilometers of seagrass area. During the discussion, it was noted that seven years after the tsunami disaster of 2004, only 20 to 25 percent of the total seagrass area in the Northern Andaman Sea was recovered, Their presentation appears in **Annex 10**.

18. It was also mentioned that in February 2012, IUCN took an initial scoping trip to Myanmar to meet with key government agencies, non-governmental organizations, and the private sector to gauge their interest in marine, coastal, and terrestrial ecosystems management. Initial activities of interest that were brought out during this scoping mission were conducting a national coastal stakeholders' meeting and basic resource survey of marine and freshwater. Additionally, *Ms. Maeve* remarked that through the Mangroves for the Future (MFF) Initiative, a small grant facility will be set up in Myanmar for community-based activities for mangrove restoration, habitat conservation, and livelihood development.

IV. RESULTS OF THE PARALLEL GROUP SESSIONS ON THE “THEMATIC AREAS” AND ON THE “MYEIK ARCHIPELAGO TRANSBOUNDARY MANAGEMENT PLAN”, RESPECTIVELY.

19. The “dual structure” put its flavour on the way that the Two-day Workshop was organized along two main thrusts, or parallel and complementary initiatives, with CORIN-Asia under BOBLME Project pursuing the recommendations from the January 2011 Phuket Workshop on the committees to be established to facilitate the development of a joint management plan for the management of the Myeik/Mergui Archipelago. This initiative was discussed and facilitated by CORIN-Asia. The target included formulation of smaller (site specific) working groups (sea-grass, corals) within the Mergui Archipelago management structure, and also the consolidation of the Planning and Management Committee.

20. Discussions on the proposed BOBLME Collaborative Management Structure focused on initiating collaborative activities as soon as possible and reached the following agreements concerning the Planning and Management Committee:

- No more than six people from each country (if the Committee is too big, it will be hard to reach consensus)
- The Committee should include representatives from both central and local levels
- First meeting of this Committee will be held on the second day (14th) of the Sub-regional Consultative Meeting of the Northern Andaman Sea 13-14 March 2012. Committee members for this first meeting will be drawn from meeting participants and focus on starting collaboration. It was also agreed that where possible the Committee would aim to promote collaboration with SEAFDEC/IUCN and other regional programs working in the same region

21. As agreed on the first day of the workshop, the First Meeting of the Planning and Management Committee was held on 14 March 2012. During this Meeting, four activities were prioritized for this initial period of collaboration. These activities focus on formalizing the operation of the collaborative management structure (the Planning and Management Committee), developing professional competency at the local level and undertaking resource assessments and consultations to prepare for further activities relating to improved livelihood interventions and information sharing. Further details of the collaborative workplan are contained in **Annex 11**.

22. In Parallel sessions, the discussions on the four thematic areas continued through active involvement by participants in working groups and plenary sessions. The recommendations and follow up to these sessions will be the main target for SEAFDEC-Sida support to the continued process (Details in **Section V**).

Note: Given the structure of this reporting where the references to the thematic areas will be done in a summarized form. Recommended action and follow up to be indicated in the “Conclusion” part.

V. GROUP DISCUSSION AND SUMMARY PRESENTATION OF THE THEMATIC AREAS

To facilitate the group discussion, the thematic areas are divided in the 3 sub-thematics naemely: 1) Critical Habitat management; 2) Trans-boundary Stock Management; and 3)

Management of Capacity. Each group discussed on gaps and requirements of respective aspects, identified and formulated list of priorities action suitable for joint approaches and arrangements, Timelines for work to carry out by each country and responsible agencies and if possible also identified the National Focal Points, Working group members from Myanmar and Thailand. The outputs of group discussion were as follows:

Thematic Area 1: Critical Habitat Management

23. The facilitator, *Ms. Anchana Prathep* from the Prince of Songkla University, discussed the output of the group (**Annex 12**). They identified the important habitats, study sites, activities, relevant stakeholders, and coordinators for both countries. During the discussion, *Dr. Rudolf* cautioned that for a work plan to be doable, there should be a prioritization of the target habitats since the budget and time must be considered. Elements, or recommendations from this “Area” might be incorporated into the Work Plans of the BOBLME Project – and/or it will be further defined in dialogue with the two countries and key partners and included in actions to be pursued with support from the SEAFDEC-Sida Project.

Thematic Area 2: Trans-boundary Stock Management

24. For the second group, *Mr. Nyunt Win* presented their group’s output (**Annex 13**). They have done preliminary review of the data on trans-boundary migration of *Rastrelliger spp.* and other related species. They also produced a matrix of specific activities, timelines and responsible agencies. The results also included a good framework for cooperation between the two countries on capacity building and research on status and movements of mackerels. Based on the group attending this meeting and this group session a trans-boundary working group on mackerels will be convened (and connected to the mackerel working group to be established for the southern Andaman Sea) – with support by the SEAFDEC-Sida Project.

Thematic Areas: Management of Capacity

25. The representative from the group, *Mr. Wudtichai Wungkhahart*, Director of the Andaman Sea Fisheries Research and Development Center, summarized the group’s output (**Annex 14**). At first, he highlighted the requirements for collaborative work between the two countries in terms of the themes. Then, he presented the specific activities, timelines and responsible agencies involved. The SEAFDEC-Sida Project will follow up with the participants and each of the two countries to seek their level of commitment to further develop a detailed action plan and the establishment of two trans-boundary working groups for “catch documents and certificates” and port monitoring and trans-boundary landings, respectively.

VI. PLENARY DISCUSSION AND CONCLUSION

26. *Ms. Pattaratjit* again highlighted the dual feature of the workshop where the next steps by the BOBLME Project through the work of CORIN-Asia are well outlined as seen in the attached planning framework. She emphasised as indicated during earlier sessions that the SEAFDEC-Sida Project would follow up on the “thematic” recommendations from the group discussions, inputs by participants (and earlier information) by getting back to each of the countries and to visit key partners to develop productive and realistic action plan for up until the end of the year.

27. *Ms. Pattaratjit*, commented that SEAFDEC-Sida Project specifically will follow up on four “thrusts”, namely “trans-boundary stocks” (*Rastrelliger spp.*), “mangroves” (mangroves is not an immediate priority for BOBLME Project), “catch documents and certificates” and finally, port monitoring and trans-boundary landings. Four working groups will be established based on recommendations and participants from this workshop. The geographical scope of the Groups will be broadened to cover the whole of Eastern Andaman Sea (north of Phuket, and south of Phuket), respectively. As needed the four groups can develop specific approaches to the northern and southern part to be funded and implemented separately.

28. The activities, as indicated during this meeting will be further developed in dialogue with partners, but this time it will include the four countries of the eastern Andaman Sea – Malaysia, Indonesia, Myanmar and Thailand – based on the arrangements of four “thematic” groups (that could link with the BOBLME Project working group on MPAs and mackerels (Indian Mackerel).

29. Subsequently, *Dr. Rudolf* opined that it is high time to invite India since it also borders the Andaman Sea. Moreover, he aspired for more collaborative work with all partners represented in the workshop, as indicated by SEAFDEC-Sida Project for the continued dialogue, as well as those not present in this event such as the United Nations Environment Programme (UNEP).

30. *Ms. Pounthong Onoora*, Chief of the Marine Law Studies Group, Legal Affairs Division of DOF Thailand, expressed her appreciation that the workshop provided a good platform for exchanging of information and strengthening understanding of management and legal regimes of the countries. She also mentioned that this kind of platform could pave a good way to facilitate collaboration between the countries for the ASEAN Community in 2015.

31. *Dr. Rudolf* further clarified that BOBLME will fund, channeled through CORIN-Asia, the trainings for seagrass and coral assessment as indicated in the attached report on the development of a management plan for Myeik/Mergui Archipelago. He reiterated that the Planning & Management Committee will spearhead the coordination and management of overall activities with regards to the development of a trans-boundary management plan for the Archipelago. The Committee would facilitate consultations on the development of the trans-boundary Plan with higher authorities in their respective countries, while BOBLME Project will serve as the Secretariat for the next two years.

32. *Dr. Rudolf* supported the points made by *Ms. Pattaratjit* above on the four thematic areas in that he would like to see SEAFDEC taking the lead role in “mackerel work” as well as on other aspects, to be covered by the plan for the development of the management plan for the Myeik/Mergui Archipelago, such as port state measures (port monitoring) and catch documentation and catch certificates. BOBLME would be able to fund (partly) initiatives such as those and spearheaded by SEAFDEC.

33. *Ms. Pattaratjit* affirmed that the SEAFDEC-Sida Project would be not overlapped, but instead complemented with the activities of other partners. As for funding support for the initial stage and probably beyond, she declared that she will refer this matter to *Dr. Chumnarn* and *Dr. Magnus*. She reaffirmed that, to initiate quick responses from

participants leading to action in the target areas, SEAFDEC will get in touch with government departments, NGOs, and international partners (IUCN, MFF, WWF, SEAFDEC/MFRDMD) – within the next quarter - to build upon collective experiences and earlier projects to plan and budget for the initial stages (collecting available information (baselines), project ideas, etc) up until end of 2012 – with an aim to continue a longer term commitment 2013 and onwards.

VII. CLOSING OF THE WORKSHOP

34. *Dr. Rudolf* stated the progress from the first Andaman Sea workshop on November 2009 in Phuket, then several meetings in between, to this two-day workshop. He remarked that the group is embarking on more concrete steps that are doable, time-bound, and budget-allocated. He expressed confidence that this could be done because of the strong partnership among Countries and collaborating organizations. On a last note, he disclosed that he will report the proceedings to *Dr. Chris O'Brien*, Regional Coordinator of BOBLME.

35. Likewise, *Dr. Somsak* showed appreciation for the people involved in realizing this workshop. He expressed his gratitude to the participants for a productive and fruitful workshop. Finally, he wished everyone a safe journey home.

List of Participants

Department of Fisheries, Myanmar

Khin Maung Win Director, Supervision and Revenue Division	Department of Fisheries Conner of Bayint Naung Rd.and Bayint Naung Avenue of Insein Township Rd. Yangon, Myanmar Tel: +95 1 647526 Fax: +95 1 647518 E-mail: kmwtsrddof@gmail.com
Nyunt Win Assistant Director	Department of Fisheries Conner of Bayint Naung Rd.and Bayint Naung Avenue of Insein Township Rd. Yangon, Myanmar Tel: +95 1 647536 Fax: +95 1 647519 E-mail: nyuntwin34@gmail.com
Nilar Kywe Assistant Director, Marine Capture Fisheries Management Supervision and Revenue Div.	Department of Fisheries Conner of Bayint Naung Rd.and Bayint Naung Avenue of Insein Township Rd. Yangon, Myanmar Tel: +95 1 647527 Fax: +95 1 647720 E-mail: nilarkywe.11@gmail.com
Khint Aung Assistant Director, Chief of Legal Section	Department of Fisheries Conner of Bayint Naung Rd.and Bayint Naung Avenue of Insein Township Rd. Yangon, Myanmar Tel: +95 9 5147312
Htun Thi Ha Fisher Legal Officer, Legal Section	Department of Fisheries Conner of Bayint Naung Rd.and Bayint Naung Avenue of Insein Township Rd. Yangon, Myanmar Tel: +95 9 8502436
Htay Lwin Oo Deputy Director, Myeik Branch Office	Department of Marine Administration Dawbon Dockyard Rd., Dawbon Township Yangon, Myanmar Tel: +95 1 553091 Fax: +95 1 556047 E-mail: hlwinoo@gmail.com
Myint Shwe District Fishery Officer, Myeik Branch Office	Department of Fisheries Myeik District, Myanmar Tel: +95 9 8515445 E-mail: myintshwe.206@gmail.com

Hlwan Moe Zaw
District Fishery Officer,
Kawthaung Branch Office

Department of Fisheries
Kawthaung District, Myanmar
Tel: +95 9 51023
Fax: +95 9 51012

Aye Aye Zaw (Ms.)
Fishery Officer

Directorate Livestock and Fisheries
Ministry of Livestock and Fisheries
No. 36, Nay Pyi Taw, Myanmar
Tel.: +95 98742924

Sabai Phuy (Ms.)
Fishery Officer

Directorate Livestock and Fisheries
Ministry of Livestock and Fisheries
No. 36, Nay Pyi Taw, Myanmar
Tel.: +95 67 408053
Fax: +95 67 408045

Htay win
Staff Officer,
Forest Department

Ministry of Environment and Forests
Forest Department
Boke Pyin Township, Myanmar
Tel : + 95 9 49852067

Win Naing
Managing Director

Shwe Nan Wun Co., Ltd.
No, 218, Mga Yi Pale Street
Shwe Zin Yaw Quarter
Kawthaung City, Myanmar
Tel : + 66 808708310
E-mail: c.wnain28@gmail.com

Thailand

Pongpat Boonchuwong
Senior Expert,
Fisheries Economies

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 562 0551, +66 85 0706484
Fax : +66 2 562 0571
E-mail: boonchuwong@yahoo.com

Pirochana Saikliang
Senior Expert,
Marine Fisheries

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 562 0551
Fax : +66 2 562 0571
E-mail: pirochas@hotmail.com

Somsak Chullasorn
Advisor,
Marine Fisheries

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 277 5015, +6689 6865016
Fax : +66 2 693 1828
E-mail: papasomsak@hotmail.com

Praulai Nootmorn (Ms.)
Director,
Marine Fisheries Technology Research and
Development Institute

Marine Fisheries Research and
Development Bureau
Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 561 0880
E-mail: nootmorn@yahoo.com

Prathet Sorrat
Director,
Legal Affairs Division

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 5614687
Fax : +66 2 5612928
E-mail: prathet@fisheries.in.th

Poungthong Onoora (Ms.)
Chief,
Marine Law Studies Group,
Legal Affairs Division

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel : +66 2 5612928
Fax : +66 2 5612928
E-mail: poungthong.marine@gmail.com

Doungporn Na Pombejra (Ms.)
Legal Officer,
Legal Affairs Division

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 10900, Thailand
Tel : +66 2 5612928
Fax : +66 2 5612928
E-mail: dpombejra@yahoo.com

Pattanapong Chusaeng
Chief,
Fisheries Registration and Licensing Group

Fisheries Administration and
Management Bureau
Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel: +66 8 6490 3527
E-mail: regis_dof@hotmail.com

Kriengkrai Jirapitigul
Fish Trade Inspection,
Ladkrabang Fish Inspection office

Department of Fisheries
Kaset-Klang, Chatuchak
Bangkok 1090, Thailand
Tel: +66 2561 4690, +66 8 9688 3363
E-mail: kriengkraj@hotmail.com

Suwan Pitaksintorn
Scientist

Department of National Parks,
Wildlife and Plant Conservation
61 Phaholyothin Rd., Chatuchak
Bangkok 10900, Thailand
Tel : +66 -2 5610777-1720
E-mail: suwanpita@hotmail.com

Sukrid Krataichan
Head,
Laemson National Park

Department of National Parks,
Wildlife and Plant Conservation
36/6 Moo 4, Tambon Muang Kluang
Kapoe District, Ranong Province 85000
Thailand
Tel : +66 7 7861431
Fax : +66 7 7861432
E-mail: sukridk@hotmail.com

Niphon Phongsuwan
Head,
Marine and Coastal Biology and
Ecology Unit

Department of Marine and Coastal Resources
Phuket Marine Biological Center
51, Moo 8, Sakdidet Rd., Muang District
Phuket Province 83000, Thailand
Tel : +66 7 6391128, +66 8 94729863
Fax : +66 7 6391127
E-mail: nph1959@gmail.com

Wudtichai Wungkhahart
Director,
Andaman sea Fisheries Research and
Development Center

Marine Fisheries Research and
Development Bureau
Department of Fisheries
77 Moo 7, Sakdidej Road
Tambon Wichit, Muang District
Phuket Province 83000, Thailand
Tel : +66 7 6391435, +66 8 97248962
Fax : +66 7 639139
E-mail: wungkhahart@yahoo.com

Kumpon Loychuen
Chief,
Ranong Marine Fisheries Station

Marine Fisheries Research and
Development Bureau
Department of Fisheries
157 Sapanpla Road, Moo 1
Tambon Paknam, Muang District
Ranong Province 85000, Thailand
Tel: +66 7 7812366, +66 8 72758131
Fax : +66 7 7812365
E-mail: k_loychuen@yahoo.com

Montri Sumontha
Fisheries Biologist,
Ranong Marine Fisheries Station

Marine Fisheries Research and
Development Bureau
Department of Fisheries
157 Sapanpla Road, Moo 1
Tambon Paknam, Muang District
Ranong Province 85000, Thailand
Tel: +66 7 7812366
Fax : +66 7 7812365
E-mail: montri.sumontha@gmail.com

Suvit Kotchasin
Fisheries Officer,
Ranong Provincial Fisheries Office

Provincial hall Ranong
Phetkasam Rd., Muang District
Ranong Province 85000, Thailand
Tel: +66 7 7800134
Fax : +66 7 7800135
E-mail: andaman_k99@hotmail.com

Preeya Yokyong (Ms.)
Representative from local community,
Ranong Province

Ranong, Local Community
445, Moo 3, Tambon Ngao, Muang District
Ranong Province 85000, Thailand
Tel: +66 8 94704309
Fax : +66 7 7848141
E-mail: yu_yokyong@hotmail.com

Nithiwat Therananthakul
Managing Director

Ryuji International (Thailand) Co., Ltd.
200-203, Moo 3, Saparn Pla Rd.
Pak Nam, Muang District
Ranong Province 85000, Thailand
Tel: +66 7 7833765
Fax : +66 7 7833 765
E-mail: ryujithai@gmail.com

Natnisa Wongtalardkhwan (Ms.)
Transport Technical Officer

Marine Department
Marine Office 5 Ranong Brance
60/2, Moo 5, Pak Nam, Muang District
Ranong Province 85000, Thailand
Tel : +66 8 16479317
Fax : +66 7 7873968
E-mail: apsonnarin@gmail.com

Sompoch Nimsantijaroen
Academician

S-nim Limited Partnership
32/18, Kamlangsap Road
Khaoniwet Sub-District, Muang District
Ranong Province 85000, Thailand
Tel : +66 8 99731229
E-mail: sompc_nim@hotmail.com

Anuwat Jaksean
Advisor

Thai-Myanmar Regional Border
Committee Department
Army camp 3, Naresuan Maharach Army Camp
Pissanulok Province 65000Thailand
Tel : +66
Fax : +66 5 5258545

COLLABORATING PARTNERS

Jes Kettratad
Lecture

Department of Marine Science, Faculty of
Science
Chulalongkorn University
Bangkok, Thailand
Tel : +66 2 2185395
Fax : +66 2 255 0780
E-mail: jes.kettratad@gmail.com

Anchana Prathep (Ms.)
Assistance Professor,
Seaweed and Seagrass Research Unit

Department of Biology, Faculty of Science
Prince of Songkla University, Hat Yai
Songkhla Province 90112, Thailand
Tel : +66 8 15426977
Fax : +66 7 4558840
E-mail: anchana.p@psu.ac.th
a_prathep@hotmail.com

Prof. Peter Haddawy
Director

United Nations University
International Institute for Software Technology
P.O. Box 3058, Casa Silva Mendes
Estrada do Engenheiro Trigo
No.4, Macau
Tel : +853 85040471
Fax : +853 28712940
E-mail: haddawy@iist.unu.edu

Maeve Nightingale (Ms.)
Head Coastal & Marine Programme Asia

IUCN Asia Regional Office
63, Sukhumvit 39, Soi Prompong
Klongton-Nua, Wattana District
Bangkok 10110, Thailand
Tel : +66 26624029 Ext.158, +66 8 18237021
Fax : +66 2 6624389
E-mail: Maeve.NIGHTINGALE@iucn.org

Radda Larpnun (Ms.)
Programme Officer

IUCN Asia Regional Office
63, Sukhumvit 39, Soi Prompong
Klongton-Nua, Wattana District
Bangkok 10110, Thailand
Tel : +66 26624029, +66 8 65946710
Fax : +66 2 6624389
E-mail: radda.larpnun@iucn.org

Petchrung Sukpong (Ms.)
Programme Assistant

IUCN Asia Regional Office
63, Sukhumvit 39, Soi Prompong
Klongton-Nua, Wattana District
Bangkok 10110, Thailand
Tel : +66 8 13735447
Fax : +66 7 6 491026
E-mail: petchrung.sukpong@iucn.org

Uffe Wilken
Communication Consultant,
CORIN-ASIA

Freelance Sciencewriter
Copenhagen, Denmark
Tel : +45 31772016
E-mail: uwilken@scienceline.info

Douglas Hykle
Co-ordinator/Senior CMS Advisor

IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the Pacific
United Nations Building, Rajdamnern Nok Avenue
Bangkok 10200, Thailand
Tel : +66 2 2881471
Fax : +66 2 2883041
E-mail: iosea@un.org

Nick Innes-Taylor
Company Director

Development Advisory Group (DAG) Co., Ltd.
198 Moo 2, Tanon Udon-Loei
Tambon Nadee, Muang District
Udon Thani 41000, Thailand
Tel : +66 8 18731920
E-mail: nickudon@gmail.com

Bay of Bengal Large Marine Ecosystem Project

Rudolf Hermes

Chief Technical Advisor

Bay of Bengal Large Marine Ecosystem Project (BOBLME)
C/c Andaman Sea Fisheries Research Development Center
77 Moo 7 Sakdidej Road
Makham Bay, Tambol Vichit , Muang District
Phuket Province 83000, Thailand
Tel: +66 7 6391861, +66 8 44395209
Fax: +66 76 391864
E-mail: rudolf.hermes@boblme.org

CORIN-ASIA

Somsak Boromthanasart

Director

Asian Coastal Resources Institute (CORIN-ASIA)
Rm. A-12 Aquaculture Outreach Building
AIT, P.O. Box. 4, Khlong Luang
Pathumthani 12120, Thailand
Tel: +66 2 5245471, +66 8 18404720
E-mail: somsak.b@corin-asia.org

Rebecca Andong (Ms.)

Assistant Program Coordinator

Asian Coastal Resources Institute (CORIN-ASIA)
Rm. A-12 Aquaculture Outreach Building
AIT, P.O. Box. 4, Khlong Luang
Pathumthani 12120, Thailand
Tel: +66 2 5245471, +66 896604727
E-mail: becky.a@corin-asia.org

Yolanda Fontanilla Diaz (Ms.)

Administrative Assistant

Asian Coastal Resources Institute (CORIN-ASIA)
Rm. A-12 Aquaculture Outreach Building
AIT, P.O. Box. 4, Khlong Luang
Pathumthani 12120, Thailand
Tel: +66 2 5245214, +66 8 79206563
E-mail: yolly.d@corin-asia.org

SEAFDEC

Chumnarn Pongsri

Secretary-General

SEAFDEC/Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Phone: +66 (2) 940 6326
Fax: +66 (2) 940 6336
E-mail: sg@seafdec.org

Magnus Torell

Senior Advisor

E-mail: magnus@seafdec.org

Nualanong Tongdee (Ms.)

Information Program Coordinator (*a.i.*)

E-mail: nual@seafdec.org

Pattaratjit Kaewnuratchadasorn (Ms.)

SEAFDEC-Sida Project Manager

E-mail: pattaratjit@seafdec.org

Saivason Klinsukhon (Ms.)
Information Officer

E-mail: saivason@seafdec.org

Sawitree Chamsai (Ms.)
Policy and Program Officer

E-mail: sawitree@seafdec.org

Abu Talib Ahmad
Special Department Coordinator

The Marine Fishery Resources Development and
Management Department (MFRDMD)
Fisheries Garden, Chendering
21080 Kuala Terengganu, Malaysia
Tel: +60 9617 5940
Fax: +60 9617 5136
E-mail: abutalib@seafdec.org.my

Penchan Laongmanee (Ms.)
Fishing Ground & Fishery
Oceanography Section Head

Training Department
P.O. Box 97 Phrasamutchedi
Samut Prakan 10290, Thailand
Phone: +66 2 425 6100
Fax: +66 2 425 6111
E-mail: penchan@seafdec.org

Kongpathai Saraphaivanich
Information and Communications
Technology Section Head

E-mail: kongpathai@seafdec.org

SEAFDEC Regional Fisheries Policy Network (RFPN) Member

Adi Wibowo
RFPN for Indonesia

SEAFDEC/Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 940 6326
Fax: +66 2 940 6336
E-mail: adi@seafdec.org

Keni Anak Ngiwol (Ms)
RFPN for Malaysia

E-mail: keni@seafdec.org

Kyaw Kyaw
RFPN for Myanmar

E-mail: kyaw@seafdec.org

Geselle Frances Zeta (Ms)
RFPN for the Philippines

E-mail: geselle@seafdec.org

Issarapon Jithlang (Ms)
RFPN for Thailand

E-mail: issarapon@seafdec.org

OBSERVER

Peter Funegard

Senior Analyst,
International Coordination Unit

Swedish Agency
Marine and Water Management
P.O. Box. 11930, SE 404 39
Goteborg, Sweden
Tel: +46 10 6986146, +46 70 6899325
E-mail: peter.funegard@havochvatten.se

Somsak Soonthornnawaphat
Coordinator

North Andaman Conservation Network
P.O. Box 6, Kuraburi District
Phang Nga Province 82150, Thailand
Tel: +66 8 7544548
Fax: +66 7 6491026
E-mail: sam.nacon@gmail.com

Estelle Jones (Ms.)

MFF Intern,
Newcastle University, England

England, Newcastle University
Marine Science and Technology
260 Ridley, Building, Newcastle University
NE1 7RU, United Kingdom
Tel: +44 754 9031721
E-mail: estelle.jones@ncl.ac.uk

Napat Mahasanat

Ph.D. Student

Department of Marine Science, Faculty of Science
Chulalongkorn University
Bangkok , Thailand
Tel: +66 8 66935113
Fax: +66 2 550780
E-mail: napat_palm@hotmail.com

Secretariat of the meeting

Matinee Boonyintu (Ms.)

SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 940 6326
Fax: +66 2 940 6336
E-mail: matinee@seafdec.org

Julasak Markawat

E-mail: Julasak@seafdec.org

Suwanee Sayan (Ms.)

E-mail: suwanee@seafdec.org

Annex 2

Opening Remarks

By Dr. Chumnarn Pongsri, SEAFDEC Secretary-General

Dr. Rudolf Hermes, Chief Technical Advisor of the BOBLME Project, our co-organized from CORIN-Asia, Distinguished delegates from Myanmar and Thailand, representatives from academic, honorable guests from IUCN, MFF, IOSEA, my colleagues from SEAFDEC, Members of the Regional Fisheries Policy Network, Ladies and Gentlemen, Good morning,

First of all, on behalf of the organizers, it is our great pleasure and honor to warmly welcome all of you to the Sub-regional Consultative Meeting of the Northern Andaman Sea, which is co-hosted by the SEAFDEC-Sida Project in cooperation with BOBLME Project and CORIN-Asia. We would like to express our sincere thanks to all of you for sparing your valuable time to joining us here.

Ladies and gentlemen,

The marine and coastal ecosystem of the Andaman Sea is internationally recognized as being of global importance due to its very high and unique biodiversity that includes a wide range of coastal, marine and fisheries resources. However, this area is under pressure due to over-exploitation, loss of critical habitats, environmental degradation, coastal pollution and unpredictability of weather patterns.

Along with the efforts that the SEAFDEC-Sida Project has made in close collaboration with the Bay of Bengal Large Marine Ecosystem Project to promote sustainable fisheries and protection of the marine environment of the Andaman Sea, a process of dialogues to promote sub-regional arrangement was initiated in 2009 during the First Meeting of the Andaman Sea Sub-region. The process has been further promoted through on-site events and in sub-regional events for the southern and northern Andaman Sea, respectively, in 2010 and 2011.

This Consultative Meeting aims to follow up on the special attention that has been given to the Northern Andaman Sea including areas of common interest to Myanmar and Thailand, or, in the case of the BOBLME Project, specifically to the management of the Mergui Archipelago. The on-going dialogue processes have been implemented continuously over the past few years based on productive coordination between the SEAFDEC-Sida Project and the BOBLME Project.

The BOBLME Project, coordinated by CORIN-Asia, successfully organized a sequence of National Workshops and a Joint Consultations between Thailand and Myanmar with the main purpose to facilitate the development of a joint strategic plan for the management of the Mergui Archipelago that would include common approaches to the management of important habitats in waters of Myanmar and Thailand in and around the Mergui Archipelago. To maintain the links coordination, the SEAFDEC-Sida Project took part in the events.

The events organized, so far by the SEAFDEC-Sida Project has, in dialogue with BOBLME, included on-site training and information sharing events in Myeik and Ranong provinces. The perspective has been broader, than in the events indicated above with a focus on the Mergui Archipelago, by providing information on key areas for cooperation on improved and effective fisheries management and habitat management in Northern Andaman Sea. Areas of common concern by Myanmar and Thailand, respectively, include important and critical habitats, such as mangroves, improved information and knowledge on important migratory species, such as *Rastrelliger spp.* and related species, process to move ahead to establish Monitoring, Control and Surveillance (MCS) networks; and systems for registration of vessels and to provide licenses to

fish at provincial level in the border provinces. Another area of specific importance is the landings of catches across boundaries including improved post monitoring and verification of the origin of the catch.

Common to both the BOBLME Project and the SEAFDEC-Sida Project is an ambition to build upon opportunities to implement an “ecosystem approach to fisheries” (EAF).

Ladies and Gentlemen,

This Meeting will review and follow up on issues, recommendations and opportunities that were identified during the series of workshops and on-site events organized as I mentioned earlier for improvement of fisheries and habitat management and to deal with illegal and destructive fishing in the Area for the long-term sustainability of habitats and the utilization of fisheries resources. Both BOBLME Project and SEAFDEC-Sida Project will continue and support the development of agreements between Thailand and Myanmar on the Northern Andaman Sea including the Mergui Archipelago. Even though time is very limited, we would like encourage you to try your best to come up with fruitful recommendations for this sub-region that can lead to substantial changes in the management of habitats and resources.

Last but not least, on behalf of the organizers, I would like to, again, thank all delegates for taking your valuable time to join this meeting. I would like to apologize that I will not be able to join you tomorrow due to another event that I have committed, but I very much look forward to the success of this Meeting and await the recommendations that you will arrive at during the meeting. Without further delay, I now announce the Sub-regional Consultative Meeting of the Northern Andaman Sea open. I wish you all the best. Thank you and have a good day.

Annex 3

PROVISIONAL PROSPECTUS

I. INTRODUCTION

The Andaman Sea is an area high in biodiversity, plenty of aquatic resources and many important coastal ecosystems of global significance. Many coastal communities are dependent on fisheries, marine and coastal resources. However, depletion of fisheries resources and destruction of marine habitats caused by human activities, such as illegal fishing, uncontrolled (over-capacity) fishing and destructive fishing are increasingly of major concern for the long-term sustainability of resources utilization in the Andaman region. Meanwhile, changes in the seasonal monsoon pattern could cause impacts on fisheries resources and on the health of important habitats. Furthermore, there are already signs of increased natural hazards causing hardship to fishermen and coastal communities due to more unpredictable weather including more frequent and severe storms, typhoons, etc.

The promotion of an ecosystem approach to fisheries through the integration of habitat and fisheries management provides a sound basis for joint efforts to work towards the sustainability of fisheries and the conservation of important habitats. Furthermore, the approach is central to the development of measures for the protection against future hazard. The need for restoration and maintenance of important habitats and fisheries resources has been recognized as well as the importance to protect spawning and nursery grounds for important fish species and other aquatic animals has been recognized as essential for the sustainability of marine and coastal resources.

SEAFDEC, through the SEAFDEC-Sida Project, has been promoting sub-regional approaches to management for the Andaman Sea that includes the integration fisheries and habitat management while recognizing the need to address and manage fishing capacity to reduce over-capacity and to combat illegal and destructive fishing. BOBLME and SEAFDEC, respectively, have been cooperating on the implementation of a sequence of consultations/events to build up consensus and general understanding among countries around the Andaman Sea. The events have successfully promoted regional and sub-regional cooperation on important aspects of fisheries and habitat management including responses to climate change and adaptation.

In moving towards suitable management actions for the Andaman Sea Sub-region, it is necessary to explore options to lay the foundation for the introduction of larger fisheries resources conservation areas (*refugia*) around the Andaman Sea as well as promoting collaboration among agencies and organizations working on fisheries, environment and marine and coastal resources management around the Andaman Sea. In the process, a focus should be given to key issues of regional and trans-boundary concern such as fisheries/habitat management, fish migration, fishing capacity, encroachment of larger vessels in coastal waters, IUU fisheries, vessel registration, landing across boundaries, among others, thus building upon opportunities to implement an “ecosystems approach to fisheries” (EAF).

In order to move forward with the process to promote the build-up of management arrangements for the Andaman Sea region, recommendations have been made by countries in the region to give attention to sub-regions within the Andaman Sea. Subsequently, events have been organized with a focus on sub-regional arrangements for Southern Andaman Sea (Indonesia, Malaysia and Thailand) and Northern Andaman Sea (Myanmar and Thailand). SEAFDEC, and BOBLME, would like to seek cooperation and collaboration with participating countries in strengthening fisheries and habitat management at all levels.

The present event is organized in follow up to the on-site events organized in cooperation with SEAFDEC and BOBLME and held in Myanmar and Thailand, respectively, as well as an earlier Joint Workshop for Northern Andaman Sea, held in Phuket 2010. The cooperation between BOBLME and SEAFDEC-Sida project will continue and be further strengthened as both projects have a similar aim to support the development of agreements between Thailand and Myanmar on the Northern Andaman Sea with a management plan for the Myeik Archipelago (BOBLME Project Document) including the establishment of an executive committee, a planning and management committee and a technical advisory group.

Preceding events and consultations conducted by BOBLME and SEAFDEC-Sida project for Andaman Sea Sub-region and the Northern Andaman Sea

The First Andaman Sea Sub-regional Meeting, 20-22 October 2009, Phuket, Thailand

During the First Andaman Sea Meeting, participating countries (Indonesia, Malaysia, Thailand, Myanmar and India) appreciated and recognized the need to integrate fisheries management into habitat management in the plans to promote sub-regional cooperation, while incorporating approaches to establish fisheries *refugia* (larger marine fisheries resources conservation areas) and thereby embracing the importance of ecosystem approaches to fisheries management. To lay down the foundation for the introduction of larger fisheries resources conservation areas (*refugia*), a dialogue was initiated with the countries around the Andaman Sea, by looking at the usefulness of agreements established in the region as a basis for sub-regional arrangements. Such arrangements, or managed areas, include MPAs, Ramsar sites, closed areas, closed season, zones in coastal waters reserved for smaller vessels including the prohibition of some types of fishing gear and fishing practices. The meeting also saw the importance of improved monitoring of spawning season, migration patterns of the trans-boundary and (highly) migratory fish species such as *Rastrelliger spp.*, and related species.

Another common concern to the countries is the present levels of overcapacity and the general lack of control of fisheries including illegal and destructive fishing and encroachment of larger vessels in coastal waters. It is necessary that the Andaman countries seriously consider, in cooperative manner, effective ways to improve the management of fisheries by controlling the active fishing capacity. To cope with this problem, it is necessary to use a broad variety of management measures by establishing Monitoring, Control and Surveillance (MCS) Networks, improve records and registration of fishing vessels (check on vessels with double flags), processes to issue licenses to fishing Vessel Records and Inventory, and improve port monitoring including landing of fish across boundaries.

The meeting recommended a continued regional Andaman dialogue, including sub-regional and/or bilateral dialogue on joint management measures to agree on to improve fisheries management, to control/manage fishing capacity, to build MCS networks and to safeguard important habitats. The Andaman countries supported the organization of a sequence of on-site events to provide knowledge and better understanding on the management of environment restoration in coastal areas/habitats. Sub-regional and on-site events should include capacity building and awareness-raising on the integration of fisheries management and habitat management and include efforts to regulate the use of migratory species.

Strengthening sub-regional cooperation in the Northern Andaman Sea

In follow up to recommendations for the First Andaman Sea Sub-regional Meeting, 20-22 October 2009, Phuket, Thailand two sets of events have been organized in cooperation between SEAFDEC and BOBLME with a focus on the promotion of joint arrangements between Thailand and Myanmar in the Northern Andaman Sea.

The first set of meetings was initiated by the BOBLME project and organized by CORIN-Asia to discuss and consult about joint approaches to management of important habitats in and trans-boundary waters of Myanmar and Thailand with an aim to explore options for a management plan for the Mergui (Myeik) Archipelago and related water bodies. The sequence of events led by CORIN-Asia included (so far) three meetings:

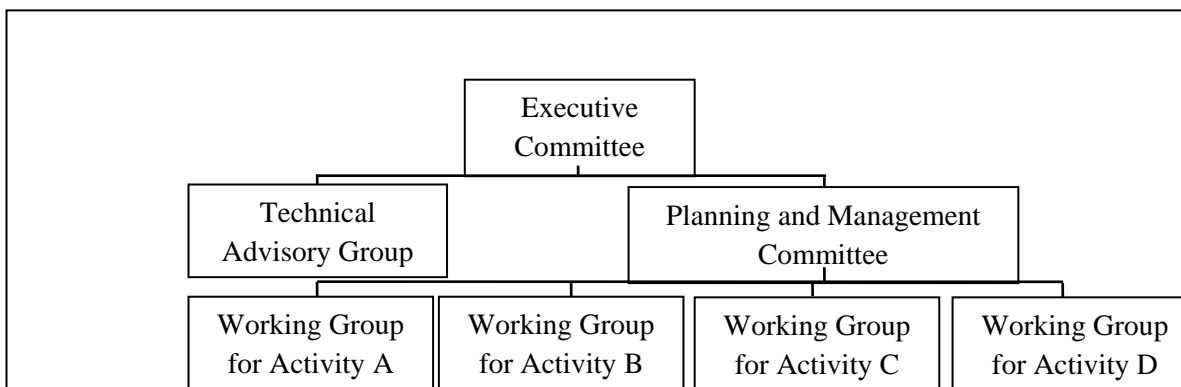
- Ranong, 13-14 July 2010
- Yangon, 11-12 October 2010
- Phuket, 18-19 January 2011

The second set of events was initiated by SEAFDEC-Sida Project and developed in cooperation with BOBLME. So far two on-site workshops have been held on the Integration of Fisheries and Habitat Management and the Management of Fishing Capacity, namely

- Myeik, Myanmar (3-5 March 2011),
- Ranong, Thailand (26-27 July 2011)

The goal of the events was to provide information on important habitats, migration of fish stocks and areas of specific concern in the area around Myeik and Ranong, respectively. Furthermore, the events raised awareness and provided capacity building on the integration of fisheries and habitat management with specific focus on migratory (trans-boundary) stocks, such as Indo-Pacific Mackerel, Indian Mackerel (*Rastrelliger spp.*) and other related species. Furthermore, to provide information on steps to manage effective fishing capacity and elements required such as information of fishing boats, MCS, port monitoring and monitoring of landings across boundaries, vessel records, inventories of vessels, gear and people, better information gathering and tools to monitor large and small-scale fisheries, and the need to embark on the building up of MCS networks that also include smaller-scale fisheries.

A common aim of the events has been to further develop, in cooperation with BOBLME a platform for agreements between Myanmar and Thailand on joint approaches to the management of habitat and fisheries. The process initiated by CORIN-Asia will provide an important part in the development of joint management plans. During the January 2011 meeting in Phuket a framework for a collaborative management structure started to emerge and based on discussions with Myanmar and Thailand, respectively a “working model” has been defined that includes an executive committee, a planning and management committee and a technical advisory group as well as a number of collaborative working groups.



Executive committee: This will be composed of decision-makers from appropriate levels in each country. In Myanmar, this could include representatives from the State level. The Committee’s main responsibility is to establish and monitor the strategic direction of the Myanmar/Thai collaboration under the BOBLME program. As initially BOBLME project start-up activities will be relatively small activities (to establish a sound basis for a future expansion of collaboration), the government representatives appointed to this committee in Myanmar maybe drawn from Department (not Ministerial) level officers.

Technical Advisory Group: A multi-stakeholder and broad-based body composed of technical experts including the current BOBLME National Task Force (NTF) members. Members of the Technical Advisory Group can also be members of other committees in the Myanmar/Thai BOBLME collaborative management structure (e.g. The Planning and Management Committees) as well as included in Working Group established to undertake specific workplan activities and tasks.

Planning and Management Committee: Responsible for the development of detailed three-monthly workplans that draw on technical advice and recommendations from the Technical Advisory Group and strategic direction provided by members of the Executive Committee. These detailed plans will be developed and reviewed by the Planning and Management Committee through a series of regular Planning and Review Meetings (every 3 months). The Committee will also develop frameworks and guidelines for activity monitoring and reporting as well as modalities for financial management.

Working Groups: Responsible for the implementation of collaborative activities. Each group requires a Working Group Coordinator to coordinate the implementation of activities by the Group members, ensure the timely production of progress reports and oversee financial management. Each Working Group should include representatives from both Myanmar and Thai agencies.

The common ambitions of Myanmar and Thailand are an important requirement for this joint meeting between Myanmar and Thailand on the management of habitats and fisheries of common trans-boundary interest.

II. RATIONALE AND OBJECTIVES OF THE MEETING

The Sub-regional Consultative Meeting of the Northern Andaman Sea between Thailand and Myanmar is aimed to provide a venue to review and follow up on issues, recommendations and opportunities that were identified during the series of workshops and on-site trainings/events organized by SEAFDEC-Sida project and BOBLME project (through CORIN-Asia).

The series on on-site and sub-regional events were successful in following up on items identified during the First Andaman Sea Meeting specifically on aspects of relevance for cooperation on trans-boundary fisheries and habitat management as well as landings across the border between Thailand and Myanmar. The challenges ahead include the development of agreements for cooperation on fisheries and habitat management including options for joint approaches to the regulation of fisheries

on *Rastrelliger spp*, and related species and the opportunities to develop a management plan for the Myeik Archipelago. In these respects it is important for the two countries to establish the size and boundaries for areas to be managed and how to link the management to already established “management areas”. The area(s) could consist of a “core area” that could stretch from the Myeik Archipelago and into Thailand and the Surin Island group and a larger “fisheries resources conservation area” that could possibly expand as far as into waters north of Phuket (based on indicated migration path for *Rastrelliger spp* and related species).

Other matters of common concern on monitoring and regulatory steps to be implemented by each of the countries include the need to manage fishing capacity, to combat and reduce IUU fisheries (illegal fishing, destructive fishing and encroachment by larger vessels into coastal waters), information sharing on vessel registration and fishing licenses, and port monitoring with a specific attention to the landings of catches across the border between Thailand and Myanmar.

The ambition to invite participants from different agencies is an attempt to improve the dialogue, not only between countries, but also between key institutions involved in matters such as vessel registration and habitat management together with the more fisheries specific agencies. The broader institutional presence will also provide an opportunity for a group of “legal advisors” to get feedback on the scope, purpose and context of existing and planned (under preparation) legal and regulatory framework as basis for agreements between the two countries.

In summary, SEAFDEC in cooperation with BOBLME through CORIN-Asia will co-host the Meeting with aiming to further develop a platform for agreements between Myanmar and Thailand on joint approaches to the management of habitat and fisheries, including options for a management plan for the Myeik Archipelago and related water bodies. The process initiated by CORIN-Asia will provide an important part in the development of joint management plans based on the “working model” indicated above.

III. EXPECTED OUTCOMES

The Consultation has two main ambitions:

- 1) To verify and confirm the “working model”, including the establishment of an Executive Committee, the establishment of a Planning and Management Committee and the establishment of a Technical Advisory Group. Names of appointed persons (to be appointed) as well institutions to be involved in Committees and Advisory Groups should be identified and/or indicated. If possible one (or two) Committee Meetings could be held in conjunction with the Consultation. To facilitate implementation of activities in priority areas an initial set of collaborative (thematic) working groups should be agreed upon (recommendations from earlier events indicate areas such as, migratory species, habitats (sub-divided: seagrass, mangroves, corals, etc), MPAs (and other protected areas), fishing capacity/illegal fishing, MCS networks, and/or others. Indications of the development and structure of Groups to be provided, ideally with a focal point indicated that should take a lead in further developing the working groups with members from both countries.
- 2) To follow on to the sequence of meetings held earlier and the Consultation aims, as stated above, to provide an option to synthesize and agree on priority issues common to the two countries (with respect to this trans-boundary area). As a background for discussions and recommendation updates on fisheries and habitat related activities will be provided – building upon on the information delivered during earlier on-site events and the first Andaman Sea Meeting. Recommendations and action points will be provided for SEAFDEC, BOBLME and

other relevant bodies on directions to take in planning for future activities, including cooperation on managing fishing capacity, fisheries and the protection and restoration of habitats in this sub-region. In summarizing the suggestions there could a thematic link to the emerging working groups.

The main outcomes would include:

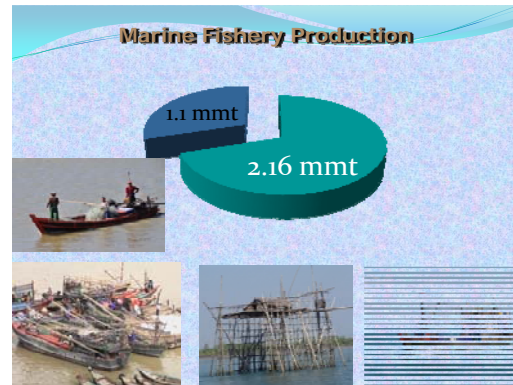
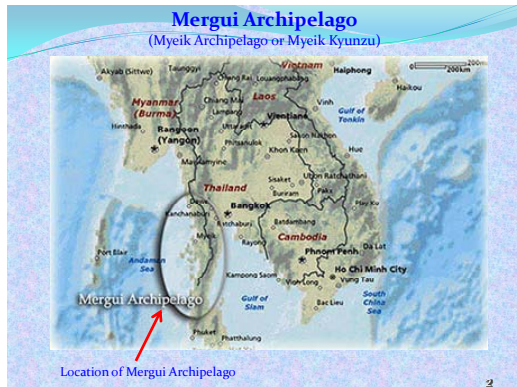
- a) Recommendations, based on an understanding of the benefits of integrating fisheries and habitat management, support to an EAF and the importance to respond to effects of climate change, provided on suitable actions, and time-lines, as/if possible, for continued work, cooperation and potential areas for agreements at the sub- regional level based on reviews of the recommendations from on-site events conducted in Indonesia, Malaysia and Thailand.
- b) Validated and confirmed “working model” of joint management structure, with identified institutions (and persons) represented in committees and groups.
- c) Points provided on the strengthening of institutional collaboration and sharing of information among the agencies and other partners at provincial, national and sub-regional levels.
- d) Consensus on the need to reduce the encroachment of larger vessels (also foreign) into coastal waters, including the development of plans to manage fishing capacity, combat illegal and destructive fishing, improve vessel registration/records, strengthen flag state responsibilities, initiate MCS activities, etc.
- e) Steps identified to address the need to build capacity for improved port monitoring including measures to verify catch documentations (and to improve monitoring of catches landed in sub- regional landing sites, including catches from neighbouring countries).
- f) Action points developed on the build-up of an MCS network in the sub- region by, initially, sharing information with steps identified to establish an MCS team among the three countries (refer to the MCS “matrix” for relevant institutions).
- g) Identified steps and actions to follow-up on options for joint sub- regional approaches to regulation of the fisheries on, and for the conservation of *Rastrelliger spp.* (specifically Indo-Pacific mackerel (pla too) and Indian mackerel (pla lang), and related species)
- h) Gaps identified indicating areas for continued review and the need to strengthen the institutional procedures, local policies, implications to the sub- region of national and international laws with regards to the fisheries and habitat management including the management of fishing capacity and the improved human well-being in the sub- region.
- i) Awareness provided on how climate change might add to the concerns raised during the meeting, including need to build adaptive capacity, to prepare mitigation measures, to improve community organization and to restore important habitats (mangroves, etc)

Annex 4

Fisheries in Mergui Archipelago

Nyunt Win

Assistant Director, Department of Fisheries, Conner of Bayint Naung Rd. and Bayint Naung Avenue of Insein Township Rd., Yangon, Myanmar



IUU Fishing Issues

National and foreign fishing vessel	Inshore fishing vessel
1. Contravention of the reporting procedure	1. Unregistered & Unlicensed vessel
2. Fishing in unauthorized areas	2. Use of prohibited fishing method
3. Over limited fishing days	3. Fishing in closed season and closed areas
4. Transshipment at the sea	
5. Encroachment of the foreign vessels	

Mangrove destruction

Of greatest concern on the coast is the loss of mangrove forest, a key component of that ecosystem, especially on the mainland coast and estuaries, and the innermost islands of Myeik Archipelago. Loss is estimated at 50% by the Forest Department (Htun Paw Oo, 1998; Forest Department, 2003), resulting from cutting of timber and fuel wood, clearing of land for paddy and aquaculture (fish and shrimp farming) and building development (residential and commercial). One result of the loss of mangroves, seen particularly around Myeik and Mottama areas, is an increased of land slides, as serious form of erosion (Su Su et al., 2004; Tin Tin Aye et al., 2004)



MARINE CAPTURE FISHERIES

a. In-shore Fishery

- 5 nautical mile from shore (Rakhine coastal)
- 10 nautical mile from shore (Ayeeyarwady & Tanintharyi)
- no more 12 h.p engine & 30 Feet length of the boat.

b. Off-shore fishery

- Outer area of inshore to end of EEZ
- More than 12 H.P engine boat
- Bottom trawl, Purse seine, Surrounding net, Drift net & Long line.

Number of fishing vessels engaged in Inshore fishery

Year	Mechanized Boat	Non-mechanized Boat	Total
2004-05	14176	16687	30863
2005-06	14099	16361	30460
2006-07	14284	16284	30568
2007-08	14289	15219	29508
2008-09	14052	14645	28697
2009-10	13788	17054	30842
2010-11	13823	15548	29371

Number of inshore fishing vessels in Tanintharyi Water

Inshore fishing boats - 11,559
 - Myeik District - 5,759
 - Dawei District - 1,893
 - Kawthaung District - 3,907



Number of fishing vessels engaged in offshore fishery (2010-2011)

No	Type of Gear	National	Foreign
1	Trawl	1004	143
2	Purse seine	170	54
3	Stow net	617	-
4	Drift net (Gill net)	268	-
5	Long line	7	59
6	Squid cast net	29	6
7	Fish Trap	101	-
Total		2196	262

Local Fishing vessel in Tanintharyi Region (2010-2011)

	Type	Number
1	Trawl	482
2	Purse Seine	100
3	Stow net	2
4	Drift net (Gill net)	-
5	Long line	-
6	Squid cast net	34
7	Fish Trap	66
Total		684

Foreign Fishing Vessels in Tanintharyi Water (2010-2011)

SIAM JONATHAN Co; Ltd	- 21
NAY LA WADDY Co; Ltd	- 6
KUNG SU ZAW Co; Ltd	- 2
RYUJI INTERNATIONAL Co; Ltd	- 39
SANG AROON Co; Ltd	- 8
HALING ANNAWAR Co; Ltd	- 2
MTO Co; Ltd	- 50
TOTAL	- 128

Management Measures

- Check in Check out reporting system.
- LSA
- Fishing gear
- Crew list
- Fishing Licence
- Vessel registration



Surveillance efforts on fishing activities

Strict law enforcement on fishing activities (problems of illegal fishing)

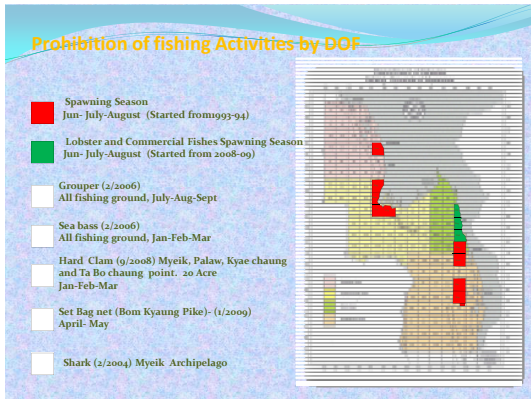
Enforcement agencies with particular activities are listed as:-

- ❖ **Inspection at sea**
 - * Myanmar Navy
 - * Myanmar Coast Guard
- ❖ **Inspection authority at shore**
 - * Department of Fisheries
 - * Myanmar Port Authority
 - * Myanmar Custom
 - * Immigration Department
 - * Department of Marine Administration
 - * Myanmar Police Force

Fishing Vessel Registration

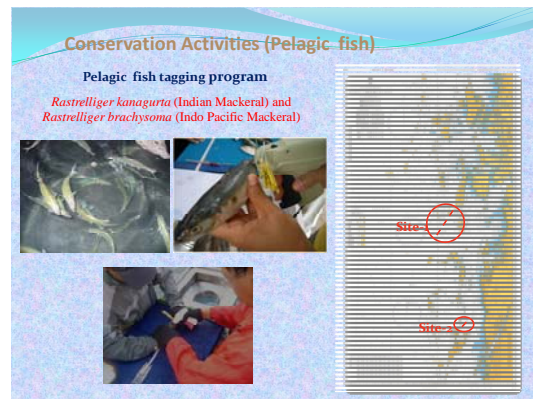
- Department of Marine Administration (DMA) inspects all fishing vessels according to the procedures and rules of the IMO for **safety at sea**.
- The Department of Fisheries (DOF) issues fishing and fish carrier licenses only to the vessels satisfied by DMA.





IUU fishing

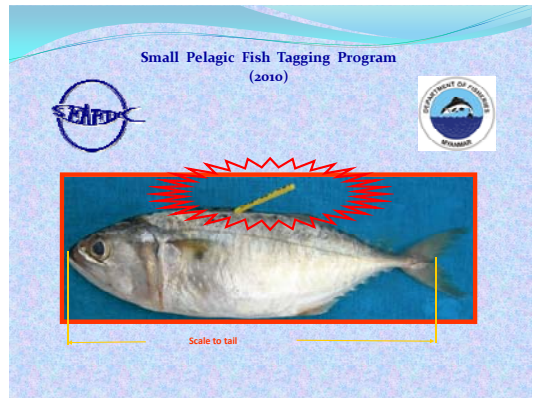
- IUU fishing focus mainly on high-valued, high-market demand species.
- Lack of coordination and communication in the region.
- Inadequate legislative measures to combat and mitigate IUU
- IUU fishing is increasing:
 - over investment
 - high prices/high incentives
 - weak MCS system



Small Pelagic Fish Tagging Program (2010)

Location	Species	Tagging Fish
Andaman Sea Tanintharyi Division	<i>Rastrelliger kanagurta</i>	1407
	<i>Rastrelliger brachysoma</i>	81
Total		1488

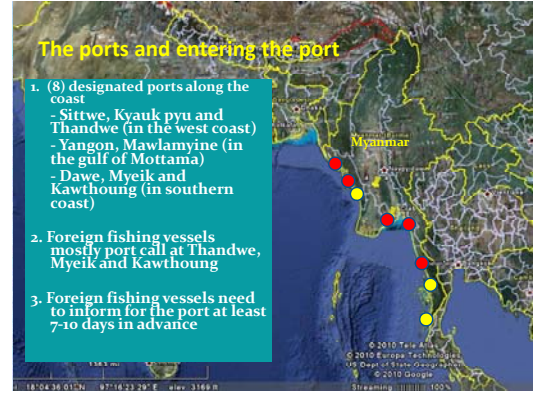
Rastrelliger kanagurta



Port State Measures

Inspection at port

- All fishing vessels (national and non nationals) are subjected to inspect at the relevant port.
- The inspection is undertaken by a team composed with DOF, Immigration, Port authority, Custom, Police Force etc.
- The fishing vessels are inspected in priority of port calling.
- Generally the port receive registered foreign vessels: JV or licenses fishing rights.
- None has been reported on the request of unregistered (illegal) vessels in Myanmar for the port.
- There has been no request of vessels registered in foreign countries for one of the port in Myanmar, other than JV or fishing right licensed with Myanmar.



Management Measures in Fisheries

- **Restricted** Biodiversity collection of coral and capturing of marine mammals

- **Mesh size**

- for Trawler : not less than 2 inches for fish and
- : not less than 1.5 inches for Shrimp

- **Fishing**

- Dynamites, explosives, Chemicals, Drugs and Electric fishing are not allowed

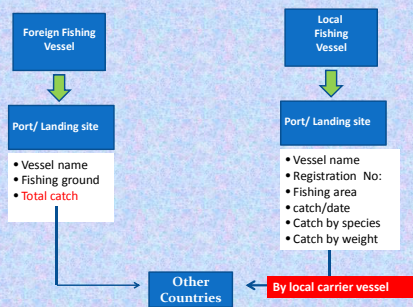


Port State Measures

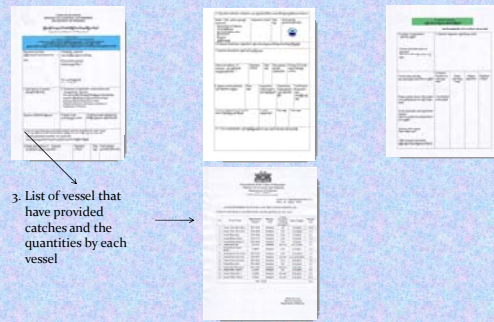
- In Myanmar, Some landing sites are owned by private.
- All private landing sites have license or permit by Myanmar Port Authority and DoF
- All fish landing site record the following data of each fishing vessel or carrier vessel daily;
 - Total Catch
 - Catch by Species
 - Size by species
 - Vessel Name

Catch Documentation

Catch Flow (Fresh)



Catch Certificate



MCS ACTIVITIES

Enforcement agencies

❖ Inspection at sea

- * Myanmar Navy

Inspection at shore

- * Department of Fisheries
- * Myanmar Port Authority
- * Myanmar Custom
- * Immigration Department
- * Department of Marine Administration
- * Myanmar Police Force

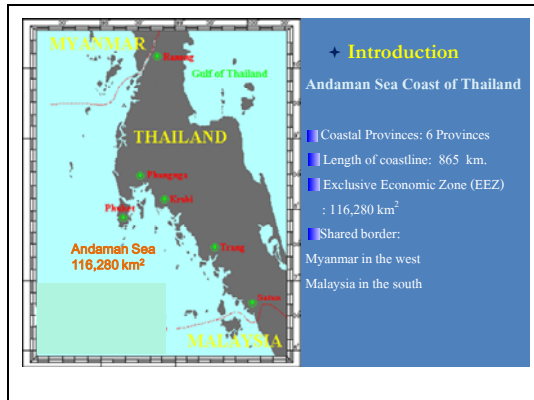


Annex 5

Marine Fisheries in the Andaman Sea Coast of Thailand

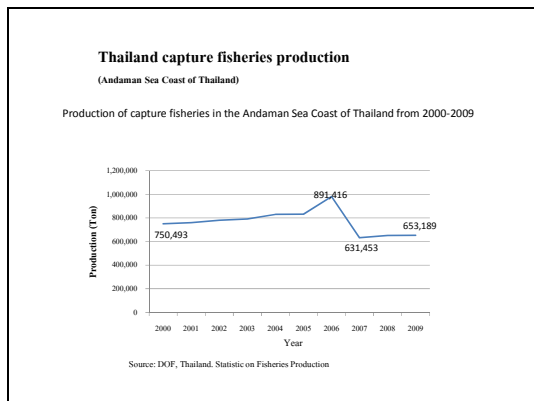
Kumpon Loychuen
Chief, Ranong Marine Fisheries Station

Marine Fisheries Research and Development Bureau, Department of Fisheries, 157 Sapanpla Rd., Moo 1, Tambon Paknam, Muang District, Ranong Province 85000, Thailand



Number of important fishing gear unit along the Andaman coast of Thailand registered by Province, 2009

type of fishing gear	Total	No. of boat					
		Ranong	Phangnga	Phuket	Krabi	Trang	Satun
Total	1883	198	519	248	7	530	381
Otter board trawls	418	64	17	48	2	250	37
Pair Trawls	139	4	-	108	-	-	27
Beam trawls	42	-	-	1	-	-	41
Surrounding nets	208	15	45	17	3	66	62
Anchovy surrounding nets	96	4	25	13	-	1	53
Spanish mackerel gill nets	41	32	1	5	1	2	-
Indo-Pacific mackerel gill net	58	2	49	-	-	-	47
Crab gill nets	241	5	39	-	-	194	3
Shrimp trammel nets	195	9	184	-	-	2	-
Squid trammel nets	0	-	-	-	-	-	-
Indo-Pacific mackerel encircling gill net	0	-	-	-	-	-	-
Other gill nets	99	25	36	15	-	6	17
Squid falling nets	204	33	104	16	-	11	40
Anchovy falling nets	81	1	11	11	-	5	53
Other falling nets	1	-	-	-	1	-	-
Anchovy lift nets	0	-	-	-	-	-	-
Other lift nets	4	1	1	2	-	-	-
Push nets	1	1	-	-	-	-	-
Other nets	0	-	-	-	-	-	-
Long line	17	2	-	12	-	2	1
Other gear	7	-	7	-	-	-	-

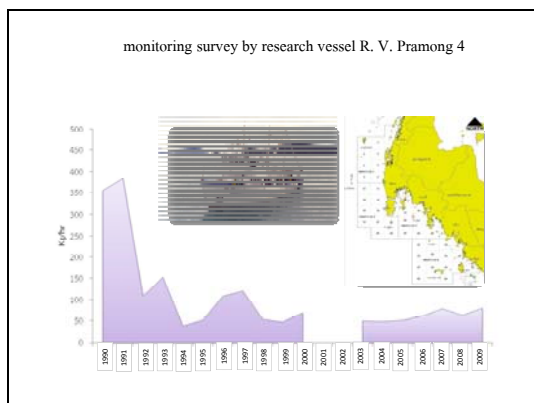


Status of marine resources in Andaman Sea Coast of Thailand

Table : Sustainable and actual fish yields in Thai waters in 1991 (tons)


Area	Fish Category	Sustainable	Actual Yield	Overfishing
		Yield (i)	(ii)	[(i)/(ii)*100]
Andaman Sea	Pelagic	50,000	166,628	333.30%
	Demersal	200,000	491,292	245.60%

Source: TDRI, Natural Resources Management in Mainland Southeast Asia, 1995. 36 p.



Instruments of Management

- Zoning and Timing of restriction
- Fishing Capacity Management
- Monitoring, Control & Surveillance



Zoning and Timing


- ✦ Restricted zone:
3,000 m from the shore line.
- ✦ Prohibited zone for trawlers and push-netters.
- ✦ The establishment of the Seasonal Closed Measure: SCM

— Prohibited zone
- trawlers
- push netters

----- SCM

- 3 months: 1 Apr-30 Jun

- Prohibited: trawlers, purse seiners, gill nets (O < 4.7 cm)





Fishing Capacity Management

- ✦ Survey of fishing vessels (in progress)

This activity has been conducted since 2010 that reflected to the Fishery Management Master Plan of the Department of Fishery including

- Types (e.g. purse seiners, trawlers, etc.)
- Sizes of vessel (length in meters, bread in meters, GT, etc.)
- Capacity of engine (HP, in-board, outer-board, etc.)
- Total no. of fishing vessels: as so far 15,155 vessels


- ✦ Registration of fishing vessel and fishing gear
 - Issuing of **fishing gear's license**
 - Issuing ship's license (cooperate with the Marine Department)
- ✦ Log book (filling by Fishers)
 - Catch record
 - Fishing ground record

MCS: Monitoring, Control and Surveillance

Related Stakeholder

- Patrol
- Voluntary Fishers and Local Administration offices (Or-Bor-Tor) Joint patrolling
- Network of Coastal Communities



MCS: Monitoring, Control and Surveillance

- **Communication:** transfer & exchange of standard information
- **Involving of fishers** in fisheries governance e.g. traditional knowledge and wisdom: increase trustiness, co-operation and social network
- **Joint patrolling:** decrease budget but increase capacity of patrol to monitor a vast area of restriction
- **Public awareness promotion** of the conservation of fisheries resources

Annex 6

Stock Assessment of Indian Mackerel, *Rastrelliger kanagurta* (Cuvier, 1816) along the Andaman Sea Coast of Thailand

Montri Sumontha

Marine Fisheries Research and Development Bureau, Department of Fisheries, 157 Sapanpla Rd., Moo 1, Tambon Paknam, Muang District, Ranong Province 85000, Thailand

Stock Assessment of Indian Mackerel, *Rastrelliger kanagurta* (Cuvier, 1816) along the Andaman Sea Coast of Thailand

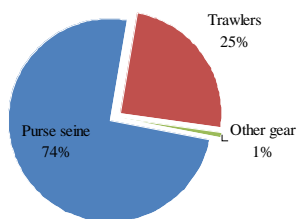
Montri Sumontha
Sonthaya Boonsuk
Thumawadee Jaiyen

Indian mackerel, *Rastrelliger kanagurta* (Cuvier, 1816)

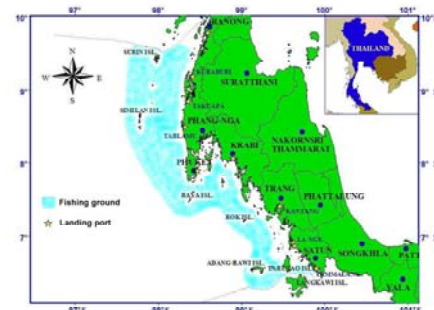


- Indian mackerel, *Rastrelliger kanagurta* (Cuvier, 1816) is the one of major target species of marine fisheries along the Andaman Sea coast of Thailand.

Proportions of Indian mackerel were caught by gear (1997-2007)



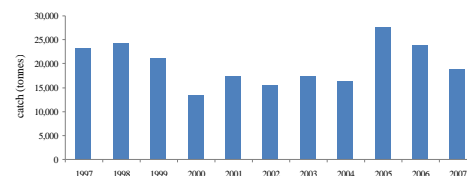
Data Collecting Sites and Fishing ground

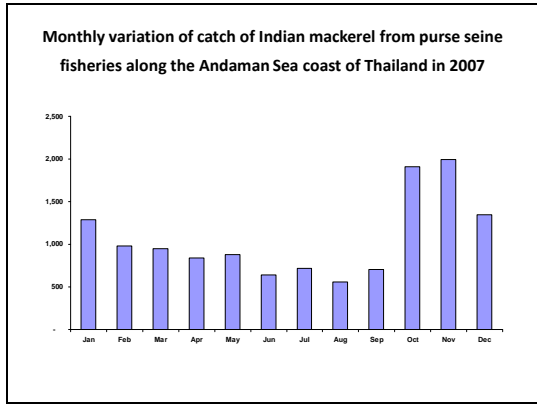


Season, Fishing ground & Main landing ports

- Throughout the year, highest peak of operation was in the Northeast monsoon season (October-March)
- Depth between 40-100 m, sandy-clay sea bed
- Main landing ports of the Indian mackerel were in Ranong, Phang-nga, Phuket, Krabi, Trang and Satun.

Total catch of Indian mackerel along the Andaman Sea coast of Thailand





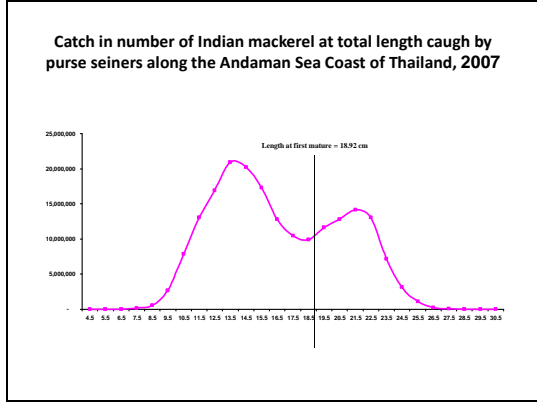
Biological studies

Length-weight relationship:
 $W = 0.0145 TL^{2.9350}$

Spawning season:
 December-March and August-September

Size at first maturity:
 males 17.83 cm females 18.92 cm

Sex ratio:
 male:female = 1:1.31

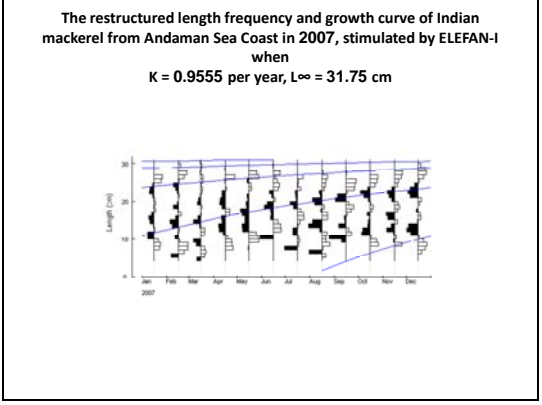


Population Biology

von Bertalanffy growth equation:
 $L_t = 31.75 (1 - e^{-0.9555(t - (-0.0066))})$

Mortality:
 Total mortality (Z): 8.18 per year
 Natural mortality (M): 1.39 per year
 Fishing mortality (F): 6.78 per year

Recruitment:
 Size 4.00-5.00 cm
 Number 5.6×10^8 individual fish



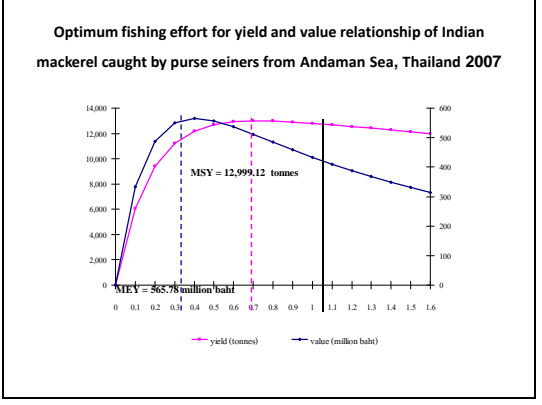
Length Based Thompson and Bell Analysis

Maximum sustainable yield (MSY):
 12,999.12 tonnes F-factor = 0.7

Maximum sustainable economics yield (MEY):
 565.78 million baht F-factor = 0.4

Catch (2007) = 12,805.33 tonnes, over 30%

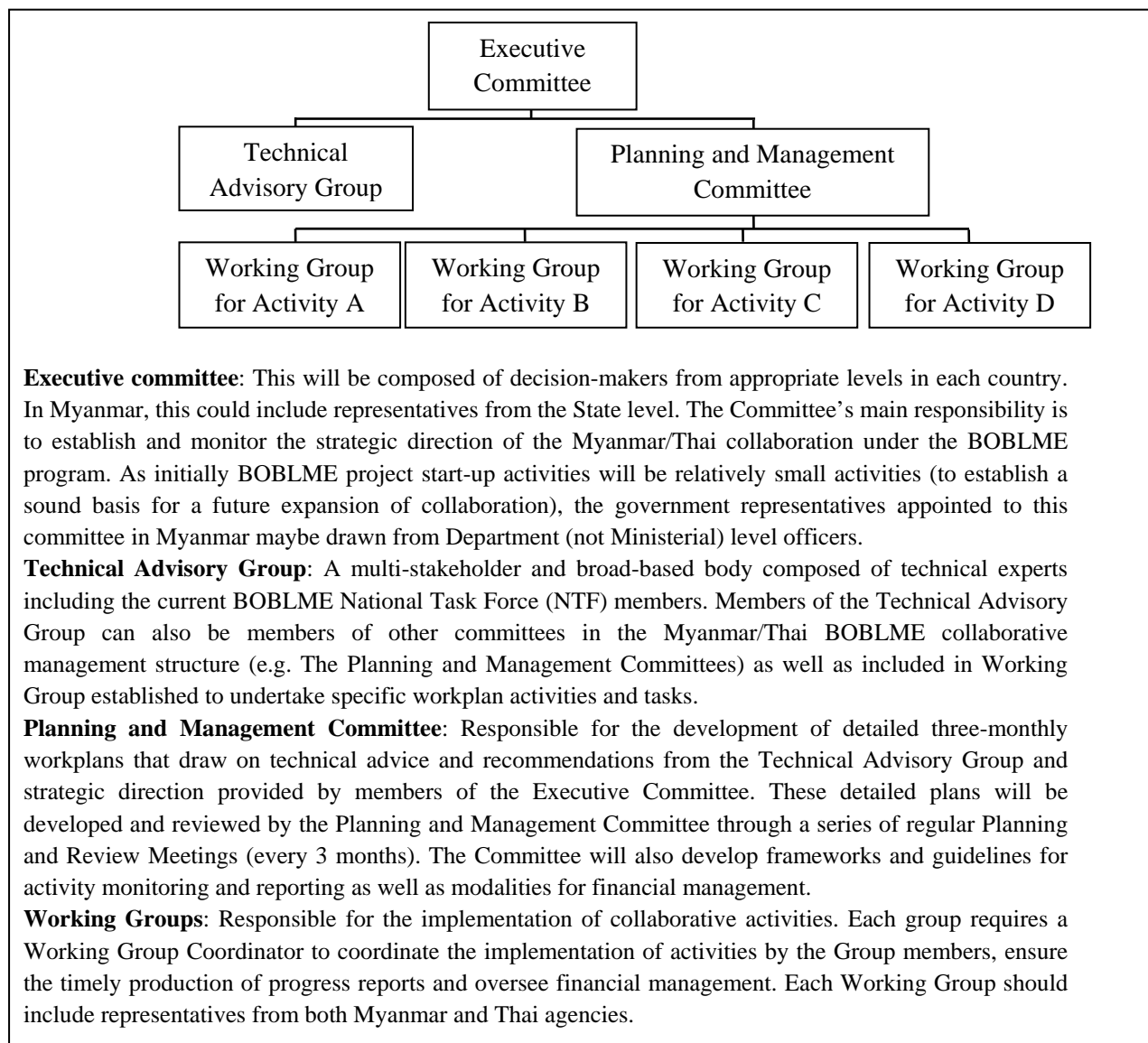
Value (2007) = 433.86 million baht, over 60%



Annex 7

A Collaborative Management Structure for Transboundary Areas between Thailand and Myanmar

Presented by BOBLME Project through CORIN-Asia





Issues provided in On-site events

- Importance of habitats and integration to fisheries management
- Management of fishing capacity, need to accurate data and information to improvement
- Reduction of illegal fishing by improve licensing control and monitoring
- Relevant law and regulation of fishing activities
- Status of transboundary species, Mackerel provided
- Fishing vessel record, port monitoring, MCS implementation and local knowledge in each areas provided.



Common issues raised during the events



- Support the habitat conservation (e.g. mangrove forest, sea grass beds and coral reefs) with involvement by communities and to establish collaborative coral survey and sea-grass survey programs together with conservation measures for the Myeik Archipelago and the surrounding eco-system.
- Stringent law enforcement against illegal fishing activities in the protected areas which are known as breeding and nursery grounds.
- Strengthening the capacity and improve the integration of fisheries and habitat management at all levels.
- Support the development of management shared stock, however, scientific information would be required.
- Myanmar, expressed to seek for technical advice to survey of spawning grounds, feeding grounds and migration paths of *Rastrelliger spp.* and related species.

Common issues raised during the events

- Encourage collaboration between government institutions and fisher's communities and cooperate with neighboring country in fisheries management and reduce IUU fishing including the elimination of destructive fishing.
- The cooperate between two countries to get information for the volume of exported fish and fishery products from Myanmar to Thailand and from Thailand to Myanmar should be strengthened.
- Improve capacity of port inspector based on existing rule and regulation in Myanmar.

Annex 9

Overview on the Tagging Program for Economically Important Pelagic Species in the South China Sea and Andaman Sea, 2007 - 2011

Abu Talib Ahmad
Special Department Coordinator

SEAFDEC/Marine Fishery Resources Development and Management Department (MFRDMD), Fisheries Garden, Chendering, 21080 Kuala Terengganu, Malaysia

Tagging Program for Economically Important Pelagic Species in the South China Sea and Andaman Sea, 2007- 2011



Lead Department: MFRDMD in collaboration with TD
8 Participating Country: Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, The Philippines, Thailand & Vietnam

Fund Provider: Japanese Trust Fund (JTFII)

Target Species



Indian Mackerel
(*Rastrelliger kanagurta*)



Short mackerel
(*Rastrelliger brachysoma*)

Plastic T-bar Tags



Country Code + 5 Digits,
Total length was 38mm & 34 mm (second batch)



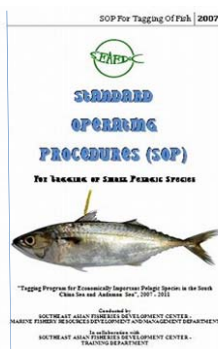
AREA			Andaman Sea
Country	Country Code	No. of Tag Distributed	
Indonesia	ID	3,000	
Malaysia	MY	3,000	
Myanmar	MM	6,000+3,000	
Thailand	TH	6,000	
Total		21,000	

MAIN ACTIVITIES

2007

Activities 2007

- Core-Expert Meeting
- On-site training
- Standard Operating Procedure



Activities 2007

On-site Training for Tagging in eight MCs



1-2 November 2007	Indonesia, Jakarta
22-23 November 2007	Malaysia, Semporna
26-27 November 2007	Thailand, Rayong
15-16 January 2008	Myanmar, Myeik

Posters in National Languages



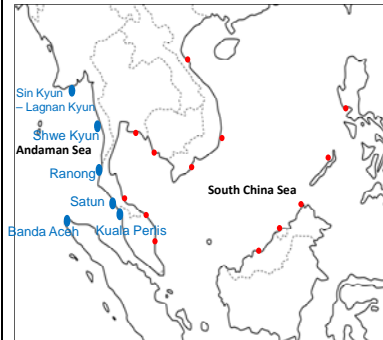
MAIN ACTIVITIES

2008 - 2010

Activities 2008-2010

Year	2008	2009	2010
1. Meetings	2 nd Core Expert Meeting		3 rd Core Expert Meeting
2. Tagging at field	Tagging activities at sea at the South China Sea and Andaman Sea		
3. Recovery	Receiving recovery tagged fish, pay rewards, conduct necessary data collection		
4. Data upload to Database	Data on tagging & released fish, Data on recovery tagged fish		
5. Other additional activity	FAD & Sardine Information		Data on local knowledge (Questionnaires)

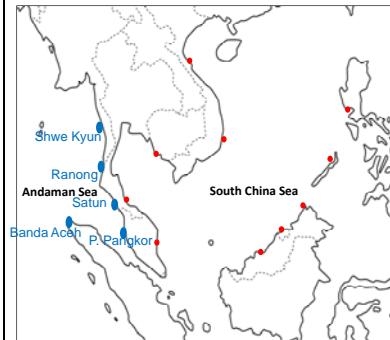
Tagging Sites in 2008



> The South China Sea: 13 tagging sites (Pre-monsoon: July - Sep)

> The Andaman Sea: 6 tagging sites (Post-monsoon: Apr - Jun)

Tagging Sites in 2009 - 2011



> The South China Sea: 10 tagging sites (April 09 - July 2011)

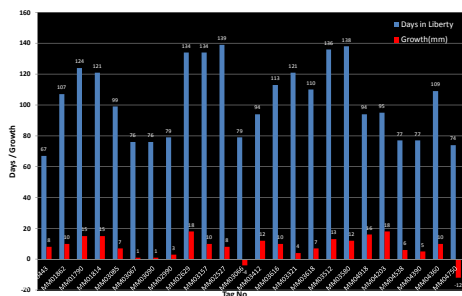
> The Andaman Sea: 5 tagging sites (April 09 - March 2011)

Database: Status of tagging data, 2008-2010

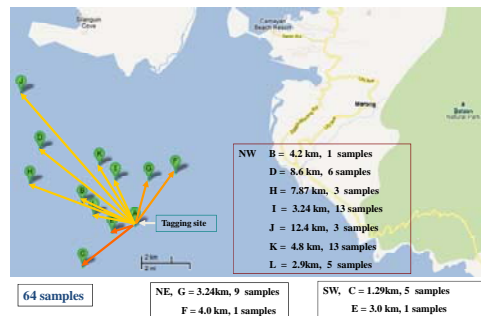
Andaman Sea

Country	Target Species	Target No.	Fish Tagged	Recovered Tagged fish	Longest (days)
Indonesia	<i>R. kanagurta</i>	1,400	489	0	-
	<i>R. brachysoma</i>	1,400	0	-	-
P. Malaysia	<i>R. kanagurta</i>	1,400	273	0	-
	<i>R. brachysoma</i>	1,400	1,930	0	-
Myanmar	<i>R. kanagurta</i>	2,800	2,676	0	-
	<i>R. brachysoma</i>	2,800	3,227	24 (.7%)	139
Thailand	<i>R. kanagurta</i>	1,900	1,791	8 (.4%)	20
	<i>R. brachysoma</i>	500	736	2 (.2%)	34
	<i>D. Macrosoma</i>	0	770	61 (8%)	59
	<i>D. maruadsi</i>	0	2,388	59 (2%)	113
All	<i>Rastrelliger spp.</i>	13,600	11,122	34 (.3%)	139

Relationships between day in liberty and growth (Myanmar)



Localities of fishes released and recaptured (Philippines)



MAIN ACTIVITIES

2011 – 2012

Genetic Study of Indian Mackerel

Genetic Study of Indian Mackerel

Sampling:

- Spatial
 - Sampling across geographic range of the species in the Andaman Sea to capture different spawning populations.
 - Sample collection cover all depth strata by taking samples from all type of gears in all fishing zones that catch Indian mackerel.
- Temporal
 - Temporal sampling is important to ensure that samples take from a site should represent a single stock.
 - September 2011– November 2012 (extended to February 2012) (Northeast Monsoon)

Activities in 2011 -2012

Genetic Study of Indian Mackerel: Sampling sites and number of samples used.


No	Sampling site	No. of samples	Species	Sampling Times
1.	Banda Acheh, Indonesia	35	<i>R. kanagurta</i>	October - January
2.	Pangkor, Malaysia	35	<i>R. kanagurta</i>	October - January
3.	Yangon, Myanmar	35	<i>R. kanagurta</i>	October - January
4.	Ranong, Thailand	35	<i>R. kanagurta</i>	October - January

Genetic Study of Indian Mackerel

- The partial sequences of the *mtDNA cytochrome b (cyt b) gene* is used as molecular marker in this study.
- Primers RBCyF (5' GGA GAG GGG TTG GAA GCA AC 3') and RBCyR (5'CCC TAA CTC CCA AAG CTA G 3') (Jondeung, personal communication) are used for mtDNA amplification of a ~1400 base pair (bp) segment.
- Amplified PCR products are sent to private laboratory for DNA sequencing to product about 1000 bp for a single sequence reaction.
- Haplotypes frequency of the 30 samples for every sampling site will be identified.
- The differentiations between sampling sites will be assessed with Wright's fixation index *F_{ST}* (10 000 replicates; Wright 1951) based on haplotypes frequency
- Amova (analysis of molecular variance approach) by using ARLEQUIN 3.11 to examine genetic structuring among samples from the same site and among samples from different sites in this region.

Maeve Nightingale, Radda Larpnun, Petchrung Sukpong


IUCN Asia Regional Office, 63, Sukhumvit 39, Soi Prompong, Klongton-Nua, Wattana District, Bangkok 10110, Thailand



**IUCN South East Asia:
Thailand & Myanmar Programme**

Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok March 13-14, 2012


**IUCN – Thailand Programme :
Site Implementation in North Andaman Coastal**



Boundaries of importance Area

- Ranong Biosphere Reserve
- International Ramsar Site
- Kapoe Watershed Network
- Laemson National Park
- Kuraburi Seagrass Conservation
- Andaman Coastal Communities Network


Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok March 13-14, 2012



Main Issue

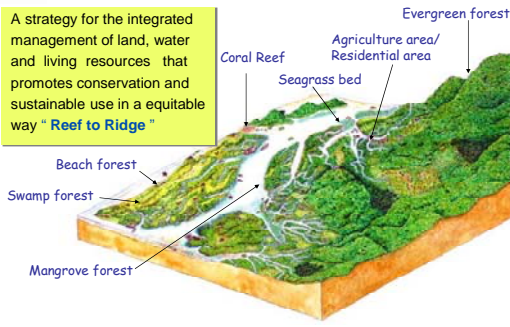
- Overfishing and competition in fisheries.
- Habitat degradation (Seagrass, coral reefs) i.e. effected by Tsunami in 2004, coral bleaching in 2010.
- Sedimentation from both watershed area and open sea (in Ranong).
- Land use pattern changed

Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok March 13-14, 2012




The Ecosystem Approach

A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in a equitable way " Reef to Ridge "





Labels in diagram: Evergreen forest, Agriculture area/ Residential area, Seagrass bed, Coral Reef, Beach forest, Swamp forest, Mangrove forest.

Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok March 13-14, 2012



Seagrass Distribution in North Andaman Sea, Southern Thailand

- Total seagrass areas in Andaman Sea are **96.95 sq.km. (11 species)**
- Seagrass area in Phang-Nga is 25.31 sq.km., of which 3.2 sq.km. is **Seagrass conservation zone through multi-stakeholders Cooperation** (established after Tsunami in 2004)
- Seagrass area in **Ranong** is 1.5 sq.km., of which 7 species distribution.

Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok March 13-14, 2012



Target Area : Coastal areas in Andaman Sea
in Ranong and Phang-Nga

Ground level Implementation

- Participatory working through multi-stakeholders and local network:
 - BMZ small grants facility 17 CBOs watershed to coastal communities.
- Cooperation agreement between government and local communities :
 - Department of Marine and Coastal Resources (DMCR) and CBOs on seagrass conservation area in Andaman Sea
 - Office of Natural and Environmental Protection (ONEP) and other government organisations
 - Using flagship species to highlight biodiversity issues -Water Oinon (*Crinum thaianum*) to advocate for national policy conservation.
- Ecosystem monitoring
- Capacity building of Communities Based Organizations (CBOs) and networks

Replicable ICM model – applicable for Trang, Krabi

IUCN Myanmar

- Scoping – strategic programme development
- Initial interest – coastal stakeholder meeting
- Resource survey – marine and fresh water
- Mangroves for the Future (MFF) Small Grants Funding Facility in partnership with MERN

IUCN SE Asia

- Andaman sea is an area of important strategic focus (Thailand/ Myanmar) for IUCN
- Scientific knowledge, MPAs & protection of biodiversity hot spots, fisheries management, good governance models, ridge to reef coastal management, understanding economic flows – fisheries production and consumption patterns
- In this respect we are committed to working with country and regional partners



Sub-Regional Consultative Workshop of the Northern Andaman Sea, Bangkok

March 13-14, 2012

MYEIK/MERGUI ARCHIPELAGO TRANSBOUNDARY MANAGEMENT REPORT

REPORT ON THE FIRST MEETING OF THE MYEIK/MERGUI ARCHIPELAGO
TRANSBOUNDARY PLANNING AND MANAGEMENT COMMITTEE 14 MAR
2012

Prepared by CORIN-Asia for the BOBLME program to support establishment of
Myanmar/Thai transboundary collaboration for the sustainable management
and conservation of the Myeik Archipelago



Endorsement of Collaborative Management Structure as working model

The proposed collaborative management structure was initially discussed at Thai/Myanmar Joint Workshop In Phuket On 13-14 January 2011 and then later refined during consultations between CORIN-Asia and key stakeholders in Myanmar and Thailand.

During the Sub-regional Consultative Workshop of the Northern Andaman Sea on the 13-14 March 2012 in Bangkok, this management structure and the key functions of the various elements were endorsed as a collaborative *working model* which could be further refined as developed as collaboration develops.

The collaborative management structure agreed to as a working model



The key functions of the management structure elements

- **Executive committee:**
 - decision-makers from appropriate levels in each country
 - Could include representatives from the State level (Myanmar) or RBC (Thailand)
 - Main responsibility to establish and monitor the strategic direction of the collaboration (under the BOBLME program).
 - Start-up activities relatively small – could be drawn from Department (not Ministerial) level officers.
- **Technical Advisory Group:**
 - Multi-stakeholder and broad-based body composed of technical experts
 - Could include BoBLME National Task Force (NTF) members.
 - Members can also be members of other committees (e.g. The Planning and Management Committees) as well as included in Activity Teams
- **Planning and Management Committee:**
 - Responsible for the development of detailed three-monthly workplans (specific!)
 - Draw on technical advice and recommendations from the Technical Advisory Group
 - Based on strategic direction provided by members of the Executive Committee.
 - Planning and Review Meetings (every 3 months).
 - Also develop frameworks and guidelines for activity monitoring and reporting as well as modalities for financial management.
- **Activity Teams:**
 - Responsible for the implementation of collaborative activities.
 - Each Team requires a Team Coordinator (coordinate the implementation of activities, timely production of progress reports and oversee financial management).
 - Each Activity Team includes representatives from both Myanmar and Thai agencies

Promoting long-term collaboration

During discussions at the Sub-regional Consultative workshop, the composition of the Activity Teams was discussed. To promote the long-term collaboration

between the two countries it was agreed that **Activity Teams** within the collaborative management structure will be teams composed of people from both countries whenever possible. (the aim is to promote transboundary collaboration in the longer-term).

It was agreed that both countries prefer to identify workplan activities in which Myanmar and Thai people will work together and that during the next 3 to 6 months, both countries will prioritize activities which allow representatives from each country to work together in a single Activity Team.

Focusing on initiating collaboration

Discussions during the March 12 meeting in Bangkok also focused on initiating collaborative activities as soon as possible and reached the following agreements concerning the Planning and Management Committee:



- No more than six people from each country (if the Committee is too big, it will be hard to reach consensus)
- Will include representatives from both central and local levels
- First meeting of this Committee will be held on the second day (14th) of the Sub-regional Consultative Meeting of the Northern Andaman Sea 13-14th March 2012.
 - Representatives will be drawn from meeting participants
 - Aim to start collaboration
 - Promote collaboration with SEAFDEC/IUCN and other regional programs working in the same region

Participants in first Planning and Management Committee meeting

The first meeting of the Planning and Management Committee was held on the 14th March 2012 during the Sub-regional Consultative Meeting of the Northern Andaman Sea organized in Bangkok 13-14th March 2012.

The following list of people from Myanmar and Thailand (drawn from Sub-regional Consultative Meeting Myanmar/Thai representatives) participated in this meeting:

Name	Position/Organization	Email Address/ Phone
Mr. Khin Maung Win	DoF, Myanmar	knwfsrddof@gmail.com
Mr. Nyunt Win	Myanmar	Nyuntwin34@gmail.com
Ms. Nilar Kywe	Myanmar	nilarkywe.11@gmail.com
Mr. Myint Shwe	Myanmar	myintshwedof@gmail.com
Mr. Htay Lwin Oo	Myanmar	hlwinoo@gmail.com
Mr. Htay Win	DoF, Myanmar	irnp.dof@gmail.com
Mr. Suwan Pitaksintorn	Senior Scientist, National Parks and Wildlife - Thailand	suwanpita@hotmail.com ; Mobile: 089-511-3300
Mr. Niphon Phongsuwan	Head, Marine and Coastal Biology and Ecology Unit, PMBC, Thailand	nph1959@gmail.com Mobile: 089-472-9863
Ms. Pounthong Onoora	Chief, International Law Group; Fisheries Foreign Affairs Division, DoF Thailand	pounthong2@yahoo.ie ; pom_dof@hotmail.com Tel: (662) 579 7941, (662) 562 0600-15 Ext 1101 Fax: (662) 579 7941
Pirochana Saikliang	Director, Deep Sea Fishery Technology Research and Development Institute	pirochas@hotmail.com ; (662) 940 6146; Fax: (662) 562 0533 Mobile: 08-1843-9887, 08-3540-

	Marine Fisheries Research and Development Bureau, DoF Thailand	7848
Mr. Pongpat Boonshuwong	Marine Fisheries Economic Expert, Kaset-Klang, Bangkok 10900	DoF Chatuchak, Mobile. +66 85 070 6484 Email: boonshuwong@yahoo.com
Mr. Suwit Kochasing	Ranong Provincial Fisheries Office	

Anticipated meeting outcomes

It was agreed that the aims of the first Planning and Management Committee meeting were to:

- Produce a collaborative Thai/Myanmar workplan for Myeik/Mergui Archipelago under the BOBLME program
- Reach agreements on the implementation of activities in the workplan
- Reach agreements on the development of reporting and financial management systems



The Committee aimed to develop a workplan which was:

- For next 3 to 6 months
- Provides an agreement on collaborative action which BOBLME can fund
- Small activities, easy to implement, easy to monitor
- High chance of success
- Get collaboration started, start the development of methods and systems
- Can be continued to be developed and modified (rolling-planning)

Workplan scope and support

In discussions with the BOBLME program coordination staff before the Committee meeting, it was agreed that the program will support a collaborative workplan for the Myeik archipelago over the next 3 to 6 months. It has allocated a framework budget of \$US40,000 to support this collaboration over the first three month period.



It was also discussed that there was a need to clarify/more clearly define the geographic scope of the collaboration. Determining the precise geographic area of the collaboration was seen as an important task during the first stages of this collaboration.

The agreed workplan

Four activities were prioritized for this initial period of collaboration and focus on formalizing the operation of the collaborative management structure (the Planning and Management Committee), developing professional competency at the local level and undertaking resource assessments and consultations to prepare for further activities relating to improved livelihood interventions and information sharing. The agreements are summarized in the table below.

Following the meeting initial budget estimates for two of these activities have been prepared by CORIN-Asia and are included in an Annex of this report.

COLLABORATIVE WORKPLAN OF THE MYEIK/MERGUI ARCHIPELAGO TRANSBOUNDARY PLANNING AND MANAGEMENT COMMITTEE

March 2012

The details in the table below represent agreements reached at the first meeting of the Myeik/Mergui Archipelago Transboundary Planning and Management Committee organized during the Sub-regional Consultative Workshop of the Northern Andaman Sea (Thailand and Myanmar) 13-14 March 2012, Bangkok, Thailand. The workplan is considered a *first draft* and will be refined and developed over the next few months as further consultations and discussions are organized with Myanmar and Thai stakeholders. Four activities were prioritized for this initial period of collaboration and focus on formalizing the operation of the collaborative management structure (the Planning and Management Committee), developing professional competency at the local level and undertaking resource assessments and consultations to prepare for further activities relating to improved livelihood interventions and information sharing.

Activity name and code	Description	Objective	Scheduling	Responsibility/Activity Team	Support required/Notes	Budget details
Formalize Planning and Management Committee (ACT 1001)	The collaborative management structure proposed by CORIN-Asia has been agreed to in principle by both Myanmar and Thailand. This activity will now formalize the status of the P&M Committee within each country. Formalize representation to the committee (which agencies will be represented in the Committee)	Institutionalize existing agreements on the Collaborative Management Structure within the governments of Myanmar and Thailand	14/3/12 – 14/4/12	National Coordinators, Rudi	The process of formalization will be initiated by a letter from BOBLME program office to each of the relevant agencies in each country. Rudi will liaise with the BOBLME National Coordinator in each country to establish who should receive letters. CORIN-Asia will assist with contact details In the Thai context it will also be necessary to consult with Thai Regional Border Committee (CORIN-Asia will assist in establishing a dialogue)	No additional budget required for this
Seagrass and coral training (ACT 1002)	Organize a professional capacity development course in seagrass and coral assessment.	Develop local capacity to undertake resource assessments	Oct 12 (will fit with plans for resources assessments in Nov 12)	Myanmar resource person from Myeik and Mol. Universities. Marine lab in Phuket. Anchana and Nippon.	Organize at Myeik University for 12 Myanmar and 3 Thai government officers who have a professional responsibility to undertake marine resource assessments for seagrass and coral resources. Most of participants will be government officers from the local level. They will need to have a basic educational background in science (e.g.	Travel for Myanmar participants about \$1,500. Additional budget estimates for this activity will be prepared by

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					BSc), but English language proficiency will not be essential (will arrange for translators) Training course will include field work and field visits. Participants should be people who will be able to then carry on working with the BOBLME project and use their improved professional competency to undertake seagrass and coral assessments. CORIN-Asia will develop draft budget for this activity.	CORIN-Asia
Catch certificate workshop (ACT 1003)	Organize a workshop to share experiences on Catch Certificate issuing and processing and develop a joint plan of action for developing a complementary system at the local level in each country	Initiate a process which will assist Myanmar to devolve the process of issuing Catch Certificates to the local level and share information on Catch certificate more easily	Sept 12 (Jun/Jul/Aug is closed fishing season)		Need to develop a better joint understanding on the international regulations related to the issuing of Catch Certificates. Need to develop a more thorough understanding on the issuing process and international regulations on this issue. Training is required for local government officers to issue certificates and there also needs to be a program of awareness raising among fishermen and other stakeholders. Workshop to be held in Andaman Club island (accessible to both sides)	Budget proposals for this Activity will be developed by CORIN-Asia
Seagrass and Coral resource assessment (ACT 1004)	Using the knowledge and skills acquired during the seagrass and coral professional training course (ACT 1002), undertake an assessment of seagrass and coral resources in a selected area of the Myeik Archipelago.	Develop a better shared understanding of seagrass and coral resources for more sustainable management and improving the livelihoods of poor and vulnerable groups	Nov/Dec 12	Team composition for the resources assessments will be determined at the Seagrass and Coral professional training course (ACT 1002)	In accordance with BOBLME objectives and discussions at the Phuket workshop (Jan 2011), the assessment should focus on making assessments for these resources in order to develop improved livelihood strategies for poor people.	Budget estimate details will be developed by CORIN-Asia

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Information system development – types of information required

Although there was insufficient time to discuss the development of information systems to support transboundary collaboration, some examples for the types of information that would be required were presented by CORIN-Asia.

- What has been done?
 - E.g. *We organized a training workshop for 20 people from local government agencies in Myanmar and Thailand who learned about seagrass conservation and management. There were some problems in arranging visas in time for all participants.*
- What has been achieved?
 - E.g. *Improved professional capacity to manage existing seagrass areas; improved knowledge of seagrass biology and ecology; closer working relationship at local level.*
- How much was spent?
 - E.g. *We allocated \$5,000 to this activity, but only spent \$4,800 as travel costs were less than we estimated*

Reporting system key characteristics

The key characteristics or attributes of a supporting information system were also presented and these will be further explored during future meetings of the Planning and Management Committee.

Collaborative workplan reporting systems should be:

- Useful for both countries and BOBLME
- Generates information when and where it is needed
- Simple to use, easy to understand (suitable for local level)
- Captures most important information (not *everything*)
- Captures unexpected results (often most important information)
- Helps develop future plans, modify methods

Characteristics of a good financial management system

- Activity-based budgeting to assist management (estimates and expenditure)
- One standard system that is useful to both countries and BOBLME
- Procedures and guidelines available in local languages and appropriate to local staff (assist and encourage participation).
- A system of checking and auditing required.

Agreed follow-up

The following immediate follow-up action was agreed:

- CORIN-Asia will circulate a copy of the workplan to each of the meeting participants.
- BOBLME coordination staff and CORIN-Asia will make arrangements for follow-up to further develop the details of the agreed activities and arrangements for implementation.

Following the meeting initial budget estimates for two of the agreed activities have been prepared by CORIN-Asia and included as an Annex to this report.

GROUP 1: CRITICAL HABITAT MANAGEMENT

IDENTIFICATION OF IMPORTANT HABITATS

Important habitats should cover **sea grasses, coral reefs, mangroves, and spawning grounds**. In addition, consideration should also be given to endangered species living in particular habitat habitats.

CURRENT SITUATION/STATUS

Thailand

- Mapping exercise has been undertaken for sea grasses, coral reefs and mangroves

Myanmar

- Myanmar has mapped sea grasses in Lumpi Island (marked as National Park, but there are small communities, e.g. sea morgan living in the area). Dugongs could be occasionally observed in the area; however, there is no scientific monitoring program for sea grass habitats or dugongs in the area.
- There are also other small islands, e.g. Palau Buda Island and Park Island, which are important habitats, also as spawning ground for pearls and oysters.
- DOF Myanmar has undertaken some researches on existing habitats, but mainly focused on data collection, not scientific study. There is also no information on the condition of habitats, or whether the habitat is critical or not.
- Threats to habitats include: land reclamation, degradation of seawater quality. In addition, there is also plan for construction of deep-sea port in Tawai, Myanmar (10-year project).
- Recently, the habitats near Lumpi Island was also affected by irresponsible fishery activities particularly explosive mining. Thus Myanmar had started to undertake stringent measures to prohibit the practices. There are also establishment of no-fishing zone, e.g. within 10 nautical miles from Palau Buda Island (near Lumpi Island: 10 nautical miles, no fishing allowed, outside 10 nautical miles, medium scale fishing vessels (trawler and purse seiners) are allowed.

IDENTIFICATION OF STUDY SITES

Myanmar

(for all Types of Habitats)

- West coast of Lumpi Island was identified as important habitat for seagrass areas, coral reefs, mangroves, and spawning grounds. However, as there have already been many projects implemented activities in the areas (e.g. Flora and Fauna International (FFI), etc.), activities should therefore focus in other small islands, e.g. **Palau Buda Island**. However, note should be taken that community is not allowed to live in the area (no utilization and no threats to habitats).
- **Russell Island** – community is not allowed to live in the areas, but there are gold mining activities (controlled by Navy). There could be impact from gold mining activities to the habitats.

Thailand

(Sea grasses)

- Kuraburi District, Phang-nga Province

(Coral reefs)

- Surin Island (already established as National Park). The area used to be very productive, but the past few years have been big changes due to coral bleaching.

(Wetland)

- Mangrove areas in Kraburi estuary, Kapoe District of Ranong Province. The habitat located in the river month, which is important transboundary habitat for Thailand and Myanmar.

(Others with mixing types of habitats)

- Koh Payam
- Laem-son National Park (Including Koh Kam)

IDENTIFICATION OF ACTIVITIES

Myanmar

- Assessment of habitats (for coral reefs, sea grasses, and mangroves)
- Capacity building activities. Relevant agencies/initiatives that have expertise should be mobilized to provide expertise to support the undertaking of assessment activities.
- **Socio-economic assessment** could also be conducted to investigate whether who involves in usage of resources (should select the site with community living in the area for this activity),

Thailand

- Study on extent and impacts from coral bleaching (especially for Laem-son National Park). Study could also be extended to the connectivity of coral reefs habitat between Thailand and Myanmar, and comparing the extent of coral bleaching in nearby areas in Myanmar.

Others:

- Sharing of information on best practices for marine resources monitoring and management of ecosystem (in Surin Island) and joint management practices for utilization of marine resources (in Laem-son National Park) from Thailand to Myanmar

RELEVANT STAKEHOLDERS

Myanmar:

- DOF (there is no MPA-related agency), and other stakeholders, e.g. NGOs (e.g. CORIN Asia Myanmar, Marine Science Association of Myanmar), universities (Marine Science Department, Myeik University)

Thailand

- DMCR, DNP, PMBC, Ranong Mangrove Research Center, KU, PSU, local communities, NGOs (IUCN)

TIMEFRAME: 1 YEAR

Myanmar:

- ***Training (within 3 months)***
 - o Training to be conducted in Thailand, for 15 participants: 12 from Myanmar and 3 from Thailand. Participants should have basic skills to undertake further assessment activities, e.g. diving, doing research, etc.
 - o Training could be separated into 2 sessions: 1) on survey techniques for various habitats; and 2) taxonomy, e.g. on fish larvae collection/identification.
 - o Training may also integrate socio-economic aspects in ecosystem valuation.
 - o Existing courses (e.g. if SEAFDEC organize course on larvae identification, PMBC on coral), these should be mobilized to provide training, with BOBLME providing support to participants from Myanmar to the courses. There is also a training on Marine Resources Monitoring scheduled to be conducted in May 2012 in Thailand.
- ***Habitat assessment and Rapid Survey***
 - o Survey (1-week in November-December) (by participants that attend in the training courses)

- Rapid assessment (5-6 months)
- **Report Preparation (by 1 year)**
 - Report from habitat assessment/survey: elaborating the status of habitats, whether the habitats are critical or not, and recommendation for improving management, and submit the report to management committee

Thailand:

- Activities would focus mainly on review of available information, and more research activities in parallel with survey undertaken in Myanmar.

FOCAL POINTS/COORDINATORS

Myanmar:

Officer(s) to be nominated as focal point should be able to work throughout the 1-year cycle.

Officers of Department of Fisheries, relevant NGOs, University, and Navy (if possible; or otherwise, Navy should be informed on the activities).

CRITICAL HABITAT MANAGEMENT

Work plan (1 year timeframe)

- 1) Capacity building on (first 3 months Now-October 2012)
 - 1.1) survey techniques for coral and seagrass(Nippon/ for coral, Anchana/ for seagrass)
 - 1.2) taxonomy of coral and seagrass(Nippon/ Anchana, MANGOVE, fish larvae, endangered species-dugong, shark, socio-economic)
- 2) Habitat assessments at Palua Buda Island (November 2012 onwards)
- 3) Rapid assessments to update current status (November 2012-April 2013)

(both Myanmar and Thailand at suggested sites: Palua Buda Island, Russell Island, Kuraburi District, Surin Island, Kraburi estuary, LohPayam, Leam-Son National Park)- [Discuss the results with working groups](#)
- 4) Finalize the Report to assess the status of those areas, any possible projects both on research and management and proposed to [the Planning and Management Committee](#) (By May 2013)

Annex 13

Group 2: Transboundary Stock Management

Status of available knowledge on transboundary migration of *Rastelliger* spp. and related species

Thailand

- Some scientific data on spawning areas of *Rastelliger* spp. Are available however, the data do not complete especially on transboundary stock between Thailand and Myanmar (>20 yrs)
 - ✓ Status of the stock 1) between TH and MM, 2) Phang-nga bay, 3) Satun-Langawi (however the stock no. 2 and 3 may be same population?)
- Almost 100% of the landings in Ranong and northern part of Phang-nga province came from MM waters based on larger size of fish. This is based on observation and local knowledge without scientific data support.
- On-going SEAFDEC regional project on tagging of mackerel *R. brachysoma* and *R. kanagurta* in Andaman sea and genetic study on *R. kanagurta* (the study also includes Myanmar)
- TH is successful breeding and rearing of *R. brachysoma*

Lacking data

Thailand

- No study/information on important of MPA to mackerel fish (the available data at DOF only covered area outside MPA) so there is a need to conduct study on the important MPA to mackerel
- Insufficient information on migratory route of these species.

Available knowledge/data

Myanmar

- Different gears for coastal and off-shore fisheries
- Existing data collecting from commercial fishing vessels e.g.
 - fishing season for mackerel in Sep-Jan
- The main economic fish for MM are 1) Hilsa, 2) white pomphlet, etc. which mackerel is also important
- There is one MPA established in MM
- INGO is supporting MPA (general purpose to conserve coastal resources) which will be expand to cover larger area
- Department of Forestry is responsible for MPA and mangrove area
- Department of Fisheries is responsible for coral and other marine habitats
- Flora and Fauna International (FFI) has photo of critical habitat shown that the country has good habitat in the continental shelf

Dawei – Thayat Chaung ,Shin Maw, Laung Lon boat kyun,Heinze boat kyun

Size	Palatu / Pa lar lan : 15 - 20 cm
Weight	75 – 150 g
Gears (Inshore)	Small Purse Seine net , drift net, gill net
Gears (off shore)	Purse Seine net
Fishing Season	Sept, Oct , Nov,Dec,Jan
Net/kg/day	Drift net 16-40 kg
Net/kg/day	Surrounding 20-30 kg
Net/ kg/day	Purse Seine (Wadan) 600-1000 kg

Myeik – Ma li ,Kyun Hla ,Kaw dway in Pu Law TS & Don kyun , Pyin sa bu Kyun in Kyun Su TS. Sular Khamont,East Sular, West Sula

Size	Palatu : 7 - 8 Nos/kg Pa lar lan : 4-5 Nos/kg
Weight	
Gears	Purse Seine net , drift net
Fishing Season	Sept to Dec
1 FV/day(In shore)	48 Kg
1FV/day (in shore)	70% of total catch
1FV/ day (off shore)	70% of total catch
1FV/ day (off shore)	2% of total catch
1FV/ day (off shore)	20% of total catch

Kow Thaug – Sin Kyun ,Aleman, Pearl ,kho Kyun, Aung Bar& Nyaung Wee

Size	Palatu : 9.0 cm -17.5 cm Pa lar lan : 9 cm - 15 cm
Weight	50 – 100 g
Gears	Surrounding net , gill net
Fishing Season	Sept, Oct , Nov
1 FV/month	800-1000 Kg

Lacking data

Myanmar

- No scientific information on biological, migration route, stock status of short mackerel and Indian mackerel

Lack/Requirements for Collaborative Work

- Species identification especially at juvenile stage
 - The range and morphology is different for these species so morphology and genetic (DNA) studies are required
- Species identification especially at adult stage
 - Two of these three dominant species *R. kanagurta*, *R. brachysoma*, and *R. faughni* normally difficult to distinguish
- Unit stock identification
 - Genetic study is required
 - study on fleet fishing area (which follow fish school)
- Since SEAFDEC have been supported the tagging program and stock assessment (BOBLME) should be continued

Lack/Requirements for Collaborative Work (2)

- The group also suggested to include spawning ground and spawning season which related on fish larvae should be studied
- The project proposal on oceanography together with other activities such as fisher livelihood should be developed
- Capacity building
 - Stock assessment
 - Fish larvae study
 - Genetic and morphology studies
- Standardize port sampling scheme in MM and TH
- Monitoring on the changes of ecosystem which affected to mackerel species should be conducted

Activities	Timelines (start-end)	Responsible agencies
1. Working group/sub-regional WG set up - Using BOBLME existing Mackerel WG to form this Sub-regional WG	Mar-Jun 2012 (within three months)	3 person from DOF-MM and DOF-TH (Donor: BOBLME and SEAFDEC/Sida)
2. Sub-regional Meeting for Northern Andaman Sea would follow the BOBLME program meeting - Review Northern Andaman Sub-regional status - Review Northern Andaman Sub-regional status on local wisdom/knowledge	April 2012	- DOF-MM and DOF-TH (Donor: BOBLME and SEAFDEC/Sida)
	After Apr 2012 By one year after Apr 2012	- Sub-regional WG - Sub-regional WG
3. Proposal preparation - TH and MM already submitted the proposal on genetic study, larvae and oceanography survey, fisher livelihood in Myeik Archipelago - Capacity building on stock assessment for Indian Mackerel are now preparing - Capacity building on fish larvae identification	Feb 2011 (done) within six months (from Mar 2012) within six months (from Mar 2012)	Joint proposal between DOF-TH and DOF-MM Sub-regional WG Sub-regional WG

Activities	Timelines (start-end)	Responsible agencies
4. Survey planning and preliminary survey (marine biodiversity and fish landing) -TH has regular port sampling survey -MM to standardize the port sampling at Kaw Thaug and Myeik by adopting TH's methodology (focusing on economically species) -Time series monitoring/study on changes on EAF component (targeted species, by catch – associated species, ETP, habitat, governance)	Jun 2012	Sub-regional WG
	The 1 st study: Apr 2013	Sub-regional WG
6. Meeting on the survey results and resource mapping	Sep 2012	Sub-regional WG
7. Training (study protocol)		
8. Awareness building (poster etc.) - Under "Tagging program" to develop poster and relevant media for public - Poster on the sub-region activities	Jun 2012	Sub-regional WG
	Jun 2012	Sub-regional WG

Member of the Sub-regional WG

Thailand	Myanmar
1. Mr. Montri Sumontha, Fisheries Biologist, DOF	The same persons as BOBLME existing Mackerel WG from Myanmar
2. Representative from the Provincial Fisheries Office	
3. Representative from the Andaman Marine Fisheries Management and Administration	

Priority actions for establishment of larger management conservation area (transboundary)

Existing MPA

- Marine National Park in Ranong, Thailand
- Shark Conservation Area in Myanmar
- Closed area and season (Jun-Aug) for all fishing gears will be implemented in Myanmar starting 2012

Future specific conservation area/MPA

- Depends on the study results e.g. seagrass bed as a protected area
- Report on the results to higher authorities (the proposed *refugia*/closed area/gear restricted area etc. would be discussed later on...)

Annex 14

Group 3 & 4: Management of Capacity

Lack/Requirements for Collaborative Work

- Facilitate the process on catch certification between Thailand and Myanmar e.g. simple catch certificate procedure
- Inadequate of understanding on the important of information report by catch
- Inadequate of information sharing between Myanmar and Thailand

Activities, Timelines, Responsible agencies		
Activities	Timelines (start-end)	Responsible agencies
1. Encourage information sharing e.g. catch data at species level	1 year	DOF
2. Establishment of working group/ focal point between Thailand and Myanmar at provincial/local level	1 year	Relevant agencies
3. Enhance catch certificate procedure between Thailand and Myanmar (simple process to issue catch certificate)	3 months	Relevant agencies

Activities	Timelines (start-end)	Responsible agencies
4. Encourage awareness on relevant issues: - Vessel registration - VMS - Fishing gear method	1 time/month	Relevant agencies
5. Follow-up activities through meeting/consultation	Once a year	Relevant agencies