

**Report of the Third Sub-regional Consultative Workshop of the
Northern Andaman Sea/Myeik Archipelago**

Bangkok, Thailand

16-17 November 2017



**THE SECRETARIAT
SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER**

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REPORT ON THE THIRD SUB-REGIONAL CONSULTATIVE WORKSHOP OF THE NORTHERN ANDAMAN SEA/MYEIK ARCHIPELAGO

16-17 November 2017

Bangkok, Thailand

I. Opening of the Workshop

1. The Third Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago between Thailand and Myanmar was held in Bangkok, Thailand from 16 to 17 November 2017. The Workshop was attended by representatives from relevant agencies of Thailand and Myanmar, SEAFDEC/Secretariat and Training Departments and members of the Regional Fisheries Policy Network (RFPN). The list of participants appears as **Annex 1**.

2. *Dr. Chumnarn Pongsri*, Deputy Director-General of Department of Fisheries (DoF) Thailand, *Mr. Khin Maung Maw*, Director-General of Department of Fisheries (DoF) Myanmar and the Secretary-General of SEAFDEC, *Dr. Kom Silapajarn* welcomed the participants to the Workshop. Their remarks can be found in **Annex 2** respectively. After the Opening Session, *Dr. Kom Silapajarn*, *Dr. Chumnarn Pongsri* and *Mr. Khin Maung Maw* were invited to serve as co-chairs of the Workshop.

II. Background and Objectives of the Workshop and Adoption of the Agenda

3. *Ms. Pattaratjit Kaewnuratchadasorn*, SEAFDEC-Sweden Project Manager, provided a brief background to the Workshop taking into account on the present challenges that still exist in the Northern and Southern Andaman Sea such as depletion of fisheries resources, destruction of marine habitats caused by human activities, uncontrolled and destructive fishing, and changes of seasonal monsoon pattern where during the past years, the SEAFDEC-Sweden project and several project had been progress so far focused on the integration of fisheries and habitat management and the management of fishing capacity. She then presented the objectives and expected outputs of the Workshop as detailed in **Annex 3**.

4. The Meeting adopted the Agenda, which appears as **Annex 4**.

III. Review on Priorities and Recommendations from the Previous Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago

5. *Ms. Pattaratjit* presented the review on priorities and recommendations from the previous Sub-regional consultative workshop for the Northern Andaman Sea. She also updated the Workshop on the recommendations of the third Andaman Sea Meeting with Thailand, Myanmar, Malaysia and Indonesia in 2016.

6. While congratulating Thailand and Myanmar on the signed MoU on Fishery Cooperation between two countries, where it allows to further developing activities for the transboundary cooperation, *Ms. Pattaratjit* informed the participants that take this as opportunity for Thailand and Myanmar to continue discussions on mutual cooperation between the two countries on fishing capacity and on establishing Monitoring, Control and Surveillance (MCS) networks to combat IUU fishing. Her presentation appears as **Annex 5**.

IV. Development of Activities under the MoU between Thailand and Myanmar on Fisheries Cooperation with an aim to Combating IUU Fishing and Illegal Trade; Improvement of Coordination on Fisheries and Transboundary Fisheries Management; Enhancement of Cooperation and Coordination within the Relevant International and Regional Organizations

4.1 Myanmar

7. *Dr. Aung Naing Oo*, Deputy Director of DoF Myanmar, presented the development of fisheries cooperation under the signed MoU in 2016 between Thailand and Myanmar. The main areas of cooperation at present are combating IUU Fishing and illegal fisheries trade, implementation of port state measures, strengthened coordination on trans-boundary fisheries management, promotion of fisheries trade, coordination on fisheries and aquaculture research, and enhanced cooperation and coordination with relevant international and regional organizations.

8. While acknowledging the Joint Working Group (JWG) is established to implement the provisions of the MoU, he informed the progress in response to aquaculture cooperation, there is a project on refurbishing the shrimp hatchery and laboratory in Sittwe. There are also activities to promote shrimp aquaculture in the Sittwe area as well as a joint research project on aquaculture technique development. (Butter Catfish Breeding and Farming Technology with support from Thailand International Cooperation Agency (TICA) and Japan International Cooperation Agency (JICA) and DoF Thailand).

9. He also added that the JWG has discussed how the procedures related to the import of fish and fishery products from Myanmar to Thailand could be strengthened to control trade of illegal fisheries products and to eliminate the risk of IUU products to enter the market chain. An already identified issue is the need to improve the catch documentation system in Myanmar. However, to do this the capacity of workforce in Myanmar need to be increased. The JWG has also discussed the possibility to facilitate the procedures for small fishing vessels from Myanmar by considering reducing and simplifying the required catch documents. Presently, Myanmar small-scale catches can only be landed in Thailand by being transshipped on larger vessels that transport the catch to Thailand. His presentation appears as **Annex 6**.

4.2 Thailand

10. *Ms. Panawon Awaiwanont*, Department of Fisheries (DoF) of Thailand, presented the Development of Activities under MoU on Fisheries Cooperation between Thailand and Myanmar. The purpose of the JWG for Thailand was to promote technology and information transfer, trade, training, scientific and technical cooperation and law enforcement in the field of fisheries between the countries. Thailand confirmed that two countries had initiated cooperation on refurbishing the shrimp hatchery and laboratory in Sittwe and the promotion of shrimp aquaculture in the nearby area. They have also initiated a joint research project on aquaculture technique development on giant butter catfish (*Silonia silondia*) and hilsa (*Tenualosa toli*) and confirmed the cooperation on MCS and regulations for fish trade and export of fish products to Thailand. Her presentation appears as **Annex 7**.

V. Update on Available Information and Status of Transboundary Stocks (Mackerels, Hilsa and Neritic Tuna) and Habitats (mangroves and corals) together with Steps Taken to Facilitate Development Joint/Coordinated Plans for the Integration of Fisheries and Habitat Management

5.1 Myanmar

11. *Mr. Nyunt Win*, Deputy Director of DoF of Myanmar, presented the status of transboundary stocks (mackerels, hilsa and Neritic Tuna) and their habitats. A sequence of Meetings had been organized since 2009 to bilaterally discuss options for joint management of the fisheries on migratory species and the conservation of important habitats in transboundary waters of Myanmar and Thailand. Furthermore, aspects on sub-regional cooperation has also been discussed at Andaman Sea meetings with the latest, the Third Andaman Sea meeting held in 2016.

12. 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 mackerels, hilsa and related species. Together with conservation measures for the protection of important habitats in the Northern Andaman Sea a larger “fisheries resources conservation area” could be developed that could possibly expand as far as from the Myeik Archipelago, Myanmar, and into Thai waters north of Phuket (based on indicated migration path for mackerels and related species).

13. Myanmar DoF wanted to share information on the progress of the implementation of the MoU on transboundary fisheries management and to provide suggested directions on priority transboundary thematic areas and action points. These could then be considered by the two countries in further developing the MoU implementation and activity plan as well as to seek coordination with national and regional partners (SEAFDEC, FAO, IUCN/MFF, etc.) in support of the implementation of the MoU and agreed work plans.

14. Pelagic fishes are being exploited in Myanmar by shallow-water purse seines, encircling gillnets, lift nets, surrounding nets and bottom trawls. The catches of Indian mackerel, *Rastrelliger kanagurta* in Myeik, Tanintharyi Division are fluctuating over the years and peaked in 2012-2013 and decreased in 2015-2016. For Neritic tunas in Ayeyarwaddy, Rakhine, Tanintharyi and Mon States, the catches had been more stable in the period 2010 to 2014. According to results from research conducted by the Norwegian marine research vessel R.V. Dr. Fridtjof Nansen, it is estimated that most (90%) of Myanmar’s fishery resources are declining. The Department of Fisheries of Myanmar has in 2016 started to implement restrictions on the number of fishing vessels and types fishing gears. His presentation appears as **Annex 8**.

5.2 Thailand

15. *Mr. Montri Sumontha*, representative from DoF Thailand, presented the Fisheries Status of Indian mackerel, *Rastrelliger kanagurta* (Cuvier 1816) along the Andaman Sea Coast of Thailand. Indian mackerel is also the one of the major target species along the Andaman Sea coast of Thailand mainly caught by purse seine (74 %). The peak fishing season for Indian mackerel is in the Northeast monsoon season (October-March) at a depth between 40-100 m. and the main landing ports of the Indian mackerel are in Ranong, Phang-Nga, Phuket, Krabi, Trang and Satun. The catches are well recorded with most biological parameters well understood. They spawn during December-March and August-September. Stocks are presently overfishing at 30 percent above MSY. His presentation appears as **Annex 9**.

5.3 SEAFDEC

- Progress on Neritic Tuna Management

16. *Dr. Somboon Siriraksophon*, Policy and Program Coordinator of SEAFDEC, presented on the Progress of Regional Plan of Action on Sustainable Utilization of Neritic Tuna (RPOA-Neritic Tuna). The Scientific Working Group (SWG)-Neritic Tunas has assessed the stock status of longtail tuna and kawakawa. Both species were found to be slightly overfished in the Andaman Sea. The SWG-Neritic Tuna have therefore suggested to decrease the fishing pressure on these two species. Furthermore, he made reference to efforts made to facilitate fish trade between Myanmar and Thailand. In this connection, he provided an update on the ASEAN Catch Documentations Schemes (ACDS) as an important tool to facilitate trade by having compatible schemes used in both countries. His presentation appears as **Annex 10**.

- Development of Transboundary Resources Management Plans for Mackerel

17. *Dr. Worawit Wanchana*, Assistant Policy and Program Coordinator of SEAFDEC presented on Development of Transboundary Resources Management Plans for Mackerel in Gulf of Thailand. The presentation was made to provide a reference for Myanmar and Thailand in their ambitions to work out joint management plans as Anchovy and Mackerels are also an Andaman priority. Similarly, anchovy, Indo-Pacific mackerel and blue swimming crab (AIB) have been selected during a series of consultations in 2015, for their economic importance especially for coastal communities. In order to better understand the stock structure of the Indo-Pacific mackerel in the Gulf of Thailand, a DNA study has been initiated that is planned to be finalized by May 2018. If successful similar study could be done for the Andaman Sea for the results to form a valuable input to ongoing efforts to manage Mackerels and related species. His presentation appears in **Annex 11**.

VI. Updated Information on Efforts in Promotion of more Effective Management of Fishing Capacity, Build Coordination on MCS and to Reduce Illegal and Destructive (combat IUU) Fishing in the North Andaman Sea

6.1 Recent Developments with regards to Laws and Regulation in Support of Managing Fishing Capacity and to Combat Illegal Fishing (including designation of ports/landing sites available to neighboring vessels) in the Northern Andaman Sea

- Myanmar

18. *Ms. Nilar Kywe*, Deputy Director of DoF Myanmar presented latest update information on Efforts in Promotion of more Effective Management of Fishing Capacity, to Build Coordination on MCS and to Reduce IUU Fishing in the North Andaman Sea.

19. DoF Myanmar has launched a One Stop Service (OSS) with various agencies as members including the DoF Myanmar, Department of Marine Administration and Customs Department, police, immigration, and port authority. The OSS handles issues related to port-in port-out inspections, issuance of sailing order, and instruction on how to proceed to landing sites for offshore and foreign fishing vessels. DoF Myanmar is presently actively sharing information to fishermen on the rules and regulations of DoF Myanmar and to improve safety at sea together other efforts to improve the monitoring and control of fishing capacity in Myanmar (gradual introduction of Vessel Monitoring System (VMS)). Information has also been provided on the conservation of natural resources and the release of endangered species (accidentally being caught). MCS training courses has already been conducted with support from Food and Agriculture Organization (FAO).

20. The participant from Myanmar stressed the importance of introduction and implementing the eACDS. This would be instrumental in improving the effectiveness of information collection and data management. She emphasized the need to share data on vessel registration and licensing schemes together with information from the Monitoring, Control and Surveillance (MCS) networks between Myanmar and Thailand and among the Andaman Sea Countries to strengthen management and control of fisheries effort. Her presentation appears in **Annex 12**.

- **Thailand**

21. *Ms. Doungporn na Pombejra*, DoF Thailand, presented the General Outline for the Fisheries Control and Surveillance in Thailand. The main purpose of the review of this system during the last two years has been to develop a better framework for the regulation of fishing capacity and to eliminate IUU as well as to improve the management of the fisheries resources through control of fishing effort. Thailand has developed a system to regulate the number of fishing days that is allowed for each vessel in order to limit capacity. It is based on the scientific estimate of the MSY where they aim to keep fishing pressure at not more than 90 percent of MSY. They also have a limitation of number of new registered fishing vessels. Thailand has developed their PIPO (Port in Port out) system, especially for trawler, purse seiner and anchovy purse seiner. The vessels more than or equal 30 (≥ 30) GT must use a VMS monitoring system. Her presentation appears as **Annex 13**.

6.2 Status and Cooperation on Monitoring, Control and Surveillance Systems including Systems for Information Sharing among Designated Agencies

- **Myanmar**

22. Myanmar is presently setting-up a specific MCS unit as part of the implementation for National Plan of Action-IUU. They are also developing systems for regular survey and research to improve data collection. Upon further installations of VMS they plan to establish a VMS control center. Challenges include insufficient budget allocation and the organizational structure of involved departments. On the fisheries side, challenges include “incompliance” in using logbooks as well as problems with large vessels licensed to inshore fishing.

23. Myanmar has in line with the MoU between Thailand and Myanmar, initiated information sharing with Thailand. They are promoting information-sharing among ASEAN Member Countries such as the ASEAN Regional Fishing Vessel Record (RFVR) (initiated by SEAFDEC). Myanmar still need to improve their electronic database, especially to be able to continue implementation of Port State Measures Agreement (PSMA).

24. To facilitate monitoring of exports of landed fish between Myanmar and Thailand the participants agreed that the export documents (movement documents) should be revised by including references in English. On request from Myanmar, Thailand agreed to provide monthly reports on Myanmar carrier vessels that have landed fish in Thailand. Myanmar agreed to provide a list of the carrier vessel that had been carrying fish products during 2016 and 2017. Thailand noted that the Catch Certificates issued by the DoF, Myanmar, was approved by the European Union (EU). It was also noted that the fish catch and fish species information obtained from each Myanmar flagged fishing vessels was collected in a specific database. Both sides agreed on the importance of having training provided to responsible personnel in order to ensure that the systems in place was effectively implemented, to improve traceability and to reduce trade on illegally fished products.

6.3 SEAFDEC Initiatives in Support of Managing Fishing Capacity and to Combat Illegal Fishing

25. *Dr. Somboon Siriraksophon*, Policy and Program Coordinator of SEAFDEC presented the Regional Plan of Action for Management of Fishing Capacity (RPOA-Fishing Capacity) and explained the background and need for a Plan of Action to improve regional cooperation on the management of fishing capacity and the control of fishing effort to reduce overfishing and destructive fisheries in Southeast Asian Region. The development of RPOA-Fishing Capacity was initiated in cooperation with Department of Fisheries Malaysia and endorsed by the SEAFDEC Council. The objective of the RPOA-Fishing Capacity is to be a guidance for management in the ASEAN region and enhance cooperation on effective joint regional and sub-regional fisheries management. RPOA-Fishing Capacity also serves as a reference for the development of NPOA-Fishing Capacity and coordination between developed national plans. His presentation appears as **Annex 14**.

VII. Efforts made to Strengthen Local Capacity (among local administrations and coastal communities) in Border Provinces/areas with an aim to Strengthen Institutional Capacity and to Enhance Communities' Management Capacity, Resilience and Capacity to Adapt to Change (climate change, social change, change in livelihood opportunities, gender)

- CORIN-ASIA Myanmar

26. *Mr. Win Naing*, Director of CORIN-Asia Myanmar, gave a presentation on the Progress of Activities and Surveys Implemented in Pu Lone Tone Tone Village, Kaw Thauung, Myanmar (with support provided from the SEAFDEC-Sweden Project). The main livelihoods of local people in the village are fisheries, charcoal production from mangroves and rubber plantation. There are about 500 small fishing boats in the village. The local mangrove forest are reduced and there is a need to restore the mangrove forest and reestablish fish habitats and coastal protection. The fishing communities are interested in initiating a crab bank after gaining knowledge from the case study in Thailand. CORIN-Asia, Myanmar have provided capacity-building for local departments and community-members.

27. In a follow-up to earlier presentations on Neritic tuna *Mr. Naing* updated on a little known fact in that the Neritic tuna is also an economically important specie in Myanmar and exploited by purse seine and long line. The main fishing ground is in Rakhine State (Gwa) but the technology and landing site are still poorly developed. His presentation appears in **Annex 15**.

28. *Dr. Chumnarn Pongsri*, suggested that Myanmar and Thailand should seek to develop joint activities on issues such as optimizing methods for crab bank development.

- Human Dimension and Social Development: Community Baselines on Social Aspects and Gender

29. *Ms. Thanyalak Suasi*, the Fisheries Management Section Head, proposed a Study on the Social Profile of Livelihood Opportunities along the Value Chain while Integrating a Gender Profiling the Study. The study will provide social oriented and gender related baseline data and information support of addressing social aspect and gender equity in community-development in Pu Lone Tone Tone village, Kaw Thauung Myanmar. The target area is the same as the one for CORIN-Asia, Myanmar and they would help to facilitate contacts for the study in the area. The aim is to have the work started in January by establishing a working team from Myanmar and conduct data collection in collaboration with the SEAFDEC team. The results will be discussed with the fishing community before the preparation of the report. Her presentation appears as **Annex 16**.

30. Concern were raised in that the team should be more clear on the scope and objective and actual be able to, prior, to start work in the area have a clear picture on what they expect to see and include. Including defining “market” or “markets” (fish market, wet market, markets for household items, clothing, etc.- including market for working opportunities, etc. all of which are important to the community-with a gender perspective), “value chain”-including the geographical scope of the area to cover, The value chain and market opportunities goes beyond the village and well across the border into Thailand. This should be clear and documented by the team at the onset. Furthermore, the study is complex and should be kept simple and questions (rather than long questionnaires) should reflect this.

VIII. Group Discussion

31. The participants were divided in three groups: Group 1 discussed transboundary aquatic resources management; Group 2 discussed monitoring and control of fishing effort; and Group 3 discussed human dimensions and social development. The details of their discussions together with plenary comments and timelines are summarized in **Annex 17**. The main recommendations from the groups are summarized below.

IX. Plenary Discussion on the Joint Activities and Workplan for the Year 2018

- Group 1. Transboundary Aquatic Resources Management

32. *Mr. Thitipon Cheumankong* representative for Thailand presented the output of group one. The group proposed to develop a map of spawning areas based on existing data for mackerel and Neritic tuna. In case there is a need for additional data and these could be obtained in early 2018 to contribute to the map this could be considered. The resulting map should be presented to a high level meeting to consider a process to develop coordinated management plans for the spawning areas. The group proposed a road map for this work consisting of the following parts.

- A) Identification of relevant institutions and key persons in the two countries with knowledge on existing data and spawning ground identification.
- B) Setting up a meeting between these key persons to identify existing data and identify responsible persons to compile these data and develop maps. Identify major data gaps, if any, and if feasible set up a sampling program to alleviate this during the first half of 2018.
- C) Plan for a technical working group meeting based on finding of existing information. Expected that all activities is planned to be finished in 2018.

Group one also indicated that the long term expected output is an agreement of a joint/coordinated management plan for the spawning areas. The management plan would be aligned with the parallel process to establish networks for MCS and the management of fishing effort. The details appear as **Annex17**.

33. In the following discussion, it was made clear that the proposal is in line with the technical implementation and development of the Myanmar-Thailand Working Group set-up under the existing MoU regarding management of fisheries resources for year 2018 and onwards. The Meeting emphasized that it is important also to refer to the results of previous meetings (2010, 2011, 2013 and 2015) of the Northern Andaman and the Andaman Sea that include information on spawning area, spawning season and migration patterns. It was emphasized in the discussion that in collecting available information on mackerels and related species, it is important to include information on migration patterns, as it is the migration across borders that highlights the transboundary nature and the need to cooperate on the protection of spawning areas and important habitats. In case of

additional sampling, if needed to complement available information, it was stressed that the methods should be kept simple but adequate.

34. The Meeting also agreed to further communicate with the Norwegian research team, which has also done some similar research in the agreed sampling areas including possibility to cooperate and synchronize Standard of Procedure in research activities. Furthermore, seek coordination with the fisheries programs supported by Norway and Denmark to avoid duplication and, as practical, be able to provide additional capacity-building for Myanmar staff. Finally, the Meeting was reminded to report this suggested plan (as summarized in **Annex17**) to higher levels in each of the countries and to inform them that this Meeting is in support of cooperation on the implementation of the existing MoU between two countries.

- Group 2. Monitoring and Control Fishing Efforts

35. *Ms. Nilar Kywe* representative for Myanmar presented the output of the group two. A number of issues related to MCS and the management of fishing capacity were discussed including special concerns such as: landing across the border by small scale fishing boat; port clearance for Myanmar carrier vessels; the need to revise the list of documents required for landing in Thailand's port; and compatible standards and systems for vessel marking system (with identifiable vessel name). The group proposed a roadmap for the set-up of a coordination body between the two countries where cross border issues related to M, C and S could be discussed. The coordination body should be connected to existing national initiatives such as the cooperation between navy, DoF, marine police, customs and others on fisheries control. It was proposed that the summary notes of the meeting, including the combined summary matrix (**Annex 17**), should be sent to the fisheries directors together with a letter from SEAFDEC informing on the ambitions expressed by participants in moving towards strengthened bilateral cooperation in line with the MoU between Myanmar and Thailand and in the process seek coordination with regional and national (development) partners.

36. With regards to discussion over port clearance imposed by Thailand's port authority, *Dr. Chumnarn Pongsri* informed the meeting that there was no agreed conclusion on this issue since both countries viewed the issues from different perspectives and standard used (Myanmar being the exporting country and Thailand being the importing one with requirements on documentation to be able to re-export). However, under the MoU between Thailand and Myanmar, he indicated that further discussion on this issue can be encouraged by developing specific working groups according to the needs. Similarly, the SEAFDEC Senior Advisor, *Dr. Magnus Torell* indicated that certification of port clearance and catch documents can, in principle, be done either in Myanmar or in Thailand (Ranong) by following rules prescribed in the Port State Measurement Agreement-based on documented understanding of the two countries on applicable procedures. However, he highlighted that to be effective, review of existing fisheries laws and regulations including shipping and port laws and regulations should also be included in the discussion in such specific working groups. He also underlined that this activity can be linked (as indicated in **Annex17**) with suggestions by group one and done in parallel while still maintaining close coordination between the two countries as well as in seeking advice and suggestion from relevant regional and national organizations and partners (such as FAO, SEAFDEC, ILO and others) as applicable.

- Group 3. Human Dimension and Social Development

37. *Mr. Win Naing* from CORIN-Asia, Myanmar, presented the output from group three. The participants provided a list of suggested areas that could be considered to further

develop research on social aspects; fisheries management; promotion of livelihood opportunities; training to be provided related to safety at sea; capacity building on habitat restoration and resources conservation and enhancement; studies on fishing technology (how to operate and manage); early warning systems in relation to natural hazards and safety at sea; and awareness building (for local administrations) on traditional and local knowledge in relation to fisheries and habitat management. It was noted that SEAFDEC (and BOBLME) had been promoting EAFM and capacity building on EAFM had been organized in December 2015 in Yangon and in July 2016 in Nay Pyi Taw. The group suggested to continue in 2018 with further capacity-building in Ranong, Thailand and Kaw Thauung, Myanmar in collaboration with local and regional partners.

38. In the following discussion, the meeting was reminded that some suggested activities can be categorized as both national and cross border nature. The range of suggested topics also indicate that activities could already be on the agenda and implemented by NGO's, CSO's, research institutions and government agencies (with support from external and internal sources). The meeting suggested that the list of suggested areas of intervention could/should be made available to other institutions and programs such as IUCN/MFF, FFI and others. In addition, it was recommended that development partners supporting fisheries (and people dependent on fisheries) in Myanmar and Thailand such as Norway and Denmark should be met with to inform on suggestions made during the meeting to check relevance with regards to adopted workplans. The details appear as **Annex 17**.

X. Conclusion and Way Forward

39. *Dr. Magnus Torell*, SEAFDEC Senior Advisor, highlighted that a common feature of suggestions provided by the group work, in the presentations and subsequent plenary discussion had a common aim to see the countries (and appointed working groups) to continue dialogues and consultations to develop joint/coordinated fisheries management plans that would align with the parallel processes to establish networks for MCS and the management of fishing effort with the process to develop management recommendation for the conservation and management of important habitats and spawning areas for mackerels and related species. In maps prepared for the management planning and implementation critical areas will be indicated together with migration paths to highlight the trans-boundary nature of target species and fishing activities. The cross-border migration and conservation need of sensitive areas are further coordinate efforts on monitoring, control and enforcement of rules and regulation by authorities in Myanmar and Thailand. The details appear as **Annex 17**.

40. The results of the group discussions together with comments during discussion (and inputs from earlier Meetings) and steps ahead are summarized in the matrix provided in **Annex 18**. In combining and editing the matrix an ambition has been made—as explained to the participants—to see that the matrix is aligned with the process and time lines suggested for the Southern Andaman Sea (and the Gulf of Thailand) to ensure that information collected are compatible (follow similar SOPs and templates).

41. SEAFDEC will as strongly recommended during the meeting, prepare a letter to be sent to the fisheries authorities to seek their confirmation on suggested steps ahead including the confirmation of appointed focal points, working groups and resource persons. In addition, a team from SEAFDEC will visit the two countries to confirm processes ahead. In Myanmar, the team will also visit the Norwegian and Danish fisheries project offices and focal points to inform on suggestion and options to promote bilateral cooperation.

XI. Closing of the Workshop

42. The SEAFDEC Secretary-General, *Dr. Kom Silapajarn*, *Dr. Chumnarn Pongsri*, Deputy Director General of DoF Thailand and *Mr. Khin Maung Maw*, Director General of DoF Myanmar thanked the participants for their active participation during the two-day discussions at this consultative workshop and expressed their appreciation of the constructive discussions and future cooperation.

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OPENING REMARKS

By *Dr. Chumnarn Pongsri*, Deputy Director-General
Department of Fisheries, Thailand

The Secretary-General of SEAFDEC,
Mr. Khin Maung Maw, Director-General of Department of Fisheries, Myanmar
Colleagues, Our guests from CORIN-Asia Myanmar
SEAFDEC, Ladies and Gentlemen.
Good Morning to all of you!

Firstly, I deeply honor to be here with you at the 3rd Sub-region Consultative Workshop of the Northern Andaman Sea Archipelago. On behalf of the Department of Fisheries Thailand, please allows me to express my warmest welcome to all of you and my sincere gratitude to SEAFDEC-Sweden Project for supporting and organizing this meeting.

We are very thankful for continue effort to strengthen the dialogue between Thailand and Myanmar on the Northern Andaman Sea. With the aims to view up on ambition of Myanmar and Thailand with the focus on looking at options to move beyond planning into the actions. This year a remark was progress focused at the main by the two countries.

One of each is establishment of memorandum of understanding on fisheries cooperation signed on February 2017. This MoU intended to strengthen and promote technology to align information transfer to boost train the scientific and technical cooperation and law enforcement of fisheries. During the first meeting of the joint working group under the MoU between Thailand and Myanmar in Bangkok on 5-9 June 2017. Forth signed underline the plans to develop the project on the reconstruction of the shrimp culture demonstration center is situated rank Rakhine State, Myanmar. Any implement the prevention of IUU fishing, rules and regulations of Myanmar from contacts fish product exporting to Thailand. Concerning reconstruction of the shrimp culture demonstration center project and experts team were dispatched by the Thai government to conduct the site assessment in Myanmar earlier this year and brought the result to discuss with the Thailand International Cooperation Agency or Thai Guards, Ministry of Foreign Affairs. To request for their support on the project implementation. Moreover, it is fortunate that several issues identified in the MoU are in line of the SEAFDEC-Sweden Project's objectives. Especially the promotion of effective fisheries management between the two countries on the trans-boundary fisheries resources management. Therefore, today we should be first collaboration and with your full cooperation

I hope that what we have planned could be timely materialized. And since set up the activities have met the progress so far in the year. Take this opportunity to update to each other and what would be needed to do next. I hope to be a friendly open and harmonious this discussion leading to be sustainable fisheries not only for the two countries but also to further be able to share each other ASEAN member states. I'm looking forwards to dedication and commitment to all participants to reach our goals and expectations and set in the agenda of this meeting.

Finally, I wish all the bests and thank for your interest in attending the meeting. Your active participation would be surely enhance the cooperation that we have initiated for the promotion of sustainable fisheries in the Northern Andaman Sea. Finally, I wish all the bests and look for fruitful discussion.

Thank you and have a good day.

OPENING REMARKS

By *Mr. Khin Maung Maw*, Director-General
Department of Fisheries, Myanmar

Distinguished delegates from Thailand and Myanmar,
Representatives of International Organizations,
SEAFDEC officials,
Ladies and Gentlemen,
Good Morning to all of you!

We are delighted to have you here to participate in the 3rd Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago. Please allow me to express my sincere gratitude to SEAFDEC-Sweden Project for supporting and organizing this Meeting.

We have to bear in mind that since the Northern Andaman Sea is well recognized for its important habitats and abundance of aquatic resources, it has become necessary to accelerate, integrate and promote sub-regional and transboundary cooperation to properly manage the fishery resources in the Andaman Sea Region.

Therefore, it is indeed grateful to all of you for maximizing the momentum to develop a common vision for the Northern Andaman Sea, as a stable safeguard to combat illegal and destructive fishing and integrate fisheries and habitat management, especially with respect to fishing capacity. Most importantly, we were also able to come up with the increased understanding and agreement of the issues in which joint approaches are necessary for effective management of fisheries and habitats in the Northern Andaman Sea.

Furthermore, a platform and basis provided for the continued and increased collaboration between the two countries to provide opportunities to develop and implement joint fisheries management plans and the combat of illegal fishing.

To SEAFDEC-Sweden Project, we are very thankful for its continued efforts of “sub-regional consultative workshop on the Northern Andaman Sea” in May 2014 with aims to build upon the common ambitions of Myanmar and Thailand with a focus on looking at options to move beyond planning and into action such as through discussions recently held between Myanmar and Thailand to strengthen cooperation through the development and signing of MOU on fisheries management as an important basis for the management of habitats and fisheries of common trans-boundary interest.

To implement the activities, we surely need the cooperation of Myanmar and Thailand, together with partner organizations, are moving ahead with capacity-building in priority areas together with development and implementation of agreements and joint actions plans - including bilateral arrangements to monitor and control fishing effort and to address trans-boundary resource management with the protection and conservation of important fishery stocks and habitats.

I deeply believe that human resources, technical and financial cooperation will highly support our missions and I hope that your active participation would surely enhance the cooperation that we have initiated for the promotion of sustainable fisheries in the Northern Andaman Sea.

Finally, I wish all the best and looking forward to a fruitful discussion.

Thank you and have a good day!

OPENING REMARKS

By *Dr. Kom Silapajarn* SEAFDEC Secretary-General

Distinguished delegates,
Representatives from both Countries of Thailand and Myanmar,
Representatives of International Organizations,
Ladies and Gentlemen,
Good Morning to all of you!

It is indeed a great pleasure for me to be here with you at the Opening of the 3rd Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago. At this juncture, please allow me express my appreciation to the concerned countries and warmest welcome to all of you for coming to Bangkok. As host for this important meeting, I am deeply honored by your presence.

We all well realized that fishery is important for food security and national income of every country, sustainable fishery development together with food security and nutrition must be considered as essential and main national duty for all member countries. We cannot move forward in unity to a peaceful and prosperous community without food security and nutrition.

Since the year 2009, a sequence of events had been organized to discuss and consult with Myanmar and Thailand on options for joint approaches to the management of the fisheries of migratory species and the conservation of important habitats in transboundary waters of Myanmar and Thailand with an aim to develop a management plan for the Myeik Archipelago and related water bodies in Myanmar and Thailand with a focus on the Northern Andaman Sea.

The SEAFDEC-Sweden Project in cooperation with the BOBLME Project and the Department of Fisheries of Myanmar and Thailand organized a sequence of “Consultative meetings on the Northern Andaman Sea/Myeik Archipelago (January 2011, March 2012 and May 2014). During the consultative meeting in 2014, the participants developed and agreed on two sets of collaborative work plans between Thailand and Myanmar, these are on integration of fisheries and habitat management and the importance of trans-boundary stocks and habitats and on promotion of more effective management of fishing capacity and to reduce illegal and destructive (combat IUU) fishing in the North Andaman Sea.

Furthermore, implementing Port State Measures and ACDS to improve data and information collection, the need to share data on vessel registration schemes and as well as information of MCS networks among the Andaman Sea countries.

Advancement has been made through the signed MoU between the DoF of Myanmar and DoF of Thailand which was signed in February 2017 and finally agreed on the areas operation cooperation as indicated in the currently MoU, emphasized the work in combating IUU fishing.

With your support, SEAFDEC through the SEAFDEC-Sweden project will continue to strengthen on the development of a platform for agreements between Myanmar and Thailand on joint approaches to the management of habitat and fisheries and to improve the dialogue among key institutions involved. The Meeting will also explore possible expansion of bilateral dialogues between countries in accordance with the existing format.

We are confident that our goals will be achieved and accordingly recognized leading to outcomes that will be consistent with the hopes and expectations of the both countries and commitment of all our participants. Therefore, I take this opportunity to express my congratulations to all of you for the strong wish to carry out the relationship and coordinate regional cooperation. Once

again, I welcome all of you to Thailand and hope that you enjoy a pleasant and comfortable stay in our country. Without further ado, I now declare the 3rd Sub-regional Consultative of the Northern Andaman Sea/Myeik Archipelago workshop open.

Thank you very much and good day!

BACKGROUND AND OBJECTIVES OF THE WORKSHOP

By Ms. Pattaratjit Kaewnuratchadasorn, Senior Policy Officer, SEAFDEC



BACKGROUND

- ☐ Depletion of fisheries resources
- ☐ destruction of marine habitats caused by human activities
- ☐ These are illegal, uncontrolled and destructive fishing
- ☐ changes of seasonal monsoon pattern, unpredictable weather

Promotion of Sub-regional Management approach through strengthened cooperation on the integration fisheries, habitat management, reduce over-capacity and combat illegal and destructive fishing in Northern Andaman Sea (Myanmar and Thailand)

| OBJECTIVES OF THE WORKSHOP | |
|----------------------------|--|
| 1) | To review and provide an update on recent (over the last two years) developments and actions being implemented by Myanmar and Thailand, SEAFDEC and partners in the Northern Andaman Sea; |
| 2) | To update the progress of the implementation under the signed MOU on trans-boundary fisheries management; |
| 3) | To synthesize and agree on continued (and new) priority actions for the Northern Andaman Sea with reference to indicated priority areas including local capacity building and institutional development with an indicative joint action plan for 2018-2019 with options explored to establish collaborative (thematic) working groups; |

| OBJECTIVES OF THE WORKSHOP (cont.) | |
|------------------------------------|---|
| 4) | To provide directions on priority trans-boundary thematic areas and action points for SEAFDEC, FAO/BOBLME and other relevant bodies to take into consideration in planning for the support to future action (2017 and onwards) as a basis for continued support to capacity-building on the integration of fisheries and habitat management on EAFM and trans-boundary stocks |

| Agenda | |
|-----------------------------|---|
| 16 November 2017 (Thursday) | |
| 09.00-09.10 | Agenda 1: Opening of the Workshop |
| 09.10-09.20 | Agenda 2: Background of the Workshop, objectives of the workshop and Adoption of the Agenda |
| 09.20-09.40 | Agenda 3: Review on Priorities and recommendations from the previous Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago – together with information on implemented activities since May 2014 and the 3 rd Andaman Sea Meeting (October 2016) with regards to defined priority thematic areas and requests for strengthened bilateral cooperation between Myanmar and Thailand |
| 10.00-11.00 | Agenda 4: Development of activities under the MOU between Thailand and Myanmar on fisheries cooperation with an aim to combating IUU Fishing and illegal trade; improvement of coordination on fisheries and trans-boundary fisheries management; enhancement of cooperation and coordination within the relevant international and regional organizations: <ul style="list-style-type: none"> - Myanmar - Thailand |

| Agenda (cont.) | |
|------------------------------|---|
| 16 November 2017 (continued) | |
| 11.00-12.00 | Agenda 5: Update on available information and status of trans-boundary stocks (mackerels, hilsa and neritic tuna) and habitats (mangroves and corals) together with steps taken to facilitate development joint/coordinated plans for the integration of fisheries and habitat management <ul style="list-style-type: none"> • Myanmar • Thailand |
| 13.30-15.00 | Agenda 6: Updates Information on Efforts in promotion of more effective management of fishing capacity; build coordination on MCS and to reduce illegal and destructive (combat IUU) fishing in the North Andaman Sea <p>6.1 Recent developments with regards to laws and regulation in support of managing fishing capacity and to combat illegal fishing (including designation of ports/landing sites available to neighboring vessels) in the Northern Andaman Sea.</p> <ul style="list-style-type: none"> - Myanmar - Thailand |

| Agenda (cont.) | |
|------------------------------|---|
| 16 November 2017 (continued) | |
| 13.30-15.00 (cont.) | <p>Agenda 6.2: Status and cooperation on Monitoring, Control and Surveillance systems including systems for information sharing among designated agencies.</p> <ul style="list-style-type: none"> - Myanmar - Thailand <p>Agenda 6.3: SEAFDEC initiatives in support of managing fishing capacity and to combat illegal fishing</p> |
| 15.15-16.00 | <p>Agenda 7: Efforts made to strengthen local capacity (among local administrations and coastal communities) in border provinces/areas with an aim to strengthen institutional capacity and to enhance communities' management capacity, resilience and capacity to adapt to change (climate change, social change, change in livelihood opportunities, gender, etc.)</p> <ul style="list-style-type: none"> - CORIN-ASIA Myanmar - SEAFDEC-Sweden Project |

| Agenda | |
|---------------------------|---|
| 17 November 2017 (Friday) | |
| 09.00-12.00 | <p>Agenda 8: Group Discussion</p> <p>Group 1: Trans-boundary aquatic resources management Group 2: Monitor and control fishing effort Group 3: Human dimension and social development</p> |
| 13.30-15.00 | Agenda 9: Plenary discussion on the Joint activities and work plan for the year 2018 |
| 15.30-17.00 | Agenda 10: Conclusion and way forward |
| 17.00 | Agenda 11: Closing of the Workshop |

AGENDA

- I. Opening of the Workshop
- II. Background of the Workshop, Objectives of the Workshop and Adoption of the Agenda
- III. Review on Priorities and Recommendations from the Previous Sub-regional Consultative Workshop of the Northern Andaman Sea/Myeik Archipelago
- IV. Development of Activities under the MoU between Thailand and Myanmar on Fisheries Cooperation with an aim to Combating IUU Fishing and Illegal Trade; Improvement of Coordination on Fisheries and Transboundary Fisheries Management; Enhancement of Cooperation and Coordination within the Relevant International and Regional Organizations
- V. Update on Available Information and Status of Transboundary Stocks (mackerels, hilsa and Neritic Tuna) and Habitats (mangroves and corals) Together with Steps taken to Facilitate Development Joint/Coordinated Plans for the Integration of Fisheries and Habitat Management
- VI. Updates Information on Efforts in Promotion of more Effective Management of Fishing Capacity, Build Coordination on MCS and to Reduce Illegal and Destructive (combat IUU) Fishing in the North Andaman Sea
- VII. Efforts made to Strengthen Local Capacity (among local administrations and coastal communities) in Border Provinces/Areas with an aim to Strengthen Institutional Capacity and to Enhance Communities' Management Capacity, Resilience and Capacity to Adapt for Changing
- VIII. Group Discussion
- IX. Plenary Discussion on the Joint Activities and Workplan for the Year 2018
- X. Conclusion and Way Forward
- XI. Closing of the Workshop

REVIEW ON PRIORITIES AND RECOMMENDATIONS FROM THE PREVIOUS SUB-REGIONAL CONSULTATIVE WORKSHOP OF THE NORTHERN ANDAMAN SEA/MYEIK ARCHIPELAGO

By Ms. Pattaratjit Kaewnuratchadasorn, Senior Policy Officer, SEAFDEC



**Priorities and recommendations from the Sub-regional meeting,
between Thailand and Myanmar, held 27 - 28 May 2014**

| Management areas | Issues | Objectives | Activities |
|------------------|--|---|---|
| Marine Habitats | ➤ Lack of taxonomy knowledge for species identification of coral reef, sea grass and seaweeds. | ➤ Improve taxonomy knowledge as a mean to ensure effective management of the habitats. | ➤ Capacity building on taxonomy in coral reef, sea grass and seaweeds. ➤ Conducting surveys regularly with the involvement of communities to monitor the status of habitats. |
| | ➤ Insufficient management of the endangered, threatened and protected (ETP) species dolphin, sea turtle and whale. | ➤ Improve the knowledge in taxonomy in order to ensure effective management of ETP species. | ➤ Capacity building on taxonomy ➤ Training survey for Myanmar on ETP species. ➤ Conducting collaborative surveys. |

**Priorities and recommendations from the Sub-regional meeting,
between Thailand and Myanmar, held 27 - 28 May 2014**

| Management areas | Issues | Objectives | Activities |
|------------------|---|---|---|
| Marine Habitats | ➤ Degrading mangrove, coral reefs and sea grass habitats | ➤ Increase the knowledge of the habitat status. ➤ Restore mangrove, coral reefs and sea grass habitats (trans-boundary adjacent) | ➤ Conducting surveys of the status of these habitats. ➤ Capacity building on mangrove restoration for Myanmar officers through trainings and workshops ➤ Replanting mangrove. ➤ Coral and sea grass restoration. ➤ Establishment of MPAs and management plans. ➤ Development of national policy and regulations for critical habitats. |
| | ➤ Lack of communication between countries and awareness raising of the importance of habitats | ➤ Improve the communication system and establish the awareness building program | ➤ Create linkage to the Green Fun program for |

**Priorities and recommendations from the Sub-regional meeting,
between Thailand and Myanmar, held 27 - 28 May 2014**

| Management areas | Issues | Objectives | Activities |
|------------------------|--|--|---|
| Trans- boundary stocks | ➤ Lack of effective fisheries management for Mackerel (e.g. <i>Rastrelliger kanagurta</i> and <i>R. brachysoma</i>) | ➤ Improve the fisheries management for Mackerel. | ➤ Conduct collaborative trainings and/or workshops between Thailand and Myanmar concerning the: ➤ development of EAFM Plans ➤ fish- biology data collection system ➤ identification of spawning ground for Mackerel. ➤ Development of simple catch/fish samplings methods from the landing sites for Myanmar. ➤ Agreement and implementation of collaborative management plans |

**Priorities and recommendations from the Sub-regional meeting,
between Thailand and Myanmar, held 27 - 28 May 2014**

| Management areas | Issues | Objectives | Activities |
|------------------------|--|--|---|
| Trans- boundary stocks | ➤ Lack of effective fisheries management of neritic tunas. | ➤ Improve fisheries management of neritic tunas. | ➤ Capacity building of tuna taxonomy, scientific data analysis and stock identification through trainings and/or workshops. ➤ Development of management plans. ➤ Conduct data collection. ➤ Carry out stock assessment |
| | ➤ Poor information on economically important species in Kraburi-Surin (TH) | ➤ Increase the knowledge on economically important species in Kraburi-Surin. | ➤ Capacity building of taxonomy and survey techniques. ➤ Preliminary survey on economically important species. |

| Priorities and recommendations from the Sub-regional meeting between Thailand and Myanmar, held 27 - 28 May 2014 | | | |
|---|--|--|---|
| Management areas | Issues | Objectives | Activities |
| Effective Fisheries Management | ➤ Lack of information sharing between countries on the legislation, legal provisions within the existing structure | ➤ Increase fisheries management effectiveness. | ➤ Establishment of a working group for sharing of information between countries concerning legislation, legal provisions and experiences. ➤ Implementation of co-management as a means to generate compliances. ➤ Capacity building for fisheries communities regarding effective fisheries management. ➤ Joint collaborative management planning. |

| Priorities and recommendations from the Sub-regional meeting between Thailand and Myanmar, held 27 - 28 May 2014 | | | |
|---|--|--|---|
| Management areas | Issues | Objectives | Activities |
| Effective Fisheries Management | ➤ Lack of monitoring and control of fishing and landings across borders. | ➤ Improve the monitoring and control of fishing activities and landings across boundary areas. | ➤ Establish a working group concerning the monitoring and control including landings across the borders (under the planning and management committee). ➤ Capacity building for port inspectors/ officers. ➤ Establishment of port monitoring system |
| | ➤ Insufficient catch documentation and product certificates. | ➤ Establish an effective system of catch documentation and product certificate. | ➤ Harmonization of regional catch documentation system through expert consultation including stakeholders. ➤ Development of validation process through sub-regional consultation. |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 Trans-boundary fisheries resources management | | | |
|---|--|--|--|
|---|--|--|--|

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 Trans-boundary fisheries resources management | | | |
|---|---|--|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| • Indian Mackerel • Short Mackerel • Hilsa shad • Neritic tunas • Sharks and rays | ➤ Information for fisheries management incomplete | ➤ improve fisheries management information (biological, economic, social, governance - as appropriate) | ➤ Updated information on biological, socio-economic, government aspect compiled to be used for developing management measures of target species; ➤ Management measure for Kawakawa and Longtail tuna developed taking into account information from activities under RPOA Neritic Tunas |
| | ➤ migration patterns unclear | ➤ for Indian Mackerel - treat as one stock as precautionary approach | Initial analysis of migration pattern of target species based on information available in Andaman countries |
| | ➤ unknown stock sizes | ➤ stock assessment | Accurate data on fishing and effort of target species shared among Andaman countries for stock assessment |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 Trans-boundary fisheries resources management | | | |
|---|--|--|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| • Indian Mackerel • Short Mackerel • Hilsa shad • Neritic tunas • Sharks and rays | ➤ Insufficient knowledge on spawning seasons and areas | ➤ e.g. plankton survey | ➤ Spawning seasons and areas of some target species determined based on shared results of national plankton and larvae surveys |
| | ➤ limited capacity to develop transboundary management actions | ➤ Expand multilateral e.g. Thailand-Myanmar working group (MoU under finalization) or Malaysia-Thailand GoT example to other countries and broader management issues, especially for data collection | ➤ Bilateral and/or tri-lateral arrangement among Andaman countries established for data collection and trans-boundary fisheries management through conduct of series of meetings among the countries |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 Trans-boundary fisheries resources management | | | |
|---|--|--|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| • Indian Mackerel • Short Mackerel • Hilsa shad • Neritic tunas • Sharks and rays | ➤ National management frameworks not harmonized among 4 countries | ➤ generate political will to harmonize (if not joint) management | ➤ Focal points of Andaman countries designated and empowered to convince policy-makers to harmonize management frameworks taking into consideration scientific information on the target species |
| | | ➤ focal points to write joint letter to DG to support management harmonization | ➤ Focal points become capable of convincing policy-makers to support management harmonization |
| | ➤ No clear joint policy for joint action - no mandate - no call for joint management | ➤ Establish joint management advisory council/working group/task force (e.g. comprising 1 fisheries manager and 1 scientist from each country) | ➤ Joint management advisory council to comprise one fisheries manager and one scientist from each countries in the Andaman countries Sub-region established |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 <i>Trans-boundary fisheries resources management</i> | | | |
|--|--|---|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| •Indian Mackerel •Short Mackerel •Hilsa shad •Neritic tunas •Sharks and rays | ➤ Standardized statistics framework exist but heterogeneous data collection (human and financial capacities) | ➤ improve fisheries statistics through capacity development | ➤ Funds become available for the conduct of training to improve compilation of fisheries statistical data |
| | ➤ Coastal infrastructure (e.g. port development) impacting fisheries | ➤ improve cross-sectoral management (e.g. ICZM, EBM, EAFM, good governance) | ➤ Impact of coastal infrastructure development minimized by adopting cross-sectoral fisheries management tools |
| | ➤ Management not inclusive of other stakeholders | ➤ formalize stakeholder involvement in management planning and implementation | ➤ Increased involvement of all stakeholders (at all levels) from planning stage to implementation of relevant activities |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 <i>Trans-boundary fisheries resources management</i> | | | |
|--|--|---|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| •Indian Mackerel •Short Mackerel •Hilsa shad •Neritic tunas •Sharks and rays | ➤ Insufficient M&E of management actions and outcomes (social, biological, economic, etc) | ➤ make mandatory and improve M&E capacities | ➤ M&E aspects integrated in planning stage of all activities and training conducted to improve capacity to conduct M&E and impact assessment |
| | ➤ Unclear understanding of climate variability and change on fisheries | ➤ improved knowledge and awareness | ➤ Knowledge and awareness on impacts of climate variability and change on fisheries enhanced through regular sharing of relevant experiences among the Andaman countries |
| | ➤ Mackerel, hilsa, sharks (as applicable) working groups established under BOBLME inactive | ➤ new appointments of working group members | ➤ Working group for each target species designated and/or reactivated by the countries |
| | ➤ Dependence on projects for activities | ➤ formalized/institutionalized working groups | ➤ Function of established working group sustained by the countries |

| Priorities and recommendations from the Andaman Sea Sub-regional meeting, held 18 - 20 October 2016 <i>Trans-boundary fisheries resources management</i> | | | |
|--|--|---|--|
| Fisheries/ themes | Key issues | Possible actions/ plans to be developed | Expected outcomes by 2018 |
| •Indian Mackerel •Short Mackerel •Hilsa shad •Neritic tunas •Sharks and rays | ➤ Cross-ministerial collaboration (e.g. environment, tourism, natural resources) insufficient | ➤ Learn from Andaman countries where this is working | ➤ Cross-ministerial collaboration among Andaman countries strengthened |
| | ➤ Management at different scales (from local to national/international) may not always be coherent | ➤ Coherent action plans at different scales | ➤ Action plans are in line with management plans at various levels |
| | ➤ Academic research is not necessarily fisheries management oriented | ➤ Promote research that supports fisheries management | ➤ Research activities on fisheries management are incorporated in academic program and results of academic research are used by policy-makers for sustainable fisheries management |



Management of Fishing Capacity and to Improve/reduce Unregulated Fishing, to Avoid Unrecorded and Combat Illegal Fishing

| Management of Fishing Capacity and to Improve/reduce Unregulated Fishing, to Avoid Unrecorded and Combat Illegal Fishing | | |
|---|---|--|
| Key issues | Need Action | |
| | National | Sub-regional |
| 1. Assessment of fishing capacity | | |
| ➤ Limited data/information (Double flag, number of fishing vessels) | ➤ Strengthening the local administration on data collection online (ID) | ➤ Data compilation and sharing |
| ➤ Unclear stock status | ➤ Capacity building | ➤ Stock assessment (selected economically species) at sub-regional Andaman Sea; ➤ Conduct - the baseline survey for fishery dependent and independent |
| ➤ Unclear area of spawning | ➤ Identify the spawning areas of some economically species | ➤ Working closely with Fish Refugia Project |
| ➤ Methodology of assessment of active fishing capacity | ➤ Capacity building | ➤ Standardize/comparative Assessment |

| Management of Fishing Capacity and to Improve/reduce Unregulated Fishing, to Avoid Unrecorded and Combat Illegal Fishing | | |
|---|---|---|
| Key issues | Need Action | |
| | National | Sub-regional |
| 1. Assessment of fishing capacity | | |
| ➤ Lack of human resource/Expert | ➤ Involvement of relevant national institutions ➤ Human resource development | ➤ Regional Training Program |
| ➤ Effective Policy and Legal framework (reporting of catch, catch, changing of gear without authorization) | ➤ Amendement the existing national policy and legal framework | ➤ Compare the national laws between Member States |

**Management of Fishing Capacity and to Improve/reduce Unregulated Fishing,
to Avoid Unrecorded and Combat Illegal Fishing**

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| Key issues | Need Action | |
|---|---|---|
| | National | Sub-regional |
| 2.Preparation and Implementation of National Plans | | |
| ➤Lack of knowledge on development of the NPOA (national stakeholders consultation) | ➤Adapt the RPOA-Capacity | ➤Technical assistance from Regional/International Org. ➤Lesson learnt from relevant ASEAN Member States (such as DOF/MY) |
| 3. Required Urgent Measure for Regional Fisheries Management | | |
| ➤Require Exchange data and information | ➤Forming national working group | ➤Require a bilateral/trilateral dialogue/joint working group |
| ➤Require Catch documentation for exportation to other AMS (including Catch Verification System) | ➤Conduct the pilot testing system of the ACDS | ➤Support the relevant AMS under the agreed framework |

Management of Fishing Capacity and to Improve/reduce Unregulated Fishing, to Avoid Unrecorded and Combat Illegal Fishing

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| Key issues | Need Action | |
|---|---|--|
| | National | Sub-regional |
| 4. Mechanisms to Promote of the Implementation | | |
| ➤Lack of implementation and network for M. C. and S. | <ul style="list-style-type: none"> ➤Identify and build national network for M.C.S (including responsible institutions) ➤Build the connecting national network to the existing shipping system (such as in Malacca Strait) | <ul style="list-style-type: none"> ➤Extend national network to sub-regional network ➤Establish the coordination mechanism including identify the focal point or contact person (s) |
| ➤Lack of public awareness to improve fishing capacity to combat the IUU fishing | ➤Information and educational campaign to understand international regional and national instruments | ➤Coordinate among the Andaman Countries for sharing of information at country level. |

THE DEVELOPMENT OF FISHERIES COOPERATION UNDER MOU BETWEEN THAILAND AND MYANMAR BY MYANMAR

By *Dr. Aung Naing Oo*, Deputy Director of DoF Myanmar



Thai-Myanmar MoU for Fisheries Cooperation

- The Department of Fisheries, Ministry of Agriculture and Cooperative of the Kingdom of Thailand and the Department of Fisheries, Ministry of Agriculture, Livestock and Irrigation of the Republic of the Union of Myanmar signed Memorandum of Understanding for Fisheries Cooperation on 2nd February 2017.

Cooperation of Thailand and Myanmar on Fisheries Sector Development

- to strengthen and promote technology and information transfer, trade, training, scientific and technical cooperation and law enforcement in the field of fisheries between the Parties, without prejudicing other fields of cooperation that may be considered in the future.

Areas of Cooperation

- (a) Combating IUU Fishing and illegal fisheries trade ;
- (b) Implementing of port state measures ;
- (c) Improvement of coordination on fisheries and transboundary fisheries management;
- (d) Promotion of fisheries trade
- (e) Improvement of coordination on fisheries and aquaculture research;
- (f) Enhancement of cooperation and coordination within the relevant international and regional organizations; and
- (g) Other related areas of interest that are mutually agreed upon by the Parties;

Joint Working Group

- (1) A joint Working Group (JWG) will be established to implement the provisions of this MOU.
- (2) The heads of JWG of the Parties will be the Director General.
- (3) The JWG will be responsible for assessing the outcomes of the implementing programs development and improvement, monitoring the activities under this MOU between the Parties, and recommending possible ways and means of overcoming their problems or difficulties.
- (4) The JWG will meet every year alternately in Thailand and in Myanmar to evaluate, plan and report on work progress unless the Parties agree otherwise.
- (5) Each Party will designate its liaison secretary for coordination between agencies and for the routine duties of the JWG.
- (6) The JWG will meet on the basis of mutual agreement if there is specific issue to discuss between Thailand and Myanmar.
- (7) In implementing this MOU, the JWG may conclude subsidiary arrangements setting out the implementing programmes , which may include details such as their aims, work plans, schedules, means of financing, participating organizations , officers in charge, and obligations of the Parties.

Form of Cooperation

- (a) Exchange of information on fishing operation and fish trade etc. in order to encourage of implementation of combating IUU Fishing;
- (b) Study and elaboration of projects of technical assistance;
- (c) Joint fisheries research including exchange of scientific and technical information;
- (d) Training involving courses, workshop, seminar, study tours and other necessary professional trainings on subjects of mutual interest;
- (e) Market development and promotion of fisheries business and trade relations;
- (f) Regular and extraordinary meetings of the JWG;
- (g) Promotion of communication between the relevant private and public enterprises and organizations and such other field as may be agreed upon by both Parties; and
- (h) Any other related form of cooperation whose aim is to promote the development in the field of fisheries of the two countries as agreed upon by the Parties.

Thai-Myanmar Fisheries Cooperation

- In the connection with the MoU and by the request of Myanmar DoF, Deputy Director General of the Department of Fisheries, Thailand led mission visited Sittwe, Rakhine State on 30 March -1 April 2017 to discuss challenges, obstacles and potential for further cooperation to assist the reconstruction and technical supports for "Marine Shrimp Culture Demonstration Center" at Sittwe in Rakhine State.

Thai-Myanmar Fisheries Cooperation

- Thai delegation from Thailand International Cooperation Agency (TICA), DoF Thailand and JICA, Thailand visited Myanmar to explore the possibility to provide development cooperation in aquaculture in Rakhine State on 28 May-2 June 2017.
- Myanmar DoF delegation led by Deputy Director General, also attended the "First Meeting of Thailand and Myanmar Joint Working Group on fisheries cooperation" convened by DoF, Thailand at Bangkok on 5 June – 9 June 2017 and discussed for the cooperation on fisheries sector between two countries.

The First Meeting of Thailand and Myanmar Joint Working Group on Fisheries Cooperation (June 2017)



Discussion of Fisheries Cooperation on First Joint Working Group

Aquaculture Cooperation

- The Project on Assistance for Shrimp Hatchery and Laboratory in Sittwe and Promotion of Shrimp Aquaculture nearby Area
- The joint Research Project on Aquaculture Technique Development. (Butter Catfish Breeding and Farming Technology from TICA and DoF Thailand)

Discussion of Fisheries Cooperation on First Joint Working Group

Cooperation for Prevention of IUU Fishing Activities

- MCS system and Inshore Fisheries Patrol Boat design and Operation
- Consultation on Myanmar Rules and Regulations for fish and fish products export to Thailand

Discussion of Fisheries Cooperation on First Joint Working Group

Other matters

- Technical support for improvement of crocodile farm in Myanmar (Myanmar)
- Allowance for Thai fishing vessels to operate in Myanmar waters (Myanmar regulation and documents on licensing foreign fishing vessels and regulation on import/export procedures) (Thailand)
- To develop and modify Myanmar Catch Certification System (Thailand)

Aquaculture Development Supports

- Thai DoF and TICA supported on training courses of Giant Butter Catfish conservation and breeding technology and Marine Shrimp Hatchery Technology and Grow-out farming practices for 40 Myanmar DoF Participants on 24 September to 14 October 2017.



Sustainable Coastal Fisheries

Denmark-Myanmar Countries Program

- Improvement of Myanmar Monitoring, Control and Surveillance System, Myanmar Delegates visited Thailand on 24-30 September 2017 to learn Thailand MCS System.



MCS Study Tour to Thailand – 24-30. Sept. 2017

Programme

- Visit to Seat Boat Co. Ltd. Shipyard
- Visit Port In – Port Out Control Centre in Ranong
- Observe Fish inspection operation;
- Visit Ranong landing sites and fish markets;
- Ranong Fish Inspection Office;
- Ranong Port Inspection for Foreign vessel



Follow-up Actions from the 1st Meeting of Thai-Myanmar Joint Working group on Fisheries Cooperation

- Delegates of the Department of Fisheries (DoF), Thailand, led by Dr. Chumnarn Pongsri, Deputy Director General of the Department of Fisheries, Thailand visited to Myanmar (Yangon- Myeik- Kawnt thoung-Nay Pyi Taw) from 8th October to 14th October.



Follow-up Actions from the 1st Meeting of Thai-Myanmar Joint Working group on Fisheries Cooperation

- Discussed update information on the fisheries management in Thailand, especially the procedures related to the importation of fish and fishery products from Myanmar to Thailand for further strengthening the cooperation on the prevent, deter, and eliminate IUU fishing between the two countries.
- Thailand and Myanmar agreed (1) information sharing and (2) capacity building, in order to prevent fish and fishery products obtained from IUU fishing activities from entering into supply chains of both countries

Information sharing

1. Samples of required documents for inshore carriers vessels

- Invoice
- Export Declaration
- Port Clearance
- License for fish carrier vessel
- Signature of Captain from fishing vessel
- Catch Certificate

Information sharing

2. Samples of required documents for off-shore fishing vessels

- Invoice
- Export Declaration
- Export License
- Export Carrier License
- Port Clearance
- Export Manifest
- Certificate of clearance
- Signature of Captain from fishing vessel
- Catch Certificate
- Sample of the record of transferring fish and fisheries products
- Record of fishing operation (Logbook)

Information sharing

3. Samples of required documents for border trading by road

- Product movement document
- Export Declaration
- Certificate of Exporter
- Country of Origin (Certificate of Origin)

Suggestion for Fishery Products trading between Myanmar and Thailand

- Myanmar need to improve the logbook system for recording the correct data from fishing vessel master because logbook system is the basic for traceability of fisheries product trading
- Myanmar need to increase the workforce DoF Staff at Kawthoung District for proper management of inspection
- Thailand will consider to reduce the requirement of documents for small fishing vessel from Myanmar

Combating IUU fishing and Illegal Trading

| No. | Activities | Responsibility |
|-----|--|--|
| 1. | Monthly information data sharing of number of fish landing from Myanmar Fish Carrier Vessels to Thai Ports. | Department of Fisheries (Thailand) |
| 2. | Not to accept the "certification for fish and fisheries products obtaining" for fisheries products trading between Myanmar and Thailand | Department of Fisheries (Thailand) |
| 3. | Assignments of focal points for the support of information sharing on fish and fisheries products trading (Import and Export) and on fishing vessels and carrier vessels | Department of Fisheries (Myanmar) and (Thailand) |
| 4. | To conduct training on fish and fisheries products trading system between Thailand and Myanmar especially for traceability of fisheries products | Department of Fisheries (Myanmar) and (Thailand) |
| 5. | Capacity building of DoF staff from Myanmar and Thailand by the assistants of regional organization | Department of Fisheries (Myanmar) and (Thailand) |
| 6. | Using this record of discussion to follow up future activities as references. | Department of Fisheries (Myanmar) and (Thailand) |

**THE DEVELOPMENT OF FISHERIES COOPERATION UNDER MOU
BETWEEN THAILAND AND MYANMAR BY THAILAND**
By Ms. Panawan Avaiwanont, Representative form DoF, Thailand

Development of activities under
MOU on fisheries cooperation
between Thailand and Myanmar

MOU on Fisheries Cooperation
between Thailand and Myanmar

Purpose

- To strengthen and promote technology and information transfer, trade, training, scientific and technical cooperation and law enforcement in the field of fisheries between the Parties.

MOU on Fisheries Cooperation between Thailand and Myanmar

- signed on 2 February 2017
- Appointment of Thai Fisheries Working Group
- First Meeting of Thailand – Myanmar Joint Working Group on Fisheries Cooperation, 5-9 June 2017



**The First Meeting of Thailand – Myanmar Joint Working
Group on Fisheries Cooperation, 5-9 June 2017**

- **Consideration on Aquaculture Cooperation**
 - 1 The Project on Assistance for Shrimp Hatchery and Laboratory in Sittwe and Promotion of Shrimp Aquaculture Nearby Area
 - 2 The Joint Research Project on Aquaculture Technique Development
 - * On Giant butter catfish (*Silonia silondia*)
 - * On Hilsa (*Tenualosa toli*)

**The First Meeting of Thailand – Myanmar Joint Working
Group on Fisheries Cooperation, 5-9 June 2017**

- **Consideration on Cooperation for Prevention of IUU Fishing Activities**
 - 1 MCS system and Inshore Fisheries Patrol boat design and Operation
 - 2 Consultation on Myanmar Rules and Regulations for fish and fish products export to Thailand

MCS system and Inshore Fisheries Patrol Boat Design
and Operation, 24 - 30 September 2017



Consultation on Myanmar Rules and Regulations for fish
and fish products export to Thailand,
and a Meeting in Ney Phi Taw , 8-14 October 2017



THE STATUS OF TRANSBOUNDARY STOCKS (MACKERELS, HILSA & NERITIC TUNA) AND HABITATS OF MYANMAR

By Mr. Nyunt Win, Deputy Director of DoF Myanmar



Pelagic Fisheries

Resources and their distribution

Pelagic fish dwell and feed at the surface or in the water column in schools in water of temperature ranging from 26° to 30°C.

The fishing grounds of pelagic are generally of muddy-sandy bottom and associated with rich biomass of plankton. The coastal small pelagic frequently inhabit the nutrient-rich inshore neritic waters, while the large pelagic inhabit offshore neritic and oceanic waters.

The shallow-water fishing grounds are highly productive and account for much of the Gulf's total pelagic catch.

The small pelagic are exploited mostly with shallow-water purse seines, surface and mid-water gillnets, lift nets and other surrounding nets.

Pelagic Fisheries

Mackerels

The mackerels are caught mainly by the purse seines, encircling gillnets and occasionally by bottom trawls. Their fishing grounds extend widely from the inshore to the offshore of Myanmar coastal areas.

Rastrelliger kanagurta

Rastrelliger branchyoma

Pelagic Fisheries

Hilsa shad

Hilsa is very important pelagic fish resource, contribute to the national economy by small-scale fishery and industry fishery. It is distributed widely entire coast of Myanmar as well as in the inland waters. The fish take anadromous migration through the river system, particularly, Ayeyarwady river complex for spawning.

Two species of hilsa are observed namely, in Tanintharyi area *Tenukosa toli* (Toli shad) is common and *Tenukosa aisha* (Hilsa shad) is mostly contributed in Ayeyarwady and Rakhine areas.

Fishing season of the delta is from September to March with two peak seasons namely, August and September. The most effective fishing gears in previous days is encircling gill nets. Since last decade, the new fishing technology, purse seine was introduced to this fisheries to make more catching power in coastal and drift gill net. Trammel net are fishing in the rivers of inland water.

Pelagic Fisheries

Sardines

The sardines found in Myanmar waters belong to *Sardinella* spp.; *Amblygaster* spp.; *Dussumieria* spp. and *Herklotsichthys* spp. Among them the goldstriped sardine (*Sardinella gibbosa*), fringescale sardine (*Sardinella fimbriata*) and spotted sardine *Sardinella* (*Amblygaster*) are the most common. However, they are group together in the Myanmar fisheries statistics as sardines (*Sardinella* spp.).

Sardines are widely distributed with high concentration in the coastal areas. They are caught mainly by the purse seines, encircling gillnets and driftnets.


Pelagic Fisheries

Round Scads


The round scad found in Myanmar waters are represented by three species of *Decapterus*. Among them *Decapterus macrosoma* and *Decapterus marudsi* are more common in Myanmar waters. The round scads are widely distributed in the offshore waters.

They are mainly caught by purse seines. The catches of all species of round scads are treated together as *Decapterus* spp. in the fisheries statistics

Hilsa Fishing Ground



- Spawning Grounds and Migration Routes of Hilsa in Rakhine Coast, Ayeyarwady Coastal Delta region, Ayeyarwady and Sittoung rivers.
- There are no Hilsa fishing ground and fishing activities in Myeik Archipelago.



Fish migration study for Hilsa



Rationale

- Hilsa (*Tenualosa ilisha*) = major fish resource in Gulf of Bengal
 - * Fish stocks shared between multiple countries
 - * Highly migratory species, breeding inland
 - * High commercial value and dependence of fishing communities






Identifying breeding sites and migration routes is the first step for adequate management

Fish migration study

Methodology

- Survey using local knowledge (based on extensively experience in the Mekong)
- Comprehensive questionnaire developed:
 - * Collect biological data on **Hilsa and 30 other species**
 - * Ecological parameters (seasonality, size, breeding area, etc.)
- Information gathered using **digital tablets and paper sheets(draft maps)**





Selection of sites

- Ayeyarwady and Chindwin Rivers
- Yangon and Sittoung Rivers

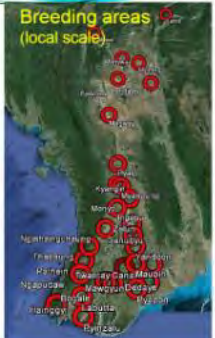
Questionnaires distributed to 42 townships

- 5-6 informants per site
- 200+ fishermen interviewed
- Mapping of
 - Breeding sites
 - Migration patterns

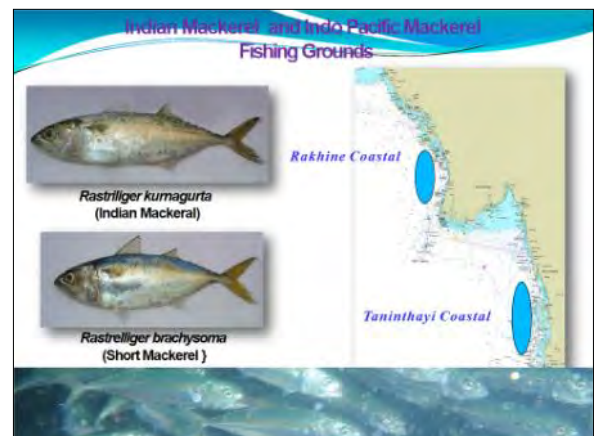
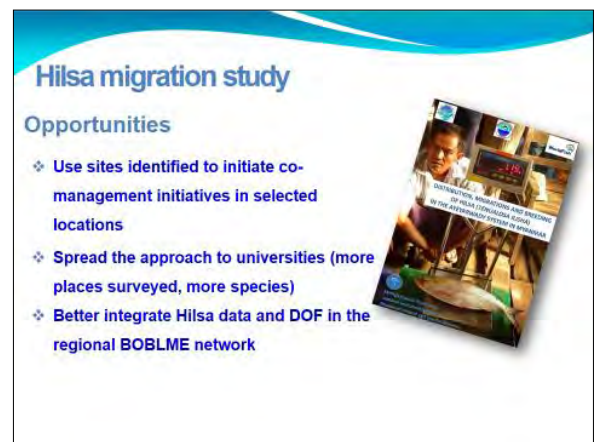


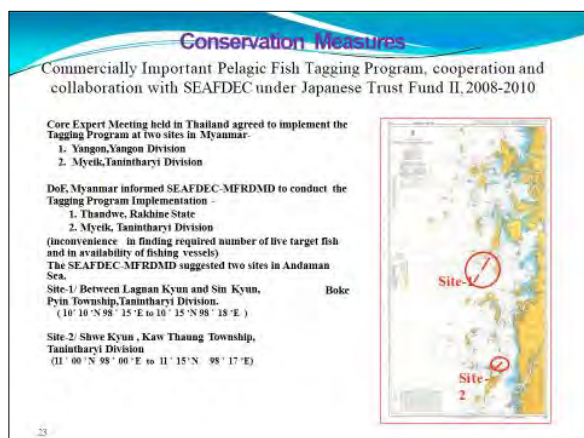
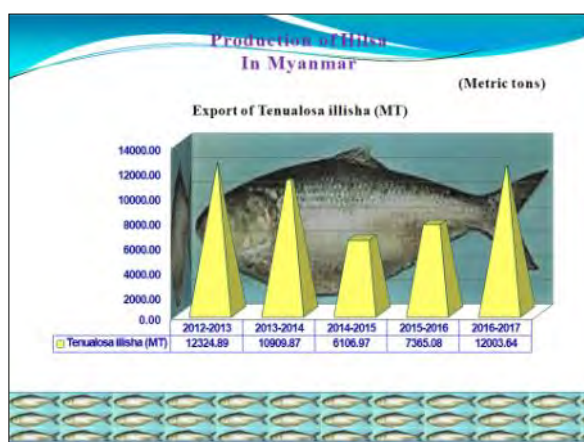
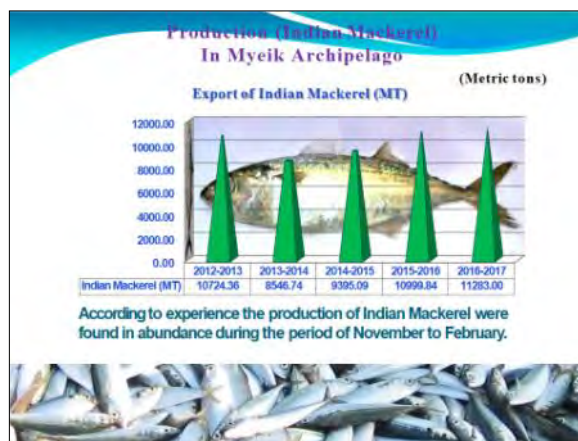


Migrations (large scale)



Breeding areas (local scale)





Tissue Sampling Activities in 2012

- Two participants from Myanmar attended BOBLME Indian mackerel fisheries working group meeting in Colombo (Sri Lanka) in 2012
- According to the meeting outcome, 8 members countries would agreed and have to be collected the tissue sample from Indian mackerel for BOBLME project
- In BOBLME coastal area, 8 members countries will be taken tissue samples of Indian mackerel within 10, 000 Kilometer (25 samples from each landing site)
- Distance of each landing site is 400 Kilometer.
- According to the afore mentioned working group meeting, 200 tissue samples have been collected in Myanmar marine fisheries area.
- And then collected the tissue samples according to the Standard Operation Procedure
- 100 tissue samples from Rakhine State and 100 from Taninthayi Region coastal area.
- Those 200 tissue samples were sent to Southeast Asia Fisheries Development Center (SEAFDEC)- Marine Fisheries Resources Development Management Department (MFRD MD)
- According to the agreement between Myanmar and MFRDMD, MFRDMD will be sent the tissue samples result BOBLME project coordination unit.

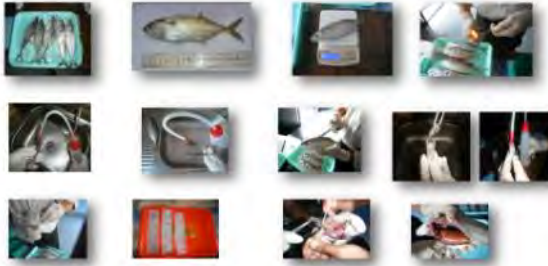
Tissue Sampling Activities

- Collected the 100 fishes at landing site (those fishes were caught by inshore drift gill net and off shore purse seine nets) in Kaw Thauing, Thanintahyi Region and kept fishes in styrofoam box and chilled with ice

- Collected the 100 fishes at Fish Market (those fishes were caught by inshore drift gill net and in shore purse seine nets) in Sittwe, Rakhine State and kept fishes in styrofoam box and chilled with ice



- Collected tissue samples , counted gill rakers ,and measured length and weighted from target fishes and also determined weight and size of testis and gonad development stage), and then filled the data in form-1
- Both teams (Taninthayi Region and Rakhine State) followed SOP exactly.



Taninthayi

Offshore purse seine

- Standard Length
 - 6 Sizes of SL were found
 - majority of fishes size between 19-20 and 21-22cm
 - 54 % amongst 39 tails (fishes)
- Weight
 - 4 categories of weight were found
 - Most of the weight of fishes is between 180-180 gm
 - 17% amongst 39 tails (fishes)
- Sex Development
 - Most male and female gonad development stages are three (Rising) and four (Ripe)
 - 74 % amongst 39 tails (fishes)
- No. of Gillrakers
 - 3 categories of gill rakers were searched
 - Most of the fishes have 39 gill rakers
 - 22% amongst 39 tails (fishes)

Inshore drift gill net

- Standard Length
 - 6 Sizes of SL were found
 - majority of fishes size between 19-20 and 19-20 cm
 - 77% amongst 61 tails (fishes)
- Weight
 - 4 categories of weight were found
 - Most of the weight of fishes is between 111-140, 141-150, 151-160 and 171-180 cm
 - 56 % amongst 61 tails (fishes)
- Sex Development
 - Most male and female gonad development stages are two (Rising) and three (Ripe)
 - 73 % amongst 61 tails (fishes)
- No. of Gillrakers
 - 3 categories of gill rakers were searched
 - Most of the fishes have 35 and 34 gill rakers
 - 38 % amongst 61 tails (fishes)

Summary

Rakhine

Inshore purse seine

- Standard Length
 - 5 Sizes of SL were found
 - majority of fishes size between 21-22 cm
 - 62.5 % amongst 48 tails (fishes)
- Weight
 - 6 categories of weight were found
 - Most of the weight of fishes is between 180-180 gm
 - 35 % amongst 48 tails (fishes)
- Sex Development
 - Most of the female gonad development stages are three (Rising)
 - 92 % amongst 48 tails (fishes)
- No. of Gillrakers
 - 3 categories of gill rakers were searched
 - Most of the fishes have 44 and 46 gill rakers
 - 35 % amongst 48 tails (fishes)

Inshore drift gill net

- Standard Length
 - 7 Sizes of SL were found
 - majority of fishes size between 14-15 cm
 - 58 % amongst 52 tails (fishes)
- Weight
 - 6 categories of weight were found
 - Most of the weight of fishes is between 71-80 gm
 - 33% amongst 52 tails (fishes)
- Sex Development
 - Most male gonad development stages are three (Rising)
 - (Difficult to find gonad development because fishes are small)
 - 100%
- No. of Gillrakers
 - 9 categories of gill rakers were searched
 - Most of the fishes have 43 and 44 gill rakers
 - 44 % amongst 48 tails (fishes)

Fisheries Management Measure

- According to the Dr Fridjof Nansen research results fisheries resources has 90 percent declined. Therefore , 40 percent of the fishing vessels are allowed to operate within closed season of June to August this year. More % will be closed in coming years up to 100%.
- Local Management Marine Area that intend to maintain fisheries resources and habitat have been established.
- In-shore fishing area (10 nms from shore line) is only allowed for in-shore fishing vessels.
- Fishing gear restrictions (Trawl fishing and others)

Reef Check Surveys



Liveaboard Surveys

1. Fish Taxonomy
2. Invertebrate taxonomy
3. Coral Disease
4. Sponge Diversity
5. Anthropogenic affects on coral reefs
6. Reef Resilience
7. Reef Check Surveys



Seagrass Surveys





Initial results from nearshore fisheries data collection to support marine spatial planning in Myanmar.

လေ့လာရေးသမားများ (Fishermen)

ကမ်းနီးပါးရှိသော ဖိတ်ကုန်သွယ်ရေးသမားများ (Tracks of near-shore fishing vessel)

မြန်မာငါးမျိုးစာရင်း (Myanmar Fish species list)

သေချာသော ရလဒ်များ (Results of data analysis)

Tracks of In-shore fishing vessels



Constraints

- Lack of up-to-date data:
- Accuracy of data collection:
- Knowledge of scientific data collection: data collection is considered a science and gathering data has to follow scientific procedures.
- Marine fisheries cannot be successfully managed unless information on key aspects is known.
- Lack of Financial support.
- The migratory route and movement pattern, feeding ground, spawning ground, growth rate and reproductive biology should be conducted.

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Conclusion

- In this regards, Myanmar still needs good enough knowledge and technical expertise for genetic markers developed for stock identification and laboratories for Indian Mackerel.
- Develop methodologies and take measures for conservation and management, sustainable use and undertake studies on Indian mackerel.
- Encourage research and develop long-term monitoring programme, database and information sharing with international and regional conservation and management organizations such as FAO, SEAFDEC, BOBLME, etc. for technical and logistic support.
 - assessment of Indian Mackerel fishery resources.
 - development of appropriate technology.
 - Regarding stock assessment, training program for concerned institutions and stakeholders.
- More fund should be allocated for future research. Covering this, purchase equipment and other necessary things for biological studies and laboratories are needed.
- Apart from the government's in fisheries development, collaboration and cooperation together with International and Regional fisheries related agencies is required.
 - Mackerel fishery resources still abundant in Myanmar, we believed that Myanmar can implement and achieve properly if afore mentioned necessary things are fully support.

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THE FISHERIES STATUS OF INDIAN MACKEREL, *Rastrelliger kanagurta* (Cuvier, 1816) ALONG THE ANDAMAN SEA COAST OF THAILAND

By Mr. Montri Sumontha, Representative from DOF, Thailand

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

Suchat Sangehan
Montri Sumontha

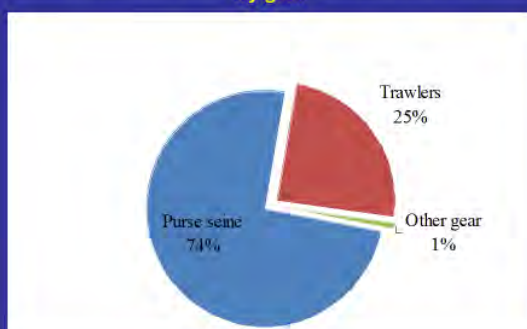
Upper Andaman Sea Fisheries Research and Development Center (Phuket)

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



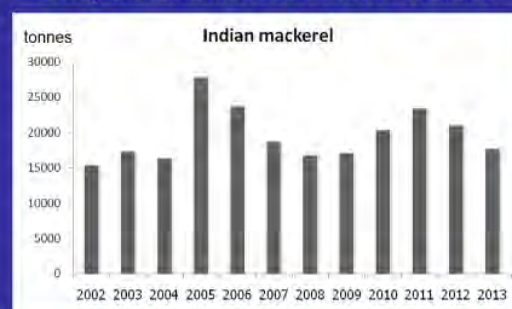
Season, Fishing ground & Main landing ports

- 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.

Fishing ground



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



CPUE of Indian mackerel and others from purse seine fisheries along the Upper Andaman Sea Coast of Thailand in 2014-2017



Monthly variation of CPUE of Indian mackerel from purse seine fisheries along the Upper Andaman Sea Coast of Thailand in 2014-2017



Biological studies

Length-weight relationship:

$$W = 0.0145 TL^{2.9550}$$

Spawning season:

December-March and August-September

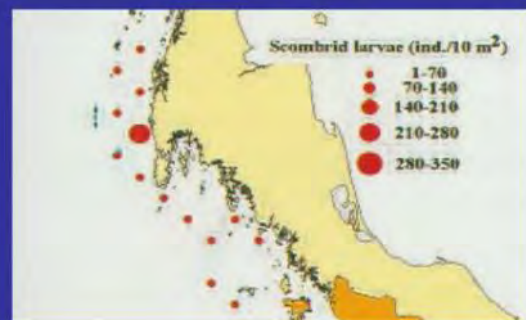
Size at first maturity:

males 17.83 cm females 18.92 cm

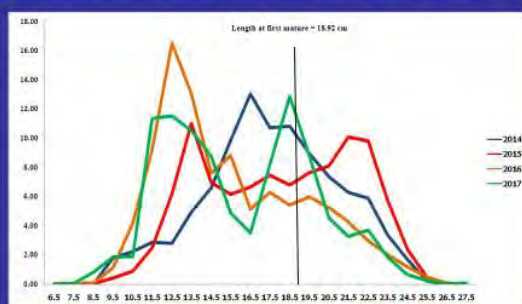
Sex ratio:

male:female = 1:1.31

Nursing ground



Length composition of Indian mackerel at total length caught by purse seiners from the Upper Andaman Sea Coast of Thailand, 2014-2017



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):

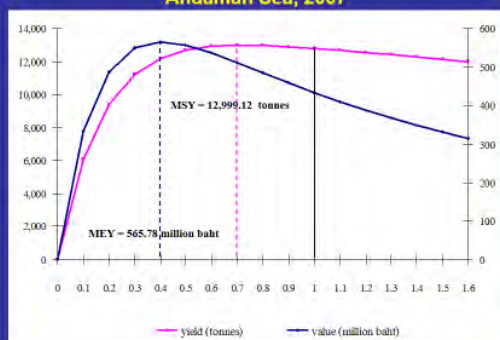
565.78 million baht (about **17.14 million USD**)

F-factor = **0.4**

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

Value (2007) = **433.86 million baht** (**13.15 million USD**), over **60%**

**Optimum fishing effort for yield and value relationship
of Indian mackerel caught by purse seiners from
Andaman Sea, 2007**



THE PROGRESS OF REGIONAL PLAN OF ACTION ON SUSTAINABLE UTILIZATION OF NERITIC TUNA

By Dr. Somboon Siriraksophon, Policy and Coordinator, SEAFDEC

PROGRESS on
RPOA on Sustainable Utilization of Neritic Tuna and
Enhancing Fish Trade between Myanmar & Thailand



1

Adopted
RPOA-neritic tunas

- At 45th Meeting of council (2012), recognized the need to develop a PoA for Regional Cooperation;
- In response, a series of Meeting on RPOA-Neritic tuna was held in Oct'2013, and June'2014;
- RPOA-Neritic Tunas is supported by
 - ✓ 47CM in April 2015;
 - ✓ 17 ASWGFI in June 2015;
 - ✓ In the process for SOM-AMAF's support

DEVELOPMENT OF RPOA NERITIC TUNAS

EXPERT MEETING
PRIORITIZED ISSUES

EXPERT & POLICY MEETING (DRAFTING)

SEAFDEC COUNCIL FCG/ASSP & ASWGFI

SOM-AMAF

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PRIORITIZED ISSUES

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SEAFDEC COUNCIL FCG/ASSP & ASWGFI

SOM-AMAF

Established SWG-Neritic Tunas

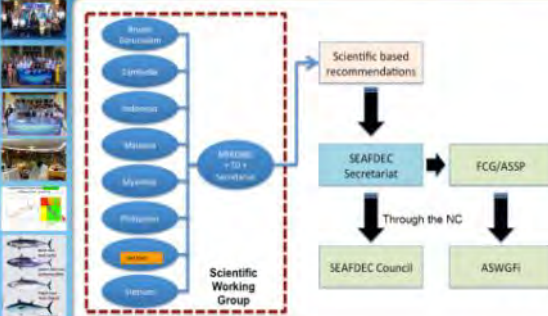
Role of the SWG-Neritic Tunas

is to provide technical/scientific advice and policy consideration needs to the SEAFDEC Council for the improvement of fisheries management

Objectives of the TOR is to ensure that the regional cooperation from AMSs on the stock assessment of neritic tunas can be effectively managed by the SWG after ending of the funded project.

Adoption of the TOR by AMS in 2015

Adopted Mechanism to Convey the Technical/Scientific Recommendations to ASEAN



Scientific Working Group

Scientific based recommendations

SEAFDEC Secretariat

Through the NIC

SEAFDEC Council

FCG/ASSP

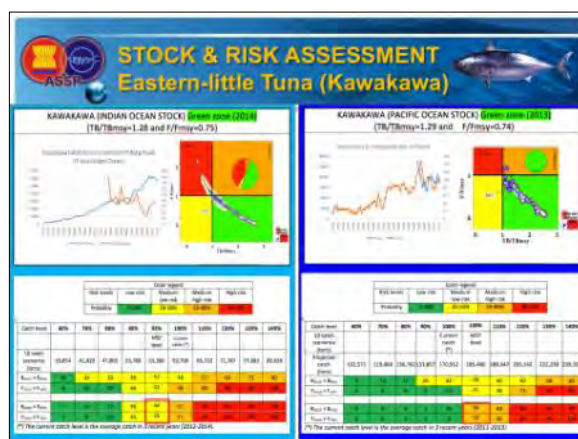
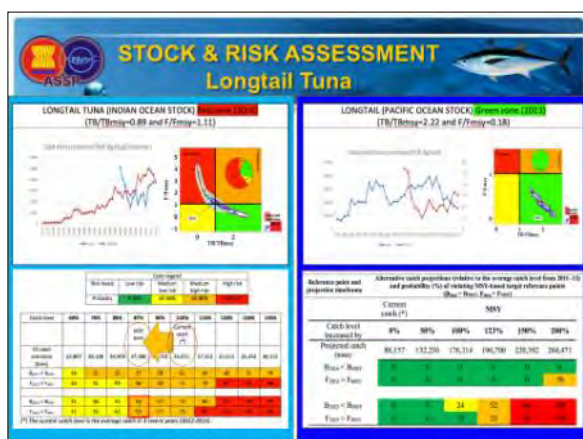
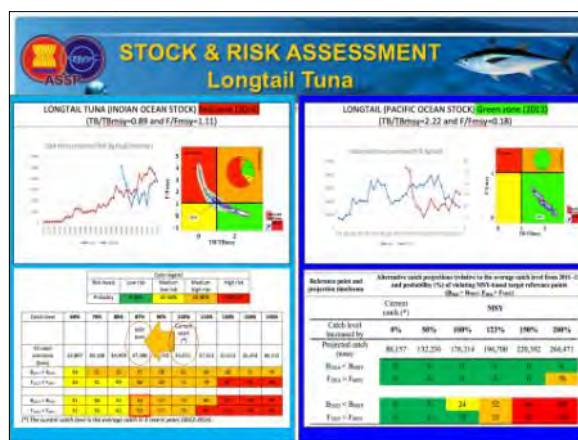
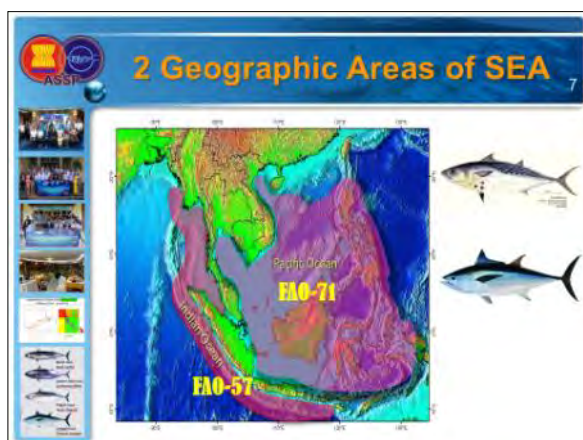
ASWGFI

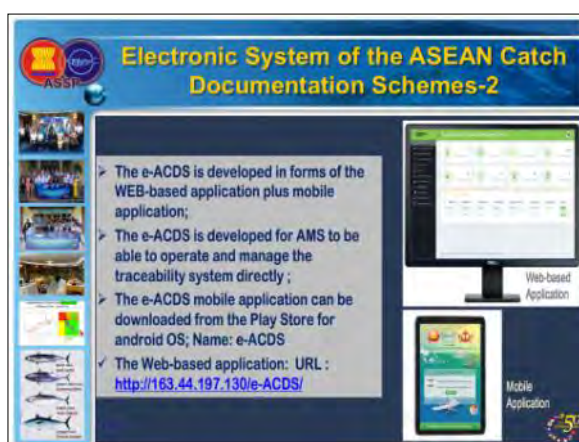
5

To Support the Implementation of RPOA-Neritic Tunas

- Conducted 3 Meetings of the SWG:
 - 1st SWG in Malaysia (2014)
 - 2nd SWG In Vietnam (2015)
 - 3rd SWG In Thailand (2016)
 - 4th SWG in Malaysia (2017)
- Adopted the SOP for Data Collection
- Adopted the SOP for Genetic Study
- Reviewed the Stock and Population of Neritic Tunas and Seer fishes
- Capacity Building Programs: Basic & Advance for SA and Risk Assessment

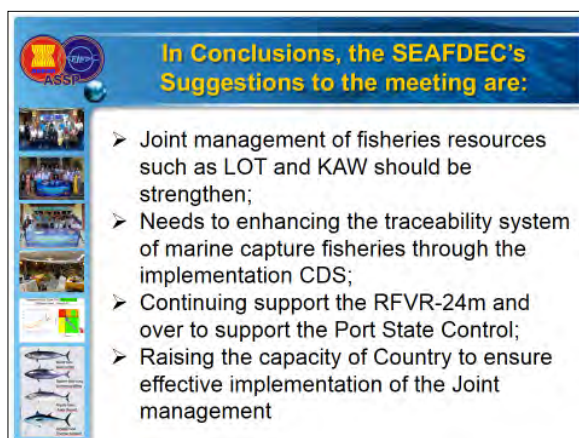
6





Electronic System of the ASEAN Catch Documentation Schemes

| Activities | Period |
|--|--------------------|
| ✓ Lessons Learned, Designing the eACDS | JAN-NOV 16 |
| ✓ Baseline Survey to Brunei Darussalam | AUG 2016 |
| ✓ Developing the eACDS (domestic fisheries) | NOV16-Nov17 |
| ✓ Technical Consultation to BN | JAN 2017 |
| ✓ 1 st Training on eACDS to BN (on CD and MD) | JUN 2017 |
| ✓ 2 nd Training on eACDS to BN (on CC) | OCT 2017 |
| ✓ 1 st Stakeholders Meeting on eACDS in VN | OCT 2017 |
| ✓ 2 nd Stakeholders Meeting on eACDS in VN | DEC 2017 |
| ✓ Pilot Testing on eACDS in BN starting from | DEC 2017 |



DEVELOPMENT OF TRANBOUNDARY RESOURCES MANAGEMENT PLAN FOR MACKEREL IN GULF OF THAILAND

By Dr. Worawit Wanchana, Assistant Policy and Program Coordinator, SEAFDEC



BACKGROUND

- Indo-Pacific Mackerel was prioritized as an economical important species for facilitating joint management plans to be developed by GoT countries → a series of technical consultations since 2015 +SOP for AIBs data collection
- At the 5th Meeting of the GoT in 2015:
 - To encourage GoT countries to formulate policies by including data collection activities of AIB-species in national policy frameworks to support long-term fisheries management
 - To conduct sub-regional activities for better understand stock status and migratory pattern of the AIB-species which will be used as a basis for developing the joint management plan
- At the 6th Meeting of the GoT in 2016
 - To follow-up with DOF Thailand on national study on life cycle and migration of Indo-Pacific Mackerel and Indian Mackerel, fishing ground and abundance, reproductive biology, fish larvae and abundance and distribution, stomach contents, and genetics)

SUB-REGIONAL INITIATIVES TO FACILITATE DEVELOPMENT OF JOINT MANAGEMENT PLAN FOR AIB SPECIES IN THE GULF OF THAILAND

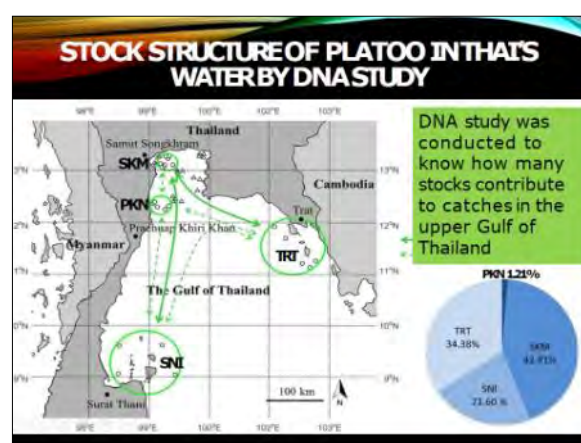
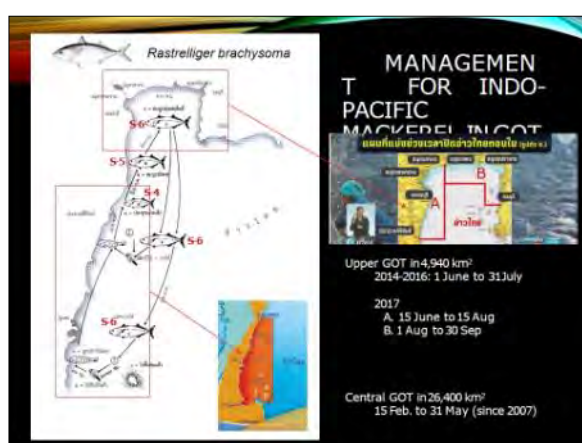
| Event title | Objectives | Major Outputs and Needs |
|--|---|---|
| (1) Experts Group Meeting on Stock Status and Geographical Distribution of AIB Species in the Gulf of Thailand, Sept. 2016 | <ul style="list-style-type: none"> To assess status of AIB fisheries and its migratory pattern in GoT toward development of "joint management plan" for GoT countries To facilitate the conduct of human resources development activities to enhance technical expertise of the countries with respect to the management of AIB species | Major Outputs: <ul style="list-style-type: none"> SOP for data collection Updated information on current condition of stock status of AIBs Known stock structure of Indo-Pacific mackerel in Thai's water - GoT Defined appropriate methods for better understanding stock structure of AIBs Developed template for scientific information/data collection on AIBs capture fisheries (fishing gears, efforts, catch, etc.) Needs: <ul style="list-style-type: none"> Overall: need to confirm stock structure Mackerel: continue DNA study in CMTV Anchovy: prioritize species and develop a plan for data collection; DNA study (?) BSC: trial the model used in Thailand in areas of the borders |
| (2) Technical Meeting on Planning for Development of Stock Study for AIB Species in the Gulf of Thailand, FEB. 2017 | <ul style="list-style-type: none"> Objectives: to obtain information from experts to facilitate drafting work plan of stock study for AIB species in Gulf of Thailand Resource persons: senior experts of DoF Thailand - specialize for each AIB species, and researchers (DNA, Otolith, and remotesensing) | |

UPDATED INFORMATION ON STOCK STATUS OF AIB SPECIES IN THE GULF OF THAILAND

(source: Expert Meeting, Sept. 2017)

| Species | Stock Status | | |
|-----------------------|--------------|----------|------------|
| | Decreasing | Stable | Increasing |
| Anchovy | Viet Nam | Thailand | Malaysia |
| Indo-Pacific Mackerel | (Thailand) | Malaysia | Thailand |
| Blue Swimming Crab | Thailand | Malaysia | Viet Nam |


Source: Experts Group Meeting on Stock Status and Geographical Distribution of AIB Species in the Gulf of Thailand, Sept. 2016



FOLLOW-UP ACTIVITY FOR INDO-PACIFIC MACKEREL

Conduct DNA sampling and analysis for stock structure in GoT:

1. Confirmation of no. of stock based on previous DNA study in Thai's water
2. Find out total number of stock in GoT



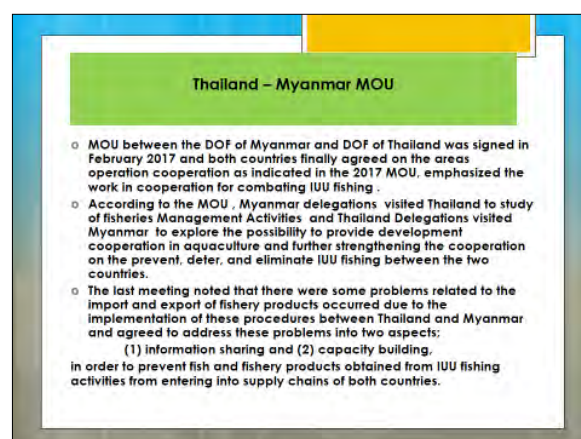
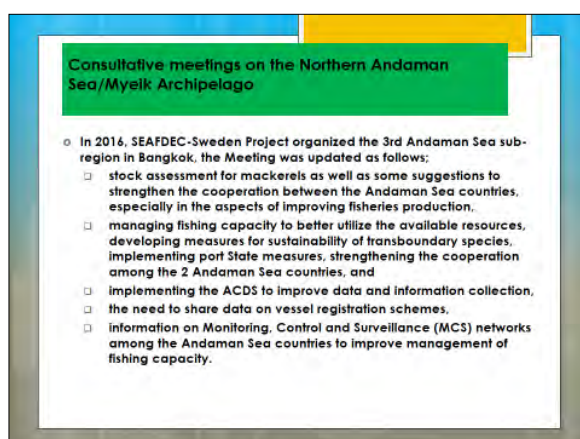
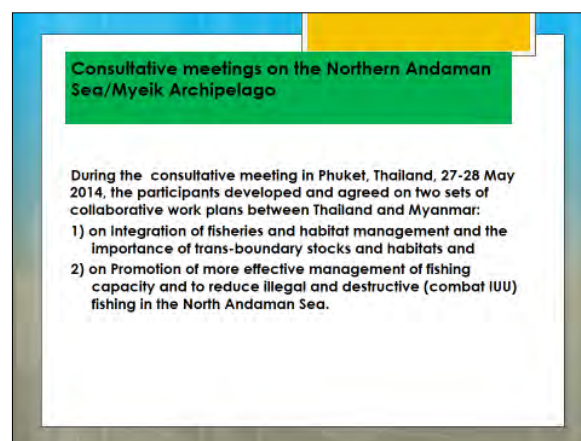
PROPOSED SAMPLING SITES FOR STOCK STUDY IN GOT

- DNA sampling is planned to carry out from December 2017 to May 2018
- GOT Joint management plan for Indo-Pacific mackerel is planned to discuss and finalize in 2018



THE LATEST UPDATE INFORMATION ON EFFORTS IN PROMOTION OF MORE EFFECTIVE MANAGEMENT OF FISHING CAPACITY TO BUILD COORDINATION ON MCS AND TO REDUCE IUU FISHING IN THE NORTHERN ANDAMAN SEA BY MYANMAR

By Ms. Nilar Kywe, Deputy Director of DoF, Myanmar



Management of Fishing Capacity

Current Activities

DoF, Myanmar set up the rules to control the fishing activities in Myanmar water as follows;

- 1) Limitation for issuance of licence for trawl fishing vessel
- 2) Limitation for issuance of new fishing licence
- 3) Limitation for the building and importation of new fishing vessel
- 4) Limitation for the permission for the foreign fishing vessel in Myanmar water
- 5) Identification of closed season and closed area for 3 months
- 6) Prohibition for destructive fishing gears

Management of Fishing Capacity

Challenges

- 1) Increasing numbers of fishing vessel due to previous regulations
- 2) Using fishing gears over limitation in number and size.
- 3) High engine power and using high technology equipment such as radar, echo sounder, fish finder and GPS
- 4) No observer program and no inspection for fishing vessel while fishing at sea.
- 5) no scientific data collecting for the purpose of management of fishing capacity

MCS measure in Myanmar

Current Activities

- 1) Check in check out system by one stop service(OSS)
- 2) Inspection at sea by NAVY
- 3) Information sharing among the OSS agencies
- 4) Effective sanction for unregulated fishing vessel
- 5) New fisheries laws are under process
- 6) VMS system in foreign fishing vessels

MCS measure in Myanmar

Challenges

- 1) Human resources in technical skill
- 2) Establishment of specific MCS unit
- 3) Annual work plan and implementation for National Plan of Action-IUU
- 4) Regular survey and research for data collecting
- 5) To install VMS – VMS control center and service provider
- 6) Budget allocation and organizational structure
- 7) Logbook system fails to be practiced
- 8) Large vessel licencing as inshore fishing vessel

Fisheries Legal Aspect

Current Activities

- 1) New fisheries laws are under process
- 2) Binding international instruments and regional agreements in the laws and regulations

Challenges

- 1) Definition and legal context of international instrument in the laws
- 2) Human resources in technical skill
- 3) Drafting bylaws for the new fisheries laws

Implementation of Port State Measure Agreement

Current Activities

- 1) Myanmar flag vessel is not allowed to fish outside of the Myanmar Jurisdictions.
- 2) Landed data of fishing vessel is collected from the company or owners of fishing vessels.
- 3) Myanmar fishing vessel is not allowed to land in foreign landing sites.
- 4) Foreign fishing vessel is not allowed to land in Myanmar port without prior permission or licence.
- 5) All carrier vessels have to be reported the transshipment data to DoF.
- 6) Landed data of 9 landing sites in Yangon has been recorded by DoF since 2012.
- 7) Technical assistance by FAO (Workshop on Formulation of a National Strategy and Action Plan for Compliance with the Port State Measure Agreement in Myanmar (23/27-10-2017)

Implementation of Port State Measure Agreement

Challenges

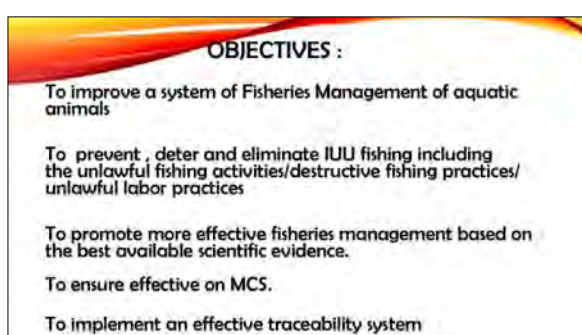
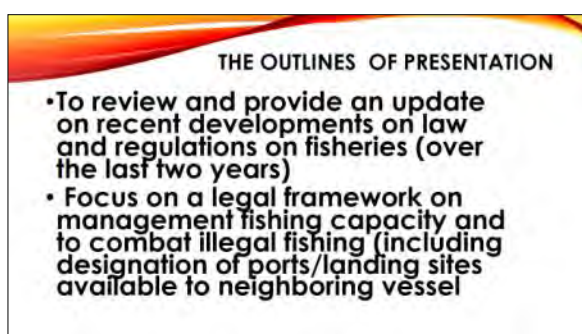
- 1) Documents and tax for small scale fish carrier vessel
- 2) Actual species composition and weight of export fish asked by parliament members
- 3) Some legal context for the port state duties implementation in draft fisheries laws
- 4) Port state facilities
- 5) The written port inspection procedures and MCS procedures recommended by PSMA workshop
- 6) Collecting landing data in some coastal area

Information sharing among members countries

- 1) There is some information sharing among ASEAN member countries such as the Regional Fishing Vessel Record under the SEAFDEC program.
- 2) Myanmar initiated the information sharing with Thailand according to MOU between Thailand and Myanmar.
- 3) For the information sharing, it needs to be established electronic database.
- 4) Myanmar need to promote the information sharing in accordance with the PSMA.

LAWS AND REGULATION FOR SUSTAINABLE DEVELOPMENT FISHERIES IN THAILAND

By Ms. Doungporn na Pombejra, Representative from DoF Thailand



TO IMPROVE THE FISHERIES MANAGEMENT

- To prevent and eliminate overcapacity
- To reduce fishing effort by calculation MSY for overfishing

TO PROMOTE MORE EFFECTIVE MANAGEMENT OF AND TO COMBAT IUU FISHING .

Issuance a fishing license based on MSY (Maximum Sustainable Yield).

- Controlled by Fishing License.
- Controlled by Fishing Days

Limitation of number of new registered fishing vessels.

TO BUILD EFFECTIVE ON MCS

Vessel size ≥ 10 GT. (section 81) must:

- Providing a Fishing logbook.
- Report to PIPO/Port in Port out: especially trawler, purse seiner and anchovy purse seiner.
- Identification Marking (vessel GT).
- Fishing vessel in Thai Waters have to port in within 30 days.

Vessel size ≥ 30 GT. must:

- Installation of VMS monitoring system/An aquatic animal transshipment must install Electronic Reporting System(ERS) and Electronic Monitoring System(EM).
- Report to PIPO/Port in Port out:

IDENTIFICATION MARKING OF VESSELS AND ZONING

Fishing Area: The owner of fishing vessel must mark the fishing vessel with the letter T, A, and H for identification the fishing vessel areas as following :

| | |
|----------------------|----|
| Gulf of Thailand | -T |
| Andaman | -A |
| Outsides Thai Waters | -H |

DOCUMENTATION REQUIREMENTS FOR THE TRACEABILITY

- A fishing log book - The owner/master of fishing vessel
- A marine catch transshipment document – The owner/master of the carrier /a buyer
- A Marine catch purchasing document - The owner of fishing port/fishing market entrepreneur

DOCUMENTATION REQUIREMENTS FOR THE TRACEABILITY

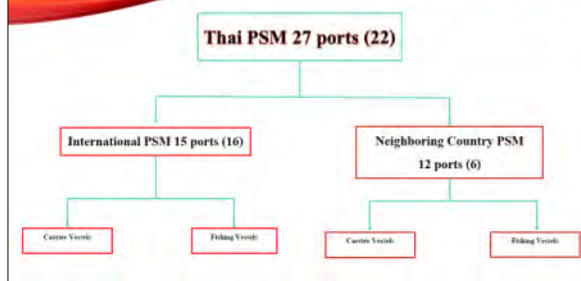
- The evidence of traceability - A producer/processor of aquatic animals
- The Catch Certificate/other documentation evidences of the aquatic animals/products not come from IUU fishing - Importer/for transit

TRACEABILITY SYSTEM

- PIPO (Port In - Port Out)
- FISHING INFO
- VMS SYSTEM
- FSW/ CIUU

PSM PORT STATE MEASURES

Designated port for foreign carrier and fishing vessels



PORT STATE MEASURES

1. Designation port for port entry of the foreign vessels
2. Before port entry under section 95
 - Notification /AREP
3. Vessel inspection at port under section 96
4. Offloading monitoring under section 92

NEIGHBORING COUNTRY CARRIER VESSEL

- In case of fish has not been landed, sorted species, packaged or the exact weight and species has not been establish from flag state
 - copy of vessel registration certificate
 - copy of transshipment license
 - copy of vessel registration certificate of all donors vessels
 - copy of fishing vessel
 - copy of the stowage plan
 - copy of the port clearance plan
 - copy of vessel master card and / or other legal documents identifying the captain or master or vessel operator
 - copy of the CITES permit

NEIGHBORING COUNTRY CARRIER VESSEL

- In case of fish has been landed, sorted species, packaged or the exact weight and species has not been establish from flag state
 - copy of vessel registration certificate
 - copy of document issued by relevant government
 - copy of port clearance form of the last port call
 - copy of vessel master card and / or other legal documents identifying the captain or master or vessel operator
 - copy of the CITES permit

Designated port

- 11 January 2016 46 ports
- 31 March 2017 Reduce to 27 ports
- Now on the effort to reduce to total 22 ports

Under Notification of Ministry of Agriculture and Cooperatives (No. 2) B.E. 2560 (A.D. 2017)
Fully enforce on 31st March 2017

- Increase the effective in proper inspection
- Geographical condition
- Port in Number of vessel



PSM implementation for Neighboring country


AREP and relevant documents checking by Fisheries Inspection Office (FIO)

↓

Vessel inspection at **"Choke point"** by FIO

↓

Off-load at ports in listed under Royal Fisheries Ordinance
 Port have to control landed fish under section 85 and FIO randomly check



Reduce Haung port from 6 ports (Red Pin) to 1 port (yellow Pin)

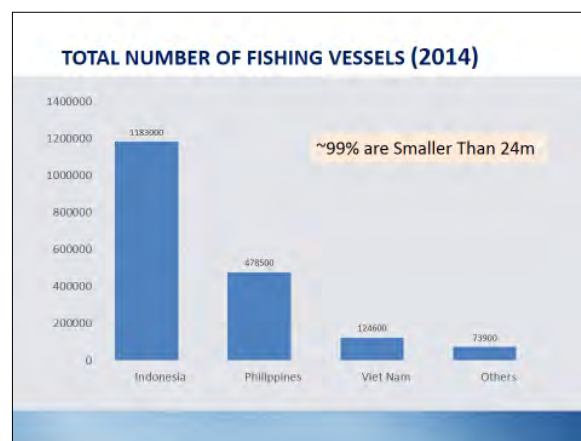
Set up "Choke Point" for vessel inspection for Burmese Flag

FOR MORE INFORMATION

Law.fisheries@gmail.com
Legal Affairs Divisions of DOF

THE REGIONAL PLAN OF ACTION FOR MANAGEMENT OF FISHING CAPACITY (RPOA-FISHING CAPACITY)

By *Dr. Somboon Siriraksophon*, Policy and Program Coordinator, SEAFDEC



Findings since 1980s

- Since 1980s, most of the near shore fishing areas in Southeast Asia are overfished (Silvestre, G.T., 2003).
- In many coastal areas, the CPUEs and other biological parameters and/or reference target points indicate declining status of some fish stocks.

NPOA for Managing Fishing Capacity is needed

Development of the RPOA-Capacity

- In cooperation with DOF/Malaysia, the RPOA-Capacity was developed through:
 - 1st RTC held on 24-26 February 2015: Identified key Issues/problem;
 - Expert Group Meeting held on 19-21 August 2015: for a Zero Draft;
 - 2nd RTC held on 15-17 December 2015: for Final Draft of RPOA-Capacity;

48th Council Meeting for Endorsement (2016)

Introduction: OBJECTIVES

The **overall objective** of the RPOA-Capacity:

- Serve as **guides for management of fishing capacity** in an ASEAN perspective;
- To **enhance (sub)regional cooperation on effective fisheries management** in sub-regional areas such as the Andaman Sea, Gulf of Thailand, South China Sea and Sulu-Sulawesi Seas.
- Also serve as basis for the AMSs in formulating relevant policies and provide an enabling environment for clear direction and understanding of the need to effectively manage the fishing capacity at national level.

RPOA-Capacity contain 4 PARTS

- Part 1: rationale, problems on the sustainable fisheries management, and the needs for RPOA-Capacity;
 - Part 2: Goals and objectives;
 - Part 3: guiding principle in developing
 - Part 4: PROVISIONS part of the RPOA-Capacity
 - 1) Assessment of Fishing Capacity;
 - 2) Preparation and Implementation of National Plans;
 - 3) International Consideration;
 - 4) Required Urgent Measures for Regional Fisheries Management; and
 - 5) Mechanisms to Promote of the Implementation.
- ✓ Recommended Template for NPOA-CAPACITY

Applications of RPOA-Capacity > Joint Management of Fisheries Resources

Longtail Tuna:

- TAC should be less than the MSY level (37,580 t). This means that the current catch level (43,000 t) should be **decreased by 5,400 t (13%)**.

Fishing Capacity Management

- Input control
 - Fishing Efforts
 - Number of Boat
 - Fishing Days

- Output Control
 - Catch Quota

Kawakawa:

- TAC should be less than the MSY level (55,380 t). This means that the current catch level (59,800 t) should be **decreased by 4,400 t (7%)**.

THE PROGRESS OF ACTIVITIES AND SURVEYS IMPLEMENTED IN PU LONE TONE TONE VILLAGE, KAW THAUNG, MYANMAR

By Mr. Win Naing, Director of CORIN-Asia Myanmar




The Third Sub-regional Consultative Workshop of The Northern Andaman sea/Myeik Archipelago



CORIN-Asia MYANMAR

Win Naing
Director

| Developments and Actions in Myanmar | | | | |
|--|---|--|---|--|
| Study Area | Activities | New Workplan and Proposed Activities | Participatory report-making | Develop a local fishery information system |
| Pu lone tone island, 3 miles northwest of Kaw Thaung District. | About 500 small fishing boats in the village, mangroves protecting, developed for tourism with its red sand and coconut plantation. | 8 activities are planned. Crab bank will be established in the project area. Mangrove conservation. Eco-Tourism. | Survey result shall be encoded and collated by CORIN-Asia Myanmar staff. The final report summarizing activity results will be submitted to SEADEC. | Dept of fisheries, Dept of Environment and Forest Development, Dept of Hotels and Tourism. |



Fishing communities in the border area

Fisheries Zone; Ta Da Gyi is an area where fisheries-related activities are the main livelihood of local people. Fishing boats are working like a family group and encroached the mangrove and coastal waters, which may have negative impact into the environment and ecosystem balance. There are fishermen families near the coastal waters, especially in the shallow waters have quite good efficiency and effective in the management of their business and still keep growth up their community till invade the area of mangrove and coastal area.




Mangrove Conservation

1. Logging or other activities in mangrove forest.
2. Type of mangrove species and uses
3. Area need for mangrove replantation
4. Availability of saplings (small mangrove) for plantation
5. Appropriate period to plant mangrove saplings
6. Mangrove forest protection
7. Alternative energy to save/reduce utilization of charcoal and fuel wood
8. Consumption rate of fuel and charcoal per household
9. Other alternative sources of fuel for domestic use (to replace charcoal for fuel)
10. Mangrove rehabilitation plan
11. Charcoal-making in the project area



Mangrove Conservation

Forestry Officers are surveying around the mangrove 175 acre



Forestry Officers are surveying around the mangrove 175 acre



Marking of the mangrove in the project area



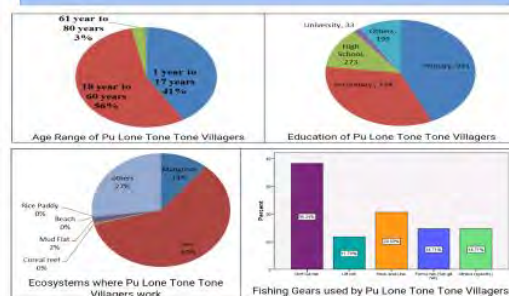
Mangrove forest in the project area



Mangrove Conservation



Education and Socio-economics of Pu Lone Tone Tone villagers



Rubber plantation and Mee Thwey Fong in Pu Lone Tone Tone village



Collaboration of fishing communities in the border area



NERITIC TUNA in MYANMAR

- In MYANMAR, Neritic Tuna gaining more important, economically species and were exploited by variety of fishing gear. The main fishing gears used for catching neritic tunas was the purse seines and Long line and traditional fishing gears for the small pelagic fish species in coastal areas.
- Some species Tuna can catch in Myanmar waters as Skipjack Tuna, Yellow fin Tuna.

Myanmar Tuna Fish

1. Myanmar Tuna fish market.
2. Fisherman make dry fish.
3. Tuna season in Myanmar is November to March every year.
4. Mostly Rakhine area fishing ground has many tuna fishes.
5. Technologies and landing sites need.



Yellow fin Tuna carrying by truck in Rakhine state (Gwa)



STUDY ON THE SOCIAL PROFILE OF LIVELIHOOD OPPORTUNITIES ALONG VALUE CHAIN BY INTEGRATED GENDER DIMENSION

By Ms. Thanyalak Suasi, Fisheries Management Section Head, SEAFDEC

Review/Research of social profile livelihood opportunities and Value Chain by integrated gender dimension

Introduction (1)

- Sustainable Development Goal
 - Social Dimension (9 goals)
 - Economic Dimension (2 Goals)
 - Environment Dimension (5 Goals)
- It was emphasize that Social Dimension are important for sustainable development
- Lack of base line data and information on Social well-being in fishing community



- Social Dimension (9 goals are 1-5, 10-12 and 16)
- Economic Dimension (2 Goals are 8 and 9)
- Environment Dimension (5 Goals are 6-7, and 13-15)

Introduction (2)

- The study will provide baseline data and information for planning development as well as support social aspect through gender dimension in fishing community
- The study aimed to conduct in the local site under SEAFDEC- Sweden project
- Target site: Kawthaung, Myanmar (Pu Lone Tone Tone Village)
 - CORIN Asia Myanmar
 - SEAFDEC-Sweden Project implementation (2016-2017)

Objective of the Study

- To understand the current situation and socio-economic/social profile, livelihood of small-scale fisheries in target site
- To identify the approach or recommendation to improve the living condition and socio-economic of fishers in target site
- To understand structure of fish value chains and role of women and men in target site
- To integrate gender dimension in data collection

Methodology

Data Collection

- Primary Data
 - Key Informant Interview
 - Questionnaire survey
 - Focus Group Discussion
- Secondary data (Report, concerned doc.)

Data Analysis

- Descriptive Statistic analysis
- Qualitative data analysis

**Target site: Pu Lone Tone Tone village
Kawthaung, Tanintharyi, Myanmar**

- Border: Ranong, Thailand
- Located: Northwest of Kawthaung
- Population: 710 households
- Main livelihood: Fisheries and non-fisheries related activities
- 70% exploiting fisheries and other natural resources in wetlands and coastal areas/marine water
- Fishing boat: 500 boats



Outline of data collection

| | |
|---|--|
| Better life, Health and children education | <ul style="list-style-type: none"> • Living condition (income) • Basic infrastructures (household, assets) • Hygiene and sanitations (toilet, clinic) • Health check-up • Women and men discussion family issues • Access to more information • Understand concepts of gender and their roles • Girl and boy education |
| Gender division of labor/time use pattern | <ul style="list-style-type: none"> • House works • Taking care of children, elders and illness persons • Fish processing/market • Aquaculture • Capture fishery |
| Fish Marketing | <ul style="list-style-type: none"> • Price information • Fish product • Marketing Channels • Middleperson |

Expected output

- Report of Review/Research of social profile, livelihood opportunities and value chain in the study area with integrated gender dimension
- Paper of Gender analysis
- Recommendation for sustainable development in Pu Lone Tone Tone village community

Expected output under Gender Dimension

- Access and control to assets for livelihoods
- Gender roles, responsibilities, time and lived experiences
- Participation and decision making
- Cultural norms, beliefs and perceptions
- Laws, Regulations and Institutional Practices/ Mechanisms
- Patterns of Power and Decision Making

Work plan

| Activities | Period | Responsible persons |
|---|----------------|--|
| 1) Establishment of working team from Myanmar (HQ & local officer) | Jan 2018 | SEAFDEC, DOF, Myanmar and CORIN Asia Myanmar |
| 2) Data collection - Development of questionnaire - Key Informant interview (KII) - Focus Group Discussion (FGD) - Individual interview | Feb-March 2018 | SEAFDEC, DOF, Myanmar and CORIN Asia Myanmar |
| 3) Data Analysis | March 2018 | SEAFDEC, DOF, Myanmar and CORIN Asia Myanmar |
| 4) Working team meeting for discuss on result analysis and present result to community | April 2018 | SEAFDEC, DOF, Myanmar and CORIN Asia Myanmar |
| 5) Report | May 2018 | SEAFDEC, DOF, Myanmar and CORIN Asia Myanmar |

GROUP DISCUSSION
GROUP 1. TRANSBOUNDARY AQUATIC RESOURCES MANAGEMENT

| Activities | Date | Description | Outputs | Remarks |
|---|--------------|--|--|--|
| Core planning group meeting 1 st | Dec. 2017 | <ul style="list-style-type: none"> - Technical focal point (Myanmar, Thailand and SEAFDEC) will be call for the meeting to determining what data needed to identify spawning ground and season. - Technical focal point will design the study method including collaborating larval sampling and identification. | <ul style="list-style-type: none"> - Identification data needed for determining spawning season and area. - Study plan for larval sampling and identification. | <ul style="list-style-type: none"> - Mr. Thun Thein, Mr. Suchart Seangchan and Mr.Sukchai Arnupapboon are proposed to be technical focal point. - There are three species, Kawakawa, Longtail tuna and Indian Mackerel were proposed to study. |
| Information collection | Jan-Mar 2018 | <ul style="list-style-type: none"> - Technical focal point will take response to compile the existing data which were determined from Core planning group meeting 1st. | <ul style="list-style-type: none"> - Set of existing data for determining spawning season and area. | <ul style="list-style-type: none"> - To compile the existing data, collaboration with other agencies are required <i>i.e.</i> DMRC, IUCN,MFF, WWF, Myiek University,FFI. |
| Information compilation | April 2018 | <ul style="list-style-type: none"> - Technical focal point will submit data to SEAFDEC. - Spawning season and area will be investigated. | <ul style="list-style-type: none"> - Map of spawning area. - Spawning season information. | |
| Core planning group meeting 2 nd | May 2018 | <ul style="list-style-type: none"> - SEAFDEC will report results of the spawning season and area to technical focal point. - Technical focal point from Myanmar and Thailand will comment and suggest. | <ul style="list-style-type: none"> - Agreement on spawning season and area. | |
| Bilateral meeting | June 2018 | <ul style="list-style-type: none"> - Spawning season and area information will be feed to the meeting. - Technical working group will make the draft management plan. | <ul style="list-style-type: none"> - Draft management plan. | |
| Stakeholder meeting | July 2018 | <ul style="list-style-type: none"> - National focal point will organize the national stockholder meeting to disseminate the draft management plan to stakeholder for acknowledge and encourage them to involve in develop final management plan. | <ul style="list-style-type: none"> - Dissemination draft management plan. -Set of recommendation and suggestion from stockholder. | <ul style="list-style-type: none"> - The national stockholder meeting is required for agreement of management plan. |

Note: *Mr.Isara chanrachkij* suggested that market chain study should be conducted in parallel with spawning season and area study.

GROUP 2. MORNITORING AND CONTROL FISHING EFFORTS

| Effective Fisheries Management | Thailand | Myanmar | Future Work |
|---|---|--|--|
| 1. Issues on landing across the border by small scale fishing boat less than 10GT. | Allow the said fishing boat to land if flag vessel carry validated licenses and Clarify Documents. | Under the law of Myanmar: not allow vessel less than 10 GT. | Put Small fishing vessels less than 10 GT who involve in the intra-regional market into the CDS system (eACDS in which will be support to Myanmar by SEAFDEC From 2018). |
| 2. Carrier vessels (Myanmar) including small carriers (over than 30GT) must prepare Port Clearance requested by Thailand. | Follow the PSM that all foreign fishing vessels and carriers need to carry the port clearance from flag states. - Avoid the flake documents. | There are problems from Myanmar side to issue the Port Clearance even though small carrier boats create big burden to small fishing boat owners. DoF Myanmar provides the following documents to all fishing boat/carriers such as 1). Registration document, 2). export declaration, 3). export Carriers license, and 4). Catch Certification. However, for the Port Clearance required by DOF/TH should be issued by other Agency, which is a bit high cost. | No conclusion on this matter. |
| 3. Refers to MoU on fisheries cooperation between DoF/TH and DoF/MM signed in February. | Thailand agreed to revise the list of documents required for landing of carrier boat. | Request for revising the list of Documents required for landing of Myanmar Carrier boats. | The agreed list of documents required for landing of Myanmar Carrier boats in Thailand are: - Catch Certification (transshipment) - Port clearance - Registration - Export Declaration - Invoice - Export Declaration - Foreign fishing vessel license - Port clearance - Export manifest Certificate of clearance |

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|--|--|--|---|
| 4. Standard Vessel marking system Issue is on the Fishing vessel Name in Local Language. | Thailand request Myanmar to consider on the vessel marking system at least to be understanding by Thai-inspector. | Myanmar will raise these issues at higher level to consider to improve the vessels Marking System. | Done. |
| 5. FEEs for landing of carriers from Myanmar | There is no fee from DoF/TH however, other agencies may charge for fees when Myanmar carriers landed in Thai-port such as : <ul style="list-style-type: none"> - Marine Department (Port authority) - Custom - Immigration | Myanmar would like to know agencies and fees-related for landing of Myanmar carriers. | Thailand will seek information on Fee cost for landing of foreign fishing vessels. |
| 6. Improvement of Traceability system for Myanmar through the implementation of eACDS supported by SEAFDEC. | | Myanmar requested SEAFDEC for improvement of the Country System on Traceability system for marine capture fisheries (domestic fisheries). | SEAFDEC put this matter in the work plan under the SEAFDEC/Sweden project from 2018-2019. |
| 7. Lack of information on the fishing effort from commercial fisheries such as purse seine and bottom trawl. | Thailand have experienced on the management of fishing capacity based on the Scientific evident from stock assessment. | Myanmar seek the support and lesson learned from Thailand and SEAFDEC on the managing fishing capacity. | Thailand and SEAFDEC could support Myanmar on this matter while Myanmar need to set up the working team. |
| 8. Managing of fishing capacity. | | In Myanmar, due to control of fishing vessels, country not allow to import foreign fishing vessel into the country. | |
| 9. Monitoring of catch data including the biological data to support the stock assessment for management measures in future. | | Myanmar requests SEAFDEC to provide the capacity on all process of managing of fishing capacity, which is linked to managing of fisheries resources. | SEAFDEC could provide the integrated program to cover eACDS and Management of fishing capacity as well as stock assessment into the future program from 2018-2019 and onwards through the fund raising. |

GROUP 3. HUMAN DIMENSION AND SOCIAL DEVELOPMENT

| Activity | Description | Responsible person |
|---|--|---|
| 1. EAFM training - Kaw Thaung, Myanmar - Dawei, Myanmar | 2018 | SEAFDEC-DoF Thailand/Myanmar. |
| 2. Review/Research of Social Profile livelihood opportunities and Value Chain by integrated gender dimension. | 2018 - Current situation (Indicator) - Issues - Recommendation (Develop program in the future - Capacity Building (Fisheries Officers/on the job training) | SEAFDEC-DoF Thailand/Myanmar CORIN-Asia Myanmar. |
| 3. The 1 st Fisheries Management Workshop The 2 nd Fisheries Management Workshop between Kaw Thaung and Ranong. | | SEAFDEC-DoF Thailand/Myanmar CORIN-Asia Myanmar. |
| 4. Safety at Sea. | - Training to trainer as core group to provide knowledge to local level. - Training course for local level. | TD Knowledge can supported by Thailand lesson learned. |
| 5. Resources rehabilitation and enhancement - Human Resources Development - Awareness Building - Research study | - Habitat diversity. -How human well-being can involve. | Check with TD and others. |
| 6. Alternative opportunities/livelihood - Eco-tourism. - Improve/Develop/knowledge on processing/Hygiene/handling. - Local Marketing/local-small scale enterprise. | | |
| 7. Study fishing technology Myanmar and Thailand. | To regulate, Collaborate on MCS. | |
| 8. Early warning disaster for fishing village. | | |
| 9. Awareness Building for conservation and protected environment and resources both local and regional level. | | |
| 10. Awareness building on tradition and local knowledge in community. | Ownership from resources to Genetic level. | |

Work plan for Northern Andaman Sea

A. Trans-boundary stocks, migration patterns and spawning seasons/area

B. Fishing Capacity and Monitoring, Control and Surveillance

Core planning group/technical focal point (TFP): *Mr. Thun Thein*, Myanmar and *Mr. Suchart Seangchan*, Thailand (*Mr. Sukchai Arnupapboon* TD facilitator) are suggested to be appointed as Technical Focal Points

Target/priority species: Kawakawa, long-tail tuna and Indian mackerel (Indo-Pacific mackerel) and anchovies were proposed to study

MCS National Technical Group (NTP) to be appointed based on existing national MCS Networks

Note: in combining these action-points an effort has been to ensure similar sequences for north and South Andaman (and the Gulf of Thailand) to facilitate consistency

| A. Trans-boundary species | | Timelines | B. Fishing Capacity and MCS | |
|--|--|-----------------------|---|--|
| Activities | Outputs | Date | Activity | Outputs |
| Appoint and confirm appointment of Technical (scientific) Focal Points (TFP) for Core Planning Group | Technical Focal Points (TFP) appointed Myanmar consult with Norway and Denmark | 15 Feb 2018 | Appoint and confirm appointment of MCS National Technical Group (NTG) established (based on existing national MCS networks) | National Technical Group established For Myanmar consult with Norway and Denmark |
| Information collection 1: Group members or appointed person (by each country) to collect available information and documentation on target species (stock status, spawning areas, migration patterns, feeding areas, etc.) including catch data | Sets of existing data collected on target species including catch data (<i>Indian and Indo-Pacific mackerel, longtail tuna, kawakawa, and anchovies</i>) | Jan-March 2018 | Group members (by each country) or appointed person to collect available information on fishing capacity (fishing vessels and gear), fishing effort and institutional responsibilities for monitoring, control and surveillance and existing national MCS networks | Sets of existing information collected on fishing capacity and M. C and S. including fishing effort data |
| Core Planning group meeting 1st TFP national meetings (Myanmar and Thailand, | Mackerels, anchovies and Neritic tuna: Documentation provided with | March 2018 | NTG meetings in Myanmar and Thailand , respectively, (facilitated as/if needed through SEAFDEC-Sweden Project) | Initial summary provided on the scope and functions of applicable |

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| <p>respectively, facilitated by SEAFDEC as/if needed) to review the relevance and value of existing info as input to management planning.</p> <p>Provide outline for the inputs to management plan(s) and determine any additional data needed to confirm spawning ground, spawning season including important habitats and migration patterns of mackerels, anchovies and neritic tuna.</p> <p>Consult with SEAFDEC and others on the application of SOP (based on Gulf of Thailand model) and template for the compilation of existing and additional information for studies, including larval sampling and identification to provide comparable trans-boundary information for the coordinated fisheries management planning</p> | <p>comments on the value and relevance of existing data as input to management planning.</p> <p>Outline provided on inputs to the management plan(s) with indication of additional data needs for determining spawning area, spawning season and to confirm migration patterns</p> <p>SOP and template established (in consultation with SEAFDEC) for comparative compilation of existing and additional information</p> | | <p>Consult with SEAFDEC and others on suitable template to provide a summary on the scope and functions of applicable laws, regulations and institutional responsibilities with regards to cooperation on MCS, and protocols for record and control of fishing capacity and landings by small and larger scale vessels (Requirements on catch documents and traceability including carrier vessels.</p> <p>Identify and confirm within each country on procedures for monitoring and control that need to be clarified, information to be shared and agree on steps to formally establish MCS networks and coordinated management of fishing capacity:</p> <p>Indicate any additional information needed in order to provide comparable trans-boundary and shared information on MCS and the management of fishing capacity as reference for the coordinated fisheries management planning</p> | <p>laws, regulations and institutional responsibilities with regards to cooperation on MCS, and protocols for record and control of fishing capacity and landings by small and larger scale vessels (Requirements on catch documents and traceability including carrier vessels.</p> <p>Procedures for monitoring and control confirmed by each country. Issues that need to be clarified as seen from either country should be stated together with basic information to be shared and steps indicated to formally establish MCS networks and coordinated management, including requirements to agree on catch documents (ACDS and eACDS) and traceability and verification protocols.</p> <p>Template established together with additional information needed to provide comparable trans-boundary and shared information on MCS and the management of fishing capacity</p> |
| <p>Information collection2 and compilation: Continues based on indications provided during the 1st national TFP meeting</p> | <p>Sets of existing data collected and updated with the information compiled and reported based on the SOP and template for</p> | <p>Jan-March 2018</p> <p>Early May</p> | <p>Information collection 2 and compilation: Continues based on indications provided during the 1st national NTG meeting and</p> | <p>Sets of information collected and documented by the NTG, other partners and responsible agencies</p> <p>List of agencies indicated below</p> |

| | | | | |
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| <p>with the information compiled and documented in accordance with the SOP and template worked out during the 1st TFP meeting.</p> <p>A short training session provided as/if needed on inputs and information needed and the structure of the SOP and template. The collection and compilation should be coordinated by seeking references from other agencies, including DMCR, IUCN, MFF, WWF, Myeik University, FFI, FAO, etc.</p> <p>TFP or special appointed person will be responsible for compiling the existing data as indicated during 1st Core Planning Group meeting and be ready to present during next event.</p> | <p>organizing the information as indicated during the 1st TFP meeting.</p> <p>Collected information compiled and ready to be shared:</p> <ul style="list-style-type: none"> - Map of spawning area - Information on spawning season - Map and information on migration patterns - Map and information of feeding areas - Information on catches - Map and information on important habitats - Others <p>- Include available information as practical into one combined (GIS) map</p> | <p>2018 Compiled report(s) available</p> | <p>compiled in accordance with the worked out template</p> <p>The collection and compilation should be coordinated by seeking references from all (relevant) agencies responsible for M, C and S and managing fishing capacity—especially those included in the national MCS-Networks.</p> <p>NTG or special appointed person will be responsible for compiling the existing data as indicated during the 1st meeting and be ready to present during next event.</p> | <p>Collected and documented information include aspects related to issues raised during the November 2017 Meeting, the March 2018 Meeting and additional information collected by the NTG and others</p> <p>Collected information compiled and ready to be shared:</p> <ul style="list-style-type: none"> - applicable laws, regulations and institutional responsibilities with regards to M, C and S - Protocols/regulations for managing fishing capacity (registration, licenses, etc.) - Protocols/regulations for managing, control and record landings. - Protocol/regulation for landing across border by of small-scale fishing vessels (and larger vessels) - Protocol to agree on catch documents (ACDS and eACDS) and requirements for traceability - Requirements for carrier vessels (documentation, certification and landing fees) - Special Institutional responsibilities (collect fees, taxes, customs, etc.) |
| <p>Core (bilateral) planning group meeting 2nd</p> <p>-The TFP of each country will</p> | <p>- An, in principle, agreed set of information (maps) on spawning area, spawning season and</p> | <p>June 2018</p> | <p>Bilateral meeting with both NTG's from Myanmar and Thailand</p> | <p>Draft MoU (or other arrangement) on cooperation on MCS together with drafted</p> |

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| <p>report on their results with information compiled and documented in accordance with the SOP and template worked out during the 1st TFP meeting.</p> <p>-The TFP from Myanmar and Thailand will, facilitated by SEAFDEC, discuss the findings and if available information have sufficient detail and quality to jointly suggest continued work to manage and conserve identified target areas as a basis for a joint management plan</p> <p>- Information (maps) on spawning area, spawning season and migration patterns will be provided to the meeting</p> <p>-Technical working group will make inputs to the draft management plan</p> | <p>migration patterns area available after the meeting in agreement between the TFP of Myanmar and Thailand together with suggestions on continued work to manage and conserve identified target areas</p> <p>First draft of a management plan</p> | | <p>- The NTG of each country will report on their results of compiling information</p> <p>- The NTG from Myanmar and Thailand will, facilitated by SEAFDEC (or other partner) joint suggest continued work and agenda for establishing MOU (or other arrangement) on MCS and information sharing on updates on laws and regulations together with Protocols, requirements and institutional responsibilities for MCS, landings control, collection of fees and taxes and certification of landings'</p> <p>Confirm the establishment of bilateral committee on monitoring, control and surveillance including information sharing and regular meetings to provide update on implemented measures</p> | <p>“norms” and routines for information sharing</p> <p>Intentions confirmed to establish bilateral committee on monitoring, control and surveillance including information sharing and regular meetings to provide updates on implemented measures together with steps to monitor and control fishing efforts in support of the draft management plan</p> |
| <p>Stakeholder meeting to agree on aspects on spawning area, spawning season and migration patterns (and other aspects) to be addressed in the joint fisheries management plan</p> <p>-National focal points(NFP) and NTG's will organize the national stakeholder meeting to disseminate the draft management plan to stakeholder</p> | <p>- Draft management plan disseminated</p> <p>-Sets of recommendation and suggestions provided by stakeholders</p> | July 2018 | <p>Stakeholder meeting to agree on aspects of needed information sharing and to facilitate institutional cooperation across boundaries to be addressed in the joint fisheries management plan</p> <p>- National focal point (NFP) and NTG's will organize the national stakeholder meeting to disseminate the draft management plan to stakeholder for their</p> | <p>-Dissemination of draft management plan</p> <p>-Sets of recommendation and suggestions provided by stakeholder</p> |

| | | | | |
|---|--|---------------------|---|--|
| for their acknowledgement and encourage them to involve in developing final management plan | | | acknowledgement and encourage them to involve in develop final management plan and MCS Committee | |
| Bilateral meeting organized for the inception of joint Myanmar and Thailand Fisheries Management Plan for trans-boundary stocks and the establishment of the MCS Committee | Agreements (in principle) by authorities on the draft joint Myanmar and Thailand Fisheries Management Plan | October 2018 | Bilateral meeting organized for the inception of joint Myanmar and Thailand Fisheries Management Plan for trans-boundary stocks and the establishment of the MCS Committee | Agreements in principle by authorities on the draft joint Myanmar and Thailand Fisheries Management Plan |

Note 1: Capacity-building needs for Myanmar check with bilateral plans of Norway and Denmark as expressed during the meeting and during group work and provide recommendations accordingly.

Institutions and agencies involved in M, C and S networking and coordination

Northern Andaman Sea (from Nov 2017 working group with additions)

| Myanmar | Thailand | Comments |
|--|---|----------|
| Department of Fisheries Navy Marine Police Customs Immigration Forestry Department Kaw Thauang Provincial Department Ministry of Environment(coordinating body for Myanmar) | Department of Fisheries Navy Marine Department Marine Police Port Authority Thai Maritime Enforcement Customs Department Labor Department Department for Marine and Coastal Resources (DMCR) Ranong Provincial Authority Coordinating Center (Thai-MECC) (coordinating body for Thailand) | |