



**“Strategies for trawl fisheries by-catch management”  
(REBYC-II CTI; GCP/RAS/269/GFF)**

**Thailand Fisheries Policy in Brief**

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**Summary**

This report provides a brief description of the structure of the REBYC-II CTI Project with its four components on policy, legal and institutional frameworks, resource management and fishing operations, information management and communication, and knowledge and awareness raising activities in two sites in the Gulf of Thailand. These consisted, among others, of fishing gear trials, legal reviews, stakeholder consultation meetings, as well as socio-economic and fish larvae surveys. The outcomes and findings have been used to formulate management measures for mesh size enlargement and closed area and closed season measures, and to provide guidance on formulating trawl management measures, using a participatory and consultative process. It also presents some important aspects on new Thai fisheries policy, the Royal Ordinance on Fisheries B.E. 2558 (2015) concerning small-scale and trawl fisheries, with its key principles and objectives, relating to good governance, combating illegal, unregulated and unreported fishing, improving monitoring, control and surveillance (MCS) as well as traceability, and improving labour conditions in fisheries. To achieve these, the Government has adopted the Marine Fisheries Management Plan (FMP), which outlines the key principle and policy priorities designed to tackle overfishing and overcapacity of the Thai fishing fleet, approved the National Plan of Action to Prevent, Deter and Eliminate IUU Fishing (NPOA-IUU), and established the Command Center for Combating Illegal Fishing (CCCIF) in May 2015. Some details are provided on several of the measures, e.g. tackling elimination of illegal fishing, Stricter control on Thailand’s overseas fishing fleet, the role Fisheries Monitoring and Operation Center and the Port-in – Port-out Centers, catch certification and other traceability documentation requirements, protection of migrant workers and general strengthening of law enforcement with respective sanctions. The new Marine Fisheries Management Plan (FMP) 2015 – 2019 provides also for good governance, increasing stakeholder participation, precautionary approach and adaptive management, among others, and its objectives and targets cover reducing fishing capacity and fishing effort, rebuilding fish resources, minimizing IUU fishing through effective MCS, reducing the catch of juveniles of the larger commercial species, resolving conflicts, restoring and maintaining critical habitats, and improving fisheries data and information. Highlights of some issues identified from the results of the REBYC II CTI Project include the importance of the stakeholder consultation process in preparation of policy advice used to formulate new regulations, the recognition of the diversity of resources, fishing gears and socioeconomic contexts, and the strong need for coordination and collaboration in a still evolving regulatory environment.

## I. Background

The REBYC-II CTI Project “Strategies for trawl fisheries by-catch management” was implemented within a wider framework of trawl fisheries management, and applied an Ecosystem Approach to Fisheries Management (EAFM). The project REBYC-II CTI; GCP/RAS/269/GFF was developed in 2008, following a REBYC Phase I Pilot Project. It entered the GEF work programme in 2009 and was endorsed by the GEF Chief Executive Officer (CEO) on 7 July 2011. Five countries are members of this project namely Indonesia, Papua New Guinea, the Philippines, Thailand and Vietnam.

Between April 2013 and September 2016, the Food and Agriculture Organization of the United Nations (FAO), the Southeast Asian Fisheries Development Center (SEAFDEC) and the Department of Fisheries, Thailand collaborated in the execution of this GEF supported project.

The REBYC- II CTI project was structured into four interrelated components:

**Component 1.** Policy, legal and institutional frameworks: This focused on the establishment of national or area-specific trawl fisheries by-catch management plans, and building institutional capacity for their implementation. It also aimed to address the need for adequate legislation and regulations to support the implementation of improved management measures, to develop a regional by-catch policy/strategy, and to encourage project countries to adopt the International Guidelines on By-catch Management and Reduction of Discards.

**Component 2.** Resource management and fishing operations: This was intended to lead to the adoption of more selective fishing gear and practices, provide a basis for implementing zoning of fishing areas, developing spatial-temporal closure management measures, and generating better data on number of vessels as well as recommendations for fishing effort and capacity management. The management measures were to be supported by the identification of incentive packages that promote more responsible fishing.

**Component 3.** Information management and communication: This included by-catch data collection, mapping of fishing grounds, establishment of socio-economic monitoring procedures, and means for communicating by-catch data and information. It also aimed to promote the adoption of standardized methods for by-catch data collection across project countries.

**Component 4.** Awareness and knowledge: This component addressed the awareness of and knowledge on trawl fisheries by-catch management issues and how they relate to sustainability, and measures available to make fishing more responsible. It focused on enhancing the knowledge of private sector/fishers, policy makers, fisheries managers, officials, extension officers and NGOs on best management practices and responsible fisheries through trainings, meetings and workshops.

The Project in Thailand was implemented by the Marine Fisheries Research and Development Division of the Thailand Department of Fisheries (DOF), in two sites of the Gulf of Thailand.

At the first site, Prachuab Kiri Khan and Chumphon Provinces (Figure 1), the focus was on the enlargement of codend mesh sizes for trawlers. The Central Gulf Marine Fisheries Research and Development Center (CMDEC), located in Chumphon took a lead research role in this work. The project implementation was started by holding several meetings including the Advisory Committee Meeting to consult with the senior officials to agree and approve in principal to implement the project “Strategies for trawl fisheries by-catch management” (REBYC-II CTI; GCP/RAS/269/GFF). The experiments on enlarged codend mesh size comparing between 2.5 and 4.0 cm for otter board and pair trawler used fishers’ fishing boats as a reference. Loss and gain were also compared between the two sizes of meshes. A practical workshop was held also to show the net cutting and net material to trawl fishers. In this site, the studies on the baseline data, the present fisheries status for trawl fisheries including socio-economics of trawlers and trawl fishery were also conducted. Data and information of fisheries and data from experiments were compiled and analyzed. All results were shared with the stakeholders in the Local Stakeholder Consultation Meeting held in Chumphon Province.

The local public hearing meeting and collaborating meeting between DOF and provincial office were held to announce the results and get feedback. Further the results were also presented at the Advisory Committee Meeting in Bangkok again to consider and approve drafting and formulation of management measures.

Finally, the proposal of formulated management measures using 4.0 cm mesh size at codend for trawlers was sent to the Natural Conservation Committee in Bangkok to consider in detail as a legal document. Meanwhile the management measure for trawlers using of minimum 4.0 cm was established by the Center for Combat of Illegal, Unrecorded and Unregulated (IUU) Fishing which was appointed by the National Council for Peace and Order of the government.

The second site was in Trat Province, where management measures for closed areas and closed seasons were established to protect fish larvae and spawners from trawl catches. The Eastern Marine Fisheries Research and Development Center (EMDEC), located in Rayong province led this work. The process to establish the area and seasonal closure was almost the same as in the first site (Prachuap Kiri Khan – Chumphon). It began by consulting with the senior officials and policy making officials. Series of meetings were held, e.g. Advisory Committee Meeting, Local Stakeholder Consultation Meeting, Public Hearing Meeting and meetings of Provincial office in collaboration with the Marine Research and Development Division. In this site the studies on the baseline data, the present fisheries status for trawl fisheries including socio-economics for trawling and trawl fisheries were also conducted. All results were shared with the stakeholders in the Stakeholder Consultation Meeting held in Trat province. The feedback and opinions from stakeholders and local fishers were gathered from the Public Hearing Meetings in which the DOF collaborated with the provincial office. The meetings were also widely publicised for maximum stakeholder participation.

The proposal drafted on the management measure for closed area and closed season was formulated by stakeholders and DOF through local stakeholder consultation meetings. Further, the formulated measure was sent to the Advisory Committee Meeting to consider for approval for closed area and season, and the gear types to be prohibited in this area. Finally, the Natural Conservation Committee considered it in detail to formulate a legal document. The management measures were then sent back to the Fisheries Province Committee to agree. This is mandated by the Fisheries Province Committees comprising the Governor as the President of the Committee, with representative members from the fishery sector and other concerned sectors under the Royal Ordinance on Fisheries B.E. 2558 (2015). Representatives shall be members of local communities. The tasks of the Committees are to propose the management schemes for local resources. After the drafting the management measures for closed area and closed season and prohibition of some fishing gear has been considered by the Fisheries Province Committee of Trat Province. The Fisheries Province Committees Meeting decided to expand the conservation area to be 5 nm from shoreline all over the province coastal areas instead of the earlier closed area and closed season measure. The 5 nm from shoreline coastal conservation area measure for Trat Province was sent back to the Department of Fisheries for reconsideration and now it is in the hand of the Minister of Agriculture and Cooperatives to be signed. Actually the area proposed at first was smaller than the new designated area by the Fisheries Province Committee.

All information and issues presented in this document were gathered and summarized from the project meetings. The present report is on the findings on how to formulate management measures for mesh size enlargement and closed area and closed season measure based on the REBYC-II CTI Project experience; to brief on some policies of Thailand and to highlight some issues concerning by-catch in trawl fisheries management. These findings will be useful and beneficial to stakeholders, fishers, students and interested persons.

## II. Objectives:

1. To guide on formulating trawl management measures;
2. To brief on some fisheries policies of Thailand;
3. To highlight some issues concerning by-catch in trawl fisheries

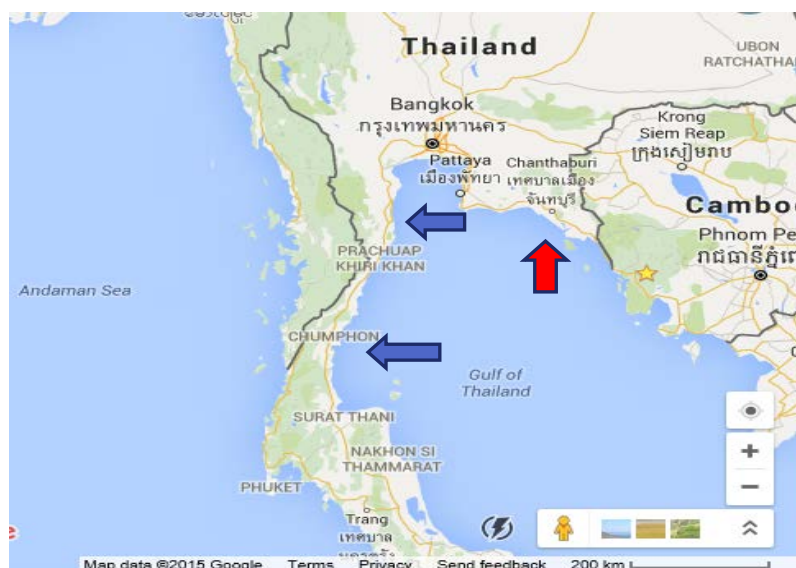


Figure 1. Blue arrows indicate the first project site (Prachuap Kiri Khan – Chumphon Provinces); Red arrow indicates the second project site in Trat Province.

### III. Basic Knowledge for Fisheries Management

The fisheries management should involve fishers in all aspects of management planning; managing fishing practices, the cooperation and participation of villages and communities; balanced harvest strategies for multi-gear and multi-resources; co-management mechanisms; stakeholder involvement; the use of rigorous science in addition to information from fishers; the use of best-practice enforcement techniques; involvement of the market chain; the need to incorporate regular review and updating of management strategies; local management measures and the capabilities of the established fishery management authority; and it should be in the form of a simple, pragmatic and practical fisheries management scheme. The management measures needs to be participatory, inclusive, transparent and evidence-based. The results from research works which also require standard data collection and analysis from various sources are as follows:

**Data collection:** It is important for assuring high quality that it should be clear on when and where the data should be collected, how and what types of data to be collected for good sampling, how many samples will be collected, and relevance of interview or questionnaire to take sample etc. It is always useful to remember when working with collected data (and with all forms of fisheries information) that the more accurate the data that one collects about a stock, a population or a fishery, the better the models and predictions will be and, therefore, the better the fisheries management will be.

**Biological data:** The biological data will deal with species of fish, fecundity, distribution and abundance both for mature, juvenile and larval fish, sex and size at maturity, weight and length etc. Spatial identification of juvenile distribution hot-spots and closing these areas from fishing, e.g. by temporal closed seasons during spawning periods of important species should be considered by zoning for prohibition of fishing of specific species in coastal areas. Measurements are needed to determine the age structure/profile of the different species in the fishery. Basic information on habitats is also useful for setting boundaries around stocks, migration and fisheries and therefore can assist in identifying areas of particular importance which may prove to be candidates for particular protection via management measures involving spatial closures. Techniques for studying and mapping marine habitats and ecosystems are also important.

**Fisheries data:** The fisheries data will include catch and effort data, species and size caught, fishing gear type and target species, fishing ground, season and area of fishing, move to fishing in other areas, and limit to mesh size. Provision of high quality information on catches and trash fish can be obtained by improving the quality of information from onboard logbooks. Data analysis for stock assessment to inform fisheries management may need appropriated models or methods. Vessel Monitoring Systems (VMS) are being used quite routinely throughout the world to track vessels and determine what they are doing. This has been especially useful in trawl fisheries where the tracked speed of vessels can

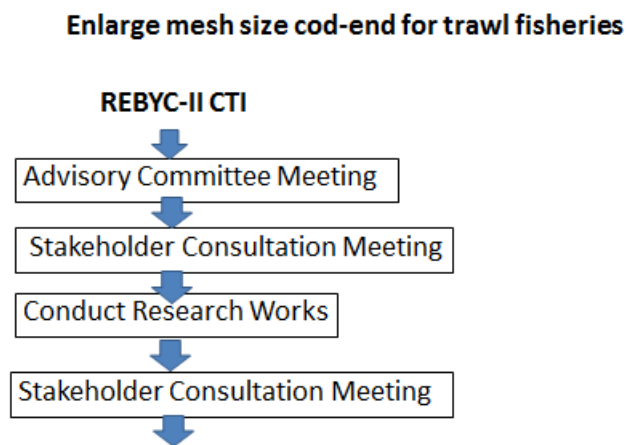
identify when trawlers are trawling or moving between fishing areas and so greatly improve estimates of fishing effort. Such systems are also extremely valuable for monitoring, control and surveillance operations as individual vessel can be tracked in real time. It is important that who will assess the fisheries stock should know its fisheries.

**Socio-economic data:** The management of trawl fisheries bycatch has to move beyond technological solutions towards a holistic approach that takes into account people, wider ecosystem impacts, e.g. by using an ecosystem approach to fisheries management (EAFM), supported by the EAFM training introduced by the REBYC-II CTI project, and paying increased attention to governance issues. Data collected should deal with gender issues, economic issues (e.g. cost and return), welfare, education, opportunity for poverty alleviation, reducing cost, adding value, etc.

#### IV. How to formulate management measures

The process to reach the target was timely and long series of various meetings to get acceptance by various stakeholders, fishers and relevant officials are important. Especially the basic research works should be strong, transparent, concise, and should cover all issues concerned, well documented and disseminated. However, to achieve the project targets, a gradual step wise process needs to be adopted.

1). **Mesh size limitation:** How the management measure for 4.0 cm codend mesh for otter board trawlers and pair trawlers was agreed upon and introduced?



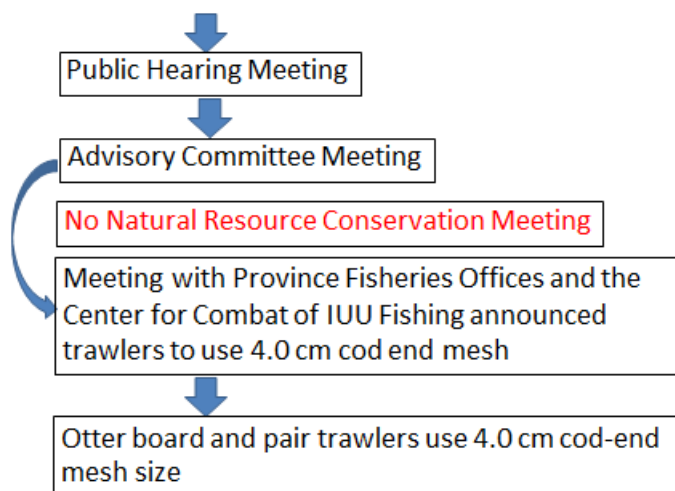


Chart 1. Stepwise processes for formulated mesh size enlargement measure for trawlers.

The process to formulate the regulation to enlarge the mesh size for trawlers is shown in Chart 1. At first we consulted the Advisory Committee by holding a meeting to have agreements and approval for conducting the research works using fisher boats to make operation using the conventional mesh size (codend 2.5 cm) compared to proposed 4.0 cm in the sea off the Chumphon - Prachuap Kiri Khan provinces. The comparisons were made for resource capture, loss and gain in terms of economic study, fish species, sizes of good fish and trash fish, percentages between good fish and trash fish. The experiments were demonstrated to fishers and private sector, and the results of the analysis was shown in several meetings, e.g. Local Stakeholder Consultation Meeting, Public Hearing Meeting, Fisheries Provincial Office in collaboration with CMDEC meeting, and Advisory Committee Meeting in Bangkok. Usually the formulated management measure has to be considered by the Natural Resource Conservation Meeting to assess it in all details for making it as a legal document. It will then be sent further to the Cabinet for issuance. In this case, this step was omitted due to the coincidence that the Center for Combat of IUU Fishing had already announced that the trawlers, both otter board and pair trawlers, should be using 4.0 cm mesh all over in Thailand (and in the Andaman Sea). It was a great opportunity that the project need not have to wait for a long time through the usual process of cabinet approval.

**2). Area and Seasonal Closure:** How to get management measure for Area and Seasonal Closure?

Series of several meetings were set forth to achieve the objectives. The Stakeholder Consultation Meetings were mainly to show the research results, seek comments, feedback on results, problems and conflicts, hearing for their opinions and recommendations, arriving at consensus and acceptance for research works also in tune with their local knowledge, finally to formulate the management measures.

## Area and Season Closure in Trat province

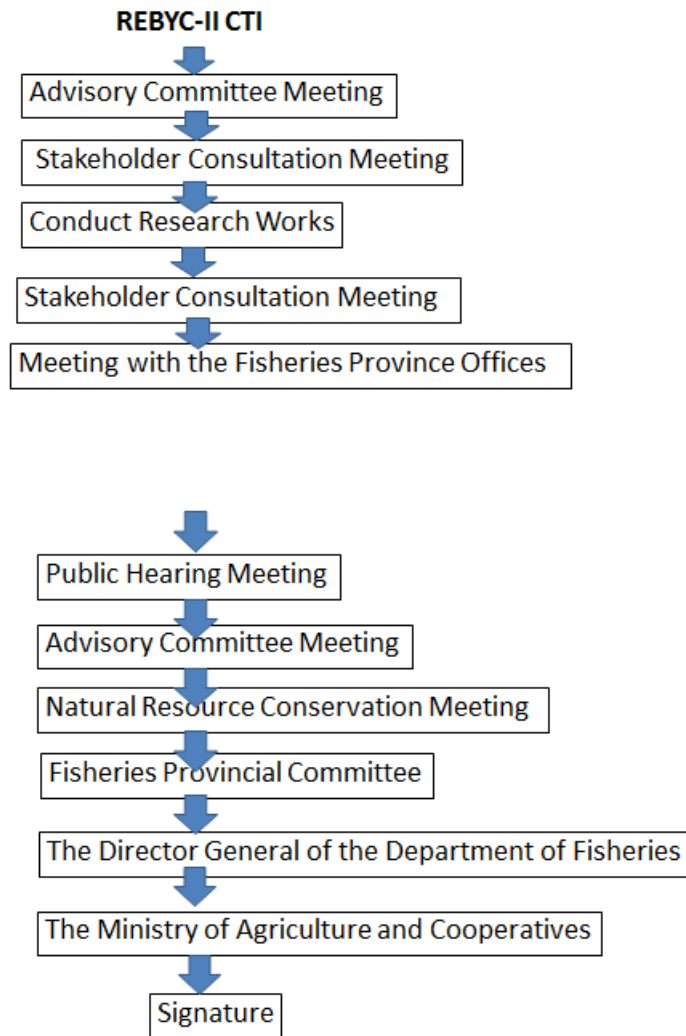


Chart 2. Stepwise processes for formulating area and seasonal closure.

The Fisheries Provincial Committee agreed to have area closure of 5 nm, expanding the area of Trat Bay (Ao Trat) as closed area and season (as formerly proposed by the project) to be 5 nm extending from the coastal area and shoreline. The present situation is now awaiting signature by the Minister of Agriculture and Cooperatives to. The process followed to establish an Area and Seasonal Closure is shown as Chart 2.

## V. Thailand Fisheries Policy in Brief

At present, Thailand has a New Fisheries Legislation issued, but there is no direct management measure to address trawl fisheries bycatch management as envisaged by the project "Strategies for trawl fisheries bycatch management". Anyhow there are several measures within the New Fisheries Legislation that are applicable to trawl fisheries at large.



As the first steps of the reform, Thailand has overhauled the legal and policy frameworks governing the fisheries sector and all topics related to fisheries, and grounded it in international principles, norms and standards relating to sustainable and responsible fisheries.

The **Royal Ordinance on Fisheries B.E. 2558 (2015)** came into force on 14 November 2015, replacing the recently amended Fisheries Act B.E. 2558 (2015). The new legislation amounts to a fundamental and comprehensive reform of the legal framework governing Thai fisheries which covers all aspects of the fisheries sector (Royal Gazette, November B.E.2558 (2015)). Highlights of the new fisheries law include:

#### Key principles and objectives

- To establish good governance to manage the fisheries sector and the conservation of aquatic resources, based on the best available scientific evidences, precautionary principle, internationally accepted standards, and Thailand's international obligations.
- To combat illegal, unreported and unregulated (IUU) fishing, as well as prevent overfishing and overcapacity of the fishing fleet, to achieve fisheries sustainability.
- To ensure effective monitoring, control and surveillance of fishing activities.
- To bolster the traceability system of fisheries products along the whole value chain, from fishing vessels to end-consumers.
- To eliminate all forms of forced labor and improve welfare and working conditions of workers in the fisheries sector, both in fishing vessels and in seafood processing factories.
- To introduce proportional and deterrent administrative and criminal sanctions.

#### More effective fisheries management and stakeholders' involvement

A National Fisheries Committee, chaired by the Prime Minister and comprising of relevant public officials, private sector representatives and fisheries experts, is established to formulate policies and control measures concerning fisheries, both inside and outside Thai waters, and fisheries related industries. Such policies are to be approved by the Council of Ministers.

A Provincial Fisheries Committee, comprising provincial government officials and experts from local fishing community organizations, is established in each designated province. Its main task is to propose to the National Fisheries Committee policy recommendations concerning fisheries development and resolution of fisheries problems in the province.

#### Improved oversight of fishing operations and transshipments at sea

All commercial fishing vessels, which are of 10 gross tons or above or fitted with an engine of a certain horse power prescribed by the Minister, are required to have valid fishing licenses. The issuance of fishing licenses is subject to fishing capacity and maximum sustainable yield as stipulated in the Marine Fisheries Management Plan.

All commercial fishing vessels must record their fishing operations in the fishing logbook and report every port-in and port-out operation to the Port-In – Port-Out (PIPO) Control Center. Commercial fishing vessels of above 30 gross tons must install a vessel monitoring system (VMS) on board. They are not allowed to fish in coastal seas.

Every Thai fishing vessel operating outside Thai waters must obtain a specific license for this purpose. An observer must be stationed on board the vessel in accordance with international rules and regulations, as well as the rules prescribed by the coastal state or the state having jurisdiction over the intended fishing area, or as prescribed by the Director-General of the Department of Fisheries.

Oversight on transshipments at sea is strengthened. Transshipments of aquatic animals at sea may only be made onto a fishing vessel specifically registered for transshipment or storage purpose. VMS is mandatory on all transshipment and storage vessels. Pre-authorization for transshipments at sea is required. The master of the fishing vessel must also submit a marine catch transshipment document (MCTD) after completion of transshipments. The Director-General may prohibit transshipments at sea for certain or all vessels in a specified area and time period, for the purposes of preventing and combating IUU fishing.

#### Enhanced traceability system

The mandatory submission of fishing logbook and marine catch transshipment document by fishing operators is designed to enhance traceability of the catch.

Fishing ports and fish markets are required to record data on every fishing vessel berthed at port, as well as prepare a marine catch purchasing document (MCPD) for a buyer and submit a copy to the Department of Fisheries. The MCPD is also required for every subsequent transaction involving the catch. In addition, the producer or processor of aquatic animals must prepare evidence for traceability purposes.

Importers and exporters of aquatic animals and aquatic animal products must present a catch certificate or similar document to prove that the catch or the products have been obtained from lawful fishing operations.

#### Preventing IUU vessels and products from entering port

The Director-General may publicly declare a list of non-Thai “IUU” fishing vessels, based on the lists published by foreign states and international organizations. These IUU fishing vessels are prohibited from entering Thailand. Likewise, no stateless vessel is allowed to enter Thailand.

Every non-Thai fishing vessel wishing to bring in aquatic animals into Thailand must notify the competent official at least 48 hours prior to its arrival at the port of entry. Permission to berth may be denied if the vessel in question is on the IUU list or if there is a cause for suspicion that the vessel has been involved in IUU fishing.

After berthing at port, the aquatic animals in the vessel may not be unloaded and imported into Thailand, unless permission has been granted by the competent official. The master or owner of that vessel is required to provide a valid license and other required documents to prove that it has not engaged in IUU fishing activity.

### Deterrent sanctions

The law introduces proportional and deterrent administrative and criminal sanctions. The issuing authorities may suspend a vessel's fishing license or permit for a period of up to 90 days, if the licensee or permit holder fails to comply with the Royal Ordinance and subordinate laws. If the licensee or permit holder re-commits a violation of the law, his or her license or permit may be revoked. Transshipment registration may also be cancelled in case of non-compliance with the requirements specified by the Royal Ordinance and subordinate laws.

A number of "serious infringements" are defined in the Royal Ordinance, such as the use of a stateless vessel and a prohibited fishing gear, fishing without a fishing license, failure to prepare a fishing logbook, use of false documents and violation of transshipment at sea rules.

Deterrent administrative sanctions are applicable to these serious infringements. The Director-General may, *inter alia*, order a seizure of the catch or fishing gear, prohibition of fishing activity until full compliance is achieved, suspension of fishing license, revocation of fishing license, inclusion of the vessel into the IUU list, and detention of the vessel.

Criminal sanctions are designed to be deterrent and proportional for different sizes of fishing vessels, with a maximum fine of 30 million Baht (approximately 780,000 Euro) or five times the value of the catch obtained from the fishing operation, whichever case is higher. If a serious infringement is re-committed within a period of five years, the penalty prescribed shall be doubled.

### Improving welfare and working conditions of seamen, and eliminating unlawful labor practices in the fisheries sector

A seaman must hold a seaman document issued under the law on navigation in Thai waters. A seaman who is not a Thai national must obtain permit to remain in Thailand under the law on immigration and a work license under the law on working of aliens.

When porting-out, the owner or the master of a fishing vessel must submit to the PIPO Control Center a list of outgoing seamen on board and evidence related to the provision of appropriate systems for ensuring occupational safety, hygiene and wellbeing of seamen. Non-compliance will result in the detention of the fishing vessel at port.

The owner of any fishing vessel making use of a seaman without a valid work license or permit is subject to a fine of up to 800,000 Baht (approximately 21,000 Euro) per seaman. In addition, the Director-General shall order the revocation of the owner's fishing license, and

the Director-General of the Marine Department shall also revoke the seaman document of the master of the vessel pursuant to the law on navigation in Thai waters.

A factory operator who engages in a business relating to aquatic animals is prohibited from employing illegal workers, including aliens who do not hold a legal work permit. Violation may result in a fine of up to 800,000 Baht per each unlawfully employed person. Moreover, if the number of workers unlawfully employed at the factory is not more than five, then the Director-General shall order the suspension of the factory operation for a period of ten to thirty days. If more than five workers are employed illegally at the factory, then the Director-General shall notify the Permanent Secretary of the Ministry of Industry to order the closure of the factory pursuant to the law on factories. Such an order shall also have the effect of license revocation under the law on factories.

The factory operator who violates the labor protection law or employs illegal alien workers is also liable to criminal penalties, including a term of imprisonment not exceeding two years or a fine of 200,000-2,000,000 Baht (approximately 5,200 -52,000 Euro), or both, as well as a daily fine of 100,000-500,000 Baht (approximately 2,600-13,000 Euro) for the entire duration of the violation.

**The government has adopted 3 key steps to facilitate the marine fisheries management as follows:**

- 1. The government adopted the Marine Fisheries Management Plan (FMP), which outlines the key principle and policy priorities designed to tackle overfishing and overcapacity of the Thai fishing fleet.*
- 2. The government approved the National Plan of Action to Prevent, Deter and Eliminate IUU Fishing (NPOA-IUU).*
- 3. The government established the Command Center for Combating Illegal Fishing (CCCIF) in May 2015. Led by the Royal Thai Navy, the CCCIF coordinates the efforts of all state agencies in the fight against IUU fishing.*

### **Tackling elimination of illegal fishing**

The government has also issues several management measures by the time namely:

1. The government has frozen registration of new fishing vessels since August 2015.
2. The government completed a nationwide survey of every Thai-flagged fishing vessel, creating a reliable and up-to-date database of 42,000 vessels that form the Thai fishing fleet.
3. Illegal fishing vessels – those without valid fishing licenses and vessel registration – have been prohibited from porting out and are to be withdrawn permanently from the fishing fleet. 8,024 illegal fishing vessels had their vessel registrations revoked in November 2015.

4. A vessel buy-back scheme has been prepared, with various compensation packages and new job training provided to different groups of affected fishermen. The buy-back of all illegal fishing vessels is expected to be completed over the next 2-3 budgetary years. The decommissioned vessels will be scrapped, turned into artificial reefs or used for non-fishing purposes.

5. Thailand has undertaken a reform of the fishing license regime. Starting in April 2016, the issuance of new fishing licenses shall be consistent with the MSY stipulated in the FMP. The number of fishing licenses granted will not exceed the level of catch permitted by the MSY. The new fishing license regime thus marks a transition from open-access to limited-access fisheries. It will eliminate overcapacity of the fishing fleet and overfishing, preventing the degradation of fishery resources.

6. Fishing without a valid license is considered a “serious infringement” under the Royal Ordinance, and carries a maximum fine of 30 million Baht (833,000 USD).

7. Once given a fishing license, each Thai-flagged commercial fishing or carrier vessel is required to keep onboard *a booklet* which contains all key data relating to that vessel, such as the vessel registration and fishing/carrier license in Thai or foreign waters. Such data are integrated and recorded in *the e-license system*, which is accessible electronically to the Marine Department and the Department of Fisheries offices in Bangkok and all coastal provinces. The e-license system also permits cross-checking of data, with a view to ensuring consistency between the data on vessel registration and fishing licenses.

8. Every vessel with a fishing license will be given a sticker with *QR Code*, to be attached to the vessel’s control room, along with a marking, to be written at the front part of the vessel’s hull. The marking indicates the vessel’s size, fishing gear and designated fishing area (clear and distinct markings for vessels eligible to fish in the Gulf of Thailand and the Andaman Sea). Failure to display the marking is a violation of Section 81 (4) of the Royal Ordinance on Fisheries, which imposes a maximum fine of 4 million Baht (111,000 USD). Falsification, concealment or modification of the marking is a violation of Section 165 and could lead to a maximum fine of 30 million Baht (833,000 USD).

9. The e-license system, together with the QR Codes and markings, will bolster the monitoring and at-sea inspection of fishing vessels and facilitate the detection of illegal fishing activities.

10. To achieve the MSY, a *vessel day scheme* is introduced in the FMP to limit the number of days fishing vessels can operate. The number of allowable fishing days differs across different fishing gears (trawlers, purse seiners and anchovy purse seiners) and across the Gulf of Thailand and the Andaman Sea.

11. A ban on highly destructive fishing gears has been effective for months. Push-net vessels, in particular, are being decommissioned through a buy-back scheme.

12. To ensure full implementation of the fisheries law and policy, the government is committed to bolstering the financial, technical and human resources of the Department of Fisheries and other concerned agencies.

13. The Cabinet has approved a budget of 810 million Baht (about 22.5 million USD) to be used in the fight against IUU fishing.

14. The Department of Fisheries has set up a new division dedicated to tackling IUU fishing. A plan for the restructuring of the Department is also being formulated, with the goal of improving its capacity to undertake fisheries oversight and combat IUU fishing.

### **Stricter control on Thailand's overseas fishing fleet**

Thai authorities have taken decisive actions to strengthen control of Thailand's overseas fishing fleet, and bolster law enforcement against illegal fishing and labor malpractices in the overseas fishing industry.

#### **I. Stricter rules and requirements for the issuance of overseas fishing license (required for every Thai-flagged fishing vessel wishing to operate internationally):**

- Vessels are allowed to fish only in the water under the jurisdiction of a *coastal state with which Thailand has signed an MOU* on fisheries cooperation. The cooperation between Thailand, as the flag state, and the coastal states where Thai vessels operate, will ensure effective monitoring of the Thai overseas fleet.
- If the vessels wish to operate in the high seas, they can only do so in the areas under the control of a *regional fisheries management organization (RFMO) or international organization of which Thailand is a member*.
- Vessels are required to have an "*IMO number*", a ship identification number assigned by the International Maritime Organization (IMO) under the International Convention for the Safety of Life at Sea (SOLAS Convention). The use of the IMO number improves the transparency and monitoring of the Thai fleet fishing internationally.
- Vessels need to have valid *sanitation certificates*, and have in place *arrangements to secure the health, safety and welfare of the crew*.
- Vessels must be equipped with *VMS* and must not use prohibited fishing gears. A temporary ban on at-sea transshipment of aquatic animals has been introduced.
- The Department of Fisheries prohibits Thai-flagged vessels from engaging in any transshipment of fish at any sea outside Thai waters.
- The ban, introduced pursuant to Section 87 of the Royal Ordinance on Fisheries, is designed to *eliminate the possibility of transshipment of IUU fish* by Thai-flagged vessels operating in high seas and territorial waters of foreign states. The measure is also expected to *prevent illegal at-sea transfer of seamen* between fishing vessels.

- Exception to the ban is made only in cases where the vessel is given authorization in accordance with the regulations of the coastal state where the transshipment takes place, or where such transshipment is under the supervision of a relevant international organization, or where there is a qualified fisheries observer on board to monitor the transshipment.

**II. The Royal Ordinance specifies** that every Thai-flagged fishing vessel operating outside Thai waters must have a fisheries observer stationed on board to ensure that fishing operation complies with international standards and fisheries regulations.

- The observer's main tasks are to observe the fishing operation, collect data and specimens of aquatic animals caught by the vessel for traceability purposes, and submit a summary report to the competent official. In addition, the presence of the observer helps to deter illegal labor practices on board.
- The first batch of observers (20 of them) completed their training in December 2015 while the second batch of observers is being trained. The Department of Fisheries has been preparing operating manuals and report forms, and formulating necessary rules and regulations to ensure the effectiveness of the observer program.
- Upgrading monitoring, control and surveillance (MCS).
- The National Plan of Control and Inspection (NPCI) has been formulated to enhance MCS of fishing activities in a systematic and effective manner.

**III. The Department of Fisheries has set up a Fisheries Monitoring Operation Center (FMOC)** equipped with Vessel Monitoring System (VMS) technology. The VMS system is already operational, enabling officials to monitor real-time activities of approximately 2,000 commercial fishing vessels above 60 gross tons. No vessel above 60 gross tons is allowed to operate without VMS equipment installed. Automatic alarms have been set up to detect suspicious illegal fishing activities. We are working with international partners, including the Environmental Justice Foundation (EJF), to further enhance VMS capabilities, especially in risk and behavioral analysis of fishing vessels.

DOF has set up 28 Port-In – Port-Out (PIPO) Control Centers in 22 coastal provinces nationwide, operational since 6 May 2015. Thai fishing vessels are required to report to PIPO Centers for inspection every time they port out and port in. For port-out inspection, PIPO officers carry out physical and documentation checks, such as the vessel registration, fishing license, fishing gear, VMS equipment and the crew's work permits and qualifications. No ship is permitted to port out unless it fulfills all requirements. For port-in inspection, PIPO officers crosscheck the fishing logbook record with VMS data to identify any suspicious illegal fishing activity. The seamen onboard are also checked upon port in to ensure that they correspond to the crew list submitted when the vessels port out. These strict PIPO procedures are designed to prevent and detect illegal fishing and the use of illegal workers on board.

Apart from the inspection at PIPO centers, the CCCIF taskforces have intensified at-sea inspection of fishing vessels operating in Thai water. The taskforces are under supervision of the Thailand Maritime Enforcement Coordinating Center (THAI-MECC). The inspection is based on the risk analysis approach, making use of VMS data to identify target vessels suspicious of illegal fishing. Since May 2015 to 13 January 2016, 8,398 fishing vessels of all size were inspected at sea. Over 430 cases of infringements were found and legal action taken accordingly.

**IV. Ensuring traceability of fishery products:** DOF is upgrading the catch certification scheme and strengthening the traceability documentation requirements, such as marine catch purchasing documents (MCPD), marine catch transshipment documents (MCTD) and processing statements. Validation of catch certificates is subject to strict criteria. Failure to fulfil any of the criteria will lead to the refusal of catch certificate issuance.

- DOF has strengthening inspections of fishery products during landing at port and offloading, as well as enhancing traceability databases and information sharing among relevant agencies.
- DOF and the Customs Department signed a *Memorandum of Arrangement (MOA) concerning the Control and Examination of Imported, Exported and Transited Aquatic Animals to Tackle IUU Fishing* on 13 November 2015. The implementation of the MOA is already underway, resulting in improvements in inter-agency cooperation and capacity to prevent the importation and transit of IUU fish. It has also led to better data collection and statistical records on fishery imports and exports.
- DOF has developed an *electronic traceability database system* called the Processing Statement and PSM linked System (PPS). The system will enable effective synchronization and cross-checking of data from different databases, such as the fishing logbook, MCPD and VMS.
- Seven concerned Thai agencies signed a MOU to bolster data sharing in the *Fishing Info 2 database*, which contains important information about fishing vessels and their fishing licenses and records.
- DOF has started Port State Measures (PSM) implementation since 1 September 2015. PSM are applied to all foreign fishing vessels and carriers above 30 gross tons landing at Thai ports.
- DOF has designated *27 ports for foreign vessels*, including 15 ports for foreign fishing vessels and carriers and 12 ports for vessels from neighboring countries. Foreign-flagged vessels are required to notify the Thai authorities and present traceability-related documents in advance of porting in. If any incoming vessel fails to meet the PSM requirements or is listed as an IUU vessel, it will be denied entry to port. All foreign vessels are also subjected to PSM inspection upon porting in.
- An inter-agency committee has been set up to expedite the process of Thailand's *ratification of the FAO Port State Measures Agreement (PSMA)*.



**V. Regularization and protection of migrant workers:** The Thai Government recognizes the important role of migrant workers in supporting the Thai fishing and seafood processing industries. Regulatory changes are being introduced to facilitate the regularization of illegal migrant workers in the sector and provide registered workers with greater flexibility in obtaining and extending their work permits. These measures are designed to combat forced labor and other forms of exploitation in the fisheries sector.

The government has started a new round of registration of illegal migrant workers (and their dependents) in fishing vessels and seafood processing factories (for nationals of Cambodia, Lao PDR and Myanmar). As of 25 February 2016, *over 130,000 undocumented migrant workers in the fisheries sector* have been registered (including their dependents).

Under the ongoing round of registration, which started in November 2015 and ended in August 2016, more than 23,000 undocumented migrant workers in fishing vessels were registered, bringing the total number of registered workers in sea fishery to 77,000. Moreover, 57,000 undocumented foreign workers in the Thai seafood processing industry have been regularized. All documented workers are given protection, welfare and the right to work for one year. The government plans to extend the length of their work permits to 2 years, renewable for up to 8 years (2+2+2+2).

The Ministry of Labor is conducting a survey to estimate the number of migrant workers that are needed in the Thai fishing industry. The assessment takes into account the number of fishing vessels with valid vessel registration and fishing licenses, across different types of fishing gear. If the number of migrant workers is inconsistent with the number of fishing vessels, it may be an indication of IUU fishing activities and we can take appropriate actions.

The government adheres to a non-deportation policy. Undocumented workers rescued after raids or inspections of vessels and factories are treated as victims and will not be deported to their countries of origin. Instead, they are provided shelter, matched with new employers, and subsequently regularized.

The Ministry of Labor has revised rules to provide migrant workers with greater flexibility to change employers. Two groups of workers, in fishing vessels and in seafood processing factories, are now permitted to change their employers within the same group. There is no limitation on the number of employers or provinces in which the workers can work. These measures, effective since 2 November 2015, significantly increase the freedom and job mobility of alien workers.

The Policy Committee on Migrant Workers is compiling policy recommendations for future reform of the labor migration system, including revision of laws and regulations and anti-trafficking plans. One of the key reform objectives is to eliminate illegal labor brokers. The relevant authorities are in close consultation with the International Labor Organization (ILO) and all stakeholders in this process.

The Ministry of Labor revised the Ministerial Regulation on Labor Protection in Sea Fishery Work, which has taken effect since December 2014. The Ministerial Regulation re-asserts

existing provisions to meet international standards, including ILO Work in Fishing Convention (No. 188). The Ministry of Labor closely engaged the ILO in drafting the regulation. Key provisions of the Ministerial Regulation include prohibition of recruiting workers less than 18 years of age on fishing boats, compulsory rest hours and holidays, mandatory signed work contract, crew list, and requirements on training and welfare of workers. Regulations also prohibit the employment of children less than 18 years of age in the fishing and seafood industries.

The Cabinet approved the ratification of the ILO's Occupational Safety and Health Convention No. 187 in September 2015. The formal instrument of ratification will be deposited for registration by the Director-General of the ILO soon. Moreover, concerned agencies are considering existing laws and the necessary revisions of the law in order to ratify the ILO's Work in Fishing Convention No. 188 in the future.

**VI. Strict law enforcement and sanctions:** With improved legal and policy ground works in place, the government is redoubling its efforts to enforce the fisheries law and implement the fisheries management plan. The government intends to impose criminal and administrative sanctions on those guilty of violating fisheries and labor-related laws.

#### ***Actions against IUU vessels operating in foreign waters***

Thai authorities recently arrested six Thai-flagged tuna trawlers that engaged in illegal fishing in foreign waters.

- Earlier in January 2016, Thailand's VMS detected six tuna trawlers fishing without license in the Indian Ocean. Since then, the Thai Department of Fisheries has *notified the relevant coastal states* (Mauritius, Madagascar and the Seychelles) of suspected illegal fishing by these vessels. It also requested the Indian Ocean Tuna Commission (IOTC) to include these vessels into its *Provisional IUU Vessel List*. Moreover, the Ministry of Agriculture and Agricultural Cooperatives also declared the six ships "*IUU vessels*" and prohibited their operations for two years.
- To date, we have *arrested all six vessels*. On 30 January 2016, an inter-agency task force led by the Royal Thai Navy intercepted *Mook Andaman 018* and *Mook Andaman 028*. Later on 14 February, two more vessels, *Yu Long 6* and *Yu Long 125*, were arrested. *Hung Chi Fu 68* and *Ceribu* were subsequently arrested. All six vessels are now detained at the Phuket port.
- The *vessel registrations of all the six vessels have been revoked* in accordance with the recently enacted Royal Ordinance on Fisheries B.E. 2558 (2015). The catch of aquatic animals and fishing gears on board the four detained vessels were also confiscated.
- The *three owners* of the six vessels, as well as the captains of the four detained ships, have been *arrested and pressed with a number of charges* due to violations of the Royal Ordinance on Fisheries and other related laws. The owners are subject to one year of imprisonment or a fine of up to 100,000 Baht (2,800 USD) or both as a result of the violation of the NCPO Order No.10/2558. In addition, they are subject to a fine of

up to 30 million Baht (833,000 USD) and other sanctions under the Royal Ordinance on Fisheries. Concerned agencies are inspecting the detained vessels and interrogating all the seamen on board to determine if there are further charges to be filed, particularly on forced labor.

### ***Tackling the use of illegal workers in Thai-flagged overseas fishing vessels***

The Director-General of the Department of Fisheries ordered all vessels operating outside Thai waters, which did not previously report to one of the Port-in – Port-out Control Centers when porting out, to return to port for inspection by 30 January 2016. A special task force comprising officers from concerned agencies have conducted inspections of Thai-flagged fishing vessels operating outside Thai waters in the Indian Ocean.

- Representatives from the *ILO and Greenpeace* were invited to observe the inspection during 2-5 January 2016. ILO and Greenpeace representatives recognized the well-organized operations, during which the seamen on board were interviewed, their documents checked and their records collected.
- The inspection scheme has uncovered *infringements* of related fisheries and labor laws in 39 vessels. Examples of violations include the absence or expiration of valid overseas fishing license, the failure to record fishing data in the logbook, and the use of illegal migrant workers on board without appropriate work permits and employment contracts.
- Owners of the vessels are charged with the use of illegal migrant workers, a violation of Section 83 of the Royal Ordinance on Fisheries. If found guilty, the owners are subject to a substantial fine of 400,000 – 800,000 Baht (11,000 – 22,000 USD) per each illegal worker.

### **Crackdown on human trafficking and forced labor in the fishing industry**

- The government has intensified the crackdown on trafficking in persons and forced labor in fishing and seafood processing industries.
- In 2015, 41 cases of trafficking in the fishing industry were taken up by law enforcement agencies. 12 of these are on trial, and in one case the Court sentenced the convict to 8 years in prison.
- In one of the high-profile cases, the Thai authorities arrested 8 suspects, including the President of Kantang Fishing Association (Trang Province) on charges of trafficking in persons and forced labor in the fisheries sector on 7 November 2015.
- Over the past few months, 150 seafood pre-processing plants have been inspected, leading to legal action in 46 cases and a closure or suspension of 17 factories.
- In one of the shrimp peeling sheds inspected on 9 November 2015 (the ‘Kik’ shrimp peeling shed subsequently featured in the AP Report dated 14 December 2015), five

suspects were arrested and charged with a trafficking offense and a number of violations of immigration and labor protection laws. The shed was shut down.

- Major Thai seafood exporters (members of the Thai Frozen Food Association) have stopped sourcing shrimps from peeling sheds. Instead, they have *brought all shrimp pre-processing operations in-house*. The Ministry of Labor assisted over 3,000 migrant workers from the now-closed shrimp peeling sheds in finding new employers.

Thai authorities have been planning the next round of inspection of fishing vessels and seafood processing plants in the first half of 2016. High-risk targets have been identified based on intelligence analysis.

Given the complex nature of trafficking cases, new divisions exclusively dedicated to handling trafficking cases have been set up under the Criminal Court and the Office of the Attorney General to expedite the legal process and bring criminals to justice. The Royal Thai Police and the Department of Special Investigation have previously set up similar units for trafficking cases. Thailand is therefore the first Southeast Asian country to have introduced trafficking-specific divisions in every stage of the judicial process.

**VII. Forging international partnerships:** The Thai government seeks and welcomes collaboration with foreign partners and stakeholders to combat IUU fishing and forced labor. DOF is working with other states, international organizations and several NGOs on fisheries and labor cooperation. Cooperation ranges from capacity building to information sharing.

DOF has an active and constructive dialogue with the European Union (EU). The technical advice provided by the EU has been helpful in our fisheries reform.

DOF is engaging 13 other states to advance fisheries and labor cooperation.

DOF has signed or negotiated MOUs on fisheries cooperation with Spain, Indonesia, the Philippines, Malaysia, Fiji, Papua New Guinea, South Korea, Myanmar, China and the Pacific Islands countries.

DOF has ongoing dialogued with Myanmar, Cambodia, Lao PDR and Vietnam to enhance cooperation in the migration of alien workers.

DOF works closely with the international organizations, NGOs and multinational corporations on capacity building projects. Examples include:

- a. The ILO is in close discussion with the Ministry of Labor and other concerned agencies on a project to combat unacceptable forms of work in Thai fishing and seafood industry.
- b. The U.K.-based Environmental Justice Foundation (EJF) works with DOF to provide intelligence on human trafficking and training on vessel monitoring system for DOF officials.

- c. Thailand has reached out to the U.S.-based Sky Truth to explore the possibility of using their technology to further enhance DOF for VMS capabilities.
- d. Thai fishery associations are working with the U.K.-based Ethical Trading Initiative (ETI) to address labor problems in the industry.
- e. DOF has ongoing discussed with Nestlé on capacity building programs for the Thai fishing industry.

### **A National Policy for Marine Fisheries Management Plan (FMP) 2015 – 2019**

The Marine Fisheries Research and Development Division of the Thailand Department of Fisheries has developed the Marine Fisheries Management Plan (FMP) to identify overcapacity of the fishing fleet and overfishing as the most critical challenges in Thai marine fisheries. The government has taken firm actions to tackle both problems. The plan is implemented during the year 2015 to 2019.

**The Marine Fisheries Management Plan of Thailand (FMP) 2015-2019** includes:

1. Applying good governance that facilitates the setting of rules and regulations (both formal and informal) and adequate resources and arrangements for compliance and enforcement;
2. Managing at the appropriate scale that takes into account connections within and across ecosystems and social systems (these connections can be place-based; across different environments: land- air- sea; and across scales, i.e. district/regional/national/international);
3. Increasing participation of key stakeholders;
4. Managing with multiple objectives (balancing societal trade-offs entails working across scales and with different stakeholder objectives);
5. Working cooperatively and with coordination both vertically across different levels of government and society and horizontally across agencies and sectors;
6. Applying adaptive management that embraces change through learning and adapting. The key is to have flexible systems and processes, including feedback loops that allow for learning through doing; and
7. Using the precautionary approach by not delaying action because of lack of information and managing cautiously when uncertainty exists (e.g. uncertainty in the MSY estimate).

### **Global/regional legal instruments and agreements**

There are several global legal instruments and agreements that set the framework for improved marine fisheries and environmental management in Thailand policy. As set out in the national policy the overarching goals are:

- a) Sustainable utilization of marine fisheries resources through the control of fishing effort and capacity at the level that is commensurate with Maximum Sustainable Yield level (MSY);

The FMP emphasizes the science-based approach to fisheries management. In particular, it makes use of the size of the fishing fleet and the available fishery resources to calculate the MSY – a level of catch that ensures the long-term existence of the fish species and prevents their depletion;

b) Healthy environment and habitats;

c) Increased socio-economic benefits to fishermen, buyers, processors and consumers; and

d) Reformed marine fisheries management and compliance in accordance with good governance principles and international rules.

**The specific objectives are:**

1) Reducing fishing capacity and effort, especially by the commercial fleets;

2) Minimizing IUU fishing of the marine resources through effective compliance and enforcement;

3) Resolving conflicts between artisanal (small-scale) and commercial (large-scale) fishers;

4) Reducing the catch of large quantities of juvenile fish of larger commercial species which could grow bigger if not caught;

5) Improving fisheries data and information; and

6) Strengthening fisheries management capacity.

**Plan of Action (2015-2019)**

**Objective 1:** Reducing fishing capacity and fishing effort

**Target:** Reduction of the fishing capacity and effort within 3 years, especially commercial vessels; for demersal fish; 40% in the Gulf of Thailand and 10% in the Andaman Sea; for pelagic fish; 30% in the Gulf of Thailand and 20% in the Andaman Sea.

**Objective 2:** Rebuilding fish resources through artificial reefs and restocking programs.

**Target:** Increase number of effective artificial reefs; at least 10 sites per year, and increase community stock enhancement projects; 10 community projects per year.

**Objective 3:** Minimizing IUU fishing through effective MCS.

**Target:** Reduce the level of IUU fishing to a level that can be controlled through regular MCS arrangements.

**Objective 4:** Reducing the catch of juveniles of the larger commercial species

**Target:** Reduce the proportion of juveniles caught and landed to 50% of current levels in 5 years.

**Objective 5:** Resolving conflicts between small-scale and large-scale fishers

**Target:** Reduce the incidence of conflicts to a manageable level in all Provinces.

**Objective 6:** Restoring and maintaining critical habitats.

**Target:** 4,000 rai<sup>3</sup> mangrove area increased by 2019.

**Objective 7:** Improving fisheries data and information.

**Target:** Improve data collection and information dissemination systems to a level that can be easily used to monitor the performance of this FMP in 2 years

**Objective 8:** Strengthening fisheries management capacity.

**Target:** An effective and efficient fisheries management capacity within 5 years.

### **Review of the Plan**

An evaluation of the performance of this plan against its objectives will be made each year. The yearly evaluation may trigger on view and adaptive responses in the management (if they are not working very well) and in the compliance and enforcement (MCS) activities. A major evaluation and review will be carried out every 2 years, and if appropriate, the issues, goals and objectives will be modified. At this review, social and economic impacts will be assessed and incentives and compensation will be considered.

### **Categories of fishing vessels in Thailand**

The fishing fleet is categorized into five categories of fishing vessels plus transshipment vessels:

1. Small artisanal fishing vessels are fishing vessels with engine power less than 180 horsepower and vessel capacity less than 5 gross tonnages;
2. Large artisanal fishing vessels are fishing vessels with engine power between 180-220 horsepower and vessel capacity between 5 – less than 10 gross tonnages;
3. Small commercial fishing vessels are fishing vessels with engine power between 220-380 horsepower and vessel capacity between 10 – less than 20 gross tonnages;
4. Medium commercial fishing vessels are fishing vessels with engine power over 380 horsepower and vessel capacity between 20 – 60 gross tonnages;
5. Large commercial vessels are fishing vessels with a vessel capacity over 60 gross tonnages;

6. Transshipment vessels
  1. Domestic transshipment vessels are transshipment vessels operating in Thai waters with a vessel capacity of over 30 gross tonnages. Ices are used to store and preserve the fish transshipped.
  2. Transshipment vessels outside Thai waters are transshipment vessels with a vessel capacity of over 60 gross tonnages and operating outside Thai waters. A freezing system is used to store and preserve the fish transshipped.
7. Vessels importing fish into Thailand consist of four types:
  1. Thai vessels fishing in the EEZ of another State under an agreement or authorization of that State and bring fish back to Thailand;
  2. Thai vessels fishing in the EEZ of another State and flying that State's flag;
  3. Foreign fishing vessels that bring fish for sale in Thailand; and
  4. Artisanal fishing vessels of neighboring States that land fish in Thailand for sale.

## **VI. Highlights of some issues identified from the results of the REBYC II CTI Project**

For the actual activities under the project "Strategies for trawl fisheries by-catch management" (REBYC-II CTI; GCP/RAS/269/GFF), there were several meetings that have been held in Chumphon - Prachaup Kiri Khan, Trat, Chonburi, Bangkok, Phuket and Phang-Nga provinces. The participants involved during the years 2013 to 2016 were stakeholders including fishers, NGOs, private sectors, fishery managers and policy makers and experts. The comments, recommendation and opinions from participants can be summarized as follows:

### **1. Mesh size Introduction Management Scheme**

a. The mesh size management scheme was agreed at the Meeting on 23 July 2015. The management scheme can either be issued by the Minister of the Agriculture and Cooperatives Ministry or by the Provincial Governor.

b. The Ministry Notification should include research results, an Action Plan, and approval from the DOF Resource Conservation Committee. Then it needs to be sent to the Cabinet for consideration and approval.

c. The Provincial Notification should include the Local Public Hearing together with the result of research works; approval from the Fisheries Provincial Committee; approval from the Department of Fisheries via the Natural Resource Conservation Committee, and sent to the Cabinet for consideration and approval.

d. After the Cabinet has approved the Notification, the Notification will become active after 30 days from its announcement.

e. When the Notification is active, the action plan will be implemented by concerned agencies e.g. DOF enforcement, marine police, Coastal Marine Protection Center (Navy is a core agency), Local Administrative Organization, and Volunteer Groups to monitor the fisheries to be legal.



2. **Lessons that we had learnt** from the REBYC II CTI Project were the diversity of resources, fishing gear and socioeconomic contexts. The limited support from fishers was the major obstacle to implement the proposed approach. Moreover, fishers in this region are depending on by-catch for economic reasons.

3. **The specific objectives** of the project are to achieve sustainable trawl fisheries by decreasing catch of small economic fish, conserving dolphin and turtle, increasing demersal fish, conserving and preserving the marine environment. In addition, it aims to increase the cooperation amongst agencies, business sectors, stakeholders, fishers in trawl fisheries management.

4. The project plan was developed in accordance with the Thailand Marine Fisheries Master Plan. Thus, the technology of trawl fishing was emphasized and lead to the enlargement of the mesh size of trawl net. Additionally, the management measure to implement closed area is also included in the plan.

5. Representatives from Fishmeal Association expressed that their association was fully aware of the situation .The fishmeal factory will buy only grade 1, fresh and large trash fish to stop juvenile economic species being caught.

6. Representatives from Department of Marine and Coastal Resources commented that the project should have acceptance of fishers. The full participation of fishers will ensure their commitments,

7. The participants generally accepted the results from trawl experiments even though they would lose some short-term benefits. They further agreed to the DOF to use 4.0 cm for codend mesh sizes for otter board and pair trawlers. However some participants opposed the idea of enlarged mesh size for all types of fishing gear, especially the *Rastrelliger* bottom gillnet. Another comment was to allow fishers to fish in a wide fishing area, not to force them to concentrate in one fishing area.

8. The boat sizes and types of fishing boats should be specified clearly e.g. otter board and pair trawlers.

9. Fishmeal producers voiced their concerns that when the mesh regulation comes into action, trash fish quantities will be less, as at present there are no trash fish coming from Indonesia and Myanmar. They also said that fishmeal used by processors is composed of trash fish (50%), fish skeleton and low quality fish (30%) and tuna processing waste (20%).

**Other comments from the meeting included the following:**

- a. The monitoring of MCS should be more effective,
- b. Public announcements should be made to improve understanding among stakeholders and government agencies, at the central and local areas.
- c. Fish handling on board, on pier and on land as well as transportation should be developed and improved for more good quality fish to get higher price,
- d. As a global trend to protect and conserve the natural resources, fishmeal may be substituted by other sources of protein such as from soybean processing waster and other processing wastes (carcasses from surimi processing and tuna canning factories. Now, the private sector is trying to establish the project “Sustainable Fish Meal Production.

The Royal Ordinance on Fisheries B.E. 2558 (2015) has 104 sections, became effective on 27 June 2015. Limited areas for fishing focuses on 8 issues; if anyone violates the law they will be fined 10,000-100,000 Baht or imprisoned for less than 1 year or both. Illegal fishing gear and captured fishes confiscated will be forfeited. In the case of no license or the incorrect license, the offender will be fined not more than 300,000 Baht or imprisoned less than 3 years or both.

Definitions of the three fisheries zones are provided: Freshwater Fisheries Zone; Coastal Fisheries Zone (up to 3 nautical miles or up to 12 nautical miles), and Offshore Zone (>12 nm – the EEZ). The Fisheries Provincial Committee can extend the local fishing zone from 3 nm up to 12 nm and the offshore fishing zone.

The seven issuances of the Fisheries Act of 1947 still in use are:

1. No fishing within 3,000 m of the shoreline (except for hand fishings and small scale fishings with boat or without);
2. From the Multi-Committee Agreement of the provinces, the shoreline zone was extended to 3.0 nautical miles in 10 provinces (Rayong, Chantaburi, Naratiwas, Pattani, Nakorn Sri Thammarat, Chumphon, Prachaup Kiri Khan, Satul, Trang and Krabi provinces);
3. No fishing around Ko Tao at a distance 3,000 m except for longlines, gillnets and traps;
4. Fisheries officials must make local public and outsiders know about local notifications and regulations;
5. Fishers must know the law and regulations, as well as changes in laws and regulations including social issues,
6. Officials have to strengthen enforcement of the law; and
7. Issuing any law and regulation should be based on public hearing with fishers, other stakeholders and the results of scientific works. Then fishers can practice and maintain sustainable fishery livelihoods;

DOF should consider contracting a net manufacturing factory that can produce the enlarged mesh materials.

It can be seen that the current policy from the present government is not the final, i.e. the policy is an issuance under the subordinate of the Royal Ordinance on Fisheries B.E. 2558 (2015). It needs further strengthening and evolving. From a fisheries management point of view, cooperation of many sectors is still needed to manage all aspects of the fisheries at large. No single authority can manage the Thai fisheries. Collaboration among several agencies with inter- and intra-government agencies; such as DOF (including many sections which are dealing with e.g. research, enforcement, checking for fish and fishery products for exports and imports, etc.), Navy, Marine police, Attorney Office, Natural Resources and Environment Ministry, Harbor Department, Laws and legal, local participation of fishers and other stakeholders and lastly an appointment from the government for Lead Center. Collaboration of overseas countries is also needed through bilateral or multilateral arrangements as well as international, regional or sub-regional initiatives and organizations.

### **Acknowledgement**

The author is grateful to GEF Chief Executive Officer and the GEF Secretariat for financial contribution for this project “Strategies for trawl fisheries bycatch management” (REBYC-II CTI; GCP/RAS/269/GFF). Mr. Liao Chongguang (FAO Budget Holder, FAO/RAP), Mr. Petri Suuronen (Lead Technical Officer of the Project) and Mr. Richard Gregory (Project Regional Coordinator) always kindly supported and facilitated this project. Thanks also go to Mr. C.M. Muralidharan (Field Administrative Officer/Consultant, FAO/SEAFDEC) and Mr. Rudolf Hermes (FAO-Consultant) who edited and commented my reports. Deep thanks also to the DOF I staff that have made possible several data based surveys, experiments and holding a lot of meetings and financially facilitated the project.

26 December 2016  
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management” (REBYC-II CTI; GCP/RAS/269/GFF)