

## **Fisheries data collection of Thai oversea fishing fleet**

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### **ABSTRACT**

Thailand has declared the prevention, deterrence, and elimination of the illegal, unreported and unregulated (IUU) fishing as a national agenda, and has pursued the reform of the entire fisheries system with a view to promote sustainable and responsible fisheries.

Thailand has built upon the reforms of all dimensions undertaken during nearly the past 3 years, including the reform of legal framework and implementing regulations, the fisheries management limiting the fishing license issuance in compliance with the quantity of aquatic animals, the fleet management putting control over fishing vessels of all sizes and types, the monitoring, control and surveillance through port-in and port-out control, installation of vessel monitoring system (VMS), and especially installation of electronic reporting system (ERS) electronic monitoring system (EM) for oversea fishing fleet, as well as the development of traceability system for catches from Thai-flagged vessel

Fisheries data collection of Thai oversea fishing fleet including biological data of aquatic animal collected by the observer onboard, total catch and effort data collected from electronic fishing logbook (E-logbook) that part of ERS. E-logbook initiated for the trawler fishery due to as of now Thailand has no vessel operate in IOTC area of competence. In the future, if Thailand has a tuna fishing vessel will continue to develop E-logbook for tuna fishing gear.

The traceability system for catches on Thai vessels, the process starts from checking the origin of the catch, cross checking species and weight of the catch as recorded in the logbook against the actual ones recorded during landing. Both of data (logbook and landing declaration) has been consistent analysis and record data information in "Thai-flagged" database system. Furthermore, these data will be reported annually to IOTC secretariat for monitoring and analysis of the marine resources for long term sustainable management.

## Introduction

For the past 30 years, fisheries resources and the marine environment have been seriously degraded through overfishing brought about by a lack of control of fishing capacity that was allowed expand, both in terms of increasing number of fishing vessels and in adopting new technologies, which were not commensurate with the natural productivity of the resources. These challenges provided fertile ground for the proliferation of illegal, unreported and unregulated (IUU) fishing within Thai fisheries waters by both Thai and foreign vessels and outside Thai waters (high seas and fisheries waters of other States) by Thai fishing vessels

Department of Fisheries, Thailand has put in place a range of management and technical measures through the Fisheries Act B.E. 2558 (2015), and the subordinate Ministerial Regulations and Implementing Rules for Thai overseas fishing vessels operating in high seas. For IOTC competence area, Thailand is one of its party that has to report and comply with IOTC regulations.

In 2017, DOF established a new Division namely “Oversea Fisheries and Transshipment Control Division (OFTCD)”. OFTCD is to be a key organization responsible for the oversea fisheries and transshipment control and mobilize the activities regarding the oversea fisheries. The principle of the control is to effectively monitoring vessel when leaving port, during operating at sea or in foreign port and returning to the port of Thailand. Furthermore Thailand defines the minimum requirement for the authorized vessel to be as follow: The installation of the Vessel Monitoring System (VMS), Electronic Reporting System (ERS) and Electronic Monitoring System (EM), the submission of the transshipment plan of the vessel before authorized to port out (PO); the transshipment declaration of the vessel after completion of the transshipment; the designated port of authorized to port-in and port-out; and the requirement of submission of the logbook (Figure 1).

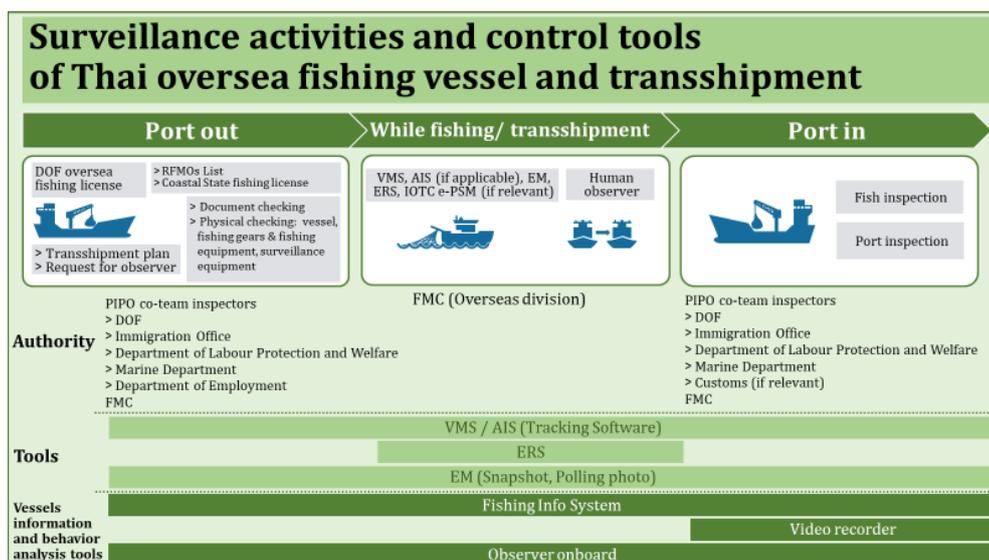


Figure 1 Controls of Thai overseas fishing vessel and transshipment

## **Data collection for Thai oversea fisheries in Thailand**

DOF Thailand, has two unit for responsible the data collection of Thai oversea fisheries. i.e. 1) Fishery Statistics Analysis Group and 2) Oversea Fisheries and Transshipment Control Division. However, both of those units have the different methodology in collecting data as follow;

**1. Fishery Statistics Analysis and Research Group** is responsible for providing overview implementation and analysis of data on Thailand's fisheries in overview. All of Fisheries Office will be collecting data related fisheries such as data related to marine fisheries, inland water fisheries, type and number of fishing gear, amount and value of target species, number of authorized commercial fisheries, small-scale fisheries, processing industries included data from oversea fisheries. The collecting data is sent to Fishery Statistics Analysis and Research Group annually. After that, it will be analyzed and published on the website.

### **2. Oversea Fisheries and Transshipment Control Division**

is responsible for the oversea fisheries and transshipment control and mobilize the activities regarding the oversea fisheries. The principle of the control is to effectively monitor vessel when leaving port, during operating at sea or in foreign port and returning to the port of Thailand.

Data collection on Thai oversea fisheries has been categorized into two themes. The first theme is collecting information from daily report while the vessel were fishing / transshipment activity outside Thai water transmitted these data via satellite system and second one is collecting data from landing sites. These data has been consistent analysis and record data information in Thai flag database system. Furthermore, these data are submitted to IOTC secretariat to monitor and analyze the status of marine resources for sustainable management in long term. Source of the data collection as follow;

#### ➤ **Data report during their fishing/transshipment activity outside Thai water** **Fishing information from logbook and e-logbook**

Data collection is from logbook and e-logbook which provided by DOF, Thailand. The data include information related to fishing trips and fishing operation. The trip data include details about the vessel to the dates and ports of departure and return, number and weight of catch and effort, and position (latitude and longitude). The operational data includes the data and time of the operation, the location, the retained of target species and other information relating to the operation. The master of fishing vessel shall record every fishing operations in the fishing logbook and send a copy during transshipment at sea or back to Thai port. The master must report the e-fishing logbook (Pilot work) to the authority via an application on a daily basis as required by law. Data from these logbook will be used to estimate annual catches, nominal catch by species and effort were analyzed by Excel. Currently, the logbooks and e-logbook system is available only bottom trawl.

## **Transshipment activities**

The overseas fishing vessel must request and report transshipment activity with designated timeframe via ERS. With the request function in the application, the fishing master can request for transshipment and landing activities. The responses from the authorities, whether authorize or not authorize, will be electronically sent to the vessel via the application. With the report function, the fishing master can declare their activities following those of authorizations which include transshipment declaration and landing declaration.

### **Daily report from observer onboard**

Observer onboard must report daily to DOF via application (Currently in development). The reporting includes information about fishing operations, the amount of fish caught, the amount of fish released and discarded, as well as the details of fishing gears and fishing support equipment.

### ➤ **Data information from landing site**

Port inspector will inspect the documentation and physical checks on board for port in –port out permission, the video recorded by the EM will be inspected by port inspector prior to authorize to unloading. Besides, the Thai authorities will also carry out the catch landing inspection when porting in for reliability and accuracy of information on landed fish before entering the supply chain. During this process, catch weight is verified with landing declaration documents, such as fishing logbook, fishing gears and Marine Catch Transshipment Document (MCTD) in the case of transshipments. For Fish sampling, DOF has developing the method for fish sampling which will be authorized and used for oversea fishing vessels in 2019

## **The improved activities related to the Data Collection**

### **1.Port Out Controls**

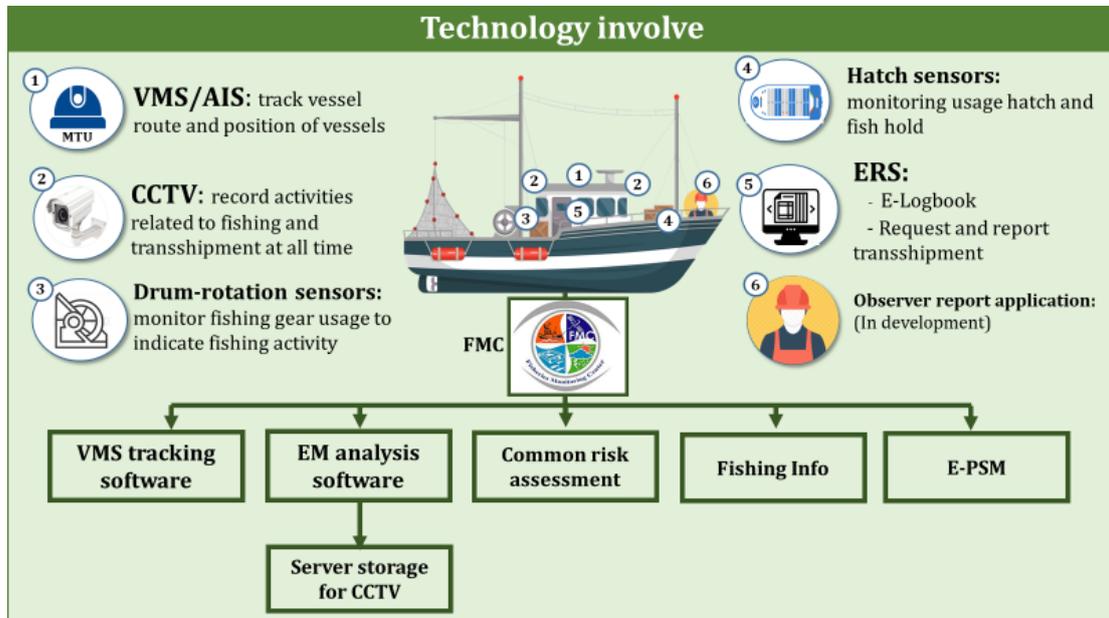
At Port In – Port Out Control Centers (PIPO), it is important to note that the Thai authorities have set clear targets for port in and port out inspections, i.e. documentation and physical checks of vessels and labor. This is carried out by PIPO officers and inspectors of relevant competent authorities.

### **2.Vessel Monitoring System (VMS)**

The VMS of fishing vessels must be active all-time and transmit signals every 1 hours. The real-time system can be monitored by online application and navigation data of fishing vessel can be traced back to analyze behavior of fishing vessel. For oversea fishing vessel, a spare VMS set is available in case the main VMS signal is lost.

### 3. Electronic Reporting System (ERS) and Electronic Monitoring System (EM) installation.

A new electronic surveillance system has been developed, comprising of 2 main components: Electronic Reporting System (ERS) and Electronic Monitoring System (EM) (Figure 2).



**Figure 2 Type of technologies used in overseas surveillance activities**

#### 4. Onboard observer coverage for fishing vessel

- Vessels using trawl gear must have onboard observer coverage for the entire duration of the trip (100% coverage).
- Vessels using any other bottom fishing gear types must have onboard observer for 20% of operation in any calendar year.
- Vessels using fishing gears targeting tunas and tuna-like species must have onboard observer for 5% of operation in any calendar year.
- 100% Transshipment observer coverage. However, for the vessel authorized to fish in IOTC area of competent, only the large scale longliners are authorized to tranship at sea and it is the compulsory to employ the regional observer.

## Flow of data from Thai overseas fishing fleet

The traceability system for catches on Thai vessels, the process starts from checking the origin of the catch, cross checking species and weight of the catch as recorded in the logbook against the actual ones recorded during landing. Both of data (logbook and landing declaration) has been consistent analysis and record data information in “Thai-flagged” database system. Furthermore, these data will annual report to IOTC secretariat for monitor and analyze the status of marine resources for sustainable management in long term.

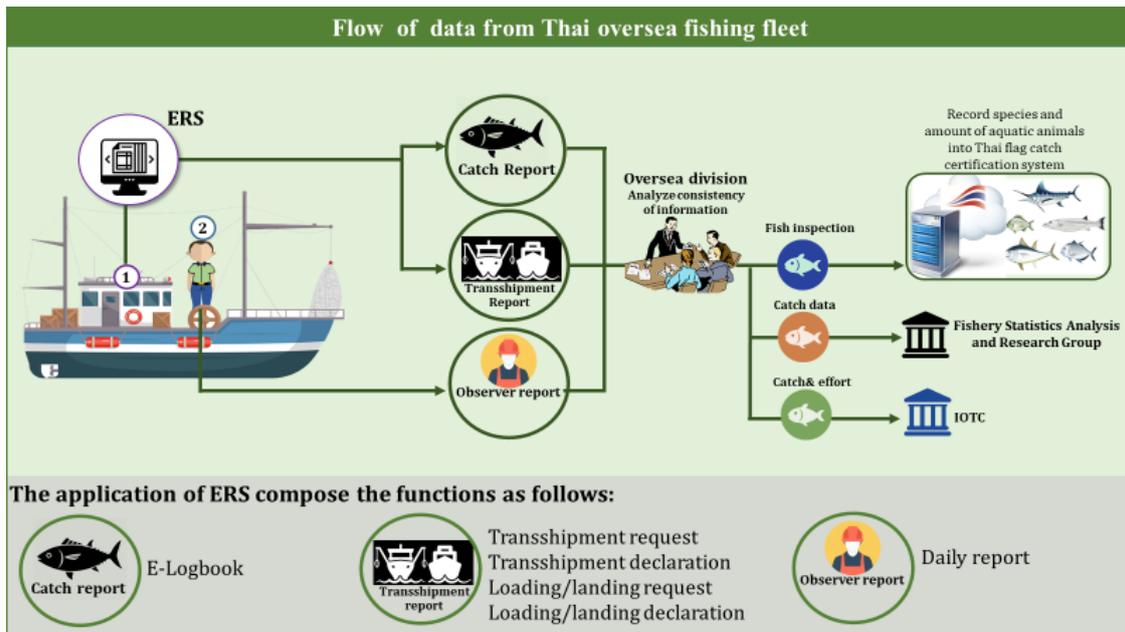


Figure 3 Flow of data from Thai overseas fishing vessels

## Conclusion

Today, DOF is in preparation launch authorizing Thai-flagged overseas fishing vessels. DOF has considered the following matters: legal, licensing and monitoring systems (VMS/ERS/EM). Currently, there has been applications from begin with Thai-flagged overseas fishing fleet. These vessels operate in SIOFA area and target demersal fish species. No application has been submitted for vessels operating in the IOTC area. For data collection, DOF has developed the reporting system such as e-logbook, observer report, and request and report of transshipment activity. This ensures the accuracy of data on fishing and related activities and the recording of information on the fish caught in order to prevent and eliminate IUU fishing. Furthermore, these data will be used for monitoring and analysis of the status of marine resources for long-term sustainable management.