

Development and Management of Database on Regional Fishing Vessel Record (RFVR) as a Tool to Combat IUU Fishing

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Introduction

Illegal, Unreported and Unregulated (IUU) fishing can take place in all capture fisheries. Efforts to conserve and manage fish stocks are undermined by IUU fishing, which can lead to the collapse of fisheries or can seriously impair efforts to rebuild fish stocks that have already been depleted. This may result in the loss of both short and long-term social and economic opportunities and could have negative impacts on food security. Considering the IUU fishing activities occurred in the region mostly found in forms of pouching, double flagging, across-border of fishing boat for fish landing (SEAFDEC, 2014). In this regard, the SEAFDEC Training Department has been implementing the project of “Promotion of Countermeasure to reduce IUU fishing” since 2012, one of the main activities is to establish the Regional Fishing Vessel Record (RFVR) as a management tool to reduce the such IUU fishing activities as above mentioned. In this regards, the ASEAN Member States (AMS) agreed that the fishing vessels to be included in the system are the vessels of 24 meters in length and over for the 1st phase. It is therefore in order to increase the effectiveness management of the RFVR of 24 meters in length and over, the database management system is needed.

Methodology

The steps of developing the database system of the RFVR for 24 meters in length and over are described as follows:

- 1) Reviews the current status of the fishing vessels in each ASEAN Member States and identify the basic data requirements through the series of Expert Consultations. This process includes the consultation with ASEAN-SEAFDEC Member Countries in order to gather the agreed sharing of data and information of the fishing vessels to be included in the RFVR system.
- 2) Development of the database system for RFVR 24 meters in length and over using the System Development Life Cycle (SDLC). It consisted of seven phases for systems analysis as follows;
 - i) **Planning:** Definition of system and scope of database used by AMS was developed
 - ii) **Systems Analysis:** Gathering and analyze the 26 items of basic information requirement from AMS as agreement which compare the existing fishing vessel records by other organization such as IOTC, WCPFC, CCAMLR, and IATTC.
 - iii) **Systems Design:** After the analysis step, the RFVR database system was designed based on the fishing vessel records developed by WCPFC (Western Central Pacific Fisheries Commission).
 - iv) **System Development:** this is a process on developing or writing the database system for RFVR based on the first three steps mentioned before.
 - v) **Testing:** After 1st draft of the database system is completed, the sample data from each country were inputs for testing the system.
 - vi) **Implementation:** The finalized database system is then used for inputs all data provided by AMS. It is planned that the completed database system will be launched at the 47th Meeting of the SEAFDEC Council in April 2015. Login account and password to access the database system for RFVR 24

meters in length and over will be given to all AMS. This is a closed system for AMS only, unless the AMS agreed to publicize world wide or international level.

- vii) **Maintenance the system:** It is agreed that the data and information of the RFVR for 24 m in length and over will be regularly updated. Therefore the maintenance of the database will be looked after by the Training Department as the center and manager of the database system.

Results

1) 26 basic information requirements of RFVR for 24 meters in length and over:

26 basic information requirements of RFVR for 24 meters in length and over was agreed by AMS to be shared within the ASEAN region as shown in table 1

Table 1: Basic information requirements of RFVR for 24 meters in length and over

Information on fishing vessels	Information on fishing vessels
1. Name of vessel	14. Engine Brand
2. Vessel Registration Number	15. Serial number of engine
3. Owner Name	16. Hull material
4. Type of fishing method/gear	17. Date of registration
5. Port of registry	18. Area (country) of fishing operation
6. Gross tonnage (GRT/GT)	19. Nationality of vessel (flag)
7. Length (L)	20. Previous name (if any)
8. Breadth (B)	21. Previous flag (if any)
9. Depth (D)	22. Name of captain/master
10. Engine Power	23. Nationality of captain/master
11. Shipyard/Ship Builder	24. Number of crew (maximum/minimum)
12. Date of launching	25. Nationality of crew
13. International Radio Call Sign	26. IMO Number (If available)

2) Structure of the Database System for RFVR 24m in Length and Over:

The main structures of the RFVR database system are divided into 3 parts as follows: 1) Data Search, 2) Result, and 3) Export Data.

2.1) Data Search

This part allow user to search for the information of vessel based on 5 parameters such as a) vessel flag, b) vessel type, c) year of registration, d) vessel name, and e) local vessel name. In the system, the vessel type searching is created based on the categories of type of fishing gears and methods as shown in Table 2. In accordance to this, the vessel types used in the system are included Purse seiner, Stick held dip netter, Gillnetter, Trawler, Longliner, Trap, and Carrier as shown in Table 2.

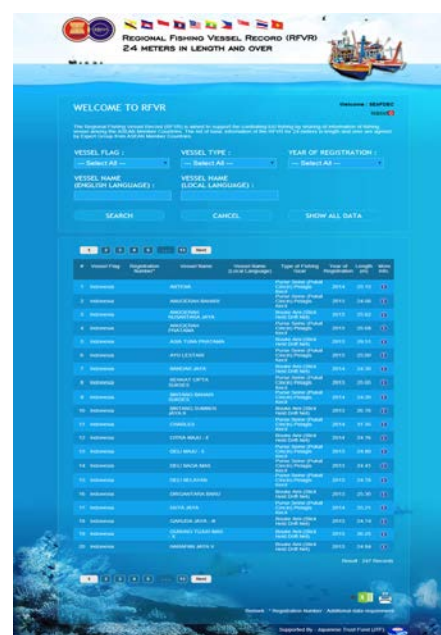


Table 2: the categories of type of fishing gears and methods

Country	Type of fishing method/gear	Vessel Type
Indonesia	Purse Seine (PukatCincin)	Purse Seiner
	Pelagis Kecil	
	Bouke Ami (Stick Held Drift Net)	Stick held dip netter
Malaysia	JaringInsang (Gillnet) HanyutDasar / Liong Bun	Gillnetter
	Fish Purse-Seine	Purse Seiner
	Trawl Nets	Trawler
	Anchovy Purse-Seine	Purse Seiner
	Hook & Lines	Longliner
Myanmar	Transport	Carrier
	Trawler	Trawler
	Stow	Stow netter
	Purse Seiner	Purse Seiner
	Trap	Trap
	Drift	Gillnetter
	Long Line	Longliner
Thailand	Gillnets	Gillnetter
	Purse seine	Purse Seiner
	Otter board trawls	Trawler
Viet Nam	pair trawl fishing	Trawler
	single + pair trawl fishing	Trawler
	fishing logistic	Carrier
	hook and line	Longliner

2.2) Result

This part shows the result from searching, split it on multiple pages limit the query to show only 20 records and display it using page numbers. Information in the result table is such as Vessel Flag, Registration Number, Vessel Name, Local Vessel Name, Type of Fishing Gear, Year of Registration, and Length. User can get more detailed information of each vessel by click icon, and then the result will shown in a new webpage of detailed information for particular/selected vessel.

2.3) Export Data

This part is for exporting the selected data from searching to excel format data sheet by click excel icon or command to print all data as hard-copy by click print icon)

3) How to Access to the Database System for RFVR 24 meters in length and over:

For security purpose, access to the SEAFDEC database system of the RFVR for 24 meters in length and over is required user name and password that will be provided to responsible focal point of AMS after all required data are received from all relevant AMS and are completely input into the system.

4) Management of the Database System of RFVR for 24 meters in Length and Over:

Maintenance and management of the database system of RFVR for 24 meters in length and over are discussed among the AMS. The conclusions are as follows:

- Updating the list of fishing vessels: it was agreed by the AMS that the list of fishing vessels should be updated annually to have more effective tools to be used for combating IUU fishing.
- National focal point: To make a smooth collaboration with AMS, therefore a country focal point would be nominated by AMS.
- Identify users at country level: the specific users at AMS maybe need to be identified in consultation with National Focal Point.

- Increasing important information element of fishing vessel to increase effectiveness of the tools: This matter will be depended upon the future activities.

Reference

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3. WCPFC Record of Fishing Vessels [homepage on the Internet]. Western & Central Pacific Fisheries Commission, Inc.; c2014 [cited 2014 June 1]. Available from : <https://www.wcpfc.int/record-fishing-vessel-database>