

Evaluation of the attitude and awareness of the international resolution on responsible fishing: a case study on the multiday fishermen of Matara

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Introduction

Sri Lanka is an island, situated in the Indian Ocean between 6 – 10 ° N latitude and 80 – 82 ° E longitudes. This island has approximately 1700 km long coastline and sovereign power for the 21,500 km² territorial sea and an Exclusive Economic zone (EEZ) of 517,000 km (MFAR, 2013). Therefore fisheries industry significantly contributes to the food security and the foreign exchange earnings of Sri Lanka. This IUU fishing is a serious threat to the sustainability of fisheries in both national jurisdictions and high seas. Therefore regional resolutions are implemented by the Indian Ocean Tuna Commission (IOTC) to reduce these IUU fishing activities. Although there are laws and regulations, many problems in the fisheries sector are caused due to lack of awareness of fishermen regarding these implemented national and international laws. Therefore identification of awareness of fishermen on these laws and regulations are very important before the implementation of awareness programs. This study was done with the objectives of investigating international resolutions which highly impact to Sri Lankan fisheries sector, investigate responses of fishermen on international resolutions, identify and suggest procedures which can improve the awareness and behaviors of fishermen on international resolutions.

Keywords: Illegal Unreported Unregulated (IUU) fishing, Indian Ocean Tuna Commission (IOTC), International Resolutions

Methodology

Matara fisheries district was selected as the research area. The sample for the case study was selected from multiday boat owners, crew members, skippers and other service providers of Matara fisheries district through the Stratified random sampling. The sample size was determined using “Moving average method”. Data was collected from both primary and secondary sources. Primary data was collected from selected sample, through the questionnaire and interviews. The questionnaire was prepared using international resolutions which developed by the IOTC. Both open ended questions and closed ended questions were included in the questionnaire. Secondary data was collected from sources of Department of Fisheries and Aquatic Resources and IOTC web site. Collected data was analyzed using “Likert method” (Likert, 1932) and one way ANOVA (Analysis of Variance) at 95% significant interval. “Minitab 16” software was used for analyzing all the collected data.

Results and Discussion

The sample size was selected as 105. According to the finalized results of the study, total mean of awareness and attitude regarding these international resolutions is 3.38 ± 1.58 . It means that the level of awareness and attitude of fishermen of Matara fisheries district on these international resolutions are medium. The statements used for the questionnaire have derived from the IOTC resolutions (IOTC, 2013). The current awareness of stakeholders on these international resolutions is helped to keep the Sri Lankan fishermen under the international resolutions. It helps to enhance the acceptance for Sri Lankan fish and fish products in the international market. Not only that but also the awareness on some resolutions are directly influenced on the management of fishery resources.

The community has a high level of knowledge ($3.67 \leq \text{Mean Likert scale} \leq 5.00$) on the statements of importance of registration of fishing vessel, importance of having a flag in the fishing vessel, importance to mark vessels according to the regulations (Resolution 01/02 relating to control of fishing activities), importance of establishing a vessel monitoring program (Resolution 06/03), idea about prohibition of bottom trawling and crossing sea boundaries without proper permission, requirement of permission from the department for landing harvest at another country or for exchanging harvest with the foreign vessels at sea (Resolution 12/05 on establishing a program for transshipment by large scale fishing vessels), prohibition of catching endangered shark species and sea turtles (Resolution 12/09 on the conservation of Thresher sharks and Resolution 12/04 on the conservation of marine turtles) and preference of carrying equipment in the vessel which was used for catching sea birds and sea turtles. The registration of fishing vessel and vessel marking according to the regulations are already in place in the national regulations (1980). Therefore all of them have to comply with the registration of fishing vessel and marking them according to the regulations for having other subsidies and insurance.

The awareness was medium ($2.34 \leq \text{Mean Likert scale} \leq 3.66$) on the statements of importance of maintaining a log book on board (Resolution 01/02), the requirement of providing information about harvest to the Department of Fisheries, willingness to support the government officers, agree to carry a department officer as an observer when they request, importance to inform navigation path for the department or harbor (Resolution 05/03 and Resolution 10/11). According to the attitude of some stakeholders, it is difficult to carry a department officer as an observer due to the limitation of space in the vessel and several other difficulties. The idea of some skippers was important to maintain a log book to have an idea in future regarding places and time of high densities of fish. It was considered as an additional trouble for their hard occupation by others. According to the responses of stakeholders, there are some people who unable to keep records on this log book due to inability of writing.

The overall awareness was very low ($1.00 \leq \text{Mean Likert scale} \leq 2.33$) on the statements of international trade barriers which are occurred to Sri Lankan fisheries sector due to the ignorance of international resolutions, prohibition of large scale driftnets on the high seas in the IOTC area (Resolution 12/12), closed area (Resolution 12/13). With the high sea fishing operation license, printed material including the statements regarding the Resolution 12/12 has received by the boat owners. Therefore regarding the prohibition of large scale driftnets on the high seas, there was awareness among some people specially with the boat owners and skippers. But even the response of these people was not agreed with the idea. According to them, 2.5 km length gill nets are not enough to recover their fuel cost. The awareness of fishermen was very low regarding the closed area (Coordinates $0^{\circ} 10' 0''$ North, $40^{\circ} 60'$ East in the Indian Ocean during February month) for fishing (Resolution 12/13 for the conservation and management of Tropical Tunas stocks in the IOTC area of competence). Therefore the overall response for a closed area was seriously disagreed. But some of the stakeholders believe it is necessary to have a closed area for the sustainability of fishery resources.

Regarding six statements, there was a significant difference of the responses according to the types of stakeholders. The identified major reasons for this significant difference are difference of the participation level for the awareness programs and different attitudes among types of stakeholders. Compared to the crew members, the awareness of boat owners and skippers were high. The reason for this was identified as the high level of participation for the awareness programs while others are engaging in fishing activities. The awareness of other service providers was very low. Because they just consider on their occupation. It is better to use a media such as newspapers, television and mostly the radio which is much closer to them. Other than using the mass media for the awareness programs, it is better to display posters regarding these resolutions in the harbor premises, maintain a continuous dialogue between the stakeholders and the government. It is identified the necessity to improve their knowledge and literacy on new devices such as electronic means of communication.

The overall knowledge of fishermen of Beruwala is relatively in positive level (3.61 ± 1.28) about the international resolutions (Madhushani, *et al.*, 2013). But knowledge level of fishermen of Matara fisheries district regarding international resolutions is medium. Therefore the level of implementing awareness programs should be different from Beruwala to Matara. The required level of awareness programs is high for the Matara fisheries district than for the Beruwala. Although there was awareness regarding some resolutions in both Beruwala and Matara, they do not act according to them. Their negative attitude regarding these resolutions is the reason for this. Therefore while improving awareness regarding international resolutions, developing positive attitudes is very important. It is necessary to improve the common knowledge of stakeholders regarding the international resolutions and importance of these resolutions.

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