

Observer Programme for Small Scale Tuna Fisheries: Is Crew Based Observer Programme an implementable option

Muhammad Moazzam and Umair Shahid

WWF-Pakistan, 46-K, PECHS Block 6, Karachi-75400, Pakistan
(mmoazzamkhan@gmail.com)

ABSTRACT

Although IOTC Resolution 11/04 requires that at least 5 % of the number of operations/sets for each gear type by the fleet of each Contracting Parties and Cooperating Non-Contracting Parties (CPCs) while fishing in the IOTC area of competence of 24 meters overall length and over, and under 24 meters if they fish outside their Exclusive Economic Zone (EEZ) shall be covered by this observer scheme. However, this Resolution could not be effectively implemented in case of small scale fisheries by any of the CPCs although they have a fleet of 24 m and under 24 m that operate and fish outside their EEZ. This is mainly because of the small size and the prevailing working conditions on board these vessels. A Crew Based Observer Programme was implemented during 2012 and 2019 by WWF-Pakistan which helped in generation of information about tuna fisheries of Pakistan required under IOTC Resolution 11/04. Considering the success, effectiveness and simplicity of the Crew Based Observer Programme, it seems an appropriate option for circumventing deployment of “external” observers and the task of collection of information/data required to be collected under Resolution 11/04. This will enable generation of reliable data from small scale fisheries which is believed to be contributing substantially to the catches of tuna and tuna like species in the IOTC area of Competence. It is proposed to adopt the template already developed for the Crew Based Observer Programme by WWF-Pakistan or development a new template for the purpose for collection of information from small scale fisheries..

INTRODUCTION

The Indian Ocean Tuna Commission has adopted a Regional Observer Scheme which has as its core objective: to collect verified catch data and other scientific data related to the fisheries for tuna and tuna-like species in the IOTC area. For the purpose IOTC Resolution 11/04 on a regional observer scheme has been officially commenced on 1st July 2010. This resolution is aimed to increase the scientific information, in particular to provide the IOTC Scientific Committee working material in order to improve the management of the tuna and tuna-like species fished in the Indian Ocean.

The Resolution 11/04 requires that at least 5 % of the number of operations/sets for each gear type by the fleet of each Contracting Parties and Cooperating Non-Contracting Parties (CPCs) while fishing in the IOTC area of competence of 24 meters overall length and over, and under 24 meters if they fish outside their Exclusive Economic Zone (EEZ) shall be covered by this observer scheme.

Under this Resolution number of the artisanal fishing vessels landings shall also be monitored at the landing place by field samplers. The indicative level of the coverage of the artisanal fishing

vessels should progressively increase towards 5% of the total levels of vessel activity (i.e. total number of vessel trips or total number of vessels active).

Under the Resolution, it the responsibility of the Contracting Parties and Cooperating Non-Contracting Parties (CPCs) to ensure that the vessel on which an observer is placed shall provide suitable food and lodging during the observer's deployment at the same level as the officers, where possible. Vessel masters shall ensure that all necessary cooperation is extended to observers in order for them to carry out their duties safely including providing access, as required, to the retained catch, and catch which is intended to be discarded.

According to Resolution 11/04, the Observer are required to:

- a) Record and report fishing activities, verify positions of the vessel;
- b) Observe and estimate catches as far as possible with a view to identifying catch composition and monitoring discards, by-catches and size frequency;
- c) Record the gear type, mesh size and attachments employed by the master;
- d) Collect information to enable the cross-checking of entries made to the logbooks (species composition and quantities, live and processed weight and location, where available); and
- e) Carry out such scientific work (for example, collecting samples), as requested by the IOTC Scientific Committee.

Whereas field samplers shall monitor catches at the landing place with a view to estimating catch-at-size by type of boat, gear and species, or carry out such scientific work as requested by the IOTC Scientific Committee.

Implementation of Regional Observer Programme in Small Scale Fisheries

Under the Resolution 11/04 fishing fleet of each CPC while fishing in the IOTC area of competence of 24 meters overall length and over, and under 24 meters if they fish outside their Exclusive Economic Zone (EEZ) are required to implement a Regional Observer Programme, however, in a number of CPCs in the Indian Ocean, there are small scale fishing vessels that fall this category but these vessels are considered as of small scale fishing category, however, no Regional Observer Programme is implemented for these vessels. Tuna fishing vessels of Pakistan and many other countries of Indian Ocean falls under these categories, but observers are not deputed on such vessels due to number of operational and sociological reasons.

Living Condition: On small scale fishing vessels, the living condition are extremely poor. There are usually no adequate arrangement for sleeping and in most cases, crew and even captain do not have bunks for sleeping, therefore, they sleep on decks. The observers demand to have adequate separate place for spending night which is not possible on small scale vessels. In addition, there is suitable toilet facilities on such because of limited space which is one of the serious complain of the observers if deputed on the vessels.

Working Environment: Because of the limited space, separate space/area cannot be provided to the observer for conducting his activity. In most cases, deckhouses are not available on small scale fishing vessels. Even if available, the deckhouses are small and have space for navigational and communication equipment and in some cases space for accommodation of Captain of the vessel. The deckhouse, therefore, cannot be spared for accommodating the observers.

Duration of Fishing Trip: Tuna fishing vessels, especially in Pakistan and a number of other countries, usually undertake very long fishing trips, in some cases to more than 60 days. The observers, if deputed on such vessels, usually cannot sustain such long trips mainly because of inadequacy of facilities, therefore, refuse to work on such vessels with long fishing trips.

Food: No special food can be arranged for the observers on small scale tuna vessels because of inadequacy of facilities. Because of the conditions on the vessels especially large crews size, no separate food can be prepared for observers. Food was observed to be one of the important reasons for refusal to work on small scale tuna vessels by the observers.

Pest: Because of poor hygienic conditions on board, small scale fishing vessels are beset with a large number of pests including cockroaches, spiders, scorpions, centipedes, other insects and rodents making living conditions undesirable.

Tradition: There is no tradition of having an extra person on board small scale tuna vessels. In most cases the crews belong to a particular caste, clan or area of the country which makes it difficult for observers to be comfortable on board such vessels. Sometimes the crew speak a different language or dialect, therefore, communication of observers with crew is difficult.

Because of these and other shortcomings, placing observers on small scale tuna vessels could not be started, although there is legal cover available for such deployments in some countries, like Pakistan. Although small scale vessels of 24 meters overall length and over, and under 24 meters if they fish outside their Exclusive Economic Zone (EEZ) are being operated in many countries but there is no Regional Observer Programme in place in any of these countries.

Crew-Based Observer Programme

Considering that tuna gillnetting which is the main fishing method being used in Pakistan, is marred with high bycatches which include commercially important species, marine turtles, cetaceans, whale sharks, sharks, mobulids and other non-target species but the extent of bycatch entanglement and mortality in Pakistani tuna gillnet fisheries was not known. In order to gather this information, WWF-Pakistan initiated a study in 2012 with the financial assistance of Indo-Pacific Cetacean Research and Conservation Foundation (IPCRCF), Government of Australia which was aimed to assess the mortality of cetacean and other endangered, threatened and protected (ETP) species in the tuna gillnet fisheries of Pakistan. The project envisages deployment of observers for data collection on the tuna fishing vessels.

WWF-Pakistan selected a few candidates (mainly fresh science graduates, master degree older students mainly belonging to fishermen families) and conducted exhaustive training for data collection. However, after training these candidates refused to work as an observer because of factors mentioned above. After several failed attempts to post observers on board, WWF-Pakistan decided to assign the data collection to the skipper of one of the tuna vessels. This turned out to be a major breakthrough as that skipper provided much needed data of catches of tuna and tuna-like species, bycatch species and other information about the fishing operations. The skipper was provided with a template (Fig. 1) to record the data and also collect photographic record of the catch for daily fishing operations.

The figure displays two forms used for data collection by Crew Based Observers. The left form, titled 'ٹونا فشری معلومات' (Tuna Fisheries Information), includes fields for recording details such as date, time, location, and species. The right form, titled 'مچھلی کے بارے میں معلومات' (Information about the fish), includes fields for recording data about the fish, including species, size, and weight.

Fig. 1. Template used for data collection by Crew Based Observers

Considering the quality and diversity of the information generated through this crew based programme the number of observers was increased to 85 observers in 2018. The observers were paid Rs 18,000 (US \$ 100) per month for the collection of information. This programme was closed down in September, 2019 and again being started with funding from Government of Pakistan which will be adoption of crew-based observer programme for gillnet fisheries for Pakistan..

Crew Based Observer Programme is a successful because crew of tuna gillnet vessels are well trained and accustomed to work in high seas with limited facilities available on board. For the Crew Based Observers no additional facilities are required. Since gillnet operation is not done during the day time, therefore, the observers have adequate spare time to record the collected data without affecting their own work. Crew based observers can identify fishes to species level using their traditional knowledge (folk taxonomy). Additionally, these observers were provided with IOTC species identification cards.

Data that can be collected through Crew Based Observer Programme

The Crew Based Observer Programme enabled to collect and record information about all aspects required under Regional Observer Programme of IOTC under Resolution 11/04 including:

- Quantity and estimated weight of all tuna species
- Quantity and estimated weight of all tuna like species
- Quantity and estimated weight of all bycatch fish species including sharks, rays, queenfish, trevallies, leatherskin and other fish and shellfish species
- Quantity and estimated weight of all ETP species (including cetaceans, sea turtles, whale sharks, mobulids, queenfish, sunfish and other similar species.
- Measure the length (fork length) of 3 specimens of dominant tuna and tuna like

- species
- f) Measure the length of each specimens of ETP species
 - g) GPS location of the net deployment and net retrieval area.
 - h) Date and time of net placement and retrieval
 - i) In addition, at the start of each fishing voyage, the crew based observer is required to record:
 - i. Date of departure
 - ii. Quantity of ice, ration, water and fuel
 - iii. Number of panels of the gillnets
 - iv. Length of each panel
 - v. Possible fishing ground
 - vi. Other details of vessel

These observers were assigned specifically to collect information about entanglement of Endangered, threatened and protected (ETP) species including cetaceans. They were also required to record information about free swimming schools of dolphins and any sightings of whales. The observers were also supposed to collect photographic evidence of the catch, dominating and rare species as well as of all ETP species.

After the completion of each trip, observers are interviewed in a debriefing session during which details of the fishing trips, species composition and other information about fishing trip is obtained. The collected data is stored in WWF-Office whereas all information collected by the observers is stored in especially designed software.

Adoption of Crew-Based Observer Programme as part of Regional Observer Programme

It is more than 10 years since promulgation of Resolution 11/04, however, it seems that none of the CPCs were able to start an observer programme in small scale tuna fisheries in compliance with the Resolution. This is mainly because of the small size and prevailing conditions on these category of fishing vessels. Crew Based Observer Programme, which was implemented by WWF-Pakistan, seems to be a successful option for generation of reliable information from small scale fishing vessels being operated in the IOTC Area of Competence and to be compliant with ITC Resolution 11/04.

The template that was used by WWF-Pakistan for collection of information was aimed to collect information mainly about bycatch species but it has all the ingredients required for information/data collection required under Resolution 11/04. However, if any modification is considered necessary, the same can be incorporated in the template already developed or a new template can be developed for the purpose. As there seems to be no adoptable options, therefore, implementation on Crew Based Observer Programme in the CPCs of the Indian Ocean, can be the only effective way to comply with Resolution 11/04.

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