TERMS OF REFERENCE: MONITORING OF ARTISANAL FISHERIES IN THE INDIAN OCEAN

BACKGROUND

Despite a number of IOTC capacity building activities in recent years aimed at strengthening sampling of coastal fisheries[1] in the Indian Ocean, in addition to other related studies which examine procedures for data collection or estimation of catches for artisanal fisheries[2], no formal IOTC guidelines on the data collection standards for these fisheries – which account for over 60% of the total catches of IOTC species, including species recognised as vulnerable to overfishing.

Routine data collection of coastal fisheries is lacking for many developing coastal states in the Indian Ocean, leading to fundamental issues for the data available for the stock assessment of IOTC species, and also monitoring of incidental catches of species determined to be threatened or near threatened with extinction and listed under CITES Appendices. In the case of neritic tuna species, which are caught predominantly by artisanal fleets operating in coastal waters, the proportion of catches estimated by the IOTC Secretariat is as high as 85% in some years, while the catches of 'other vulnerable species, such as elasmobranchs have few reliable estimates of their abundance. This high degree of uncertainty of catches and lack of associated data (e.g., indices of abundance, length frequency data, and biological parameters) restricts the quality of the information available for stock assessments and the advice that can be provided to managers on the status of stocks.

Acknowledging these concerns, the IOTC Scientific Committee has agreed that improvements are required in terms of the data collection of catches and bycatch associated with small-scale coastal fisheries and has requested CPCs[3] to do their best to comply with IOTC data collection and reporting requirements[4].

[1] IOTC-2015-WPDCS11-08, IOTC capacity building activities in support of developing coastal IOTC CPCs: http://www.iotc.org/documents/iotc-capacity-building-activities-support-developing-coastal-iotc-cpcs.

[2] FAO ARTFISH (http://www.fao.org/fishery/topic/16081/en),

[3] IOTC members and Cooperating Non-contracting Parties (CPCs).

[4] Para. 32, SC20 Report: http://www.iotc.org/documents/report-20th-session-iotc-scientific-committee.

The development of data collection protocols for artisanal fisheries is also an activity that has been identified as a high priority in the IOTC Working Party on Data Collection and Statistics programme of work (IOTC-2015-WPDCS11-R, p25). Specifically: develop general guidelines for data collection from artisanal fisheries at the landing place, through sampling by enumerators; including development of a set of indicators to be used to assess the quality of data collection and management systems for artisanal fisheries.

Under the IOTC Regional Observer Scheme, CPCs also have a responsibility to ensure that landings by artisanal fisheries are subject to a minimum of 5% coverage level by port/field samplers (IOTC Resolution 11/04)[5]. Support for the implementation of this port/field sampling has also been requested by a number of CPCs, including I.R. Iran.

SCIENTIFIC SERVICES TO BE PROVIDED:

The consultant will undertake a study to review the current status of data available and the data collection systems currently in place for artisanal fisheries monitoring across the Indian Ocean. This will comprise a desk-based review of the information available based on both the published literature and the grey literature (some of which will be provided by the IOTC Secretariat) and through contacts with data providers from the government of IOTC CPCs.

This review will provide an overview of the current situation by outlining the sampling systems that are currently in place (for the main artisanal fisheries in the Indian Ocean), including the type of sampling programme being implemented, for which fleets, which organisation is responsible for its oversight and what level of coverage it provides. It will also describe the historic data that are currently available, the content and level of detail, the format of these and how they might best be accessed (e.g., is there a need for a data entry or data collation exercise).

[5] *The number of the artisanal fishing vessels landings shall also be monitored at the landing place by field samplers[2]. 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).*

A flow diagram will be developed outlining best practise approaches to data collection through port sampling for artisanal fisheries. National data collection systems that are currently in place will be compared and contrasted with this in order to highlight key areas that are in need of improvement. This will be done on a country-by-country basis, detailing the status of each scheme, the sampling methods and potential issues and biases associated with these, and indicate priority areas for support.

The final project stage will involve providing a series of specific and concrete set of recommendations for follow-up studies that will be longer term and field-based in its approach.

DELIVERABLES

The output should take the form of a report detailing:

- Evaluation of the status of coastal fisheries data collection for priority CPCs identified as important for catches of artisanal fisheries (i.e., IOTC species and CITES species) – including the current situation in terms of port sampling systems in place (e.g., coverage, potential biases, gaps in the data collection).
- Best practice flow diagram for artisanal port sampling data collection.
- Develop general guidelines for data collection from artisanal fisheries at the landing place, through sampling by enumerators; including development of a set of indicators to be used to assess the quality of data collection and management systems for artisanal fisheries.
- Recommendations on short term and long term strategies for obtaining data and capacity building for artisanal fisheries in the IOTC Area of Competence.