IOTC CAPACITY BUILDING ACTIVITIES IN SUPPORT OF DEVELOPING COASTAL STATES

PREPARED BY: IOTC SECRETARIAT, LAST UPDATED: NOVEMBER 16TH 2020

Purpose

To provide the IOTC Working Party on Data Collection and Statistics with an overview of the activities that, independently or along with other partners, the IOTC Secretariat initiated during the last year in support of developing coastal states, and the main results of those activities.

Background

Since its inception, the Commission has allocated funds from its regular budget to assist developing coastal CPCs in the Indian Ocean in the implementation of the IOTC data requirements. In addition to the funds allocated by the Commission, the IOTC Secretariat has also secured funding from external sources with funds sourced from third parties that in recent years have been well above those allocated by the Commission.

Since April 2002, the *Overseas Fisheries Cooperation Foundation* of Japan has been assisting developing coastal states in the IOTC area of competence with their statistical data collection, processing, and reporting systems, with a view to enhancing the capacity of institutions in those countries and improve their compliance with IOTC requirements for statistics and other scientific data used on the assessments of IOTC species. In recent years, the IOTC has also received substantial funding for capacity building activities from other sources, including the *Bay of Bengal Large Marine Ecosystems Project* (BOBLME), the *IOC-SmartFish* Project and, more recently, the *GEF-Areas Beyond National Jurisdiction Project* (ABNJ) and EU *DG-MARE*.

This document presents the activities undertaken by the IOTC and its partners during the last year (2020), including those activities that will extend to 2021 and following years, where appropriate.

Recommendation

The WPDCS is invited to review the Progress of activities undertaken by the IOTC and its partners and recommend that the IOTC Scientific Committee considers to endorse the future work plan by the IOTC Secretariat. In addition, the WPDCS is invited to consider, where necessary, recommending the implementation of other activities that to its view will lead to improved statistics for IOTC and associated species, including identification of agencies that may be prepared to fund such activities.

The report covers the following areas:

- Introduction
- Summary of countries and activities undertaken in 2020
- Activities planned for 2021 and following years (where applicable)

Introduction

Table 1 presents an overview of the data capacity building activities that the IOTC and its partners had planned and implemented during 2020 to assist developing coastal CPCs in the Indian Ocean, by country and type of activity.

Compared to previous years, the number of successfully delivered activities has substantially decreased in consequence of the travel bans related to the insurgence of the CoViD-19 pandemic. Further details on each specific activity can be found below in this same document.

Table 1 List of capacity building activities planned or delivered for 2020

Country	Dates	Executing agencies / staff	Description of activities
Kenya	February 2020	IOTC Data Coordinator *CapMarine* staff	**COMPLETED:** ROS Pilot Project training programme (*CapMarine*) and hands-on training on the adoption of the IOTC ROS electronic tools for data collection, reporting and management
Sri Lanka	March 2020	IOTC Data Coordinator IOTC Fishery Statistician *AZTI Tecnalia* *Marine Instruments*	**CANCELLED:** technical assistance mission to support the implementation of the ROS Pilot Project EMS component and provide further training on the ROS e-Tools
India	April 2020	IOTC Data Coordinator IOTC Fishery Statistician IOTC Data Assistant	**CANCELLED:** data compliance and support mission to resolve several outstanding issues with the collection and reporting of Indian marine fisheries statistical data
Pakistan	April 2020	IOTC Data Coordinator IOTC Fishery Statistician WWF Pakistan	**CANCELLED:** technical assistance mission to support WWF Pakistan in the finalization of their integrated database of crew-based observations and improve the reconstruction of gillnet historical time series
Tanzania [*remote*]	June 2020	IOTC Data Coordinator IOTC Compliance Manager	**COMPLETED**: remote meeting with IFAD and Tanzania stakeholders to contribute to the refinement of the initial concept note from IFAD, in particular by providing details on data collection and reporting requirements expressed by current IOTC resolutions, and by describing artisanal data collection use cases from other CPCs.
Sri Lanka [*remote*]	September 2020	IOTC Science Manager IOTC Data Coordinator *AZTI Tecnalia* *Marine Instruments*	**COMPLETED**: remote meeting to assess the status of implementation of the EMS trial on selected small-scale coastal gillnet/longline vessels, in particular for what concern the installation of the EMS equipment, the identification of technical issues encountered during the trials and the assessment of current EMS data collection procedures.
No further *on-site* activities planned or implemented past April 2020 due to travel restrictions			

Funding agencies

The following section includes a description of the main agencies that contributed funds and other support to IOTC data capacity building during 2020 and previous years.

IOTC

The Indian Ocean Tuna Commission allocates funds from its regular budget to the implementation of capacity building activities in developing coastal states that are IOTC CPCs. Staff of the Data and Statistics Section of the IOTC Secretariat were involved in one or more of the capacity building activities referred to in Table 1.

IOTC-OFCF Project[1]

The Memorandum of Understanding between the IOTC and the Overseas Fishery Cooperation Foundation of Japan (OFCF) was initiated in April 2002, with the purpose of enhancing the capacity of developing coastal states in the Indian Ocean region to improve their fisheries statistical systems. Phases I (April 2002 - March 2007), II (June 2007 - March 2010), III (June 2010 – March 2013), IV (June 2014-March 2017), and V (June 2017-March 2020) of the Project ran for eighteen consecutive years.

A Letter of Understanding (LOU) between the IOTC and the OFCF for the commencement of a Phase VI was signed in October 2020, including the provision of the OFCF expert to coordinate and lead the activities of the Project, with the support of staff of the IOTC Secretariat when required.

[1] http://www.iotc.org/data/iotc-ofcf

After a consultation, the IOTC and the OFCF agreed to focus its Phase VI activities towards the realization of sustainable utilization of tuna resources, by improving the accuracy of data collection and statistical analysis of the catch and resources of tuna in the Indian Ocean.

The Project has kept the following three main principles since 2002:

a) The activities undertaken under the Project follow the recommendations of the IOTC Commission and its relevant subsidiary bodies (Working Parties and the Scientific Committee).
b) There will be no direct financial implications for IOTC Member countries.
c) The activities of the Project should be directed towards reinforcing the statistical systems of developing countries from the region.

European Commission – DG for Maritime Affairs & Fisheries (DG-MARE)

The mission of the Directorate-General for Maritime Affairs and Fisheries (DG-MARE) is:

> *"To develop the potential of the European maritime economy and to secure sustainable fisheries, a stable supply of seafood, healthy seas and prosperous coastal communities – for today's Europeans and for future generations."*

Since 2015, DG-MARE has provided the IOTC Secretariat with capacity building grants to fund projects that foster compliance of Conservation and Management Measures (CMMs), in addition to funding activities that enable assistance for developing coastal states in the IOTC area to improve the implementation of the at–sea observer scheme, compliance with IOTC mandatory data collection and reporting standards, technical assistance support missions to CPCs, as well as support for national fisheries scientists to attend IOTC science meetings.

DG-Mare funding was utilized to support part of the activities conducted in 2020, notably the implementation of the Regional Observer Scheme Pilot Project (i.e., piloting of electronic monitoring systems (EMS), which aims at facilitating improvements in the data collection, reporting and timeliness of observer data to the IOTC Secretariat).

ABNJ Project[2]

The Global sustainable fisheries management and biodiversity conservation in the Areas Beyond National Jurisdiction (ABNJ) Program promotes efficient and sustainable management of fisheries resources and biodiversity conservation in the ABNJ.

The phase I of the 5-year ABNJ Program comprises 4 projects. In particular, the Sustainable Management of Tuna Fisheries and Biodiversity Conservation in the ABNJ pilots Rights-Based Management systems and other sustainable fishing practices; reduces illegal, unreported and unregulated (IUU) fishing; and reduces bycatch and other adverse ecosystem impacts on biodiversity.

The IOTC is among the five tuna regional fisheries management organizations that is receiving support from the ABNJ Project.

Summary of countries and activities planned or undertaken in 2020

Data related capacity building activities delivered by the IOTC Secretariat can be broadly categorized into the following work streams:

a) Data compliance and support missions: aimed at facilitating improvements in the validation and reporting of core statistical datasets to the IOTC Secretariat (i.e., nominal catches, catch-and-effort, and size data), to assess current shortcomings concerning the collection and management of fisheries data, and to agree on a plan of action with the CPC required to deliver improvements on the levels of reporting.
b) Technical assistance missions: including capacity building in data collection, support for the development of national fisheries databases and statistical systems, or other issues related to fisheries data management.

[2] http://www.thegef.org/gef/ABNJ

c) Support for implementation of the Regional Observer Scheme and implementation of the ROS Pilot Project: ROS-related capacity building activities cover a number of components, including further development and improvements of the IOTC ROS e-tools, as well as studies on the implementation of electronic monitoring systems (EMS) on small-scale fisheries.

The following data capacity building activities were implemented by the IOTC and its partners in 2020 (up to November 2020), to support a number of priorities identified by the IOTC Working Parties and Scientific Committee.

IOTC data compliance and technical assistance missions

Data compliance and support missions are conducted by staff from the IOTC Secretariat, with the assistance of staff from the government institutions concerned in each country, and are focused on the following objectives:

1) Assess CPC compliance with IOTC Requirements for scientific data, including IOTC species and other bycatch, and provisions for the collection of logbook data, implementation of the IOTC Regional Observer Scheme, and data requirements with regards to FAD management plans.
2) Recommend the type of actions that will need to be undertaken to address any issues identified in (1).
3) Agree on a Plan of Action to address any issues identified impending compliance with IOTC data related resolutions, including a time frame for the implementation of those actions and the type of indicators to be used in each case to assess progress.

In 2020, due to the insurgence of the CoViD-19 pandemic and the consequent restrictions on travel, no direct support on these matters has been provided to CPCs through on-site missions. Yet, a few data compliance missions were originally planned and have either been delivered remotely (teleconference) or rescheduled to a later date, including the following:

Tanzania [REMOTE MEETING] (data compliance and technical assistance, June 2020)

Staff from the Data and Compliance sections of the Secretariat provided advice and support to a joint panel of representatives from IFAD (International Fund for Agriculture Development of the UN) and national institutions from Tanzania to contribute to the refinement of the project concept note on the Agriculture and Fisheries Development Programme (AFDP) drafted by IFAD, in particular by providing details on data collection and reporting requirements expressed by current IOTC resolutions, and by describing artisanal data collection use cases from other CPCs.

India [CANCELLED] (data compliance, originally scheduled for April 2020)

The geographical extent of the country, together with the complexity of its socio-economic structure, are two of the main reasons currently preventing submission of statistical data to IOTC in full respect of the requirements expressed by Resolution 15/02.

Following an increased engagement in the IOTC scientific process by national scientists and acknowledging the effort made by the Government of India and its national agencies to increase compliance toward IOTC reporting requirements, the IOTC Secretariat had originally planned a data compliance and support mission to India for Q2 2020, with the goal of clarifying some of the currently outstanding issues detected with respect to India statistical data submissions, and provide support towards their resolution (including, but not limited to, the provision of geo-reference catch-and-effort data for several fisheries).

Unfortunately, due to the insurgence of the CoViD-19 pandemic, the mission could not be finalized as initially agreed but still is considered as a high priority activity for the IOTC Secretariat.

Pakistan [CANCELLED] (technical assistance, originally scheduled for April 2020)

Since 2012, WWF-Pakistan has developed and implemented, with support from the ABNJ program, a *crew-based data collection program* for Pakistan's gillnet fleet: the IOTC Secretariat has supported the program by providing a technical review of the crew-based data collection forms as well as of the prototype data entry portal used to collate, process and extract the results of the newly introduced crew-based data collection protocol.

As a consequence of this exercise, the government of Pakistan was able to present a consolidated revision of their time series of gillnet catches from 1987 onwards, that was endorsed by the WPDCS in 2019 and eventually incorporated in the IOTC databases since December 2019.

While the accuracy of these revised time series is considered higher than the previous estimates, the IOTC scientific working parties requested the IOTC Secretariat and WWF Pakistan to continue liaising to further improve the quality of the new estimations, as well as to ensure that the information collected on board by crew members of the Pakistani gillnet fleet could be used – after due verification – as the basis to provide those statistical data sets (e.g. time-area catches and size-frequencies, as well as estimation of total discards of bycatch and ETP species) that Pakistan is still failing to properly provide in full agreement with the various IOTC resolutions specifically dealing with data collection and reporting.

For this reason, the IOTC Secretariat had originally planned a technical assistance mission to further evaluate the updates in the implementation of the integrated database for the management of crew-based operational data, and also to assess the possibility of using simplified, EMS-like systems for automated data collection.

Unfortunately, due to the insurgence of the CoViD-19 pandemic, the technical mission originally planned for April 2020 had to be postponed to a further date: current plans are to resume the activity in 2021, as soon as circumstances allow.

ROS pilot project: development and implementation of tools for observer training to support implementation of the Regional Observer Scheme in the Indian Ocean

An EU-funded project to develop a complete training package for the IOTC ROS has been awarded to *CapMarine.*

Based on the revised ROS standards, the training course includes materials for observers as well as observer coordinators: the newly developed tools and materials (including e-learning courses, workbooks, manuals and data collection paper forms) are in the process of being implemented in six target countries (Indonesia, Kenya, Sri Lanka, Tanzania, Mozambique and Maldives[3]) with the IOTC Secretariat expected to provide support during the country visits that were initiated in Q3 2019, in particular for what concerns the adoption of the ROS e-Tools as the preferred data collection and management platform.

Project update*:* As of March 2020, the Service provider delivered four site visits to three of the identified pilot countries (Tanzania, Sri Lanka and Kenya) with Kenya being the first country to see a full implementation of the training course for national observers and national observer coordinators, followed by an assessment of the observer candidates.

The IOTC Secretariat participated to the second site visit to Kenya in February 2020 to specifically provide support on the ROS e-tools, and contribute to resolve technical issues encountered by participants to the course.

The insurgence of the CoViD-19 pandemic has required the project to be put on halt for causes of *force-majeure*, which led the IOTC Secretariat, the Services provider and the national stakeholders to cancel the scheduled on-site visits and focus on other aspects of the project implementation (e.g. further development of e-learning resources, finalization of data collection forms, updates to the ROS e-tools etc.) that could be performed remotely. The regular activities will resume, on a delayed schedule, as soon as the circumstances will allow.

ROS pilot project: Electronic Monitoring Systems in small-scale fisheries

The project is aimed at improving the quality of observer data and coverage of small-scale fisheries where there are practical difficulties deploying observers on-board (e.g., due to safety issues, lack of space, logistics, etc.) – particularly in the case of coastal fleets. Given the successes of EMS in other oceans and fisheries (i.e., mostly industrial large-scale vessels), it is important that EMS are trialled for small-scale fleets in the Indian Ocean, particularly for fleets where no observer coverage has yet been implemented.

[3] Maldives and Mozambique expressed their interest during the 22nd session of the IOTC Scientific Committee, but have so far not yet formalized any written agreement with the IOTC

***Project update**:* Procurement of EMS equipment for six coastal longline and gillnet vessels of 15-18m LOA in Sri Lanka was finalized in late-2018, with the delivery and installation of the equipment completed in Q3 2020. An initial phase of EMS trials highlighted several technical issues that the service provider is still in the process of sorting out in collaboration with local authorities.

The insurgence of the CoViD-19 pandemic has required the project to be put on halt for causes of *force-majeure*, which led the IOTC Secretariat, the Services provider and the national stakeholders to cancel the scheduled on-site visits and revert to remote meetings to assess the current state of the art and plan for future actions once the project is resumed.

For the time being, the Service provider and the IOTC Secretariat are agreeing on the best possible way to resume discussions on those aspects of the project that might be addressed through remote communications (e.g. project management and further advancement on the integration of EMS collected data with the ROS tools and platform).

ROS pilot project: e-Tools

The IOTC Regional Observer Scheme is a high priority for reducing the level of uncertainty associated with the status of many target stocks and associated bycatch species. However, current low levels of reporting of ROS data to the IOTC Secretariat are further confounded by ROS data submissions which are often reported in non-electronic or un-standardised format, including *.doc* and *.pdf* files, as well as scanned documents that are difficult to validate and compile in a proper statistical database.

This component of the ROS pilot project aims to facilitate improvements in the data capture, processing and timeliness of reporting of ROS data to the IOTC Secretariat through the development of an electronic data collection interface, a national database for storage and processing of data, and a regional ROS database hosted by the IOTC Secretariat to collate data submissions and disseminate aggregated information to the public.

Electronic tools are now becoming increasingly mainstream as a method for collecting, managing and processing data for timely analysis: this activity aims at delivering a fully integrated system from the point of data entry to transmission of the processed ROS data to the IOTC Secretariat, and is targeted particularly at developing CPCs which have not yet developed observer data collection and reporting workflows, and where data management processes will be an important capacity building tool.

Project update: In February 2020, a workshop on the adoption of the ROS e-tools was delivered to Kenya as part of the ROS pilot project training undergoing in the country, while online support was provided to Sri Lankan observers to help them further familiarize with the data entry tools.

The national candidates participating in the observer training program delivered by *CapMarine* in Mombasa were encouraged to familiarize with the ROS e-Tools, and were eventually assessed by the trainers in their ability to effectively digitize paper-based observer data through the ROS e-Collection interface.

The feedback provided by the trainees was also successfully used to further improve the features and the general user-friendliness of the tools: national observer coordinators were also briefed on the procedure to follow to ensure proper identification of the officially appointed observers by the IOTC Secretariat, and also on how to use the ROS National Database to receive future data submissions by local observers, analyse and verify their content and eventually submit the data to the IOTC Secretariat.

Sri Lankan observers, on the contrary, have already a well consolidated experience with the adoption of the ROS e-Collection interface which dates back to the initial implementation of the tools, based upon the original ROS specifications: yet, as the ROS requirements evolved over time, so did the ROS e-Collection tool and therefore further training was expected to enable observers to effectively use the new version of the application.

Unfortunately, this training activity was also cancelled because of the insurgence of the CoViD-19 pandemic, and the Secretariat is in the process of remotely providing assistance to Sri Lankan observers that are currently involved in data entry exercises for the digitization of information collected during several longline trips in 2019 and 2020.

Activities planned for 2021

Below is a provisional (and non-exhaustive) list of the capacity building activities planned for 2021. Several of the activities have been postponed from 2019 and 2020 due to several reasons including: limited resources available at the IOTC Secretariat, delays in securing funding for the activities, and travel restrictions caused by the insurgence of the CoViD-19 pandemic:

IOTC Data Compliance and Support Missions

The IOTC Secretariat is committed to deliver additional Data Compliance and Support missions in 2021, aimed at improving the overall levels of data compliance of CPCs in the IOTC region, as a follow-up to the ongoing and persistent issues with non-reporting (or incomplete reporting) of several mandatory IOTC datasets.

These missions also aim to provide an assessment of the status of current data collection and reporting systems at national level: as of today, no specific on-site mission is yet planned for 2021, mainly because of the travel restrictions and health measures currently in place in the region.

Depending on the development of the situation, it could be considered feasible to deliver up to two data compliance and support missions before the end of 2021 to target countries (e.g. India, Indonesia, Bangladesh) identified as priorities by the scientific bodies of the IOTC, using fund from both the European Union (DG-Mare) and the IOTC regular budget.

Regional Observer Scheme Pilot Project – related activities:

ROS e-tools training workshops and further ROS developments

Support for the adoption of the IOTC ROS e-tools is expected to continue during 2021, if circumstances will allow, through activities that include training workshops preliminary to a further roll-out of the e-tools in two developing coastal CPCs (possibly focusing on the countries that already participate to the ROS Pilot Project training programme).

Side activities stemming from these workshops will include additional end-user testing of the e-collection interface and of the national database components (where applicable) as well as evaluation of the quality of ROS data prior to their submission to the IOTC Secretariat.

For those CPCs that already have legacy observer data collection systems in place (e.g. Mauritius, Seychelles) additional data integration activities are expected to ensure that the available information is properly (and automatically) shared with the IOTC Secretariat. Work on the implementation of a direct *ObServe* – ROS data exchange protocol is also under way, involving mostly resources from the IOTC Secretariat and IRD.

ROS e-monitoring pilot project

Following the completion of the installation of EMS equipment on-board selected vessels during Q4 2020 and Q1 2021 (if circumstances will allow) the activities on this component during 2021 will focus on (remote?) training of land-based observers, while completing the analysis of the trip data collected so far. At the same time, the IOTC Secretariat will liaise with the Services provider to further progress on the definition of the data exchange workflow between EMS and the ROS e-tools to ensure timely, accurate and comprehensive ROS data submissions to the IOTC Secretariat in the future.