

IOTC CAPACITY BUILDING ACTIVITIES IN SUPPORT OF DEVELOPING COASTAL STATES

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Purpose

To provide participants at the 17th Working Party on Data Collection and Statistics (WPDCS17) 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 (2021), including those activities that will extend to 2022 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 endorsing 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 supported and activities undertaken in 2021
- Activities planned for 2022 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 2021 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 2021

Country	Dates	Executing agencies / staff	Description of activities
Indonesia (remote)	May 2021 COMPLETED	IOTC Data Coordinator IOTC Fishery Statistician IOTC Fishery Officer (data) IOTC Data assistant Representatives from the Ministry of Marine Affairs and Fisheries of Indonesia, national research institutions, IPNLF	Discuss the current state-of-the-art in terms of re-estimation procedures applied by the Secretariat to the official data submitted by Indonesia, in agreement with the IOTC Scientific Committee, in particular: <ul style="list-style-type: none"> i) Recall the reasons that led the IOTC Scientific Committee to request for a revision of Indonesia's artisanal catches ii) Present the rationale of these re-estimations, including their more recent revisions iii) Present the results of the re-estimations compared to official catch data for the period 2010-2019 iv) Discuss about past issues affecting data collection and reporting in Indonesia and how these have been or could be resolved v) Assess the extent of the improvements in data collection and reporting introduced by the One Data initiative
Indonesia (remote)	September 2021 COMPLETED	IOTC SC Chair IOTC WPDCS Chair IOTC Data Coordinator IOTC Fishery Statistician IOTC Fishery Officer (data) IOTC Data assistant Representatives from the Ministry of Marine Affairs and Fisheries of Indonesia, national research institutions, IPNLF	<ul style="list-style-type: none"> i) Continuation of the discussions held during the 1st technical workshop in May 2021 ii) Further assessment of the improvements introduced by the One Data initiative iii) Attempt to identify potential way forwards to improve the catch re-estimations in collaboration with national scientists, and considering the improved data collection workflow at national level
Somalia (remote)	Sep 2021 COMPLETED	IOTC Data Coordinator Compliance Expert Representatives from Somalia	Support mission led by the Compliance Section of the Secretariat (with participation from the Data Section) to address some of the long-standing issues in terms of data reporting. Activities include: <ul style="list-style-type: none"> i) General overview of IOTC ii) Introduction to the main data collection and reporting requirements iii) Discussions on the current state of the art of fishery data collection in Somalia
Sri Lanka (remote)	Sep 2021 COMPLETED	IOTC Data Coordinator IOTC Fishery Statistician IOTC Fishery Officer (science) Marine Instruments AZTI-Tecnalia	Assess the status of implementation of the EMS trial on-board selected small-scale coastal gillnet/longline vessels for what concerns: <ul style="list-style-type: none"> i) Finalization of the installation of EMS onboard 6 gillnet / longline vessels selected for the pilot trials ii) Current EMS data collection procedures and identification of the technical issues (complete or partial data loss) encountered during the pilot trials iii) Status of the remote training delivered by the service provider iv) Options to continue and potentially extend the project to other CPCs
<u>No on-site activities planned or implemented in 2021 due to travel restrictions</u>			

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 Project¹

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), V (June 2017 - March 2020), and VI (June 2020 – March 2023) of the Project ran for nineteen consecutive years as of today.

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.

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.

While Phase VI of the project commenced in 2020, the Project was not able to conduct on-site activities of the coastal member countries due to the impact of the COVID-19 pandemic. For this reason, and following the pending approval on the signing of a new Memorandum of Understanding (MoU), the IOTC Secretariat and the OFCF will formulate a proper activity plan for the IOTC coastal member countries for the year 2022 and beyond.

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 2021, 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).

¹ <http://www.iotc.org/data/iotc-ofcf>

ABNJ Project²

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 focuses on the reduction of illegal, unreported, and unregulated (IUU) fishing as well as 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 2021

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

- a) Data compliance missions: to foster improvements and facilitate the validation and reporting of core statistical datasets to the IOTC Secretariat (i.e., nominal catches, catch-and-effort, and size data), assess current shortcomings concerning the collection and management of fisheries data, and agree on a plan of action with the CPC required to deliver improvements on their levels of reporting.

In 2021, due to the CoViD-19 pandemic and the consequent restrictions on travel, no on-the-field support on these matters has been provided to CPCs, although staff members from the data Section of the IOTC Secretariat engaged in remote meeting and workshops with selected CPCs (e.g., Somalia) and participated remotely to the annual sessions of the EU-sponsored Regional Coordination Group on Large Pelagics (RCGLP, June 2021).

- b) Technical assistance missions: these include capacity building in data collection, support for the development of national fisheries databases and statistical systems, or support to resolve other issues related to fisheries data management at national level.

In 2021, due to the CoViD-19 pandemic and the consequent restrictions on travel, no on-the-field support on these matters has been provided to CPCs, although some activities were carried on through remote meetings and workshops with selected CPCs (e.g., Somalia, Indonesia) and with regional and international stakeholders such as the World Bank.

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

Work on the ROS electronic tools and ROS regional database is currently ongoing, to account for the feedback on malfunctioning and usability issues reported by end-users, as is the work on establishing direct integration mechanisms between *ObServe* data and the ROS regional database (in collaboration with scientists from IRD).

Following a proposal on Minimum standards for the design and implementation of EMS in Indian Ocean tuna fisheries presented at the SC in 2020, the Secretariat has also supported the establishment and delivery of the 1st ad-hoc Working Group on EMS (November 2021)..

The following data capacity building activities were implemented by the IOTC and its partners in 2021 (up to November 2021), to support priorities identified by the IOTC Working Parties and Scientific Committee.

² <http://www.thegef.org/gef/ABNJ>

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 2021, 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, data compliance missions were originally planned and have either been delivered remotely (teleconference) or rescheduled to a later date, including the following:

Indonesia (data compliance and technical assistance, May and September 2021)

Staff from the Data Section of the Secretariat, together with representatives from the Ministry of Marine Affairs and Fisheries of Indonesia, national research institutions, IPNLF and the chairs of the IOTC Scientific Committee and WPDCS contributed to the understanding of re-estimation procedures applied by the Secretariat in agreement with the IOTC Scientific Committee, including the historical reasons for the re-estimation, details on the re-estimation procedures and analysis of the comparisons between the re-estimations and the official data submitted by Indonesia.

Somalia (data compliance, September 2021)

A compliance and support mission led by the Compliance Section of the Secretariat (with participation from the Data Section) was remotely delivered to Somalia in September 2021. Somali stakeholders have confirmed their intention to engage with the Secretariat to address some of the long-standing issues in terms of data reporting.

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

The EU-funded project to develop a complete training package for the IOTC ROS has been awarded in 2019 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 Maldives³) with the IOTC Secretariat originally expected to provide support during the country visits that were initiated in Q3 2019, in particular for what concerns the adoption of the ROS electronic tools as the preferred data collection and management platform.

Project update: the Service Providers delivered 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 in February 2020, followed by an assessment of the technical level of the observer candidates.

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 that could be performed remotely (e.g., further development of e-learning resources, finalization of data collection forms, updates to the ROS e-tools etc.).

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 activities resumed in Q3 2021 and a package of training manuals and supporting documents will be presented at the WPDCS17. In the meantime, and due to many CPCs being unable to meet the requirements set out for participating in the pilot project, the number of participating countries has been reduced from six to four (Indonesia, Kenya, Sri Lanka, and Tanzania)

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

This project aims at improving the quality and coverage of scientific data independently collected for vessels engaged in small-scale fisheries, where there are practical difficulties deploying human observers on-board (e.g., due to safety issues, lack of space, logistics, etc.). Given the positive track records of EMS in other oceans and fisheries (mostly involving industrial, large-scale vessels), the IOTC agreed on trialling EMS for small-scale fleets in the Indian Ocean, in particular within those fleets for which no observer coverage is reported.

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. Delivery and installation of part of the equipment completed in Q3 2020, with the final sets of devices delivered in 2021, and pending installation onboard the remaining two vessels identified by the Sri Lanka Ministry of Fisheries and Aquatic Resources.

The insurgence of the CoViD-19 pandemic put the project on hold for causes of *force-majeure*, which led the IOTC Secretariat, the Services Providers 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.

Eventually, the project resumed in Q3 2021, and remote training sessions were delivered by the Services Providers to selected Sri Lankan observers and coordinators, and initial data from the trials have been analysed.

Causes for the technical issues detected in the initial phase of EMS trials were identified, and the Services Providers defined corrective actions to be implemented by the national technical partners in collaboration with local institutions.

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 to the 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 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: The most recent workshop on the adoption of the ROS electronic tools was delivered in February 2020 to Kenya as part of the ROS pilot project training undergoing in the country, while online support continued to be provided to Sri Lankan observers to help them further familiarize with the data entry tools to continue submitting ROS data to the IOTC Secretariat.

The feedback provided by Kenyan trainees and Sri Lankan observers has been used to identify areas of intervention to further improve the general features, stability and user-friendliness of the ROS electronic tools.

Additional activities to increase national capacity through the adoption of the ROS electronic tools had to be cancelled because of the resurgence of the CoViD-19 pandemic, with the Secretariat providing remote assistance to observers and national observer coordinators upon request, while actively trying to resume on-site trainings as soon as possible.

Activities planned for 2022

Below is a provisional (and non-exhaustive) list of the capacity building activities planned for 2022. Several of the activities had to be postponed since 2019 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 resurgence of the CoViD-19 pandemic:

IOTC Data Compliance and Support Missions

The IOTC Secretariat is strongly committed to deliver Data Compliance and Support missions in 2022, to improve the overall levels of data compliance of CPCs in the IOTC region and to follow-up to the ongoing and persistent issues with non-reporting (or incomplete reporting) of several mandatory IOTC datasets. These missions also aim at providing an assessment of the status of national data collection and reporting systems.

As of November 2021, no specific on-site mission has been confirmed for 2022 because of travel restrictions and health measures currently in place in the Indian Ocean region, but a tentative list of target countries might include:

1. **Indonesia** and **India**, to further discuss about the re-estimation of official catches and IOTC data reporting requirements
2. **I.R. Iran** and **Pakistan**, to verify and resolve potential issues with double counting of nominal catches)
3. **Oman**, to better understand the factors driving the recent increases in reported catches from their handline fishery
4. **Pakistan** and **Sri Lanka**, to further assess the potential of alternative data collection mechanisms currently implemented by some of their fisheries
5. **Bangladesh**, **Somalia**, and **Yemen** to support the development of data collection and reporting capacity at national level.

Additionally, the Compliance Committee forwarded to the WPDCS the request from CPCs that the Secretariat delivers workshops focusing on the compilation of statistical data submissions, either in person or remotely (depending on the circumstances).

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 2022 through activities that include remote training workshops preliminary to the further roll-out of the ROS electronic tools in two or more countries participating 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 continue to guarantee that all available information is properly and automatically shared with the IOTC Secretariat. Work on the implementation of a direct *ObServe*-to-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 2021 and Q1 2022 (tentative) the activities on this component of the ROS Pilot Project planned for 2022 will focus on:

- 1) Further training of land-based observers in the collection, collation, and analysis of EMS data
- 2) Liaising with the Services Provider to progress on the definition of data exchange workflows between EM systems and the ROS electronic tools, to ensure timely, accurate and comprehensive ROS data submissions to the IOTC Secretariat