

DEVELOPMENT AND IMPLEMENTATION OF AN OBSERVER TRAINING PROGRAMME TO SUPPORT IMPLEMENTATION OF THE REGIONAL OBSERVER SCHEME IN THE INDIAN OCEAN

CONTRACT No. 2019/SEY/FIDDD/IOTC-CPA 338540

FINAL PROGRAM REPORT

COVERING THE PERIOD FROM 01 June 2019 to 30 November 2022

I – PROJECT SUMMARY

The Indian Ocean Tuna Commission (IOTC) adopted a Regional Observer Scheme (ROS) 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 of competence. The implementation of the ROS by IOTC CPCs (Contracting Parties and Cooperating Non-Contracting Parties) officially commenced on 1st July 2010, and is based entirely on national implementation.

Based on this mandate many national observer programmes were initiated under the scheme. Nevertheless, the level of implementation of the Regional Observer Scheme remains very low among IOTC CPCs. In a positive step for supporting the implementation of the ROS, the Commission adopted in 2016, Resolution 16/04 On the implementation of a pilot project in view of promoting the Regional Observer Scheme of IOTC.

The current project, framed into the Pilot Project for the support of the IOTC ROS, seeks to promote the harmonisation of national observer schemes via the development of a full observer training programme package (Co-ordinators and Field Observers), the production of updated manuals and data collection forms and protocols for the IOTC ROS, as well as the trialling of these tools and of IOTC ROS Electronic tools in the establishment of an observer programme and training in voluntary CPCs. The final participating CPCs to the project included Kenya, Indonesia, the United Republic of Tanzania and Sri Lanka. CapMarine has undertaken activities towards fulfilling the objectives of the IOTC ROS CONTRACT No. 2019/SEY/FIDTD/IOTC-CPA 338540.

The project was initiated on 01 June 2019. The initial activities were related to the development of updated data collection forms for the four gear types prioritised by the IOTC – purse seine, longline, pole & line and gillnet. Initial communications were also held with participating country representatives to arrange for conducting a country scoping site visit to assess their readiness to actively support and participate in the training of Observer Logistic Coordinators (OLC) and Scientific Field Observers (SFO). During this time the curriculums for OLC and SFO training were finalized as well as advancing the finalisation of OLC and SFO training manuals.

After almost a full year of project implementation, on 18 March 2020, CapMarine submitted formal notification of the occurrence of *force majeure* due to the global pandemic declared by the World Health Organisation (WHO) and restrictions on global travel thus preventing further implementation of contracted visits to project participant countries (CPCs). CapMarine received formal notification of cessation of project activities on 04 May 2020 from the IOTC Secretariat, placing the project on hold indefinitely.

The project was officially restarted in September 2021. However, during the period of *force majeure* CapMarine continued to develop project training materials and consult with the Secretariat on possible scenarios for continuation of the project. Revised iterations of the technical and financial proposals were submitted to the Secretariat for consideration in February and April 2021 and June 2022. A third contract Amendment was signed by both parties in June 2021. The Amendment recognized that in order to better deliver the services being rendered by CapMarine under COVID-19 travel restrictions, the contract would transfer to a predominantly virtual training format focusing on development and refinement of eLearning tools (investigation of alternative platforms and delivery methods and video conferencing). The remote training component would be followed by a site visit to the participating countries if possible. The number of countries participating in the project was reduced from six to four through the removal of India, Iran, Malaysia and the Maldives and the inclusion of Kenya and Tanzania. FAO also extended the contract terms for One Year – from 30 September 2021 to 30 September 2022. CapMarine submitted a final revised Technical Proposal to the IOTC Secretariat on 26 June 2022 proposing to increase the duration of the project to be completed by 30 November 2022 (Annex 1). The proposal was accepted by the Secretariat. A final Contract Amendment No.4 was agreed to in this regard and signed on 11 July 2022.

Scoping site visits were completed to Kenya, Sri Lanka and Tanzania and the training site visit to Kenya took place before the cessation of project activities due to *force majeure*. In the case of Indonesia the scoping site visit was conducted remotely in preparation for remote and in-person training following re-initiation of project activities. Kenya benefited from early completion of in-person training activities. The Kenyan Fisheries Services (KeFs) however wished to train an additional five personnel through the remote training platform during 2022 and CapMarine obliged. The remaining participating countries were trained by a combination of remote learning and a single site visit to consolidate theoretical training and execute practical training. The site visit also facilitated the purchase or delivery of safety and sampling equipment and the arrangement for the payment of basic safety training for seafarers and mentoring NOP coordinators on the briefing and deployment of observers.

In order to cater for a predominantly remote training CapMarine invested a significant amount of time adapting training materials to the online Learning Management System (LMS) TalentLMS. This included developing Training Requirement (TR) descriptors, elaborating all TR materials and presentations with presenter notes and additional information to replicate presenter presence, adapting collective and individual assessments and assignments to the LMS platform and customizing automated testing and reports for trainee evaluation. On the whole the TalentLMS system was a valuable tool that allowed for trainees to complete the theoretical training in their own time (additional time than would have been available in a face-to-face training session) and track engagement and progress of trainees. An unanticipated aspect of the self-learning tool was the amount of time required by CapMarine trainers to support trainees through direct communication (via email and WhatsApp messenger) and the volume of materials required to be manually assessed for evaluation, feedback and reporting (predominantly data collection forms used in case studies).

The focus of practical SFO training was familiarisation of observers with the updated IOTC data collection forms. Each CPC was trained with the relevant forms for their national fisheries operating in the IOTC as specified by the OLC team prior to training. This limited training to use of the purse seine and longline forms for all four CPCs. It should be noted that Sri Lanka does not have industrial gillnet vessels (LOA of 24 meters and plus), and does not deploy observers with the small-scale gillnet fleet (LOA of 12 meters and less). It should also be noted that the DFAR is currently conducting pilot tests on the usage of electronic monitoring with the small-scale gillnet fleet. Sri Lanka was however trained on theoretical aspects of gillnet fisheries as they have gillnet vessels registered to fish in the IOTC. Yet, in Sri Lanka practical training focused on longline form filling, noting also that between the two fisheries only the vessel gear details form is specific to gillnet. In Indonesia, although having a large pole and line fleet, all vessels are registered to fish in the Pacific Ocean. Theoretical and practical training therefore focused on longline form filling.

The revised set of data collection forms match the agreed standard data-fields as recommended by the Scientific Committee (SC21) and adopted by the 23rd Session of the Commission. They follow the IOTC ROS eCollection interface format and data fields sequencing as closely as possible to facilitate ease of use and transfer of data into electronic format by observers or program support staff. Data forms have been updated by an iterative process following updates to the ROS e-Collection format proposed in consultation with the IOTC Secretariat,

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through presentation and recommendations at the Working Party on Data Collection and Statistics (WPDCS) 2021, and through feedback from CPCs observers, coordination teams and trainers following OLC and SFO training sessions. The final version of the forms is as follows: Purse Seine V6; Longline V8; Gillnet V4; Pole & Line V2.

As it stands there is no final updated version of the IOTC eCollection tool and training on the use of the tool (OLC TR8 and SFO TR22) and subsequent submission of data to the IOTC using the eCollection tool was not possible. In its place the IOTC has provided an alternative for electronic data recording through a comprehensive spreadsheet for longline and purse seine data (on 27 September 2022). Both the Kenyan and Indonesian observers have attempted digitisation of pilot observer deployment data through this mode and are recommended to make subsequent submission to the IOTC (pending CPC approval). The Training Requirement on installation and use the eCollection tool are dependent on the IOTC finalizing the tool and these materials cannot be included in the final training program but may be used for later training interventions for other Member CPCs and possibly also included in future IOC and IOTC interventions that take place outside of this program.

CapMarine developed a set of practical ‘Guidelines’ for scientific field observers to follow when deployed onboard registered vessels operating in the industrial large pelagic fisheries in the Indian Ocean (purse-seine, pelagic longline, gillnet and pole & line vessels). The Guidelines identify existing sampling instructions and strategies and cross-reference the latest versions of the data collection forms, IOTC Resolutions, SC and Working Party (WP) recommendations that define priority data to be collected by at-sea observers. The Guidelines for longline, purse seine and gillnet were peer reviewed and feedback provided by CapMarine to the WPDCS. For pole & line Guidelines were prepared only after the WPDCS meeting. Peer reviewers have been identified and Guidelines can be updated following their review. The Guidelines are complementary to the SFO training manual and were identified by CapMarine as a useful tool for observers when deployed at sea and were developed as an addition to the required training materials for the program.

In summary, the four participant CPCs in the project and the status of implementation in each (marked by the submission of the scoping, training and final country reports) is reflected below (Table 1) with training site visit execution split by coordinator (OLC) and observer (SFO) training. No distinction is made between remote or in-person training but site visits were conducted to all four participating CPCs (2 per CPC – Kenya, Tanzania, Sri Lanka; 1 per Indonesia). In addition safety and sampling gear for each CPC was purchased and delivered to each of the four participating countries and STCW2010-approved safety training courses were attended by ten SFO candidates in each CPC.

Table 1: Status of implementation of IOTC ROS training and project activities in the four participating CPCs. Note that for Sri Lanka observers did not return from pilot deployments prior to project completion and in Tanzania observers were briefed but not yet deployed, hence the partial notation under final country activities.

Progress	Scoping Site Visit		Training Site Visit (OLC / SFO)			Safety & sampling equipment provided to CPC	STCW2010-approved safety training completed	Final Country Activities & Report	
	Completed	Reported	Completed	Reported	Completed			Reported	
Kenya	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sri Lanka	✓	✓	✓	✓	✓	✓	✓	Partial	✓
Tanzania	✓	✓	✓	✓	✓	✓	✓	Partial	✓
Indonesia	✓	✓	✓	✓	✓	✓	✓	✓	✓

CapMarine monitored the success of training implementation through qualitative and quantitative metrics to measure participant performance during training and through participant feedback surveys to assess CapMarine

trainers and training materials. In the main observer trainees were engaged during the training, their assessment results improved from the initial competency test through each iteration of assessment on individual Training Requirements and final evaluation during re-training. Participants welcomed both the practical and theoretical training modes, finding the self-learning aspect of online training provided them with more time to complete assessments and assignments at leisure. Trainees did however emphasise the importance of practical training and recommended more time spent with trainers in person and on site vessel orientation.

Throughout the project CapMarine has been reassured by the CPC engagement, commitment and ongoing communication as well as the support of the IOTC Secretariat. As a result of adaptation of the format of training and amendments to the project timeline CapMarine has been able to deliver on all project activities within its control. In the case of Sri Lanka, the country economic and social situation prevented the deployment of observers due to no fishing vessels operating through lack of fuel until late November when one observer was successfully briefed and deployed. In the case of Tanzania only a single purse seiner and a single longliner registered with the IOTC are actively fishing and neither were available to carry an observer during the project timeframe. Coordinator and observer briefings in these countries were conducted in preparation for future deployments and support will be provided by CapMarine to the CPCs for deployments initiated or completed prior to 31 December 2022.

Further, CapMarine has committed to continue to provide support to the CPC coordinators beyond the lifespan of the current project to support that CPC NOPs are validated and authorized according to IOTC ROS Minimum Standards and Guidelines, that observers that passed the TRs are successfully registered by the CPCs with the IOTC Secretariat and that data collected from pilot deployments is submitted to the IOTC.

II – CPC COMMITMENTS and DELIVERABLES

A Letter of Understanding (LoU) and subsequent updates to the project terms and support, signed between the IOTC and the Department of Fisheries and Aquatic Resources (DFAR) Sri Lanka, The Deep Sea Fishing Authority (DSFA) Tanzania, the Kenya Fisheries Services (KeFS) Kenya and the Centre for Fisheries Research (CFR) Indonesia respectively, outlined the agreement, roles and responsibilities of the participating country (CPC) regarding the project to support implementation of the Regional Observer Scheme (ROS). Through this commitment, the IOTC and their selected contractor, Capricorn Marine Environmental (CapMarine), engaged with the nominated CPC representatives to undertake Observer Logistic Coordinator (OLC) and Scientific Field Observer (SFO) training. It was desirable (and expected) that certain key elements be in place prior to CapMarine training interventions taking place. These key elements were assessed as part of the country scoping site visit. Subsequent to training it was expected that the coordination of the CPC National Observer Programs (NOPs) would be strengthened by the outputs of the OLC workshop. Those same outputs would in turn facilitate the training of candidate scientific field observers to the IOTC ROS minimum standards alongside materials developed by CapMarine.

Broadly the commitments of the participating CPCs and the expected outputs of the training are summarised below and evaluated in detail in Table 2:

- I. The nomination a dedicated Observer Logistics Coordination (OLC) team;
- II. Review and update of National Legislation/regulations to align with IOTC requirements for the deployment of observers;
- III. Participation in training by the nominated OLC team;
- IV. Completion and submission of a National OLC Guide, including Emergency Action Plan (EAP);
- V. Nomination of a team of candidate trainee scientific observers (circa 10);
- VI. The training (theoretical and practical) of a team of dedicated Scientific Fisheries Observers;

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- VII. Evaluation of candidate SFO trainees and recommendation for registration with the IOTC;
- VIII. Completion of STCW2010-approved safety training course for eligible candidate SFOs;
- IX. Trial/Pilot deployment of trained 1-3 qualified observers in IOTC fisheries;
- X. Data from trial observer deployments reported regionally through the IOTC data collection and management system; and
- XI. The provision of safety equipment and working materials for deployment at sea.

Further detail and comments are provided in each of the participating CPC Scoping, Training and Final Country Reports and [activity summaries per CPC](#). In broad summary:

- Despite nominations to the effect there was only partial commitment to the full suite of activities by all OLC team members. Instead the bulk of the work was usually passed on to the National Observer Program coordinator in each CPC. This hindered finalisation of the OLC Guide and Emergency Action Plans in participating CPCs. This was not the case in Kenya where the OLC team were trained in person by CapMarine prior to adaptation to remote training. Participation by the full Kenyan OLC team was exemplary.
- National legislation broadly meets the requirements for deployment of scientific observers though there are shortfalls in terms of continued funding mechanisms for NOPs in Kenya and Tanzania that are yet to be finalized. In no cases are MoUs in place directly with vessels reinforcing roles and responsibilities of the vessel and observer or the safety and in-trip communications measures that are required to be in place, however explicit reference is made to National legislation when nominating vessels to carry observers and this is deemed sufficient by the participating CPCs to reinforce the roles and responsibilities of all parties.
- Indonesia and Sri Lanka already have well established and expansive observer programs. Adapting to the requirements of the IOTC ROS will be challenging in some aspects (safety at sea) but for the most part they are well placed to adopt the new data collection and reporting standards through teams of highly experienced observers and coordinators.
- In Tanzania and Kenya the national fleets are still growing and it is an opportune time for these CPCs to apply best-practice from the offset. Small fleets and a lack of dedicated management capacity hinders national funding and support for their NOPs.
- In none of the participating CPCs are the observer debriefing procedures properly established. Observer debriefing and in trip communication are two of the most critical aspects of observer deployments. Following this project, CPCs are equipped with a full suite of debriefing materials and protocols for in-trip communications and reporting and the expectation is that this aspect of deployments will be strengthened by the training that has been implemented.

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Table 2: Evaluation of participant countries key commitments, deliverables and documents provided in evidence for the project “Development and Implementation of an Observer Training Programme to support implementation of the Regional Observer Scheme in the Indian Ocean”.

Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
INSTITUTIONAL ARRANGEMENTS		Commitment Met (Y/N/Partial)			
Nomination of at least one senior level official.	All Project activities	Y	Y	Y	Y
Nomination of at least one full time Observer Scheme Coordinator.	All Project activities	Y	Y	Y	Y
Nomination of an Administrator to support the Observer Coordinator.	All Project activities	Y	Y	Y	Y
Nomination of a Database Manager	All Project activities	Y	Y	Y	Y
Selection of a team of dedicated Observers (circa 10) chosen based on IOTC ROS minimum pre-requisites for the accreditation of observers.	Site visit 2; and Scientific Observer Training Course; Observer deployment, debriefing and data analysis.	Partial ¹	Y	Y	Y
Documents to be provided to validate meeting IOTC requirements:					
<i>List of staff, current designation and contact details nominated for the coordination of country national observer program / scheme</i>		✓	✓	✓	✓
<i>Copies of observer candidates’ curriculum vitae and other required documentation</i>		✓	✓	✓	✓
PROJECT TRAINING ACTIVITIES - SUMMARY		Commitment Met (Y/N/Partial)			

¹ From the 10 observers chosen based on IOTC ROS minimum pre-requisites for the accreditation of observers, the actual work functions (research, scientific, statistic and fisheries officers) of seven (7) are believed to allow for the inclusion of the role of observer as a complementary function. This is not the case for the remaining three, whose current functions aren’t believed to allow for such an inclusion due to their higher level of responsibility (e.g.: Head of MCS Department of Fisheries Development and Marine Resources, Officer in charge of DSM MCS Centre), or lack of relation to the role of an observer (e.g.: Assistant Examination Officer Fisheries Education and Technology Agency).

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Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
Observer Logistic Coordinator Training: Participation of all nominated OLC personnel in theoretical coordinator training and subsequent SFO training and ongoing observer program activities.	Ongoing observer program activities to the minimum standards of the IOTC	Partial ²	Partial ²	Y	Partial ²
Scientific Field Observer Training: Participation of a dedicated team of trainees in theoretical and practical scientific field observer training.	Registration of observers with the IOTC Secretariat; Deployment in IOTC fisheries	Y	Y	Y	Y
Documents to be provided to validate meeting IOTC requirements:					
<i>CPC-customised OLC Guide</i>		✓	X	✓	✓
<i>SFO assignments and assessments</i>		✓	✓	✓	✓
<i>Qualitative and quantitative evaluation of SFO candidates</i>		✓	✓	✓	✓
LEGAL FRAMEWORK: MANDATE FOR THE DEPLOYMENT OF OBSERVERS		Commitment Met (Y/N/Partial)			
Current national fisheries legislations ensure provisions for observer monitoring for all vessels fishing for tuna and tuna-like species on the high seas, regardless of the size of the vessel.	All Project activities	Y	Y	Y	Y
It is desirable that vessel licences make clear reference to the legal framework and conditions for accommodating an observer and sanction that will be evoked when vessels refuse to accommodate an observer.		Y	Y	Y	Y
It is desirable that current national fisheries legislations stipulate:					
- Authority responsible for the appointment and identification of Observers		Y	Y	Y	Y
- Observer duties;		Y	Y	Y	Y
- Funding mechanisms or responsibility for payment of Observer costs;		Y	Y	Y	Y

² As stated previously not all OLC team members were available during the OLC workshop and most did not complete assigned Training Requirement modules.

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Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
- The forwarding of a notice of intention to place Observers to vessels owner or agent;		N	Y	N	N
- The responsibility of fishing vessel operator related to Observer deployment;		Y	Y	Y	Y
- The responsibility of fishing vessel operator related to Observer deployment;		Y	Y	Y	Y
- Minimum conditions for Observers on board vessels;		Y	Y	Y	N
- Protection of Observers from liability (insurance, safety);		Y	Y	Y	N
- Vessel owner, captain, crew duties to Observer; and		Y	Y	Y	N
- Penalties for contravening or failing to meet specified requirements.		Y	Y	Y	N
Documents to be provided to validate meeting IOTC requirements:					
<i>Relevant fisheries legislation or links to relevant fisheries legislation</i>		✓	✓	✓	✓
ADMINISTRATION / SAFETY AT SEA		Commitment Met (Y/N/Partial)			
Observers meet health requirements to carry out work at-sea (should be an integral part of the recruitment)	Site visit 2; and Safety-at-sea Training Course.	Y	Y	Y	Y
Observers meet safety training requirements (attested by a valid STCW Basic Safety Training Certificate, or equivalent)	Scientific Observer Training Course; Observer deployment, debriefing and data analysis.	Y	Y	Y	Y
MoU between and vessels for the deployment of observers	Observer deployment, debriefing and data analysis.	Y	N	Y	Y
Provision for an appropriate observer insurance policy	Observer deployment, debriefing and data analysis.	Y	Y	Y	Y
Vessel safety inspection checklist	Observer deployment, debriefing and data analysis.	Y	Y	Y	Y
Documents to be provided to validate meeting IOTC requirements:					

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Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
<i>Copies of Observer candidates Certificate of Medical Fitness STCW or equivalent issued by an authorised medical practitioner</i>		✓	✓	✓	✓
<i>Copies of Observer candidates valid Basic Safety Training Certificate</i>		✓	✓	✓	✓
<i>Copies of MoU established with vessels for the deployment of observers</i>		X	X	X	✓
<i>Confirmation that observers or fishery officers are insured</i>		✓	✓	✓	✓
<i>Copies of Vessel safety inspection checklist</i>		✓	✓	✓	✓
RESOURCES Resource requirements to be provided by participating CPC		Commitment Met (Y/N/Partial)			
Logistical support for the project team assisting with the implementation of the ROS.	Observer Coordination Training Workshop; Scientific Observer Training Course; The provision, installation and training on IOTC ROS electronic data collection and management system; Observer deployment, debriefing and data analysis; and Support for the purchasing and distribution of safety equipment and working materials.	Partial ³	Y	Y	Y
Office space for the training and on-going observer related activities (e.g. training room with projector and internet connection).	Observer Coordination Training Workshop; and Scientific Observer Training Course – remote theoretical component.	Y	Y	Y	Y
Translation of training materials (if necessary - verbal and written)	Observer Coordination Training Workshop; and Scientific Observer Training Course.	N/A	Y	N/A	Y
Vessel time for training purposes	Scientific Observer Training Course - Practical training.	N	Y	Y	Y

³ Tanzania is assessed as ‘partial’ due to the situation whereby CapMarine funding was required to cover the costs of the one-week practical training for Scientific Field Observers and key OLC team members were not present in person at the SFO training workshop..

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Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
Access to relevant fish specimens for species identification training and wet-lab or out-door area with access to running water; office space for the training team to work; etc.)	Scientific Observer Training Course – Practical training.	N	N	Y	Y
Documents to be provided to validate meeting IOTC requirements:					
<i>Details on logistical support requested by Project Team and logistical support to be provided</i>		✓	✓	✓	✓
<i>Details on Office space for the training and on-going observer related activities</i>		✓	✓	✓	✓
<i>Details on training materials translation support requested by Project Team and support to be provided</i>		✓	✓	✓	✓
<i>Availability of vessel for practical training and familiarisation</i>		X	✓	✓	✓
<i>Availability of relevant fish specimens for species identification training</i>		X	X	✓	✓
DATA COLLECTION AND REPORTING		Commitment Met (Y/N/Partial)			
Nomination of a dedicated member staff to manage the national observer database.	Site visit 1; Observer Coordination Training Workshop; and The provision, installation and training on IOTC ROS electronic data collection and management system.	Y	Y	Y	Y
Logistical coordination of observer pilot deployment	Pilot observer deployment; and Data submission to the IOTC	Y	Y	Y	Y
Documents to be provided to validate meeting LoU requirements:					
<i>Details on member staff nominated to manage national observer database. This should be the same person nominated as a member of the OLC team.</i>		✓	✓	✓	✓
<i>Details of observer program coordinator to conduct manage observer deployment logistics, briefing and debriefing</i>		✓	✓	✓	✓
CONTINUATION OF OBSERVER ACTIVITIES		Commitment Met (Y/N/Partial)			

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Requirement and Details	As a minimum condition to implement:	United republic of Tanzania	Indonesia	Kenya	Sri Lanka
Devise a funding mechanism to sustain the implementation of the ROS beyond the project lifetime.	CPC Observer Program validated and authorized according to IOTC ROS Minimum Standards and Guidelines (still waiting for Commission approval)	Partial ⁴	Y ⁵	Partial ⁴	Y ⁵
Documents to be provided to validate meeting IOTC requirements:					
<i>Details on funding mechanism devised to sustain the implementation of the ROS beyond the project lifetime</i>		X	✓	X	✓

⁴ In both cases of Kenya and Tanzania the legislation makes provision for the development of funding mechanisms to support the National Observer Program. These have not yet been developed or put in place.

⁵ In both cases of Indonesia and Sri Lanka there are already well-established National Observer Programs and clear inclusion of funding support budgeted by the National government.

III – PROJECT OUTCOMES - KEY PROJECT DELIVERABLES

Development of Training Packages

Training Tools for Observer Program Trainers

Good logistical management of sea-going observers is a crucial aspect in ensuring the success of an observer programme. Often the implementation of a legal, institutional, financial and management framework, under which an observer scheme should work is overlooked, which can impede its implementation or influence the longevity and efficiency of the program, compromising observer work and exposing observers to unnecessary safety risks. To overcome such problems National Observer Program (NOP) implementing institutions / organisations should include a team of NOP co-ordinators responsible for ensuring the correct functioning of the scheme. NOP co-ordinators lacking experience in the deployment and management of observers should undergo specialised training in these processes.

CapMarine presented in 2019 the first version of the *Observer Logistic Coordination Guide* to support the development of an observer program and the deployment and co-ordination of observers at sea and a *Training Curriculum*. Version 2 of both documents can be downloaded from the WPDCS meeting web page as INFO documents, and were reviewed and endorsed by the 17th WPDCS after being adapted for e-training delivery.

CapMarine has developed a clear, user-friendly, consistent, comprehensive and coherent observer co-ordinators training package. The package has been adapted to each of the participating CPCs but can as easily be adopted as a template by IOTC CPCs for their own development in the future. The final observer co-ordinators training package includes:

- A Generic Observer Logistical Coordination Guide for the deployment and coordination of sea-going observers to be adapted to each country fishing gear types and languages (where needed), to serve as a reference document for managers of individual countries to refer to on an ongoing basis;
- Curricula for observer co-ordinators training workshops to be conducted in each country participating to the project;
- Programmes for observer co-ordinators training workshops to be conducted in each country including session plans, training methodology and assessment methods;
- Workshop training materials, tailored to individual countries gear types and languages (where needed), including PPT presentations, reference documents, examples of necessary documentation, e.g. MoUs, templates for observer reporting, check lists, etc.; and
- Customised e-training tools and materials, including presentations, quizzes and tests.

All training materials for coordinators and templates will be made available by the IOTC to Member countries. A summary of the objectives, results and recommendations and document links are provided in Table 3.

Table 3: Observer Logistics Coordinators (OLC) Training Materials.

Task title and reference	Development of Training Packages: Training tools for observer program co-ordinators
Period of implementation	01/09/2019 – 30 November 2022
Person(s)	T. Athayde / C. Heinecken / CapMarine / IOTC
Tasks initially planned	Development of: <ul style="list-style-type: none"> • A General Observer Logistical Coordination Guide for the deployment and coordination of sea-going observers to be adapted to be adapted to each country fishing gear types and languages (where needed). <ul style="list-style-type: none"> ➢ Country adapted Observer Logistical Coordination Guide for the deployment and coordination of sea-going observers (the aim of this document is to provide coordinators with a guide to the procedure and documentation for deploying observers, the processes to support them while at sea and how to debrief them upon return).

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Task title and reference	Development of Training Packages: Training tools for observer program co-ordinators
	<ul style="list-style-type: none"> • A curriculum for observer co-ordinator training • Workshop training materials: <ul style="list-style-type: none"> ➤ PPT presentations ➤ General Logistical Observer Coordination Guide to the deployment and coordination of sea-going observers to be adapted to country individual specificities ➤ Examples of necessary documentation <ul style="list-style-type: none"> ▪ Contract of Employment ▪ Statement of Confidentiality ▪ Industry sensitisation – Circular ▪ Vessel Notification (example of basic format) ▪ Guide to preparing the observer briefing notes ▪ Deployment checklists ▪ Equipment issue checklist ▪ Vessel pre-boarding safety report ▪ Observer reporting formats ▪ Observer’s Deployment Report ▪ Observer’s Status Report ▪ Observer emergency and safety plans • e-training materials for observer program co-ordinators: <ul style="list-style-type: none"> ➤ Customised e-training materials, including presentations, quizzes, and tests on <ul style="list-style-type: none"> ○ IOTC ROS Standards and Guidelines; ○ IOTC ROS e-reporting tools; ○ Training observer debriefers; and ○ Training of trainers. ➤ Development of e-Trainee feedback questionnaire
Budget	€7 500.00
Results	<ol style="list-style-type: none"> 1. CapMarine has produced an updated OLC manual as well as curriculum for the implementation of on-site for training. Manual and curriculum were submitted to the IOTC Secretariat on 12/08/2019. 2. CapMarine has progressed the online Learning Management System (LMS) platform and submitted customised e-training tool and material (including presentations, quizzes and tests) to the IOTC Secretariat for review on 28/08/2019. 3. CapMarine has produced updated OLC workshop training materials. 4. Presentations on IOTC ROS e-reporting tools were submitted to the IOTC Secretariat on the 31/10//2019 for revision and CapMarine is waiting for feedback before finalising their development. 5. CapMarine has produced an e-Trainee feedback questionnaire.
Recommendations	<p>IOTC eCollection revision process by CapMarine and IOTC e-tool manager Fabio Fiorellato resulted in a number of improvements and changes that needed to be reflected into IOTC ROS e-reporting tools training presentations. It is recommended that the IOTC finalise the eCollection tool and notify CapMarine if any minor updates to the OLC Guide and training curriculum are required.</p> <p>Formatting and design does not explicitly form part of the project deliverable as per FAO Tender No. 2019/CSAPC/FIDDD/10958 and CapMarine proposes to further discuss this component with the IOTC Secretariat following finalisation of the contract to ensure that the finished production of the OLC manual is the most user-friendly and professional outcome for use by participating CPCs.</p>
Reference documents	<p>IOTC ROS OLC Guide IOTC ROS OLC Training Course Curriculum IOTC ROS OLC Training Course Materials: e-training materials for observer program co-ordinators e-Trainee feedback questionnaire</p>

Training Tools for Observers

Scientific field observers working on fishing vessels during normal operations are in a position to verify and record accurate, *in situ* data about the location, catch composition and gear configuration of fishing operations, and are usually the only independent source of this information. To be successful in this environment, they require a high level of integrity and personal self-motivation *and* need the academic qualifications and training to optimally accomplish the detailed tasks and responsibilities assigned to them.

CapMarine has developed a *Scientific Field Observer Training Manual* and a *Training Programme*, taking into account the *Basic Observer Training Curriculum* endorsed by the IOTC Scientific Committee and provisionally approved the IOTC Committee in 2019 (IOTC–2019–S23–10_Rev1[E]: Regional Observer Scheme – Draft Programme Standards, page 15 – 32). The Scientific Field Observer Training Manual and Training Programme can be downloaded from the WPDCS meeting web page as INFO documents. These were reviewed and endorsed by the 17th WPDCS.

The observer training package includes fishery-specific components. The final SFO training package includes:

- A comprehensive scientific observer training manual that provides the necessary descriptive and explanatory information needed by observers, to be used as a guidance document in the training of field observers;
- A set of user-friendly data collection forms, matching the agreed standard data-fields as recommended by the SC21 and adopted by the 23rd session of the Commission, structured in a logical and chronological sequence and containing handy hints and notes to avoid common mistakes or misinterpretations and code reference tables;
- A curriculum for observer training workshops to serve as a practical tool for those implementing observer training courses across the region covering all technical and scientific aspects of training to the level of competency agreed and accepted at the regional level. The training curriculum includes individual training requirements (key topics to be covered), respective expected learning outcomes, assessment criteria, evidence and assessment guide. Advice is also provided on the training methodology to follow and on training materials to use.
- Workshop training materials, tailored to individual countries gear types and languages (where needed), including PPT presentations, tutorials, exercises, video footage, visual aids, etc; and
- Course assessment forms/tools, comprising a range of interactive tools for assessment (practical exercises, quizzes, self-training tools) and a final assessment developed based on observer competency expectations agreed to by the 23rd session of the Commission.

Scientific field observers are in a unique position, as they are not affiliated with the vessels personnel and are required to work alone often for long periods, without direct supervision or assistance from their controlling organisation. It is therefore important that observers are provided with clear *work and sampling protocols, sampling instructions and priorities*, and detailed *instructions on how to complete data collection forms* accurately to ensure that the collected data is of high quality and can be used for the intended purposes. CapMarine therefore developed a set of practical '*Guidelines for scientific field observers to follow when deployed onboard registered vessels operating in the industrial large pelagic fisheries in the Indian Ocean (purse-seine, pelagic longline, gillnet and pole & line vessels)*'.

The development of these Guidelines for observers exceeds the requirements of the development of training tools for observers required by the IOTC. Furthermore, the 'Guidelines' underwent a peer review process by a set of experts selected based on their observer program experience and fishery-specific knowledge. As data collection forms have been modified or peer reviewers feedback incorporated the workbooks have been adapted to accommodate best-practice and advice.

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All training materials for observers and templates will be made available by the IOTC to Member countries. A summary of the objectives, results and recommendations are provided in Table 4 below.

Table 4: Scientific Field Observer (SFO) Training Materials

Task	Development of Training Packages: Training tools for scientific field observers
Period of implementation	01/09/2019 – 30/11/2022
Person(s) responsible(s)	T. Athayde / C. Heineken / CapMarine / IOTC
Tasks initially planned	<p>Development of:</p> <ul style="list-style-type: none"> • An updated IOTC ROS Observer Manual. <ul style="list-style-type: none"> ○ This will be purely a guidance document, clearly distinct from the standards adopted by the 23rd Session of the Commission. Therefore, this will not contain the data field or programme standards, but provide the necessary descriptive and explanatory information needed by observers. ○ Observer training manuals developed by CapMarine aim at providing reference material along with instructions detailing observer tasks, including observational requirements; sampling protocols; logbook entry protocols; and reporting procedures for observers deployed at-sea. • A revised set of data collection forms, redesigned to increase usability matching the agreed standard data-fields as recommended by the SC21 and adopted by the 23rd session of the Commission. The forms should follow the format of the electronic data collection and management interface (still under development) as closely as possible to facilitate ease of use and transfer of data into e-format by observers. <ul style="list-style-type: none"> ○ Data fields should be structured in a logical and chronological sequence and contain handy hints and notes to avoid common mistakes or misinterpretations. • An observer training curriculum developed based on the outline provided in Appendix IV of the ROS Manual v1.2 (p 141-142) with any revisions as adopted by the 23rd session of the Commission. This should cover all technical and scientific aspects of training required and expected learning outcomes from each component. • Workshop training materials (sessions plans, presentations, tutorials, exercises, video footage, visual aids, etc. These should be interactive where possible. Workshop training materials include: <ul style="list-style-type: none"> ➤ Session plans ➤ PPT presentations ➤ Videos ➤ Simulated practical exercises ➤ Visual aid (e.g. photos) ➤ Tutorials (observer manual, species identification guides, etc.) ➤ Demonstrations (gear, sampling) ➤ Role playing ➤ Hands on training in fish species identification; ➤ Computer based training where required (e.g. training in data entry on IOTC ROS E-reporting tool). ➤ Workshop training materials are developed to allow for interactive training. • Course assessment forms/tools. <ul style="list-style-type: none"> ○ To ensure that the observer has acquired the expected skills by the end of the training course, an assessment will be developed based on observer competency expectations agreed to by the 23rd session of the Commission. This may comprise a range of interactive tools for assessment. Course assessment forms/tools include: <ul style="list-style-type: none"> ➤ Assessment of participants based on assiduity, punctuality, participation and interest; ➤ Practical exercises conducted throughout the training course; ➤ Quizzes ➤ Multiple choice test ➤ Observer self-learning tools

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Task	Development of Training Packages: Training tools for scientific field observers
	<p>Although not a planned deliverable CapMarine determined that in order for field observers to fully understand the extent and nature of their duties whilst at sea that it would be beneficial to produce a set of Guidelines for use of Data Collection Forms and on board application of Observer data collection protocols for each of the four gear types:</p> <ul style="list-style-type: none"> • Purse seine • Longline • Gillnet • Pole & Line
Budget	€21 900.00
Results	<ol style="list-style-type: none"> 1. CapMarine has produced updated an SFO manual as well as curriculum for the implementation of on-site for training. Manual and curriculum were submitted to the IOTC Secretariat on 12/08/2019. 2. CapMarine has finalised the production of updated SFO course training materials to be tailored to individual countries gear types, including PPT presentations, tutorials, exercises, video footage, visual aids, etc. 3. CapMarine has finalised the production of updated SFO course assessment forms/tools, comprising a range of interactive tools for assessment (practical exercises, quizzes, self-training tools) and a final assessment developed based on observer competency expectations agreed to by the 23rd session of the Commission. 4. CapMarine has finalised the development of updated data collection forms to the extent possible considering the incomplete IOTC eCollection database. The forms have been through multiple iterations as ongoing fixes were being made to the eCollection interface by the IOTC Secretariat. Communication channels with the IOTC Secretariat and Database Manager were open and effective to ensure the data collection forms are user friendly and reflect the data collection protocols and priorities and instructions to Scientific Fishery Observers. <p>The final version of gear specific Guidelines to Field Observers and version number for each set of gear specific data collection forms is as follows:</p> <p><u>Longline Version 8</u> – Final version of longline forms has been completed following discussions with IOTC and peer reviewers. Version 7 provoked a lot of confusion with trainees and observers. Both versions will be made available to the IOTC Secretariat. In place of the eCollection database the IOTC has provided a MS Excel spreadsheet to digitise hard copy observer data. This spreadsheet is for longline only and based on version 7 of the forms. Guidelines to observers have been completed, peer reviewed and corrected accordingly.</p> <p><u>Purse seine Version 6</u> – Data collection forms complete. Guidelines to observers completed, peer reviewed and have been corrected accordingly.</p> <p><u>Gill Net Version 4</u> – Data collection forms complete. Guidelines to observers completed, peer reviewed and corrected accordingly.</p> <p><u>Pole and Line Version 2</u> - Data collection forms complete. Guidelines completed but not peer reviewed.</p>
Recommendations	<p>Continuous development of new versions of each of the sets of gear-specific data collection forms was onerous and time consuming and the support required to be provided to CPC participant country trainees in explaining the use of the data forms exceeded what was planned for.</p> <p>Data collection form development has been an iterative process since the beginning of the project. As observers and trainees are exposed to the forms and attempt to use them in practice CapMarine receives feedback and is able to make minor edits and improvements for clarification or efficiency. At the same time any gear-specific Guidelines then required updating.</p> <p>The finalisation of the IOTC eCollection interface is recommended.</p> <p>Formatting and design does not explicitly form part of the project deliverable as per FAO Tender No. 2019/CSAPC/FIDDD/10958 and CapMarine proposes to further discuss this component with the IOTC Secretariat following finalisation of the contract to ensure that the finished production of the SFO manual is the most user-friendly and professional outcome for use by participating CPCs. CapMarine are aware that publishing cannot take place of any materials currently in use by the program as that would limit the contractor's ability to present the materials due to FAO protocols. It is recommended that once the project is complete that</p>

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Task	Development of Training Packages: Training tools for scientific field observers
	<p>IOTC consider the next step in producing uniform materials and professional publishing and this should form a separate contract.</p> <p>The IOTC Secretariat is unable to access the FAO image library in support of providing images for use in the training materials and manuals. The Secretariat has not yet requested access to the South Pacific Commission image library.</p>
Reference documents	<p>IOTC ROS Scientific Field Observer Manual IOTC ROS SFO Course Training Curriculum IOTC ROS Data Collection Forms:</p> <ul style="list-style-type: none"> • Purse Seine V6 • Longline V8 • Pole and Line V2 • Gillnet V4 <p>IOTC ROS SFO Training Course Materials IOTC ROS SFO Training Course Assessment Materials</p>

Provision of Training and Support for Implementation of the IOTC ROS

The current project, framed into the Pilot Project for the support of the IOTC ROS, seeks to promote the harmonisation of national observer schemes of members of the IOTC. Training for both observer co-ordinators and observers has been delivered in situ and/or virtually, using local resources and installations (e.g. STCW training has been outsourced to an in-country IMO certified institution).

CapMarine's approach to working in country required country authorities to make available their infrastructures to host training workshops and provide logistical support to CapMarine.

CapMarine's approach to working remotely with selected countries, created a stronger participation of country authorities to the organisation of training activities, via the identification of a practical venue for the online training sessions with stable electricity and adequate internet connection, the providing of logistical, coordination and IT support to ensure that online training activities take place as agreed, to facilitate interaction and induce questions to cover any aspects that may have been unclear in the online training and self-learning modules.

The approaches install capacity building and instil a sense of ownership and responsibility by incorporating multiple local institutions into the training. The use of local resources also contribute to overall National Observer Program capacity building, building the foundation for continued implementation lay the way for smoother/more efficient running of the program.

Communications required for the preparation and implementation of training and to support the implementation of the ROS in the countries participating to the project were initially established between CapMarine Team Leaders and country authorities, via e-mail and Skype. Following this initial engagement, Team Leaders established (e-mail / Skype / phone) communications with the designated Observer Coordination Team to plan and prepare training activities and to ensure that training materials were accessible to all trainees.

Communications required to support training activities and pilot deployments were unbroken throughout the project timeframe. Team Leaders and designated Team Members in this way were able to provide remote support to countries Observer Coordination Teams and Observers throughout all elements of training activities.

Training implementation in each CPC followed the same basic process as outlined in the revised Technical Proposal with the difference that Kenya OLC and SFO training was completed prior to adaptation of training to remote learning:

1. Scoping site visit (in situ or virtual) – the country scoping site visit (SV1) was conducted prior to any training taking place, such that the country was assessed and country proposal report produced so that comparisons, against set criteria, could be made and decisions regarding required input and capacity for training on site/virtual visit as well as the schedule of the training site visit could be drafted. In the case of Kenya, Sri Lanka and Tanzania the scoping site visit was conducted in situ whilst for Indonesia a virtual scoping site visit was conducted.

2. Training site visit (theoretical online and practical in person) –
 - a. Observer Logistics Coordinators (OLC) training:
 - i. In person training (Kenya) and e-training conducted using TalentLMS (Sri Lanka, Indonesia, Tanzania) of Observer Logistics Coordination Team (OLC);
 - ii. Observer Programme Development & Logistic Coordination Workshop (hereafter referred to as OLC workshop), either in person or using Google Meeting platform.
 - b. Scientific Field Observers (SFO) training:
 - i. Theoretical training of SFO in person and e-training using TalentLMS and SFO workshop using Google Meeting platform;
 - ii. Practical in-situ training of SFO by CapMarine trainers; and
 - iii. Trainee evaluation and refresher training conducted remotely.
3. Delivery of safety and sampling equipment for observer training and deployment at sea.
4. Basic Safety Training (BST) through an in-country STCW₂₀₁₀-approved safety training institute.
5. Final country activities and report
 - a. Finalisation of remaining training activities including:
 - i. completion of CPC NOP OLC Guide
 - ii. training new candidates via TalentLMS if requested by CPC
 - iii. refresher training for SFO candidates that failed certain Training Requirements (TRs)
 - iv. SFO participant feedback and evaluation of the training program and materials.
 - b. Pilot Observer deployments and OLC Mentoring
 - i. Pre-briefing meeting with coordinators on the logistical processes of briefing and deploying an observer;
 - ii. Observer briefing;
 - iii. Observer deployment and in-trip coordination;
 - iv. Observer disembarking and post-trip coordination;
 - v. Pre-debriefing meeting with NOP Coordinator
 - vi. Data preliminary checks;
 - vii. Observer debriefing;
 - viii. Observer evaluation and feedback; and
 - ix. Data submission.
 - c. Final Country Report detailing the outcomes of the OLC and SFO training.

The status of provision of training and support for the implementation of the IOTC ROS in each participating CPC has been summarised, combining all project related activities per CPC, and includes key observations pertaining to each CPC and recommendations for continuation and development of the National Observer Program to a point where it can be validated and authorized according to IOTC ROS Minimum Standards and Guidelines.

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Kenya

Task title and reference	Kenya - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
Period of implementation	03 November 2019 – 30 November 2022
Person(s) responsible	C. Heineken / T. Athayde / CapMarine / IOTC / KeFS
Tasks initially planned	<ol style="list-style-type: none"> 1. Scoping Site Visit <ol style="list-style-type: none"> a. Subsequent to Kenya’s inclusion into the IOTC ROS program and the reception of written agreement from Kenya regarding the expectations associated with this project specified in the Letter Understanding between Kenya Fisheries Services (KeFS) and the IOTC on 01 August 2019, the Team Leader (TL) conducted a scoping site visit (Site Visit 1) to Kenya to review the fisheries legislation, the status of progress made in establishing an observer programme and make the appropriate contacts. 2. Observer Programme Development and Logistic Coordination Workshop <ol style="list-style-type: none"> a. The course will be divided into three distinct parts: <ol style="list-style-type: none"> i. A 5-day interactive practical workshop, during which participants will be required to research, discuss and draw up the documents that will form the basis of their own Observer Programme to meet both their national requirements and those of the IOTC – ROS. Outcomes from the participant’s research and input will be designed to be incorporated into a final logistic coordination programme manual for specific use by the CPC; ii. A 2-day (or more) e-training course, during which participants will be prepared to autonomously complete a set of e-training modules on IOTC ROS standards, the installation and usage of IOTC ROS e-reporting tool, the training of debriefers and the training of observers. iii. Mentored into the participation (and/or attendance) to CPC observer training course and associated deployment activities to acquire practical experience on observer programme coordination including: observer training, briefing, deployment, debriefing, data checking and reporting. iv. Development of the National Observer Program Observer Logistics Coordination Guide 3. Scientific Fisheries Observer Training Course will be divided into four phases: <ol style="list-style-type: none"> a. STCW2010 certified safety training (or a most recent version of this training) <p>STCW training will be outsourced to an in-country IMO certified institution, preference will be given to institution located in the same city/area where the remaining observer training course will be provided (to be ascertain in association with countries authorities during SV1).</p> <p>Training will be conducted in suitable training facilities with appropriate equipment. Training schedule and duration can vary between institutions and countries depending on the number of daily training hours and the number of training facilitators available.</p> <p>A maximum number of 10 trainees per country will participate in Basic Sea Survival Training.</p> <p>Training will entail a theoretical component in a classroom environment using blended training (Power Point presentations, videos and simulated practical exercises). Knowledge acquired during theoretical lectures will be applied during practical courses during which the trainee will have to practically demonstrate the survival skills taught in a controlled environment, for an individual and in a group.</p> <ol style="list-style-type: none"> i. Theoretical technical scientific training <p>Theoretical technical scientific training will be provided in-situ in suitable training facilities provided by the country authorities. Training duration will be of one week, during which one Team Leader and one Team Member will train 10 observers. Training will be conducted informally in a classroom environment using blended training methods (Power Point presentations, videos, simulated</p>

Development and Implementation of an Observer Training Programme to support implementation of the Regional Observer Scheme in the Indian Ocean

Task title and reference	Kenya - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>practical exercises, quizzes, etc.). Trainees will answer a survey on their impressions on CapMarine in-situ theoretical technical scientific training and training tools.</p> <p>ii. Practical technical scientific training</p> <p>Practical technical scientific training will be provided in-situ in suitable training facilities provided by countries authorities. Training will be conducted informally and shared (if possible) between a classroom environment and on-the-job environment (e.g. fishing harbours, fishing vessels or fish landing sites), using blended training methods (combination of exercises, quizzes and role playing coupled with visual aids and self-training tools). During this practical component week, two Team Members will take charge of training the 10 observers. Trainees will answer a survey on their impressions on CapMarine in-situ theoretical practical scientific training and training tools.</p> <p>iii. Data collection, verification, input and reporting training</p> <p>Data collection, input and reporting training will be also provided in-situ in suitable training facilities provided by countries authorities. Training will be conducted informally in a classroom environment, using blended training methods (combination of on-the-job exercises and role playing on form filling, verification, data punching and reporting). During this practical component week, two Team Members will take charge of training the 10 observers and/or any other designated personnel. Trainees will answer a survey on their impressions on CapMarine in-situ data collection, verification, input and reporting training and training tools.</p> <p>4. Conduct three pilot deployments, submit observer data via eCollection interface to IOTC Secretariat, finalize administrative issues (printing, payments etc.), finalize equipment delivery, conduct training of five new KeFS nominees and re-train observers in modules previously not passed.</p>
Budget / Spent	€ 78 297.00 / € 76 137.00
Results	<p>In preparation of the Scoping Site Visit to Kenya, Ms Teresa Athayde (CapMarine Team Leader) engaged with the contact person Ms. Elizabeth Mueni, nominated by Ms Susan Imende, Acting Director General of Kenya Fisheries Service, who signed the LoU with the IOTC Secretariat. Ms Elizabeth Mueni organised on behalf of the Team Leader meetings with KeFS Nairobi, KeFS Mombasa and the Bandari Maritime College. The Scoping site visit took place from 03-08 November 2019. Meeting notes, conclusions and recommendations for the execution of training activities are presented in the Kenya Scoping Site Visit Report.</p> <p>Observer Logistic Coordination (OLC) and Scientific Field Observer (SFO) training</p> <p>CapMarine conducted Kenya training site visit (SV2) from 02-29 February 2020. SV2 included the implementation of OLC and SFO training courses.</p> <ul style="list-style-type: none"> - The OLC training course was successfully completed and the Kenya NOP OLC Guidelines drafted during SV2. - The SFO technical scientific training included six candidates from KeFS and four from Kenya Marine Fisheries Research institute (KMFRI). Training was successfully completed by five KeFS candidates of the ten participants. KeFS candidate that didn't meet one or more TRs was invited to re-train modules he hadn't successfully completed. - Initially the data collection, verification, input and reporting training for TR18 (Tuna purse-seine) wasn't successfully completed by any of the participants, and for TR19 was successfully completed by only 3 of the ten candidates. Candidates that didn't meet one or more TRs were invited to re-train modules they hadn't successfully completed. - Retraining was undertaken for the six KeFS candidates that did not meet TR minimum pass requirements via the use of the e-training tool developed by CapMarine. - An additional five (5) candidate trainees were proposed by the KeFS to undergo theoretical

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Task title and reference	Kenya - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>and practical online remote training for longline after reinitiating project activities toward the end of 2021. All five were registered through the online training platform TalentLMS. trainees were not registered for purse seine TRs as Kenya no longer has purse seine vessels registered with the IOTC.</p> <p>Final SFO assessment results (including retraining), and course evaluation and feedback are presented in detail in the Kenya Training Site Visit Report and Final Country Report.</p> <p>The SFO at-sea basic safety training (BST) was out-sourced to the Bandari Maritime Academy (Mombasa). From the initial 10 candidates only six (KeFS interns) were registered into the BST by CapMarine, while waiting for KeFS and the KMFRI to sign an LoU clarifying their roles and obligations in the management of KMFRI staff to be deployed by the KeFS in the role of observers, as well as the management of the data these observers shall collect in the context of the IOTC ROS. This decision was taken by CapMarine in association with KeFS as a safeguard towards ensuring that 10 observers, managed by the CPC nominated national authority (i.e., the KeFS), would undergo training under the IOTC ROS Pilot Project. For further details on this subject please consult Kenya SV1 and SV2 reports. In January 2022, when the project re-started, CapMarine sought KeFS advice on the way forward and it was advised that no LoU had been signed and that the KeFS had decided to integrate five new KeFS candidates to the SFO e-training course. Four of the additional five candidates have been recommended for Basic Safety Training at BMA.</p> <p>Observer health and safety and work materials, as adapted from the recommendation in Annex H (p46) of the proposed Standards and Guidelines for the ROS, were sponsored through the project and delivered to KeFS during SV2. Details of the number and type of each gear item are provided in the Kenya SV2 report.</p> <p>Three short (10 day) pilot deployments have been successfully completed onboard the Kenyan flagged longline vessel ‘Miss Jane’ chartered by the Kenyan government to train Kenyan longline crews. CapMarine Team Leaders Chris Heinecken & Teresa Athayde, supported by Team Member Philip Augustyn and by Kenya Fisheries Service (KeFS) Collins Ndoro, took part in briefing and debriefing observers for all three deployments.</p> <p>Trip reports have been drafted for each of the deployments and are available for submission to the IOTC. The IOTC eCollection interface is not yet finalized (in particular for longline) and the IOTC Database Manager Fabio Fiorellato has proposed to digitize and submit data via a MS Excel data sheet. Kenyan observers are attempting to utilise this tool to digitise data for submission to the IOTC Secretariat.</p>
Recommendations	<p>IOTC is advised to consider the inclusion of yellow fever vaccination to IOTC ROS Observer minimum requirements, as vessels operating in the high-seas require it.</p> <p>A standardized online basic numeracy, literacy and comprehension assessment should be submitted to each CPC during the trainee selection phase, to ensure trainees are able to keep pace with the training requirements of SV2. Basic computer literacy could also potentially be tested for. The above would inform both CPCs and trainers alike of potential challenges and level of training required.</p> <p>Delivery of electronic equipment from South Africa to Kenya was delayed by customs restrictions. It is recommended in future that equipment is shipped through a registered courier.</p> <p>The registration and continued operation of EPIRBs and two-way satellite devices requires a monthly or annual premium to maintain connectivity. The responsibility lies with the CPC delegated authority to arrange and facilitate payment of that subscription and this may be deemed a financial burden or non-priority. It is recommended therefore that CPC National fishery departments budget for this expense annually and arrange appropriate means for registration and payment.</p> <p>Facilitating Basic Safety Training within the CPC was effective and laid the foundation for future training of observers through the establishment of direct contact between BMA and KeFS. The issuing authority for training certificates and seaman’s books, the Kenya Maritime Authority (KMA), charges additional fees for their service and these costs should be budgeted</p>

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Task title and reference	Kenya - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>for by the CPC for training of observers in the future.</p> <p>Remote retraining of observers that failed certain modules and remote training of new candidate observers was achieved through the TalentLMS Learning Management System (LMS) with the remote support of experienced trainers or observers.</p> <p>Following completion of training activities in Kenya of the 11 KeFS observers that completed training eight (8) meet the IOTC minimum training requirements for deployment on longline vessels and three (3) for deployment on purse seine vessels. Note that none of the four KMFRI observers that underwent training meet the minimum requirements for deployment onboard either longline or purse seine vessels. It is recommended that the KeFS observers who meet the IOTC ROS minimum competency requirements be registered by the CPC with the IOTC (see Final country report for observer details).</p> <p>Pilot observer deployments were successful in part through the comprehensive briefing and debriefing procedures followed by KeFS with CapMarine trainer support. The importance of this process cannot be understated and it is recommended that the briefing and debriefing process is followed for all future deployments under the IOTC ROS.</p> <p>CapMarine are satisfied that digitization and submission of pilot observer trip data is through MS Excel data reporting form but recommends finalisation of and use of the IOTC eCollection database and associated training modules.</p> <p>The KeFS NOP OLC Team is to continue to deploy observers with the Kenya longline fleet and to submit observer data to the IOTC Secretariat using the excel version of the IOTC ROS longline reporting template, to meet IOTC Resolution 11/06.</p>
Reference documents	<p>Kenya Scoping Site Visit Report</p> <p>Kenya Training Site Visit Report</p> <p>Kenya Final Country Report</p> <p>Kenya Observer Logistic Coordinator Guide</p>

Sri Lanka

Task title and reference	Sri Lanka - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
Period of implementation	19 January 2020 – 30 November 2022
Person(s) responsible	C. Heineken / T. Athayde / CapMarine / IOTC / DFAR
Tasks initially planned	<ol style="list-style-type: none"> 1. Scoping Site Visit <ol style="list-style-type: none"> i. Subsequent to Sri Lanka's commitment to the IOTC ROS program and the reception of written agreement from Sri Lanka regarding the expectations associated with this project specified in the Letter Understanding between Department of Fisheries and Aquatic Resources (DFAR) DFAR and the IOTC on 23 October 2018, the Team Leader (TL) made plans to conduct a scoping site visit (Site Visit 1) to Sri Lanka to review the fisheries legislation, the status of progress made in establishing an observer programme and make appropriate contacts. 2. Observer Logistic Coordination (OLC) and Scientific Field Observer (SFO) training. <p>CapMarine will conduct OLC training and subsequently SFO training during SV2 to Sri Lanka. In both cases online remote training forms the basis of theoretical learning and a follow-up site visit will be arranged to consolidate theoretical materials and implement in-person data collection, verification, input and reporting practical training.</p> <ol style="list-style-type: none"> I. Observer Programme Development and Logistic Coordination Workshop. The course will be divided into two distinct parts and six components: <p>Training Phase 1:</p> <ol style="list-style-type: none"> i. A first self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules uploaded to TalentLMS - the

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Task title and reference	Sri Lanka - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>training platform used by CapMarine - in preparation for the implementation of the 5 day on-line interactive workshop.</p> <ul style="list-style-type: none"> ii. A 5-day interactive practical workshop, during which participants will research, discuss and draw up the documents that will form the basis of their own Observer Programme to meet both their national requirements and those of the IOTC – ROS. iii. A second self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules in preparation to their participation to the Scientific Field Observer (SFO) Training and the implementation of pilot observer deployments. iv. The practical implementation of observer training, during which OLC participants will be invited to participate as trainers (or attendants) to CPC observer training course, to acquire practical experience on observer training. <p>Training Phase 2:</p> <ul style="list-style-type: none"> v. The finalisation of the <i>Sri Lanka NOP OLC Guide on Programme Development and Observer Deployment</i>, during which the outcomes from the interactive practical workshop will be incorporated into a final logistic coordination programme manual for specific use by the CPC. vi. The practical implementation of observer briefing, deployment and debriefing, during which participants will be mentored into the conducting of CPC pilot observer deployments to acquire practical experience on observer programme coordination including: observer briefing, deployment, in-trip coordination, debriefing, data checking and reporting. <p>a. The Sri Lanka SFO training has been shared between two training phases and divided into four different components:</p> <p>Training Phase 1:</p> <ul style="list-style-type: none"> i. Online interactive technical scientific training period of two weeks, during which participants are to: <ul style="list-style-type: none"> a. study a set of e-training modules uploaded to TalentLMS - the training platform used by CapMarine – and conducting respective collective exercises, assignments and assessments; b. interact on-line with CapMarine Training Team during question and answers sessions, collective exercises and assignments, and to receive feedback on individual assessments; and c. Answer a survey on their impressions on CapMarine on-line training and training tools. <p>Training Phase 2:</p> <ul style="list-style-type: none"> i. In-situ (or on-line) practical training, during which participants are to be trained in data collection, verification, input, and reporting and are to answer a survey on their impressions on CapMarine training and training tools. ii. In-situ STCW₂₀₁₀ Basic Sea Survival Training, of one week (5 working days), outsourced to CINEC (an IMO qualified training organisation), during which participants are to be trained in: <ul style="list-style-type: none"> a. Personal Survival Techniques [STCW CODE A-VI/1-1]; and b. Personal Safety and Social Responsibility [STCW CODE A-VI/1-4]. iv. Conduct three pilot deployments. <ul style="list-style-type: none"> a. The practical implementation of observer briefing, deployment and

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Task title and reference	Sri Lanka - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>debriefing, during which 1 to 3 observers will be briefed, deployed and debriefed to acquire practical experience on observer work at-sea, data collection and reporting.</p> <p>b. Submit observer data via eCollection interface to IOTC Secretariat, finalize administrative issues (printing, payments etc.) and re-train observers in modules previously not passed.</p>
Budget / Spent	€ 63 550.00 / € 62 793.00
Results	<p>The Scoping Visit (SV1) undertaken by Mr C Heinecken (Team Leader from CapMarine) from the 20th to 24th January 2020 at the Department of Fisheries and Aquatic Resources (DFAR) in Colombo achieved the primary objectives that included discussions with the appointed observer program personnel; assessment of the country's current fisheries legislation; recruitment of candidates for training and securing means of STCW safety training through the Colombo International Nautical & Engineering College (CINEC).</p> <p>The venue for the training was secured in the Dickovita Fishing Harbour, providing an ideal location with all the necessary facilities for presentation (internet access pending) as well as access to vessels and fish processing facilities in the harbour for practical training.</p> <p>Details of the objectives and outcome of the Scoping site visit are provided in Sri Lanka SV1 report.</p> <p>Observer Logistic Coordination (OLC) training</p> <p>The Letter on Support for the Ongoing Implementation of the IOTC Regional Observer Scheme in Sri Lanka, addressed to the DFAR, on February 2021 (IOTC Ref. 2021-16) and Sri Lanka response (Ref DFAR/DFO/SO), from 06/03/2021 reinforced Sri Lanka's commitment to the program and agreement for conducting the majority of training virtually to account for the impact of the COVID 19 pandemic.</p> <p>Implementation of training with Sri Lanka provided CapMarine the first opportunity to present the online version of the IOTC ROS training materials and to test self-training materials and the online interactive training methodology.</p> <p>Participants to the OLC training were registered to Talents LMS on the 07 of February 2022. The online interactive practical workshop took place over six (6) days from 21st February to the 10th March 2022. Following the on-line interactive practical workshop participants were requested to complete the Sri Lanka OLC Guide and to autonomously complete the e-training module TR9: OLC Post-trip Debriefing to prepare them to debrief observers deployed by their NOP in the context of the national implementation of the IOTC ROS.</p> <p>The reduced number of participants attending the OLC interactive workshop - only two of the four nominated OLC team members actively participated in the training – slowed the development of customised documents (for example the Coordinator manual); and the regular absence of the Senior Level Officer (SLO) with decision making powers, prevented the immediate adoption of customised documents.</p> <p>OLC Workshop objectives also included the drafting of an Emergency Action Plan (EAP). The complexity of this process and the general lack of knowledge on these matters hindered the development of clear standard operating procedures (SOP). The Sri Lanka EAP is still under development and will need to be discussed with country agencies involved in the coordination of at-sea surveillance and safety activities before being approved and applied.</p> <p>Sri Lanka OLC e-training and on-line interactive practical workshop has been successfully implemented and the Sri Lanka OLC Guide has been developed. Although some of these objectives were not completed during the initial OLC workshop CapMarine, with the support of the Sri Lankan NOP Coordinator, Mr Suraj Chandrakumara, were able to finalise activities during the practical site visit to Sri Lanka (focused on observer training) and through email correspondence.</p>

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Task title and reference	Sri Lanka - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>Scientific Field Observer (SFO) training</p> <p>Sri Lanka SFO online interactive training that ran from the 20th of June to the 1st of July 2022. Activities under training phase 1 were fully implemented, while activities under training phase 2 were postponed to September and October 2022 due to the country political instability and economic problems (see SV2 report for further details).</p> <p>The limited capacity of some of the observers to understand spoken English caused delays to the training. To reduce language and internet issues the Sri Lanka NOP OC actively participated in the training as an in-situ trainer and translator, presenting the different TR materials to the trainees and facilitating exchanges between the CapMarine Training Team and trainees during the on-line sessions.</p> <p>The SFO technical scientific training included 14 candidate scientific field observers for theoretical training (phase 1) and 13 candidates for the practical training (phase 2) and the NOP Coordinator.</p> <p>From the 14 Sri Lanka trainees that attended the IOTC ROS Technical Scientific On-line Training Course (Phase 1):</p> <ul style="list-style-type: none"> - Six (6) met or exceeded to meet IOTC ROS minimum competency standards for all (100%) of the implemented training requirements (TRs 1-11, TR13, TR15, and TR 17) - Seven (7) didn't succeed to meet IOTC ROS minimum competency standards for one (8%) training requirement - One (1) didn't succeed to meet IOTC ROS minimum competency standards for two (17%) training requirements <p>From the 13 Sri Lanka trainees that attended the IOTC ROS Technical Practical Training Course (Phase 2), Training Requirement 19:</p> <ul style="list-style-type: none"> - All 13 observers meet or exceed IOTC ROS minimum competency standards however when broken down by specific Forms (1-5 LL) it was clear that retraining would be required on form filling for Form 3-LL and Form 4-LL. <p>Retraining was undertaken for those candidates that did not meet TR minimum pass requirements and for candidates to complete outstanding TRs.</p> <p>Following retraining the of the 14 candidates that participated all 14 met or exceeded minimum requirements for theoretical training modules; five (5) met or exceeded and two (2) almost met and seven (7) did not meet the minimum training requirements for practical TRs on longline. Final SFO assessment results (including retraining), and course evaluation and feedback are presented in detail in the Sri Lanka Training Site Visit Report and Final Country Report.</p> <p>One week duration STCW2010-certified basic sea survival training (BST) conducted by CINEC, took place from the 10 to 13 October, 2022. Ten candidates were trained on Personal Survival Techniques VI/I-1 (compulsory under IOTC ROS Standards), Fire Prevention and Fire Fighting VI/I-2, Elementary First Aid VI/I-3, Personal Safety and Social Responsibility VI/I-4 (compulsory under IOTC ROS Standards).</p> <p>Training entailed a theoretical component in a classroom environment using blended training (Power Point presentations, videos and simulated practical exercises). Knowledge acquired during theoretical lectures was applied during practical courses during which the trainee had to practically demonstrate the survival skills taught in a controlled environment.</p> <p>All ten candidates selected to participated in the certified BST, satisfactorily completed the STCW2010-certified basic sea survival training. Success was monitored by requiring candidates to provide CapMarine with a copy of the training certificate provided by CINEC (example available in Sri Lanka SV3 Final Country Report).</p> <p>Observer health and safety and work materials, as adapted from the recommendation in Annex H (p46) of the proposed Standards and Guidelines for the ROS, were sponsored through the project. On 18 June 2022, CapMarine forwarded to DFAR, via FAO Offices, observer health, safety, and work equipment purchased in the context of the project. DFAR confirmed reception of the equipment on 05 July 2022. Details of the number and type of each gear item</p>

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Task title and reference	Sri Lanka - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>are provided in the Kenya SV2 report.</p> <p>Pilot Deployments. Due to country political and social instability and financial constraints the three planned pilot deployments could not be executed within the timeframe of projects. However, three observers were successfully briefed and one (1) observer was successfully deployed. CapMarine will mentor Sri Lanka NOP Coordinator on standard operating procedures (SOPs) for the debriefing of observers. This will include review of observer data collection forms, daily journal and trip preliminary report using IOTC ROS gear specific standard debriefing forms to ensure rigorous debriefing. CapMarine will mentor observers on the digitising of data collected during pilot deployment data and will provide support to Sri Lanka NOP Coordinator in the submission of the data files to the IOTC.</p>
Recommendations	<p>Although the current legislation is sufficient to provide a mandate for the deployment of observers, it is recommended that the legislation should be revised in the future to provide more detailed requirements covering the observer and vessel responsibilities during a deployment. This may also be achieved through a formal vessel Memorandum of Understanding (MoU).</p> <p>On future OLC trainings, all nominated OLC Team members should be made available for the entire training period, and should be physically present in the same meeting room, during the implementation of the OLC Workshop, to ensure that training objectives are timely met and decision-making hastened.</p> <p>Delivery of electronic equipment from South Africa to Sri Lanka was effectively expedited through the support of the FAO Office in Sri Lanka. It is recommended that CPC FAO Offices support transactions/imports of this nature in future.</p> <p>Facilitating Basic Safety Training within the CPC was effective and laid the foundation for future training of observers through the establishment of direct contact between CINEC and DFAR.</p> <p>Remote retraining of observers that failed certain modules is achievable through the TalentLMS Learning Management System (LMS) with the remote support of experienced trainers or observers. It is recommended that CapMarine maintain the offer of support to new observer trainees in future through direct contact with CPC NOP Coordinators.</p> <p>The feedback from the candidates highlights the need for further practical training to be added to the on-line interactive training and the need for a stable internet connection.</p> <p>Following completion of training activities in Sri Lanka of the 14 DFAR observers that completed training five (5) meet the IOTC minimum training requirements for deployment on longline vessels and two (2) almost meet the requirements. It is recommended that the DFAR observers who meet the IOTC ROS minimum competency requirements be registered by the CPC with the IOTC (see Final country report for observer details).</p> <p>A single pilot observer deployment was successful within the timeframe of the project. It is recommended that the Sri Lanka NOP Coordinator follow the briefing and deployment process for all future deployments under the IOTC ROS.</p> <p>CapMarine are satisfied that digitization and submission of pilot observer trip data is through MS Excel data reporting form but recommends finalisation of and use of the IOTC eCollection database and associated training modules.</p> <p>The DFAR NOP OLC Team is to continue to deploy observers with the Sri Lankan longline fleet and to submit observer data to the IOTC Secretariat using the excel version of the IOTC ROS longline reporting template, to meet IOTC Resolution 11/06.</p>
Reference documents	<p>Sri Lanka Scoping Site Visit Report Sri Lanka Training Site Visit Report Sri Lanka Final Country Report Sri Lanka Observer Logistic Coordinator Guide</p>

United Republic of Tanzania

Task title and reference	Tanzania - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
Period of implementation	26 August 2019 – 30 November 2022
Person(s) responsible	C. Heineken / T. Athayde / CapMarine / IOTC / DSFA
Tasks initially planned	<p>1. Scoping Site Visit</p> <p>I. Subsequent to Tanzania’s commitment to the IOTC ROS program and the reception of written agreement from Sri Lanka regarding the expectations associated with this project specified in the Letter Understanding between the Deep Sea Fishing Authority (DSFA) and the IOTC on 31 May 2019, the Team Leader (TL) made plans to conduct a scoping site visit (Site Visit 1) to Tanzania to review the fisheries legislation, the status of progress made in establishing an observer programme and make appropriate contacts.</p> <p>2. Observer Logistic Coordination (OLC) and Scientific Field Observer (SFO) training.</p> <p>CapMarine will conduct OLC training and subsequently SFO training during SV2 to Tanzania. In both cases online remote training forms the basis of theoretical learning and a follow-up site visit will be arranged to consolidate theoretical materials and implement in-person data collection, verification, input and reporting practical training.</p> <p>I. Observer Programme Development and Logistic Coordination Workshop. The course will be divided into two distinct parts and six components:</p> <p>Training Phase 1:</p> <p>i. A first self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules uploaded to TalentLMS - the training platform used by CapMarine - in preparation for the implementation of the 5 day on-line interactive workshop.</p> <p>ii. A 5-day interactive practical workshop, during which participants will research, discuss and draw up the documents that will form the basis of their own Observer Programme to meet both their national requirements and those of the IOTC – ROS.</p> <p>iii. A second self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules in preparation to their participation to the Scientific Field Observer (SFO) Training and the implementation of pilot observer deployments.</p> <p>iv. The practical implementation of observer training, during which OLC participants will be invited to participate as trainers (or attendants) to CPC observer training course, to acquire practical experience on observer training.</p> <p>Training Phase 2:</p> <p>v. The finalisation of the <i>Tanzanian NOP OLC Guide on Programme Development and Observer Deployment</i>, during which the outcomes from the interactive practical workshop will be incorporated into a final logistic coordination programme manual for specific use by the CPC.</p> <p>vi. The practical implementation of observer briefing, deployment and debriefing, during which participants will be mentored into the conducting of CPC pilot observer deployments to acquire practical experience on observer programme coordination including: observer briefing, deployment, in-trip coordination, debriefing, data checking and reporting.</p> <p>II. The Tanzanian SFO training has been shared between two training phases and divided into four different components:</p> <p>Training Phase 1:</p>

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Task title and reference	Tanzania - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>i. Online interactive technical scientific training period of two weeks, during which participants are to:</p> <p>a. study a set of e-training modules uploaded to TalentLMS - the training platform used by CapMarine – and conducting respective collective exercises, assignments and assessments;</p> <p>b. interact on-line with CapMarine Training Team during question and answers sessions, collective exercises and assignments, and to receive feedback on individual assessments; and</p> <p>c. Answer a survey on their impressions on CapMarine on-line training and training tools.</p> <p>Training Phase 2:</p> <p>ii. In-situ practical training, during which participants are to be trained in data collection, verification, input, and reporting;</p> <p>iii. In-situ STCW₂₀₁₀ Basic Sea Survival Training, of two weeks (10 working days), outsourced to DMI (an IMO qualified training organisation), during which participants are to be trained in:</p> <p>c. Personal Survival Techniques [STCW CODE A-VI/1-1]; and</p> <p>d. Personal Safety and Social Responsibility [STCW CODE A-VI/1-4].</p> <p>v. Conduct three pilot deployments.</p> <p>a. The practical implementation of observer briefing, deployment and debriefing, during which 1 to 3 observers will be briefed, deployed and debriefed to acquire practical experience on observer work at-sea, data collection and reporting.</p> <p>b. Submit observer data via eCollection interface to IOTC Secretariat, finalize administrative issues (printing, payments etc.) and re-train observers in modules previously not passed.</p>
Budget / Spent	€ 61 625.00 / € 61 625.00
Results	<p>The Scoping Visit (SV1) undertaken by Mr C Heineken (Team Leader from CapMarine) from the 19th to 24th August 2019 at the Deep Sea Fishing Authority (DSFA) headquarters in Zanzibar failed to achieve the primary objectives as the URT NOP coordinators had not been nominated and only the Director General was present during the visit. Positive outcomes from the scoping site visit were that:</p> <ul style="list-style-type: none"> - the legal framework for the deployment of observers was being addressed and it is foreseeable that the national fisheries legislation will be effective to enable the IOTC ROS project to be established and function in accordance with the IOTC Resolution 11/04; - the DSFA does have the office space and facilities that include internet access that can provide a secure base from which to administer the observer program and from where the data entry, processing, storage and reporting can take place; and - The Dar Es Salaam Maritime Institute was able to confirm they could provide the accredited STCW 78 (as amended in 2010, Manila Amendments), safety training to observers. <p>Details of the objectives and outcome of the Scoping site visit are provided in Tanzania SV1 report.</p> <p>Observer Logistic Coordination (OLC) training</p> <p>The Letter on Support for the Ongoing Implementation of the IOTC Regional Observer Scheme in Tanzania and Tanzania’s response (Ref BA 40/104/02/63), from 09/03/2021 reinforced Tanzania’s commitment to the program and agreement for conducting the majority of training virtually to account for the impact of the COVID 19 pandemic.</p>

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Task title and reference	Tanzania - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>Implementation of training with Tanzania provided CapMarine the third opportunity to present the online version of the IOTC ROS training materials and to finalise self-training materials and the online interactive training methodology.</p> <p>The Observer Logistic Coordination (OLC) online training workshop for Tanzania took place over seven (7) days from 26th May to the 3rd June 2022. The reduced number of participants attending the OLC interactive workshop - only two of the four nominated OLC team members actively participated in the training – slowed the development of customised OLC documents.</p> <p>The Tanzanian OLC e-training and on-line interactive practical workshop has been successfully implemented and the Tanzanian OLC Guide has been developed. Although some of these objectives were not completed during the initial OLC workshop CapMarine, with the support of the DSFA were able to finalise activities during the practical site visit to Tanzania and through email correspondence.</p> <p>Scientific Field Observer (SFO) training</p> <p>The costs for implementation of practical training (logistics, venue, daily spending allowance, refreshments) were paid by CapMarine due to a lack of budget at the DSFA. This acknowledged the DSFA call for funding support in the Tanzania’s response (Ref BA 40/104/02/63) to the IOTC’s query of continued support for the project. To cover these costs budget was reallocated by purchasing fewer equipment items for the observer program. This was justified by the low number of vessels in the URT meaning only 1-3 observers will be deployed at any time in the IOTC fisheries. In addition, due to the delays in training implementation and low likelihood of completing pilot deployments within the project lifetime the totality of budget allocated for pilot deployments and training support was spent on covering the costs of practical training. The reallocation of budget was approved by the DSFA in a letter to the CapMarine from the DSFA Director General (Ref. No. BD. 153/169/01/23).</p> <p>The URT SFO technical scientific on-line interactive course was run from the 19th to the 30th of September 2022 (10 working days). The URT SFO technical practical training on data collection, verification, recording and reporting, with a duration of one week (5 working days), was run from the 17th to the 21st October 2022.</p> <p>The SFO technical scientific training included 10 candidate scientific field observers for theoretical training and practical training and the NOP Coordinator. The practical training benefited from the presence of two CapMarine Team Leader trainers allowing the trainers to split their focus between SFO and OLC training outcomes.</p> <p>From the 10 Tanzanian trainees that attended the IOTC ROS Technical Scientific On-line Training Course (Phase 1):</p> <ul style="list-style-type: none"> - two (2) excelled (>50%) in the totality of the implemented training requirements (TRs 1-TR13, TR16, and TR17); - four (4) didn’t meet IOTC ROS minimum competency standards for one training requirement; - three (3) didn’t succeed to meet IOTC ROS minimum competency standards for two training requirements; and - one (1) didn’t succeed to meet IOTC ROS minimum competency standards for three training requirements. <p>Regarding the 10 participants enrolled in the URT SFO technical practical training on data collection, verification, recording and reporting:</p> <ul style="list-style-type: none"> - seven (7) met or exceeded (>75%) IOTC ROS minimum competency standards on tuna purse-seine onboard data collection and recording (TR18); - two (2) almost met (70%>X>75%); and one didn’t meet (<70%) IOTC ROS minimum competency standards on the filling of IOTC forms 1 to 5-PS. <p>The same 10 participants were enrolled in TR19 - Pelagic longline onboard data collection and</p>

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	<p>recording,</p> <ul style="list-style-type: none"> - eight (8) of ten met or exceeded the IOTC ROS minimum competency standards on the filling of IOTC forms 1, 2 and 5-LL; - but none (0) met (>75%) IOTC ROS minimum competency standards on the filling of IOTC forms 3 and 4-LL. <p>Candidates that didn't meet one or more theoretical and practical training requirements, were invited to re-train using the online training platform supported by CapMarine trainers in form filling by interpreting case studies provided in the e-training tool.</p> <p>Following retraining the 10 candidates have met or exceeded the requirements for all theoretical training modules. Three (3) trainees meet or exceed, one (1) almost meets and six (6) do not meet the minimum requirements for practical training for longline. The (2) trainees meet or exceed, seven (7) almost meet and one (1) does not meet the minimum requirements for practical training for purse seine.</p> <p>Final SFO assessment results (including retraining), and course evaluation and feedback are presented in detail in the Tanzanian Training Site Visit Report and Final Country Report.</p> <p>The STCW2010-certified basic sea survival training, was outsourced to the Dar es Salaam Maritime Institute (DMI), and includes training in Personal Survival Techniques VI/I-I and Personal Safety and Social Responsibility VI/I-4), compulsory under the IOTC ROS Standards. This training was completed by all 10 trainees from 07 to 18 November 2022.</p> <p>All ten candidates selected to participated in the certified BST, satisfactorily completed the STCW2010-certified basic sea survival training. Success was monitored by requiring candidates to provide CapMarine with a copy of the training certificate provided by DMI (certificates will be shared with CapMarine once they are issued by the DMI).</p> <p>Observer health and safety and work materials, as adapted from the recommendation in Annex H (p46) of the proposed Standards and Guidelines for the ROS, were sponsored through the project. Due to the low number of vessels registered by Tanzania to fish in the IOTC area of jurisdiction and the request from DSFA to fund practical training, the number of each equipment item sponsored was reduced. The DSFA acknowledged receipt of all equipment provided through the program.</p> <p>Pilot Deployments. Due to the delay in identifying candidate field observers and the lack of available vessels the three planned pilot deployments could not be executed within the timeframe of projects. However, two observers were successfully briefed with the support of the DSFA OLC Team (three coordinators and the database manager). CapMarine will mentor the Tanzanian NOP Coordinators on standard operating procedures (SOPs) for the debriefing of observers. This will include review of observer data collection forms, daily journal and trip preliminary report using IOTC ROS gear specific standard debriefing forms to ensure rigorous debriefing. CapMarine will mentor observers on the digitising of data collected during pilot deployment data and will provide support to Tanzania NOP Coordinator in the submission of the data files to the IOTC.</p>
Recommendations	<p>CapMarine recommends that designated personnel within the URT OLC team are present at observer briefings and debriefings for deployments in the IOTC ROS.</p> <p>It is recommended that candidate SFOs are selected from outside of State institutions so that they would not be obligated to split their focus from IOTC ROS to other responsibilities if they hold permanent placements in government positions.</p> <p>Practical training is more effective in certain countries than remote online learning management systems can provide. This is particularly true in CPCs where the National Observer Program OLC personnel are otherwise engaged and not available to participate in person in training workshops.</p> <p>Although the current legislation is sufficient to provide a mandate for the deployment of observers, it is recommended that the legislation should be revised in the future to provide more detailed requirements covering the observer and vessel responsibilities during a deployment.</p>

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	<p>This may also be achieved through a formal vessel Memorandum of Understanding (MoU).</p> <p>Facilitating Basic Safety Training within the CPC was effective and laid the foundation for future training of observers through the establishment of direct contact between DMI and DFAR. The request to fund trainee Daily Spending Allowance (DSA) was not met by CapMarine and consideration should be given in future by the IOTC to advise CPCs that DSAs will not be financed through project activities.</p> <p>Remote retraining of observers that failed certain modules is achievable through the TalentLMS Learning Management System (LMS) with the remote support of experienced trainers or observers. It is recommended that experienced DSFA trainers and observers provide support to new observer trainees in future.</p> <p>Following completion of training activities in Tanzania of the 10 observers that completed training three (3) meet the IOTC minimum training requirements for deployment on longline vessels and one (1) almost met the requirements. Two (2) meet the IOTC minimum training requirements for deployment on purse seine vessels and seven (7) almost met the requirements. It is recommended that the observers who meet the IOTC ROS minimum competency requirements be registered by the CPC with the IOTC (see Final country report for observer details).</p> <p>Pilot observer deployment was not possible within the timeframe of the project. Briefing of two observers was successful in preparation for future deployments. It is recommended that the DSFA NOP Coordinator follow the briefing and deployment process for all future deployments under the IOTC ROS.</p> <p>CapMarine are satisfied that digitization and submission of pilot observer trip data is through MS Excel data reporting form but recommends finalisation of and use of the IOTC eCollection database and associated training modules.</p> <p>The DSFA NOP OLC Team is to continue to deploy observers onboard the URT longline and purse seine flagged vessels and to submit observer data to the IOTC Secretariat using the excel version of the IOTC ROS longline and purse seine reporting templates, to meet IOTC Resolution 11/06.</p>
Reference documents	<p>Tanzania Scoping Site Visit Report</p> <p>Tanzania Training Site Visit Report</p> <p>Tanzania Final Country Report</p> <p>Tanzania Observer Logistic Coordinator Guide</p>

Indonesia

Task title and reference	Indonesia - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
Period of implementation	01 May 2022 – 30 November 2022
Person(s) responsible	C. Heineken / T. Athayde / CapMarine / IOTC / CFR
Tasks initially planned	<ol style="list-style-type: none"> 1. Scoping Site Visit <ol style="list-style-type: none"> a. Indonesia's commitment to the IOTC ROS program and the reception of written agreement from Indonesia regarding the expectations associated with this project were specified in the Letter Understanding between the Centre of Fisheries Research (CFR) and the IOTC on 19 February 2019. Due to the period of the project being placed on hold the Scoping Site visit could not be undertaken in person and was planned to be completed remotely by correspondence with the nominated OLC team. The objectives to review the national fisheries legislation, the status of progress made in establishing an observer programme and make the appropriate contacts were unchanged. 2. CapMarine will conduct OLC training and subsequently SFO training during SV2 to Indonesia. In both cases online remote training forms the basis of theoretical learning and a

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Task title and reference	Indonesia - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments
	<p>follow-up site visit will be arranged to consolidate theoretical materials and implement in-person data collection, verification, input and reporting practical training.</p> <p>I. Observer Programme Development and Logistic Coordination Workshop. The course will be divided into two distinct parts and six components:</p> <p>Training Phase 1:</p> <ol style="list-style-type: none"> i. A first self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules uploaded to TalentLMS - the training platform used by CapMarine - in preparation for the implementation of the 5 day on-line interactive workshop. ii. A 5-day interactive practical workshop, during which participants will research, discuss and draw up the documents that will form the basis of their own Observer Programme to meet both their national requirements and those of the IOTC – ROS. iii. A second self-training period of a maximum of two weeks, during which participants are to read a set of e-training modules in preparation to their participation to the Scientific Field Observer (SFO) Training and the implementation of pilot observer deployments. iv. The practical implementation of observer training, during which OLC participants will be invited to participate as trainers (or attendants) to CPC observer training course, to acquire practical experience on observer training. <p>Training Phase 2:</p> <ol style="list-style-type: none"> v. The finalisation of the <i>Indonesian NOP OLC Guide on Programme Development and Observer Deployment</i>, during which the outcomes from the interactive practical workshop will be incorporated into a final logistic coordination programme manual for specific use by the CPC. vi. The practical implementation of observer briefing, deployment and debriefing, during which participants will be mentored into the conducting of CPC pilot observer deployments to acquire practical experience on observer programme coordination including: observer briefing, deployment, in-trip coordination, debriefing, data checking and reporting. <p>II. The Sri Lanka SFO training has been shared between two training phases and divided into four different components:</p> <p>Training Phase 1:</p> <ol style="list-style-type: none"> i. Online interactive technical scientific training period of two weeks, during which participants are to: <ol style="list-style-type: none"> a. study a set of e-training modules uploaded to TalentLMS - the training platform used by CapMarine – and conducting respective collective exercises, assignments and assessments; b. interact on-line with CapMarine Training Team during question and answers sessions, collective exercises and assignments, and to receive feedback on individual assessments; and c. Answer a survey on their impressions on CapMarine on-line training and training tools. <p>Training Phase 2:</p> <ol style="list-style-type: none"> ii. In-situ (or on-line) practical training, during which participants are to be trained in data collection, verification, input, and reporting; iii. In-situ STCW₂₀₁₀ Basic Sea Survival Training, of one week (5 working days), outsourced to Banyuwangi (an IMO qualified training organisation), during

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	<p>which participants are to be trained in:</p> <ul style="list-style-type: none"> e. Personal Survival Techniques [STCW CODE A-VI/1-1]; and f. Personal Safety and Social Responsibility [STCW CODE A-VI/1-4]. <p>vi. Conduct three pilot deployments.</p> <ul style="list-style-type: none"> a. The practical implementation of observer briefing, deployment and debriefing, during which 1 to 3 observers will be briefed, deployed and debriefed to acquire practical experience on observer work at-sea, data collection and reporting. b. Submit observer data via eCollection interface to IOTC Secretariat, finalize administrative issues (printing, payments etc.) and re-train observers in modules previously not passed.
Budget / Spent	€ 60 718.00 / € 60 718.00
Results	<p>The scoping site visit was completed via correspondence between 01 May to 31 July 2022 with the Indonesian OLC team coordinated by Ms. Riana Handayani, the Subcoordinator of fish resources management in the IEEZ and High Seas of the Directorate of Fish Resources Management, Directorate General of Capture Fisheries, Ministry of Marine Affairs and Fisheries. The complexity of Indonesian management structures for such a large fleet of vessels operating in the Indian and Pacific Oceans complicated communications initially but the lead taken by Ms. Handayani was effective throughout project implementation.</p> <p>The Scoping activities achieved the objectives specifically with engaging with the personnel identified with the observer program and identifying their respective roles. In addition there was good communication regarding the logistical arrangements for the training of the OLC team and SFO candidates and clarity with respect to the safety and work materials and safety training required by the Indonesian NOP and observers.</p> <p>Indonesia has the capacity to host e-training and in-situ training for OLC and SFO nominees. Institutional capacity for the outsourced safety training is available at the Banyuwangi Maritime Training Institute. The availability and conditions of training facilities in the Benoa Port include office space for the training and on-going observer related activities (e.g., training room with projector and internet connection; wet-lab or out-door area with access to running water; office space for the training team to work; etc.).</p> <p>Details of the objectives and outcome of the Scoping site visit are provided in Indonesia SV1 report.</p> <p>Observer Logistic Coordination (OLC) training</p> <p>Ms Riana Handayani submitted the personnel details for the training of Indonesian program management and observer logistic coordinators (OLC Team) on the 10th June 2022, and these persons were subsequently registered on the e-training platform (<i>TalentLMS</i>) the same day providing them access to the training materials to commence with autonomous on-line training. The on-line workshop was run from 4th to 8th July 2022.</p> <p>Although participation during the workshop was good the infographics of the online system indicated a number of the participants did not access the training site, and none of the assignments were fully completed or submitted by the end of the workshop. Language differences and translation appear to be a key element in lack interaction and completion of assignments. Also, the fact that Indonesia already has a well-established process in place for their national observer program may be a reason for them to not easily adapt to the IOTC ROS requirement.</p> <p>The Indonesian legislation clearly makes provision for their own national observer program and there is a formal system of notification between vessels owners and the fisheries authorities for</p>

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	<p>the placement of observers. Observers are also tasked with collecting specific research and fisheries information. However, many of their procedures are currently not in line with the expectations of the IOTC ROS, notably, with respect to observer briefing, vessel safety requirements, onboard sampling and in-trip communication with observers.</p> <p>The nature of the Indonesian fishing fleet and informal Indonesian vessel safety standards do not conform to many of the international STCW requirements, as such it will not be practical to impose some of the observer safety requirements in terms of the IOTC ROS into the Indonesian NOP.</p> <p>The OLC training course was not adequately subscribed to by the Indonesian OLC team, as a result the OLC Guide could not be finalised.</p> <p>Scientific Field Observer (SFO) training</p> <p>The ten participants nominated by Indonesia for the SFO training were registered onto TalentLMS on the 4th August 2022.</p> <p>The presentations for each TR that were originally prepared for in-situ training, were revised, and annotated with detailed descriptions to assist participants understanding the content of each slide. In addition, presentations and supporting documents for each TR were saved on-line in pdf format to facilitate participants downloading and translating these documents.</p> <p>The online interactive training commenced on the 8th August 2022 at 13h00 (GMT+8 Bali local time) with all the participants assembled in a venue at the Fishing Vessel Service Post, Jl. Dermaga 1, Pelabuhan Umum Benoa, Kec. Denpasar Selatan, Kota Denpasar.</p> <p>Most participants indicated they could read or translate the materials downloaded for each TR but had difficulty in communicating back in English during the on-line sessions. This problem was largely overcome by the participation of the program coordinators who assisted with direct translation.</p> <p>With few exceptions all ten participants completed the assigned courses. Overall, with only two exceptions, all participants met or exceeded the IOTC ROS minimum competency standards for TR's 1-11, 13, 16 and 17. The two participants with modules that did not meet the minimum requirements were afforded the opportunity to retake these assessments. Following retraining and assessment all 10 SFO candidates meet or exceed the TR for all assigned theoretical training modules.</p> <p>The in-situ practical training took place in Bali from 5th to 9th September 2022 with two CapMarine personnel present, Mr P. Augustyn and Mr C. Heinecken. The training venue was the same as that used by the participants for the on-line training at the Fishing Vessel Service Post, in Kota Denpasar.</p> <p>Of the ten SFO candidates only eight were present during the practical training (two were at sea on deployments). The practical training case study presented was designed to familiarize observers with pelagic longline data gathering processes, to familiarize them with the type of information gathered onboard a longline vessel and how to capture it into the relevant IOTC ROS data collection forms. This exercise also aimed to raise observers' awareness on work and sampling protocols to follow when deployed on-board a longliner.</p> <p>Of the eight candidates that completed the assessment four exceeded the IOTC ROS minimum requirements, three narrowly did not meet the requirements (>70% but <75%) and one failed to meet the requirement.</p> <p>The four participants that did not meet the minimum requirements were afforded the opportunity to retake these assessments. Following retraining and assessment five (5) SFO candidates meet or exceed, two (2) almost met and one (1) did not meet the minimum requirement for TR19 Longline data collection and recording.</p> <p>Final SFO assessment results (including retraining), and course evaluation and feedback are</p>

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<p>Task title and reference</p>	<p>Indonesia - Observer Logistic Coordination (OLC); Scientific Field Observer (SFO) theoretical and practical training; Observer pilot deployments</p>
	<p>presented in detail in the Indonesia Training Site Visit Report and Final Country Report.</p> <p>The SFO at-sea basic safety training (BST) was out-sourced to the Banyuwangi Maritime Training Institute. The training took place from 29 August to 2 September 2022.</p> <p>It was noted that the proposed candidates had already completed the Indonesian Basic Safety Training (BST) at the Perwita Maritim Pershada – Maritime Training Centre in Jakarta and had BST certificates. However, five of the certificates had expired. It was subsequently agreed that all the participants would undertake a new course in “shipping safety training for fishing vessel crews” to meet the STCW requirements, which would also serve to renew the BST certificates that had expired.</p> <p>All ten candidates selected to participated in the certified shipping safety training for fishing vessel crews satisfactorily completed the training. Success was monitored by requiring candidates to provide CapMarine with a copy of the training certificate provided by Banyuwangi (example available in Indonesia SV3 Final Country Report).</p> <p>Observer health and safety and work materials, as adapted from the recommendation in Annex H (p46) of the proposed Standards and Guidelines for the ROS, were sponsored through the project and delivered to Indonesia during SV2. Details of the number and type of each gear item are provided in the Indonesia Training Site Visit (SV2) report.</p> <p>Pilot Observer Deployments. In preparation for the pilot observer deployments that form part of the training program, the OLC equipment, gear check lists, pre-sea inspection forms, deployment forms, and in-trip report formats were developed with the OLC team to use for the upcoming deployments. Copies of all the relevant data forms for these deployments onto a longline vessel were also provided.</p> <p>The first notice for the deployment of two observers in terms of pilot deployments was received on the 22nd September 2022 for two vessels. The second notice for a deployment was received on the 7th October 2022. There was no time between the first notification and deployment for a formal briefing but for the second notification a full formal briefing was held with the observer, Indonesian OLC nominated coordinators and CapMarine Team leader Mr Chris Heinecken.</p> <p>In the case of all three deployments observer debriefings were convened following disembarkation but could not be completed prior to the end of the project lifetime due to the unavailability of the Indonesian OLC coordinators to be present at the debriefings. The IOTC eCollection interface is not yet finalized (in particular for longline) and the IOTC Database Manager Fabio Fiorellato has proposed to digitize and submit data via a MS Excel data sheet. Indonesian observers are attempting to utilise this tool to digitise data for submission to the IOTC Secretariat.</p>
<p>Recommendations</p>	<p>Considering existing established procedures of the Indonesian NOP, OLC personal should be mentored into possibly revising their procedures for deployment notification, briefing of observers and specifically in-trip communications. The SFO training and site visit to Bali made adequate allowance for this. The pilot deployment of three observers also served to reinforce the value of setting up formal SOP’s for observer deployment.</p> <p>Where vessel standards do not meet those of the IOTC ROS, observers deployed in terms of the IOTC ROS should be fully equipped with all the personal safety equipment, specifically:</p> <ol style="list-style-type: none"> a. a personal location beacon (PLB); b. a two-way satellite phone (e.g., Delorme inReach) so that the observers can communicate to their controlling authorities in-trip status reports via SMS; and c. an immersion suit for deployment onto vessels operating south of 35° S. <p>Taking the above into account, in the short term, alternative standards may need to be considered on a country level for Indonesia to conform to the IOTC ROS program.</p> <p>Currently the briefing and debriefing processes in Indonesia are unclear as observers are deployed over a wide geographical range, making direct interaction between coordinators and observers difficult. The establishment of formal briefing, logistical coordination, and debriefing</p>

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	<p>processes in line with the IOTC ROS could have a significant and positive effect on the quality of the observer data collected and data reported to the IOTC Secretariat</p> <p>Indonesia already has a well-established process in place for their national program may be a reason for them to not easily want to adapt to the IOTC ROS requirements (e.g. non-completion of OLC Guide), which may also impact on their registration of observers and eventual data submission. CapMarine recommends that the Indonesian OLC team use the OLC Guide template provided by CapMarine to guide improvements in observer health and safety and formalise briefing, debriefing and deployment logistics.</p> <p>Possibly the greatest aspect that is likely to lead to the success of the IOTC ROS in Indonesia is the positive and enthusiastic attitude of all the participants to the program and their desire to succeed.</p> <p>Following completion of training activities in Indonesia of the 10 observers that completed training five (5) meet the IOTC minimum training requirements for deployment on longline vessels and two (2) almost met the requirements. It is recommended that the observers who meet the IOTC ROS minimum competency requirements be registered by the CPC with the IOTC (see Final country report for observer details).</p> <p>Three pilot observer deployments were completed within the timeframe of the project. It is recommended that the Indonesian NOP Coordinators follow the briefing and deployment process for all future deployments under the IOTC ROS.</p> <p>CapMarine are satisfied that digitization and submission of pilot observer trip data is through MS Excel data reporting form but recommends finalisation of and use of the IOTC eCollection database and associated training modules.</p> <p>The Indonesian NOP OLC Team is to continue to deploy observers onboard the Indonesian longline vessels and to submit observer data to the IOTC Secretariat using the excel version of the IOTC ROS longline and purse seine reporting templates, to meet IOTC Resolution 11/06.</p>
Reference documents	<p>Indonesia Scoping Site Visit Report</p> <p>Indonesia Training Site Visit Report</p> <p>Indonesia Final Country Report</p>

IV – CONCLUSIONS AND RECOMMENDATIONS

Key risks/assumptions and means of mitigation/management

The following risks and assumptions associated with the project were identified during the project development phase and were investigated during scoping site visits to each selected country. Risks related to the COVID-19 pandemic were added during planning for reinitiating of project activities following the pandemic. Contingencies were in place to ensure the successful implementation of the project however certain realities could not be forecasted or mitigated against.

- i. Risks related to the lack of commitment or insufficient support from selected countries
 - a. In reality despite nominations to the effect the Observer Logistics Coordinator (OLC) team in each CPC were only partially involved in project activities. This was however managed through the identification of the main contact person in each CPC who nominated tasks to relevant personnel, typically the CPC NOP coordinator.
 - b. It was ambitious to presume that the project would result in amendments to National fisheries legislation which is a bureaucratic and slow process. To this end recommendations were made by CapMarine for strengthening National legislation where necessary.
 - c. Lack of logistical support for onsite training was not a major issue. In some cases it was necessary to allocate funds to support training logistics that might have been spent elsewhere (for example on more health and safety equipment).
- ii. Risks related to the COVID-19 pandemic
 - a. The provision of work and safety materials and equipment was successfully achieved despite difficulties experienced with procurement and delivery. This was overcome by a combination of local in-country purchases where possible and otherwise equipment was purchased in South Africa (site of CapMarine) and couriered to the participating CPCs.
 - b. Trainee observers were provided with rugged tablets in the period following the pandemic (as opposed to mobile phones prior) to allow them the option of conducting remote training using these devices.
 - c. Practical training venues identified by each CPC provided adequate facilities to accommodate a remote training mode.
 - d. Scheduling site visits to validate remote training and finalise practical training was difficult in the extreme due to country prior commitments and delays caused by both COVID 19 and the subsequent economic and social fallout. Final visits to Indonesia, Sri Lanka and Tanzania took place late in the project schedule placing enormous pressure on CapMarine trainers to accommodate retraining and assessment of observers and initiate pilot observer deployments. This was an unavoidable scenario and could only be managed as best as possible under the global post-pandemic crisis scenario.
- iii. Risks inherent to the absence or intermittent internet on site
 - a. All training venues were fitted with internet connections. Disruptions to connections were nevertheless frequent and slowed training implementation significantly. The self-learning remote training option however allowed trainees to complete training requirements, assessments and assignments after hours at their leisure. This was a major advantage highlighted by trainees in their final course feedback.
- iv. Assumptions related to project initiation date and project duration
 - a. The July 2021 re-starting of the project meant only a 15 month time period (until 30 September 2022) to complete all remaining activities. In reality however training was

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compacted to the final 8 months of 2022 as preparation of online training materials and motivating countries to budget for and coordinate remote training required a full 8 months of negotiations.

- b. This reduced the time available between country training site/virtual visits, a time planned to be used to transfer lessons learned in one country, regarding the trialling and testing of training packages, to allow for its revision prior to the implementation of training activities in the following country.
 - c. As a result of the compacted training schedule CapMarine trainers were placed under great strain to provide almost 24-hour support across the four CPCs simultaneously. Time zone differences between the participating CPCs and South Africa exacerbated this strain.
 - d. More time was spent than expected in the development of OLC workshop training materials as CapMarine could not access the South Pacific Commission debriefing training and training of trainers materials. CapMarine still does not have access to those materials although IOTC committed to contacting the SPC for these materials and to access image library.
 - e. A further global crisis perpetuated by the war in Ukraine impacted all global travel and added to the financial duress under which participating CPCs were operating. The cost of international travel as a result of both the covid-19 pandemic and war in Ukraine increased by 3-fold during the project duration. This was not anticipated and CapMarine varied its response either choosing to send fewer trainers on mission (Sri Lanka) or absorbing the overspend on travel and associated costs (Indonesia and Tanzania) at its own expense but still ensuring training outcomes were delivered in all CPCs.
- v. Adaptation to a predominantly online remote training mode
- a. With the objective of improving project training cost/time-efficiency and taking into account the restrictions on international travel due to the COVID-19 pandemic, CapMarine applied an innovative e-training approach and e-training Learning Management Software (LMS) to observer co-ordinator and field observer training. Where this approach differed most from the original in-person training mode was that trainees were provided with support from CapMarine trainers long after training workshops were completed. CapMarine was lenient with trainees on time restrictions for completion of training modules as trainees themselves were not experienced with this format of training and required more time than anticipated to complete modules.
 - b. Despite a host of automated assessments and report outputs built into the LMS tool there was still a significant amount of manual evaluation required by CapMarine trainers in particular on training case studies and data collection form filling. This was not anticipated and will be mitigated for in future through development of autofill PDF data forms online and by requiring CPC NOP coordinators to collate and evaluate completed data collection forms. Neither of these mitigation options were available for the current project due to the iterative approach to data collection form development that follows the (as yet not finalized) IOTC e-Collection database and the lack of experienced NOP coordinators considering this is the Pilot project for development and implementation of new training materials and sub-sampling strategies developed by the IOTC.
 - c. Of the four main gears, purse seine, longline, gillnet and pole & line, CapMarine has prepared training materials for each. The participating CPCs requested training in longline and purse seine according to the registered vessels in their National fleets. Training was completed in four CPCs, none of which have registered pole & line vessels in the Indian Ocean. Training materials for pole & line fisheries have been developed but were not adapted to online self-learning materials for this reason.
- vi. Lack of a finalised version of the IOTC electronic data collection tool

- a. It was not anticipated by CapMarine that the IOTC e-Collection database tool would not be finalised shortly after the start of the project in June 2019 (the tool remains in development state at the end of the project in December 2022).
- b. Although the tool was functional, changing versions of the e-tool have left CapMarine stranded waiting for finalisation of the tool to continue development of data collection forms and instructions regarding their usage.
- c. CapMarine Team Leader, Ms T. Athayde had increased responsibility not only developing data collection forms but also reviewing the e-Collection tool and proposing solutions to issues found. Recommendations were routinely submitted to the IOTC Database manager throughout the project.
- d. Certain related Training Requirements both for coordinator (TR08) and observer (TR22) training courses were not able to be finalised or delivered as they were dependant on finalisation of the e-Collection tool and instructions for its use provided by the IOTC.
- e. In place of the database the IOTC provided comprehensive MS Excel spreadsheets for data submission based on data collection forms for longline (V.7) and purse seine (V.5). Although this was a helpful measure to allow digitisation of data by observers the late development of this reporting option created unanticipated pressure on CapMarine to test the functionality of the MS Excel tool with participating CPCs.

Recommendations

Training Packages for Observer Programme Logistics Coordinators

Arguably the most important component of the training program produced and implemented by CapMarine, the training of CPC managers provides the foundation further development of the National Observer Program. Trained managers and coordinators instil continuity and their experience and training ultimately determines the success or failure of data submission from observers meeting the IOTC minimum standards and requirements.

CapMarine has produced an updated OLC manual (guide) as well as curriculum for the implementation of on-site for training and has also developed online Learning Management System (LMS) platform formatted workshop training materials for self-training. It is recommended that for all CPCs where data submission to the IOTC is sub-standard or for which elements of the NOP are deficient in key protocols and policy that they undertake to complete the OLC training self-learning materials and implement the OLC workshop internally as a guide to improvement on their NOP.

Training Packages for Scientific Field Observers

Scientific field observers are the eyes of the Commission. They are responsible for reporting independently on the state and outcome of implementation of Conservation and Management Measures and for collection the baseline biological data required to implement and update them.

New and experienced observers require regular training to optimally accomplish the detailed tasks and responsibilities assigned to them. Training may often take the form of briefing and debriefing at which time on the spot checks of understanding of sub-sampling strategies and data collected should be done.

Where wholesale updates to data collection forms and sampling strategies have been made, as is the case currently in the IOTC ROS, observers should undergo comprehensive training to update their knowledge of the basic requirements of their functions at sea.

CapMarine has produced updated an SFO manual as well as curriculum for the implementation of on-site for training and updated SFO course training materials tailored to the four main gear types of vessels registered by IOTC member states. CapMarine has also finalised the production of updated SFO course assessment

forms/tools, comprising a range of interactive tools for assessment and a final assessment developed based on observer competency expectations agreed to by the 23rd session of the Commission.

Scientific field observers are in a unique position, as they are not affiliated with the vessels personnel and are required to work alone often for long periods, without direct supervision or assistance from their controlling organisation. It is therefore important that observers are provided with clear *work and sampling protocols, sampling instructions and priorities*, and detailed *instructions on how to complete data collection forms* accurately to ensure that the collected data is of high quality and can be used for the intended purposes. CapMarine therefore developed a set of practical '*Guidelines for scientific field observers to follow when deployed onboard registered vessels operating in the industrial large pelagic fisheries in the Indian Ocean (purse-seine, pelagic longline, gillnet and pole & line vessels)*'.

It is recommended that all CPCs undertake to conduct initial gear-specific training or retraining of observers they deploy under the IOTC ROS. Training materials are in a format that allows for self-learning but it is recommended that experienced observers and coordinators guide training and provide support. The Guidelines developed should be provided in digital and hardcopy to observers when they are deployed at sea.

Data Collection Forms

Beyond any other tool for observers the data collection forms they carry are the basis for the information they are required to collect. If forms are unclear or do not facilitate transcription of the information required to be collected then observers will routinely misreport data to the Commission.

CapMarine has developed a revised set of data collection forms, redesigned to increase usability and matching the agreed standard data-fields as recommended by the SC21, adopted by the 23rd session of the Commission and since then revised following CapMarine recommendations endorsed by the WPDCS. The forms follow the format of the electronic data collection and management interface (IOTC e-Collection tool) as closely as possible to facilitate ease of use and transfer of data into e-format by observers. Data fields are structured in a logical and chronological sequence and contain handy hints and notes to avoid common mistakes or misinterpretations.

Data collection forms were developed through an iterative process during the IOTC ROS Pilot Support Project. Greater emphasis was placed on troubleshooting and updating forms for longline and purse seine fisheries as a consequence that the four participating CPCs requested gear-specific training in these gear types based on the composition of their national fishing fleets. It is therefore recommended that the IOTC Secretariat further troubleshoot data collection forms for gillnet and pole & line fisheries through supervised training in CPCs where these gear types predominate.

Observer Logistics Coordinator Training

Good logistical management of sea-going observers is a crucial aspect in ensuring the success of an observer programme. Often the implementation of a legal, institutional, financial and management framework, under which an observer scheme should work is overlooked, which can impede its implementation or influence the longevity and efficiency of the program, compromising observer work and exposing observers to unnecessary safety risks. To overcome such problems National Observer Program (NOP) implementing institutions / organisations should include a team of trained, experienced NOP co-ordinators responsible for ensuring the correct functioning of the scheme. NOP co-ordinators lacking experience in the deployment and management of observers are recommended to undergo specialised training in these processes using the materials developed by CapMarine in the context of the IOTC ROS Pilot Support Project.

Scientific Field Observer Training

The approved observer service providers in each of the four participating CPCs, Kenya, Indonesia, Tanzania and Sri Lanka, are to submit to the IOTC Secretariat a request for the registration of observers that successfully underwent and 'met' or 'exceeded' the minimum requirements by gear-type of the IOTC ROS SFO Training in the context of the IOTC ROS Pilot Project ([Appendix 1](#)). It is further recommended that for trainees that 'almost met' ([Appendix 1](#)) the minimum requirements that consideration is given by NOP coordinators to provide

directed retraining on specific Training Requirements on which they narrowly underscored and provide the IOTC secretariat with evidence of the observer evaluation outcomes should they improve and be eligible for registration. The Secretariat will allocate the observers with an individual IOTC registration code that must be included on observer data to be submitted to the Secretariat.

Submission is to take the form of an email to be sent to Mr Paul de Bruyn, IOTC Science Manager (paul.debruyn@fao.org), Ms Lauren Nelson, IOTC Scientific Fisheries Officer (lauren.nelson@fao.org), and Mr Fabio Fiorellato, IOTC Data Coordinator (fabio.fiorellato@fao.org).

It is recommended that the NOP Coordinator in each CPC, requests Observers that meet (or excelled) on all training requirements, and that successfully underwent briefing, pilot deployment and debriefing to re-train observers that didn't meet one or more TRs, using training materials developed by CapMarine for the IOTC ROS. These will be available through the IOTC web page.

Pilot Deployment and OLC Mentoring

CapMarine has mentored the NOP Coordinators in all four participating CPCs through the briefing of observers to be deployed in the context of the IOTC ROS. Coordinators were briefed in the process of data checking as well forwarding of the data to the IOTC Secretariat.

Deployed observers are to complete the entering of data in the excel versions of the IOTC ROS longline and purse seine reporting forms provided by the IOTC Secretariat (pending finalisation of the IOTC e-Collection tool).

CPC NOP Coordinators are to submit observers' data sets to the IOTC Secretariat, a maximum of 120 days following observer disembarkation. Submission is to take the form of an email (with the filled excel sheets attached), addressed to Mr Fabio Fiorellato, IOTC Data Coordinator (fabio.fiorellato@fao.org).

CPCs are to continue to deploy observers with their national fleets and to submit observer data to the IOTC Secretariat using the excel version of the IOTC ROS reporting forms, to meet IOTC Resolution 11/06.

Appendix 1 – List of Kenyan, Indonesian, Tanzanian and Sri Lankan observers training assessment outcomes that meet or exceeded, almost meet and do not meet the IOTC ROS Standards for Observer Registration.

Name of Kenyan observer	Contact Details	Secondary School Certificate	Certificate Medical Fitness	STCW ₂₀₁₀ BST Certificate	Passport	Code of Conduct	SFO Observer Training			
							Basic Training	Gear Specific Training		
							Scientific & Technical Training (TR1 to TR11)	Scientific & Technical Training (TR12, 13, 16, 17, 18, 19)	PS Form Filling Training (TR18)	LL Form Filling Training (TR19)
Mr Kevin O. ARINGO	k.odhiambo29@gmail.com	✓	✓	2022	UNK	✓	✓	✓	NA	✓
Mr Eric THURANIRA	thuraniraeric9@gmail.com	✓	✓	2022	UNK	✓	✓	✓	NA	✓
Mr George K. WANGUI	kabachogegorge73@gmail.com	✓	✓	2022	UNK	✓	✓	✓	NA	✓
Mr Lawrence O. ODERO	lawrenceotieno88@gmail.com	✓	✓	2022	UNK	✓	✓	✓	NA	✓
Mr Muswaib A. SHAHIB	muswaibali@gmail.com	✓	✓	NA	UNK	✓	✓	✓	NA	✓
Mr Jonathan M. KASYOKA	jonaamusembi91@gmail.com	✓	✓	2020	UNK	✓	✓	✓		✓
Mr Richard M. MUZUNGU	mutuamuzungu@gmail.com	✓	✓	2020	UNK	✓	✓	✓	✓	
Mr Kelvin W. IRUNGU	kelvinwash01@gmail.com	✓	✓	2020	UNK	✓	✓	✓		✓
Mr. David C. MWACHIDIMU	mdavidchifalu@yahoo.com	✓	✓	2020	UNK	✓	✓	✓	✓	
Mr. Fredrick S. O. ONGORO	ongorodifre9666@gmail.com	✓	✓	2020	UNK	✓	✓	✓	✓	
Mr Donald. W. OBIERO	donaldwell6@gmail.com	✓	✓	2020	UNK	✓	✓	✓		✓
	Meets or exceeds IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 75%)									
			Almost meets IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 70%)							
									Doesn't meet IOTC ROS Training Requirements (scores from the filling of a number of gear specific data collection forms inferior to 70%)	

Development and Implementation of an Observer Training Programme to support implementation of the Regional Observer Scheme in the Indian Ocean

Name of Indonesian Observer	Contact Details	Secondary School Certificate	Certificate Medical Fitness	STCW2010 BST Certificate	Passport	Code of Conduct	SFO Observer Training		
							Basic Training	Longline Gear Specific Training	
							Scientific & Technical Training (TR1 to TR11)	Scientific & Technical Training (TR13, 16 & 17)	Form Filling Training (TR19)
Rolly ANES	anes_rolly@yahoo.co.id	✓	✓	✓	✗	✗	✓	✓	✓
Komang ARTAWAN	nanartawan85@gmail.com	✓	✓	✓	✗	✗	✓	✓	
HARMOKO	sukuran.ajah@gmail.com	✓	✓	✓	✓	✗	✓	✓	✓
Vico MAMAHIT	vicomamahit77@gmail.com	✓	✓	✓	✗	✗	✓	✓	✓
Romi MANGOLO	difasurya@gmail.com	✓	✓	✓	✗	✗	✓	✓	
Muilin RABAALI	observermuilin@gmail.com	✓	UNK	n/a	✗	✗	✓	✓	n/a
Venio TALINGKAS	venio07talingkas@gmail.com	✓	✓	✓	✗	✗	✓	✓	✓
La Yanto WABULA	wabulayanto46@gmail.com	✓	UNK	n/a	✗	✗	✓	✓	n/a
Adina WIBOWO	adina.martec@gmail.com	✓	✓	✓	✗	✗	✓	✓	✓
Safwan ZLATAN	nawfas.zlatan89@yahoo.com	✓	✓	✓	✗	✗	✓	✓	
	Meets or exceeds IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 75%)		Almost meets IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 70%)		Doesn't meet IOTC ROS Training Requirements (scores from the filling of a number of gear specific data collection forms inferior to 70%)				

Development and Implementation of an Observer Training Programme to support implementation of the Regional Observer Scheme in the Indian Ocean

Name of Sri Lankan observer	Contact Details	Secondary School Certificate	Certificate Medical Fitness	STCW ₂₀₁₀ BST Certificate	Passport	Code of conduct	SFO Observer Training												
							Basic Training Scientific & Technical Training (TR1 to TR11)	Longline Gear Specific Training Scientific & Technical Training (TR13, 16 & 17)	Form Filling Training (TR19)										
Mr. Susil RAJAPAKSHAGE	susrajapakse@gmail.com	✓	✓	NA	✓	✓	✓	✓	✓										
Mr. Lakshman SADACHARALINGAM	lakshmanyuves@gmail.com	✓	✓	2022	✓	✓	✓	✓											
Mr. Lalantha M. RATHNAYAKE	lalantha12@gmail.com	✓	✓	2022	✓	✓	✓	✓	✓										
Mr. Sandamal H. WEWALA GAMAGE	Ruwank640@gmail.com	✓	✓	2022	✓	✓	✓	✓											
Mr. Neel S. DISSANAYAKE MUDIYANSELAGE	suranganeel1985@gmail.com	✓	✓	2022	✓	✓	✓	✓	✓										
Mr. Pasindu D. U. HEWA BAMBARANDAGE	hbpasindu@gmail.com	✓	✓	NA	✓	✓	✓	✓											
Mr. Papu KAKANAPATHIPILLAI SATHASIVAM	spapu96@gmail.com	✓	✓	2022	✓	✓	✓	✓											
Mr. Jayawickrama K. A. SHAN SRIMAL	Shansrimall@gmail.com	✓	✓	2022	UNK	✓	✓	✓											
Mr Sampath OMATHTHAGE ANURADHA	asomaththage@gmail.com	✓	✓	NA	UNK	✓	✓	✓											
Mr Malawwa T. S. DEVAPRIYA	Samanthadev12345@gmail.com	✓	✓	2022	UNK	✓	✓	✓											
Mr Asneeson K. RAJAPURAGE	asneesonkum@gmail.com	✓	✓	2022	✓	✓	✓	✓	✓										
Tharindu S. D. KUDAGE	tsdharmarathne@gmail.com	✓	✓	2022	✓	✓	✓	✓	✓										
Asanka K. KULASOORIYAGE	asanka0702470519@gmail.com	✓	✓	2022	✓	✓	✓	✓											
Indunil P.K. MANAWADU	indunilmanawadu90@gmail.com	✓	✓	NA	✓	✓	✓	✓											
	Meets or exceeds IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 75%)								Almost meets IOTC ROS Training Requirements (scores from the filling of all gear specific data collection forms equal or superior to 70%)										Doesn't meet IOTC ROS Training Requirements (scores from the filling of a number of gear specific data collection forms inferior to 70%)