



TERMS OF REFERENCE (TOR) FOR THE PROVISION OF SCIENTIFIC SERVICES
TO SIOFA STOCK AND ECOLOGICAL RISK ASSESSMENT WORK GROUP (SERA-WG)

Title: Saya de Malha Bank Fisheries (Scoping study and Impact assessment)

Project Code: SER2021-03

1. INTRODUCTION

The EU has agreed to a 2-year funding arrangement to enable SIOFA to commission a series of scientific studies to support the SIOFA/Scientific Committee's (SC) Work Plan (Report of the Scientific Committee, SC6). These proposed studies will be integrated with SIOFA's ongoing and planned scientific studies. The EU funding arrangements are designed to deliver on five General Objectives (GO) and, within each general Objective, several specific objectives.

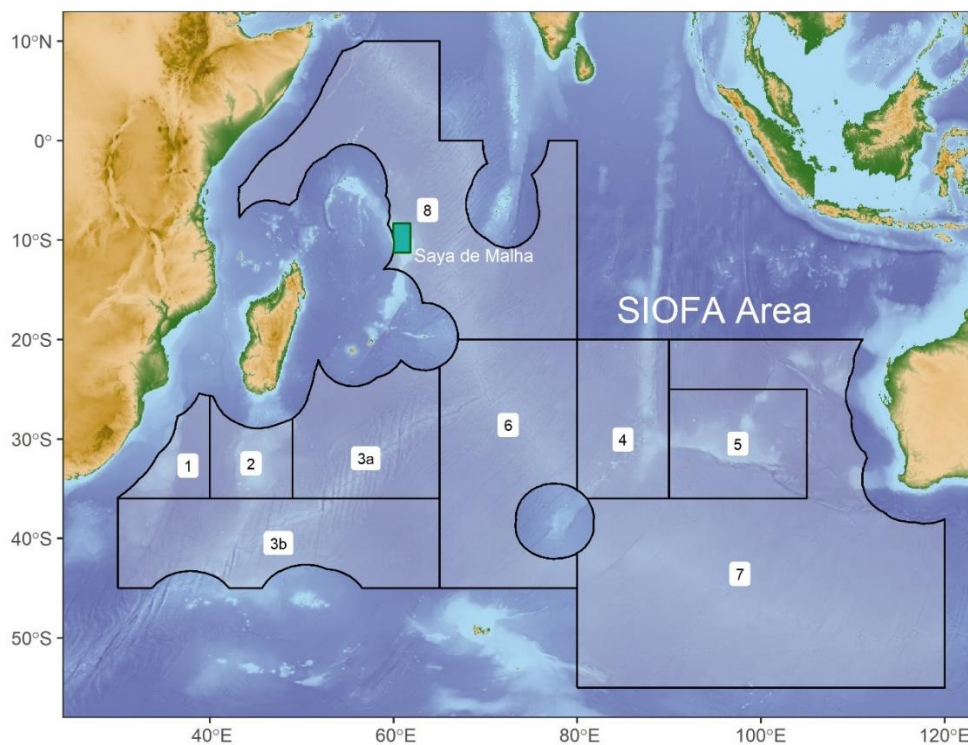
As part of the EU's Funding Agreement's General Objective 1 (GO1) of *Support the assessment of the key target stocks (alfonsino, toothfish and orange roughy)*, Specific Objective 4 relates to the Saya de Malha Bank fisheries.

The overall Objective of the proposed project is therefore to document and report on information that is available from current and previous fishing and survey activities to meet GO1 of the EU Funding Agreement as well as documenting, so far as possible, the past and potential impacts of fishing on Vulnerable Marine Ecosystems (VMEs).

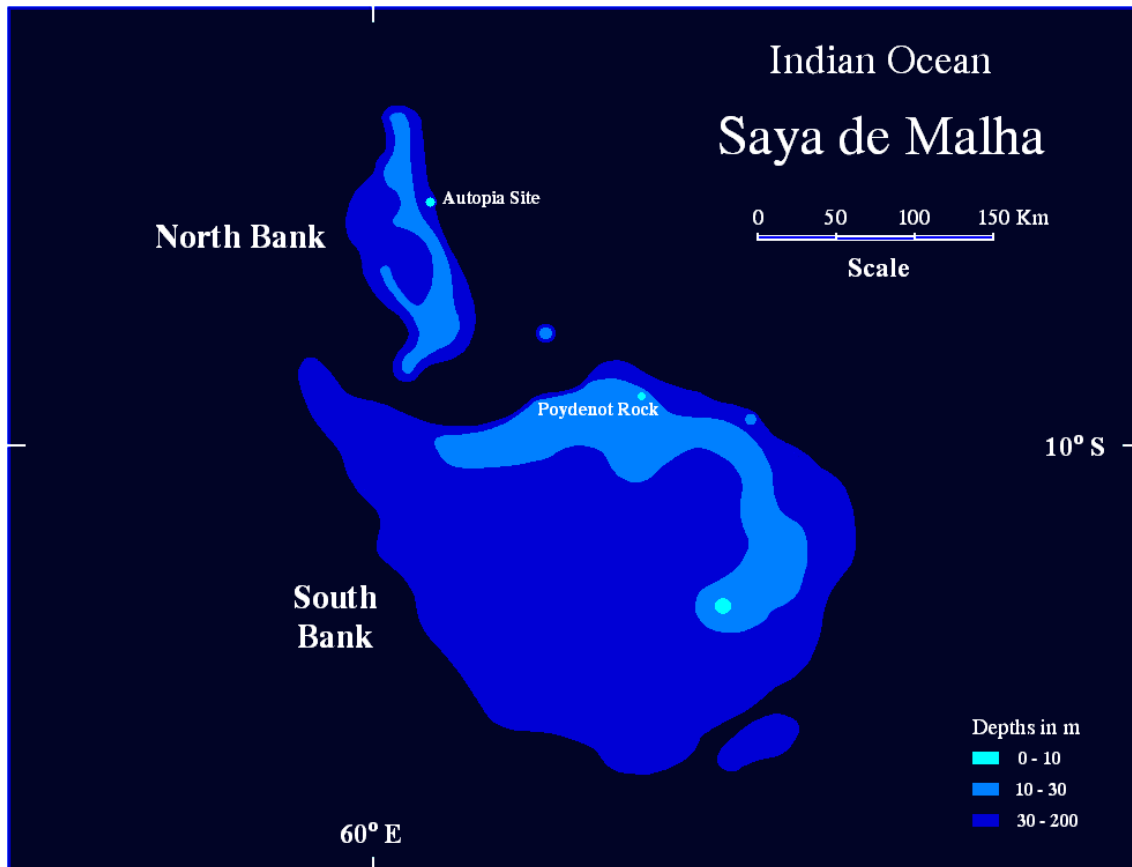
2. BACKGROUNDS

While the work plan of SIOFA's SC included a scoping study on the Saya de Malha Bank fisheries (initially scheduled for 2018) no studies have yet been conducted. At the last Meeting of the Parties (MoP8) in 2021, it was requested that SC conducts an impact assessment of trawl fisheries on the Vulnerable Marine Ecosystem (VME) indicator species in the Saya de Malha Bank. This project is to undertake a scoping study and impact assessments for fisheries on the Saya de Malha Bank in the SIOFA Area (Map 1 and 2).

This document describes the Terms of Reference (ToR), work plans, and administrative matters on this project. Once appointed, the consultant should direct any questions and clarifications to the Executive Secretary (Thierry Clot on thierry.clot@siofa.org) for administrative matters and on technical matters to the SERA-WG Chairperson and the manager of this project (Dr Tom Nishida on aco20320@par.odn.ne.jp).



Map 1
The SIOFA Area (1-8), and the location of the Saya de Malha Banks
within the SIOFA Area 8 (green square area)



Map 2 The Saya de Malha Banks

3. TERMS OF REFERENCES

The ToR for the two activities (scoping study and impact assessments) are described below. Note that the work should be conducted in consultation with the SIOFA Secretariat and the project manager.

TO R 1: SCOPING STUDY ON THE SAYA DE MALHA BANK FISHERIES

- The Consultant should collect and compile the following fisheries related information on the Saya de Malha Bank of the SIOFA Area: (a) fisheries & survey information, (b) abundance information of resources, (c) biological information, and (d) resources analyses & management measures (for details, see Box 1, Page 5).
- Information should also include those prior to establishment of SIOFA in 2012.

- Fisheries related information should cover both commercial fisheries and surveys (for example, such as RV Dr Fridtjof Nansen cruises — for details refer to Section 4. References and Source of information, Page 6-7).
- The information should be collated and summarised at the finest spatial and temporal scale as possible.
- The Consultant should include Tables, Figures, Maps, Pictures, etc. in the report as many as possible, so that contents of the report can be easily understood.
- The Consultant should provide a data inventory (catalogue) with the data specifications, so that the information can be easily summarised and understood. This will be at a spatial and temporal scale with relevant data fields that can be used also for future tasks of SIOFA, including stock assessments and/or Ecological Risk Assessment (ERA), as required in CMM 2020/01 (Interim Management of Bottom Fishing) and CMM 2020/15 (Management of Demersal Stocks).
- The Consultant should refer to the previous SIOFA scoping studies (Alfonsino and Patagonian toothfish) to develop the scoping study for Saya de Malha Bank fisheries (for details refer to Section 4. References and Source of information, Page 6).

TOR2: IMPACT ASSESSMENTS OF BOTTOM TRAWL FISHERIES ON VME INDICATOR SPECIES

- The Consultant should conduct Bottom Fisheries Impact Assessments (BFIA) of the bottom trawl fisheries on Saya de Malha Bank using the information collected in the scoping study.
- The Consultant should also investigate the impact of bottom contact fisheries on sea grasses, which is requested by MoP8 (2021).
- The Consultant should explore the provisional cumulative BFIA of bottom trawl fisheries in Saya de Malha Bank, if sufficient information is available in the scoping study, by referring to, for example, the recent work presented to the Protected Area and Ecosystem Working Group (PAE-WG3) (2021) by Mormede (Restricted document that will be available to the successful Consultant) (for details, refer to Section 4. References and Source of information, Page 6).

BOX 1 TYPES OF INFORMATION TO BE COLLECTED AND COMPILED BY THE CONSULTANT

Type 1: Fisheries information

- Description of historical fisheries and surveys. Following information should be included i.e., country, type of fisheries (commercial or research), number of vessels operated, operation period (years), gear types, species exploited (species compositions), area (for example latitude and longitude), and other relevant information.
- Catch and bycatch (including VME indicator species and sea grasses) by country, year, gear, species (species compositions), areas (for example, latitude and longitude) and other relevant information.

Type 2: Abundance information (by species)

- Fisheries dependent abundance indices such as CPUE by effort types (for example tows and hooks), species, gear, country, area (for example, longitude and latitude), year, month, day, set, etc.
- Fisheries independent abundance indices such as acoustic data and survey data by effort types, species, gear, country, area (for example, longitude and latitude), year, month, day, set, etc.

Type 3: Biological information (by species)

- Size/length data and size frequencies.
- Length (L) and weight (W) data and LW relationships.
- Sex data.
- Otoliths, age frequencies and growth equations.
- Gonad/Maturity data.
- Fecundity information.
- Other biological information.

Type 4: Resources analyses and management measures (by species)

- Information of the resources analyses such as the one by MRAG (refer to Section 4. References and Source of information reference, Page 6-7), past stock assessments including those by data poor method (for example, catch only method, CPUE by seabed area method, etc.).
- Stock structure information (for example, based on Genetic studies).
- Harvest control rule and reference points.
- Tagging programs.
- Abundance indices analyzed (for example, nominal CPUE, standardized CPUE and indices by survey).
- Management measure, rules, etc.

4. REFERENCES AND SOURCES OF INFORMATION

Relevant references and some sources of information are listed below. Although some SIOFA documents are restricted, the Consultant can obtain them from the Secretariat. If the Consultant needs to contact any SIOFA MoP member countries for further information, clarification, questions, etc., the Secretariat will assist with contacting suitable experts.

Data

- SIOFA database (SIOFA Secretariat will provide).
- FAO FishStatJ: Software for Fishery and Aquaculture Statistical Time Series.
<http://www.fao.org/fishery/statistics/software/fishstatj/en>

SIOFA reports

- SIOFA SC reports and National Reports. [Scientific Committee Meeting | SIOFA \(apsoi.org\)](#)
- MoP reports. [Meeting of the Parties | SIOFA \(apsoi.org\)](#)

Scoping study (SIOFA examples) [*Restricted documents*]

- Patagonian toothfish (2019) (SERAWG-01-12).
- Alfonsino (2019) (SERAWG-01-13).

Bottom Fishing Impact Assessment

- SIOFA Bottom Fishing Impact Assessment (2018) by member countries (SC3 Report, 2018). [Third Meeting of the Scientific Committee | SIOFA \(apsoi.org\)](#)
- Thailand BIFA (2018). [SC-03-06.2\(06\) BFA - Thailand.pdf \(apsoi.org\)](#)
- Towards a bottom fishing impact assessment for trawl and longline gears in SIOFA (PAEWG-03-08) [*Restricted document*].
- SIOFA BFA Standard. Annex I, SC2 report (2017). [Report of the Second Meeting of the SIOFA Scientific Committee.pdf \(apsoi.org\)](#)
- Report of the Second Meeting of the SIOFA Scientific Committee.pdf. [Report of the Second Meeting of the SIOFA Scientific Committee.pdf \(apsoi.org\)](#)
- BFA Gap Analysis_updated (Annex R) and BFA CP Summary_update (Annex S) (SC4 Report, 2019). [Report of the Fourth Meeting of the SIOFA Scientific Committee 1.pdf](#)

Fishery & resources analysis and survey

- MRAG report (1996): The Mauritian banks fishery - a review, and spatial analysis. technical report. Albion fisheries research centre (Mauritius) and Marine Resources Assessment Group (MRAG, UK).
https://mrag.co.uk/sites/default/files/fmspdocs/R5484/R5484_Rep2.pdf

- RV Dr Fridtjof Nansen survey (1975-2016). [*The RV Dr Fridtjof Nansen in the Western Indian Ocean: Voyages of marine research and capacity development \(fao.org\)*](#)
- Surveys in the western Indian Ocean on Ecosystem Approach to Fisheries (EAF). Nansen Programme activities <http://www.fao.org/in-action/eaf-nansen/surveys/en/>

Relevant organizations

- Indian Ocean Commission (IOC)
[Accueil | Commission de l'océan Indien \(commissionoceanindien.org\)](http://www.commissionoceanindien.org)
- Southwest Indian Ocean Fisheries Commission (SWIOFC)
<http://www.fao.org/fishery/rfb/swiofc/en>
- Western Indian Ocean Marine Science Association (WIOMSA)
<https://www.wiomsa.org/>
- Indian Ocean Rim Association (IORM) <https://www.iora.int/en>

5. SUBMISSION OF THE INFORMATION AND CONFIDENTIALITY

The Consultant shall submit all the information collected to the SIOFA Secretariat (including that sourced from the Secretariat) before the final payment of the contract is made to the consultant. Such information includes electronic data files, analysis codes, biological samples, and other relevant data if applicable. Any arrangements for ownership, storage, or disposal of physical samples shall be agreed by SIOFA as a part of the contract. All Intellectual Property generated as a part of this contract shall become the property of SIOFA unless otherwise excluded in the proposal and agreed by SIOFA in the contract. The Consultant shall not release confidential data provided for conducting this study to any persons nor any organisations, other than SIOFA Secretariat. The consultant shall delete all the confidential data upon the completion of the contract.

6. REPORTS

The Consultant shall provide two reports for ToR 1 (scoping study) and ToR 2 (impact assessment) including recommendations to the SIOFA Secretariat. Each draft report will be reviewed by the SC and the Consultant shall make the final report incorporating comments and/or requests (revisions, additional works, etc.) made by the SC. The Consultant shall present two reports in SERA-WG4 (February 28 - March 4, 2022) and SC7 (March 21-25, 2022). Refer to Table 1 (Page 9) on the report submission schedule.

7. SUBMISSION OF APPLICATIONS

The applicants should have relevant experience on scoping study of fisheries, Bottom Fisheries Impact Assessments and, preferably, Saya de Malha Bank fisheries. The applicants should submit a proposal that contains the following items:

- A current CV that summarises the applicant(s) relevant educational background and professional experience (maximum 3 pages);
- A brief proposal outlining the proposed methods and analyses, including a description of how the objectives of the ToRs will be achieved;
- Any proposed exclusions to the intellectual property clause;
- The proposed consultancy price (including all consultant expenses and project related costs), noting that the budget for this work is a maximum of 15,000 EUROS;
- Identification of any project risks and associated mitigation and management required to successfully complete the project;
- A statement that identifies any perceived, potential, or actual conflicts of interest of the applicant(s), including those described in paragraph 4 of the SIOFA recruitment procedure (see Box 2); and
- Any additional information the applicant(s) wish to submit.

Box 2 Conflicts of interest: Paragraph 4 of SIOFA's Recruitment Procedure

To ensure that situations relating to potential and actual conflict of interests are avoided, persons falling into the following categories may not normally be considered for SIOFA consultancy: (i). any person designated as a designated representative or alternate representative of a CCP to the Meeting of Parties (MOP) as per Rule 3.1 of the Rules of Procedure, and to the SC and any other subsidiary bodies of the MOP, as per Rule 21.3 of the Rules of Procedure; (ii). any person fulfilling the function of Chair or Vice-Chair of the MOP or Chair or Vice-Chair of a SIOFA subsidiary body or working group; (iii). any person acting as a member of a delegation involved in the SIOFA decision-making process resulting in recommendations and/or approval for the SIOFA work requiring the engagement of a consultant; and (iv). individuals who were SIOFA Secretariat staff members at the time when the recommendations and/or approval for the SIOFA works were adopted or who are members of immediate family (e.g., spouse or partner, father, mother, son, daughter, brother, or sister) of any Secretariat staff member or of the persons identified in 4 (i), (ii), and (iii).

Announcement of Call for the consultant will be placed in the SIOFA home page on August 21 and will be circulated to all Cooperating and Contacting Parties (CCPs). The application must be submitted to Thierry Clot, Executive Secretary, Thierry.clot@siofa.org, by September 10, 2021 (1 pm UTC time).

8. WORK PLAN AND PAYMENT SCHEDULE

Table 1 describes the work plan and the payment schedule. The Consultant shall follow this work plan.

Table 1 Work plan and the payment schedule

Topic	Period	Duration	Activities
Initial administrative matters	Aug 21 to Sept 10 (2021)	3 weeks	Call for the consultant through the SIOFA web site and through the circulation to Cooperating and Contacting Partiers (CCPs) and other relevant agencies.
	Sept 11–13 (2021)	3 days	Selection of the consultant by the evaluation panel.
	Sept 14 (2021)		Project inception. The Secretariat will make a <u>first payment</u> corresponding to 20% of the cost of the studies validated in the contract.
ToR 1	Sept 15 to Oct 26 (2021)	6 weeks	The Consultant shall implement ToR 1 [Scoping study on Saya de Malha Bank fisheries] and submit the draft report by Oct 26, 2021.
	Oct 27–Nov 2 (2021)	1 week	SC will review the draft report (ToR 1) and make comments and/or request (revisions, additional works, etc.).
	Nov 3–9 (2021)	1 week	The Consultant shall submit the final report (ToR 1) incorporating SC's comments and/or requests by Nov 9, 2021. The Secretariat will make the <u>2nd payment</u> corresponding to 30% of the cost of the studies validated in the contract.
ToR2	Nov 10 – Dec 21 (2021)	6 weeks	The Consultant will implement ToR2 [BFIA of trawl fisheries on VME] and submit the draft report by Dec 21, 2021.
	Dec 22(2021) – Jan 4 (2022)	2 weeks	SC will review the draft report (ToR2) and make comments and requests (revisions, additional works, etc.).
	Jan 5 –11 (2022)	1 week	The Consultant shall submit the final report (ToR2) incorporating the SC's comments and requests by Jan 11, 2022. The Secretariat will make the <u>3rd payment</u> corresponding to 30% of the cost of the studies validated in the contract.
Presentation reports (SEAR-WG4 and SC7)	SERA-WG4 Feb 28–Mar 25 (2022) SC7 Mar 21 –25 (2022)	2 weeks	The Consultant shall present two reports (ToR 1 and 2) to SERA-WG4 and SC7. After the presentations are completed, the Consultant shall submit all materials to the Secretariat and delete electronic files used in this project. Then, the Secretariat will make the <u>last (4th) payment</u> corresponding to 20% of the cost of the studies validated in the contract.

9. EVALUATION CRITERIA FOR THE SELECTION OF CANDIDATES

The selection criteria will be developed by the evaluation panel along with the project manager, the Secretariat, and the Chairpersons of the relevant subsidiary bodies. The criteria may include following items:

- Adequate submission of information to allow the panel to evaluate the candidate;
- Evaluation of the proposal from the candidate, including the proposed contract price;
- Ability to undertake and complete the analyses or work required in the ToR;
- The candidate's agreement with confidentiality provisions required for the project;
- Acceptable conflict of interest statement;
- Agreement with the data submission and intellectual property terms required in this ToR and
- Financial and resourcing considerations.

10. CONTACT PERSONS

- SIOFA Secretariat (administrative matters)
Thierry Clot, SIOFA Executive Secretary (thierry.clot@siofa.org)
- Project Manager (technical matters)
Tom Nishida, SERA-WG chairperson (aco20320@par.odn.ne.jp)