



**Food and Agriculture Organization
of the United Nations**

**Organisation des Nations Unies
pour l'alimentation et l'agriculture**

SFS/Rxxxxx (Bi)

**FAO
Fisheries and
Aquaculture Report**

**Rapport sur les
pêches et l'aquaculture**

ISSN 2070-6987

**SOUTHWEST INDIAN OCEAN FISHERIES COMMISSION
COMMISSION DES PÊCHES POUR LE SUD-OUEST
DE L'OCEAN INDIEN**

Report of the

**NINTH SESSION OF THE SCIENTIFIC COMMITTEE
Réunion, France, 16-19 July 2019**

Rapport du

**NEUVIÈME SESSION DU COMITÉ SCIENTIFIQUE
La Réunion, France, 16-19 Juillet 2019**

**SOUTHWEST INDIAN OCEAN FISHERIES COMMISSION
COMMISSION DES PÊCHES POUR LE SUD-OUEST DE L'OCÉAN INDIEN**

Report of the
NINTH SESSION OF THE SCIENTIFIC COMMITTEE
Réunion, France, 16-19 July 2019

Rapport du
NEUVIÈME SESSION DU COMITÉ SCIENTIFIQUE
La Réunion, France, 16-19 juillet 2019

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Subregional Office for Southern Africa

ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET
L'AGRICULTURE
Bureau Sous-Régional pour l'Afrique Australe
Maputo, 2019

FAO. 2019.

Report of the Ninth Session of the Scientific Committee of the Southwest Indian Ocean Fisheries Commission. Réunion, France, 16-19 July 2019. Rapport de la neuvième session du Comité Scientifique de la Commission des Pêches pour le Sud-Ouest de l'Océan Indien. La Réunion, France, 16–19 juillet 2019. FAO Fisheries and Aquaculture Report/FAO Rapport sur les pêches et l'aquaculture No. xxxxxxxx Maputo, Mozambique. Licence: CC BY-NC-SA 3.0 IGO.

Copyright and disclaimer page (obtained through PWS given at step 5)

PREPARATION OF THIS DOCUMENT

This is the final version of the report approved on 19 July 2019 in Réunion, France, at the ninth session of the Scientific Committee of the Southwest Indian Ocean Fisheries Commission.

PRÉPARATION DE CE DOCUMENT

Le présent document constitue la version définitive du rapport approuvé le 19 juillet 2019 à Réunion, France, à la neuvième session du Comité Scientifique de la Commission des Pêches pour le Sud-Ouest de l'Océan Indien.

ABSTRACT

The Ninth Session of the Scientific Committee (SC) of the Southwest Indian Ocean Fisheries Commission (SWIOFC) was held from 16 to 19 July 2019 at Hotel Archipel, in Réunion, France. The Session was attended by delegates from Comoros, France (Réunion and Mayotte), Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles and the United Republic of Tanzania. Representatives of the Nairobi Convention (NC), the Marine Stewardship Council (MSC), the World Wide Fund for Nature (WWF) and the IOC-SWIOFish1 project attended the meeting as observers. The Committee reviewed the national reports on the status of fisheries and fisheries resources, on the management actions undertaken by member countries in the intersessional period and on the fishery research activities carried out or in planning. The national reports on fisheries management plans being implemented or planned, the current state of the certification of fisheries, the knowledge on discards and by-catch and the impact of climate events on fisheries and aquaculture were also presented and commented upon. The report of the First Meeting of the SWIOFC Working Group on Small Pelagic Fisheries (WGSP) was also presented. The next session of the Scientific Committee of the SWIOFC will take place in Madagascar at least two months before the tenth session of the Commission.

RESUMÉ

La neuvième session du Comité scientifique de la Commission des Pêches du Sud-Ouest de l'Océan Indien (CPSOOI) s'est tenue du 16 au 19 juillet 2019 à l'Hotel Archipel à Réunion, France. Des délégués de Comores, France (Réunion et Mayotte), Kenya, Madagascar, Maldives, Maurice, Mozambique, République-Unie de Tanzanie et Seychelles ont participé. Des représentants de la Convention de Nairobi (NC), du Marine Stewardship Council (MSC), du Fonds Mondial pour la Nature (WWF) et du projet COI-SWIOFish1 ont assisté à la réunion en qualité d'observateurs. Le Comité a examiné les rapports nationaux sur l'état des ressources halieutiques et les mesures de gestion prises par les pays membres pendant la période d'intersession, ainsi que les activités de recherche halieutique menées ou prévues. Les rapports nationaux sur les plans de gestion des pêches mis en œuvre ou prévus, l'état actuel de la certification des pêcheries, les connaissances sur les rejets et les prises accessoires et l'impact des phénomènes climatiques sur les pêches et l'aquaculture ont également été présentés et commentés. Le rapport de la première réunion du Groupe de Travaux sur les Pêcheries de petits poissons pélagiques (GTPP) a aussi été présenté. La prochaine session du Comité Scientifique de la CPSOOI aura lieu à Madagascar, au moins deux mois avant la dixième session de la Commission.

CONTENTS

Preparation of this document	i
Abstract	i
Abbreviations and acronyms	iv
Opening of the session	1
Election of the vice-chairperson	1
Adoption of the agenda and arrangements for the session	1
Report of the first meeting of the SWIOFC working group on fisheries for small pelagic fish	1
Status of fisheries resources report	2
Case studies of recent fisheries assessments	27
Recent fisheries research	27
Relevant workshops, meetings and products	28
Recommendations	30
Date, place and arrangements for the next meeting	31
Adoption of the report	31

APPENDIXES

Appendix A: Agenda	32
Appendix B: List of documents	33
Appendix C: List of participants	34
Appendix D: Opening speech	37
Appendix E: Summary tables: Status of fish stocks in the Southwest Indian Ocean	40
Appendix F: Summary tables: Management actions undertaken on species/groups classified as overexploited	72
Appendix G: Summary tables: Management Plans implemented, in implementation or in preparation the Southwest Indian Ocean	91
Appendix H: Summary tables: Certification schemes of fisheries in the Southwest Indian Ocean	107
Appendix I: Summary tables: Fisheries discards in the Southwest Indian Ocean	111
Appendix J: Summary tables: Impacts of abnormal phenomena related to climatological events in the Southwest Indian Ocean	115
Appendix K: Summary table: Priority fisheries for future research in Southwest Indian Ocean	122

TABLE DES MATIÈRES

Préparation de ce document	i
Resumé	i
Sigles et abréviations	iv

Ouverture de la session	
Élection du vice-president	
Adoption de l'ordre du jour et organisation de la session	
Rapport du groupe de travail sur les pêcheries de petits pelagiques	
Rapport sur l'état des ressources halieutiques	
Rapport du groupe de travail sur les données et statistique de la pêche	
Étude de cas sur les évaluations halieutiques récentes	
Recherche halieutique récente	
Ateliers, réunions et produits pertinents	
Recommandations	
Date, lieu et organisation de la prochaine réunion	
Adoption du rapport	

ANNEXES

Annexe A: Ordre du jour	32
Annexe B: Liste des documents	33
Annexe C: Liste des participants	34
Annexe D: Discours d'ouverture de la réunion	37
Annexe E: Tableau sommaire : État des stocks de poissons dans le sud-ouest de l'Océan Indien	55
Annexe F: Tableau sommaire : Actions de gestion entreprises sur des espèces / groupes classés comme surexploités	81
Annexe G: Tableau sommaire : Plans de gestion mis en œuvre, en cours d'exécution ou en préparation dans le sud-ouest de l'Océan Indien	98
Annexe H: Tableau sommaire : Régimes de certification des pêcheries dans le sud-ouest de l'Océan Indien	109
Annexe I: Tableau sommaire : Rejets de pêche dans le sud-ouest de l'Océan Indien	113
Annexe J: Tableau sommaire : Impacts des phénomènes anormaux liés aux événements climatologiques dans le sud-ouest de l'Océan Indien	118
Annexe K: Tableau sommaire : Pêcheries Prioritaires pour recherche future dans le Sud-Ouest de l'Océan Indien	122

ABBREVIATIONS AND ACRONYMS/SIGLES ET ACRONYMES

ANCRE	Analyse de la petite pêche côtière Réunionnaise
ASCLME	Agulhas Somali Current Large Marine Ecosystem Project
AFRC	Albion Fisheries Research Centre
ASDI	Agence suédoise de coopération internationale au développement
BRD	Bycatch Reduction Device
CAS	Catch Assessment Survey
CPUE	Catch per unit effort
CPSOOI	Commission des pêches pour le Sud-Ouest de l'Océan Indien
CTOI	Commission des thons de l'Océan Indien
CS	Comité Scientifique
DCP	Dispositif de concentration du poisson
DET	Dispositif d'exclusion des tortues
DFID	Department for International Development
DGRH	Direction Générale des Ressources Halieutiques
DRCA	Dispositif de réduction des captures accessoires
DSFA	Deep Sea Fisheries Authority
DWFNs	Distant Waters Fishing Nations
EAF	Ecosystem Approach in Fisheries
EEZ	Exclusive Economic Zone
EU	European Union
ERA	Environmental Risk Assessment
FAD	Fish aggregating device
FDP	Fleet Development Plan /Plan de développement de la flotte
FMA	Fisheries Management Agreement/Accord de gestion de la pêche
FMRA	Fisheries and Marine Resources Act 1998
FAO	Food and Agriculture Organization of the United Nations
FEM	Fonds pour l'environnement mondial
FIRMS	Fishery Resource Monitoring Systems
FIS	Fisheries Information System
FIP	Fisheries Improvement Project
GEF	Global Environmental Fund
IIP	Fisheries Research Institute of Mozambique/Institut de Recherche Halieutique du Mozambique
IMS	Institute of Marine Science
IMR	Institute of Marine Research of Bergen
IOTC	Indian Ocean Tuna Commission
IRD	Institut de recherche pour le développement
IUU	Illegal, unregulated and unreported fishing
KCDP	Kenya Coastal Development Project
KMFRI	Kenya Marine Fisheries Research Institute/ Institut Kényan de Recherche sur les Pêches Marines
GEF	Global Environmental Fund
MASMA	Marine Science for Management
MDGs	Millennium Development Goals
MSC	Marine Stewardship Council
MSY	Maximum sustainable yield
NGO	Non-governmental organization
NORAD	Norwegian Agency for Development Cooperation
NPOA	National Plan of Action
NTG	National Task Group
OMP	Operational Management Plan

ORI	Oceanographic Research Institute
PME	Production maximale équilibrée
PNUD	Programme des Nations Unies pour le Développement
PNUE	Programme des Nations Unies pour l'Environnement
PSA	Productivity Susceptibility Analysis
RFBs	Regional Fishery Bodies
RTG	Regional Task Group
RES	Regional Executive Secretary
SC	Scientific Committee
SFA	Seychelles Fishing Authority
SICA	Scale, Intensity and Consequence Analysis
SIDA	Swedish International Development Cooperation Agency
SIH	Système d'Information Halieutique
SIOFA	Southern Indian Ocean Fisheries Agreement
SOFIA	State of World Fisheries and Aquaculture
SSF	Small-scale fisheries
SWIO	Southwest Indian Ocean
SWIOFC	Southwest Indian Ocean Fisheries Commission
SWIOFP	Southwest Indian Ocean Fisheries Project / Projet des pêches du Sud-Ouest de l'Océan Indien
TAC	Total Allowable Catch / Total autorisé de capture
TAE	Total allowable effort
TAFIRI	Tanzania Fisheries Research Institute
TOR	Terms of reference
UE	Union Européenne
UK	United Kingdom
UNDP	United Nations Development Programme
WCS	Wildlife Conservation Society
WG	Working Group
WP	Working Party
WPFDS	Working Party on Data Collection and Statistics / Groupe de travail pour la collection de données et statistiques
WIO	Western Indian Ocean
WIOMSA	Western Indian Ocean Marine Science Association / Association des scientifiques de la mer de l'Océan Indien occidental
WIOFish	Western Indian Ocean Fisheries Database / Base de données pour les Pêches du Sud-ouest de l'Océan Indien
WoE	Weight of Evidence
WWF	World Wide Fund for Nature / Fonds mondial pour la nature
ZEE	Zone économique exclusive

OPENING OF THE SESSION

1. The Ninth Session of the Scientific Committee (SC) of the Southwest Indian Ocean Fisheries Commission (SWIOFC) was held from 16 to 19 July 2019 at Hotel Archipel, in Réunion, France, with the kind hosting of the Government of France and of the Réunion local authorities.
2. The Session was attended by delegates from Comoros, France (Réunion and Mayotte), Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles and the United Republic of Tanzania. Representatives of the Nairobi Convention (NC), the Marine Stewardship Council (MSC), the World Wide Fund for Nature (WWF) and the IOC-SWIOFish1 project attended the meeting as observers.
3. During the opening ceremony, Mr Luca Garibaldi, Secretary of the SWIOFC, welcomed the participants on behalf of the Director-General of FAO, Mr José Graziano da Silva, the Assistant Director-General of the Fisheries and Aquaculture Department, Mr Årni M. Mathiesen and the Subregional Representative for Southern Africa. He thanked the Government of Réunion for hosting the Committee.
4. Mr Dominic Person, Director of the Regional Operational Center for Surveillance and Rescue of Reunion (*Centre Régional Opérationnel de Surveillance et de Sauvetage*, CROSS), officially opened the Session. The opening speech by Mr. Person is presented in Appendix D.

ELECTION OF THE CHAIRPERSON

5. The Technical Secretary notified that the Chairperson, Mr Edward Kimani, had already done two terms of office, so a new Chair should be elected.
6. The previous Vice-Chair, Mr. Osvaldo Chacate, had only done one term, so he could serve in the current meeting.
7. The Technical Secretary drew attention to the rules of the Commission and that the election was preferably by consensus. He noted that the leadership, experience and dynamism of the Chairperson and the Vice-chairperson are important in guiding the secretariat and working groups in the intersessional period.
8. Following a short discussion, Ms Trishna Sooklall, from Mauritius, was elected by consensus.

ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION

9. The Agenda was reviewed and was adopted as in Appendix A. The documents made available to the Session are listed in Appendix B. The list of participants is in Appendix C.
10. The Ninth Meeting of the Scientific Committee was chaired by Ms. Trishna Sooklall with the assistance of Mr. Osvaldo Chacate.

REPORT OF THE FIRST MEETING OF THE SWIOFC WORKING GROUP ON FISHERIES FOR SMALL PELAGIC FISH

11. The Working Group on Fisheries for Small Pelagic Fish (WGSP) of the Scientific Committee (SC) of the South West Indian Ocean Fisheries Commission (SWIOFC) held its first meeting in the Blue Bay Marine Park, Mauritius, from 9 to 12 April 2019.

12. Scientists from all the member countries of the SWIOFC, with the exception of France and Yemen, attended the meeting.

13. The WGSP reviewed the state of knowledge on the main fisheries harvesting small pelagic fish in the South West Indian Ocean (SWIO) region, identified the species to be analysed in greater detail by the Working Group and carried out a Productivity-Susceptibility Analysis (PSA) of ten Small Pelagic fish stocks from the region.

14. A total of 38 species of small pelagic fish were identified for future work of the Working Group.

15. Of the ten (10) stocks analysed using the PSA, eight (8) were scored as being at low risk, while two (2) scored as medium risk.

16. The WGSP will continue working by correspondence during the intersessional period, until the second meeting, to be held during the first semester of 2021.

STATUS OF FISHERIES RESOURCES REPORT

Comoros

17. All Comorian fisheries are artisanal, with vessels from 3 to 9 meters fishing mainly pelagic species, but also demersal species. Three categories of fishing vessels are considered, GAP (wooden boat ranging from 2 to 4 meters, powered with paddle or sail), the G18 (fiberglass boat ranging from 5 to 7 meters with outboard motor 15hp) and JAP-9 meters (fiberglass, inboard engines). In the Comoros, the fishing trips do not exceed 24 hours, with the exception of the JAP, which often make fishing trips of one week. All boats practise multi-species and multi-gear fishing.

18. Foot fishing is very active in the Comoros. It is practiced collectively by women and children from the villages. This fishery can also involve some men.

19. It is very important to point out that there is also an offshore tuna fleet that does not land in the Comoros. This fleet is assessed and managed on a regional and non-national basis.

Summary of the Assessment of the Status of Key Fisheries Resources

20. The Comoros did not undertake a new full Weight of Evidence (WoE) assessment of the status of their main fish stocks. Comoros collects data on tuna landings, but the assessment is carried out at the Indian Ocean Tuna Commission (IOTC) level as these are shared resources. Since February 2011, Comoros has set up a system for collecting fishing data on the landing sites of the three islands, which has made it possible to estimate important indicators of fishing.

21. Total landings for artisanal fisheries are estimated at 13 070 t in 2018 compared to 13 300 t in 2017, a slight decrease of 1.7%. The annual landings of octopus are estimated at 920 t, for about 1440 fishers on foot. The demersal fishery is undertaken by approximately 3320 non-motorized vessels and approximately 1690 motorboats. The fishing activity in the Comoros concerns about 23350 fishers including 8510 fishers on board and 14840 fishers on foot.

22. This improvement in the available data will allow us a corresponding improvement in the analysis of the status of the main groups of fish stocks. Overall, the Comoros reported 23 units of Comorian stocks of demersal fish and small pelagics, demersal stocks of which are classified as high risk of depletion. In 2018 a campaign to collect octopus data (*Octopus cyanea*) was carried out.

23. The updated summary of the analysis of the status of fish stocks in the Comoros is presented in Appendix E.

Management actions undertaken on species / groups classified as overexploited

24. The demersal species of the Comoros were classified as high risk of overexploitation by the SWIOFC working group held in Mombasa in November 2011. In 2013, the Union of Comoros developed a management plan for the demersal fish fishery identifying four management objectives for implementation.

25. The Government of the Union of the Comoros has completed the preparation of batches of regulatory texts which complement the law on fisheries and aquaculture.

26. To strengthen the fishing control capacity, a fishing boat registration campaign is underway, and fishermen are obliged for the first time to have professional cards and to buy licenses.

27. To improve the information available for management, fishing gear is inventoried, codified and classified, socio-economic surveys have been conducted every year since 2016, and a reliable data collection system is in place. Finally, a framework survey is planned for the end of this year.

28. With regard to the octopus fishery, the status of which is uncertain but which is believed to be insufficiently managed at present, the Comoros has worked in the organization of fishermen's associations in some villages and encouraged collaboration with the *Direction Générale des Ressources Halieutiques*. Community co-management agreements have been signed and implemented in order to sustainably manage resources, particularly octopus. Octopus pots were also introduced at three pilot fishing sites, which increased production.

29. Finally, new marine protected areas were created in Greater Comoros and Anjouan and fishermen were organized, sensitized and trained on new non-destructive fishing techniques.

30. A summary of the management actions taken is presented in Appendix F.

Management Plans

31. Comoros has developed a demersal fisheries management plan that has been in operation since 2013. The evaluation of this plan in 2018 showed that more than 85% of the plan has been implemented.

32. This plan is being updated to include more demersal species, including the large blue octopus (*Octopus cyanea*).

33. The summary of Comoros management plans is presented in Appendix G.

Certification

34. So far, the Union of the Comoros does not have certified fisheries. However a project of certification of products landed by the Comorian boats is in progress at the *Direction Générale des Ressources Halieutiques*.

35. A summary of the certification schemes in use or in preparation is presented in Appendix H.

Discards from fisheries

36. All Comorian fisheries are artisanal and almost exclusively use hook and line gear. There are no records or studies of discards, but these are considered non-existent or negligible.

37. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

38. Increased coral bleaching has been observed in recent years. The hypothesis that gathers the most support to explain this fact is the warming of the waters around the islands.

39. These high temperatures, plus the hurricane Kenneth from 24 to 28 April in the Comoros, caused negative impacts on fisheries resources in the Comoros, namely:

- Destruction of habitats of demersal species;
- Closure of octopus shelters;
- Detachment and stranding of dead and live corals on different coastal areas of the archipelago.
- Increased natural mortality of demersal species and octopus;
- Disturbance of reproduction of the species concerned.

40. The summary of the perceived impacts on fishing of abnormal phenomena related to climate events is presented in Appendix J.

France (Réunion and Mayotte)

41. France classifies its tropical demersal fisheries as coastal artisanal fisheries at Réunion and Mayotte islands. Fishing is prohibited in the Scattered Islands and the prohibition is enforced.

42. The coastal artisanal fishery is a multi-species and multi-gear fishery, hook and line being the main technique used. Trawling is prohibited. Fishing activities are carried out over the reef flat and outer slope, near reef barriers when present, and around the islands and bank (Mayotte), at depths less than 500 meters.

43. A large part of the lagoon and barrier reef is spatially managed for fisheries, since 2006 at Réunion (National Marine Reserve) and 2013 at Mayotte (Marine Natural Park). Artisanal fishing activity in Réunion involves around 135 active professional vessels (length < 12m) for 174 fishermen and has produced around 250 t of demersal and small pelagic fish (mainly) in 2017. In Mayotte, artisanal fishery involves around 763 small vessels (only 89 professional) with around 1500 fishers who have landed around 855 t of demersal and small pelagic resources in 2017.

44. The coastal lagoon fishery is considered to be fully exploited and impacted by multi-user activities. Data is collected and monitored via the national data collection system network (*Système d'Information Halieutique*). The catch is classified by species and/or groups. Information on catch, effort, fishing method, area, number of fishers, vessel category, activity per month and price of fish is collected. Boat-based recreational fisheries are assessed in Mayotte but not in Réunion. Recreational on-foot fishing is monitored mainly in marine protected areas.

Summary of the assessment of the status of the main fisheries resources

45. The assessment of demersal fish stocks in Réunion and Mayotte were presented for the second time in the SC meeting.

46. Twenty stocks (group or species) were reported by France, most of them assessed as not overexploited. Two important stocks for the Réunion fishery, including one fish (*Etelis coruscans*) and one crab (*Ranina ranina*), show signs of overexploitation. In all case studies, primary diagnosis on the status of the reef fish communities with both video technique (STAVIRO) and fisheries indices (field landing monitoring and WoE approach) highlight some cases of decreasing abundance and mean size for targeted species, especially the larger species as groupers, snappers, lethrinids and carangids. Exploited herbivorous, invertebrate eaters and the smaller carnivorous fish species seem to be in a better status (siganidae, acanthuridae, scaridae...).

47. The updated summary of the analysis of the status of fish stocks in Réunion and Mayotte is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited

48. Current fisheries regulations are established by prefectural decrees that define and regulate the uses for professional fishers and recreational fishers. But there is no management plan for demersal resources, with the exception of marine protected areas. In 2019, a specific prefectural decree have been taken place in Réunion for the two main small pelagic fish species (*Selar crumenophthalmus* and *Decapterus macarellus*) to regulate the beach seine fishing effort during the spawning maximum period and recruitment phases (August to the next January).

49. From 2018, the fisheries managers are part of a consultation process for the implementation of a management plan for demersal resources in Réunion. They also expressed the wish for a revision of the fisheries regulations. Expected results from IPERDMX European project (2019-2021) have to contribute to define fisheries functional area and in fine management measures.

50. At Mayotte Island, a review of the regulations established by the prefectural decree had been carried out in September 2018, to guide the legal texts towards management for the sustainable use of resources. The new text implements restrictions on sensitive species catches for recreational fisheries (5 individuals per boat for groupers, snappers and emperors, 1 individual per boat for selachians). Fishing napoleon fish, hump parrotfish and manta rays is forbidden for all fisheries. Spearfishing is forbidden inside the lagoon, and use of nets is strictly limited to professional fishermen, and only for small pelagic fish. The sea cucumber fishery has been banned since the 2000s and scientific monitoring is in place to evaluate the effect of the management measures implemented.

51. A summary of the management actions undertaken is presented in Appendix F.

Management Plans

52. Management plans are available only for Marine Protected Areas.

53. In early 2013, the first Management Plan for the Réunion National Marine Nature Reserve (RNMR) was approved. The roadmap for its management has been established for 5 years, and is based on the analysis by scientific experts in its diagnostic part and on the participation of the actors in the action program. This first management plan was conceived as a unifying document around a common cause: the preservation and sustainable management of Réunion's coral heritage. The established guidelines do not allow the RNMR to deviate from its main mission and leads to thinking about solutions in consultation with the users. One of the main objectives is to ensure well-planned development of fishing activity and other uses compatible with the conservation of marine biodiversity on the marine protected Area. More specifically, it ensures the management of fishing activities for the sustainability of the fisheries resources and the fishery, by improving knowledge of fishing activities. The first management plan will be evaluated in 2018. The new guidelines will be redefined for the next 5 years in 2019.

54. Mayotte Marine Natural Park adopted its management plan in 2013. The management plan, developed in consultation with the users, defines the objectives and principles of action on the marine protected area (70 000 km², the largest marine natural park in France). The measures taken do not target single-species stock management, but concentrate more on different actions aimed at preserving resources and habitats as a whole. It aims to encourage local fisheries targeting large pelagic species outside the lagoon, in order to reduce fishing pressure on coral reefs. It is valid for 15 years, a significant time step for both the environmental evolutions (evolutions of the ecosystems, the species, the climate, etc.) and societal evolutions (new behaviours, new tools, etc.). This plan is intended to be implemented not only by the Park's technical team, but also by all stakeholders concerned, who are represented by the 41 members of the Management Board. Specifically, the Park can support the projects technically and financially, in what concerns the actions foreseen by the management plan, propose the adoption or the adaptation of regulations, or ensure the monitoring of the marine environment and its uses. The annual programs will specify concrete actions to be implemented and the monitoring of precise indicators will make it possible to adjust these programs to achieve the objectives planned.

55. The management plans for the marine protected areas are available on these web links: Réunion Marine National Reserve (<http://www.reservemarinereunion.fr/les-missions/le-plan-de-gestion-2013-2017>) and Mayotte Marine Natural Park (<http://www.aies-marines.fr/L-Agence/Organisation/Parcs-naturels-marins/mayotte/Documents/Plan-de-gestion-du-Parc-naturel-marin-de-Mayotte>).

56. A summary of the current status of these plans is presented in Appendix G.

Certification

57. There are currently no certified tropical demersal fisheries in either Mayotte or Reunion islands, nor is there any active project seeking certification of any fisheries.

Fisheries discards

58. Few or no bycatch and discards are observed in tropical French handline artisanal fisheries.

59. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

60. At Réunion, low tides at exceptional levels are occasionally observed. They seem to be related to the presence of ocean gyres whose trajectory and residence time is difficult to predict. They mainly affect shallow flats causing mortality of corals. The depletion of oxygen on the reef flats can also cause death of fish, as was the case in 2016.

61. The last warming phenomenon related to ENSO EL Niño took place strongly in 2016 and moderate in 2017 at Réunion Island. ENSO was moderate at Mayotte in 2010. Corals bleach due to stress often related to high temperatures but can also be due to turbidity of water or desalting events after heavy rains. During bleaching, the coral expels the symbiotic algae that provide 80% of its daily diet. Bleached corals can recover algae if the stress remains brief and not very intense. During bleaching, however, they will have drawn from their reserves and will be weakened. Corals provide a habitat and a source of food for many juvenile fish, but also for crustaceans and molluscs that enter the food chains of species exploited by fisheries. The death of corals therefore has direct consequences on the fish populations that depend on them and may lead to a cascade effect on their predators.

62. Following watershed soil sealing, deforestation and increasing urbanization, mudslides are formed and run down into the sea after heavy rains. They can result in fish mortality by choking, and in coral weakening or even mortality.

63. Climate change is a real threat to coral reefs. Increases in water temperature, ocean acidification, sea level rise, intensification of tropical storms and increased surge rainfall are all phenomena that threaten marine ecosystems. French islands are not spared by these changes. Nevertheless, the important hydrodynamics observed around the island, such as Réunion, has limited, for the moment, the impact of the warming of surface waters on the environment. Limited data are currently available on the other impacts of climate change in Réunion and Mayotte.

64. The summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

Kenya

65. Marine fisheries are a relatively minor contributor to the overall fisheries sector, representing only about 6%, less than 9000 t, of the total landings in Kenya. However, the reconstruction of the catch data shows approximately 15 000 t while sample based estimation show 23 000 t for 2017. Kenya marine fisheries include artisanal, semi-industrial and industrial, and recreational fleets, harvesting a variety of resources. The main fisheries are the coastal prawn fishery, the small pelagic fish fishery, the artisanal trap fishery and the demersal line and gillnet fishery, small scale pelagic line fishery, and deep water crustacean fishery. There is also an active seine fishery which include, prawn seines, reef seines and small purse seine (commonly referred to ringnet).

66. Most of the fin fish from the artisanal fishery is consumed locally, while prawn, octopus, lobster, crab, sea cucumber and deep water snapper fishery are consumed both local and export markets. Currently, local consumption of prawns has increased, thus becoming an important domestic trade.

67. Kenya gazetted a fishing port to enhance landing and monitoring of semi-industrial and industrial prawn, deep water trawl, deep water crabs and tuna and tuna like species from local and foreign fishing vessels.

68. Industrial fishing vessels are required by law to land at least 30% of catch in Kenya. Local registered vessels land all the catch in Kenya, while some Distant Water Fishing Nations (DWFN) vessels tranship part of their catch through the port of Mombasa.

Summary of the assessment of the status of the main fisheries resources

69. A WoE was conducted for the lobster fishery targeting all the five lobster species; *Panulirus ornatus*, *Panulirus longipes*, *Panulirus versicolor*, *Panulirus homuarus*, *Panulirus penicillatus*, which were assessed as not overexploited. Signanidae and Sphyraenidae were also assessed in 2017, as not overfished, using the WoE.

70. The status of the stocks exploited by the semi-industrial prawn trawl fishery is uncertain.

71. The aquarium fishery was assessed using PSA. The results show that some species exploited by the aquarium fishery are at high risk of overfishing. The sea cucumber stocks, though not assessed, are likely to be overfished, based on anecdotal information from fishers.

72. The updated summary of the analysis of the status of fish stocks in Kenya is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited.

73. Kenya has identified the open access in artisanal fisheries as a major difficulty for the management of marine fisheries. Kenya has developed management plans for some artisanal fisheries (lobster, aquarium, small and medium pelagics and prawn fishery). The regulatory measures proposed include limited entry, fishery-specific licenses for access to some species/fisheries, area and seasonal closures and Total Allowable Catch (TAC) and quotas for the aquarium and trawl fisheries.

74. Management options to help restore the rabbitfish stocks include introducing a regulation on trap slot size and gear mesh size to protect smaller individuals in the as well as closed season and areas to protect the breeding stock. For the aquarium fishery it is foreseen to implement a fisher logbook and a system of TAC and quotas for species identified as vulnerable (eg. *Pomacanthidae* and *Amphiprion* sp.).

75. Other management actions for stocks in place include a minimum size limit and ban on harvesting berried lobster females and a time/area closure for prawns, prohibition to fishing within marine protected and community managed areas and gear restrictions.

76. A summary of the management actions undertaken is presented in Appendix F.

Management Plans

77. In the recent years, there have been major amendments in the Kenyan high-level legal framework, including the Constitution, and also a new law was passed, the Fisheries Management and Development Act 2016. Kenya is currently aligning all its fisheries legislation to these changes including fishery specific regulations to support co-management, quality and trade.

78. The Prawn Fishery Management Plan has been implemented since 2010. The current plan does not cover the whole prawn fishery in Kenya: it is area based and management measures are not applicable to the artisanal fishers. Currently, there are considerations to review the plan and to include the whole fishery.

79. Other management plans compliant to Ecosystem Approach to Fisheries (EAF) include the lobster fishery, small and medium pelagic fishery, and small purse seine net fishery, aquarium fishery to manage some of the stocks assessed including Sphyraenidae, the lobster fishery and the aquarium fishery among others.

80. Stakeholder consultation, as well as the necessary legal and policy review, was undertaken and the plans are at the approval stage awaiting gazettelement.

81. Kenya has adopted a co-management approach to enable community participation in fisheries resource management. There are three joint co-management area plans developed through the EAF process; Patte Island in Lamu northern Kenya coast; Malindi Ungwana Bay in the mid coast and joint Shimoni-Vanga area in the south coast. The Malindi Ungwana Bay co-management area plan is approved and the rest undergoing the approval process. The Patte and Shimoni-Vanga management plans will be implemented in collaboration with other stakeholders.

82. Kenya is in the process of developing the National plan of action for sharks and rays. Baseline information gathering has been conducted and stakeholder consultations are already initiated.

83. A summary of the current status of these plans is presented in Appendix G.

Certification

84. The shallow water lobster fishery is in the process of MSC certification. Certification for octopus and aquarium fisheries also being considered.

85. A summary of the certification schemes in use or preparation is presented in Appendix H.

Fisheries discards

86. Kenya is implementing a national observer programme. Through this programme, all industrial Kenyan-flagged vessels should have 100% observer coverage to allow estimation of bycatch from the shallow water prawn, deep water trawling crustacean, deep water crab pot fishery and the tuna and tuna like longline fishery.

87. According to the observer reports do far, discarding of edible fish species is minimal, as most if not all bycatch is used. Bycatch from industrial fisheries, if any, is often shared with artisanal fishers as bait for the line fishery but mainly landed for consumption. Plans are underway to develop other utilization of discarded fish hence minimize discards.

88. Use of TEDs is mandatory in Kenya. Measures are underway to ensure its effectiveness to reduce bycatch of threatened protected and endangered species like sharks, rays and turtles, and hence reduce discards.

89. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

90. Kenya recorded a strong coral bleaching event in April 2017, affecting reef-associated species. Also the increase of river sedimentation regimes threatening coral reefs is noted.

91. From January to March 2019, huge catches of tuna by the small scale tuna fishers were observed, which may be attributed to changes in weather conditions, but this is not yet assessed.

92. The summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

Madagascar

Summary of the assessment of the status of the main fisheries resources

93. Madagascar has not carried out a recent WoE analysis of the status of its fishery stocks, but an update of the assessment of the stock status was carried out by the Malagasy researchers, using mostly Expert Knowledge. Data (landings, fishing effort length frequency distributions and species composition of landings) was presented for the industrial shrimp fishery, the small-scale traditional shrimp fishery, the mangrove (swamp) crabs fishery and the lobster fishery. Their status is not fully determined, but generally these five fisheries: Shrimp, Crabs, Sea Cucumber, Lobsters and Octopus are considered to be overexploited or very close to overexploitation. The stock status of shrimp in Madagascar was conducted in 2018.

94. In 2018, the total estimated landings for the small-scale traditional shrimp fishery, the mangrove crabs fishery and the lobster fishery were ca 9 330 t. The industrial shrimp fishery declared landings of ca 3 800 t.

95. The updated summary of the analysis of the status of fish stocks in Madagascar is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited

96. Management measures are in place for sea cucumbers, mangrove crabs, shrimps, octopus and lobsters, that are believed to be overexploited or in danger of overexploitation.

97. The management measures in place include minimum sizes and weights, closed seasons and restrictions on export for the mangrove crabs and the sea cucumber.

98. A summary of the management actions undertaken by Madagascar is presented in Appendix F.

Management Plans

99. Management plans are currently in place for the stocks of lobsters, demersal finfish fisheries, mangrove crabs, shrimps and tuna. A management plan for the fisheries in Ambaro Bay (PAP BATAN) has been validated and formalised by the stakeholders. This is the third Fisheries Management Plan being implemented in Madagascar, after the PACBA Antogil Bay and the PAP Melaky.

100. Since 2018, the Ministry in charge of Fisheries, with the financial support of the SWIOFish2 project, promotes the implementation of three management plans, already validated by the stakeholders. It is foreseen that this process will continue for the 5 years of duration of the SWIOFish2 project.

101. A summary of the current status of these plans is presented in Appendix G.

Certification

102. A certification process for the shallow-water shrimp fishery started in 2017, with a partnership between the administration, the fishing industry and WWF.

103. In 2018, the SWIOFish2 project has funded one of the processes of certification of the industrial fishery, carrying out the assessment of the shrimp stocks as exploited by the industrial fishery.

104. For 2019, WWF Madagascar has found the funds to continue this certification process in the framework and with the mechanisms of co-management and the development of a strategy for the management of the traditional shrimp fishery.

105. A summary of the certification schemes in use or in preparation is presented in Appendix H.

Fisheries discards

106. There are reports of bycatch from the shallow-water industrial shrimp fishery. These are usually collected for local consumption and not discarded. Otherwise, most of the fisheries in Madagascar are small-scale, and do not produce any discards, as all catch is kept.

Impacts of abnormal phenomena related to climatological events

107. Madagascar has reported increased coral bleaching on the reefs in the south-west coast of Madagascar that is supposed to be associated with increase in seawater temperatures linked to global warming.

108. There is also an indication that cyclones and bad weather events have been getting stronger and more frequent in the last decade, especially on the east coast, leading to an increase in the frequency of floods.

109. A summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

Maldives

Summary of the assessment of the status of the main fisheries resources

110. Available data shows that billfish catches have been gradually increasing for the past 6 years. In 2018, the estimated total export for billfish was 1554.92 t. The total catch reported for IOTC purposes was 547.61 t. Billfish resources are managed in the regional framework via IOTC and the latest stock assessment results available at the time of this report indicates the following; swordfish stock not overfished and not subject to overfishing, black marlin stock not assessed/uncertain, blue marlin stock not overfished but subject to overfishing, striped marlin stock overfished and subject to overfishing, and sailfish stock not overfished but subject to overfishing.

111. The fishery for reef fish is extremely species rich therefore, catch trend is difficult to estimate at this juncture. In the year 2018, the total export value for reef fish fishery was 155t. Localised stock depletion of the reef fishery is believed to occur; however there are no WoE based stock assessments at the moment. This evaluation is based on evidence of reduced fish sizes and information obtained through fishers in ad-hoc surveys.

112. The sea cucumber fishery is entirely export based, however exports from wild stocks and cultured stocks are not distinguishable from present data sets. Export data from 2018 indicates a total removal of 98.28 t (keeping note that dry to wet weight conversions have not been made). The introduction of aquaculture targeting species exploited in this fishery is expected to reduce pressure on the stocks, however, in the absence of a formal assessment, the status of the stock remains uncertain due to data deficiency.

113. The WoE method was used in assessing the status of the grouper fishery. Both the catch rates and mean size of catch have been noted to have undergone reductions, for several species exploited in this fishery. Assessments indicate that this stock is over exploited. The marked trend of shifting harvesting target to low value species further supports this assessment. Grouper is not solely export based, however, in the absence of a comprehensive catch history, export data is used in lieu of this. Export data from 2018 indicates a total removal of 1024.70t.

114. Tuna is a regionally shared resource due to its migratory nature, and therefore managed and assessed via IOTC. Assessment results available at the time of this report indicates the following; skipjack tuna, little tuna, albacore and bigeye tuna stocks are not overfished and not subject to overfishing, while yellowfin tuna stocks are overfished and subject to overfishing. Catch and effort data is collected on a regular basis through logbooks and necessary improvements are made depending on the scientific research. The catch of licensed vessels for 2018 is reported to the IOTC.

115. The updated summary of the analysis of the status of fish stocks in Maldives is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited

116. For the sea cucumber and lobster fisheries, fishing using SCUBA gear is prohibited. Furthermore, the collection of berried lobsters is banned. And size limits are now in place for lobster harvesting.

117. For the grouper fisheries, which is the second most commercially important species group in Maldives, plans and research to review the size limits alongside the review of the management plan, are in place for 2019. The outputs from many stakeholder sessions will be considered in this process, in order to shift the centralised management to a more community based one, especially in terms of the closed grouper aggregation MPAs. All grouper exports are legally required to be accompanied by catch certificates.

118. Other management actions for stocks not assessed as over-exploited are in place. Maldives is currently in the process of reviewing existing regulatory framework for fisheries management and aquaculture, through the review and ratification of the Fisheries Bill. This includes the provision for giving all completed management plans under the Ministry of Fisheries, Marine Resources and Agriculture the same status as a regulation under the law. Some more general management actions include the National Plan of Action on Sharks, which is due for review this year. There is a total harvest ban on sharks, rays, turtles (including eggs), and giant clams. Net fishing is also banned in all fisheries except the bait fishery associated with tuna fishery. Gill nets, moxy nets and purse seines are banned under all circumstances.

119. In terms of specific fisheries that are not assessed to be overexploited, while the billfish species are managed under pertinent IOTC resolutions, there are management actions that have been taken nationally. A logsheet specific to Billfish fishery was introduced in 2017, and work is in progress to increase the coverage. For the reef fishery, a logbook was introduced in 2010, but coverage need to be increased significantly as currently, data is very limited. In the case of tuna, which is also managed through the IOTC, logbooks were introduced in 2010, catch log reporting for licensed vessels at port of offloading was enforced in 2019. As with grouper, all tuna export products are legally required to be accompanied by catch certificates, all of which are generated via the FIS, alongside licenses. Furthermore, satellite-based Vessel Monitoring System (VMS) was introduced in 2014 for the longline fishery and is planned to be rolled out for entire licensed fleet this year. And an E-observer system to cover a percentage of licensed fleet is in the contract signing stage. A programme to enable electronic catch reporting via the mobile app associated with the Fisheries Information System is currently piloting.

120. A summary of the management actions undertaken by Maldives is presented in Appendix F.

Management Plans

121. The billfish, lobster and sea cucumber fishery management plan preparations are underway. A phone survey to assess the distribution of fishers across the country has been completed. The reef fishery management plan process has progressed further, with the baseline survey designed to inform management plan formulation currently underway across the country. In the case of the Marine Aquarium Fishery Management Plan, proforma export data has been analysed and management plan draft has been completed and is undergoing internal review.

122. The Management Plan for Maldives Grouper Fishery was implemented in 2014. This plan was produced through a participatory process. It uses an adaptive co-management approach, and counts heavily on the support of fishers and fish exporting companies. The management plan also includes time-area closures in 6 aggregation sites and size limits for commercially important species. Furthermore, there is obligatory catch reporting for all licensed vessels, however, the data collection

system, particularly for the small-scale sector, still needs to be improved. The plan is undergoing a systematic review this year.

123. Maldives Livebait Fishery Management Plan was formulated in 2013 and is currently undergoing review.

124. Some of the main challenges to management include the difficulties in obtaining data or implement a reliable data reporting system due to highly dispersed population and disconnected fishing communities. There is also a systematic underreporting of export data in the case of the Marine Aquarium Fishery.

125. A summary of the current status of these plans is presented in Appendix G.

Certification

126. Since 2012, Maldives has had MSC certification for skipjack tuna from the pole and line fishery. And the Mandhoo Fisheries Complex was awarded the Fair Trade Certificate in 2016 for skipjack tuna.

127. A summary of the certification schemes in use or in preparation is presented in Appendix H.

Fisheries discards

128. No studies on fisheries discards were reported to the SC. However, information available indicates that it is not likely that there are appreciable levels of discards. Tuna fishing is managed by IOTC, and reef fisheries are usually highly targeted, with no bycatch or discards.

Impacts of abnormal phenomena related to climatological events

129. No studies on the impacts on fisheries of abnormal phenomena related to climatological events were reported for Maldives. Bleaching was observed across the country, with higher severity in the southern atolls, however currently according to the NOAA Coral Reef Watch, the coral bleaching alert level will be reduced to the lowest alert level (No stress) within approximately 4 weeks.

130. The summary of the perceived impacts on fishing of abnormal phenomena related to climate events is presented in Appendix J.

Mauritius

131. The fishery resources of Mauritius may be classified into three broad categories, namely: coastal artisanal fishery, offshore demersal fishery and tuna fishery.

132. The coastal artisanal fishery involves some 1900 fishers and around 2100 registered boats (pirogues of 6 to 8 m in length). The fishery consisting of a myriad of species and diverse fishing gears has yielded a production of 845 t in 2018. The coastal fishery is considered to be exploited to its full potential. Data is collected by field enumerators posted at randomly selected Fish Landing Stations around the island on a daily basis on catch, effort, method of fishing, number of fishers, number of pirogues and price of fish. However, since 2016, data processing is being done in Excel as the existing MAUCAS system has crashed. Mauritius would like to get support on the use of software for the estimation of catch from the artisanal fishery.

133. The offshore demersal fishery can be categorised into 4 main groups namely: Shallow water banks fishery, Semi-industrial chilled fish fishery, St. Brandon fishery and the Deep water snapper and grouper fishery. The overall fish production from the offshore demersal fishery is around 1800 t. They differ with respect to the methods of fishing, species targeted, amount of catch, fishing location and mode of preservation of their catch. All the catch is locally landed and not exported. Generally, the stocks exploited by these fisheries are considered to be moderately exploited.

Summary of the assessment of the status of the main fisheries resources

134. Mauritius reported on the stock status of six species groups, the lethrinids of the shallow water Banks Fishery and St. Brandon Fishery, the snappers and groupers exploited on the slopes of the Banks, the coastal octopus species (*Octopus cyanea*), the lagoon fish and the sea cucumber. The assessments for the coastal resources are based mainly on expert knowledge.

135. Generally, stocks of lethrinids exploited by the shallow water Banks Fishery are moderately exploited and considered to be not overfished. In fact, only about 50% of the quota allocated to the offshore demersal fishery (including the Shallow water banks fishery, semi industrial chilled fish fishery, St. Brandon fishery and the Deep water snapper grouper fishery), are being utilized, hence deemed not overexploited. However, the stock assessment of the bank dates long back (2006) and it is recommended that a new and complete assessment be conducted to obtain an updated Maximum Sustainable Yield.

136. It is also recommended to explore additional abundance index of resources, other than fish on the banks such as lobsters and octopus.

137. The landings of octopus in Mauritius have decreased significantly in the last 25 years while effort has remained relatively stable. This may indicate a marked decrease in biomass. However, after implementing the closure of octopus fishery for the period 15 August to 15 October, since year 2016, an increase in the mean weight of octopus has been observed. For instance, for year 2018, mean weight of octopus before closure was 859g as compared to 1354g after re-opening.

138. Stock assessments of sea cucumber have been undertaken over a two-year period in 2007 and 2016. The surveys continue to demonstrate that localized reduction of the abundance of sea cucumbers has occurred in several regions. Overall, the sea cucumber stocks are assessed as overexploited.

139. The updated summary of the analysis of the status of fish stocks in Mauritius is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited

140. A first voluntary octopus closure in Mauritius was implemented on a pilot basis, in the south of the island, in 2015, through funding and support from the Indian Ocean Commission Smart Fish Programme. It was then implemented at a national level as from year 2016 for a two-month period (15 August to 15 October) in the coastal region. The octopus closure is being maintained for the year 2018/2019.

141. The fishing of octopus with a mantle length of less than 7 cm is banned. Sensitisation campaigns in collaboration with NGOs, was conducted in order to inform the general public and fishers on the fishery status and on the mitigation measures adopted.

142. The management tools for the control of the lagoon fishery include marine protected areas, closed seasons (for large nets and gillnets), gear size and gear type restrictions and minimum landing size restrictions. A buy-back scheme for fishers to surrender their large nets has been introduced since 1996 whereby fishers are encouraged to move off-lagoon for fishing or to alternative livelihoods (tourism/small and medium enterprises/aquaculture). There is also an incentive scheme in the form of grants to purchase semi-industrial fishing boats or cannottes, to attract investors to assist reef fishers to invest in fishing on the Banks. Since no new WoE assessment of these fisheries has been done, on a precautionary approach, it is assumed that lagoon fisheries need additional management measures.

143. There was a ban on sea cucumber collection from 2012 to February 2016. The Moratorium for the ban is under preparation to be extended up to the year 2021.

144. Even if the fish stocks exploited by the Banks fishery are not considered overexploited, there is a set of management actions being implemented for the Banks fishery. These management actions include a limited entry system with licensing in place since 1992, a quota allocation system from 1994, and a reporting system on the landings. All Banks vessels have to report to the Marine Control and Surveillance unit through the VMS. Upon arrival, logbooks are collected by the port state control unit of the Fisheries Department for cross verification with the VMS data.

145. Other management actions undertaken include: prohibition of fishing lobster and crabs in berried state, minimum size limits for most reef fishery species, the control of illegal fishing gear and methods of fishing and a mangrove rehabilitation plan.

146. A summary of the management actions in place in Mauritius is presented in Appendix F.

Management Plans

147. The Banks Fishery Management Plan for the shallow water lethrinids fishery of the Banks was endorsed in 2013 and the implementation was initiated the following year. A Banks Fishery Management Advisory Committee has been set up to assist and support the process coupled with a transparent process of licensing and allocation of access rights.

148. The tuna fishery currently consists of 2 tuna purse seiners and 12 semi-industrial longliners. This fishery is managed through a licensing system and through conservation and management measures that have been set up by the IOTC.

149. A summary of the current status of these plans is presented in Appendix G.

Certification

150. Currently, Mauritius has no certification for trade and no plans are in place for seeking certification in the short term.

Fisheries discards

151. Mauritius reports discards on the Banks fisheries targeting lethrinids. The species discards are mostly fish potentially toxic. However, since no assessments have been conducted, and that the data is not recorded in logbooks, it is assumed that the discards make about 10% of the catch.

152. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

153. Mauritius reported mild to severe coral bleaching in several lagoons, as well as muddy coastal waters due to infrequent heavy rainfall, especially during the summer season. These effects may be attributed to elevated sea water temperature and climate change.

154. The summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

Mozambique

155. The main coastal fisheries of Mozambique are classified into seven distinct groups, (i) the semi-industrial and industrial shallow-water shrimp fishery operating mostly in the Sofala Bank and Maputo Bay, (ii) the deep-water shrimp fishery in the South coast and the Sofala Bank; (iii) the linefish fishery mainly in the South and Central area according to management plan; (iv) the tuna fishery along the entire coast and in the international waters, (v) the artisanal multispecies and multigear fishery both in marine coastal areas and in inland waters, (vi) the artisanal kelle shad sardine (magumba), fishery in the Maputo Bay.

Status of stocks and fisheries

156. The stocks status reported in 2018 continue valid for reference purposes, since the new assessment of the shallow water shrimp carried out in 2018 indicates the stock is overexploited, a similar status of the previous assessment, while the assessment of the other stocks has not yet been updated. According to the periodicity of stock assessment established by the Mozambican fisheries research institute (*Instituto de Investigação Pesqueira*), new assessments will be done in 2019 and 2020 for remaining resources. So the stocks of *Hilsa kelee* (Maputo Bay), demersal rock bottom fish (South) and the demersal sandy bottom fish (North) – are still considered as overexploited.

157. The updated summary of the analysis of the status of fish stocks in Mozambique is presented in Appendix E.

Management actions undertaken

158. The following management actions are currently in place for the shallow-water shrimp fishery in the Sofala Bank, with a sequential exploitation from the artisanal, semi-industrial and industrial fisheries, that are assessed as overexploited:

- Closed access fishery;
- Setting of Total Allowable Effort (TAE)
- Annual and non-transmissible quotas
- Annual licenses
- Closed season for all fisheries
- Minimum landing size regulation

159. A summary of the management actions adopted for Mozambican fisheries is presented in Appendix F.

Management Plans

160. Mozambique has developed three EAF management plans, formally approved in 2014:

- Shallow water shrimp management plan;
- Line fisheries management plan

161. The shallow-water shrimp and linefish resources management plans, although still in implementation are in assessment phase after five years for review and updates. Also, the deepwater crustacean management plan and the National Plan of Action for Shark are being developed.

162. A summary of the current status of these plans is presented in Appendix G.

Certification

163. No fishery is certified in Mozambique. However, a process of MSC certification for deep-water shrimp, led by a private company, with the contribution of State Institutions providing needed information, is ongoing.

164. A summary of the certification schemes in use or preparation is presented in Appendix H

Fisheries discards

165. There are significant levels of bycatch in all shrimp fisheries, of which an important fraction is not discarded, but transferred to small-scale fishers at sea. The level of discards is considered relatively low in the shallow water shrimp fisheries, compared to the discards in the deep water crustacean fisheries, which tend to be high and mainly composed by mesopelagic fish species.

166. Artisanal and industrial line fisheries have no discards.

167. A summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

168. The Central and North coast of Mozambique were recently heavily affected by two tropical cyclones which are believed to be related to global warming and climate change events.

169. An assessment was conducted after the cyclones occurred in 2019. There is evidence of mangrove ecosystem destruction in the Central coast, which may negatively impact the shallow-water shrimp stock. The North coast coral reefs were affected due to heavy load of sediment. Its recovery impacts and relies on the protection of the parrotfish population, although detailed assessment is still needed.

170. The summary of the perceived impacts on fishing of abnormal phenomena related to climate events is presented in Appendix J.

Seychelles

Status of stocks and fisheries

171. Seychelles now uses the WoE framework as the standard framework for the assessment of the majority of its fish stocks and fisheries. This was used to establish the stock status for 13 different species and one species group for six different fisheries. The fisheries assessed using the WoE approach are as follows:

- a. Demersal handline fishery
- b. Semi-pelagic handline fishery
- c. Trap fishery
- d. Semi-industrial longline fishery
- e. Lobster fishery
- f. Sea cucumber fishery

172. In the future, Seychelles intends to expand the WoE approach for the encircling gillnet fishery as well as expand to more species in the fisheries listed above.

173. Among the 14 stocks /stock groups reported by Seychelles, eight stocks were classified as overexploited particularly the sea cucumber and the species targeted by the demersal handline fisheries.

174. The updated summary of the analysis of the status of fish stocks in Seychelles is presented in Appendix E.

Management actions undertaken on species/groups classified as overexploited

175. So far, the only comprehensive management plans developed for national fisheries is the Mahe Plateau demersal trap and line fishery co-management plan and the Praslin Fisheries co-management plan. For other highly valuable and/or fisheries susceptible to overexploitation, management measures have been in place for a number of years, such as closed season and limited entry for the lobster and sea cucumber fishery, as well as gear restriction (minimum mesh size) for the trap fishery. Other measures include prohibition of gears such as spearguns, bottom trawls and driftnets.

176. The lobster fishery is a limited entry fishery with a restriction on the number of licenses which are issued each year. Participation in the lobster fishery always requires a license. Furthermore, it is a seasonal fishery, and the fishing season typically last three months. There are minimum landing size restrictions in place and retention of berried females is prohibited. The opening or closing of the fishery depends on the trend of abundance indices, derived from either fishery dependent (when the fishery is open) or fishery independent surveys undertaken on a yearly basis. The fishery has remained close for the past 2 fishing seasons.

177. Access to the sea cucumber fishery is regulated through licensing, with 25 vessels granted access to operate for 8 months of the year. Additionally, as a means of effort control, vessels are only authorized to operate with a maximum of 4 divers. Following a stock assessment in 2017, the fishery is now also managed through a quota system for 3 species. A ban has been introduced on the harvesting of any other species. All landings and export are monitored by the Seychelles Fisheries Authority. Two more processors are to be authorized and the fishery is now benefiting from fuel subsidies. The Authority continues its collaboration with stakeholders within the industry, through the Management Advisory Committee.

178. As per the requirement of IOTC resolution 17/01, Seychelles is required to reduce catches of yellowfin tuna by its Purse seine fleet by 15% based on the 2015 catch level of approximately 39 000 t. The new catch level for yellowfin tuna for this fleet is approximately 33000 t.

179. The past two years have proven that quota monitoring is a challenging job, requiring significant human resources. The constraints were identified and a more efficient monitoring system was introduced. The implementation of new measures such as allocation of quota by companies, removing all excess quota consumed during one year on quota allocation for the upcoming year, are being implemented in 2019, with the aim of remaining within the limit of the quota.

180. The Seychelles National Observer Programme, onboard tuna purse seine fleet, was initiated in late 2014 and has continued to this date. Coverage in terms of the number of fishing set observed is currently at 38%. Seychelles is still non-compliant in regards to its obligation to resolution 11/04 for its industrial longline fleet (5% coverage of fishing operations), and a combination of EMS and human observer is schedule for implementation in 2019.

181. A summary of the management actions in place for the fisheries in Seychelles is presented in Appendix F.

Management Plans

182. In 2012, Seychelles, with the support of the EAF-Nansen project developed a management plan for its demersal fish resources. In October 2014, Seychelles started a reviewing process of the plan and redrafted a more comprehensive plan, the Mahe Plateau trap and line fishery co-management plan). Consistent with world's best practices the development of this plan followed principles of the EAF, also a requirement of the Seychelles Government's Fisheries Act 2014. The development of the plan also heavily involved stakeholder consultation and input.

183. The cabinet of Ministers endorsed the plan in November 2017 and its implementation was scheduled to begin in 2018. However, as a consequence of institutional capacity limitation, its implementation was pushed to the beginning of 2019. A Technical Advisor was contracted late 2018, through the financial assistance of the World Bank funded, SWIOFISH 3 project, to assist the Seychelles Fishing Authority with the implementation of the plan.

184. To date, an Implementation Committee, which is made up of key stakeholder representatives and will be responsible for overseeing the plan's implementation and each subsequent review of the plan and the associated process, has been set up. Very minor revisions were incorporated to update the plan. The revised plan awaits the endorsement of the Cabinet of Ministers before it is Gazetted and subsequently implemented.

185. The new plan contains 18 management measures, which include minimum landing sizes for key species, bag limits for the recreation/sport and semi industrial fisheries, gear limitations for the trap fishery, a licensing framework, and revision of the current incentive scheme.

186. The Seychelles Fishing Authority reviewed its National Plan of Action for the Conservation and management of Sharks (NPOA) 2007-2011) in 2016. A new 5 years plan was developed for the period 2016-2020. One of the findings of the review, was that the key shortcoming for the implementation of the NPOA was the weak functioning of its Steering Committee – in terms of not being given sufficient priority in the Fisheries Portfolio, insufficient secretariat support, a lack of strategic approach and insufficient and irregular meetings. A project coordinator was recruited in June 2019 to coordinate the efforts of key stakeholders, through the Shark – NPOA Steering Committee and to oversee the implementation of the Sharks NPOA 2016-2020.

187. A summary of the current status of these plans is presented in Appendix G.

Certification

188. The Fishing Boat Owners Association, with financial support from the Seychelles Fishing Authority, continued the implementation of their hook and line local labelling programme. The main aim of the programme is to promote the traditional sustainable ways of fishing, to add value to the catch and to maintain the resources availability for future generations. The principle of the programme is to guarantee the traceability of the fish and strengthen the link between fishers and consumers. However, the preparation and implementation of management plan to ensure sustainability of the resources is still missing. The implementation of the Mahe Plateau demersal trap and line fishery co-management plan will enhance the credibility of these initiatives.

189. MSC pre-assessment of the Seychelles purse seine fishery targeting tuna was undertaken in 2015/2016. The fishery did not pass the pre assessment phase and various measures were proposed for improving the sustainability of the fishery. Seychelles in collaboration with various stakeholders including vessels owners and operators then developed a Fishery Improvement Programme for this fishery with the aim of meeting standard for future MSC certification. The Sustainable Indian Ocean Tuna Initiative (SIOTI) - aims to contribute to the overall improvement of the Indian Ocean tuna purse seine fishery.

190. The Echebastar Indian Ocean purse seine skipjack tuna fishery achieved certification to the MSC Fisheries Standard in November 2018. The company, based in Bermeo, Spain, includes five purse seiners fishing in the Indian Ocean and landing tuna in the Seychelles. Three of those purse seiners are registered in the Seychelles. This certification is the result of many years of hard work and follows considerable improvements to tuna fishing practices and management in the Indian Ocean. To maintain certification, the fishery has committed to achieve further challenging improvements such as reducing bycatch, using non-entangling FADs and the rapid release of unwanted catch back to the sea (ensuring higher survival rates of non-target species) and continue the 100% observer coverage.

191. A summary of the certification schemes in use or in preparation is presented in Appendix H.

Fisheries discards

192. Most of the Seychelles fisheries are artisanal or semi-industrial, using mostly handlines and traps, and it is perceived that there are few or no discards in these fisheries. It is estimated that the tuna industrial fishery has a 5% level of discards in weight.

193. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

194. Seychelles reported increased coral bleaching leading to elevated damage of the habitat, as well as an episode of harmful algal blooms in 2019. These effects have been attributed to elevated sea water temperature, probably linked to overall climate change.

195. A summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

Somalia

196. Somalia could not attend the Committee meeting, therefore the information presented is the same as for the last SC meeting.

197. Somalia has one of the richest fishing areas of the SWIOFC, but the civil unrest in the country, predominant for the last 25 years has not allowed it to benefit significantly from the fishery resources, nor to carry out assessments of the status of resources. As the Somalia representatives could not attend the meeting of the Scientific Committee, the information presented is the same as the one submitted at the last meeting. Information on stock and fisheries status is not currently available.

Summary of the assessment of the status of the main fisheries resources

198. No updated information is available on the status of the main marine fisheries resources of Somalia.

199. Somalia wishes to improve its capacity for monitoring its fisheries and assessing its fishery resources, and would like to get assistance from SWIOFC or from other partners through the SWIOFC, for achieving this.

Management actions undertaken on species/groups classified as overexploited

200. No management actions are currently undertaken or planned.

Management Plans

201. No management plans are implemented or being developed for Somali fisheries.

202. It is known that there is Illegal, Unregulated and Undeclared fishing in Somali waters, conducted by foreign vessels from several parts of the world. Somalia wishes to increase regional

cooperation on controlling illegal fishing with the support of countries in the region. Particularly Somalia would like to get support regarding the application of Port State Measures by neighbouring countries.

Certification

203. No certification schemes are applied for or under preparation for Somali fisheries or resources.

Fisheries discards

204. No studies are available on fisheries discards, but expert knowledge indicates these are nil or negligible for the majority of the national local fleets. No information is available on the discards from the foreign fleets fishing in Somali waters.

205. Sharks and shark products such as fins, meat, oil, jaws and teeth are consumed in major towns and cities along the coast, hence not discarded. However, in small villages and remote fishing sites, only the fins and liver oil are used and meat is discarded due to lack of market for dry salted shark meat.

206. No information is available on discards from foreign fleets fishing in Somali waters.

Impacts of abnormal phenomena related to climatological events

207. Somalia has been strongly hit by severe drought intensified by El Niño, that in recent years have become much more frequent than in the past. These conditions will have pushed a larger number of people into fisheries, as a survival strategy.

208. Climatic and oceanographic conditions, and shifting winds cause high waves, mostly in the Red Sea area, which cause a constant threat to the fishing boats, increasing accidents at sea. Prevailing higher temperatures accelerate fish spoilage and reduce the chances of selling fish in good condition.

South Africa

209. South African fisheries in the SWIOF region comprise only a small part of all South African fisheries, which are mainly concentrated along the west and south coasts. Nevertheless, exploitation of fisheries resources in the SWIOF region makes an important contribution to the provision of employment and food security in the region.

210. The main fishery in this region is the KwaZulu Natal (KZN) Prawn Trawl fishery. It consists of two components: a shallow water (5 to 40 m) fishery on the Thukela Bank and at St Lucia, in an area of roughly 500 km², and a deep-water fishery (100 to 600 m) between Cape Vidal in the north and Amanzimtoti in the south, covering an area of roughly 1700 km² along the edge of the continental shelf. The fishery is a multi-species fishery that, in addition to various prawn species, harvests other crustaceans such as crabs, rock lobsters and langoustines, as well as octopus and fish.

211. There is a substantial tuna catch in the South African SWIOF regions but this is reported to IOTC and will not be covered in the present report.

212. Other fisheries are the beach-seine targeting sardine and the linefish fishery.

Status of stocks and fisheries

213. The crustacean resource is regarded as optimally exploited, although there is a need to improve data collection and systematic research on the biology of the various prawn species. The KZN Prawn trawl fishery is effort-controlled by limiting the number of vessels that operate in the two sectors of the fishery. Major challenges of the fishery are mitigation of by-catch (more than 75% by mass of the total catch is discarded) and setting TAE levels that reflect the high inter-annual variability of the shallow-water resource. The effort, i.e. number of fishing vessels allowed to harvest this resource, is virtually unchanged since 1993 with seven vessels harvesting this resource (not all of which are active every year, most recently 3 or 4).

214. More than 80% of linefish catches comprise of the two species slinger (*Chrysoblephus puniceus*) and santer (*Cheimerius nufar*). A third species, the seventyfour seabream, (*Polysteganus undulosus*), was previously heavily depleted and has not recovered yet. Fishing of the seventyfour seabream is therefore prohibited.

215. Beach-seine sardine fishery is only active on the east coast region during the annual sardine run in June/July, when large shoals of sardine migrate eastwards along the coast. The main sardine fishery is located in the southern and Western Cape region. The sardine stock is depleted mainly due to failure to recover from several years of poor recruitment. The failure of the annual winter sardine run and low catches, less than 10 t over the past five years, reflects the poor state of the sardine stock.

216. The updated summary of the analysis of the status of fish stocks in South Africa is presented in Appendix E.

Management actions undertaken

217. The depleted shallow water crustacean resource is due to environmental conditions. Since shallow water crustacean fishing is not economically viable under drought conditions, no effort was directed at this sector since 2013.

218. The reported shallow water species caught during this period were caught by trawls in the deep water zone.

219. A summary of the management actions in place for the fisheries in South Africa is presented in Appendix F.

Management Plans

220. Regarding the Beach-seine sardine fishery, applicable operational management plans are directed at managing the main sardine stock located in the southern and Western Cape region. A new Operational Management Plan (OMP18) for the South African sardine and anchovy resources replaces the OMP14, which was used to recommend TACs and TABs for sardine and anchovy from 2015. The OMP18 will be used to recommend catch and bycatch limits for this fishery from 2019 to 2022.

221. Some of the key differences between OMP-14, and OMP-18 are as follows:

- A minimum directed sardine TAC of 10 000t has been implemented, to reflect the expectation that the directed fishery would never be closed completely in practice.
- The stable (referred to as minimum in OMP-14) directed sardine TAC has been decreased from 90 000t to 65 000t, a consequence of the lower sardine biomass and lower productivity than estimated in 2013 and the need to keep risk to the sardine resource at acceptable levels.
- The maximum directed sardine TAC has been decreased from 500 000t to 200 000t, reflecting the low expectancy for another pulse in sardine biomass (and therefore catches) in the near future. This, together with the 2-tier threshold which has been temporarily removed from the

sardine Harvest Control Rule (HCR), may be revised in future OMPs if robustness tests for future sardine pulses indicate a need for this.

- The directed sardine TAC is now recommended based only on the November hydro-acoustic estimate of sardine biomass, with no mid-season adjustment as per OMP-14 (this as the mid-season sardine recruitment estimate is considered too imprecise to be used reliably to adjust the TAC). The precautionary ‘buffer rule’ applied under OMP-14 is thus no longer used.
- The constraints on inter-annual variability in directed sardine TACs above the Critical Biomass (referred to as Exceptional Circumstances in OMP-14) threshold have been decreased: the maximum proportion by which directed sardine TAC can be reduced from one year to the next has been increased from 0.2 to 0.5. This choice allows for slightly higher catches on average, at the expense of larger inter-annual variability in directed sardine TAC and reflects the preference of industry observers given current low biomass and anticipated TAC levels.
- The range over which linear smoothing above the Critical Biomass threshold applies has been decreased from 400 000t to 100 000t, given small differences in projected risk and average catch for a Critical Biomass threshold of 300 000t and a stable TAC of 65 000t. Linear smoothing is required as a result of the constraints mentioned above, so as to ensure that no discontinuity arises as the Critical Biomass threshold is approached from above.
- Constraints on inter-annual variability in directed sardine TACs below the Critical Biomass threshold have been introduced: the maximum proportion by which directed sardine TAC can be increased or decreased from one year to the next is now 0.5. This reflects the expectation that large changes in the directed sardine TAC at values below 65 000t would best be avoided.
- Linear smoothing below the Critical Biomass threshold applies over a range of 50 000t. Linear smoothing is required as a result of the new constraints mentioned in the previous bullet, so as to ensure no discontinuity arises as the Critical Biomass threshold is approached from below.
- A ‘preventative red flag’ which triggers spatial management of the directed sardine TAC, if the biomass of sardine surveyed west of Cape Agulhas is below 100 000t has been introduced. If the red flag is triggered, at most 40% of the directed sardine TAC may be taken west of Cape Agulhas. This reflects the need to offer greater protection to the more productive sardine west coast component at low west coast biomass levels.
- A combination of a ‘penalty red flag’ and a ‘benefit green flag’ have been introduced. These flags are triggered if the spatial distribution of future catches deviates appreciably from the relationship assumed during OMP testing, and result respectively in decreases or increases in the TAC when the proportion of the catch west of Cape Agulhas was appreciably higher or appreciably lower than expected. It is expected that this will discourage higher than anticipated catches in the area to the west of Cape Agulhas.

222. A summary of the current status of these plans is presented in Appendix G.

Certification

223. South Africa has currently no certified fishery in the SWIOF area.

Fisheries discards

224. More than 75% (by mass) of the total catch of both the Inshore shallow water and Offshore deep water fisheries is discarded at sea because it has little commercial value. Discards include cephalopods (octopus, squid and cuttlefish), fish (many species), elasmobranchs (sharks and rays), and lower value crustaceans.

225. The summary of the current knowledge on bycatch and discards is presented in Appendix I.

Impacts of abnormal phenomena related to climatological events

226. Shallow-water crustacean species include white prawns *Fenneropenaeus indicus* (80% of the prawn catch), brown prawns *Metapenaeus monoceros* and tiger prawns *Penaeus monodon*. The abundance of shallow-water prawns on the fishing grounds is highly variable between years depending on recruitment. Shallow-water prawns have a 1-year lifespan and the juvenile stages are spent in estuaries; recruitment therefore depends on rainfall and river run-off. Catches of shallow-water prawns strongly reflect annual recruitment from estuaries, and a predictive equation relating historical river flows to shallow-water prawn catch on the Thukela Bank was developed for the 1988-2000 period by the then Department of Water Affairs and Forestry. Very low catches since 2008 are attributed to drought conditions and the closure of the mouth of the St Lucia estuary by a sandbar – recruitment of juvenile prawns from the estuary to the Thukela Bank was therefore blocked. The persistent drought has led to such low recruitment that fishing of the shallow water species has not been economically viable for the past few years.

227. The summary of the perceived impacts on fisheries of abnormal phenomena related to climatological events is presented in Appendix J.

United Republic of Tanzania

228. In the United Republic of Tanzania, fisheries are not a union matter, and the fisheries administration is split by three institutions, (1) Mainland Tanzania Fisheries Division, (2) Department of Fisheries Development, Zanzibar and (3) the Deep Sea Fishing Authority for fishing on the Exclusive Economic Zone (EEZ).

229. The fishing industry in U.R. Tanzania marine waters is dominated by artisanal fisheries by more than 95%.

Status of stocks and fisheries

230. Tanzania carried out a WoE analysis on the status of six fish stocks. The other remaining nine were assessed using expert knowledge. In Tanzania, a Catch Assessment Survey (CAS) system is implemented to collect and manage fisheries data.

231. It is noted that the stocks reported as overfished (penaeid shrimp, sea cucumber, bivalves, shells and coelacanth) are now submitted to a prohibition of fishing. The moratorium on shrimps has been lifted for a short period, to assess the possible recovery of the stock.

232. The remaining fisheries show appreciable variations in landings for consecutive years. The small pelagic fishery shows relatively stable landings, when compared to other species groups. Total landings of reef fish have increased in recent years which may suggest an improvement in the stocks. Prawn landings and CPUE are very low, indicating that stock is not improving. A decrease in catch for tuna and tuna-like species, that does not seem to be associated with a decrease in effort, also indicates a lower stock level for this fishery.

233. The updated summary of the analysis of the status of fish stocks in the U. R. Tanzania is presented in Appendix E.

Management actions undertaken

234. Management actions are in place for all the stocks classified as overexploited (penaeid shrimp, sea cucumber, bivalves, shells and coelacanth).

235. The shallow-water prawn fishery is subjected to a moratorium on industrial fishing since 2007, but artisanal fishers continued to fish until 2017. Since then, they were also requested to follow the closure. In 2018, the fishery will be open from 1st April to 31st August.

236. The harvesting of sea cucumbers is still banned in Tanzania mainland. In Zanzibar, it is only allowed to harvest and export sea cucumbers from aquaculture. Additionally, fisheries laws in Zanzibar prohibit the use of diving equipment for fishing.

237. In order to protect further decline of wild sea cucumber, the marine hatchery has been constructed in Zanzibar. This is through collaboration between the Revolutionary Government of Zanzibar, the Korea International Cooperation Agency and the FAO. Production of sea cucumber seeds has started and produced sea cucumbers are distributed to pilot farming sites for farming.

238. For the coelacanth, which is currently totally protected, there is a total ban on any harvesting that continues in place, and it is not foreseen to be lifted any time.

239. For bivalves, the main action is a ban on exports.

240. There is also a ban on harvesting and exporting shells considered overexploited or regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

241. Other management actions for stocks not over-exploited are in place, such as the minimum weight for the octopus fishery, gear limitations or engaging fishers in collaborative fisheries management.

242. A summary of the management actions in place or in planning is presented in Appendix F.

Management Plans

243. There are currently four Fisheries Management Plans on marine fisheries for mainland Tanzania: the Prawn Fishery Management Plan, in place since 2012; the Octopus Fishery Management Plan, in place since 2012; the Artisanal Pelagic Fishery Management Plan, in place since 2013; and the National Tuna Fishery Management Strategy, developed in 2013.

244. The National Tuna Fishery Management Strategy is a result of a joint effort of all three institutions that are responsible for Fisheries in Tanzania, which are the Division of Fisheries in Mainland Tanzania, the Department of Fisheries Development in Zanzibar and the Deep Sea Fishing Authority (DSFA). The implementation of the National Tuna Fishery Management Strategy, developed by all three institutions in collaboration with WWF, was supported by the SWIOFish project in 2016/2017 and is currently being implemented.

245. In Zanzibar, three management plans are in advanced stage of preparation in Zanzibar. These concern the following fisheries: octopus, reef fish and small pelagics. Three-year action plans have been prepared for the three plans, also with the support of the SWIOFish project in the United Republic of Tanzania.

246. A summary of the current status of these plans and strategies is presented in Appendix G.

Certification

247. The Octopus fishery is under the process of certification by the MSC. The process started in 2010, and good progress has been achieved in 2015 and 2016, with the conclusion of stock assessment

studies by TAFIRI. These still need to be peer reviewed. Currently, other activities are being prepared related to traceability and spatial and temporal evaluation of octopus catches.

248. A summary of the certification schemes in use or preparation is presented in Appendix H.

Fisheries discards

249. Only few studies on fisheries by-catch and discards have been carried out. Current information includes reports of by-catch of sea turtles, dolphins and dugong in the gillnet fishery carried out in the Channel of Mafia and the Channel of Zanzibar and in the trawl fishery.

250. Despite the lack of dedicated studies, consideration of the types of fisheries operating in Tanzania and of the social conditions of fishing communities suggests that overall discards will be mostly negligible.

Impacts of abnormal phenomena related to climatological events

251. Tanzania identified beach erosion, degradation of coral reefs, sea surface temperature increase and acidification as the main phenomena related to climatic events.

252. In May 2019, there were heavy rains associated with very strong winds, which have occurred, dragging at least 38 vessels with 120 fishers from Pemba Island to the Kenyan coast. The incidence caused some damage to the vessels, and some of them are currently not operating.

253. The summary of the perceived impacts on fishing of abnormal phenomena related to climate events is presented in Appendix J.

CASE STUDIES OF RECENT FISHERIES ASSESSMENTS

Assessment of the shallow-water shrimp fishery of Madagascar using a traffic light approach

254. The presentation covered a way of presenting results from assessment of fisheries and stocks using a traffic light approach.

255. Decision-making in the management of the shrimp fishery in Madagascar must fit into a clear and accepted operational framework. It must also rely on solid and undeniable knowledge on the shrimp stock.

256. Support for the implementation of the project to improve the shrimp fishery in Madagascar, which is financed by the SwioFish02 project, makes it possible to study shrimp stocks and determine reference points. The results of this study allowed to identify critical (A and B) and precaution (C and D) zones in Madagascar.

RECENT FISHERIES RESEARCH

Results from project “Monitoring of the fish communities and benthic habitats from non baited underwater video techniques with applications to Indian Ocean Conservation and fisheries management challenges”

257. A summary of the video indicator approach used in recent assessments of exploited fish stocks in Mayotte Island and its main far reef banks (Geyser - EPICURE project - EDF and TAAF funds 2015-2017), was presented to the Committee. The unbaited underwater video system (STAVIRO)

methodology, the sampling design used and the main results for assessing the state of health of both main targeted stocks were presented. The diagnosis highlights similar situations in both cases. The larger species groups (total max length up to 80 cm) targeted in the past, were rarely observed, and/or show a clearly unbalanced size structure on both the bank and Mayotte Island. The smaller species (total max length less than 60 cm) seem to be in a better status in abundance and size structure, particularly the gregarious and herbivorous species. Species known to have a lower catchability are well present and structured, according to their life habitats.

Project IPERDMX - Population and ecosystem indicators for sustainable management of demersal resources – Objectives and expected results

258. This presentation covered the main objectives and issues of a new project (IPERDMX - 2019-2021- Fishery European Fund). The main goal of this new project consists in a global evaluation of fish communities between 1 to 500 meters depth all around the Reunion Island. Both video and fishing indices (matched on coral reef habitat less than 80m), will be established for fish communities (abundance structured in size by habitat), with a focus on the main targeted species by fisheries. These results should allow the update of knowledge on stocks status depending on habitats and to complete the parameters of some species (biology, distribution in habitat depending size/age, stock units...) to draw a first map of the fishery functional area and provide knowledge to the future management plan for demersal fish species in Reunion.

RELEVANT WORKSHOPS, MEETINGS AND PRODUCTS

Presentation on the new project “A partnership for Marine and Coastal Governance and Fisheries Management for Blue Growth”

259. Mr. Luca Garibaldi, SWIOFC Secretary, presented to the Committee the new project “A partnership for Marine and Coastal Governance and Fisheries Management for Blue Growth” GCP/SFS/005/SWE. The project is a partnership between two bodies (SWIOFC and Nairobi Convention -NC) of two UN Agencies (FAO and UNEP) that share the same members in the SWIO, with the only exception of Maldives and Yemen. The 5-year project funded by the Swedish International Development Cooperation Agency (SIDA) stemmed from the need to reconcile fisheries and conservation management objectives, and could be a possible model of cooperation between a Regional Fisheries Body (RFB) and a Regional Sea Convention (RSC).

260. The project is articulated in three main components: 1) Protection and management of the coastal and marine ecosystems (implemented by NC); 2) Coastal fisheries are sustainably managed using the EAF (implemented by SWIOFC); and 3) Improvement of coordination between fisheries and environmental management institutions at the regional and national levels (jointly implemented).

261. The activities of the project that are more related to the activities of the Scientific Committee are under Output 2.2 (Management plans and other arrangements for selected fisheries developed and implemented), Output 3.1 (Establish a dialogue between fisheries management and environment policy institutions at regional and national levels and make it operational), and Output 3.2 (Functional knowledge and information sharing mechanism in place).

262. Addressing questions from participants on the selection of the three countries in which pilot field activities will be carried out, Mr. Garibaldi clarified that the selection among five countries listed in the Project Document is underway by an independent consultant with the SWIOFC and NC supervision. Once this is completed, the three countries will be requested to sign the Project Document allowing the project activities to start.

263. The pilot field activities will be managed by the National Coordinators of the project in strict collaboration with the national authorities.

WIOFish

264. WIOFish started in 1999 which makes it 20 years old this year. It is an annotated inventory of fisheries from the western Indian Ocean. The overall aim of WIOFish is to ensure sustainable coastal fisheries through a cohesive and scientific management approach by providing comprehensive fisheries information.

265. The inventory is available through an online database that can be accessed at www.wiofish.org. There are 266 profiles for various fisheries from the western Indian Ocean. The fisheries in the database represent sectors from subsistence through to full-scale industrial fisheries, and they also represent a multitude of gear use with the most fisheries using hooks and lines, small nets or no gears. Half of the fisheries profiles include catch and effort data of some sort.

266. WIOFish is still seen to be a useful resource in the global sense. Last year in 2018 there were 293 individual users who accessed the database 1228 times. These users came from 67 countries. In the first six months of this year there were 94 individual users accessing the database 571 times with 64 countries represented.

267. There should have been a round of update workshops in the first semester of this year, but due to the withdrawal of funding from an established source and a new source, there was no financial capacity to undertake the workshops. The updates for Kenya and South Africa could have been done as KMFRI offered to fund their workshop and the South African updates have never had a cost associated with them, but since the other countries were not able to fund these workshops for various reasons, it was considered it would be more adequate to carry out all updates in the same year.

268. The database management is currently being fully funded from consultancy work that the regional coordinator undertakes. The promoters of WIOFish are exploring other avenues of funding such as through the EU and the Indian Ocean Rim Association. WIOFish has been running for 20 years and the promoters are committed to keep it running to serve the fisheries management community in the region.

The Southwest Indian Ocean Octopus Project (SWIOceph)

269. Octopus has always been a valuable source of protein for coastal communities in the SWIO region. However, the increase in global demand for octopus is expanding the export market for the SWIO octopus, providing increasing opportunities for generating income for these coastal communities. This is resulting in increased exploitation of this resource. Fishing octopus sustainably will improve the likelihood that these communities can derive long-term social, economic and environmental benefits from this resource.

270. This project pre-assessed selected octopus fisheries of the SWIO region against the Marine Stewardship Council's (MSC) science-based Fisheries Standard, a globally recognized measure of sustainability. The pre-assessment process is essentially a largescale gap analysis, identifying areas that fisheries can address in order to become more sustainable. General project findings were:

- Improved data collection programs are needed to obtain more accurate octopus catch data that can lead to fishery-specific stock assessments.
- The open access nature of most octopus fisheries results in limited catch and effort measures, impacting harvest strategy and control rules.
- There is a need to measure and take account of bycatch and the effect that octopus fisheries are having on the ecosystem.
- Greater co-ordination among governance regimes, guided by fishery specific management plans, would greatly improve the sustainable management of octopus.

271. Several countries in the SWIO region are developing national initiatives for management of their octopus fisheries. However, as *Octopus cyanea* in SWIO is likely a metapopulation and thus a shared stock, coordination of the management of this resource at regional level is also important.

WWF Interventions in promoting sustainable and improved fisheries management in the South West Indian Ocean Region

272. The representative of the WWF shared with the Scientific Committee the fisheries related activities that the organization has implemented under their regional fisheries programme at different scale and with various partners in the Southwest Indian Ocean.

273. WWF has been collaborating with the SWIOFC, the IOTC, the Regional Economic Communities (RECs) and their member states as well as development partners to formulate and implement effective fisheries conservation and management measures. Some of the activities included facilitating fisheries policy and legislative reforms at national and regional level, support the SWIOFC WPCCTF and the MTCTF, working closely with member states to improve their compliance with IOTC Conservation and Management Measures, promoting and strengthening the capacity of SWIO coastal states on MCS.

274. Sustainable blue economy and measure to address marine litter are new emerging areas in which WWF is investing resources to help the countries to make a full use of their ocean resources and reduce plastics discarded in the environment respectively. WWF has commissioned consultancies to undertake blue economy assessment in Kenya and Tanzania and to estimate the extent of plastic pollution in the region.

275. WWF reiterated its commitment to work with the SWIOFC member states, relevant partners and local communities to promote sustainable and profitable fisheries in the SWIO region.

RECOMMENDATIONS

276. The SC **RECOMMENDS** that a study on the identification of stock units of potentially shared or transboundary key stocks in the region is carried out, focusing on a first phase on sea cucumber, octopus, shallow-water shrimp and small pelagic fish;

277. The SC **RECOMMENDS** that the Commission supports the coordination and harmonization of management plans dealing with common priority species in several countries of the region, to improve the efficacy of management measures;

278. The SC **REQUESTS** that SWIOFC support the preparation of a document with a compilation of the historical and current knowledge on the fisheries of the SWIOFC region identified in the table in Appendix K, with the full contribution and participation of the fisheries management and research agencies of the countries involved. This will require support for meetings and travel of the members of the authors groups;

279. The SC **RECOMMENDS** that the members promote dedicated basic studies on Biological Parameters of the main priority species identified (Table K), possibly in cooperation with Universities. These should include studies on Length-Weight relationships, Growth, Maturity, Reproduction, Feeding Ecology and other parameters;

280. The SC **RECOMMENDS** that members should make an effort to improve the coverage of port sampling of landings and effort, focusing on the priority species in Table K. Besides widening the geographical and temporal coverage of the sampling programmes, particular attention should be given to obtain better separation of species, regular collection of length frequency distributions for some priority species and the regular collection of socio-economic data;

281. The SC **RECOMMENDS** that members should work together to improve and standardise the systems and procedures for management of their fisheries and scientific data, to facilitate quality control and availability of data for analyses, as well as cooperation across the region. It is recommended that the SWIOFC create a WG on scientific data management and standardisation;

282. The SC **RECOMMENDS** that a training and scientific data compilation workshop on simple indicator-based methods for fish stock assessment to be held before the next Working Group meeting; This will be associated to the training on the R system;

283. The SC **REQUESTS** that the Secretariat makes an effort to secure funding for a region-wide study on the likely reasons for the observed generalised decline in the landings and productivity of the shallow-water shrimp fishery in the SWIO region;

284. The SC **RECOMMENDS** that the Secretariat organizes the preparation of a Catalogue of the Fishing Gear and Methods of the SWIO region. This should be done by a team of regional consultants, and if possible also led by an expert from the region.

285. The SC **REQUESTS** the Commission to carry out a stock-taking of existing human capacity on fisheries research, as a first step towards a higher-education programme for national staff in this scientific field;

286. The SC **RECOMMENDS** that attention is given to building capacity on data analysis particularly acoustic survey data, given that many datasets have been collected in the region but the technical ability to undertake comprehensive analysis of these data is lacking;

287. The SC **ENCOURAGES** countries to keep stability in their representation to the SC and WG, to ensure continuity;

288. The SC **RECOMMENDS** that the work on recovering and making available relevant data from previous projects run in the region, like the Southwest Indian Ocean Fisheries Project (SWIOFP), the Agulhas Somali Current Large Marine Ecosystem Project (ASCLME), the Indian Ocean Expedition and others is continued;

289. The SC **ENCOURAGES** the continuation of the work on updating the WIOFish database, as this is useful in the SC context;

290. The SC **RECOMMENDS** that member countries submit all reports and data before the SC meetings, in accordance with the deadlines set by the Secretariat.

DATE, PLACE AND ARRANGEMENTS FOR THE NEXT MEETING

291. Based on the roster agreed to at the Second Session of the Scientific Committee, an in-principle invitation was received from the Madagascar delegate to host the next meeting of the Scientific Committee in Madagascar, subject to further consultation and confirmation by the national fisheries authority.

292. The next session of the Scientific Committee will be held at least two months in advance of the Tenth Session of the Commission, unless funding restrictions or other operational issues require that it be held back-to-back with the Commission.

ADOPTION OF THE REPORT

293. The report was adopted on 19 July 2018 at the Hotel Archipel, Réunion, France, at the close of the Session.

APPENDIX / ANNEXE A

Agenda

1. Opening of the Session
2. Election of the Chair and Vice-Chair
3. Adoption of the Agenda and arrangements for the Session
4. Report of the SWIOFC Working Group on Fisheries for Small Pelagic fish
5. Status of Fisheries Resources and Management Actions undertaken
6. Report on recent research work carried out by the EAF-Nansen Programme in the SWIO
7. Case Studies on Recent Fisheries Assessments
8. Recent Fisheries Research
9. Relevant workshops/meetings/products
10. Recommendations
11. Any other business
12. Date and place of next meeting of the Scientific Committee
13. Adoption of the Report

Ordre du jour

1. Ouverture de la session
2. Élection du président et du vice-président
3. Adoption de l'ordre du jour et organisation de la session
4. Rapport du Groupe de Travail sur les Pêcheries de petits poissons pélagiques de la CPSOOI
5. État des ressources halieutiques et mesures de gestion entreprises
6. Rapport sur le travail de recherche récent du Programme EAF-Nansen dans le SOOI
7. Études de cas sur des évaluations halieutiques récentes
8. Recherches halieutiques récentes
9. Ateliers/réunions/produits connexes
10. Renseignements sur le comité scientifique de la CTOI
11. Recommandations
12. Autres questions
13. Adoption du rapport

APPENDIX / ANNEXE B**List of documents****Working Documents:**

SFS/SWIOFC/SC9/19/1

Agenda and Timetable

SFS/SWIOFC/SC9/19/2

Report of the 8th Session of the Scientific Committee**Information Documents :**

SFS/SWIOFC/SC9/19/Inf.1

Notes for participants

SFS/SWIOFC/SC9/19/Inf.2

Provisional List of documents

SFS/SWIOFC/SC9/19/Inf.3

Provisional List of participants

Liste des documents**Documents de travail :**

SFS/SWIOFC/SC9/19/1

Ordre du jour et Calendrier

SFS/SWIOFC/SC9/19/2

Rapport de la 8^e Session du Comité scientifique**Documents d'information :**

SFS/SWIOFC/SC9/19/Inf.1

Notes d'informations pour les participants

SFS/SWIOFC/SC9/19/Inf.2

Liste provisoire des documents

SFS/SWIOFC/SC9/19/Inf.3

Liste des participants

APPENDIX / ANNEXE C

LIST OF PARTICIPANTS / LISTE DES PARTICIPANTS

COMOROS / COMORES

ABDOUCHAKOUR Mohamed
Abderemane
Responsable de la Recherche
Direction Générales des Ressources
Halieutiques - Ministère de l'Energie, de
l'Agriculture, de la Pêche et de
l'Environnement
BP 41 Morone
Tel.: +269 3330723
E-mail: abdouchamed@yahoo.fr

NASHIME Mohamed Soifoine
Administrateur Référentiel du système
d'informations Pêche
Direction Générale des Ressources
Halieutiques - Ministère de l'Energie, de
l'Agriculture, de la Pêche et de
l'Environnement
BP 41 Morone
Tel.: +269 3393381
E-mail: nashimohamed@gmail.com

FRANCE

ROOS David
Chercheur en écologie
halieutique/Researcher in fisheries and
marine ecology
IFREMER – DOI
Rue Jean BERTHO - BP60
La Réunion
Tel.: +262 554730 (5730)
E-mail: david.roos@ifremer.fr

GIANNASI Paul
Chef du service ingénierie, adjoint à la
directrice
Agence Française pour la Biodiversité -
Parc Naturel marin de Mayotte, Centre
d'affaires aéroport, 97615 Pamandzi
Parc Naturel marin de Mayotte, Centre
d'affaires aéroport, 97615 Pamandzi
Tel.: +262269607365 / +262639091904
E-mail: paul.giannasi@afbiodiversite.fr

KENYA

MUSYOKA Elizabeth Mueni
Principal Fisheries Officer

Kenya Fisheries Service, Statistics Section
P. O Box 58187 (00200) Nairobi
Tel.: +254 412315904; +254 729342725;
+254 722326826
E-mail: emuenibf@yahoo.com
KIMANI Edward N.
Research Scientist (Fisheries and Aquatic
Ecology)
Kenya Marine and Fisheries Research
Institute (KMFRI)
Box 81651-80100 Mombasa
Tel.: +254 41 475157
E-mail: ekimani@kmfri.co.ke;
edwardndirui@yahoo.com

MADAGASCAR

BEMANAJA Etienne
Directeur Général de la Pêche et de
l'Aquaculture
Ministère de l'Agriculture, de l'Elevage et
de la Pêche
Ampanadianomby, Antananarivo
Tel.: +261 34 07 939 38 / 33 40 116 64
E-mail: bemanaja@yahoo.fr;
cgp.mrhp@gmail.com

BE Jean Jacques
Directeur de Centre d'étude de
Développement des Pêches
Direction Générale des Ressources
Halieutiques et de La Pêche
Tel.: +261 34 01 917 21
E-mail: bejeanjacques@moov.mg

MALDIVES

AISHATH Sara Hashim
Senior Research Officer
Marine Research Center, Ministry of
Fisheries & Agriculture
Velaanaage 7th Floor Ameer Ahmed Magu,
Male
Tel.: +960 3322242
E-mail: asarah@mrc.gov.mv

NIZAR Hawwa Raufath
Research Officer
Ministry of Fisheries and Agriculture

Velaanaage, 7th floor, Ameer Ahmed
Magu, Male
Tel.: +960 3339216
E-mail: raufath.nizar@fishagri.gov.mv

MAURITIUS / MAURICE

SOOKLALL Trishna
Scientific Officer
Ministry of Ocean Economy, Marine
Resources, Fisheries and Shipping,
4th Floor, LIC Building, Port Louis
Tel.: +230 238 4100; (+230) 5788 5564
E-mail: tsooklall@govmu.org

SENEDHUN Vibhushan
Scientific Officer
Ministry of Ocean Economy, Marine
Resources, Fisheries and Shipping,
4th Floor, LIC Building, Port Louis
Tel.: +230 238 4100; (+230) 5701 1591
E-mail: senedhunv@gmail.com

MOZAMBIQUE

MAFUCA Jorge
Director
IIP - Fisheries Research Institute,
Av. Mao Tse Tung, No 389, Maputo
Tel.: +258 824910960
E-mail: jorgemafuca@gmail.com

CHACATE Osvaldo Ernesto
Scientist
IIP - Fisheries Research Institute,
Av. Mao Tse Tung, No 389, Maputo
Tel.: +258 848591690
E-mail: chacatemz@gmail.com

SEYCHELLES

LUCAS Vincent
Chief Fisheries Officer
Seychelles Fishing Authority
Fishing Port, PO Box 449 Victoria, Mahé
Tel.: +248 4670335 / (+248)2512323
E-mail: vlucas@sfa.sc
MANGROO Rosabella
Fisheries Scientist
Seychelles Fishing Authority
Fishing Port, PO Box 449 Victoria, Mahé
Tel.: +248 4670337 / (+284)2842091

E-mail: rmangroo@sfa.sc
**UNITED REPUBLIC OF TANZANIA /
RÉPUBLIQUE UNIE DE TANZANIE**

JUMA Mohammed Chum
Chief Fisheries Officer, DFD representing
Director of Fisheries
Department of Fisheries Development
Ministry of Agriculture, Natural Resources,
Livestock and Fisheries, Zanzibar
Tel.: +255 77 78 45 287
E-mail: mcjuma2003@yahoo.com

OBSERVERS / OBSERVATEURS MARINE STEWARDSHIP COUNCIL

GORDON Andrew
MSC's Fisheries Outreach Manager –
Southern Africa
Millennium Business Park, Century City
Cape Town, South Africa
Tel.: + 27 (0)21 551 0620
E-mail: andrew.gordon@msc.org

IOC-SWIOFISH1 / Mauritius

MAUREE Daroomalingum
Coordinateur SWIOFISH1
IOC
514 Level L3c Bldg Ebene Blue Tower
Tel.: +230 54214183
E-mail: d.mauree@coi-ioc.org

LEBRETON Isabelle
Responsable Administrative & Financière
Commission de l'océan Indien
Blue Tower (ex Infinity), 3e étage, Ebène
Tel. : +230 4026100
E-mail : isabelle.lebreton@coi-ioc.org

UNEP/Nairobi Convention (United Nations Environment Programme / Programme des Nations unies pour l'environnement)

WARUINGE Dixon
Head - Secretariat for the Nairobi
Convention; Ecosystems Division
UN Environment
United Nations Av. Gigiri P.O. Box 30552-
00100
PO Box 30522,

Nairobi, Kenya
 Tel.: +254 20 7622025/1250 / +254 710
 602514
 E-mail: dixon.waruinge@un.org

**WORLD WIDE FUND FOR NATURE /
 FONDS MONDIAL POUR LA
 NATURE**

KIMAKWA Edward
 Marine Fisheries Expert
 WWF – Regional Office for Africa (ROA)
 The Mvuli, Mvuli Road
 P.O. Box 62440-00200
 Nairobi, Kenya
 E-mail: ekimakwa@wwf.panda.org

**FOOD AND AGRICULTURE
 ORGANIZATION OF THE UNITED
 NATIONS / ORGANISATION DES
 NATIONS UNIES POUR
 L'ALIMENTATION ET
 L'AGRICULTURE**

BARROS Pedro
 SWIOFC Technical Secretary/Marine &
 Inland Fisheries Branch
 SWIOFC/FAO
 Viale delle Terme di Caracalla, 00153
 Rome, Italy
 Tel.: +39 0657056469
 E-mail: pedro.barros@fao.org

GARIBALDI Luca
 SWIOFC Secretary
 Regional Fisheries and Aquaculture
 Officer;
 FAO Officer Subregional Office for
 Southern Africa (SFS)
 Rua Consiglieri Pedroso, 347, 3rd Floor,
 Maputo
 Tel.: +258 82 2282774
 E-mail: luca.garibaldi@fao.org

APPENDIX / ANNEXE D

Opening speech by Mr Dominique Person, Director of the Regional Operational Center for Surveillance and Rescue of Reunion (*Centre Régional Opérationnel de Surveillance et de Sauvetage, CROSS*)

Mr Luca Garibaldi, Secretary of the Southwest Indian Ocean Fishery Commission SWIOFC,
Dear delegates, members of the SWIOFC, SWIOFC Secretariat and representatives of the FAO and IOC,
Distinguished guests,
Ladies and gentlemen,

It is both an honour and a pleasure to speak at the opening of the 9th session of the Scientific Committee of the South West Indian Ocean Fisheries Commission (SWIOFC-CPSOOI)). On behalf of the Director of the South-West Indian Ocean Sea, I wish you an excellent stay on Reunion Island, nicknamed "the intense island", by the diversity of its landscapes and coastal and mountain activities.

France wished to host this Scientific Committee because it is important for all members of the SWIOFC to support the work of this Committee, which allows to collect statistical data essential for the good management of the fisheries resources in the region; thus ensuring a balanced and sustainable exploitation of demersal and pelagic stocks.

France, present in the south-west of the Indian Ocean with its two overseas departments and territories - the Scattered Islands and Austral Islands - devotes significant effort to monitor its exclusive economic zone (2.6 million km²), and contribute to a controlled exploitation of the areas under responsibility.

France is also a major contributor in the fight against illegal fishing, by providing an offshore patrol boat (OSIRIS and then OSIRIS II) which, through IOC and the European programs Smartfish and from this year, Ecofish, allows carrying out regional patrols in the different EEZs of the countries participating in this program. We all know that monitored waters are less exposed to illegal fishing. It is therefore important, through these regional cooperation programs, to allow certain coastal states in the region without offshore surveillance capacity, to be able to control fishing activities throughout their EEZ.

The agenda of this Scientific Committee will include, among other things, a report on the fishery resources of small pelagic fish, a more general assessment of fisheries resources and management measures of fisheries-related companies, and a presentation of studies on fisheries assessments, and a recent research report conducted under the EAF-Nansen program in the southwest Indian Ocean. This knowledge is important in order to measure the current fishing effort, the fisheries diversity and the prospects for development that may be considered.

This scientific committee, with its expertise and recommendations, currently contributes to and will contribute in the future to ensuring a sustainable exploitation of the fishing resources in the region, in order to optimize the economic and social resources from fisheries, for the countries of the South West Indian Ocean.

Ladies and gentlemen,

We hope that the conditions will be conducive for your exchanges to lead to relevant advances in the knowledge of these resources, which generate employment and contribute to the food security of the population.

Once again, I wish you a pleasant stay in Reunion while wishing you a very rich and fruitful

work.

I officially declare open the 9th session of the Scientific Committee of the South West Indian Ocean Fisheries Commission (SWIOFC - CPSOOI).

Thank you for your attention.

Discours d'ouverture de M Dominique Person, Directeur, Centre Régional Opérationnel de Surveillance et de Sauvetage (CROSS) de la Réunion

Mr Luca Garibaldi, secrétaire de la Commission des pêches du Sud-ouest de l'océan indien CPSOOI,

Chers délégués, membres de la CPSOOI/SWIOFC, Secrétariat de la CPSOOI/SWIOFC et représentants de la FAO et de la COI,

Distingués invités,

Mesdames et messieurs,

C'est à la fois un honneur et un vrai plaisir de prendre la parole à l'ouverture de la 9ème session du comité scientifique de la Commission des pêches du Sud-ouest de l'océan indien (CPSOOI-SWIOFC).

Au nom du Directeur de la mer du sud-ouest de l'océan indien, je vous souhaite un excellent séjour sur l'île de la Réunion, surnommée « l'île intense » par la diversité de ses paysages et des activités littorales ou de montagne qu'il est possible d'y exercer.

La France a souhaité accueillir ce comité scientifique car il est important pour tous les membres de la CPSOOI de soutenir les travaux de ce comité, qui permettent de collecter des données statistiques indispensables à la bonne gestion des ressources halieutiques dans la région, et de pouvoir ainsi assurer une exploitation équilibrée et durable des stocks d'espèces démersales et pélagiques.

La France, présente dans le sud-ouest de l'océan indien avec ses deux départements ultra-marins et ses territoires, les îles Eparses et Australes, consacre des efforts importants afin de surveiller ses zones économiques exclusives (2,6 millions de Km²), et contribue ainsi à une exploitation maîtrisée des espaces placés sous la responsabilité.

Elle est aussi un contributeur important dans la lutte contre la pêche illégale en mettant à disposition un patrouilleur hauturier (OSIRIS puis OSIRIS II), qui permet, par l'intermédiaire de la COI et des programmes européens Smartfish puis Ecofish à partir de cette année, d'effectuer des patrouilles régionales dans les différentes ZEE des pays participant à ce programme. Nous savons tous que des eaux surveillées sont moins exposées à la pêche illégale. Il est donc important, par ces programmes de coopération régionale, de permettre à certains états côtiers de la région ne disposant pas de moyens de surveillance hauturiers de pouvoir contrôler les activités de pêche dans l'ensemble de leur ZEE.

L'agenda de ce comité scientifique comportera, entre autres, un état des ressources halieutiques des petits poissons pélagiques, un bilan plus général des ressources halieutiques et des mesures de gestion des entreprises liées à la pêche, une présentation d'études sur les évaluations halieutiques récentes et un rapport de recherche récent conduit au titre du programme EAF-Nansen dans le sud -ouest de l'océan indien. Cette connaissance est importante afin de mesurer l'effort de pêche actuel, sa diversité et les perspectives de développement qu'elle permet d'envisager.

Ce comité scientifique, par ses expertises et ses recommandations, contribue et contribuera à garantir une exploitation soutenable des ressources de pêche dans la région afin d'optimiser les ressources économiques et sociales provenant de la pêche pour les pays du sud-ouest de l'océan

indien.

Mesdames et messieurs,

Nous espérons que les conditions seront réunies pour que vos échanges conduisent à des avancées pertinentes dans la connaissance de ces ressources qui génèrent de l'emploi et contribuent à la sécurité alimentaire des populations.

Je vous renouvelle une nouvelle fois tous mes vœux d'un séjour agréable à la Réunion tout en vous souhaitant un travail très riche et fructueux.

Je déclare officiellement ouverte la 9ème session du comité scientifique de la Commission des pêches du Sud-ouest de l'océan indien (CPSOOI-SWIOFC).

Je vous remercie de votre attention.

APPENDIX / ANNEXE E

Summary tables: Status of fish stocks in the Southwest Indian Ocean

Legend: **NO** – Not Overexploited; **O** – Overexploited; **U** – Unknown; **NA** – Not Applicable

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
Comoros										
<i>Epinephelus merra</i>	20.08	Stable	Stable	Stable	O	NA	Expert Knowledge	NA		
<i>Lethrinus mahsena</i>	6.22	Declining	Stable	Declining	O	NA	Expert Knowledge	NA		
<i>Octopus</i>	920.1	Stable	Stable	Stable	U	NA	Expert Knowledge	NA		
<i>Variola louti</i>	15.11	Stable	Stable	Stable	O	NA	Expert Knowledge	NA		
France (Réunion)										
Demersal resources, excluding MPA (catch and effort indices collected only on professional artisanal fishery)										
Brilliant pomfret (EBS) <i>Eumegistus illustris</i>	2014 - 8.3 ± 26%; 2015 - 8.0 ± 24%; 2016 - 10.7 ± 19%; 2017 - 18 ± 13%	Increasing	Increasing	Increasing	NO *	O **	Indicator trend analysis + Expert Knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for recreational fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	Assessment conducted in 2014/2015. Targeted by electric reel and demersal longline in deep habitat. Legend: * Probably; ** Growth overfishing
Deepwater red snapper (ETA) <i>Etelis carbunculus</i>	2014 - 6.3 ± 27%; 2015 - 7.3 ± 35%; 2016 - 5.6 ± 21%; 2017 - 8.9 ± 13%	Increasing	Stable (low)	Increasing	NO *	O **	Indicator trend analysis + Expert Knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for recreational fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	Assessment conducted in 2014/2015. Targeted by electric reel and demersal longline in deep habitat. Legend: * Probably; ** Growth overfishing
Deepwater longtail red snapper (ETC) <i>Etelis coruscans</i>	2014 - 2.9 ± 25%; 2015 - 5.8 ± 24%; 2016 - 2.4 ± 20%; 2017 - 2.1 ± 12%	Stable (low)	Stable (low)	Increasing	O*	O*	Indicator trend analysis + Expert Knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for recreational fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	Assessment conducted in 2014/2015. Targeted by electric reel and demersal longline in deep habitat. Legend: * Probably
Goldbanded jobfish (LRI) <i>Pristipomoides multidens</i>	2014 - 3 ± 25%; 2015 - 4.4 ± 22%; 2016 - 5.7 ± 18%; 2017 - 10 ± 13%	Increasing	Increasing	Increasing	NO *	NO *	Indicator trend analysis + Expert Knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for recreational fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	Assessment conducted in 2014/2015 using data from the statistical survey and scientific studies. Fishing level sustainable. Targeted by hand-line, electric reel and demersal longline, depending habitat. Legend: * Probably
Oblique-banded grouper (EZR) <i>Epinephelus radiatus</i>	2014 - 0.3 ± 27%; 2015 - 1.0 ± 23%;	Stable	Stable (low)	Increasing	NO * (2014/2015)	NO (2014/2015)	Indicator trend analysis + Expert	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for	Assessment conducted in 2014/2015 using data from the statistical survey and scientific

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
	2016 - 0.5 ± 17%; 2017 - 1.2 ± 11%						Knowledge		recreative fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	studies. Fishing level sustainable. Targetted by hand-line, electric reel and demersal longline, depending habitat.
Ornate jobfish (LRY) <i>Pristipomoides argyrogrammicus</i>	2014 - 1.2 ± 23%; 2015 - 3.5 ± 23%; 2016 - 2.0 ± 20%; 2017 - 1.1 ± 13%	Declining	Declining	Increasing	NO *	O **	Indicator trend analysis + Expert Knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree. Limitation effort for recreational fishery on deeper species caught with electric reel: fishing allowed only on weekends and holidays, with only 1 fishing rod + reel by vessel	Assessment conducted in 2014/2015 using data from the statistical survey and scientific studies. Targetted by hand-line, electric reel and demersal longline, depending habitat. Legend: * Probably; ** Growth overfishing detected
Big blue octopus <i>Octopus cyanea</i>	Data poor	NA	NA	NA	NO *	NO *	Expert Knowledge	M	Without MP. No TAC or quota system. No specific regulation. Regulated by prefectural decree	Difficult to evaluate. Few targetted by professional fisherman. Highly targeted by recreational spearfishers. Fishing pressure focused only in very shallow habitats (1-15m). Legend: *Probably
Lobsters <i>Panulirus</i> sp	2016 - 7 ± 79%; 2017 - 2 ± 64%	NA	NA	NA	NO *	NO *	Indicator trend analysis +Expert Knowledge	M	Without MP. No TAC or quota system. Biological rest period defined from December to March (included). Minimum catch size set at 23 cm.Regulated by prefectural decree	Data poor, but assessment conducted using data from the statistical survey. Little targeted by professional fishermen, only gillnet. Targetted by recreational spearfisher. Strong poaching pressure at night. Fishing pressure focused only in very shallow habitats (1-15m).
Crab <i>Ranina ranina</i>	2016 - 2 ± 85%; 2017 -1.7 ± 83%	Declining	Declining (Fishers obs.)	Increasing 2015-2017	O	O	Indicator trend analysis +Expert Knowledge	M	Without MP (in project). No TAC or quota system. No specific regulation. Fishing gear and their uses defined by prefectural decree.	Data poor, abut assessment was conducted using data from the statistical survey and scientific studies. Difficult to evaluate. Probably overfished locally. Targetted by professional and recreational fishermen by artisanal vessel, with crabs balances. The perception of crab stock status by professional fishermen is alarming.
Shrimp (<i>Plesionika</i> sp, <i>Heterocarpus</i> sp)	1 vessel	NA	NA	1 vessel periodically	NO	NO	Expert knowledge	H	Without MP (in project in 2021). No TAC or quota system. Regulated by prefectural decree	Assessment conducted using the data from the statistical and declared catch survey. Few exploited, only with traps. Fishing habitat difficult to access (high depth, difficult sea, important material investment, random yield...)
Bigeye scad (BIS) <i>Selar crumenophthalmus</i>	2014 - 15 ± 47%; 2015 - 23 ± 75%; 2016	Declining	Declining	Increasing (2017)	U	U	Indicator trend analysis +Expert Knowledge	L	With MP (Prefectoral decree took place in 2019). Regulated by prefectural decree: Prohibition of beach seine fishing	Data poor, but assessment conducted using data from the statistical survey, scientific

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
	- 111 ± 102%; 2017 - 95 ± 58%								during the four-month peak breeding season (August to November); Increasing the mesh of the nets (from 14 to 18 mm of side); Prohibition of fishing during the first two months of recruitment (December and January)	studies and fishers' observation. Difficult to evaluate. Stock status must be defined. Possible environmental effect in last years. Targeted mainly by beach seine (professional fishermen) & by hook line (professional & recreational fishermen).
Yellowstripe goatfish (MUV) <i>Mulloidichthys flavolineatus</i>	2015 - 1.2 ± 105% 2016 - 0.3 ± 79%	NA	NA	Stable	U	U	Expert knowledge		Without MP. Regulated by prefectural decree. No TAC. Fishing allowed for sale from February to March included, weekdays, without quota. Quota of 3 kg per fisherman and per day in January only for bait fishing and prohibited sale	Data poor. Difficult to evaluate. Fishing activity mainly practiced inside reef flat
Squid (All species)	Data poor	NA	NA	NA	U	U	Expert knowledge	L	Withput MP. Not Regulated	Costal reef species (<i>Sepioteuthis lessoniana</i>) known to be highly impacted by fisheries locally.
Demersal ressources in MPA - Reef flat (2016/2017)										
Groupers <i>Epinephelus merra</i> and <i>E. hexagonatus</i>	NA	NA	Stable	Stable	NO *	NO *	Indicator trend analysis + Expert Knowledge + approach Similar to WoE	H	With MP (Objective 2.2.). Quota of 5 kg per day and per fisherman, all species combined. Minimum catch size of 10 cm for fish (other than smaller species). Fishing areas and periods defined and regulated by prefectural decree.	Assessed using data from the statistical survey network and scientific studies. Fishing level sustainable. Mainly by recreational fishermen with an unique fishing rod without reel on reef flat. Reel is allowed only from rocky spikes.
Yellowstripe goatfish (MUV) <i>Mulloidichthys flavolineatus</i>	NA	NA	Stable but low	Stable	NO *	NO *	Expert knowledge	H		Fishing level sustainable. Recreational and professional fishing with beach seine, legally on the juvenile recruit stage. Fishing practice limited at 3 to 4 months by year, depending of fishermen status. Strong natural variability in the recruitment levels of juveniles that are targeted. Annual control of fishing effort levels and CPUE (temporal trend by area)
Big blue octopus <i>Octopus cyanea</i>	NA	NA	Declining	Increasing	NO *	O	Expert knowledge	H		Only recreational fishing with a simple wooden stick. Fishery closed during 3 months each year. Quota of 5 kg/fisherman/day. No minimal size. Legend: * Probably; ** Growth overfishing detected
Other coral reef fish species	NA	NA	NA	Stable	NO *	NO *	Analysis of species size and distribution	H		Data from Abundance and size structure by UVC and video indices. Temporal series limited. Possible changes in fish

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
										community due to environmental and anthropogenic pressure. Only recreational fisher with a fishing rod without reel. Legend: * Probably
Lobster and crabs	NA	NA	NA	NA	U	U	Expert knowledge	H	With MP (objective 2.2). Fishing forbidden in reef flat. Regulated by prefectural decree	Lobster stock size structure studied by data collected in poacher catches confiscated since 2015. Not evaluated yet.
Squid	NA	NA	NA	NA	U	U	Expert knowledge		Without MP. Fishing forbidden in reef flat. Regulated by prefectural decree	Lobster stock size structure studied by data collected in poacher catches confiscated since 2015. Not evaluated yet.
Demersal resources in MPA - Outer slope (2016/2017)										
Coral reef fish species	Data poor.	NA	NA	Increasing (only in areas authorized for fishing)	NO *	NO *	Expert knowledge	M	With MP. Fishing areas, techniques and periods defined and regulated by prefectural decree.	Data from Abundance and size structure by UVC and video indices. Temporal series limited. Not evaluated locally. Strong pressure from poachers on these species groups in this area, which is controlled regularly. Possible changes in fish community due to environmental and anthropogenic pressure. Stock size structure studied by data collected in poacher catches confiscated since 2015. Catches, effort and CPUE indices not evaluated yet.
Lobsters <i>Panulirus</i> sp	Data poor.	NA	NA	NA	NO *	NO *	Indicator trend analysis + Expert Knowledge	M	With MP. Rock lobster fishing is prohibited, except in some cases. The minimum catch size of lobster and its fishing period is defined. Regulated by prefectural decree	Assessed using data from the statistical survey network and scientific studies. Not evaluated locally. Strong pressure from poachers on these species groups in this area, which is controlled regularly. Stock size structure studied by data collected in poacher catches confiscated since 2015. Catches, effort and CPUE indices not evaluated yet.
Crab (RAC) <i>Ranina ranina</i>	Data poor.	Declining (Fishers obs.)	Declining (Fishers obs.)	NA	O *	O *	Indicator trend analysis + Expert Knowledge	M	With MP. Crabs fishing only monitoring for professional fishermen, inside defined area on sand habitat with flat trap. The minimum catch size and its fishing period are not defined. Regulated by prefectural decree	Assessed using data from the statistical survey network and scientific studies. Difficult to evaluate. The perception of these stocks status by professional fishermen is alarming in this specific area.
Squid <i>Sepioteuthis lessoniana</i> (coral reef species)	Data poor.	Declining (Fishers obs.)	Declining (Fishers obs.)	NA	O *	O *	Indicator trend analysis + Expert Knowledge	L	With MP. Night fishing according only to professional fishermen on specific area and fishing practice. Regulated by prefectural decree.	Assessed using data from the statistical survey network and scientific studies. Difficult to evaluate. Stock status must be

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
										defined, bur probably overexploited locally. The perception of these stocks status by professional fishermen is alarming in this specific area.
Other coral reef species in MPA - Reef flat and outer slope										
Sea cucumbers	Resources not exploited and not impacted (T. Mullauchau, regional scientist and expert, com.pers.)									
France (Mayotte)										
Lutjanids	2013 - 105; 2014 - 138; 2015 - 95; 2016 - 59.4	Declining	Stable	Increasing	U	U	Indicator trend analysis		Without MP. None (regulation project for 2018)	Data from catch and fishing activities monitoring. Being evaluated. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries).
Lethrinids	2013 - 78; 2014 - 79; 2015 - 72; 2016 - 118	Increasing	Being evaluated	Being evaluated	U	U	Indicator trend analysis		Without MP. None (regulation project for 2018)	Data from catch and fishing activities monitoring. Being evaluated. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Serranids	2013 - 45; 2014 - 50; 2015 - 55; 2016 - 118.1	Increasing	Being evaluated	Being evaluated	U	U	Indicator trend analysis		Without MP. None (regulation project for 2018)	Data from catch and fishing activities monitoring. Being evaluated. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Trevallies	2013 - 65; 2014 - 69; 2015 - 130; 2016 - 138.6	Increasing	Being evaluated	Being evaluated	U	U	Indicator trend analysis		Without MP. None (regulation project for 2018)	Data from catch and fishing activities monitoring. Being evaluated. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Small pelagic	2013 - 183; 2014 - 155.7; 2015 - 208; 2016 - 277	Increasing	Stable	NA	U	U	Indicator trend analysis		Without MP. None (regulation project for 2018)	Data from catch and fishing activities monitoring. Being evaluated. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Crustacea	Data deficient	Data deficient	Data deficient	Data deficient	U	U	Indicator trend analysis		Without MP. Minimum catch size + fishing season	Data deficient. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Octopus	Data deficient	Data	Data	Data	U	U	Indicator trend		Without MP. Local temporary closures	Data deficient. Demersal

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
		deficient	deficient	deficient			analysis		experiments	resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Sea cucumber	Protected	NA	NA	NA	O	O	Indicator trend analysis		Forbidden fishing	Assessment in 2016 & 2017. Poaching control and evaluation in-situ, by counting, to assess the impact of illegal harvesting and the effectiveness of management measures taken. Demersal resources by species groups, excluding reef banks (catch and effort indices collected on both recreational and professional artisanal fisheries)
Kenya										
Lobster	354	Stable	Stable	Stable	U	NO	WoE		Minimum size limitation and ban on harvesting of berried females	<i>Panulirus ornatus</i> , <i>Panulirus longipes</i> , <i>Panulirus versicolor</i> , <i>Panulirus homuarus</i> , and <i>Panulirus penicillatus</i>
Rabbitfish (Siganidae)	2096	Stable	Stable	Stable	NO	O	WoE		No	Gated trap trial in place
Sphyracidae	657	Stable	Stable	Stable	U	NO	Expert knowledge		No	
Shallow-water prawns	178	Stable	Stable	Stable	U	U			Time and area closure	Information available not conclusive
Aquarium fish	No data available	Declining	Declining/ Stable	Declining/ Stable	U	O	PSA		No	Pomacanthidae sp and Amphiprion sp vulnerable to overfishing
Sea cucumber	12.8	Declining	Declining	Declining	O	O	Expert knowledge		Non yet formulated	
Shark	1803	Declining	Declining	Increasing	O	O	Expert knowledge		Non yet formulated	None retention of mobulids for commercial purposes (IOTC resolution)
Madagascar										
Coastal shrimp (Penaeidae) - Industrial shrimp fishery	2014 - 3687; 2015 - 3841; 2016 - 4238; 2017 - 4035; 2018 - 3808	Increasing	NA	Increasing	O	O	Expert knowledge	M	Limit fishing effort. Temporary fishing closure	Status not fully determined, but fishery is considered to be overexploited or very close to overexploitation
Coastal shrimp (Penaeidae) - Small-scale shrimp fishery	2014 - 1530; 2015 - 852; 2016 - 2459; 2017 - 3663; 2018 - 1850	Declining and increasing from 2017	NA	Increasing	O	O	Expert knowledge	M	Limit fishing effort. Temporary fishing closure	Status not fully determined, but fishery is considered to be overexploited or very close to overexploitation
Swamp crabs	2014 - 4515; 2015 - 4749; 2016 - 4474; 2017 - 6018; 2018 - 6650	Increasing	NA	Increasing	O	O	Expert knowledge	M	Temporary fishing closure. Minimum fishing length (11 cm)	Status not fully determined, but fishery is considered to be overexploited or very close to overexploitation

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
Sea cucumber	No data available	NA	NA	NA	O	O	Expert knowledge			Status not fully determined, but fishery is considered to be overexploited or very close to overexploitation
Lobsters	2013 - 582; 2014 - 349; 2015 - 389; 2016 - 325; 2017 - 843; 2018 - 825	Declining and increasing from 2017		Declining	O	O	Expert knowledge	M	Temporary fishing closure. Minimum fishing length (18 cm)	Status not fully determined, but fishery is considered to be overexploited or very close to overexploitation
Maldives										
Billfish	1554.92 (export data only)	Increasing	NA	NA	NA	NA	IOTC Assessment		Logbook introduced in 2010. A logsheet specific to Billfish fishery was introduced in 2017, work in progress to increase coverage. Pertinent IOTC Resolutions.	Lack of catch data and artisanal fleet, number of challenges in collecting data, existing reporting system need to improved
Reef fish	154.68 (export data only)		NA	NA	U	U	Expert knowledge	M	Logbook introduced in 2010, but coverage need to be increased	Local depletion observed in some reef areas
Sea Cucumber	98.29 (export data only)	Stable (Last 4 years)	NA	NA	U	U			Fishing only allowed with snorkelling gear. Government issued aquaculture license to several parties.	Believed aquaculture may reduce pressure on wild stocks
Grouper	1024.70 (export data only)	Increasing	NA	NA	O	O	Expert knowledge + WoE	M	All grouper exports are legally required to be accompanied by catch certificates. MP (current measures include time-area closures in 6 aggregation sites and size limits for commercially important species; obligatory catch reporting for all licensed vessels).	Lack of catch data and small scale fishing fleet, number of challenges in collecting data, existing reporting system need to improved;A reduction of catch rates and of mean size in the catch, as well as a shift to lower-value species has been observed
Skipjack tuna	100 099.49	Stable	NA	NA	NO	NO	IOTC Assessment	H	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	Stock assessment relies on IOTC Indian Ocean wide assessments
Bigeye tuna	432.31	Increasing	NA	NA	NO	NO	IOTC Assessment	H	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC ResolutionsAn established annual quota system in place Note: All longline licenses currently suspended	Caught in longline fishing and handline fishery. Stock assessment relies on IOTC Indian Ocean wide assessments
Yellowfin tuna	47 216.70	Increasing	NA	NA	O	O	IOTC	H	Logbook in 2010, enforcement of catch	Stock assessment relies on IOTC

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
							Assessment		reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions, in particular, the YFT rebuilding plan, and the TAC imposed in 2015.	Indian Ocean wide assessments
Frigate tuna	338.61	Stable	NA	NA	NA	NA	IOTC Assessment	H	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions.	Mainly caught by small scale pole and line and troll fishing vessels. Stock assessment relies on IOTC Indian Ocean wide assessments.
Little tuna	90.91	Stable	NA	NA	NO	NO	IOTC Assessment	H	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions.	Mainly caught by small scale pole and line and troll fishing vessels. Stock assessment relies on IOTC Indian Ocean wide assessments.
Dogtooth tuna	2.02	Stable	NA	NA	NA	NA	IOTC Assessment		Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions.	Mainly caught by small scale troll fishing vessels.
Albacore Tuna	10.57	Stable	NA	NA	NO	NO	IOTC Assessment		Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates generated via the FIS, alongside licenses. Netting isn't allowed within the EEZ in tuna fishery, barring the associated live-bait fishery...	Mainly caught by small scale pole and line and troll fishing vessels. Pertinent IOTC Resolutions
Mauritius										
Lethrinids of Shallow bank fishery (SBF)	2017 - 1273; 2018 - 1120	Declining	Stable	Declining	NO	NO	PSA	H	Quota and TAC allocation system is in place and Licensing system for Control and monitoring through Vessel Monitoring System (VMS), Cross-	Productivity analysis score - 1.57 Susceptibility analysis score - 2.80

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
									verification of logbooks vs VMS data and inspection of landings at port.	
Lethrinids of St Brandon fishery (StBF)	2015-193; 2016-222; 2017-204; 2018 - 195	Stable	Stable	Stable	NO	NO	Expert knowledge	H	Quota and TAC allocation system is in place and Licensing system for Control and monitoring through Vessel Monitoring System (VMS), Cross-verification of logbooks vs VMS data and inspection of landings at port.	
Octopus (Octopus Cyanea)	1990 - 183; 2007 - 68; 2008 - 78; 2009 - 84; 2010 - 91; 2011 - 78; 2012 - 55; 2013 - 43; 2014 - 27; 2015 - 35; 2016 - 38; 2017 - 39; 2018 - 118	Declining	NA	Increasing	U	O	Expert knowledge		Octopus fishery Closure from mid August to Mid October. Regulation enforced by law to effectively carry out closure. Sensitization campaigns and outreach programs for creating awareness on the importance of closure to support the activity.	
Coastal fishery (lagoon, near off-lagoon)– Lethrinids, Siganids, Scarids, Mulloids	2006 - 950; 2012-705; 2013-559; 2014-459; 2015-609; 2016-614; 2017 - 568; 2018 - 843	Declining	NA	Stable	O	O	Expert knowledge	H	Buy Back scheme introduced in 1996 to encourage large net licence holders to voluntarily surrender their nets. The total number of licences is also enforced by law. Prohibition of fishing of undersized fish and crab and lobster in berried state. Control of illegal means and methods of fishing (eg. underwater fishing and fishing with poisonous substances). Marine Parks designated to restrict coastal and fishery activities. Mangrove rehabilitation plan (Propagation, Legislation, Sensitization).	
Sea Cucumber	NA	Declining	NA	NA	O	O	Expert knowledge	H	Ban on sea cucumber from 2012-2016. The Ban is presently being reviewed to be extended up to 2021.	Survey conducted in 2007 and in 2016
Mozambique										
Demersal rocky bottom fish (North)	No data available	NA	NA	NA	NO	NO	Indicator trend analysis	M	Fishing effort limitation	The resources in this area are exploited by artisanal and recreational fishers. There are no semi-industrial and Industrial fleet operating. Although the fisheries statistics information is limited, it is believed that the resources are not overexploited considering the use of the selective fishing gears. The assessment is based on survey data and artisanal fisheries data.

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
Dmersal rocky bottom fish (Sofala Bank)	2016 - 419; 2017 - 402; 2018 - 368	Stable	Stable	Declining	NO	NO	B&H Yield per recruit + Schaefer Production model	H	Fishing effort limitation; minimum catch size limitation; VMS; logbooks; inspections of landings	
Demersal rocky bottom fish (South)	2016 - 354; 2017 - 227; 2018 - 318	Stable	Declining	Increasing	O	O	B&H Yield per recruit + Schaefer Production model	H	Fishing effort limitation; minimum catch size limitation; VMS; logbooks; inspections of landings	
Deep water shrimp (Gamba)	2016 - 2014; 2017 - 1934; 2018 - 1697	Declining	Declining	Stable	NO	NO	Dynamic Production Model + Length Cohort Analysis + B&H Yield per recruit	H	Area limitation by zoning; Fishing effort limitation; VMS; logbooks; inspections of landings	
Shallow water shrimp (Sofala Bank)	2015 - 4798; 2016 - 6070; 2017 - 7708	Increasing	Declining	Stable	O	O	Assessments of Spawning Stock – Recruitment relationships + Schaefer production model + Bio-economic model assessment + Depletion-based assessment	H	Fishing effort limitation; VMS; logbooks; inspections of landings; Closed season	Although the general increase catch trend due to contribution of Artisanal fisheries catch, the catch of the main commercial fisheries component is declining and the stocks are overexploited
Shallow water shrimp (Maputo Bay)	2016 - 381; 2017 - 263; 2018 - 226	Declining	Declining	Increasing	O	O	Yield per recruit + Length Cohort Analysis	H	Fishing effort limitation; VMS; loogbooks; inspections of landings; Closed season	
Kelee shad <i>Hilsa kelee</i>	2016 - 650; 2017 - 251; 2018 - 576	Declining	Declining	Increasing	O	O	Yield per recruit + Length Cohort Analysis	H	Fishing effort limitation; gear restriction; inspections of landings.	
Kapenta (lake sardine)	2015 - 16615; 2016 - 11925; 2017 - 6969; 2018 -13368	Stable	Declining	Increasing	NO	NO	Shaefer Production model	H	Fishing effort limitation; gear restriction; loogbooks.	
Seychelles										
Emperor red snapper (LUB) <i>Lutjanus sebae</i>	2016 - 266	Stable	Increasing	Declining	O	U	WoE	H	None	Co-management plan for Mahe Plateau trap and line fishery developed and waiting implementation
Green jobfish (AVR) <i>Aprion virescens</i>	2016 - 169	Declining	Declining (since 2008)	Declining	O	U	WoE	M	None	Co-management plan for Mahe Plateau trap and line fishery developed and waiting implementation
Brownspeckled grouper (EFH) <i>Epinephelus chlorostigma</i>	2016 - 38	Stable	Stable	Declining	O	U	WoE	H	None	Co-management plan for Mahe Plateau trap and line fishery developed and waiting implementation

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
Yellowspotted trevally (NGU) <i>Carangoides fulvoguttatus</i>	2016 - 105	Declining	Declining	Stable	O	U	WoE	M	None	Co-management plan for Mahe Plateau trap and line fishery developed and waiting implementation
Bludger (NGY) <i>Carangoides gymnotethus</i>	2016 - 312	Stable	Declining	Stable	O	U	WoE	M	None	Co-management plan for Mahe Plateau trap and line fishery developed and waiting implementation
Kawakawa (KAW) <i>Euthynnus affinis</i>	2016 - 41	Fluctuating	Fluctuating	Declining	NO	NO	WoE	H	IOTC	Assessment carried out by IOTC
Siganidae (<i>Siganus sutor</i> , <i>Siganus argenteus</i> , <i>Siganus corallinus</i>)	2016 - 271	Increasing	Increasing	Declining	NO	NO	WoE	H	None	MP for Plateau Fishery for demersal resources being developed
Yellowfin tuna (YFT) <i>Thunnus albacares</i>	2017 - 399.830	Increasing	Declining	Increasing	O	O	WoE + IOTC	H	IOTC	Assessment carried out by IOTC/Quota system in place
Bigeye tuna (BET) <i>Thunnus obesus</i>	2017 - 95.997	Declining	Declining	Increasing	NO	NO	WoE + IOTC	H	IOTC	Assessment carried out by IOTC
Swordfish (SWO) <i>Xiphias gladius</i>	2017 - 31.405	Increasing	Declining	Increasing	NO	NO	WoE + IOTC	H	IOTC	Assessment carried out by IOTC
Longlegged spiny lobster (LOJ) <i>Panulirus longipes</i>	2016/2017 - 0.797	Declining	Declining	Stable	NO	U	WoE	M	Seasonal closures, Input control (limited number of licenses), minimum size limits, catch of berried females restricted	Assessment using fisheries dependent and independent data. Management procedure in place
Pronghorn spiny lobster (NUP) <i>Panulirus penicillatus</i>	2016/2017 - 3.2	Declining	Declining	Stable	NO	U	WoE	M	Seasonal closures, Input control (limited number of licenses offered), minimum size limits, catch of berried females restricted	Management procedure in place
Pentard (<i>Holothuria</i> sp.)	2017 - 200 840 individuals	Declining	Stable	Increasing	O	O	WoE	H	Seasonal closures, Input control (limited number of licenses (25), interim minimum size limits, Catch quota by species	Assessment of fisheries dependent data and stock assessment. Management procedures in place
White Teatfish (HFF) <i>Holothuria fuscogilva</i>	2016 - 40 753 individuals	Declining	Declining	Increasing	O	O	WoE	H	Seasonal closures, Input control (limited number of licenses (25), interim minimum size limits, Catch quota by species	Assessment using fisheries dependent data and stock assessment. Management procedures in place
Skipjack tuna (SKJ) <i>Katsuwonus pelamis</i>	2017 - 454.103	Increasing	Increasing	Increasing	NO	NO	WoE + IOTC	H	Harvest Control Rules in place.	Assessment carried out by IOTC
South Africa										
Santer seabream (SLD) <i>Cheimerius nufar</i>	2009 - 45.4; 2010 - 44.3; 2011 - 37.3; 2012 - 56.7; 2013 - 54.4; 2014 - 47.8; 2015 - 45.9; 2016 - 43.0; 2017 - 45.8	Stable	Increasing	Stable	NO	NO	Annual stock assessment; JABBA-Select model	H	Commercial Effort limitation through Annual TAE (no of vessels and crew) for Zone C (East Coast). For santer, a minimum size limit of 30 cm TL for both recreational and commercial fishers, and a bag limit of 5 fish per person per day for recreational fishers apply. There is no bag limit for the commercial linefishery.	Santer and slinger constitute more than 80% of linefish catches in the catch in the SWIOFC region of South Africa.
Slinger seabream (SLL) <i>Chrysoblephus puniceus</i>	2009 - 166.0 t; 2010 - 165.6; 2011 - 203.0; 2012 - 228.6;	Stable	Stable	Stable	NO	NO	Annual stock assessment; JABBA-Select model	H	Commercial Effort limitation through Annual TAE (no of vessels and crew) for Zone C (East Coast). For slinger, a minimum size limit of 25 cm TL for both	Santer and slinger constitute more than 80% of linefish catches in the catch in the SWIOFC region of South Africa.

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
	2013 - 179.8; 2014 - 184.1; 2015 - 173.1; 2016 - 197.6; 2017 - 198.3								recreational and commercial fishers, and a bag limit of 5 fish per person per day for recreational linefishery apply. There is no bag limit for the commercial linefishery.	
Multispecies Offshore Trawl	2009 - 277; 2010 - 246; 2011 - 249; 2012 - 257; 2013 - 177; 2014 - 217; 2015 - 344; 2016 - 239; 2017 - 420; 2018 - 501	Stable	Declining	Declining	NO	NO	Indicator trend analysis	M	Prawn Trawl; TAE limits (nos of vessels, number of permits and trawl gear)	Assessment using catch and by-catch statistics. Species: Carids; langoustine; penaeids; pink, red, prawns; scyllarids; red crab
Multispecies Inshore Trawl	2009 - 7.7; 2010 - 7.3; 2011 - 9.6; 2012 - 7.6; 2013 - 1.7; 2014 - 0.3; 2015 - 0.4; 2016 - 1.5; 2017 - 2.4; 2018 - 2.1	Stable	Stable	Stable	O	NA	Indicator trend analysis	L	Prawn Trawl; TAE limits (nos of vessels, number of permits and trawl gear)	No fishing inshore. Species: Carids; penaeids; red, tiger and tugela prawns; scyllarids; red crab; tugelabank crabs
Angel octopus (VAZ) <i>Velodona togata</i>	2010 - 10; 2011 - 6.3; 2012 - 6.4; 2013 - 3.3; 2014 - 2.8; 2015 - 5.7; 2016 - 2; 2017 - 4; 2018 - 5.4	Stable	Stable	Stable to decline	NO	NO	Indicator trend analysis	M	Bycatch in the Prawn Trawl fishery	Assessment using catch and by-catch statistics. Species previously known as <i>Octopus magnificus</i>
Natal spiny lobster (SLN) <i>Palinurus delagoae</i>	2009 - 9.7; 2010 - 22; 2011 - 22.7; 2012 - 18.5; 2013 - 8.1; 2014 - 4.9; 2015 - 6.4; 2016 - 4.3; 2017 - 9.5; 2018 - 7.4	Declining	Declining	Declining	NO	NO	Indicator trend analysis	M	Bycatch in Prawn Trawl fishery	Assessment using catch and by-catch statistics.
Sardine beach seine	2014 - 0; 2015 - 45; 2017 -	Stable (low)	Declining	Stable (low)	O	NO	Age structured production model	H	Annual TAC for purse-seine fishery; TAE for KZN sardine run beach-seine	

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
	84 ; 2018 - 161								fishery	Two mixing stock assessment model (western and southern sardine stocks) for the purse-seine fishery off south and west coast; no explicit assessment of the eastern stock. Assessment refers to main stock, west of SWIOF area, but has impact on sardine run. TAE of 35 right-holders that are only permitted to fish May - September during the "Sardine Run". Failure of run resulted in <3 of the right-holders being active over the past 5 years
Multispecies gillnet	2017/2018 - 820 (including ~25 000 individual <i>Scylla serrata</i>)	NA	NA	NA	O	O	None	M	None	This is an illicit fishery targeting most sought after species, which has flourished in the absence of any compliance monitoring taking place in this area. Species list: <i>Anguilla bengalensis bengalensis</i> ; <i>Anguilla bicolor</i> ; <i>Anguilla marmorata</i> ; <i>Anguilla mossambica</i> ; <i>Argyrosomus japonicus</i> ; <i>Caranx ignobilis</i> ; <i>Carcharhinus leucas</i> ; <i>Lutjanus argentimaculatus</i> ; <i>Lutjanus fulviflamma</i> ; <i>Pseudomyxus capensis</i> ; <i>Pomadasys commersonnii</i> ; <i>Pomatomus saltatrix</i> ; <i>Rhabdosargus sarba</i> .
Mixed shoaling fish beach-seine	Reported catch of 93 t per annum, between 2002 and 2013 (2- 200 t)	NA	NA	Declining	U	U	None	L/M		Currently no control of catches due to cancellation of EKZNW compliance and catch monitoring contract. Species list: <i>Mugil cephalus</i> ; <i>Chelon tricuspidens</i> ; <i>Argyrosomus japonicus</i> ; <i>Pomatomus saltatrix</i> ; <i>Pomadasys commersonnii</i> ; <i>Trichiurus lepturus</i> ; <i>Diplodus sargus</i> ; <i>Decapterus russelli</i> ; <i>Scomber japonicus</i> ; <i>Rhabdosargus sarba</i> ; <i>Pomadasys olivaceus</i> ; <i>Scomberoides lysan</i> ; <i>Scomberomorus plurilineatus</i> ; <i>Otolithes ruber</i> ; <i>Trachinotus africanus</i> ; <i>Sarpa salpa</i> ; <i>Sphyrna jello</i> ; <i>Sillago sihama</i> ; Miscellaneous cephalopods; <i>crustacea</i> .

Species/ Complexes/ Groups	Estimated Catch (T / year)	Catch trend	CPUE Trend	Effort Trend	Stock Status (B)	Stock status (F)	Assessment Process / Method	Reliability (L/M/H)	Management measure/s	Notes
United Republic of Tanzania										
Penaeid shrimp (prawns)	1 422	Stable	Stable	Increasing	O	U	WoE	H	MP developed	The moratorium has been lifted for a short period, to confirm the recovery of the stock
Spiny and rock lobsters	1 452	Declining	Declining	Increasing	NO	U	Expert Knowledge	M	none	
Coastal tunas and related species	8 509	Declining	Declining	Increasing	NO	U	WoE	M	National Strategy developed and implemented	Man. Strategy developed with support of WWF. PSA (TAFIRI) - (M-H) vulnerability, Fisheries annual statistics data 2013, 2014, 2015,2016
Sharks	1 559	Increasing	Declining	Increasing	NO	U	Expert Knowledge	M	none	Fisheries annual statistics data 2013, 2014, 2015, 2016
Slope-water snappers	4 200	Increasing	Declining	Increasing	NO	U	Expert Knowledge	M	none	SWIOFP study; Fisheries annual statistics data 2013, 2014, 2015,2016 PSA needed
Octopus	2 565	Increasing	Declining	Increasing	NO	U	Expert Knowledge	H	In Zanzibar - a 3 month/year (Nov-Jan) closure	Management Plan developed in cooperation with NEPAD
Cuttlefish and Squids	450	Increasing	Declining	Increasing	NO	U	WoE	L	none	Fisheries annual statistics data 2013, 2014, 2015, 2016
Sea cucumber	No data available	NA	NA	NA	O	O	WoE	H	Tanzania Mainland: Fishery closed; Zanzibar: in the process of introducing a 6 month/year closure	Fisheries legislation prohibits to fish, possess, process, sell, or export
Bivalves		Declining	Declining	Increasing	NO	O	Expert Knowledge	M	Export banned	
Reef fish	10 856	Increasing		Increasing	NO	U	WoE	M	none	Fisheries CAS data
Demersal fish	7 544	Declining	Declining	Increasing	NO	U	Expert Knowledge		none	Annual fisheries Statistics 2016
Crabs	No data available		Declining		NO	U	Expert Knowledge	M	none	
Small pelagic fish	12 784	Increasing	Declining	Increasing	NO	NO	WoE	M	Management plan document in place and management action plan recently prepared	MP in collaboration with FAO EAF-Nansen project and SWIOFP reports
Shells	No data available	Declining	Declining	Increasing	O	O	Expert Knowledge	M	Export banned	Fisheries legislation prohibits to fish, possess, process, sell, or export
Coelacanth	No data available	Declining	Stable	Declining	O	NA	Expert Knowledge	M	Marine park (Tanga)	

ANNEXE E

Tableau sommaire: État des stocks de poissons dans le sud-ouest de l'Océan Indien

Légende : **NO – Non Surexploité**; **O – Surexploité**; **U - Inconnu**; **NA – Inapplicable**

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
Comores										
Epinephelus merra	20.08	Stable	Stable	Stable	O	NA				
Lethrinus mahsena	6.22	Décroissante	Stable	Décroissante	O	NA				
Poulpe	920.1	Stable	Stable	Stable	U	NA				
Variola louti	15.11	Stable	Stable	Stable	O	NA				
France (Reunion)										
Ressources démersales, hors des AMP (capture et effort collectés uniquement sur la pêche artisanale professionnelle)										
Castagnole commune (EBS) Eumegistus illustris	2014 - 8.3 ± 26%; 2015 - 8.0 ± 24%; 2016 - 10.7 ± 19%; 2017 - 18 ± 13%	Croissante	Croissante	Croissante	NO *	O **	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends et les jours fériés, avec une seule canne à pêche et moulinet / barque	Évaluation réalisée en 2014/2015. Ciblée par moulinet électrique et palangre démersale dans un habitat profond. Légende: * Probablement; ** Surpêche de croissance
Vivaneau rubis (ETA) Etelis carbunculus	2014 - 6.3 ± 27%; 2015 - 7.3 ± 35%; 2016 - 5.6 ± 21%; 2017 - 8.9 ± 13%	Croissante	Stable (faible)	Croissante	NO *	O **	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends et les jours fériés, avec une seule canne à pêche et moulinet / barque	Évaluation réalisée en 2014/2015. Ciblée par moulinet électrique et palangre démersale dans un habitat profond. Légende: * Probablement; ** Surpêche de croissance
Vivaneau flamme (ETC) Etelis coruscans	2014 - 2.9 ± 25%; 2015 - 5.8 ± 24%; 2016 - 2.4 ± 20%; 2017 - 2.1 ± 12%	Stable (faible)	Stable (faible)	Croissante	O*	O*	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends et les jours fériés, avec une seule canne à pêche et moulinet / barque	Évaluation réalisée en 2014/2015. Ciblée par moulinet électrique et palangre démersale dans un habitat profond. Légende: * Probablement; ** Surpêche de croissance
Colas à bandes dorées (LRI) Pristipomoides multidens	2014 - 3 ± 25%; 2015 - 4.4 ± 22%; 2016 - 5.7 ± 18%; 2017 - 10 ± 13%	Croissante	Croissante	Croissante	NO *	NO *	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends	Évaluation réalisée en 2014/2015 à l'aide des données de l'enquête statistique et des études scientifiques. Niveau de pêche durable. Ciblée par ligne à main, moulinet électrique et palangre démersale, en fonction de l'habitat.

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
									et les jours fériés, avec une seule canne à pêche et moulinet / barque	Légende: * Probablement
Mérou zébré (EZR) Epinephelus radiatus	2014 - 0.3 ± 27%; 2015 - 1.0 ± 23%; 2016 - 0.5 ± 17%; 2017 - 1.2 ± 11%	Stable	Stable (faible)	Croissante	NO *	NO (2014/2015)	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends et les jours fériés, avec une seule canne à pêche + moulinet par barque	Évaluation réalisée en 2014/2015 à l'aide des données de l'enquête statistique et des études scientifiques. Niveau de pêche durable. Ciblée par ligne à main, moulinet électrique et palangre démersale, en fonction de l'habitat. Légende: * Probablement
Colas orné (LRY) Pristipomoides argyrogrammicus	2014 - 1.2 ± 23%; 2015 - 3.5 ± 23%; 2016 - 2.0 ± 20%; 2017 - 1.1 ± 13%	Décroissante	Décroissante	Croissante	NO *	O **	Analyse de tendance de l'indicateur + Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral. Limitation de l'effort de pêche récréative sur des espèces plus profondes capturées à la bobine électrique: pêche autorisée uniquement les week-ends et les jours fériés, avec une seule canne à pêche + moulinet par barque	Évaluation réalisée en 2014/2015 à l'aide des données de l'enquête statistique et des études scientifiques. Ciblée par ligne à main, moulinet électrique et palangre démersale, en fonction de l'habitat. Légende: * Probablement; ** Surpêche de croissance détectée
Poulpe de récif commun Octopus cyanea	Data poor	NA	NA	NA	NO *	NO *	Connaissance d'expert	M	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral.	Difficile à évaluer. Peu ciblés par les pêcheurs professionnels. Fortement ciblé par les pêcheurs récréatifs de la pêche sous-marine. La pression de pêche ne concerne que les habitats très peu profonds (1-15 m). Légende:*Probablement
Langoustes Panulirus sp	2016 - 7 ± 79% 2017 - 2 ± 64%	NA	NA	NA	NO *	NO *	Analyse de tendance de l'indicateur + Connaissance d'expert	M	Sans PG. Aucun système de TAC ou de quota. Période de repos biologique définie de décembre à mars (inclusive). Taille de capture minimale fixée à 23 cm. Règlementé par arrêté préfectoral	Données insuffisantes, mais évaluation réalisée à l'aide des données de l'enquête statistique. Peu ciblé par les pêcheurs professionnels, seul le filet maillant. Ciblé par les pêcheurs sous-marins récréatifs. Forte pression de la braconnage la nuit. La pression de pêche ne concerne que les habitats très peu profonds (1-15 m). Légende:*Probablement
Crabe (RAC) Ranina ranina	2016 - 2 ± 85% 2017 - 1.7 ± 83%	Décroissante	Décroissante (Obs. pêcheurs)	Croissante 2015-2017	O	O	Analyse de tendance de l'indicateur + Connaissance d'expert	M	Sans PG (projet en cours). Aucun système de TAC ou de quota. Pas de réglementation spécifique. Engins de pêche et leurs utilisations définis par arrêté préfectoral.	Données insuffisantes, mais l'évaluation a été réalisée à l'aide des données de l'enquête statistique et des études scientifiques. Difficile à évaluer. Probablement surpêché localement. Ciblé par les pêcheurs professionnels et récréatifs par bateau, avec des soldes de crabes. La perception des stocks de crabes par les pêcheurs professionnels est

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
										alarmante.
Crevette (Plesionika sp, Heterocarpus sp)	1 unité de pêche	NA	NA	1 unité de pêche	NO	NO	Connaissance d'expert	H	Sans PG (en projet en 2021). Aucun système de TAC ou de quota. Règlementé par arrêté préfectoral	Évaluation réalisée à l'aide des données de l'enquête statistique et de l'enquête sur les captures déclarées. Peu exploités, seulement avec des pièges. Habitat de pêche difficile d'accès (grande profondeur, mer difficile, investissement matériel important, rendement aléatoire ...)
Sélar coulisou (BIS) Selar crumenophthalmus	2014 - 15 ± 47%; 2015 - 23 ± 75% 2016 - 111 ± 102%; 2017 - 95 ± 58%	Décroissante	Décroissante	Croissante (2017)	U	U	Analyse de tendance de l'indicateur + Connaissance d'expert	L	Avec PG (arrêté préfectoral en 2019). Réglementée par arrêté préfectoral: interdiction de la pêche à la senne de plage pendant la période de pointe de la reproduction de quatre mois (août à novembre); Augmenter le maillage des filets (de 14 à 18 mm de côté); Interdiction de pêcher pendant les deux premiers mois de recrutement (décembre et janvier)	Données insuffisantes, mais évaluation réalisée à l'aide des données de l'enquête statistique, d'études scientifiques et de l'observation des pêcheurs. Difficile à évaluer. L'état des stocks doit être défini. Effet environnemental possible au cours des dernières années. Ciblé principalement par la senne de plage (pêcheurs professionnels) et par ligne et hameçons (pêcheurs professionnels et récréatifs).
Capucin à bande jaune (MUV) Mulloidichthys flavolineatus	2015 - 1.2 ± 105% 2016 - 0.3 ± 79%	NA	NA	Stable	U	U	Connaissance d'expert		Sans PG. Règlementé par arrêté préfectoral. Pas de TAC. Pêche autorisée à la vente de février à mars inclus, en semaine, sans quota. Quota de 3 kg par pêcheur et par jour en janvier uniquement pour la pêche à l'appât et la vente interdite.	Données insuffisantes. Difficile à évaluer. Activité de pêche principalement pratiquée dans les platiers
Calmar (Toutes les espèces)	Data poor	NA	NA	NA	U	U	Connaissance d'expert	L	Sans PG. Non réglementé	Espèces de récifs côtiers (<i>Sepioteuthis lessoniana</i>) connues pour être fortement affectées par les pêcheries locales.
Ressources démersales dans l'AMP - Platier récifal (2016/2017)										
Merou Epinephelus merra et E. hexagonatus	NA	NA	Stable	Stable	NO *	NO *	Analyse de tendance de l'indicateur + Connaissance d'expert + approche pareille a PdP	H	Avec PG (Objectif 2.2.). Quota de 5 kg par jour et par pêcheur, toutes espèces confondues. Taille de capture minimale de 10 cm pour les poissons (sauf que certaines espèces de petite taille). Zones et périodes de pêche définies et réglementées par arrêté préfectoral.	Évalué à l'aide de données des enquêtes statistiques et d'études scientifiques. Niveau de pêche durable. Principalement par les pêcheurs récréatifs avec une canne à pêche unique sans moulinet sur le platier. La bobine n'est autorisée qu'à partir d'épis rocheux.
Capucin à bande jaune (MUV) Mulloidichthys flavolineatus	NA	NA	Stable mais faible	Stable	NO *	NO *	Connaissance d'expert	H		Niveau de pêche durable. Pêche récréative et professionnelle avec

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
										senne de plage, légalement en phase de recrue juvénile. Pratiques de pêche limitées à 3 ou 4 mois par an, en fonction du statut de pêcheur. Forte variabilité naturelle des niveaux de recrutement des juvéniles ciblés. Contrôle annuel des niveaux d'effort de pêche et de cpue (tendance temporelle par zone)
Poulpe de récif commun Octopus cyanea	NA	NA	Décroissante	Croissante	NO *	O	Connaissance d'expert	H		Pêche récréative avec un simple bâton en bois. La pêche est fermée 3 mois par an. Quota de 5 kg / pêcheur / jour. Pas de taille minimale. Légende: * Probablement; ** Surpêche de croissance détectée
Poisson de récif (autres espèces)	NA	NA	NA	Stable	NO *	NO *	Analyse de la taille et de la distribution des espèces	H		Données de l'abondance et de la structure de taille par UVC. Série temporelle limitée. Changements possibles dans la communauté de poissons en raison de pressions environnementales et anthropiques. Seul pêcheur récréatif avec une canne à pêche sans moulinet. Légende: * Probablement
Langouste et crabe	NA	NA	NA	NA	U	U	Connaissance d'expert	H	Avec PG (objectif 2.2). Pêche interdite en platier. Réglementé par arrêté préfectoral	Structure de la taille des stocks de la langouste étudiée à partir des données recueillies dans les captures de braconniers confisquées depuis 2015. Pas encore évalué.
Calmar	NA	NA	NA	NA	U	U	Connaissance d'expert		Sans PG. Pêche interdite en platier. Réglementé par arrêté préfectoral	Structure de la taille des stocks de la langouste étudiée à partir des données recueillies dans les captures de braconniers confisquées depuis 2015. Pas encore évalué.
Ressources démersales dans l'AMP - Pente externe (2016/2017)										
Poisson de récif de coral	Données insuffisantes	NA	NA	Croissante (uniquement dans les zones autorisées à la pêche)	NO *	NO *	Connaissance d'expert	M	Avec PG. Zones de pêche, techniques et périodes définies et réglementées par arrêté préfectoral.	Données de l'abondance et de la structure de taille par UVC. Série temporelle limitée. Non évalué localement. Fortes pressions des braconniers sur ces groupes d'espèces dans cette zone, qui est contrôlée régulièrement.

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
										Changements possibles dans la communauté de poissons en raison de pressions environnementales et anthropiques. Structure de la taille du stock étudiée à partir des données des captures de braconniers confisquées depuis 2015. Les indices de captures, d'effort et de CPUE n'ont pas encore été évalués. Légende: * Probablement
Langoustes Panulirus sp	Données insuffisantes	NA	NA	NA	NO *	NO *	Analyse de tendance de l'indicateur + Connaissance d'expert	M	Avec PG. La pêche à la langouste est interdite, sauf dans certains cas. La taille minimale de capture de la langouste et sa période de pêche sont définies. Réglementé par arrêté préfectoral	Évalué à l'aide de données du réseau d'enquêtes statistiques et d'études scientifiques. Non évalué localement. Forte pression des braconniers sur les groupes d'espèces de cette zone, qui est contrôlée régulièrement. Structure de la taille des stocks étudiée à l'aide des données recueillies dans les captures de braconniers confisquées depuis 2015. Les captures, l'effort et les indices de CPUE n'ont pas encore été évalués. Légende: * Probablement
Crabe (RAC) Ranina ranina	Données insuffisantes	Décroissante (Obs. pêcheurs)	Décroissante (Obs. pêcheurs)	NA	O *	O *	Analyse de tendance de l'indicateur + Connaissance d'expert	M	Avec PG. Surveillance de la pêche aux crabes uniquement pour les pêcheurs professionnels, à l'intérieur d'une zone définie dans un habitat sableux avec piège plat. La taille minimale de capture et la période de pêche ne sont pas définies. Réglementé par arrêté préfectoral	Évalué à l'aide de données du réseau d'enquêtes statistiques et d'études scientifiques. Difficile à évaluer. La perception de l'état de ces stocks par les pêcheurs professionnels est alarmante dans ce domaine spécifique. Légende: * Probablement
Calamar UHL Sepioteuthis lessoniana (espèce de récif de coral)	Données insuffisantes	Décroissante (Obs. pêcheurs)	Décroissante (Obs. pêcheurs)	NA	O *	O *	Analyse de tendance de l'indicateur + Connaissance d'expert	L	Avec PG. Pêche nocturne réservée aux pêcheurs professionnels sur une zone et des pratiques de pêche spécifiques. Réglementé par arrêté préfectoral	Évalué à l'aide de données du réseau d'enquêtes statistiques et d'études scientifiques. Difficile à évaluer. La perception de l'état de ces stocks par les pêcheurs professionnels est alarmante dans ce domaine spécifique.
Autres espèces de récifs coralliens dans l'AMP - Plat et récif extérieur du récif										
Concombre de mer	Ressources non exploitées et non impactées (T. Mullauchau, scientifique et expert régional, com.pers.)									
France (Mayotte)										
Lutjanidés	2013 - 105; 2014 - 138; 2015 - 95; 2016 - 59.4	Décroissante	Stable	Croissante	U	U	Analyse de tendance de l'indicateur		Sans PG. Aucun (projet de réglementation pour 2018)	Données du suivi des captures et des activités de pêche. Évaluation en cours. Ressources démersales par groupes d'espèces, à

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
										l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives).
Lethrinidés	2013 - 78; 2014 - 79; 2015 - 72; 2016 - 118	Croissante	Évaluation en cours	Évaluation en cours	U	U	Analyse de tendance de l'indicateur		Sans PG. Aucun (projet de réglementation pour 2018)	Données du suivi des captures et des activités de pêche. Évaluation en cours. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives).
Serranidés	2013 - 45; 2014 - 50; 2015 - 55; 2016 - 118.1	Croissante	Évaluation en cours	Évaluation en cours	U	U	Analyse de tendance de l'indicateur		Sans PG. Aucun (projet de réglementation pour 2018)	Données du suivi des captures et des activités de pêche. Évaluation en cours. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries).
Carangues	2013 - 65; 2014 - 69; 2015 - 130; 2016 - 138.6	Croissante	Évaluation en cours	Évaluation en cours	U	U	Analyse de tendance de l'indicateur		Sans PG. Aucun (projet de réglementation pour 2018)	Données du suivi des captures et des activités de pêche. Évaluation en cours. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives).
Petits pélagiques	2013 - 183; 2014 - 155.7; 2015 - 208; 2016 - 277	Croissante	Stable	NA	U	U	Analyse de tendance de l'indicateur		Sans PG. Aucun (projet de réglementation pour 2018)	Données du suivi des captures et des activités de pêche. Évaluation en cours. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives).
Crustacea	Données insuffisantes	Données insuffisantes	Données insuffisantes	Données insuffisantes	U	U	Analyse de tendance de l'indicateur		Sans PG. Taille de capture minimale + saison de pêche	Données insuffisantes. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives)
Poulpe	Données	Données	Données	Données	U	U	Analyse de		Sans PG. Expériences locales de fermetures	Données insuffisantes. Ressources

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
	insuffisantes	insuffisantes	insuffisantes	insuffisantes			tendance de l'indicateur		temporaires	démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives)
Cocombre de mer	Protégé	NA	NA	NA	O	O	Analyse de tendance de l'indicateur		Pêche interdite	Évaluation en 2016 et 2017. Contrôle et évaluation du braconnage in situ, par comptage, afin d'évaluer l'impact de la récolte illégale et l'efficacité des mesures de gestion prises. Ressources démersales par groupes d'espèces, à l'exclusion des bancs de récifs (indices de capture et d'effort collectés à la fois pour les pêcheries professionnelles et récréatives)
Kenya										
Langouste (<i>Panulirus ornatus</i>)	354	Stable	Stable	Stable	U	NO	PdP		Limite de taille minimale et interdiction de récolter les femelles œuvées.	
Sigans (<i>Siganidae</i>)	2096	Stable	Stable	Stable	NO	O	PdP		Non	Essai du piège avec des entrées en place
Sphyrænidae	657	Stable	Stable	Stable	U	NO	Connaissance d'expert		Non	
Crevette d'eaux peu profondes	178	Stable	Stable	Stable	U	U			Fermeture temporelle et de zone	Informations disponibles non concluantes.
Poissons d'aquarium /	Pas de données disponibles	Décroissante	Décroissante/Stable	Décroissante/Stable	U	O	PSA		Non	Pomacanthidae sp et Amphiprion sp vulnérable à la surpêche
Concombre de mer	12.8	Décroissante	Décroissante	Décroissante	O	O	Connaissance d'expert		Pas encore formulé	
Réquins	1803	Décroissante	Décroissante	Croissante	O	O	Connaissance d'expert		Pas encore formulé	Aucune rétention de mobulids à des fins commerciales (résolution de la CTOI)
Madagascar										
Crevettes cotières (<i>Penaeidae</i>) Pêche Crevette Industrielle	2014 - 3687; 2015 - 3841; 2016 - 4238; 2017 - 4035; 2018 - 3808	Croissante	NA	Croissante	O	O	Connaissance d'expert	M	Gel de l'effort de pêche, Fermeture période de pêche	Statut non entièrement déterminé, mais la pêche est considérée comme surexploitée ou très proche de la surexploitation
Crevettes côtières (<i>Penaeidae</i>) Pêche crevette à petite échelle	2014 - 1530; 2015 - 852; 2016 - 2459; 2017 - 3663; 2018 - 1850	Décroissante and Croissante from 2017	NA	Croissante	O	O	Connaissance d'expert	M	Gel de l'effort de pêche, Fermeture période de pêche	Statut non entièrement déterminé, mais la pêche est considérée comme surexploitée ou très proche de la surexploitation

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
Crabes de mangrove	2014 - 4515; 2015 - 4749; 2016 - 4474; 2017 - 6018; 2018 - 6650	Croissante	NA	Croissante	O	O	Connaissance d'expert	M	Fermeture de pêche, Limitation de tailles de pêche (11 cm)	Statut non entièrement déterminé, mais la pêche est considérée comme surexploitée ou très proche de la surexploitation
Concombre de mer	Pas de données disponibles	NA	NA	NA	O	O	Connaissance d'expert			Statut non entièrement déterminé, mais la pêche est considérée comme surexploitée ou très proche de la surexploitation
Langoustes	2013 - 582; 2014 - 349; 2015 - 389; 2016 - 325; 2017 - 843; 2018 - 825	Décroissante et Croissante à partir de 2017		Décroissante	O	O	Connaissance d'expert	M	Fermeture de pêche, Limitation de taille de pêche (18 cm)	Statut non entièrement déterminé, mais la pêche est considérée comme surexploitée ou très proche de la surexploitation
Maldives										
Istiophoridés	1554.92 (exportation)	Croissante	NA	NA	NA	NA	Évaluation CTOI		Journal de bord en 2010. Un journal de bord spécifique à la pêche d'istiophoridés a été introduit en 2017, des travaux sont en cours pour augmenter la couverture. Résolutions pertinentes de la CTOI.	Manque de données de capture et de flotte artisanale, nombreuses difficultés liées à la collecte de données, amélioration du système de notification existant.
Poissons de récif corallien	154.68 (exportation)		NA	NA	U	U	Connaissance d'expert	M	Journal de bord introduit en 2010, mais la couverture doit être augmentée	Épuisement local observé dans certaines zones de récifs
Concombre de mer	98.29 (exportation)	Stable (4 dernières années)	NA	NA	U	U	Connaissance d'expert	M	La pêche est autorisée uniquement en apnée. Le gouvernement a délivré un permis d'aquaculture à plusieurs parties.	L'aquaculture pourrait réduire la pression sur les stocks sauvages.
Mérus	1024.70 (exportation)	Croissante	NA	NA	O	O	Connaissance d'expert + PdP	M	La loi exige que toutes les exportations de mérus soient accompagnées d'un certificat de capture. PG (les mesures actuelles incluent les fermetures spatio-temporelles dans 6 sites de regroupement et les limites de taille pour les espèces commercialement importantes; déclaration obligatoire des captures pour tous les navires sous licence).	Manque de données de capture et de flotte artisanale, difficultés liées à la collecte de données, amélioration du système de notification existant, réduction des taux de capture et de la taille moyenne des captures, ainsi que le passage à des espèces de moindre valeur
Listao	100 099.49	Stable	NA	NA	NO	NO	Évaluation CTOI	H	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture, qui sont via la FIS, parallèlement aux licences. Le filet n'est autorisée dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	L'évaluation des stocks repose sur les évaluations de la CTOI pour l'ensemble de l'océan Indien

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
Thon obèse	432.31	Croissante	NA	NA	NO	NO	Évaluation CTOI	H	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de déchargement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture, qui sont générés via la FIS, parallèlement aux licences. Le filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI. Un système de quota annuel établi est en place. Remarque: toutes les licences de palangre actuellement suspendues.	Capturé avec la palangre et la ligne à main.L'évaluation des stocks repose sur les évaluations de la CTOI pour l'ensemble de l'océan Indien
Albacore	47 216.70	Croissante	NA	NA	O	O	Évaluation CTOI	H	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de déchargement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture, qui sont générés via la FIS, parallèlement aux licences. Le filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI, en particulier le plan de reconstruction de YFT et le TAC imposé en 2015.	L'évaluation des stocks repose sur les évaluations de la CTOI pour l'ensemble de l'océan Indien
Auxide	338.61	Stable	NA	NA	NA	NA	Évaluation CTOI	H	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de déchargement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture, qui sont générés via la FIS, parallèlement aux licences. Le filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	Principalement capturé par de petits canneurs et à la traîne. L'évaluation des stocks repose sur les évaluations de la CTOI pour l'ensemble de l'océan Indien.
Thonine commune	90.91	Stable	NA	NA	NO	NO	Évaluation CTOI	H	Journal de bord introduit en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent obligatoirement être accompagnés de certificats de capture, qui sont tous générés via la FIS, parallèlement aux licences. Aucune forme de filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts	Principalement capturé par de petits canneurs et à la traîne. L'évaluation des stocks repose sur les évaluations de la CTOI pour l'ensemble de l'océan Indien.

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
									vivants. Résolutions pertinentes de la CTOI.	
Bonite à gros yeux	2.02	Stable	NA	NA	NA	NA	Évaluation CTOI		Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de déchargement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture, qui sont générés via la FIS, parallèlement aux licences. Le filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	Principalement capturé par de petits canneurs et à la traîne
Germon	10.57	Stable	NA	NA	NO	NO	Évaluation CTOI		Journal de bord introduit en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent obligatoirement être accompagnés de certificats de capture, qui sont tous générés via la FIS, parallèlement aux licences. Aucune forme de filet n'est autorisée dans la ZEE des Maldives pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI, en particulier le plan de reconstruction de YFT et le TAC imposé en 2015.	Principalement capturé par de petits canneurs et à la traîne
Maurice										
Lethrinidés de la Pêcherie de "Shallow Bank" (SBF)	2017 - 1273; 2018 - 1120	Décroissante	Stable	Décroissante	NO	NO	PSA	H	Un système d'attribution de quotas et de TAC est en place, ainsi qu'un système de licences pour le contrôle et la surveillance via le système de surveillance des navires (VMS), la vérification croisée des journaux de bord par rapport aux données VMS et l'inspection des débarquements au port.	Productivity analysis score - 1.57 Susceptibility analysis score - 2.80
Lethrinidés de la pêche de St. Brandon (StBF)	2015-193; 2016-222; 2017-204; 2018 - 195	Stable	Stable	Stable	NO	NO	Connaissance d'expert	H	Un système d'attribution de quotas et de TAC est en place, ainsi qu'un système de licence pour le contrôle et la surveillance via le système de surveillance des navires (VMS), la vérification croisée des journaux de bord par rapport aux données VMS et l'inspection des débarquements au port.	
Poulpe (Octopus Cyanea)	1990 - 183; 2007 - 68; 2008 - 78; 2009 - 84; 2010 - 91; 2011 - 78; 2012 - 55; 2013 - 43; 2014 - 27; 2015 - 35;	Décroissante	NA	Croissante	U	O	Connaissance d'expert		Pêche au poulpe arrêté de mi-août à mi-octobre. Règlement mis en vigueur par la loi pour effectuer efficacement la fermeture. Campagnes et programmes de communication visant à sensibiliser le public à l'importance de la fermeture pour la durabilité de l'activité.	

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Mesure(s) de gestion	Notes
	2016 - 38; 2017 - 39; 2018 - 118									
Pêche côtière (lagune, proche-extérieur de la lagune)- Lethrinidés, Sigans, Scaridés, Mulloïdés	2006 - 950; 2012-705; 2013-559; 2014-459; 2015-609; 2016-614; 2017 - 568; 2018 - 843	Décroissante	NA	Stable	O	O	Connaissance d'expert	H	Un système de rachat mis en place en 1996 pour encourager les grands détenteurs de licences de filets à renoncer volontairement à leurs engins. Le nombre total de licences est également imposé par la loi. Interdiction de pêcher le poisson, le crabe de taille inférieure et la langouste ovée. Contrôle des moyens et méthodes de pêche illégaux (p. Ex. Pêche sous-marine et pêche aux substances toxiques). Parcs marins désignés pour restreindre les activités côtières et de pêche. Plan de réhabilitation de la mangrove (propagation, législation, sensibilisation).	
Concombre de mer	NA	Décroissante	NA	NA	O	O	Connaissance d'expert	H	Interdiction à la pêche des holothuries de 2012 à 2016. L'interdiction est en cours de révision et devrait être prolongée jusqu'en 2021.	Enquête réalisée en 2007 et en 2016
Mozambique										
Poisson demersal de fond rocheux (Nord)	Pas de données disponibles	NA	NA	NA	NO	NO	Analyse de tendance de l'indicateur	M	Limitation de l'effort de pêche	Les ressources de cette zone sont exploitées par la pêche artisanale et récréative. Il n'y a pas de flotte semi-industrielle et industrielle en activité. Bien que les informations statistiques sur la pêche soient limitées, on estime que les ressources ne sont pas surexploitées compte tenu de l'utilisation des engins de pêche sélectifs. L'évaluation est basée sur des données d'enquêtes et de la pêche artisanale.
Poisson demersal de fond rocheux (Banc de Sofala)	2016 - 419; 2017 - 402; 2018 - 368	Stable	Stable	Décroissante	NO	NO	B&H production par recrue+ Modèle de Production Schaefer	H	Limitation de l'effort de pêche; limitation de la taille minimale des captures; VMS; journal de bord; inspections des débarquements	
Poisson demersal de fond rocheux (Sud)	2016 - 354; 2017 - 227; 2018 - 318	Stable	Décroissante	Croissante	O	O	B&H production par recrue+ Modèle de Production Schaefer	H	Zonage; Limitation de l'effort de pêche; VMS; journal de bord; inspections des débarquements	
Crevettes d'eaux profondes (Gamba)	2016 - 2014; 2017 - 1934; 2018 - 1697	Décroissante	Décroissante	Stable	NO	NO	Modèle de Production Dynamique + Analyse de	H	Zonage; Limitation de l'effort de pêche; VMS; journal de bord; inspections des débarquements	

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
							cohortes par longueur + B&H production par recrue			
Crevettes d'eaux peu profondes (Banc de Sofala)	2015 - 4798; 2016 - 6070; 2017 - 7708	Croissante	Décroissante	Stable	O	O	Relation stock reproducteur - Recrutement relationships + Modèle de Production Schaefer + Modèle Bio-economique + Évaluation "Depletion-based"	H	Limitation de l'effort de pêche; VMS; journal de bord; inspections des débarquements, période de repôs	Bien que la tendance générale croissante des captures soit due à la contribution des captures de la pêche artisanale, les captures de la principale composante de la pêche commerciale sont en baisse et les stocks sont surexploités.
Crevettes d'eaux peu profondes (Baie de Maputo)	2016 - 381; 2017 - 263; 2018 - 226	Décroissante	Décroissante	Croissante	O	O	B&H production par recrue + Analyse de cohortes par longueur	H	Limitation de l'effort de pêche; VMS; journal de bord; inspections des débarquements, période de repos	
Alose palli <i>Hilsa kelee</i>	2016 - 650; 2017 - 251; 2018 - 576	Décroissante	Décroissante	Croissante	O	O	B&H production par recrue + Analyse de cohortes par longueur	H	Limitation de l'effort de pêche; restriction concernant les engins; inspections des débarquements.	
Kapenta (sardine du lac)	2015 - 16615; 2016 - 11925; 2017 - 6969; 2018 - 13368	Stable	Décroissante	Croissante	NO	NO	Modèle de Production Schaefer	H	Limitation de l'effort de pêche; restriction concernant les engins; journal de bord	
Seychelles										
Vivaneau bourgeois (LUB) <i>Lutjanus sebae</i>	2016 - 266	Stable	Croissante	Décroissante	O	U	PdP	H	Aucune	PCG de la pêche de pièges et ligne du Plateau de Mahe élaboré et en attente de mise en œuvre.
Vivaneau job (AVR) <i>Aprion virescens</i>	2016 - 169	Décroissante	Décroissante (à partir de 2008)	Décroissante	O	U	PdP	M	Aucune	
Mérou pintade (EFH) <i>Epinephelus chlorostigma</i>	2016 - 38	Stable	Stable	Décroissante	O	U	PdP	H	Aucune	
Carangue pailletée (NGU) <i>Carangoides fulvoguttatus</i>	2016 - 105	Décroissante	Décroissante	Stable	O	U	PdP	M	Aucune	
Carangue balo (NGY) <i>Carangoides gymnotethus</i>	2016 - 312	Stable	Décroissante	Stable	O	U	PdP	M	Aucune	

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
Thonine orientale (KAW) <i>Euthynnus affinis</i>	2016 - 41	Fluctuant	Fluctuant	Décroissante	NO	NO	PdP	H	CTOI	Évaluation réalisé par CTOI
Siganidae (<i>Siganus sutor</i>, <i>Siganus argenteus</i>, <i>Siganus corallinus</i>)	2016 - 271	Croissante	Croissante	Décroissante	NO	NO	PdP	H	Aucune	PG de la pêche démersale du Plateau en cours de développement
Albacore (YFT) <i>Thunnus albacares</i>	2017 - 399.830	Croissante	Décroissante	Croissante	O	O	PdP + CTOI	H	CTOI	Évaluation réalisé par CTOI/ Système de quota en place
Thon obèse (BET) <i>Thunnus obesus</i>	2017 - 95.997	Décroissante	Décroissante	Croissante	NO	NO	PdP + CTOI	H	CTOI	Évaluation réalisé par CTOI
Espadon (SWO) <i>Xiphias gladius</i>	2017 - 31.405	Croissante	Décroissante	Croissante	NO	NO	PdP + CTOI	H	CTOI	Évaluation réalisé par CTOI
Langouste diabolotin (LOJ) <i>Panulirus longipes</i>	2016/2017 - 0.797	Décroissante	Décroissante	Stable	NO	U	PdP	M	Fermetures temporelles, contrôle de intrants (nombre limité de licences), limites de taille minimale, capture de femelles œuvées restreinte	Évaluation à l'aide de données dépendantes et indépendantes de la pêche. Procédure de gestion en place
Langouste fourchette (NUP) <i>Panulirus penicillatus</i>	2016/2017 - 3.2	Décroissante	Décroissante	Stable	NO	U	PdP	M	Fermetures temporelles, contrôle de intrants (nombre limité de licences), limites de taille minimale, capture de femelles œuvées restreinte	Procédure de gestion en place
Pentard (<i>Holothuria</i> sp.)	2017 - 200 840 individuals	Décroissante	Stable	Croissante	O	O	PdP	H	Fermetures temporelles, contrôle des intrants (nombre de licences limité à 25), limites de taille minimale provisoire, Quota de capture par espèce	Évaluation à l'aide de données dépendantes et indépendantes de la pêche. Procédure de gestion en place
Holothurie blanche à mamelles (HFF) <i>Holothuria fuscogilva</i>	2016 - 40 753 individuals	Décroissante	Décroissante	Croissante	O	O	PdP	H	Fermetures temporelles, contrôle des intrants (nombre de licences limité à 25), limites de taille minimale provisoire, Quota de capture par espèce	Évaluation à l'aide de données dépendantes et indépendantes de la pêche. Procédure de gestion en place
Listao (SKJ) <i>Katsuwonus pelamis</i>	2017 - 454.103	Croissante	Croissante	Croissante	NO	NO	PdP + CTOI	H	Règles de régulation de l'exploitation en place	Évaluation réalisé par CTOI
Afrique du Sud										
Denté nufar (SLD) <i>Cheimerius nufar</i>	2009 - 45.4; 2010 - 44.3; 2011 - 37.3; 2012 - 56.7; 2013 - 54.4; 2014 - 47.8; 2015 - 45.9; 2016 - 43.0; 2017 - 45.8	Stable	Croissante	Stable	NO	NO	Évaluation annuelle du stock; JABBA-Select model	H	Limitation de l'effort commercial par le biais du TAE annuel (nombre de navires et d'équipage) pour la zone C (côte est). Pour le denté, une limite de taille minimale de 30 cm pour la pêche commerciale et récréative, et une limite de capture de 5 poissons par personne et par jour pour les pêcheurs récréatifs s'appliquent. Il n'y a pas de limite de prises pour la pêche commerciale à la ligne.	Denté nufar et le spare élégant constitue plus de 80% des captures de la pêche à ligne de la région SWIOFC de l'Afrique du Sud.
Spare élégant (SLL) <i>Chrysoblephus puniceus</i>	2009 - 166.0 t; 2010 - 165.6; 2011 - 203.0; 2012 - 228.6;	Stable	Stable	Stable	NO	NO	Évaluation annuelle du stock; JABBA-Select model	H	Limitation de l'effort commercial par le biais du TAE annuel (nombre de navires et d'équipage) pour la zone C (côte est). Pour le denté, une limite de taille minimale de 30	Denté nufar et le spare élégant constitue plus de 80% des captures de la pêche à ligne de la région SWIOFC de l'Afrique du Sud.

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
	2013 - 179.8; 2014 - 184.1; 2015 - 173.1; 2016 - 197.6; 2017 - 198.3								cm pour la pêche commercial et récréative, et une limite de capture de 5 poissons par personne et par jour pour les pêcheurs récréatifs s'appliquent. Il n'y a pas de limite de prises pour la pêche commerciale à la ligne.	
Multi-espèces Chalutage Offshore	2009 - 277; 2010 - 246; 2011 - 249; 2012 - 257; 2013 - 177; 2014 - 217; 2015 - 344; 2016 - 239; 2017 - 420; 2018 - 501	Stable	Décroissante	Décroissante	NO	NO	Analyse de tendance de l'indicateur	M	Chalutage à la crevette; Limites TAE (nombre de navires, nombre de permis et de chaluts)	Évaluation à l'aide de statistiques de captures et de captures accessoires
Multi-espèces Chalutage Inshore	2009 - 7.7; 2010 - 7.3; 2011 - 9.6; 2012 - 7.6; 2013 - 1.7; 2014 - 0.3; 2015 - 0.4; 2016 - 1.5; 2017 - 2.4; 2018 - 2.1	Stable	Stable	Stable	O	NA	Analyse de tendance de l'indicateur	L	Chalutage à la crevette; Limites TAE (nombre de navires, nombre de permis et de chaluts)	Pas de pêche côtière (inshore).
Poulpe ange <i>Velodona togata</i>	2010 - 10; 2011 - 6.3; 2012 - 6.4; 2013 - 3.3; 2014 - 2.8; 2015 - 5.7; 2016 - 2; 2017 - 4; 2018 - 5.4	Stable	Stable	Stable à decliner	NO	NO	Analyse de tendance de l'indicateur	M	Prises accessoires dans la chalutage à crevette	Évaluation à l'aide de statistiques de captures et de captures accessoires. Espèce avant appelée de <i>Octopus magnificus</i>
Langouste du Natal (SLN) <i>Palinurus delagoae</i>	2009 - 9.7; 2010 - 22; 2011 - 22.7; 2012 - 18.5; 2013 - 8.1; 2014 - 4.9; 2015 - 6.4; 2016 - 4.3; 2017 - 9.5; 2018 - 7.4	Décroissante	Décroissante	Décroissante	NO	NO	Analyse de tendance de l'indicateur	M	Prises accessoires dans la chalutage à crevette	Évaluation à l'aide de statistiques de captures et de captures accessoires
Sardine seine de plage	2014 - 0; 2015 - 45; 2017 - 84; 2018 - 161	Stable (faible)	Décroissante	Stable (faible)	O	NO	Age structured production model	H	TAC annuel pour la pêche à la senne coulissante; TAE pour la pêche à la senne de plage ciblant le sardine-run à KZN	Deux modèles d'évaluation des stocks en mélange (stocks de sardines de l'ouest et du sud) pour

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
										la pêche à la senne coulissante des côtes sud et ouest; pas d'évaluation explicite du stock de l'Est. L'évaluation concerne le stock principal, à l'ouest de la zone SWIOF, mais a un impact sur la production de sardines. TAE de 35 détenteurs de droits autorisés à pêcher uniquement de mai à septembre lors de la "Sardine Run". En raison de l'échec de la campagne, moins de 3 des détenteurs de droits ont été actifs au cours des 5 dernières années.
Fillet maillant Multi-espèces	2017/2018 - 820 comprenant ~25 000 spécimens <i>Scylla serrata</i>)	NA	NA	NA	O	O	Aucune	M	Aucune	Il s'agit d'une pêche illicite ciblant les espèces les plus recherchées, qui s'est développée en l'absence de toute surveillance de la conformité dans cette zone. Liste d'espèces: <i>Anguilla bengalensis bengalensis</i> ; <i>Anguilla bicolor</i> ; <i>Anguilla marmorata</i> ; <i>Anguilla mossambica</i> ; <i>Argyrosomus japonicus</i> ; <i>Caranx ignobilis</i> ; <i>Carcharhinus leucas</i> ; <i>Lutjanus argentimaculatus</i> ; <i>Lutjanus fulvivflamma</i> ; <i>Pseudomyxus capensis</i> ; <i>Pomadasys commersonnii</i> ; <i>Pomatomus saltatrix</i> ; <i>Rhabdosargus sarba</i> .
Senne de plage ciblant banc de poissons divers	Captures déclarées de 93 t chaque année, entre 2002 et 2013 (2-200 t)	NA	NA	Décroissante	U	U	Aucune	L/M		Actuellement, aucun contrôle des captures en raison de l'annulation du contrat de conformité EKZNW et du suivi des captures. Liste d'espèces: <i>Mugil cephalus</i> ; <i>Chelon tricuspidens</i> ; <i>Argyrosomus japonicus</i> ; <i>Pomatomus saltatrix</i> ; <i>Pomadasys commersonnii</i> ; <i>Trichiurus lepturus</i> ; <i>Diplodus sargus</i> ; <i>Decapterus russelli</i> ; <i>Scomber japonicus</i> ; <i>Rhabdosargus sarba</i> ; <i>Pomadasys olivaceus</i> ; <i>Scomberoides lysan</i> ; <i>Scomberomorus plurilineatus</i> ; <i>Otolithes ruber</i> ; <i>Trachinotus africanus</i> ; <i>Sarpa Salpa</i> ; <i>Sphyræna Jello</i> ; <i>Sillago sihama</i> ; Céphalopodes divers; crustacés.

Espèces / Complexes / Groupes	Capture estimée (T/an)	Tendance prises	Tendance CPUE	Tendance Effort	Statut stock (B)	Statut stock (F)	Méthode d'Évaluation	Fiabilité (L/M/H)	Measure(s) de gestion	Notes
République unie de Tanzanie										
Crevettes Penaeid	1 422	Stable	Stable	Croissante	O	U	PdP	H	PG élaboré	Le moratoire a été levé pour une courte période afin de confirmer la reconstitution du stock
Langoustes (Panulirus sp et Jasus sp)	1 452	Décroissante	Décroissante	Croissante	NO	U	Connaissance d'expert	M	Aucune	
Thons côtiers et espèces apparentées	8 509	Décroissante	Décroissante	Croissante	NO	U	PdP	M	Stratégie nationale élaborée et mise en œuvre	Stratégie développée avec le soutien du WWF. PSA (TAFIRI) - (M-H) vulnérabilité. Données statistiques annuelles sur la pêche 2013, 2014, 2015, 2016
Réquins	1 559	Croissante	Décroissante	Croissante	NO	U	Connaissance d'expert	M	Aucune	Données statistiques annuelles sur la pêche 2013, 2014, 2015, 2016
Vivaneaux de pente	4 200	Croissante	Décroissante	Croissante	NO	U	Connaissance d'expert	M	Aucune	Etude SWIOFP; Données statistiques annuelles sur la pêche 2013, 2014, 2015, 2016. Besoin de PSA
Poulpe	2 565	Croissante	Décroissante	Croissante	NO	U	Connaissance d'expert	H	À Zanzibar - fermeture de 3 mois / an (novembre-janvier)	Plan de gestion élaboré en coopération avec le NEPAD
Seiches et calmars	450	Croissante	Décroissante	Croissante	NO	U	PdP	L	Aucune	Données statistiques annuelles sur la pêche 2013, 2014, 2015, 2016.
Concombre de mer	Pas de données disponibles	NA	NA	NA	O	O	PdP	H	Tanzanie continentale: pêche fermée; Zanzibar: en cours d'introduction d'un arrêt de 6 mois / an	La législation sur la pêche interdit de pêcher, posséder, transformer, vendre ou exporter
Bivalves		Décroissante	Décroissante	Croissante	NO	O	Connaissance d'expert	M	Exportation interdite	
Poisson de récif	10 856	Croissante		Croissante	NO	U	PdP	M	Aucune	Données de l'enquête sur les captures (CAS system)
Poisson demersal	7 544	Décroissante	Décroissante	Croissante	NO	U	Connaissance d'expert		Aucune	Statistiques annuelles de la pêche 2016
Crabes	Pas de données disponibles		Décroissante		NO	U	Connaissance d'expert	M	Aucune	
Petits pélagiques	12 784	Croissante	Décroissante	Croissante	NO	NO	PdP	M	Document de plan de gestion en place et plan d'action de gestion récemment préparé	PG en collaboration avec le projet FAO AEP-Nansen et les rapports SWIOFP
Coquilles	Pas de données disponibles	Décroissante	Décroissante	Croissante	O	O	Connaissance d'expert	M	Exportation interdite	La législation sur la pêche interdit de pêcher, posséder, transformer, vendre ou exporter
Coelacanth	Pas de données disponibles	Décroissante	Stable	Décroissante	O	NA	Connaissance d'expert	M	Parc marin (Tanga)	

APPENDIX / ANNEXE F

Summary tables: Management actions undertaken on species/groups classified as overexploited

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
Comoros					
Demersal species in general	Management objectives were identified and co-management agreements were signed to address sustainable fishing of demersal species. Creation of new marine protected areas in Greater Comoros and Anjoan. Classification, identification and regulation of fishing gears. Regulation of the access to resource and effort (using fishing licences) for some demersal species. Implementation of a data collection system to monitor 23 species. Awareness of fishers about the stock status of certain species and the need to cooperate with DGRH to regulate access	The planned management actions stem directly from the management objectives of the Comoros demersal fish management plan, which are: Sustainable exploitation of resources; Preserving ecosystems and reducing the impacts of human activities on the environment; Improvement of the working and living conditions of fishing communities.	Improved knowledge on some species and stocks. Fishers are aware of the state of the resource and the need for cooperation with the administration to regulate access. MPAs created.	Lack of financial resources to fund activities; some fishing villages have not been engaged due to social-political reasons	Lessons learned on the difficulties encountered to improve organization in the implementation of the activities
Octopus cyanea	Community co-management agreements signed and implemented in order to sustainably manage octopus; Octopus pots were also introduced at three pilot fishing sites, which increased production.	Improve the regulation of access to resource and the knowledge on the stock	Increased octopus production at the 3 pilot sites. Fishing communities are organized and support co-management measures by signing co-management agreements	Lack of financial resources to fund activities; some fishing villages have not been engaged due to social-political reasons	Lessons learned on the difficulties encountered to improve organization in the implementation of the activities
France (Reunion)					
Deepwater longtail red snapper (ETC) Etelis coruscans	No management actions have been taken at the moment. Draft of the review of the regulations and definition of a demersal resource management plan.				
Crab (RAC) Ranina ranina	No management actions have been taken at the moment. Draft of the review of the regulations and definition of a demersal resource management plan.				
Kenya					
Lobster	Minimum size limitation and ban on harvesting of berried females	Minimum size limit, berried lobster fishing ban	Reduction in landing of undersize landings	Stripping of eggs from berried females	
Rabbitfish	No	Gear mesh size control (Gated traps)	Not yet		
Sphyraenidae	No	Area limitation-zoning, closed season	Reduction in resource use conflict		
Prawns	Time and area closure	Revision of the prawn	Reduction in resource use conflict	No closed season for artisanal	

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
		management plan		fishing	
Aquarium fish	No	fisher logbook, proposed quotas for vulnerable species	Improved data collection	Approval of the management plan	Pomacanthidae sp, Amphiprion sp. vulnerable to overfishing
Sea cucumber	No	None	Not yet	Small scale fishery and source of livelihood for many fishers	
Sharks	None	Development of Kenya Shark Action Plan	Not yet		
Madagascar					
Sea cucumber	Minimum size of catch of 11 cm and prohibition of fishing using scuba. Industrial and community sea cucumber farming is up and running.	Production of post larvae in control environment and growth in the wild (Collaboration between IHSM and Private Operators)	Huge production of sea cucumbers from industrial aquaculture of sea cucumbers.	Insufficient resources	Access or increase available resources
Swamp crabs	Annual Total Capture (TAC) of 5000 t. Total Authorized Maximum Crab Exports (TECMA) of 4,250 Tonnes (Live weight). Annual closure of crab fishing in 2019 from 01/09 to 31/10. Any company exporting live Crabs must own a crab aquaculture farm. Minimum size of catch of 11 cm. Prohibition of fishing berried females and soft crabs (molting). Reforestation of mangroves (habitat restoration).	Research and mastery of post-larvae production underway in Mahajanga (CDA) since 2018 (in collaboration with IHSM and CEDP)	Trial on breeding from larvae to juveniles.	Insufficient material and human resources. Total mortality on the 5th day of breeding	Finding funding for the proper functioning of the research.
Shrimp	Annual closure of shrimp fishing: 1/12 to beginning of March of the following year. Prohibition of use of certain fishing gear for coastal fishery. Installation TEDs and BRDs on the trawls of Industrial fishery. Project Implementation (MRHP) - OEPA, CEDP. Implementation of Biologically Sensitive Zones. Reforestation of mangroves. Limitation of the fishing licenses for the industrial fishery. Decrease in fishing effort	Implementation of the Fisheries Improvement project for the Madagascar shrimp fishery (FIP)	Catch traceability and MSC certification	Insufficient material and human resources.	Finding funding for the proper functioning of the research.
Octopus	Octopus annual closure. Minimum landing weight of 350 g. Creation of community managed fishing areas.	Octopus breeding research	No results	Insufficient resources	Finding funding
Lobsters	Minimum catch size of 20 cm; Prohibition of fishing egg-carrying	Research on the reproduction of lobsters (Lobsters Research	No results	Insufficient resources	Finding funding

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
	lobsters. Annual closure of lobsters according to Regions: from 1/1 to 31/3 in Androy, Anôsy, AtsimoAtsinanana and VatovavyFitoVinany; from 1/10 to 31/12 in Atsinanana, Analanjirofo, SAVA, DIANA, Sofia, Boeny, Melaky, Menabe and AtsimoAndrefana. Forbidden fishing techniques: dynamite, scuba, fishing net.	Unit)			
Maldives					
Billfish	A logsheet specific to Billfish fishery was introduced in 2017, work in progress to increase coverage. Pertinent IOTC Resolutions	Management Plan being formulated, measures will include a licensing and catch reporting system		Dispersed fishing communities and a centralised management system. Lack of willingness to comply some aspects of management from the fishers	Swordfish: Stock not overfished, not subject to overfishing. Black marlin: Not assessed/uncertain. Blue marlin: Stock not overfished, subject to overfishing. Striped marlin: Stock overfished, subject to overfishing. Sailfish: Stock not overfished, subject to overfishing. (IOTC, 2018)
Reef fish	Logbook introduced in 2010, but coverage need to be increased	Management Plan being formulated, measures will include a licensing and catch reporting system, in particular, for those vessels selling to the resort market		Dispersed fishing communities and a centralised management system. Lack of willingness to comply some aspects of management from the fishers	Not assessed/Uncertain
Sea Cucumber	Fishing only allowed with snorkelling gear. Aquaculture licensing system in place, government issued aquaculture license to several parties	Management Plan being formulated, measures will include a licensing and catch reporting system			Not assessed/Uncertain
Grouper	All grouper exports are legally required to be accompanied by catch certificates. Management Plan: Current measures include time-area closures in 6 aggregation sites and size limits for commercially important species. Obligatory catch reporting for all licensed vessels	Management plan currently being reviewed. Potential further revisions to size limits. Enabling electronic catch reporting via the mobile app associated with the FIS, to be launched soon (currently piloting)		Fractured fishing communities and a centralised management system. Lack of willingness to comply some aspects of management from the fishers	Overfished
Skipjack tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet.			Stock not overfished and not subject to overfishing (IOTC, 2018)

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
	by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			
Bigeye tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions. An established annual quota system in place. Longline licenses currently suspended	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			Stock not overfished and not subject to overfishing (IOTC, 2018)
Yellowfin tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions In particular, the YFT rebuilding plan, and the TAC imposed in 2015	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			Overfished and subject to overfishing (IOTC, 2018)
Frigate tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			Not assessed/Uncertain
Little tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be			Stock not overfished and not subject to overfishing (IOTC, 2018)

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
	within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	launched soon (currently piloting)			
Dogtooth tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			Not assessed/Uncertain
Albacore Tuna	Logbook in 2010, enforcement of catch reporting for licensed vessels at port of offloading in 2019. All tuna export products are required to be accompanied by catch certificates, generated via FIS, alongside licenses. Netting isn't allowed within the in tuna fishery, barring the associated live-bait fishery. Pertinent IOTC Resolutions	VMS system planned to be rolled out for entire fleet. E-observer system to cover a percentage of licensed fleet. Electronic catch reporting via app associated with FIS to be launched soon (currently piloting)			Stock not overfished and not subject to overfishing (IOTC, 2018)
Mauritius					
Lethrinids	TAC, Quota system, licensing system ; monitoring and control of fishing activities through VMS on fishing grounds: monitoring and control at landing sites	New fishing technology explored to address MOGAS issue (MOGAS is not allowed on vessels according to IMO); Government scheme to assist investment for fishing on the Banks - Grants provided for purchase of boats to fish outside the lagoon	Two fishing trials already conducted using basket traps. (charter vessel Serenity, collapsible basket traps)	Operators not really interested in the Bank Fishery due to problems like: (i) availability of fishermen (ii) high investment cost to renew fleet	
Deep water snapper and grouper	TAC, Quota system, licensing system; monitoring and control of fishing activities through VMS and supported by monitoring and control at landing sites.				
Octopus (Octopus cyanea)	Closure from 15 August to 15 October every year-Regulation in place to enforce closure. Catch and average weight of octopus are monitored before and after closure to assess the benefits of the closure. Sensitization and awareness campaigns to the general public and		Mean weight of octopus increased considerably after the re-opening of the octopus fishing season (859g to 1354g in 2018). An increase in maximum catch per fisherman day was also observed (1kg to 19 kg).	Illegal fishing of Octopus during the closure To have fishermen respect the closure policy fishing of undersized octopus	

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
	fishers are in place to support the closure .				
Reef fishes (lagoon, near off-lagoon)– Lethrinids, Siganids, Scarids, Mulloids	Buy Back scheme introduced in 1996 to encourage large net licence holders to voluntarily surrender their nets. Closed seasons for the use of nets from 01 October in a year to end of February of the following year. Semi industrial loan scheme to assist investment for fishing on the Banks and grants provided for purchase of boats to fish outside the lagoon with the aim to reduce fishing pressure on lagoon stocks. Canotte Loan Scheme to acquire boat (7-12 m length overall, LOA) to fish demersal species beyond 200 metres depth and pelagic fish in the outer lagoon. Training of fishermen to fish outside the lagoon on Fish Aggregating Devices (FADs) with the aim to reduce fishing pressure on lagoon stocks and to earn a better livelihood.		Decrease no. of large nets from 32 (1996) to 15 (2018). On average, 41 % increase in total catch has been noted for the past three years (average 2014-2016) after the re-opening of the net fishing season. Several projects were submitted by fishermen grouped into cooperatives to obtain the grant for the purchase of a fishing boat. Training sessions being conducted on a regular basis at the Fishing Training and Extension centre of the Ministry.	Use of illegal fishing gears by poachers.	
Sea Cucumber	A ban on fishing of sea cucumber in 2012-2016	Moratorium for the ban is under review to be extended (2018-2021)			
Tuna and associated species	Managed through the implementation of the Conservation and management measures of the IOTC	Managed through the implementation of the Conservation and management measures of the IOTC			
Mozambique					
Demersal rocky bottom fish (North)	Annual fishing effort fixed; Minimum size limitation; Restriction of gear use	Assess and review of the management plan started in 2019; Update the stock status in 2020			
Demersal rocky bottom fish (Sofala Bank)	Annual fishing effort fixed; Minimum size limitation; Restriction of gear use	Assess and review of the management plan started in 2019; Update the stock status in 2020			Lessons learned on the constraints to implement the measures to ensure sustainability of the resources as per management plan; A technical group is established to work together

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
					with a consultant to proceed with the review of the management plan
Demersal rocky bottom fish (South)	Annual fishing effort fixed; Minimum size limitation; Restriction of gear use	Assess and review of the management plan started in 2019; Update the stock status in 2020			Lessons learned on the constraints to implement the measures to ensure sustainability of the resources as per management plan; A technical group is established to work together with a consultant to proceed with the review of the management plan
Deep water shrimp (Gamba)	Annual fishing effort fixed; Restriction of fishing depth zone	Develop a fishery management plan for these resources starting in 2019;			The drafting of the management plan for deep crustacea resources was initiated, still in its early stage; A technical group is established to work together with a consultant on this management plan
Shallow water shrimp (Sofala Bank)	Annual fishing effort limit fixed; Closed season established; Restriction of gear use; Closed access fishery	Assess and Review of the shallow water management plan; extension of the closed season of the artisanal shrimp fisheries		Limitation of means to monitor effectively artisanal fishery activities	Lessons learned on the constraints to implement the measures to ensure sustainability of the resources as per management plan; A technical group is established to work together with a consultant to proceed with the review of the management plan
Shallow water shrimp (Maputo Bay)	Annual fishing effort limit fixed; Closed season established; Restriction of gear use; Closed access fishery	Enforce the implementation of closed season and fishing effort reduction		Limitation of means to monitor artisanal fishery activities	
Hilsa kelee	Annual fishing effort limit fixed; Restriction of gear use.	Improve the data collection for biological and environmental data; conduct research on reproduction of H. kelee and gear selectivity		Limitation of means to monitor artisanal fishery activities	
Kapenta (lake)	Annual fishing effort limit fixed; Fishing	Implement the closed season		Constraints to enforce access	

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
sardine)	area restriction established			restrict to the resource by the artisanal fishers	
Seychelles					
Lutjanus sebae, Aprion virescens, Epinephelus chlorostigma and Carangoides fulvoguttatus	None	Management Plan has been revised by Implementation Committee. New plan ready to be endorsed by Cabinet of Ministers and to be Gazetted. minimum size limits, bag limits for recreational fishers, limit on number of traps, licensing system		Implementation of management plan delayed	Delayed due to lengthy stakeholders consultation process
Thunnus albacares	None	A individual quota system per individual vessels has been put in place to reduce catch by 15% based on 2015 catch levels. Each vessel has a quota of 2555tons of yellowfin per year. Other measures include reducing the use of DFADs, restriction in number of supply vessels.		Monitoring of quota consumption near real time is extremely difficult and require additional human and financial resources	
Pentard (Holothuria sp)	Introduction of quota system, exploitation allowed for only 3 species, ban on harvest of Black Teatfish, fishing season reduced to 8 months (from 9 months)				Implementation of measures started in late 2017
White Teatfish (Holothuria fuscogilva)	Introduction of quota system, exploitation allowed for only 3 species, ban on harvest of Black Teatfish, fishing season reduced to 8 months (from 9 months)				
South Africa					
Penaeid shrimp - Multispecies	None, stock depletion due to environmental factor, drought.	None, environmental effect.	None	Compliance is lacking; potential cross border fishing; permit conditions not always enforced; catch data entries often poorly entered. By-catch concerns	Self regulatory; inshore sector estuarine life cycle, drought causes industry to focus effort in the offshore sector; research on by-catch identification and catch values;
Sardine beach seine	Annual TAC	Promote population recovery; implement implicit and/or explicit spatial management	OMP-18 has implicit spatial management considerations	Formal sampling via contracted party still not in place	Management actions directed at the purse-seine fishery for sardine located

Species/ Complexes/ Groups	Management Actions taken	Management Actions planned	Results obtained (if any)	Difficulties/ constraints encountered	Notes/Comments
					off the west and south coast; sardine beach-seine fishery is active in KZN during the annual sardine run.
United Republic of Tanzania					
Penaeid shrimp (prawns)	The moratorium was uplifted; there are strict measures for vessels licensing	Management Plan exist		Difficulties to restrict small scale fishers	Fishers want to fish while management body want to restrict the fishery
Sea cucumber	Fisheries legislation prohibits to fish, possess, process, sell, or export overexploited fish species				
Shells	Fisheries legislation prohibits to fish, possess, process, sell, or export overexploited fish species				
Coelacanth	Under Protected Area				Establishment of Tanga Coelocanth Marine Protected Areas
Bivalves	Ban on exports				

ANNEXE F

Tableau sommaire: Actions de gestion entreprises sur des espèces / groupes classés comme surexploités

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
Comores					
Espèces démersales en général	Les objectifs de gestion ont été identifiés et des accords de cogestion ont été signés pour la pêche durable des espèces démersales. Création de nouvelles aires marines protégées dans le Grand Comores et à Anjoan. Classification, identification et réglementation des engins de pêche. Réglementation de l'accès aux ressources et de l'effort (utilisation de licences de pêche) pour certaines espèces démersales. Mise en place d'un système de collecte de données pour surveiller 23 espèces. Sensibilisation des pêcheurs à l'état des stocks de certaines espèces et à la nécessité de coopérer avec la DGRH pour réglementer l'accès.	Les mesures de gestion envisagées découlent directement des objectifs de gestion du plan de gestion du poisson demersal des Comores, à savoir: L'exploitation durable des ressources; Préserver les écosystèmes et réduire les impacts des activités humaines sur l'environnement; Amélioration des conditions de travail et de vie des communautés de pêcheurs.	Amélioration des connaissances sur certaines espèces et certains stocks. Les pêcheurs sont conscients de l'état de la ressource et de la nécessité d'une coopération avec l'administration pour réglementer l'accès. AMP créées.	Manque de ressources financières pour financer les activités; certains villages de pêcheurs n'ont pas été engagés pour des raisons socio-politiques	Leçons apprises des difficultés rencontrées pour améliorer l'organisation de la mise en œuvre des activités
Octopus cyanea	Des accords de cogestion communautaires ont été signés et mis en œuvre afin de gérer durablement le poulpe; Des pots à poulpes ont également été introduits sur trois sites de pêche pilotes, ce qui a permis d'accroître la production.	Améliorer la réglementation de l'accès aux ressources et de la connaissance du stock	Augmentation de la production de poulpes sur les trois sites pilotes. Les communautés de pêcheurs sont organisées et soutiennent les mesures de cogestion en signant des accords de cogestion avec la DGRH.	Manque de ressources financières pour financer les activités; certains villages de pêcheurs n'ont pas été engagés pour des raisons socio-politiques	Leçons apprises des difficultés rencontrées pour améliorer l'organisation de la mise en œuvre des activités
France (Réunion)					
Vivaneau flamme (ETC) Etelis coruscans	Aucune mesure de gestion prise pour le moment. Projet de révision de la réglementation et de définition d'un plan de gestion des ressources démersales.				
Crabe (RAC) Ranina ranina	Aucune mesure de gestion prise pour le moment. Projet de révision de la réglementation et de définition d'un plan de gestion des ressources démersales.				
Kenya					
Langouste (Panulirus)	Limite de taille minimale et interdiction de récolter les femelles œuvées	Limite de taille minimale, interdiction de capturer la	Réduction des débarquements des pièces de petite taille	Enlèvement des œufs des femelles œuvées	

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
ornatus)		langouste ovée			
Sigans (Siganidae)	Non	Contrôle du maillage des engins (pièges avec des entrées)	Pas encore		
Sphyraenidae	Non	Zonage et période de repos	Réduction des conflits sur l'utilisation des ressources		
Crevette d'eaux peu profondes	Fermeture temporelle et de zone	Révision du plan de gestion des crevettes	Réduction des conflits sur l'utilisation des ressources	Pas de période de repos pour la pêche artisanale	
Poissons d'aquarium / ornement	Non	Journal de bord, quotas proposés pour les espèces vulnérables	Amélioration de la collecte de données	Approbation du plan de gestion	Pomacanthidae et Amphiprion vulnérables a la surpêche
Concombre de mer	Non	Aucune	Pas encore	Pêche artisanale et source de revenus pour de nombreux pêcheurs	
Réquins	Aucune	Développement du plan d'action pour les requins du Kenya	Pas encore		
Madagascar					
Concombre de mer	Taille minimale de capture de 11 cm. Interdiction de pêche à l'aide de bouteille de plongée. Holothuriculture industrielle opérationnelle et des fermes villageoises	Production des post larves en milieu contrôle et grossissement en milieu naturel (collaboration IHSM et Opérateurs privés)	Enorme production de concombre issue de l'aquaculture industrielle	manque de moyens	Renforcer ou disposer des moyens
Crabe de mangrove	Prélèvements Totaux de Capture Annuelle de 5 000 t. Quantité Totale d'Exportation Maximale Autorisée de 4 250 t (Poids vif). Fermeture annuelle de 1/9 au 31/10/2019. Toute société exportatrice doit posséder une ferme d'aquaculture de crabes. Taille minimale de capture de 11 cm; interdiction de pêcher des femelles ovées et de crabes mous. Reboisement de mangroves.	Recherche et maîtrise de la production des post larves en cours à Mahajanga (CDA) depuis année 2018 et (En Collaboration avec IHSM et CEDP)	Essai sur élevage larvaire au stade juvénile	Manque de moyens. Mortalité totale au 5e jour d'élevage	Trouver de financement pour le bon fonctionnement de la recherche.
Crevette	Fermeture annuelle de pêche crevette : 1/12- début du mois de Mars de l'année suivante. Interdiction d'utilisation de certains engins de pêche pour PCT. Installation TEDs et BRDs sur les chaluts de la PCI. Mise en place des projets (MRHP) : O.E.P.A, C.E.D.P Mise en	Mise en œuvre du projet d'amélioration de la pêche crevette à Madagascar (FIP),	Traçabilité des captures, Certification MSC	Manque des moyens	Trouver de financement adéquat pour le bon fonctionnement de la recherche.

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
	place Zones Crevettières Biologiquement Sensibles. Reboisement de mangroves. Gel de licence de pêche industrielle (PCI). Diminution de l'effort de pêche (PCT, PCI).				
Poulpe	Fermeture annuelle de pêche aux poulpes: Côte Est de Madagascar: 1/6 - 15/7; Côte Ouest de Madagascar : 1/1 – 15/2. Poids minimal de capture = 350 g. Création de zone de pêche à gestion communautaire.	Recherche sur la reproduction de poulpes	Neant	Manque des moyens	Trouver des financements
Langouste	Taille minimale de capture de 20 cm. Interdiction de pêche pour les langoustes ovées. Fermeture annuelle des langoustes selon les Régions: du 1/1 à 31/3 à Androy, Anôsy, AtsimoAtsinanana et VatovavyFitoVinany; du 1/10 à 31/12 à Atsinanana, Analanjirofo, SAVA, DIANA, Sofia, Boeny, Melaky, Menabe et AtsimoAndrefana. Techniques interdites: dynamite, plongée avec bouteille, filet.	Recherche sur la reproduction de langoustes (Unité de Recherche Langoustière)	Neant	Manque des moyens	Trouver des financements
Maldives					
Istiophoridés	Un journal de bord spécifique à la pêcherie d'istiophoridés a été introduit en 2017, des travaux sont en cours pour augmenter la couverture. Résolutions pertinentes de la CTOI.	Plan de gestion en cours d'élaboration, qui comprend un système de licences et de déclaration des captures		Communautés de pêche dispersées et système de gestion centralisée. Manque de volonté des pêcheurs de se conformer à certains aspects de la gestion	Espadon: stock non surexploité, non sujet à surpêche. Marlin noir: Non évalué / incertain. Marlin bleu: stock non surexploité, sujet à la surpêche. Marlin rayé: Stock surpêché, sujet à la surpêche. Sailfish: stock non surexploité, sujet à la surpêche (IOTC, 2018)
Poissons de récifs coralliens	Journal de bord introduit en 2010, mais la couverture doit être augmentée	PG en cours d'élaboration, qui comprend un système de licences et de déclaration des captures, en particulier pour les bateaux qui ciblent le marché touristique (<i>resorts</i>).		Communautés de pêche dispersées et système de gestion centralisée. Manque de volonté des pêcheurs de se conformer à certains aspects de la gestion	Non évalué / incertain
Concombre de mer	La pêche est autorisée uniquement avec l'équipement de plongée en apnée. Le gouvernement a délivré un permis	Plan de gestion en cours d'élaboration, qui comprend un système de licences et de			Surpêché

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
	d'aquaculture à plusieurs parties.	déclaration des captures			
Mérus	La loi exige que toutes les exportations de mérou soient accompagnées d'un certificat de capture. PG (les mesures actuelles incluent les fermetures spatio-temporelles dans 6 sites de regroupement et les limites de taille pour les espèces commercialement importantes; déclaration obligatoire des captures pour tous les navires sous licence).	Plan de gestion en cours de révision. Révisions éventuelles des limites de taille. Déclaration électronique des captures via l'application mobile associée au FIS à lancer prochainement (en cours de test)		Communautés de pêche dispersées et système de gestion centralisée. Manque de volonté des pêcheurs de se conformer à certains aspects de la gestion	Surpêché
Listao	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.				Stock non surexploité et non sujet à la surpêche (CTOI, 2018)
Thon obèse	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI. Licences pour la palangre actuellement suspendues	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence. Déclaration électronique des captures via l'application mobile associée au FIS à lancer prochainement (en cours de test).			Stock non surexploité et non sujet à la surpêche (CTOI, 2018)
Albacore	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence. Déclaration électronique des			Surpêché et sujet à la surpêche (CTOI, 2018)

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
	licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI, en particulier le plan de reconstruction pour l'YFT et le TAC imposé en 2015.	captures via l'application mobile associée au FIS à lancer prochainement (en cours de test).			
Auxide	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence.			Non évalué / incertain
Thonine commune	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence. Déclaration électronique des captures via l'application mobile associée au FIS à lancer prochainement (en cours de test).			Stock non surexploité et non sujet à la surpêche (CTOI, 2018)
Bonite à gros yeux	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence. Déclaration électronique des captures via l'application mobile associée au FIS à lancer prochainement (en cours de test).			Non évalué / incertain

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
Germon	Journal de bord en 2010, mise en application de la déclaration des captures pour les navires sous licence au port de débarquement en 2019. Tous les produits d'exportation de thon doivent être accompagnés de certificats de capture générés via la FIS, parallèlement aux licences. Les filets ne sont pas autorisés dans la ZEE pour la pêche au thon, à l'exception de la pêche associée aux appâts vivants. Résolutions pertinentes de la CTOI.	Le système VMS devait être déployé pour toute la flotte sous licence. Système d'observateur électronique pour couvrir un pourcentage de la flotte sous licence. Déclaration électronique des captures via l'application mobile associée au FIS à lancer prochainement (en cours de test).			Stock non surexploité et non sujet à la surpêche (CTOI, 2018)
Maurice					
Lethrinidés	TAC, Système de Quotas et système de licences; suivi et contrôle des activités de pêche VMS dans les zones de pêche. Suivi et contrôle des sites de débarquement.	Nouvelle technologie de pêche explorée pour résoudre le problème des MOGAS, qui ne sont pas autorisés selon l'IMO; Programme d'aide aux investissements dans la pêche sur les bancs: subventions pour l'achat de bateaux permettant de pêcher en dehors de la lagune	Deux essais de pêche ont déjà été réalisés avec des nasses. (bateau charter Serenity, pièges à paniers démontables)	Les opérateurs ne s'intéressent pas vraiment à la pêche dans les Bancs due: (i) à la disponibilité des pêcheurs; (ii) le coût d'investissement élevé pour renouveler la flotte	
Vivaneau et mérous de profondeur	TAC, Système de Quotas et système de licences; suivi et contrôle des activités de pêche VMS dans les zones de pêche. Suivi et contrôle des sites de débarquement.				
Poulpe de récif commun Octopus cyanea	Fermeture du 15 août au 15 octobre de chaque année. Règlement en vigueur pour imposer la fermeture. Les captures et le poids moyen des poulpes sont contrôlés avant et après la fermeture pour évaluer ses avantages. Campagnes et programmes de communication visant à sensibiliser le public à l'importance de la fermeture pour la durabilité de l'activité.		Le poids moyen des poulpes a considérablement augmenté après la réouverture de la saison de pêche du poulpe (859 g à 1354 g en 2018). Une augmentation de la capture maximale par jour de pêche a également été observée (1 kg à 19 kg).	Pêche illégale de poulpe pendant la fermeture. Pour que les pêcheurs respectent la réglementation de la de fermeture, concernant les poulpes en dessous de la taille minimale	
Poissons de récif (lagune, près de la lagune)– Lethrinidés,	Un système de rachat mis en place en 1996 pour encourager les grands détenteurs de licences de filets à renoncer volontairement à leurs engins. Période de repos pour les filets à partir du 1er		Réduction du nombre de grands filets de 32 (1996) à 15 (2018). En moyenne, une augmentation de 41% de la capture totale a été observée au cours des trois	Utilisation d'engins de pêche illégaux par les braconniers.	

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
Sigans, Scaridés, Mulloïdés	octobre jusqu'à la fin du mois de février de l'année suivante. Programme de prêts visant à soutenir les investissements dans la pêche sur les bancs et subventions destinées à l'achat de bateaux permettant de pêcher en dehors de la lagune afin de réduire la pression de la pêche sur les stocks de lagune. Programme de prêt de Canotte visant à acquérir un bateau (longueur hors tout de 7 à 12 m) pour pêcher des espèces démersales à plus de 200 mètres de profondeur et des poissons pélagiques dans l'extérieur de la lagune. Formation des pêcheurs à la pêche en dehors de la lagune sur des dispositifs de concentration de poissons (DCP) dans le but de réduire la pression de la pêche sur les stocks de lagune et de améliorer leurs revenus.		dernières années (moyenne 2014-2016) après la réouverture de la saison de pêche au filet. Plusieurs projets ont été soumis par des pêcheurs regroupés en coopératives afin d'obtenir une subvention pour l'achat d'un bateau de pêche. Des sessions de formation ont lieu régulièrement au Centre de formation et de vulgarisation de la pêche du ministère.		
Concombre de mer	Une interdiction de pêche du concombre de mer en 2012-2016	La prolongation du moratoire sur l'interdiction est en cours de révision (2018-2021)			
Thon et espèces associées	Géré par la mise en œuvre des mesures de conservation et de gestion de la Commission des thons de l'océan Indien				
Mozambique					
Poisson demersal de fond rocheux (Nord)	Effort de pêche annuel fixé; Limitation de taille minimale; Restriction de l'utilisation des engins	Évaluer et réviser le plan de gestion démarré en 2019; Mettre à jour l'état du stock en 2020.			
Poisson demersal de fond rocheux (Banc de Sofala)	Effort de pêche annuel fixé; Limitation de taille minimale; Restriction de l'utilisation des engins	Évaluer et réviser le plan de gestion démarré en 2019; Mettre à jour l'état du stock en 2020			Leçons apprises des difficultés rencontrées pour mettre en œuvre les mesures visant à assurer la durabilité des ressources conformément au plan de gestion; Un groupe technique est mis en place pour travailler avec un consultant afin de procéder à l'évaluation du PG
Poisson	Effort de pêche annuel fixé; Limitation	Évaluer et réviser le plan de			Leçons apprises des

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
demersal de fond rocheux (Sud)	de taille minimale; Restriction de l'utilisation des engins	gestion démarré en 2019; Mettre à jour l'état du stock en 2020			difficultés rencontrées pour mettre en œuvre les mesures visant à assurer la durabilité des ressources conformément au plan de gestion; Un groupe technique est mis en place pour travailler avec un consultant afin de procéder à l'évaluation du plan de gestion.
Crevettes d'eaux profondes (Gamba)	Effort de pêche annuel fixé; Restriction de la zone de profondeur de pêche	Élaborer un plan de gestion de la pêche à partir de 2019			L'élaboration du plan de gestion des ressources de crustacés profonds a été lancée, encore à ses débuts; Un groupe technique est établi pour travailler avec un consultant sur ce plan de gestion.
Crevettes d'eaux peu profondes (Banc de Sofala)	Limite annuelle d'effort de pêche fixée; Période de repos établi; Restriction de l'utilisation des engins; Accès à la pêche fermé	Évaluer et réviser le plan de gestion des eaux peu profondes; extension de la fermeture de la pêche artisanale à la crevette		Limitation des moyens permettant de contrôler efficacement les activités de pêche artisanale	Leçons apprises des difficultés rencontrées pour mettre en œuvre les mesures visant à assurer la durabilité des ressources conformément au plan de gestion; Un groupe technique est mis en place pour travailler avec un consultant afin de procéder à l'évaluation du PG
Crevettes d'eaux peu profondes (Baie de Maputo)	Limite annuelle d'effort de pêche fixée; Période de repos établi; Restriction de l'utilisation des engins; Accès à la pêche fermé	Mettre en vigueur le période de Repos et la réduction de l'effort de pêche		Limitation des moyens de surveillance des activités de pêche artisanale	
Alose palli Hilsa kelee	Limite annuelle d'effort de pêche fixée; Restriction de l'utilisation des engins	Améliorer la collecte de données biologiques et environnementales; mener des recherches sur la reproduction de H. kelee et la sélectivité des engins		Limitation des moyens de surveillance des activités de pêche artisanale	
Kapenta	Limite annuelle d'effort de pêche fixée;	Mettre en œuvre la saison de		Difficultés pour mettre en	

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
(sardine du lac)	Restriction de la zone de pêche établie	fermeture		vigueur l'accès restreint à la ressource pour la pêche artisanale.	
Seychelles					
Lutjanus sebae, Aprion virescens, Epinephelus chlorostigma and Carangoides fulvoguttatus	Aucune	Le plan de gestion a été révisé par le comité de mise en œuvre. Nouveau plan prêt à être approuvé par le Cabinet des ministres et à être publié au Journal officiel. Limites de taille minimale, limites de prises pour les pêcheurs récréatifs, nombre maximal de casiers, système de permis.		Mise en œuvre du plan de gestion reportée	Retardé en raison d'un long processus de consultation des parties prenantes
Albacore (YFT) Thunnus albacares	Aucune	Un système de quota individuel par navire a été mis en place afin de réduire les captures de 15% sur la base des niveaux de captures de 2015. Chaque navire dispose d'un quota de 2555 tonnes d'albacore par an. D'autres mesures comprennent la réduction de l'utilisation des DFADs, la limitation du nombre de navires ravitaillement en mer.		Le suivi de quotas en temps réel est extrêmement difficile et nécessite des ressources humaines et financières supplémentaires.	
Pentard (Holothuria sp.)	Introduction du système de quotas, exploitation autorisée pour 3 espèces seulement, interdiction de capturer l'holothurie noire à mamelles, durée de pêche réduite de 9 à 8 mois.				Mise en œuvre des mesures entamée à la fin de 2017
Holothurie blanche à mamelles (HFF) Holothuria fuscogilva	Introduction du système de quotas, exploitation autorisée pour 3 espèces seulement, interdiction de capturer l'holothurie noire à mamelles, durée de pêche réduite de 9 à 8 mois.				
Afrique du Sud					
Crevette Penaeid - Multi-	Aucune, épuisement des stocks dû à un facteur environnemental, sécheresse.	Aucun, effet environnemental.	Aucun	Manque de conformité; pêche transfrontalière potentielle; les conditions de permis ne sont	Autorégulation; cycle de vie estuarien du secteur "inshore" la sécheresse

Espèces / Complexes / Groupes	Mesures de gestion prises	Mesures de gestion prévues	Résultats obtenus (s'il y a)	Difficultés/ limitations trouvées	Notes/Commentaires
spécifique				pas toujours appliquées; Les données de capture sont souvent mal saisies.	amène l'industrie à concentrer ses efforts sur le secteur "offshore"; recherche sur l'identification des prises accessoires et la valeur des prises.
Senne de plage à la Sardine	TAC annuel	Promouvoir le rétablissement de la population; mettre en œuvre une gestion spatiale implicite et / ou explicite	OMP-18 a des considérations implicites de gestion spatiale	Échantillonnage formel via un contractant toujours pas en place	Mesures de gestion visant la pêcherie de sardines à la senne coulissante située au large des côtes ouest et sud; la pêche de sardines à la senne de plage est active à KZN lors de la campagne annuelle de sardines.
United Republic of Tanzania					
Crevette Penaeid	Le moratoire a été levé; il existe des mesures strictes pour les navires licenciés	Plan de gestion existe		Difficultés pour restreindre la pêche de petite-échelle	Les pêcheurs veulent pêcher tandis que l'organisme de gestion veut restreindre la pêche
Concombre de mer	La législation sur la pêche interdit de pêcher, posséder, transformer, vendre ou exporter des espèces de poisson surexploitées				
Coquilles	La législation sur la pêche interdit de pêcher, posséder, transformer, vendre ou exporter des espèces de poisson surexploitées				
Coelacanth	Sous zone de protection				Création d'aires marines protégées pour le Coelacanth (Tanga)
Bivalves	Interdiction d'exporter				

APPENDIX / ANNEXE G

Summary tables: Management Plans implemented, in implementation or in preparation the Southwest Indian Ocean

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
Comoros								
Demersal species	MP for the demersal fisheries in Comoros	Yes	Lack of information on demersal stocks. Repetitive exploitation of the same fishing areas by traditional and artisanal fishing units.	2013	Implementation	More than 85% of the plan has been implemented. Data collection on certain species and access is regulated. Marine protected areas are created.	Lack of human and financial resources	Capacity building of the fisheries administration staff. Improve the implementation of the MP based on lessons learned.
Octopus	Community co-management agreements	Yes	Local overexploitation	2017	Implementation	Data collection	Lack of human and financial resources	
France (Reunion and Mayotte)								
Demersal and pelagic resources	Demersal resources (outside MPA)		Regulation of fishing pressure on the resources, for professional and recreational fishers	2018	Reflection period			Need to review fisheries regulation.
Reef resources	First MP for the Réunion Marine Nature Reserve (2013 to 2017) - MPA		Allows finding solutions in consultation with users. Main goal: Ensure a reasoned development of the fishing activity and others compatible with the protection of the marine biodiversity. The sustainable management of the fishing activity to promote and value the fisheries resources, by improving the knowledge.	2013	Revised in 2018. Drafting of the new MP for validation at the end of the 2018	Evaluation of the results in progress	Unexpected problems of reactivity during events and lack of precision on certain actions, which have limited the applicability of the management measures that remain under the responsibility of the State (eg prefectural orders). No reliable data on catch and effort by professional fishers. Lack of data on recreational fishing in and out of the MPA. Limited knowledge of the links between ecosystems.	MP available in www.reservemarinereunion.fr/les-missions/le-plan-de-gestion-2013-2017
Reef and pelagic resources	MP of the Marine Natural Park of Mayotte		Develop a sustainable professional activity outside the lagoon, which provides jobs and seafood for Mayotte	2013	Approved	In progress		Valid for 15 years
Kenya								
Prawn Fishery	Prawn Fishery MP	No	Bycatch in the trawl fishery, Habitat destruction and user conflicts	2006	Gazetted in 2010	Control Effort in shallow water prawn trawl fishery; Progress in bycatch management and reduction in bycatch of ETPs; reduced	Artisanal prawn fishery not covered under the current plan; Use of TEDs, Stock status for the prawn fishery ; No reviews ; TAC not	Plans to review the plans; Need to conduct stock assessment for the prawn fishery

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
						user conflicts	properly implemented	
Small and medium pelagic fishery	Small and medium pelagic fishery MP	Yes	Regulate gear, size and other for the small and medium fishery; Information on stock status	2011	Plan approved for implementation;	Fisher and boat Registers updated	Multi species, multi gear, stock status hence gear regulations	Stock assessment capacity
Small and medium pelagic fishery	Small purse seine net MP (Commonly referred to as Ringnet)	No	Regulate operations for the small purse seine net; increased user conflicts	2010	Submitted for Gazettement; Gear regulation FMDA 2016	Size restriction through enforced licensing; Implemented through under comanagement areas (CMA) and beach management bylaws;	Management plan awaiting gazettement; Reference points to be determined; Enforcement capacity	
Lobster Fishery	Lobster Fishery MP	Yes	Decline in shallow water Lobster production, bycatch in the lobster fishery and	2014	Submitted for Gazettement; Size regulations protection of berried lobsters	Implementation of Management measure on size ; closed areas management by Community under comanagement areas (CMA)	Management plan awaiting gazettement	
Marine aquarium species	Marine aquarium fishery MP	Yes	decline in key aquarium fish species; Increased fishing pressure;	2015	Issuance of permits and fishing licenses			
Madagascar								
Lobsters	Lobster fishery improvement in Madagascar		Lack of resources	2009	Needs to be updated and implemented		No funding for implementation	Find donors to finance the implementation
Demersal fish	Demersal Fisheries Development Strategy in Madagascar		Insufficient means	2013	Developed but without implementation		No funding for implementation	Find donors to finance the implementation
Shrimp	Fisheries Improvement project for the Madagascar shrimp fishery (FIP)		Lack of resources	2017	Implementation plan developed and validated by stakeholders	2020	No funding for implementation	Find donors to finance the implementation
Tuna	Development strategy for the tuna fishery		Lack of resources	2013	Elaborated and being implemented	2017	Fishing areas inaccessible for traditional fishers	Availability of appropriate equipment
Fisheries in general	Three coordinated fisheries MPs: Ambaro Bay (PAPBATAN),	Yes	Conflicts NGOs	2017	Validated and formalised by stakeholders.		General organization of management foreseen by the legislation. Visions and actions of current management. Application of	Third management plan developed in Madagascar

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
	Antongil Bay (PACPBA) and Melaky (PAP Melaky)						regulations	
Maldives								
Billfish	Billfish Fishery MP	?	Fractured and incomplete catch log coverage, reporting not legally required. Lack of reliable basic fishery data, including no. of fishermen, vessels and CPUE. Lack of proper MCS measures, including a licensing system to enforce management measures.	2017	Phone survey to assess the distribution of fishermen across the country completed		Difficult to get data or implement a reliable data reporting system. Fishers don't have a sense of ownership of the resources. Fishers are also not always willing to cooperate with management measures they disagree with	
Reef fish	Maldives Reef Fishery MP (Tentative)	?	Fractured and incomplete catch log coverage, reporting not legally required. Lack of reliable fisheries data. Lack of proper MCS measures, including a licensing system to enforce management measures.	2019	Phone survey to assess the distribution of fishers completed. Baseline survey ongoing to inform management plan formulation		Difficult to get data or implement a reliable data reporting system. Fishers don't have a sense of ownership of the resources. Fishers are also not always willing to cooperate with management measures they disagree with	
Sea Cucumber	Maldives Sea cucumber Fishery MP (Tentative)	?	Over-exploitation of high value species. Selective harvesting of nocturnal species. Harvesting of juveniles. Lack of reliable basic fishery data.	2017	Phone survey to assess the distribution of fishers completed. Report on status of the fishery completed			
Grouper	MP for the Maldives Grouper Fishery	Yes	Potential stock decline due to removal of individuals that are below the maturity size. Lack of protection for spawning aggregations. High mortality of catch within bait hold. Lack of ownership of resources in fisher communities. Lack of proper MCS measures,	2011	Phone survey to assess the distribution of fishermen across the country completed. Management plan in place, currently being reviewed after five years in action.	Size limits established 5 areas + 1 new grouper aggregation area closed for fishing and tourism. New area will have a scientific officer and enforcement officer	Difficult to get data or implement a reliable data reporting system. Fishers are not always willing to cooperate with management measures they disagree with	

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
			including a licensing system to enforce management measures. Lack of reliable basic fishery data. Conflicts with other resource users					
Marine Aquarium Fishery	Maldives Marine Aquarium Fishery MP	Yes	Lack of fishery data (data only available via export proforma sheets), noting in particular the lack of mortality and total removal data. Unregulated over quota exportation of high value species. Conflicts with other resource users.	2018	Phone survey to assess the distribution of fishermen across the country completed. Proforma data analysed and MP draft completed. Internal review ongoing.		Systematic underreporting of export data and lack of fishery data	
Bait fishery	Maldives Livebait Fishery MP 2013	?	Lack of established data collection system to detect baitfishing depletion. Conflicts with other resource users. Comparatively high wastage of baitfish due to poor baitfish handling techniques. Potential negative impacts of baitfishing on ETP species.	2013	In place, currently being revised.			
Lobster Fishery	Maldives Lobster Fishery MP (Tentative)	?		2017	Phone survey to assess distribution of fishers completed.		Difficult to get data or implement a reliable data reporting system. Fractured fishery; difficult to identify a data collection point	
Mauritius								
Lethrinids (Banks fishery)	Banks Fishery MP		Promoting full exploitation of species and improve management of resources.	2013	Implementation in a phased manner	Transparent process of licensing and allocation of access rights is being provided. Management Advisory Committee already set up. Setting up of special scheme to assist investment for fishing on	Difficulties in categorising fleet, since vessels engaged in semi-industrial chilled fish fishery, also operate in St Brandon fishery and Deep Water Snapper Grouper Fishery. More fishing trials needed to identify other	

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
						the Banks Strengthen enforcement for fish inspection at port of entry and markets. Improvement of procedures for operation of Bank vessels. Simplified procedures prior to departure for campaigns. Alternative mode of fishing being explored. Two fishing trials using collapsible traps already conducted.	methods of fishing to counter the MOGAS issue (according to IMO guidelines, gasoline is not allowed to be transported onboard vessels).	
Mozambique								
Demersal rock bottom fish and pelagic	Linefish resources MP	Yes	Promote the optimized exploitation of the demersal fish resources and ensure long-term sustainability of this resources monitoring the fishing effort	2014	Currently being implemented while in review for updates	Improved data collection and stock status determination	Fishing effort higher than the recommended level	
Shallow water shrimp	Shallow water shrimp of the Sofala Bank MP	Yes	Sustainable exploitation of these resource and stock rebuild; reduction of the human impact on the health of the ecosystem; regulation of the fishing pressure on this resources	2013	Currently being implemented while in review for updates	Improved data collection and stock status determination	Fishing effort higher than the recommended level; use of non regulated fishing gears with high impact on the ecosystem	
Kapenta	Cahora Bassa Fisheries MP	No	Regulation of the fishing effort on this resource	2014	Currently being implemented	Improved data collection and stock status determination	Fishing effort higher than the recommended level; fishing in non-authorized areas	
Deep water shrimp (Gamba)			Achieve MSC certification	2010	Early stage of its drafting			
Seychelles								
Lobster	Management strategy in place		Data collection, effort control, sustainability of stock	1992	Ongoing	Improved data collection, sustainability of stock	Illegal fishing activities	Fishery independent surveys are also undertaken yearly to complement fisheries related data
Sea cucumber	Management strategy in place		Data collection, safety issues , depleted stocks	2012	Ongoing	Comprehensive stock assessment undertaken in 2017. A quota system is in place from 1st January 2018 for 3 exploited species. Exploitation of other		

Species Groups/ Fisheries	Management Plan (MP) title	MP EAF	Main problems the MP intends to solve	Year start	Current Status	Achievements to date	Difficulties/ constraints encountered	Notes/Comments
						prohibited.		
Demersal fish species	Mahé plateau trap and line fishery co-MP	Yes	Governance, ecological, social and economic issues	2014	Plan has been revised by Implementation Committee. New plan ready to be endorsed by Cabinet of Ministers and to be Gazetted.	Intensive stakeholders consultation during the development phase. Setting up of the implementation Committee.	More Education and Awareness is required.	
Sharks	National Plan of Action for Conservation and Management of Sharks (NPOA) 2016- 2020.	Yes	Governance, ecological, social and economic issues	2007	A project coordinator has been recruited to facilitate the implementation of the plan by coordinating activities amongst relevant stakeholders.	Data collection on abundance, seasonality, critical habitat. Education and awareness. Improve species identification	Patchy implementation of the previous NPOA.	The appointment of the Project Coordinator is expected to improve implementation of the new NPOA.
Tuna and Tuna- like species	Drifting Fish Aggregating Devices MP	Yes	Ecological	2014	Ongoing	Monitor DFAD's deployment to comply with DFAD's limit.	Monitoring of active FAD. Preventing beaching of DFAD in sensitive areas.	
United Republic of Tanzania								
Shrimps	Prawn Fishery MP	Yes	Overexploitation of the stock	2012	Slight recovery	Moratorium interrupted	Monitoring artisanal fishers	Six vessels have been proposed to start fishing
Octopus	Fishery MP	Yes	Achieve MCS certification	2012	The stock is declining	Progress towards certification of the fisheries	Catch size limit	There is a high market demand for octopus, which drives fishers to target juveniles.
Small pelagics	Artisanal Pelagic Fishery MP	Yes	Sustainable fishery of the stock	2013	Stock stable	Added value and exports	Fishers have changed from demersal to pelagic fisheries (high fishing mortality)	Expert knowledge
Tuna and tuna- like species	National Tuna Fishery Management Strategy	N/A	Sustainable fishery of the stock	2013	The stock is declining (Coastal tuna)	Bycatch is now landed	Fishing effort increased	Artisanal fishers reports illegal and harmful fishing (illegal fishers, ring nets, dynamite)

ANNEXE G

Tableau sommaire: Plans de gestion mis en œuvre, en cours d'exécution ou en préparation dans le sud-ouest de l'Océan Indien

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Comores								
Espèces demersales	PG de la pêche des poissons demersaux aux Comores	Oui	La méconnaissance des stocks demersaux. Exploitation répétée des mêmes zones de pêche par les unités de pêche traditionnelle et artisanale.	2013	Mise en œuvre	Collecte des données sur certaines espèces et l'accès aux ressources est réglementé. Des aires marines protégées sont créées.	Manque des ressources humaines et financières	Renforcement des capacités du personnel de l'administration. Améliorer la mise en œuvre du PG sur la base des leçons apprises.
Poulpe	Accord de cogestion communautaire	Oui	Surexploitation locale	2017	Mise en œuvre	Collecte des données sur l'espèce	Manque des ressources humaines et financières	
France (Reunion et Mayotte)								
Ressources demersales et pélagiques	Ressources demersales (hors MPA)		La régulation de la pression de pêche aussi bien pour les pêcheurs professionnels et récréatifs.	2018	Réflexion			Nécessité de réviser la réglementation de Pêche à la Réunion
Ressources récifales	Premier PG de la Réserve Naturelle Marine de la Réunion (2013 à 2017) (MPA)		Réfléchir à des solutions en concertation avec les usagers. Assurer un développement raisonné de l'activité de pêche et d'autres activités, conciliables avec la protection de la biodiversité. La gestion durable de l'activité de pêche pour une valorisation des ressources halieutiques en améliorant les connaissances	2013	Révision en 2018. Rédaction du nouveau PG pour une validation fin 2018	Évaluation des réalisations en cours	Problèmes de réactivité lors d'événements non attendus, manque de précision sur certaines actions, ne permet pas l'application directe des mesures de gestions qui restent sous la responsabilité de l'État. Pas de données fiables concernant les prises et l'effort. Manque de données sur la pêche de plaisance dans et hors RNMR. Faibles connaissances sur les liens entre écosystèmes	PG disponible sur : http://www.reservemarinereunion.fr/les-missions/le-plan-de-gestion-2013-2017
Ressources récifales et pélagiques	PG du Parc Naturel Marin de Mayotte		Développer une activité professionnelle hors du lagon, écologiquement	2013	Approuvé	En cours		Valable pour 15 ans

[illegible]

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Langoustes	Amélioration de la pêche langoustière à Madagascar		Manque des moyens	2009	Nécessite mise à jour et après la mise en œuvre.		Pas de financement pour la mise en œuvre	Trouver des bailleurs de fond pour financer la mise en œuvre de ce plan
Poissons démersaux	Stratégie de développement de pêche aux Poissons demersaux à Mcar		Insuffisance des moyens	2013	Elabore et sans mise en œuvre		Pas de financement pour la mise en œuvre	Trouver des bailleurs de fond pour financer la mise en œuvre de ce plan
Crevettes	Amélioration de la pêche crevettière à Madagascar		Manque des moyens	2017	PG mise en œuvre déjà élaboré et valide par les parties prenantes	2020	Pas de financement pour la mise en œuvre	Trouver des bailleurs de fond pour financer la mise en œuvre de ce plan
Thons	Stratégie de développement des thons		Moyens	2013	Elabore et en cours de mise en œuvre	2017	Zones de pêche des thons enclavées pour la pêche traditionnelle	Disposer les matériels adéquats
Pêcherie en general	Trois Plans d'Aménagement Concerté des Pêcheries (PAP) : Baie d'Ambaro (PAPBATAN), Baie d'Antongil (PACPBA) et PAP Melaky	Oui	Conflit au niveau des ONGs d'appui	2017	Validé et officialisé par les parties prenantes	2018	L'organisation générale de la gestion des pêches prévue par la législation; Les visions et les actions mises en œuvre pour la gestion actuelle des pêcheries; L'application de la réglementation	Troisième plan d'aménagement des pêcheries réalisé à Madagascar, après PACPBA et PAP Melaky; Contribution de toutes les parties prenantes concernées
Maldives								
Istiophoridés	PG de la pêche d'istiophoridés	?	Couverture du suivi des capture est fracturé et incomplet, et la déclaration n'est pas demandé par la loi. Manque de données de base fiables sur la pêche, notamment pour les pêcheurs, navires et CPUE. Absence de mesures appropriées du	2017	Enquête téléphonique réalisée pour évaluer la distribution des pêcheurs dans tout le pays		Difficile d'obtenir des données ou de mettre en place un système de rapport de données fiable. Les pêcheurs ne se sentent pas propriétaires des ressources. Les pêcheurs ne sont pas toujours disposés à coopérer avec les mesures de gestion avec lesquelles ils sont en désaccord.	

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
			MCS, y compris un système de licences pour appliquer les mesures de gestion.					
Poissons des récifs coralliens	PG de la pêche de poissons des récifs corallien des Maldives (provisoire)	?	Couverture du suivi des capture est fracturé et incomplet, et la déclaration n'est pas demandé par la loi. Manque de données de base fiables sur la pêche, notamment pour les pêcheurs, navires et CPUE. Absence de mesures appropriées du MCS, y compris un système de licences pour appliquer les mesures de gestion.	2019	Enquête téléphonique réalisée pour évaluer la distribution des pêcheurs dans tout le pays. Enquête de référence en cours pour éclairer la formulation du plan de gestion		Difficile d'obtenir des données ou de mettre en place un système de rapport de données fiable. Les pêcheurs ne se sentent pas propriétaires des ressources. Les pêcheurs ne sont pas toujours disposés à coopérer avec les mesures de gestion avec lesquelles ils sont en désaccord.	
Concombre de mer	PG de la pêche de concombres de mer de Maldives (provisoire)	?	Surexploitation des espèces de grande valeur. Capture sélective d'espèces nocturnes. Capture des juvéniles. Manque de données de base fiables sur la pêche.	2017	Enquête téléphonique réalisée pour évaluer la distribution des pêcheurs Rapport sur l'état de la pêche terminé.			
Mérus	PG de la pêche de mérus des Maldives	Oui	Décroissance potentielle du stock en raison de l'élimination d'individus dont la maturité est inférieure à la taille. Absence de protection pour les regroupements de géniteurs. Mortalité élevée des captures dans les appâts. Manque de propriété des ressources dans les communautés de pêcheurs. Absence de	2011	Enquête téléphonique réalisée pour évaluer la distribution des pêcheurs dans tout le pays. Plan de gestion en place, en cours de révision après cinq ans d'activité.	Limites de taille établies. 5 zones + 1 nouvelle zone d'agrégation de mérus fermée pour la pêche et le tourisme. La nouvelle zone aura un officier scientifique et un officier d'application	Difficile d'obtenir des données ou de mettre en place un système de rapport de données fiable. Les pêcheurs ne se sentent pas propriétaires des ressources. Les pêcheurs ne sont pas toujours disposés à coopérer avec les mesures de gestion avec lesquelles ils sont en désaccord.	

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
			mesures appropriées de MCS, y compris un système de licences pour appliquer les mesures de gestion. Manque de données de base fiables sur la pêche. Conflits avec d'autres usagers.					
Pêcherie d'espèces d'aquarium	PG de la pêche d'espèces d'aquarium des Maldives	Oui	Manque de données sur la pêche (données disponibles uniquement via des feuilles de formulaire d'exportation), notant en particulier l'absence de données sur la mortalité et l'élimination totale. Exportation non réglementée par quota d'espèces de grande valeur. Conflits avec d'autres usagers.	2018	Enquête téléphonique réalisée pour évaluer la distribution des pêcheurs dans tout le pays. Données proforma analysées et brouillon de PG terminé. Évaluation interne en cours.		Sous-déclaration systématique des données sur les exportations et manque de données sur la pêche	
Pêche aux appâts	PG de la pêche ciblant les appâts vivants des Maldives 2013	?	Absence de système de collecte de données établi pour détecter l'épuisement des stocks de poissons-appâts. Conflits avec d'autres utilisateurs de ressources. Déchets relativement élevés de poissons-appâts en raison de mauvaises techniques de manipulation. Impacts négatifs potentiels de la pêche à l'appât sur les espèces ETP.	2013	En place, en cours de révision.			
Pêcherie de langouste	PG de la pêche de	?		2017	Enquête téléphonique		Difficile d'obtenir des données ou de mettre en	

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
	langouste aux Maldives (provisoire)				réalisée pour évaluer la distribution des pêcheurs dans tout le pays.		place un système de rapport de données fiable. Pêcherie dispersée; difficile d'identifier un point de collecte de données	
Maurice								
Lethrinidés (Pêcheries des Bancs)	PG de la pêche sur les Bancs		Promouvoir la pleine exploitation des espèces et améliorer la gestion des ressources.	2013	Mise en œuvre progressive	Un processus transparent d'octroi de licences et d'attribution de droits d'accès est en cours. Le Comité consultatif de gestion de la pêche dans les banques est en place. Mise en place d'un régime spécial d'aide à l'investissement dans la pêche sur les bancs. Renforcer l'application des règles pour l'inspection du poisson au port d'entrée et sur les marchés. Amélioration des procédures d'exploitation des navires de pêche des bancs. Procédures simplifiées avant le départ pour les campagnes de pêche. Mode de pêche alternatif à explorer. Deux essais de pêche avec des casiers pliants déjà effectués.	Difficulté à classer la flotte, car les navires engagés dans la pêche semi-industrielle du poisson réfrigéré opèrent également dans les pêcheries de St Brandon et de la pêche au vivaneau à eaux profondes. Plus d'essais de pêche étaient nécessaires pour identifier d'autres méthodes de pêche permettant de contrer le problème du MOGAS (conformément aux directives de l'IMO, le transport d'essence ne peut être autorisé à bord des navires).	
Mozambique								
Poisson demersal de fond rocheux et pélagique	PG des ressources de ligne	Oui	Promouvoir l'exploitation optimisée des ressources halieutiques démersales et assurer la durabilité à long terme de ces ressources en surveillant l'effort de pêche	2014	En cours d'implémentation durant la révision pour les mises à jour	Amélioration de la collecte de données et de la détermination de l'état des stocks	Effort de pêche supérieur au niveau recommandé.	

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Crevettes d'eaux peu profondes	PG de la Crevette d'eaux peu profondes du banc de Sofala	Oui	Exploitation durable de ces ressources et reconstitution des stocks; réduction de l'impact humain sur l'écosystème; régulation de la pression de pêche sur ces ressources	2013	En cours d'implémentation durant la révision pour les mises à jour	Amélioration de la collecte de données et de la détermination de l'état des stocks	Effort de pêche supérieur au niveau recommandé; utilisation d'engins de pêche non réglementés avec un impact important sur l'écosystème	
Kapenta	PG des pêcheries de Cahora Bassa	Non	Régulation de l'effort de pêche sur cette ressource	2014	En cours de réalisation	Amélioration de la collecte de données et de la détermination de l'état des stocks	Effort de pêche supérieur au niveau recommandé; pêcher dans des zones non autorisées	
Crevettes d'eaux profondes (Gamba)			Obtenir la certification MSC	2010	Début de la rédaction			
Seychelles								
Langoustes	Stratégie de gestion en place		Collecte de données, contrôle de l'effort, durabilité du stock	1992	En cours	Amélioration de la collecte de données, durabilité des stocks	Activités de pêche illégales	Des enquêtes d'information indépendante de la pêche sont également entreprises chaque année pour compléter les données relatives à la pêche.
Concombre de mer	Stratégie de gestion en place		Collecte de données, problèmes de sécurité, stocks épuisés	2012	En cours	Évaluation globale du stock menée en 2017. Un système de quota est en place à compter du 1er janvier 2018 pour 3 espèces exploitées. L'exploitation d'autres interdit.		
Poissons demersales	Plan de cogestion de la pêche avec des lignes et des pièges du plateau de Mahé	Oui	Gouvernance, enjeux écologiques, sociaux et économiques	2014	Le plan a été révisé par le comité de mise en œuvre. Nouveau plan prêt à être approuvé par le Cabinet des ministres et à être publié.	Consultation intensive des parties prenantes pendant la phase de développement. Mise en place du comité de mise en œuvre.	Plus d'éducation et de sensibilisation est nécessaire.	

Espèces / Complexes / Groupes	Titre du Plan de Gestion (PG)	PG EAF	Principaux problèmes que le PG devrait résoudre	Année début	État actuel	Réalisations à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Réquins	Plan d'action national pour la conservation et la gestion des requins (NPOA) 2016-2020.	Oui	Gouvernance, enjeux écologiques, sociaux et économiques	2007	Un coordinateur de projet a été recruté pour faciliter la mise en œuvre en coordonnant les activités des parties prenantes concernées.	Collecte de données sur l'abondance, la saisonnalité et l'habitat essentiel. Education et sensibilisation. Améliorer l'identification des espèces	Mise en œuvre inégale du précédent NPOA	La nomination du coordonnateur de projet devrait améliorer la mise en œuvre du nouveau NPOA.
Thon et espèces apparentées	PG des dispositifs dérivants de concentration du poisson (DFADs)	Oui	Écologique	2014	En cours	Surveiller le déploiement de DFAD pour se conformer à la limite de DFAD.	Surveillance des FAD actifs. Prévention de l'échouage des DFAD dans les zones sensibles.	
République unie de Tanzanie								
Crevettes	PG de la pêche à la crevette	Oui	Surexploitation du stock	2012	Légère récupération	Moratoire interrompu	Suivi des pêcheurs artisanaux	Six navires ont été proposés pour commencer à pêcher
Poulpe	PG de la pêche	Oui	Obtenir la certification MSC	2012	Le stock est en baisse	Progrès en matière de certification des pêcheries	Taille limite de capture	Il existe une forte demande de poulpe sur le marché, ce qui pousse les pêcheurs à cibler les juvéniles.
Petits pélagiques	PG de la pêche pélagique artisanale	Oui	Pêche durable du stock	2013	Stock stable	Valeur ajoutée et exportations	Les pêcheurs sont passés de la pêche démersale à la pêche pélagique (mortalité par pêche élevée)	Connaissances des experts
Thon et espèces apparentées	Stratégie nationale de gestion de la pêche au thon	NA	Pêche durable du stock	2013	Le stock est en déclin (thon côtier)	Les prises accessoires sont débarquées	Effort de pêche accru	Les pêcheurs artisanaux font état de pêche illicite et nocive (pêcheurs illégaux, filets à anneaux, dynamite)

APPENDIX / ANNEXE H

Summary tables: Certification schemes of fisheries in the Southwest Indian Ocean

Species Groups / Fisheries	Certification Type / Certification Body	Year start of process	Current Status (Preparation /In Evaluation /Achieved /Denied)	Benefits obtained to date	Difficulties/ constraints encountered	Notes/Comments
Comoros						
Artisanal			Preparation			A project to certify artisanal fisheries in Comoros is on-going.
Kenya						
Shallow water Lobster Fishery	MSC	2010	Preparation (Fisheries improvementPlan)	Implementation of FIPs - Conduct stock assessment for the main species; Management plan developed with a harvest strategy	Long process; stakeholder awareness; cost of the process	
Octopus Fishery	MSC	2018	Preparation (regional pre-assessment)	Not yet	Long process; stakeholder awareness; cost of the process	Following octopus, aquarium fisheries is also being considered for certification
Madagascar						
Coastal shrimp (Penaeidae)	MSC	2017	Preparation	Partnerships between stakeholders to gather resources to fund assessment, co-management and the certification process.	Data collection for the coastal fisheries	Necessary to have availability of adequate material for the areas isolated during the rainy season.
Maldives						
Skipjack tuna (MSC)	MSC	2012	Achieved	Helps maintain access to important markets	Difficulties in maintenance due to decline in stock status, as it is a shared resource	
Skipjack tuna (Fair Trade)	Fair trade	2016	Achieved	Helps ensure a fair wage to those in the harvesting and processing sectors. Helps gain access to markets	Unorganised nature of fishing communities	
Mozambique						
Deep water shrimp	MSC	2010	Preparation			The certification is led by a private company with the contribution of State Institutions providing needed information. The pre assessment was completed
Seychelles						
Seychelles purse seine fishery targeting tunas	MSC	2015	Preparation	Identified key areas for improvement	Lack of harvest control rules in place	Pre assessment carried out, but didn't pass. Sustainable Indian Ocean Tuna Initiative - Fisheries improvement programme is being implemented.
Seychelles	Local labelling	2008	Preparation	Improved traceability, improved value		Evaluation required

Species Groups / Fisheries	Certification Type / Certification Body	Year start of process	Current Status (Preparation /In Evaluation /Achieved /Denied)	Benefits obtained to date	Difficulties/ constraints encountered	Notes/Comments
demersal and pelagic fishery	initiative by Fishing Boat Owners Association					
Seychelles purse seine skipjack tuna fishery (Echebatar fleet)	MSC	2016	Achieved	100 % observer coverage/ Improve FADs design	Transparency in monitoring of FADs deployment	
United Republic of Tanzania						
Octopus fishery	MSC	2010	Preparation	Good progress	Funds	Studies by WWF and NEPAD under TAFIRI

ANNEXE H

Tableau sommaire: Régimes de certification des pêcheries dans le sud-ouest de l'océan Indien

Groups d'espèces/Pêcheries	Type de certification/ Organisation de Certification	Année de début du procès	Statut à ce jour (Préparation/ Sous Évaluation / Complet / Refusé)	Bénéfices obtenus à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Comores						
Artisanal			Préparation			Un projet pour certifier les pêcheries artisanales aux Comores est en cours.
Kenya						
Pêche de langouste en eau peu profonde	MSC	2010	Préparation (plan d'amélioration de la pêche)	Mise en œuvre des PAPs: Évaluation des stocks des principales espèces; Plan de gestion élaboré avec une stratégie d'exploitation	Long processus; sensibilisation des parties prenantes; coût du processus	
Pêche au poulpe	MSC	2018	Préparation (pré-évaluation régionale)	Pas encore	Long processus; sensibilisation des parties prenantes; coût du processus	Après le poulpe, la pêche des poissons d'aquarium est également envisagée pour certification
Madagascar						
Crevettes côtières (Penaeidae)	MSC	2017	Préparation	Partenariats entre les parties prenantes pour rassembler les ressources nécessaires au financement de l'évaluation, de la cogestion et du processus de certification.	Collecte de données pour les pêcheries côtières	Il faut disposer des matériels adéquats pour les zones enclavées durant la saison de pluie.
Maldives						
Listao (MSC)	MSC	2012	Complet	Aide à maintenir l'accès aux marchés importants	Difficultés de maintenance dues à la dégradation de l'état des stocks, car il s'agit d'une ressource partagée	
Listao (commerce équitable)	Commerce équitable	2016	Complet	Contribue à assurer un salaire juste aux personnes des secteurs de la pêche et de la transformation. Aide à accéder aux marchés	Nature non organisé des communautés de pêcheurs	
Mozambique						
Crevette d'eau profonde	MSC	2010	Préparation			La certification est dirigée par une entreprise privée avec la contribution de l'État fournissant l'information. Le pré évaluation a été complété.
Seychelles						
Pêche à la senne coulissante ciblant le thon des	MSC	2015	Préparation	Identifié les domaines à améliorer	Absence de règles de contrôle de l'exploitation mis en œuvre	La pré-évaluation a été réalisée, mais n'a pas réussi. Initiative durable pour le thon dans l'océan Indien - Un

Groups d'espèces/Pêcheries	Type de certification/ Organisation de Certification	Année de début du procès	Statut à ce jour (Préparation/ Sous Évaluation / Complet / Refusé)	Bénéfices obtenus à ce jour	Difficultés/ limitations trouvées	Notes / Commentaires
Seychelles						programme d'amélioration de la pêche est en cours de mise en œuvre.
Pêche démersale et pélagique aux Seychelles	Association des propriétaires de bateaux de pêche	2008	Préparation	Traçabilité améliorée; mettre en valeur		Initiative d'étiquetage local ; Évaluation nécessaire
Pêche à la senne coulissant ciblant le listao de Seychelles (flotte Echebastar)	MSC	2016	Complet	Couverture à 100% par les observateurs; Améliorer la conception des DCP	Transparence en matière de surveillance du déploiement des DCP	
République unie de Tanzanie						
Pêche au poulpe	MSC	2010	Préparation	Bon progrès	Fonds	Etudes du WWF et du NEPAD sous TAFIRI

[illegible]

Fisheries	Main target species groups	Main discarded species groups	Assessment/ Estimate (Research organism)	Year of Assessment/Estimate (or planned, if not yet done)	Estimated amount of discards	Reference of report	Notes/Comments
Industrial purse seine fishery	Tropical tuna (Skipjack, yellowfin, bigeye tuna)	Dolphin fish, wahoo, sharks, rainbow runner, triggerfish	SFA/IRD/AZTI		5% catch		
South Africa							
Penaeid shrimp - Multispecies (inshore shallow water and offshore deep water)	Crustacean species: Carids; langoustine; penaeids; pink, red, tiger and tugela prawns; scyllarids; lobsters; red crab; tugela bank crabs	Cephalopods (octopus, squid and cuttle-fish), fish (many species), elasmobranchs (sharks and rays), and lower value crustaceans	ORI is currently doing research to describe and mitigate discards.	Ongoing	<75% of catch by mass	Status of South African marine fisheries resources. 2018 TAE recommendations for KZN prawn trawl fishery	Certain areas such Thukela Bank are closed at certain times of the year to mitigate bycatch and minimize discards

ANNEXE I

Tableau sommaire: Rejets de pêche dans le sud-ouest de l'Océan Indien

Pêcheries	Principales groupes d'espèces ciblées	Principales groupes d'espèces rejetées	Évaluation/estimation (Organisme de Recherche)	Année de l'Évaluation/Estimation (ou en projet, s'il n'a pas encore été fait)	Quantité de rejets estimée	Rapport (référence)	Notes / Commentaires
Comores							
Artisanal	Espèces démersales						Pas de prises accessoires ou de rejets dans les pêcheries comoriennes.
France (Reunion et Mayotte)							
Pêche artisanale à la ligne	Espèces démersales						Peu ou pas de prises accessoires et de rejets
Kenya							
Langouste	<i>P. ornatus</i>	Non		2015		Mueni et. al. 2015	
Sigans		Non		2015		Nina et. al. 2015	
Sphyraenidae		Non		2015		Munga et. al. 2015	
Crevettes	<i>P. indicus</i> , <i>P. semisulcatus</i> , <i>P. monodon</i> , <i>P. monoceros</i> , <i>P. japonicus</i>	Poisson divers		2006		KMFRI, 2016	
Pêcherie des poissons d'aquarium	<i>Pseudanthias squamipinnis</i> , <i>Chromis viridis</i> , <i>Centropyge acanthops</i> , <i>Labroides dimidiatus</i> , <i>Paracanthurus hepatus</i>	Non		2015		Okemwa et. al. 2016	
Maurice							
Pêcherie du Banc d'eaux peu profondes, Pêche semi-industrielle de poisson réfrigéré et St Brandon	Lethrinids	Carangids (Carangidae), les serranids (<i>Plectropomus maculatus</i> , <i>Variola louti</i> et <i>Lutjanus sebae</i>)	Aucune évaluation effectuée	Évaluation pas encore faite	10% de la capture (estimé)	Plan de gestion de la pêche sur les bancs de Maurice (2013)	
Mozambique							
Pêcherie de crevettes en eaux peu profondes	Crevettes (eaux peu profondes)	Méduses et poissons			Le niveau des rejets est réduit, de près de 2%.		Des quantités importantes de prises accessoires sont retenues, alors que peu sont transférées aux petits pêcheurs en mer.

Pêcheries	Principales groupes d'espèces ciblées	Principales groupes d'espèces rejetées	Évaluation/estimation (Organisme de Recherche)	Année de l'Évaluation/Estimation (ou en projet, s'il n'a pas encore été fait)	Quantité de rejets estimée	Rapport (référence)	Notes / Commentaires
							Les rejets sont composés de poissons de petite taille et méduses.
Pêcherie des crevettes en eaux profondes	Crevettes (eaux profondes)	Espèces de poissons mésopélagiques			70% principalement de poissons mésopélagiques (myctophidae)	Bilan de 2013	Une quantité importante des prises accessoires est transférée aux petits pêcheurs
Seychelles							
Pêche industrielle à la senne coulissante	Thon tropical (listao, albacore, thon obèse)	Dauphins, wahoo, requins, comète saumon, balistes	SFA/IRD/AZTI		5% de la capture		
Afrique du Sud							
Crevettes Penaeid - Plusieurs espèces (eaux peu profondes côtières et eaux profondes hauturières)	Espèces de crustacés: Caridés; la langoustine; les pénéides; crevettes roses, rouges, tigres et tugela; les scyllaridés; langouste; crabe rouge; crabes du banc de Tugela	Céphalopodes (poulpes, calmars et seiches), poissons (nombreuses espèces), élasmobranches (requins et raies) et crustacés de valeur inférieure	ORI mène actuellement des recherches pour décrire et limiter les rejets.	En cours	<75% des prises (en masse)	Etat des ressources halieutiques marines sud-africaines. Recommandations de 2018 de capture admissible totale pour la pêche de KZN au chalut ciblant des crevettes	Certaines zones, telles que le banc de Tugela, sont fermées pendant certaines périodes de l'année, afin de limiter les prises accessoires et de réduire les rejets

APPENDIX J

Summary tables: Impacts of abnormal phenomena related to climatological events in the Southwest Indian Ocean

Abnormal phenomena (short description)	Main climatological event associated (if known/Assumed)	Main impact on fisheries	Secondary impacts	Responsible for impact assessment	Notes/Comments
Comoros					
Coral bleaching	Sea temperature rising (temperatures above 30°C) due to El Niño	Coral destruction, affecting biomass of demersal and reef species in general.	Habitat destruction	Environnemental Directorate (Direction de l'environnement)	In 1998, more than 75% of Comorian corals were destroyed by El Niño (only 25% survived). The phenomenon resumed in 2010 and 2011. Trials to launch artificial reefs are underway with the National School of Fisheries (École National des Pêches). A pilot study with octopus traps has been conducted.
Stranding of living and dead corals in several regions in the archipelago	Cyclone Kenneth (from 24 to 28 April) in the Comoros	Coral destruction, affecting biomass of demersal and reef species in general.	Habitat destruction for demersal species and octopus (closing natural octopus shelters)	Environnemental Directorate (Direction de l'environnement) and Fisheries Administration (Direction générale des ressources halieutiques)	The DGRH supports the most affected areas by placing pots underwater to be used by octopus as shelters.
France (Reunion and Mayotte)					
Low tides at exceptional levels	It appears to be related to the presence of ocean gyres whose trajectory and residence time is difficult to predict.	Affect mainly shallow flats causing mortality of corals, depletion of oxygen on the flats can cause death of fish as in 2016 in Reunion Island		MPA managers, Fisheries management and administration, scientific institutions	These low tides are added to natural tides.
EnSo El Nino Phenomena and coral bleaching	Corals bleaches during stress often related to high temperatures of surface water, but may also be due to turbidity of water or desalting after heavy rains.	Direct consequences on the fish populations that depend on them and a cascade effect on their predators.	During bleaching, the coral expels the symbiotic algae that provide 80% of its daily diet. Bleached corals can recover algae if the stress that caused them to bleach remains brief and not intense. During the bleaching, however, they will have drawn from their reserve and will be weakened.	MPA managers, Fisheries management and administration, scientific institutions	The last warming event took place in 2017 but caused a moderate bleaching.
Mudslides	Heavy rains and extreme climatic events (eg. cyclones and tropical storms). Mudslides form and run down into the sea after heavy rains due to the sealing of the watershed's soils, deforestation and increased urbanization.	Fish mortality by choking and weakening or even causing coral mortality.	Deterioration of bathing water quality and impact on tourism	MPA managers, Fisheries management and administration, scientific institutions	

Abnormal phenomena (short description)	Main climatological event associated (if known/Assumed)	Main impact on fisheries	Secondary impacts	Responsible for impact assessment	Notes/Comments
Rising water temperatures, ocean acidification, sea-level rise, intensification of tropical storms, and increased rainfall	Climatic change	Modifies the ecosystem function and structure of fish communities and their reef habitats		MPA managers, Fisheries management and administration, scientific institutions	Climate change is a real threat to coral reefs. Increases in water temperature, ocean acidification, sea-level rise, intensification of tropical storms and increased rainfall are all phenomena that threaten marine ecosystems. Reunion is not spared by these changes. Nevertheless, the important hydro dynamism observed around the island has limited for the moment the impact of the warming of surface waters on the environment. Few data is available on the other impacts of climate change in Réunion.
Kenya					
Coral bleaching	Higher than normal Sea Surface Temperature	Affects reef associated species		Not assessed	
Higher than normal tuna catches in Lamu	Not Known	Oversupply of tuna in the small scale fishery		Not assessed	
Madagascar					
Coral bleaching	Sea water temperature rising and climate change linked to deforestation	Dramatic decrease on the abundance of certain reef species	Decrease in fishers' income		Reinforcement of foresting actions
Stronger cyclones and floods	Increased frequency of cyclone passage or bad weather	Changes in fishing calendar and sea bottom of the fishing grounds	Ocean currents dynamic are difficult to predict	Biotic and abiotic factors	
Maldives					
Coral bleaching		Bleaching was observed across the country, with higher severity in the southern atolls, however currently according to the NOAA Coral Reef Watch, the coral bleaching alert level will be reduced to the lowest alert level (No stress) within approximately 4 weeks.			No studies on impact on fisheries were reported for Maldives

Abnormal phenomena (short description)	Main climatological event associated (if known/Assumed)	Main impact on fisheries	Secondary impacts	Responsible for impact assessment	Notes/Comments
Mauritius					
Mild to severe bleaching in several lagoons(40-50% of corals affected)	Seawater temperature rise noted in 2016 (El Niño).	Potential negative impact on fishery relying on reef fishes due to loss of habitat and breeding grounds of reef fishes	Food supply and socio-economic activities of coastal people/fishers affected		
Muddy coastal waters	Rise in heavy rainfall causing frequent runoffs into the sea that may affect corals	Probability of a sediment induced stress on corals and this needs to be assessed.			
Mozambique					
Cyclone Idai which killed more than 600 people and left 400,000 homeless near the port city of Beira central zone in Mozambique.	Assumed to be associated to global warming	Damage on the mangrove ecosystem which may negatively impact mainly on the important shallow-water shrimp stock	Damage on fisheries infrastructures; boats destroyed; fishing buildings; fish cages	Eduardo Mondlane University and the Fisheries Research Institute	The assessment of the impact of the cyclone on the mangrove ecosystem was conducted and a programme to promote its rapid recovering was developed to seek funding. Cyclone Idai is described as being probably the worst weather-related disaster ever hitting the southern hemisphere
Tropical cyclone Kenneth was formed north of Mozambique Channel, crashing ashore in northern Mozambique with winds of least 125 mph and strong rains reaching 750 mm.	Assumed to be associated to climate change	Assessment indicated that coral ecosystem was affected due to heavy load of sediment and recovery is relying on protection of parrotfish population. Detailed assessment is still needed.	Destruction of infrastructures as houses and roads	The University of Lurio assessed the impact of the cyclone on the coral ecosystem	
Seychelles					
Elevated sea water temperature	El Nino	Coral bleaching. Habitat damaged			
Harmful algal bloom	Climate change	Widespread mortality of coral reef fishes			
South Africa					
Penaeid shrimp - Multispecies	10 year drought due to ENSO in KZN	Recruitment of shallow water crustaceans that have an estuarine juvenile phase	Little to no recruitment for the adult shallow ocean phase		
United Republic of Tanzania					
Beach erosion, degradation of coral reefs, sea surface temperature increase and acidification					

ANNEXE J

Tableau sommaire: Impacts des phénomènes anormaux liés aux événements climatologiques dans le sud-ouest de l'Océan Indien

Phénomènes anormaux (brève description)	Évènement climatologique principal associé (si connu / supposé)	Principal impact sur la pêche	Impacts secondaires	Responsable de l'évaluation d'impact	Notes / Commentaires
Comores					
Blanchissement des coraux	Réchauffement des eaux de mer (des températures supérieures à 30°C) dû au phénomène d'El-Niño	Destruction de l'environnement corallien, affectant de la biomasse des espèces démersales et des récifs en générale	Destruction des habitats	Direction de l'environnement	In 1998, c'est plus de 75% des coraux des Comores qui ont été détruite par El Niño (seulement le 25% des coraux ont survie). Le phénomène de blanchissement de coraux a repris en 2010 et 2011. Des essais de mettre à l'eau des récifs artificiels sont en cours avec l'Ecole Nationale des pêches. Il y a eu des phases pilotes d'émersion des pots à poulpe.
Rejets des coraux morts et vivants par la mer sur différentes zones côtières de l'archipel.	Le cyclone Keneth aux Comores (du 24 au 28 avril)	Destruction de l'environnement corallien, affectant de la biomasse des espèces démersales et des récifs en générale	Destruction des habitats des espèces démersales et du poulpe (fermeture des trous de poulpes)	Direction de l'environnement et la Direction générale des ressources halieutiques	La DGRH appuis les zones les plus touchées en faisant des opérations d'émersion des pots à poulpes.
France (Réunion et Mayotte)					
Marées basses à décotes exceptionnelles	Elles semblent être liées à la présence de gyres océaniques dont la trajectoire et le temps de résidence est difficilement prévisible.	Elles affectent principalement les platiers de faible profondeur engendrant une mortalité des coraux, la raréfaction de l'oxygène sur le platier pouvant causer la mort des poissons comme cela a été le cas en 2016 à La Réunion.		Gestionnaires des AMP; Gestionnaire des pêches et services de l'Etat et organismes scientifiques	Ces décotes viennent s'ajouter aux décotes naturelles.
Phénomènes EnSo (Southern El Nino) et blanchissement des coraux	Les coraux blanchissent lors de stress souvent liés à des températures élevées, mais qui peuvent aussi être dû à la turbidité de l'eau ou à des dessalures comme après les fortes pluies.	Conséquences directes sur les populations de poissons qui en dépendent et effet de cascade sur leurs prédateurs.	Lors du blanchissement, le corail expulse les algues symbiotiques qui lui apportent 80% de son alimentation journalière. Les coraux blanchis peuvent récupérer les algues si le stress qui les a fait blanchir reste bref et peu intense. Pendant le blanchissement, ils auront néanmoins puisé dans leur réserve et seront affaiblis.	Gestionnaires des AMP; Gestionnaire des pêches et services de l'Etat et organismes scientifiques	Le dernier phénomène de réchauffement a eu lieu en 2017 mais a provoqué un blanchissement modéré.

Phénomènes anormaux (brève description)	Évènement climatologique principal associé (si connu / supposé)	Principal impact sur la pêche	Impacts secondaires	Responsable de l'évaluation d'impact	Notes / Commentaires
Coulées de boue	Fortes précipitations et évènements climatiques intenses tels que cyclones et dépressions tropicales: des coulées de boue se forment et coulent dans la mer après de fortes pluies suite à l'imperméabilisation des sols du bassin versant, à la déforestation et à une urbanisation en augmentation.	Mortalité des poissons par étouffement et maladie, et mortalité des coraux.	Détérioration de la qualité des eaux de baignade et impact sur le tourisme	Gestionnaires des AMP; Gestionnaire des pêches et services de l'Etat et organismes scientifiques	
L'augmentation de la température de l'eau, l'acidification des océans, la remontée du niveau de la mer, l'intensification des tempêtes tropicales et l'augmentation du volume des pluies	Changements climatiques	Modifie les fonctionnalités écosystémiques et la structure des communautés de poissons et de leurs habitats récifal		Gestionnaires des AMP; Gestionnaire des pêches et services de l'Etat et organismes scientifiques	Les changements climatiques sont une menace réelle pour les récifs coralliens. La Réunion n'est pas épargnée par ces changements. Néanmoins, l'important hydrodynamisme observé autour de l'île a limité pour l'instant l'impact du réchauffement des eaux de surface sur le milieu. Peu de données sont disponibles à l'heure actuelle sur les autres impacts des changements climatiques à la Réunion.
Kenya					
Blanchissement des coraux	Température de la surface de la mer supérieure à la normale	Affecte les espèces associées aux récifs		Pas évalué	
Des captures de thon supérieures à la normale à Lamu	Inconnu	Offre excédentaire de thon dans la pêche de petite-échelle		Pas évalué	
Madagascar					
Blanchissement des coraux	Augmentation de la température de l'eau de mer et changement climatique lié à la déforestation	Diminution forte de l'abondance de certaines espèces de récifs	Réduction de revenu de Pêcheurs		Renforcement sur les activités de Reboisement
Cyclones et inondations de plus en plus fortes	Augmentation de fréquence de passage de cyclone ou de mauvais temps	Modification du calendrier de pêche et du fond marin des lieux de pêche	Courantologie devient plus en plus compliquée	Facteurs biotiques et abiotiques	

Phénomènes anormaux (brève description)	Évènement climatologique principal associé (si connu / supposé)	Principal impact sur la pêche	Impacts secondaires	Responsable de l'évaluation d'impact	Notes / Commentaires
Maldives					
Blanchissement des coraux		Aucune étude de l'impact sur les pêcheries n'a été rapportée pour les Maldives. Le blanchissement a été observé dans tout le pays, mais de manière plus sévère dans les atolls du sud. Toutefois, selon le NOAA Coral Reef Watch, le niveau d'alerte de blanchissement des coraux sera réduit au niveau d'alerte le plus bas (aucun stress) dans environ 4 semaines.			
Maurice					
Blanchissement doux à sévère dans plusieurs lagons (40 à 50% des coraux affectés)	Augmentation de la température de l'eau de mer en 2016 (El Niño).	Impact négatif potentiel sur le ciblage de la pêche sur les poissons de récif en raison de la perte d'habitat et des zones de reproduction.	Approvisionnement alimentaire et activités socio-économiques des populations côtières / pêcheurs affectés		
Eau côtière boueuse	Augmentation des fortes précipitations entraînant des écoulements fréquents dans la mer pouvant affecter les coraux.	La probabilité que les sédiments provoquent un stress sur les coraux doit être évaluée.			
Mozambique					
Le cyclone Idai a tué plus de 600 personnes et laissé 400 000 sans-abri près de la ville portuaire de Beira, dans la zone centrale du Mozambique. Il est décrit comme étant probablement la pire catastrophe météorologique de l'histoire de l'hémisphère sud.	Probablement associé au réchauffement climatique	Dommages sur l'écosystème de la mangrove, pouvant avoir des conséquences négatives principalement sur le stock important de crevettes d'eaux peu profondes	Dommages sur les infrastructures de pêche; bateaux détruits; bâtiments de pêche; cages à poisson	Université Eduardo Mondlane et Institut de recherche halieutique de Mozambique	L'évaluation de l'impact du cyclone sur l'écosystème de la mangrove a été réalisée et un programme visant à promouvoir sa récupération rapide a été mis au point pour rechercher un financement.
Le cyclone tropical Kenneth s'est formé au nord de Madagascar, au nord du canal de Mozambique, s'est écrasé au nord du Mozambique avec des vents d'au moins 125 mph et des pluies torrentielles atteignant 750 mm.	Probablement associé au réchauffement climatique	L'évaluation a montré que l'écosystème corallien avait été affecté par une charge importante de sédiments et que le rétablissement reposait sur la protection de la population de poissons perroquets. Une évaluation détaillée est encore	Destruction d'infrastructures telles que des maisons et des routes	L'Université de Lurio a évalué l'impact du cyclone sur l'écosystème corallien	

Phénomènes anormaux (brève description)	Évènement climatologique principal associé (si connu / supposé)	Principal impact sur la pêche	Impacts secondaires	Responsable de l'évaluation d'impact	Notes / Commentaires
		nécessaire.			
Seychelles					
Température de l'eau de mer élevée	El Niño	Blanchiment des coraux. Habitat endommagé			
Prolifération algale nocive	Changement climatique	Mortalité généralisée des poissons de récifs coralliens			
Afrique du Sud					
Crevette Penaeid - Plusieurs espèces	Sécheresse de 10 ans due à ENSO à KZN	Impacts sur le recrutement de crustacés d'eaux peu profondes, qui ont une phase estuarienne juvénile	Peu ou pas de recrutement, qui limite la phase océanique peu profonde adulte		
République unie de Tanzanie					
Érosion des plages, dégradation des récifs coralliens, augmentation de la température de la surface de la mer et acidification					

APPENDIX / ANNEXE K

Summary table: Priority fisheries for future research in Southwest Indian Ocean (approved by the SC in its 8th meeting, in Maputo)

Tableau sommaire: Pêcheries Prioritaires pour recherche future dans le Sud-Ouest de l'Océan Indien (Liste approuvée par le CS à l'occasion de sa 8ème réunion, à Maputo)

Country/Pays	Priority level / Niveau de priorité		
	1	2	3
<i>Comoros / Comores</i>	Demersal handline fishery / Pêcherie démersale à la ligne à main	Artisanal octopus fishery / Pêcherie artisanale de poulpe	
<i>France (Reunion)</i>	Demersal handline fishery / Pêcherie démersale à la ligne à main	Artisanal octopus fishery / Pêcherie artisanale de poulpe	
<i>Kenya</i>	Sea cucumber fishery / Pêcherie de concombre de mer	Shallow-water prawn fishery / Pêcherie de crevettes de surface	Artisanal octopus fishery / Pêcherie artisanale de poulpe
<i>Madagascar</i>	Artisanal Crab fishery / Pêcherie artisanale de crabe	Shallow-water prawn fishery / Pêcherie de crevettes de surface	Lobster fishery / Pêcherie de langouste
<i>Maldives</i>	Demersal handline fishery / Pêcherie démersale à la ligne à main	Sea cucumber fishery / Pêcherie de concombre de mer	
<i>Mozambique</i>	Shallow-water prawn fishery / Pêcherie de crevettes de surface	Deep-water shrimp fishery / Pêcherie de crevettes de profondeur	Coastal shark fishery / Pêcherie côtière aux requins
<i>Seychelles</i>	Demersal handline fishery / Pêcherie démersale à la ligne à main	Lobster fishery / Pêcherie de langouste	Sea cucumber fishery / Pêcherie de concombre de mer
<i>South Africa / Afrique du Sud</i>	Shallow-water prawn fishery / Pêcherie de crevettes de surface	Deep-water shrimp fishery / Pêcherie de crevettes de profondeur	
<i>U. R. Tanzania / R.U. Tanzanie</i>	Shallow-water prawn fishery / Pêcherie de crevettes de surface	Artisanal octopus fishery / Pêcherie artisanale de poulpe	Small pelagic fishery / Pêcherie aux petits poissons pélagiques
<i>Continental countries / Pays continentales</i>	<i>Sardinella gibbosa</i>		

The Ninth Session of the Scientific Committee (SC) of the Southwest Indian Ocean Fisheries Commission (SWIOFC) was held from 16 to 19 July 2019 at Hotel Archipel, in Réunion, France. The Session was attended by delegates from Comoros, France (Réunion and Mayotte), Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles and the United Republic of Tanzania. Representatives of the Nairobi Convention (NC), the Marine Stewardship Council (MSC), the World Wide Fund for Nature (WWF) and the IOC-SWIOFish1 project attended the meeting as observers. The Committee reviewed the national reports on the status of fisheries and fisheries resources, on the management actions undertaken by member countries in the intersessional period and on the fishery research activities carried out or in planning. The national reports on fisheries management plans being implemented or planned, the current state of the certification of fisheries, the knowledge on discards and by-catch and the impact of climate events on fisheries and aquaculture were also presented and commented upon. The report of the First Meeting of the SWIOFC Working Group on Small Pelagic Fisheries (WGSP) was also presented. The next session of the Scientific Committee of the SWIOFC will take place in Madagascar at least two months before the tenth session of the Commission

La neuvième session du Comité scientifique de la Commission des Pêches du Sud-Ouest de l'Océan Indien (CPSOOI) s'est tenue du 16 au 19 juillet 2019 à l'Hotel Archipel à Réunion, France. Des délégués de Comores, France (Réunion et Mayotte), Kenya, Madagascar, Maldives, Maurice, Mozambique, République-Unie de Tanzanie et Seychelles ont participé. Des représentants de la Convention de Nairobi (NC), du Marine Stewardship Council (MSC), du Fonds Mondial pour la Nature (WWF) et du projet COI-SWIOFish1 ont assisté à la réunion en qualité d'observateurs. Le Comité a examiné les rapports nationaux sur l'état des ressources halieutiques et les mesures de gestion prises par les pays membres pendant la période d'intersession, ainsi que les activités de recherche halieutique menées ou prévues. Les rapports nationaux sur les plans de gestion des pêches mis en œuvre ou prévus, l'état actuel de la certification des pêcheries, les connaissances sur les rejets et les prises accessoires et l'impact des phénomènes climatiques sur les pêches et l'aquaculture ont également été présentés et commentés. Le rapport de la première réunion du Groupe de Travaux sur les Pêcheries de petits poissons pélagiques (GTPP) a aussi été présenté. La prochaine session du Comité Scientifique de la CPSOOI aura lieu à Madagascar, au moins deux mois avant la dixième session de la Commission.

Barcode (*Obtained through PWS*)