

**FRAMEWORK & ROADMAP TOWARDS ESTABLISHMENT
OF
REGIONAL FISHERIES MANAGEMENT ORGANISATIONS IN THE
NORTHERN INDIAN OCEAN REGION
(ARABIAN SEA & BAY OF BENGAL)**



**A Dissertation submitted to the Panjab University, Chandigarh
for the award of Master of Philosophy in Social Sciences, in
Partial Fulfilment of the requirement for the Advanced
Professional Programme in Public Administration (APPPA)**

By

**DIG AK BHARDWAJ
(ROLL NO. 4604)**

**Under the Guidance
of**

FACULTY GUIDE

PROF. ASHOK VISHANDASS



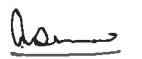
**46th Advanced Professional Programme
in
Public Administration
(2020-21)**

**INDIAN INSTITUTE OF PUBLIC ADMINISTRATION
I.P. ESTATE , RING ROAD , NEW DELHI- 110002**

CERTIFICATE

I have the pleasure to certify that **DIG AK Bhardwaj, 5047-S** has pursued his research, work and prepared the present dissertation **Framework & Roadmap towards establishment of Regional Fisheries Management Organisations in the Northern Indian Ocean Region (Arabian Sea & Bay of Bengal)** under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Panjab University, Chandigarh, for the purpose of Master of Philosophy in Social Sciences in Partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration of Indian Institute of Public Administration (IIPA), New Delhi.

I recommended that the dissertation of **DIG AK Bhardwaj 5047-S** is worthy of consideration for the award of M. Phil degree of Panjab University, Chandigarh.


11.03.2021

(Prof Ashok Vishandass)
Professor (Applied Economics)
Indian Institute of Public Administration
I.P. Estate, Ring Road,
New Delhi-110002

ACKNOWLEDGEMENT

Foremost, I would like to express my sincere gratitude to my guide **Prof. Ashok Vishandass** for the continuous support, generous guidance, patience, motivation, enthusiasm, and immense knowledge for conducting this study in a timebound manner. His guidance helped me during all the research and writing of this dissertation. I could not have imagined having a better guide and mentor for my M. Phil dissertation.

I would also like to thank the IIPA as an institute for giving me this opportunity to choose a very relevant subject and providing the much-needed infrastructural facilities to complete the work. I want to thank the IIPA library staff for the kind cooperation and making the required books available. I am grateful to all the experts for giving very valuable comments during the research proposal presentations which have helped me a lot in conducting this research work. I would like to thank the Course Coordinator of **46th Digital APPPA, Dr. Charu Malhotra** for creating a very conducive and pleasant environment throughout the course, and also showing a very considerate attitude regarding timelines of various assignments especially the dissertation work. I would also like to thank the APPPA officer staff Shri Manish, Shri Anil and Shri Rajesh providing excellent support.

I would fail my duty if I do not thank the Department of Personnel & Training (DoP&T), the Government of India, for providing this wonderful,

opportunity to join the **46th Digital APPPA** and thus widening vistas of my knowledge and deepening the understanding of public policy making and meeting the wonderful and bright officers from various streams of Indian Civil Services and Indian Armed Forces having varied and enriching experience. I shall cherish my association with all these bright minds of India.

Finally, I must thank my wife and adorable kids for showing tremendously supporting attitude and letting me have enough time to complete this work.

Date:

(DIG Ak Bhardwaj)

Place: New Delhi

DISCLAIMER

The findings, interpretations, views, recommendations, and conclusions in the dissertation are those of the author and should not be attributed in any manner to any authority, organization or individual.

Date:

(DIG Ak Bhardwaj)

Place: New Delhi

List of Figures

<u>Figure No.</u>	<u>Title</u>	<u>Page No.</u>
Fig 1	The South Pacific Regional Fisheries Management Organisation	52
Fig 2	Tuna RFMO	53
Fig 3	South Indian Ocean Fisheries Agreement	87
Fig 4	Indian Ocean Tuna Commission	91

INDEX

<u>SI No.</u>	<u>Content</u>	<u>Page No.</u>
(i)	Certificate	2
(ii)	Acknowledgement	3-4
(iii)	Disclaimer	5
(iv)	List of Figures	6
(v)	Index	7-8
(vi)	Abbreviations	9-10
(vii)	Executive summary	11-12
(viii)	Chapter 1 – Introduction	13-25
(ix)	Chapter 2 - Review of Literature	26-36
(x)	Chapter 3 - Legislative aspects in high seas fisheries Regime	37-46
(xi)	Chapter 4 - Present status of RFMO in world and in Indian Ocean Region	47-95
(xii)	Chapter 5 - Necessity for establishment of RFMO in Northern Indian Ocean Region (Arabian Sea & Bay of Bengal)	96-104
(xiii)	Chapter 6 - Framework and Roadmap towards establishment of RFMO	105-111
(xiv)	Chapter 7 - Recommendations and Conclusion	112-123
(xv)	References	125-129

<u>Appendices</u>		<u>Page No.</u>
Appendix 'A'	Research Questionnaire as Google Form	130-133
Appendix 'B'	Research Questionnaire Responses	134-141

Abbreviations & Acronyms

RFMO	-	Regional Fisheries Management Organisation
UNCLOS	-	United Nations Convention on the Law of the Sea
EEZ	-	Exclusive Economic Zone
FAO	-	Food and Agriculture Organisation
UNFSA	-	United Nation Fish Stock Agreement
MCS	-	Monitoring, Control and Surveillance
UNGA	-	United Nation General Assembly
NGO	-	Non-Governmental Organizations
IUU	-	Illegal Unreported and Unregulated
CCRF	-	Code of Conduct for Responsible Fisheries
PSMA	-	Agreement on Port State Measures
IPOA	-	International Plan of Action
CITES	-	Convention on International Trade in Endangered Species
SIOFA	-	Southern Indian Ocean Fisheries Agreement
CCAMLR	-	Conservation of Antarctic Marine Living Resources
SPRFMO	-	South Pacific Regional Fisheries Management Organisation
SEAFO	-	South East Atlantic Fisheries Organisation
IOTC	-	Indian Ocean Tuna Commission
CNCP	-	Cooperating Non-Contracting Party
CMM	-	Conservation and Management Measures
BOBP-IGO	-	Bay of Bengal Programme Inter-Governmental Organisation
RFAB	-	Regional Fishery Advisory Body
CP	-	Contracting Parties

BOBLME	-	Bay of Bengal Large Marine Ecosystem
DoF	-	Department of Fisheries
MoES	-	Ministry of Earth and Sciences
MoD	-	Ministry of Defence
MoCI	-	Ministry of Commerce and Industry
MoFAH&D	-	Ministry of Fisheries Animal Husbandry and Dairying
MEA	-	Ministry of External Affairs
BoB	-	Bay of Bengal
IOR	-	Indian Ocean Region
IMO	-	International Maritime Organisation
ILO	-	International Labour Organisation
FMC	-	Fish Management Centers
VMS	-	Vessel Management System
FSI	-	Fisheries Survey of India
NIO	-	National Institute of Oceanography
CIFNET	-	Central Institute of Fisheries Nautical and Engineering Training
CMFRI	-	Central Marine Fisheries Research Institute
CMLRE	-	Centre for Marine Living Resources and Ecology
MMD	-	Marine Mercantile Department
ISRO	-	Indian Space Research Organisation
IPA	-	Indian Ports Association

Executive Summary

The regional dimension is key to international fisheries management policy, as demonstrated by the rapid expansion of the family of regional fisheries bodies (RFBs). There are some 50 RFBs worldwide. **Most provide only advice to their members, and are hence referred to in this work as regional fisheries advisory bodies (RFABs).** Regional fisheries management organizations (**RFMOs**) have **mandates to adopt legally binding conservation** and management measures based on the best scientific evidence. Global instruments and normative processes have to be implemented and translated into actions at the country and regional levels, as appropriate. In this regard, regionalization of fisheries and aquaculture governance can provide opportunities not only to address common concerns, create synergies and mainstream the global objectives of relevant UN bodies, but also to broaden outreach on the global fisheries agenda to regional partners that may not be directly concerned with fisheries, as well as to the general public. .

In Indian Ocean region , the area adjacent to EEZ i.e. high seas is presently not covered under any general RFMO. Presently, there is no RFMO in this extant of water body except for the IOTC which includes the Bay of Bengal and a part of the Indian Ocean related to tuna and tuna like species. Northern Indian Ocean comprising of Arabian Sea and Bay of Bengal has a vast expanse of area without any regulatory mechanism i.e. there is no RFMO for this region to have check on over exploitation of area/depletion of fish stock and institute conservation & management measures in said area ,also area just adjacent to India's EEZ. In absence of RFMO , the Chinese fishing

vessels have enhanced fishing activities in the North IOR. Some 400 plus Chinese fishing vessels are estimated annually in the Arabian Sea only. These huge fishing vessels with latest gadget & fishing tools are engaged in fishing adjacent to or beyond EEZ of India in the high seas and takes away good chunk of fishes which affects Indian fishermen catch, also India's security & blue economy too. These fishing vessels take passage through Maritime Zones of India while proceeding to the fishing grounds in the high seas or heading back to China raising security concerns . The Arabian Sea and Bay of Bengal are the important fishing zones becoming lucrative due to the availability of fish in these seas. Addressing this crisis requires cooperation and coordinated efforts of the countries There is a need to have RFMO in northern IOR to address these issues.

The present study provides an overview for recommending framework & roadmap towards establishment of Regional Fisheries Management Organisations in the northern Indian ocean region (Arabian sea & Bay of Bengal) to counter fishing adjacent to or beyond EEZ of India in the high seas and takes away good chunk of fishes which affects Indian fishermen catch, also India's security & blue economy too.

Chapter-1

Introduction

1.1. The Hugo Grotius in the early 1600s paved the famous doctrine of freedom of high seas laying the foundation of international law of the sea¹. Along with this originated the regime of high seas fisheries conservation and management. The ancient rules of freedom of high seas in the context of fisheries meant that no single state could have exclusive rights over them or right to prevent other states from their exploitation. However, the unrestricted action of each state lead to the conflict with the interest of each state. The doctrine of international law of sea was enshrined into freedom to fish in the high seas, when fishing nations started competing with each other. The conflict areas were resolved by means of negotiations and signing of agreements, but not for fish, only for the economic interests in the fisheries. With time, however, the fishing resources started draining out with unrestricted usage of high seas, especially for fishing. This was a stepping - stone towards formulating agreements for joint management of fishing in the high seas and need was felt towards codifying such agreements for cooperating and conserving of fishing stocks. Thus, these obligations were codified into the United Nations 29 Apr 1958 Convention on Fisheries and Conservation of the Living Resources of the High Seas. In accordance with 1958 Convention², "Conservation of the living resources of the high seas" is defined as the aggregate of the

¹ Hugo Grotius, *The Rights of War and Peace*, edited and with an Introduction by Richard Tuck, from the Edition by Jean Barbeyrac (Indianapolis: Liberty Fund, 2005). 3 vols. <[titles/1877](#)>.

² Convention on Fishing and Conservation of the Living Resources of the High Seas, Geneva, 29 April 1958

measures rendering possible the optimum sustainable yield from those resources so as to secure maximum supply of food and other marine products". The overexploitation of natural resources and environmental protection were not a priority in those times. The primary concern of the international community was to ensure continuous food supply. However, the said convention never came into force.

1.2. RFMOs have a long **history**, as the nature of living marine resources drives sound management to transboundary agreements. The first RFMO for a living marine resource was the fur seal convention of 1911 signed by the US, Great Britain (for Canada) Japan and Russia . The Governments of Canada, Japan and the Union of Soviet Socialist in 1976 updated it in the CONVENTION ON CONSERVATION OF NORTH PACIFIC FUR SEALS .The second RFMO was the International Pacific Halibut Commission established in 1923 by a convention signed by the US and Great Britain (for Canada)(<http://www.iphc.int/>) (2014) There were some efforts in the 1930s but they failed to come to complete fruition because of WWII. Post WWII, fisheries commissions began to expand in response to rapidly expanding fisheries. Prior to the extension of coastal jurisdiction these conventions covered what now are both international waters and those now within country jurisdiction.

1.3. One of them, the International Convention for the Northwest Atlantic Fisheries (ICNAF) for the investigation, protection, and conservation of the fisheries, came into being in 1950 (<http://www.nafo.int/about/frames/histearly.html>) (2014) and became a

laboratory for the early developments of the large marine ecosystem (LME) approach.

1.4. In the mid-1970's (the United States of 1976) countries rapidly expanded their fishing grounds to 200 miles which resulted in many of the continent's shelf areas being under national control (Burke, 1983). This has led to further development of the RFBs and Regional Fisheries Management (RFMOs).

1.5. FAO lists more than 40 fisheries bodies (RFBs) (<http://www.fao.org/fishery/rfb/en>) (2014) of which 17-18 are considered to be regional fisheries management organizations (RFMOs) depending on how one defines management.

1.6. In any case less than half of the RFBs have any regulatory authority, so do not reach the status of RFMOs. Some could possibly assume such authority in the future. Some are creatures of FAO and these would likely have to change to an independent body before assuming management authority. While countries form the intergovernmental policy body, at the technical level there are partners with many other entities. With the need for management of coastal transboundary fisheries, various RFMOs have come into being. Some have limited authority, and their areas are not always optimal. In addition to coastal RFMOs there are the commissions for management of highly migratory tuna and tuna like fisheries. These species move in and out of LMEs and can be very important in the fisheries within LMEs particularly those of coastal states and they are also in the energy flow relationships within LMEs. LMEs are the logical body to interact with the five

large tuna commissions for management for sustainability and particularly for the socio-economic interests of the coastal states.

1.7. **Regional Fisheries Management Organisations (RFMOs)** form one of the most important building blocks of fisheries management for the high seas. Among the positive developments regarding fisheries management that is regularly highlighted at fora such as the UN General Assembly and the Food and Agricultural Organization of the United Nations (FAO) is the growing number of RFMOs that have legal competence to adopt binding conservation and management measures for the high seas, and thereby the increasingly comprehensive coverage of the high seas by RFMO Convention Areas. **However, in various international fora relating to fisheries and law of the sea it is notable that the different types of RFMOs tend to cause some confusion in this context.** The term RFMO is sometimes used for organisations that do in fact not adopt legally binding management measures and in other cases organisations that do adopt such measures are not always included in discussions on RFMOs. Furthermore, there is a tendency to classify RFMOs on the basis of any issue being discussed, rather than on a more universally applicable basis. This can for example lead to some RFMOs being given labels that are misleading, such as an RFMO that primarily deals with pelagic fisheries being labelled as a “deep-sea-fisheries RFMO”.

1.8. The first step in clarifying the picture is to define **what we mean by the term “RFMO”**. The FAO organises a forum called the Regional Fisheries Body Secretariats Network, which currently has 49 participating international bodies. The flora of regional fisheries bodies is very diverse: some of these are advisory

bodies; some adopt legally binding conservation and management measures; some are focused on inland fisheries; some are focused on coastal fisheries; some are focused on the high seas; some are focused on promoting development of domestic fisheries sectors; some are focused on promoting cooperation between states regarding fisheries issues; etc. One thing the regional fisheries bodies all have in common is that they are important for the purpose they serve. However, they are not all RFMOs. RFMOs are only a sub-set of the regional fisheries bodies.

1.9. For the purposes of this overview, we can define **an RFMO as an inter-governmental organisation which fulfils two conditions. Firstly**, it has competence under international law to adopt legally binding conservation and management measures regarding fisheries. **Secondly**, the area to which this legal competence applies includes a part of the high seas. Such RFMOs thereby are organisations that provide a forum for states to fulfil their duty to cooperate regarding fisheries in the high seas, as set out in the 1982 UN Law of the Sea Convention and described further in the 1995 UN Fish Stocks Agreement. This definition means that the number of RFMOs is significantly lower than the 49 bodies that currently participate in the Regional Fisheries Body Secretariats Network, due to the non-inclusion of those that do not adopt legally binding measures and/or do not have competence for high seas fisheries.

1.10. So, we can define , **Regional Fisheries Management Organisations (RFMOs)** are intergovernmental fisheries organizations that have the authority to ***establish fisheries conservation and management measures on the high seas and play a critical role in the global system of fisheries governance.***

They form one of the most important building blocks of fisheries management for the high seas. RFMO are the primary way to achieve cooperation between and among fishing nations that is essential for the conservation and effective management of international fisheries. RFMOs may focus on certain species of fish or highly migratory species have a wider remit related to living marine resources in general within a region.

1.11. Marine fish stocks are under management by one or more RFMOs. However, there is growing concern over the state of world fisheries about depletion of fish stock due over unregulated exploitation of high sea. Also, international attention is increasing towards the problem of **illegal, unreported, and unregulated (IUU) fishing** resulting in fish stock depletion. The obligations of RFMOs to conserve these species have been established by developments in the international legal framework governing the oceans, including agreements such as the Code of Conduct for Responsible Fisheries and the UN Fish Stocks Agreement.

1.12. When considering ocean governance at a global level, the **UN Convention on the Law of the Sea (UNCLOS)** is the overarching framework as well as its two Implementing Agreements – including the Fish Stocks Agreement which seeks to promote cooperation between coastal states and high seas fishing states through the use of RFMO to conserve and manage fish stocks. While a number of legal instruments aimed at addressing the problems of international fisheries governance have been introduced over the past twenty years, it is often suggested that RFMOs have generally failed to prevent depletion of high seas fish stocks and degradation of their marine ecosystems. In response, the international community has made significant efforts in recent years to strengthen the conservation and

management regimes of RFMOs, and to improve the performance of RFMOs in accordance with the demands of international fishery instruments. In March 2006, the High Seas Task Force launched its final report, which included a proposal to develop a 'model' for improved governance by RFMOs.

1.13. The UN Fish Stocks Review Conference in May 2006 agreed that RFMOs should undergo performance reviews on an urgent basis, including independent evaluation, and should ensure that results were publicly available. The December 2006 UN General Assembly Resolution on Sustainable Fisheries also called upon countries to develop and apply best practice guidelines for RFMOs, and to undertake performance reviews of RFMOs, based on transparent criteria.

1.14. At the UN Food and Agriculture Organization (FAO) Committee on Fisheries meeting in March 2007, country members agreed on the need for all RFMOs to undertake performance reviews, recognizing that individually, RFMOs must determine the criteria, methodology, and frequency of such reviews. The 'model' for improved governance by RFMOs, as proposed by the High Seas Task Force, was developed by a panel independent of the commissioning governments.

1.15. **Basic Question & Answer for better understating**

(a) **What is an RFMO?**

A: An RFMO—short for regional fisheries management organization—is an international body made up of countries that share a practical and/or

financial interest in managing and conserving fish stocks in a particular region. These include coastal States, whose waters are home to at least part of an identified fish stock, and “distant water fishing nations” (DWFN), whose fleets travel to areas where a fish stock is found.

RFMOs are established by international agreements or treaties and can take different forms. Some focus on regulating fishing for a particular species or group of species. Others have a broader mandate, with responsibility to ensure that the fishery does not negatively affect the wider marine ecosystem and the species within it.

(b) Types of Tuna RFMOs:

CCSBT- Commission for the Conservation of Southern Bluefin Tuna

IATTC- Inter-American Tropical Tuna Commission

ICCAT- International Commission for the Conservation of Atlantic Tunas

IOTC- Indian Ocean Tuna Commission

WCPFC - Western and Central Pacific Fisheries Commission

(c) How many RFMOs are there worldwide?

A: There are approximately 19 RFMOs covering various geographic areas, some of which overlap. Of these, five are the so-called tuna RFMOs, which manage fisheries for tuna and other large species such as swordfish and marlin. Together, the five tuna RFMOs have responsibility for managing fisheries in approximately 91 percent of the world's oceans.

(d) **Can a country belong to more than one RFMO?**

A: **Yes.** Any country with a fisheries interest in the region managed by a particular RFMO may apply to join that RFMO, as long as it agrees to certain provisions. These include sharing data about the fishery, abiding by the rules of that RFMO, and contributing funds for scientific assessments, among others. Countries with large fishing fleets that span the globe, like the United States, Japan, and the European Union (EU), are members of many RFMOs, including nearly all the tuna ones. The EU, for example, is a member of 10 RFMOs.

(e) **How do RFMOs make decisions?**

A: Every fishery organization is structured differently. In general, each has some sort of scientific committee that gathers data to guide establishment of sustainable catch levels for various species. Once members agree to the recommended measures, managers from member countries devise an implementation plan for the coming year that is usually set-in place through consensus (all member countries must agree) or a voting process. Most RFMOs also have subcommittees that work on special topics such as promoting compliance with the group's decisions.

(f) **What types of fish do RFMOs manage?**

A: RFMOs usually focus on **commercially valuable species**—typically those for human consumption. Although specific fish species vary according to the purpose of the RFMO and its geographic area, RFMOs generally manage highly migratory stocks that travel long distances, such as tunas.

They also manage “straddling” fish stocks, which move between the waters of more than one country or between national and international waters (200 miles from shore).

(g) Are RFMOs responsible for managing other marine species?

A: Although many RFMOs focus exclusively on commercial fish stocks, some recently established ones are also required to manage other species or aspects of the marine ecosystem. The Western and Central Pacific Fisheries Commission, for example, is responsible not only for tuna, but also for sharks, seabirds, and turtles affected by fishing. Likewise, the Inter-American Tropical Tuna Commission adopted the Antigua Convention in 2010 to formalize its mandate to manage fisheries by applying an ecosystem approach: to consider all the marine species within its convention area.

(h) Are all of the marine fisheries resources in the world's oceans covered by an RFMO?

A: **No.** RFMOs typically focus only on a limited number of species, and some large areas of the ocean, even with significant fishing activity, are unmanaged. Many RFMOs, for example, do not oversee fishing for sharks or for many deep-sea fish species, even if these activities occur within their convention area. Many nongovernmental organizations and countries believe a stronger international system of ocean governance is required to ensure a sustainable marine environment.

(i) Can one fishery be managed by more than one RFMO?

A: **Yes.** This may occur where a particular fish population migrates between areas under different RFMOs, or where the geographic areas covered by two RFMOs overlap. The ambiguities that result can undermine the effectiveness of management measures. Efforts are being made to improve coordination between RFMOs.

(j) How do RFMOs determine catch levels for a species? How often are these decisions reviewed?

A: In theory, many RFMOs are required to base the amount of allowable catch on the best available science. These decisions are then reviewed annually. In reality, the decisions are often highly political, and some RFMOs have consistently adopted catch levels much higher than scientists considered sustainable. In many cases, RFMOs use inadequate tools to limit catches. For example, instead of setting catch limits, some RFMOs attempt to prevent overfishing by limiting the number of days a vessel is allowed to fish in a year. This encourages the deployment of more-efficient vessels that can catch more fish in less time, resulting in overfishing.

(k) Are the decisions of an RFMO binding on member countries?

A: **Yes.** When a country joins an RFMO, it agrees to abide by the group's decisions. In practice, however, it can be difficult to identify vessels, ports, authorities, and some countries do not play by the rules.

(l) How do RFMOs promote compliance?

A: Over the years, some RFMOs have worked to develop techniques to promote compliance with their decisions. Catch documentation systems are one innovative approach, although they are not yet widely used. These systems allow managers to trace each fish to the vessel that caught it to ensure that it was not taken illegally. Compliance is also sought by tracking vessels in a particular area. Although each RFMO has a list of authorized vessels, there is no uniformity for registration and vessel information. Adding to the confusion, many vessels are registered with more than one RFMO, regardless of where they are currently fishing. A uniform list of registered and legal vessels is needed.

(m) How successful are RFMOs at preventing overfishing and maintaining healthy fish stocks?

A: Although RFMOs play an important role in facilitating cooperation between fishing countries, historically they have failed to prevent overfishing and maintain healthy fish stocks. Because many RFMOs were established when ocean resources were believed to be virtually unlimited, they often are not structured to limit fishing effectively. Members of RFMOs often lack the political will or clear incentives to decrease the number of vessels authorized to fish in a particular area, or to make decisions based on scientific advice that may constrain their national fishing or processing industries. Moreover, several RFMOs have very limited mandates that prevent them from considering and addressing the impacts of fishing on the marine ecosystem as a whole. Nonetheless, RFMOs are the only

international bodies responsible for managing certain fisheries, and it is important for those stakeholders with an interest in sustainability to continue to work with them and their member governments to strengthen and improve decision-making.

(n) **How does Pew interact with RFMOs?**

A: Pew works with RFMOs to achieve a number of specific conservation and management goals (a) to conserve tuna, sharks, and vulnerable deep-sea species and habitats, and (b) to combat illegal fishing. Pew seeks to help RFMOs improve management and governance and to build the political will needed to drive conservation action and accountability by all RFMO members.

Chapter-2

Objectives and Research Methodology

2.1 Statement of the Problem

The area adjacent to EEZ i.e. high seas is presently not covered under any general RFMO. There is only one RFMO amongst South Indian Ocean that came into force in 2012 with 10 contracting parties. Presently, there is **no RFMO in this extant of water body except** for the IOTC which includes the Bay of Bengal and a part of the Indian Ocean related to tuna and tuna like species. Northern Indian Ocean comprising of Arabian Sea and Bay of Bengal has a vast expanse of area **without any regulatory mechanism i.e. there is no RFMO for this region to have check** on over exploitation of area/depletion of fish stock and institute conservation & management measures in said area ,also area just adjacent to India's EEZ. Hence, the establishment of RFMOs in the Northern IOR is need of an hour.

Beside above, the Chinese fishing vessels have enhanced fishing activities in the North IOR. Some 400 plus Chinese fishing vessels are estimated annually in the Arabian Sea only. These huge fishing vessels with **latest gadget & fishing** tools are engaged in fishing adjacent to or beyond EEZ of India in the high seas and takes away **good chunk of fishes** which affects Indian fishermen catch, also **India's security & blue economy** too.

These fishing vessels take passage through Maritime Zones of India while proceeding to the fishing grounds in the high seas or heading back to China. While the Chinese fishing vessels indicate China's growing footprint in the IOR, presence of these vessels have raised **security concerns too**. The Arabian Sea and Bay of Bengal are the important fishing zones becoming lucrative due to the availability of fish in these seas.

With the mechanization of the fishing fleet and proliferation of larger boats, conflicts between large-scale and small-scale fishermen are rampant. Poverty, unsustainable fishing practices and a decline in income from fisheries are contributing to a crisis. Addressing this crisis requires cooperation and coordinated efforts of the countries ***There is a need to have RFMO in northern IOR to address these issues.***

No dedicated effort, study or survey has been carried out so far on the need for establishment of RFMO in North Indian Ocean Region (Arabian Sea & Bay of Bengal). Therefore, this research aims to bridge the gap by studying the same.

2.2 **Research Objectives**

The research objectives of the study are: -

- (a) To define framework & roadmap for **establishment of RFMO in Northern Indian Ocean** (comprising both the Arabian Sea and the Bay of Bengal) for fisheries conservation and management measures on the high seas resulting equal shares for all signatory littoral countries.

(b) To identify measures towards conservation and management measures covering number of assessed fish stocks in region, number of fishing vessels operating in Northern Indian Ocean region (Arabian Sea & Bay of Bengal), species data collection system, vessel monitoring system with latest technology i.e. use of Global Positioning System (GPS), Global Navigation Satellite System (GNSS) applications, expanded use of AIS, Chain of Static Sensors (CSS) along the Coastal belt.

(c) To recommend measures towards achieving a consensus among littoral states on the implementation of organization .

(d) To identify measures for **empowering of existing** Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) as an interim till establishment of RFMO to have check on depleting state of fishes in high seas.

2.3 **Research Design**

As per study by FAO i.e. Sustainable Management of the Bay of Bengal Large Marine Ecosystem (BOBLME) (<http://www.fao.org/3/I9203EN/i9203en.pdf>) over **400 million people** in the Bay of Bengal area itself are dependent on coastal and marine resources for their food, livelihood, and security. There is a need to look after the interest of Indian fishermen fishing in high seas. So, this study would provide insights towards **establishment of RFMO**.

The research would involve collection of **statistical data** from various organizations like DG Shipping, Ministry of Fisheries, Animal Husbandry & Dairying, State fisheries dept., Indian Coast Guard, Vessel Monitoring organization, National Indian Oceanography organization etc.

To gather data and responsive feedback on the objectives, relevant information will be collected using both **primary** and **secondary sources**. The approach to conducting research would be **mixed strategy** i.e. both **Quantitative and Qualitative strategy would be adopted utilizing collected primary & secondary data**. The research design would be **Quantitative Descriptive**.

2.4 **Rationale / Justification**

India is bounded by the Arabian Sea on the West, the Bay of Bengal in the East and the Indian Ocean in the South. With such a vast expanse of coastline and 2.02 million square km area covered under EEZ, India has huge potential that remains accessed within EEZ and beyond in the high seas. The Northern Indian Ocean Region area adjacent to EEZ i.e., **high seas is presently not covered under any general RFMO. In absence of any regulatory** there is rampant exploitation of fishes in high seas, uncontrolled, illegal fishing in high seas of Northern Indian Ocean Region (Arabian Sea & Bay of Bengal).

The Chinese fishing vessels have enhanced fishing activities in the North IOR. Some **400 plus Chinese fishing vessels** are estimated annually in the Arabian Sea only. These huge fishing vessels with latest gadget & fishing tools are engaged in fishing adjacent to or beyond EEZ of India in the high seas and takes away good chunk of fishes which affects Indian fishermen catch, also **India's security & blue economy too**.

The **establishment of an RFMO** in this region will ensure governance regime in the area. If India takes a lead in establishing this RFMO, it is going to be a good incentive both in terms of conservation and exploitation of marine living resources.

2.5 **Research Questions**

The research questions that arise are as under: -

- (a) What are the reasons for not having any RFMO in Northern Indian Ocean Region (Arabian Sea & Bay of Bengal) till date?
- (b) What are the hurdles in establishment of RFMO in Northern Indian Ocean Region (Arabian Sea & Bay of Bengal)?
- (c) What will be the measures towards achieving a consensus among littoral states on the implementation of organization .

- (d) What will be the framework & roadmap for RFMO to be established?
- (e) What will be interim measures for conservation and management of fishes at high seas so that stocks don't get depleted till establishment of RFMO ?
- (f) Whether already existing organizations such as BOBP-IGO is empowered enough to regulate the conservation and management of fishes in Northern Indian Ocean Region (Arabian Sea & Bay of Bengal)?
- (g) What are the measures taken by government to improve infrastructure facility like standard boat building yards for construction of new fishing vessels and their repair in order to compete with international standards?
- (h) Who all be stakeholders in this constitution of RFMO in Northern IOR ?

2.6 **Scope / Limitations/ Delimitation**

The research is limited to framework & roadmap proposal i.e. formation of scientific committee, MCS (monitoring , controlling and surveillance) mechanism to be in force for members and non-members States, compliance standards to be developed and regular meetings between member States, action matrix of all stake holders towards establishment of RFMO Northern Indian Ocean Region (Arabian Sea & Bay of Bengal) due to the limited time and restricted resources/access to the data amid COVID-19 pandemic. The Primary leader to steer this case will be Ministry of Fisheries, Animal Husbandry & Dairying with involvement of all stake holders.

2.7 Literature Review

Majority of the literature available on RFMO are countries specific i.e. with respect to their region one example South Pacific Regional Fisheries Management Organisation where Commission has currently 15 Members from Asia, Europe, the Americas, and Oceania , Western and Central Pacific Fisheries Commission (WCPFC) etc and they have addressed the issue with respect to their blue economy measures & strategies for conservation & management of fishes.

There is no book/literature specific to establishment or need to establish RFMO in Indian ocean region. However, there are some papers, articles and case studies available on Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) which are enumerated as below: -

- (a) **Ásmundsson, Stefán (2016)** The paper presents basic insight about RFMO i.e. what are they, what is their geographic coverage on the high seas and which ones should be considered as General RFMOs, Tuna RFMOs and Specialised RFMOs? The author who is secretary at north east Atlantic fisheries commission has done a **qualitative study** and produced a data with respect to definition of RFMO , types of RFMO and its structure. However he has not elaborated about the duties , obligation under UNCLOS and legal binding of RFMO.
- (b) **Mathew NP Ansy (2008)**. The author through PPT **at UN** -Japan fellowship programme has carried study using a mixed strategy i.e.

qualitative & quantitative strategy with decretive design. He has highlighted the issues of depletion of Indian fish stocks and proposed remedial measures by Amendment/upgradation of existing acts in tune with CCRF and other legal instruments. He has also suggested strict compliance of Marine Fishing Regulation Act (MFRA) Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981 , International agreements: Acceded 1995 UN Fish Stock Agreement - yet to accede 1993 Compliance Agreement. , Regional Fisheries Management Organization/Arrangements (RFMO/As) , Framing of a 'marine fisheries management model' for fishery resources (including depleted stocks) in Exclusive Economic Zone (EEZ) - based on CCRF and other legal instruments, National Plan of Action (NPOA) for fishing capacity, sharks, sea birds and Illegal, Unreported and Unregulated (IUU) Fishing. The author has limited studies to Indian scenario only. He has not touched upon the latest gadgets and infrastructure of fishing.

(c) **Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, (2020).** In this technical paper **at Rome**, the author has stressed that the regional dimension is key to international fisheries management policy, as demonstrated by the rapid expansion of the family of regional fisheries bodies (RFBs). The author is stating that regionalization of fisheries and aquaculture governance can provide opportunities not only to address common concerns, create synergies and mainstream the global objectives of relevant UN bodies, but also to broaden outreach on the global fisheries agenda to regional partners that may not be directly concerned with fisheries, as well as to the general public. There are some 50 RFBs worldwide. Most provide only advice

to their members and are hence referred to in this work as regional fisheries advisory bodies (RFABs). **Regional fisheries management organizations (RFMOs)** have mandates to adopt legally binding conservation and management measures based on the best scientific evidence. Global instruments and normative processes have to be implemented and translated into actions at the country and regional levels, as appropriate. The author has done specific studies with respect to RFMO using **qualitative strategy and descriptive design**.

(d) **Marjorie L. Mooney-Seus, Andrew A. Rosenberg, Chatham House (2007)**. An independent Report by a panel of chatham house, UK for improved governance by Regional Fisheries Management Organizations was carried out where in they suggested /recommended best practices for Regional Fisheries Management Organizations (RFMOs). The panel suggest the efforts to strengthen the conservation and management regimes of RFMOs and how to improve the performance of RFMOs in accordance with the demands of international fishery instruments. They highlighted that UN Fish Stocks Review Conference in May 2006 agreed that RFMOs should undergo performance reviews on an urgent basis, including independent evaluation and should ensure that results were publicly available. The December 2006 UN General Assembly Resolution on Sustainable Fisheries also called upon countries to develop and apply best practice guidelines for RFMOs, and to undertake performance reviews of RFMOs, based on transparent criteria. Hence on recommendation in January 2007, an initiative began to develop a common methodology and set of criteria for the core

functions of the **five tuna RFMOs** to guide the organizations through individual performance reviews and agreed on the need for all RFMOs to undertake performance reviews. The author has done specific studies with respect to tuna fishes using **qualitative strategy and descriptive design**.

(e) **Technical Committee for Establishment of a Regional Fisheries Management Organization in the Bay of Bengal (25-26 November 2010)**. The first meeting of technical Committee was held at Chennai , India to study the development of RFMO for bay of Bengal. They found that the lack of effective monitoring, control and surveillance (MCS) mechanism and lack of cooperation among the countries has led to degradation of fish stocks in the region thus leading the countries (in this case the member-countries of the Bay of Bengal Programme Inter-Governmental Organisation – BOBP-IGO and Myanmar) to initiate dialogue on preparation of regional management plan for hilsa and shark fisheries within the mandate of the BOBP-IGO in 2008. They gave reasoning on major points i.e., regional arrangement for shared nature of resources in the BOB , valuation of fisheries by the interested parties - In the region, fisheries are not carried out just for fish but has a larger socio-economic value , fisheries constitute an important source of livelihoods and food security for the countries concerned. The author has done specific studies with respect to BOBP-IGO and proposed RFMO using mixed **strategy and descriptive design**.

2.8 **Method of Data Collection**

The data will be collected through :

- (a) Research & technical papers published by various think tanks and distinguished authors
- (b) Daily Periodicals and professional literature on subject RFMO
- (c) Case studies available on Web
- (d) Statistical Study and data from Indian Coast Guard, DG shipping, VMS & Ministry of Fisheries, Animal Husbandry & Dairying.

2.9 **Methods to be Applied and Data Sources**

- (a) The method of research would be a balanced blend of **Qualitative and Quantitative methods**. Primary data would be collected through Indian Coast Guard, NIO, DG Shipping, VMS organisation & Ministry of Fisheries in terms of **study papers, Interview, statistical data**.
- (b) **Secondary data** would be garnered from reports, case studies & guidelines from available articles.

Chapter-3

Legislative Aspects in High Seas Fisheries Regime

3.1. **UNCLOS, 1982.** The 1982 United Nations Convention on the Law of the Sea (UNCLOS, 1982)³ recognized conservation of stocks and was made an obligation for the fishing nations. The UNCLOS, 1982 became the first multilateral treaty codifying the early developments and establishing general framework for the conservation and management of high sea fisheries and is regarded as international customary law. The UNCLOS, 1982 mandates management and conservation of living resources and world's seas and oceans have been divided into different zones, most importantly Exclusive Economic Zone (EEZ) and the high seas. In accordance with articles 61 and 119 of UNCLOS, 1982, the duties and responsibilities are almost similar except for the responsibilities. In the EEZ, coastal states have sovereign rights for exploration and exploitation, conservation and management of natural resources and also the duty and responsibility to conserve those natural resources⁴. All States have the right to engage in fishing in the high seas and have the responsibility to conserve the living resources and to cooperate with other States to that end⁵. The UNCLOS, 1982 contains the provisions regarding conservation of living resources in the EEZ and high seas. The framework for objectives of conservation and management are therefore addressed in the convention. However, the term 'Conservation' is not defined in the UNCLOS, 1982. There is an obligation on all States to take such measures to conserve and restore population of harvested species towards producing the maximum

³ United Nations Convention on the Law of the Sea of 10 December 1982, Division of Ocean Affairs and the Law of the Sea; Oceans and Law of the Sea, United Nations

⁴ UNCLOS Convention, Article 61

⁵ UNCLOS Convention, Article 87

sustainable yield including special requirements of developing states in the EEZ and the high seas in accordance with Article 61 and 119 of UNCLOS, 1982 respectively. The convention has linked optimum utilization of highly migratory species with international cooperation.

These international instruments are used as a Guide by the States to achieve the objectives of UNCLOS, 1982 and other multilateral agreements to implement their provisions. These non-binding instruments are not legally binding but provide harmonious implementation of the UNCLOS, 1982. It provides basis for negotiations and establishment of regional organizations or agreements thereby assisting in better compliance and accountability of the binding instruments or referred as hard law.

3.2. **FAO Compliance Agreement**. This agreement is known as the 1993 Food and Agriculture Organisation (FAO) Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement)⁶. The objective of the Compliance Agreement is to enhance and strengthen the role of Flag states in respect of their fishing vessels operating in the high seas including vessels engaged in transshipment of fish, to ensure compliance with international conservation and management measures. The agreement aims to deter and eliminate reflagging of fishing vessels under the flags of the States unable to enforce international fisheries conservation and management measures for living marine resources which impact the effectiveness of such measures.

⁶ FAO Compliance Agreement, Food and Agriculture Organisation of United Nations

The Compliance Agreement was approved at the FAO Conference in Nov 1993 and entered into force in Apr 2003.

3.3. **United Nation Fish Stock Agreement (UNFSA)**. Article 118 of UNCLOS, 1982 entrusts an obligation on the States whose nationals exploit identical living resources or different living resources in the same area and need to enter into negotiations with a view to taking the measures as necessary for conservation of the living resources⁷. Further, the article also places obligations on states to cooperate, as appropriate, in setting up of sub-regional or regional agreements/ organizations to this end. However, the legal binding is not provided through the provisions to achieve the objectives highlighted. This void was filled by UN Conference that was held for implementation of the provisions for such identical living resources and different living resources in a given area. Thus, UN Agreement for the implementation of the provisions of the UN Convention on the Law of the Sea of 10 Dec 1982 relating to conservation and management of straddling fishing stocks and highly migratory fish stocks in 1995 was adopted⁸. The UNFSA requires States to cooperate to ensure conservation and management of fish stocks. The management of such fish stocks shall be based on precautionary approach and best available scientific information. The agreement provides necessary framework for cooperation in the conservation and management of living resources. UNFSA requires management of straddling and highly migratory fish stocks by developing RFMOs⁹. Compatibility has to be achieved between international community for high seas and relevant coastal States for area under its

⁷ UNCLOS Convention, Article 118 – Cooperation of States in the conservation and management of living resources.

⁸ UN Fish Stocks Agreement, Food and Agriculture Organisation of United Nations

⁹ Article 8 – Cooperation for conservation and management, UN Fish Stocks Agreement

jurisdiction for the measures adopted for conservation and management of living resources. The agreement lays emphasis on the Monitoring, Control and Surveillance (MCS) system for respective flag states and also encourages improvement in enforcement system by complementing flag state jurisdiction with port state and coastal state jurisdiction¹⁰. The agreement has given importance and recognized not only the straddling and highly migratory fish stocks but also discrete or high seas stocks too. Articles 20, 21 and 22 of UNFSA provide important regulations for non-flag State enforcement. These provisions mention, any State party to UNFSA and member of the RFMO, has jurisdiction to board and inspect fishing vessels flying flag of another State party to the Agreement, whether or not such State is a member of the RFMO, in order to ensure compliance with conservation and management of straddling and highly migratory fish stocks established by the RFMO or such arrangement. Transparency and non-discrimination is to be ensured whilst undertaking boarding and inspection.

3.4. **United Nation General Assembly (UNGA) Resolutions.** Driftnets are extremely unselective fishing gear that catch species other than the targeted ones, including especially certain protected species like marine mammals. UNGA is also involved in issuing various resolutions regarding fishing practices in areas of national jurisdictions as well as the high seas. These resolutions originate from the Driftnet

¹⁰ Article 16 – Areas of high seas surrounded entirely by an area under the national jurisdiction of a single State, UN Fish Stocks Agreement

Resolution in 1989¹¹. The resolution expressed concern over usage of driftnets leading to exploitation of living marine resources in the high seas and causing adverse impact on marine resources of the EEZ of adjacent coastal states. Article 117¹² and 119¹³ of UNCLOS, 1982 underlines the duties of States to cooperate with each other for conservation of living resources in the high seas, which lead to adoption of resolution by UNGA. The UNGA Driftnet Resolution had an unprecedented effect. It was not a legally binding instrument but was adopted unanimously at UNGA and has been reaffirmed yearly. UNGA adopting such a resolution had an impact worldwide as large-scale driftnet fishing activity stopped almost completely and the move was supported by important fishing organizations, Non-Governmental Organizations (NGOs) and society. UNGA has further reaffirmed these interests in conservation and management of living marine resources in areas of national jurisdiction and high seas by adopting resolutions regarding impact of unauthorized fishing in living marine resources, addressing fisheries by -catch and discards, implementation of UNFSA, Illegal Unreported and Unregulated (IUU) fishing, capacity building and cooperation amongst member States, sub regional and regional cooperation, fisheries in the marine ecosystem etc.

3.5. **Food and Agriculture Organisation.** FAO of United Nations was founded in 1945 with an aim of achieving food security for the world population. FAO has been

¹¹ UNGA Resolution A/RES/44/225 : Large Scale driftnet fishing and its impact on the living marine resources of the world's oceans and seas : resolution/ adopted by General Assembly adopted at 85th plenary meeting on 22 Dec 1989.

¹² UNCLOS Article 117 - Duty of States to adopt with respect to their nationals measures for the conservation of the living resources of the high seas

¹³ UNCLOS Article 119 – Conservation of the living resources of the high seas.

involved in facilitating and ensuring long term sustainable development and utilization of world fisheries and aquaculture. FAO has been involved in programs for standardization of responsible fisheries resulting in long term conservation of fish stocks and protection of marine environment and aiding for implementation of these standards at local as well as global levels. FAO played a key role in developing the FAO Compliance Agreement and the 1995 Code of Conduct for Responsible Fisheries (CCRF)¹⁴. FAO has developed a model scheme for Port States Measures to combat IUU.

The 2016 Agreement on Port State Measures (PSMA) is also in place. FAO has developed several programs for the benefit of developing RFMOs even before the UNCLOS, 1982 was signed. FAO had already established several fisheries bodies throughout the world. FAO has also developed four International Plan of Action (IPOA)¹⁵ in the framework of Code of Conduct: -

¹⁴ The Code of Conduct for Responsible Fisheries was adopted by the twenty-eighth Session of the FAO Conference on 31 October 1995. According to Article 2 of the Code, its objectives are to: (a) establish principles, in accordance with the relevant rules of international law, for responsible fishing and fisheries activities, taking into account all their relevant biological, technological, economic, social, environmental and commercial aspects; (b) establish principles and criteria for the elaboration and implementation of national policies for responsible conservation of fisheries resources and fisheries management and development; (c) serve as an instrument of reference to help States to establish or to improve the legal and institutional framework required for the exercise of responsible fisheries and in the formulation and implementation of appropriate measures; (d) provide guidance which may be used where appropriate in the formulation and implementation of international agreements and other legal instruments, both binding and voluntary; (e) facilitate and promote technical, financial and other cooperation in conservation of fisheries resources and fisheries management and development; (f) promote the contribution of fisheries to food security and food quality, giving priority to the nutritional needs of local communities; (g) promote protection of living aquatic resources and their environments and coastal areas; (h) promote the trade of fish and fishery products in conformity with relevant international rules and avoid the use of measures that constitute hidden barriers to such trade; (j) promote research on fisheries as well as on associated ecosystems and relevant environmental factors; and (k) provide standards of conduct for all persons involved in the fisheries sector.

¹⁵ First 03 IPOAs adopted by FAO in 1999 and IPOA-IUU was adopted at 24th session of FAO Committee on Fisheries on 02 Mar 2001.

- (a) IPOA for management of fishing activity.
- (b) IPOA for reducing incident catch of seabirds in long line fisheries.
- (c) IPOA for conservation and management of sharks.
- (d) IPOA to prevent, deter and eliminate IUU.

3.6. **Flag State Responsibility.** The concept of “genuine link” that must exist between a State and vessel to be registered remains still a challenge¹⁶. The consequences of reflagging have led to development of two important perspectives. One is to adopt rules to prevent act of reflagging itself and other is to impose additional duties on Flag State in respect of such vessels. The UNFSA stipulates Flag State duties in Article 18¹⁷ regarding issue of authorization of license/ permit in accordance with global, regional or sub-regional agreements, terms and conditions to such licenses, authorization or permit, requirement of carrying documents onboard at all times, ensure unauthorized fishing not conducted by fishing vessels, requirement for marking of fishing vessels and fishing gear for identification, timely reporting of vessels including catch of target/ non target species, verification of such catch by observers, inspection, landing reports, supervision of transshipment and monitoring, exercising MCS of fishing vessels, their operation and related activities in commerce with measures compatible with sub-regional, regional and globally, regulating transshipment on high seas to ensure effective conservation and management measures. It is important to understand that Article 117¹⁸ of UNCLOS, 1982 reiterates

¹⁶ D’Andrea, The “Genuine Link Concept” in Responsible Fisheries: Legal aspects and recent developments, FAO Legal Papers Online 61, Nov 2006

¹⁷ Article 18 – Duties of the Flag State, UN Fish Stocks Agreement

¹⁸ UNCLOS Article 117 - Duty of States to adopt with respect to their national’s measures for the conservation of the living resources of the high seas

that States to “*take such measures for their respective nationals as may be necessary for the conservation of living resources of the high seas*”. However, detailed provisions for management and conservation of fish stocks are established by sub-regional or regional body. FAO Compliance Agreement has addressed the duties of Flag State with respect to fisheries with the following obligations: -

- (a) Fishing vessels are to be authorized to engage in fishing activities and such record of authorized vessels is to be maintained.
- (b) The area of fishing operation including catch and landing is required to be reported.
- (c) The States should agree and cooperate with FAO and international bodies in the exchange of relevant information.
- (d) Such measures to be instituted that fishing vessels entitle to fly its flag should not undermine effectiveness of international conservation and management measures.

3.7. **Port State Responsibility**. The Port State plays a vital role to deter fishing activities that undermine conservation and management efforts and complements Flag State. In accordance with Article 11¹⁹ of UNCLOS, 1982, ports are within internal waters of State and thus enjoy full sovereignty of the State. Hence, the ships or fishing vessels entering a port voluntarily submit themselves to the territorial jurisdiction of that particular Coastal State. Therefore, Port State can enact and enforce regulations according to UNCLOS, 1982 while such vessels are operating in Territorial waters/ EEZ. UNCLOS, 1982 does not have any provision regarding fishing vessels that have violated

¹⁹ UNCLOS Article 11 – Ports: Section 2 – Limits of the Territorial Sea

international conservation and management measures like Article 118²⁰ of UNCLOS, 1982 related to discharges by vessels outside areas of jurisdiction of Port State. However, FAO Compliance Agreement addresses Port State Control Measures. The PSMA, 2016 is the first such binding international agreement to specifically target IUU fishing²¹. Its objective is to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports and landing their catches. Port State may inspect documents, fishing gear and catch onboard fishing vessels, when such fishing vessels are voluntarily in port and prohibit landings and transshipment of catch, if established that catch undermines conservation and management measures as laid down sub-regionally, regionally or globally. The Port State does not hold any right to take such measures, but it is duty of Port State to take those measures which undermine international conservation and management measures. The provisions of the PSMA apply to the fishing vessels seeking entry into a designated port of a State which is different to their flag state. The duty of Port State, not to provide assistance to irresponsible fisheries has been enshrined in FAO Code of Conduct, IPOA-IUU and PSMA to combat IUU.

3.8. **Environmental Agreements.** There are declarations that have addressed the conservation of marine living resources and have thus laid the standards for management of fisheries both in the high seas as well as seas under national jurisdiction. One of the 2000 UN Millennium Developmental Goals is to ensure sustainability of environment. Article 21 of Chapter 17 mentions about reversal of loss

²⁰ UNCLOS Article 118 – Cooperation of States in the Conservation and Management of living resources

²¹ Agreement on Port State Measures (PSMA), Food and Agriculture Organisation of United Nations

of environmental resources emphasizing on the health of ocean. The conservation of marine living resources specifically has been stressed in the Implementation Plan adopted at 2002 World Summit on Sustainable Development held in Johannesburg²². Similar focus on integrated approach to marine living resources have also seen mention in the Jakarta Mandate adopted in 1998. The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora Convention on International Trade in Endangered Species (CITES)²³, the 1979 Convention on the Conservation of Migratory Species of Wild Animals, the 1992 United Nations Convention on Biological Diversity and Part XII of the UNCLOS Conventions, must be taken into account in the regulation and management of marine living resources, including high seas fish stocks.

²² Political Declaration and Implementation Plan adopted at the 2002 World Summit on Environmental and Development held in Johannesburg.

²³ 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora CITES

Chapter 4

Present status of RFMO in world and in Indian Ocean Region

4.1. **Establishment and membership.** The number of RFMOs (conventions or agreements entering into force) has increased rather steadily over the past five decades (Figure 3). Seven (a third of all RFMOs) have been established since 2000, namely CACFish, NPFC, RECOFI, SEAFO, SIOFA, SPRFMO and WCPFC (with 5, 6, 8, 7, 10, 13 and 26 member States, respectively).

CTMFM, IPHC and PSC are bilateral organizations; nine others also have fewer than ten members; while the RFMOs with the most members are IWC (87), ICCAT (52), IOTC (31), WCPFC (26 member States plus seven territories) and CCAMLR (25) .

In 2017, 152 States and regional economic integration organizations were members of one or more RFMOs (Box 3). Many States are members of more than one RFMO. Between 2000 and 2017, 66 States that were not previously members of any RFMO joined one or more RFMOs (Box 3). Of these, 16 became members of IWC alone.

The membership has also changed in RFMOs established before 2000. During the period covered by the survey, two new members joined CCAMLR, three joined CCSBT, two joined GFCM (with one withdrawal), nine joined IATTC, 24 joined ICCAT, 14 joined IOTC (with two withdrawals), 42 joined IWC, one joined LVFO, NASCO had one withdrawal, one new member joined NEAFC (with two withdrawals) and one joined NPAFC.

4.2. **RFMOs around the World.** RFMOs are one of the most important building blocks of fisheries management for the high seas. RFMOs are inter-governmental organisations which have competence under international law to adopt legally binding

conservation and management measures regarding fisheries and area includes high seas²⁴. The cooperation in the high seas by States is as per UNCLOS, 1982 and 1995 UN Fish Stocks Agreement. There are **three types of RFMOs** as explained below²⁵:-

(a) **General RFMOs** . The scope of these RFMOs is very wide and therefore measures are adopted for most species of fisheries in their respective areas. General RFMOs manage different types of fishing activities such as bottom, pelagic and bentho-pelagic fishing. Different types of fishing gear are deployed since they target many different stocks and species. The targeted species in these RFMOs straddle the high seas and areas under national jurisdiction. The aim of RFMO is to ensure an appropriate management framework in place for significant high sea fisheries. Presently, there are **08 General RFMOs as enumerated below.**

(i) **The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)**. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) was established by international convention in 1982 with the objective of conserving Antarctic marine life. This was in response to increasing commercial interest in Antarctic krill resources, a keystone component

²⁴ Lobach, Terje, et al. "Regional Fisheries Management Organizations and Advisory Bodies, Activities and Developments, 2000–2017." *FAO Fisheries and Aquaculture Technical Paper*, ser. 651, 2020.

²⁵ Ásmundsson, Stefán. "Regional Fisheries Management Organisations (RFMOs): Who Are They, What Is Their Geographic Coverage on the High Seas and Which Ones Should Be Considered as General RFMOs, Tuna RFMOs and Specialised RFMOs?"

of the Antarctic ecosystem and a history of over-exploitation of several other marine resources in the Southern Ocean.

(ii) **The General Fisheries Commission for the Mediterranean (GFCM)** . The General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organization (RFMO) established in 1949 under the provisions of Article XIV of the Constitution of the Food and Agriculture Organization of the United Nations (FAO). The General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organization (RFMO) established in 1949 under the provisions of Article XIV of the Constitution of the Food and Agriculture Organization of the United Nations (FAO).

(iii) **The North East Atlantic Fisheries Commission (NEAFC)**. The North East Atlantic Fisheries Commission (NEAFC) is the Regional Fisheries Management Organisation (RFMO) for the North East Atlantic, one of the most abundant fishing areas in the world. The area covered by the NEAFC Convention stretches from the southern tip of Greenland, east to the Barents Sea, and south to Portugal. NEAFC's objective is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefit.

(iv) **The North Pacific Fisheries Commission (NPFC)**. The North Pacific Fisheries Commission (NPFC) is an inter-governmental organization established by the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean. The objective of the Convention is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. Current Members include: Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America and Vanuat.

(v) **The Northwest Atlantic Fisheries Organization (NAFO)** . NAFO is an intergovernmental fisheries science and management body. NAFO was founded in 1979 as a successor to ICNAF (International Commission of the Northwest Atlantic Fisheries) (1949-1978). The NAFO Convention on Cooperation in the Northwest Atlantic Fisheries applies to most fishery resources of the Northwest Atlantic except salmon, tunas/marlins, whales, and sedentary species (e.g., shellfish). The objective of the same is to ensure long term conservation and sustainable use of the fishery resources in the Convention Area and, in so doing, to safeguard the marine ecosystems in which these resources are found.

(vi) **The South East Atlantic Fisheries Organisation (SEAFO)** . The **South East Atlantic Fisheries Organisation** (SEAFO) is an

organization that maintains controls overfishing and fishing related acts in the Southeastern Atlantic Ocean. The South East Atlantic Fisheries Organisation (SEAFO) is an intergovernmental fisheries science and management body. SEAFOs primary purpose is to ensure the long-term conservation and sustainable use of all living marine resources in the South East Atlantic Ocean, and to safeguard the environment and marine ecosystems in which the resources occur.

(vii) **The South Indian Ocean Fisheries Agreement (SIOFA).**

The Southern Indian Ocean Fisheries Agreement (SIOFA) was signed in Rome the 7th July 2006 and entered into force in June 2012. To date, SIOFA has ten Contracting Parties: Australia, China, the Cook Islands, the European Union, France on behalf of its Indian Ocean Territories, Japan, the Republic of Korea, Mauritius, the Seychelles and Thailand, one Participating fishing entity: Chinese Taipei and one cooperating non-Contracting Party: Comoros. Kenya, Madagascar, Mozambique and New Zealand are also signatories to this Agreement but have not ratified it.

(viii) **The South Pacific Regional Fisheries Management Organisation (SPRFMO).**

The South Pacific Regional Fisheries Management Organisation is an inter-governmental organisation that is committed to the long-term conservation and sustainable use of the fishery resources of the South Pacific Ocean and, in so doing, safeguarding the marine ecosystems in which the resources occur. The

SPRFMO Convention applies to the high seas of the South Pacific, covering about a fourth of the Earth's high seas areas. Currently, the main commercial resources fished in the SPRFMO Area are Jack mackerel and jumbo flying squid in the Southeast Pacific and, to a much lesser degree, deep-sea species often associated with seamounts in the Southwest Pacific. The Organisation consists of a Commission and a number of subsidiary bodies. New Zealand is the Depositary for the SPRFMO Convention and hosts the SPRFMO Secretariat in Wellington. The Commission has currently 15 Members from Asia, Europe, the Americas, and Oceania:

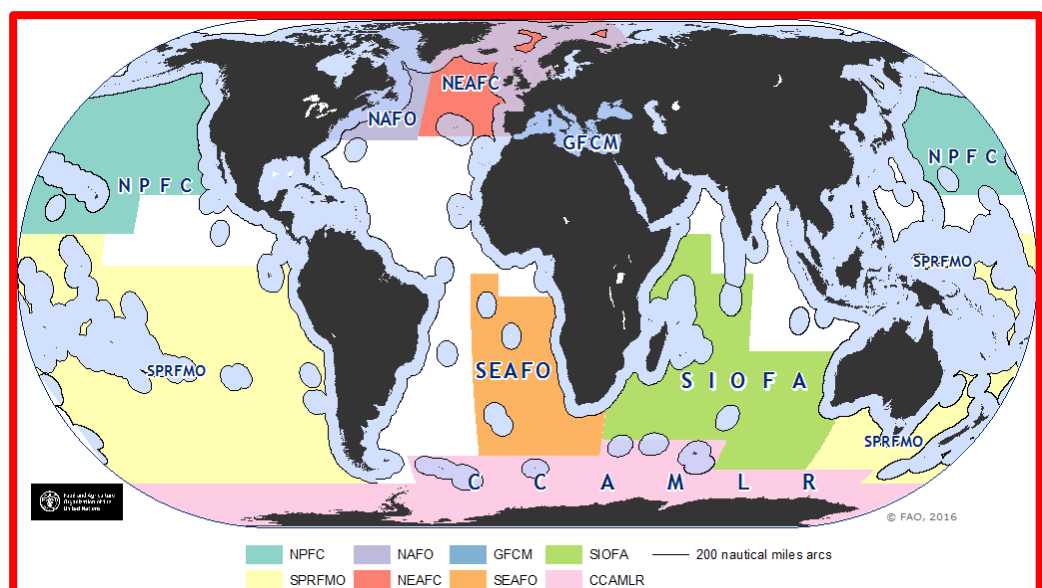


Fig 1. The South Pacific Regional Fisheries Management Organisation

(b) **Tuna RFMOs.** The tuna RFMOs cover tuna and tuna like species which are highly migratory and require management bodies that cover larger areas than general RFMOs. The geographic coverage of tuna RFMOs worldwide is comprehensive covering the areas of high seas and managing tuna fisheries. Since the challenges faced by these RFMOs are similar, therefore to coordinate

and cooperate amongst each other Kobe Process²⁶ was established. Presently, there are **05 tuna RFMOs**.

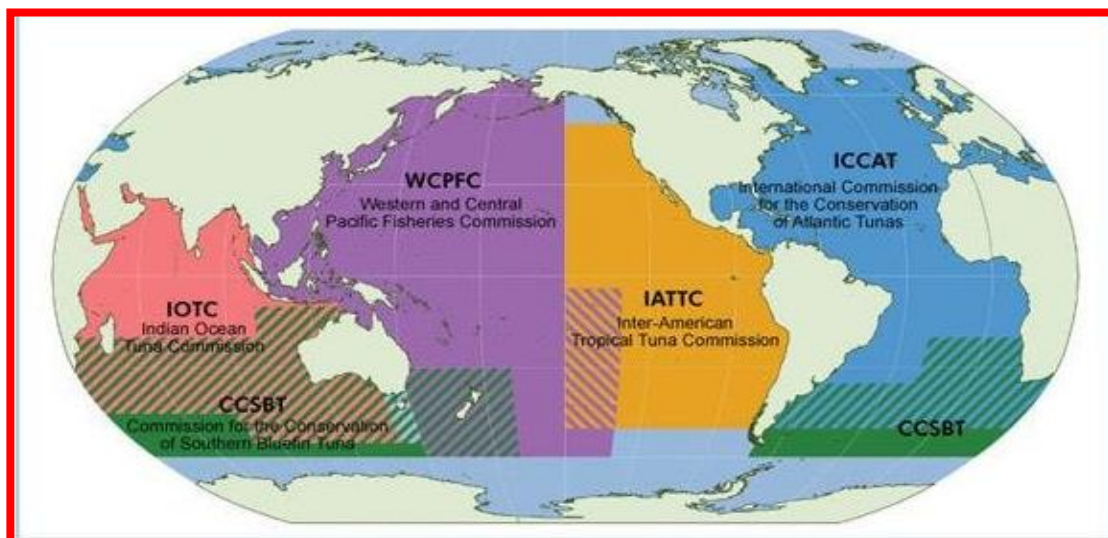


Fig 2 Tuna RFMOs

- (i) CCSBT- Commission for the Conservation of Southern Bluefin Tuna
- (ii) IATTC- Inter-American Tropical Tuna Commission
- (iii) ICCAT- International Commission for the Conservation of Atlantic Tunas
- (iv) IOTC- Indian Ocean Tuna Commission
- (v) WCPFC - Western and Central Pacific Fisheries Commission

(c) **Specialised RFMOs**. Specialised RFMOs have narrow legal mandate relating to specific types of species of fisheries that are included in their mandate. These RFMOs fulfil the criteria since they have legally binding

²⁶ A cooperative process involving joint meeting of members of five tuna RFMOs. The first meeting was held in Kobe, Japan in 2007.

measures regarding fisheries in the high seas. However, their mandate is very specific to a particular type of species. There are at *least 03 specialised RFMOs* presently.

(i) **The North Atlantic Salmon Conservation Organization (NASCO)**

(ii) **North Pacific Anadromous Fish Commission (NPAFC) .**

The North Pacific Anadromous Fish Commission (NPAFC) is an inter-governmental organization established by the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean. The Convention was signed on February 11, 1992 and took effect on February 16, 1993. The objective of the Commission is to promote the conservation of anadromous stocks (Pacific salmon and steelhead trout) in the Convention Area. The Convention Area includes the international waters of the North Pacific Ocean and its adjacent seas north of 33° North beyond the 200-mile zone (exclusive economic zones) of the coastal States. Current member countries include: Canada, Japan, the Republic of Korea, the Russian Federation, and the United States of America.

(iii) **Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea (CCBSP).** Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea (CCBSP) was signed on 16 June 1994 by China, Korea, Japan,

Poland, Russia and the United States. The Convention went into effect in December 1995. (1996 for Republic of Korea). The Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea (CCBSP) has **four main objectives:**

(aa) To establish an international regime for conservation, management, and optimum utilization of pollock resources in the Convention Area.

(ab) To restore and maintain the pollock resources in the Bering Sea at levels which will permit their maximum sustainable yield.

(ac) To cooperate in the gathering and examining of factual information concerning pollock and other living marine resources in the Bering Sea.

(ad) To provide, if the Parties agree, a forum in which to consider the establishment of necessary conservation and management measures for living marine resources other than pollock in the Convention Area as may be required in the future.

The area of competence of the CCBSP is the high seas area of the Bering Sea beyond 200 nautical miles from the baselines from which the breadth of the territorial sea of the coastal States of the Bering Sea is measured.

4.3. There **detailed breakup** of various *Fisheries organizations / Commission* is enumerated as under:

(a) **Asia-Pacific Fishery Commission (APFIC)** . The Asia-Pacific Fishery Commission (**APFIC**), originally called the **Indo-Pacific Fisheries Council (IPFC)** is a Food and Agriculture Organization (FAO) Article XIV Regional Fisheries Body which covers fisheries, aquaculture and related aquatic resource issues in the Asia-Pacific region. APFIC functions as a Regional Consultative Forum raising awareness amongst member countries, fisheries organizations and fisheries professionals in the Asia-Pacific region. In recent years, APFIC has covered a range of regional fisheries issues, including co-management of fisheries, low value/trash fish (may be referred to as bycatch where not targeted catch) in the region, illegal, unreported and unregulated fishing (IUU) and fishing capacity management, certification in fisheries (e.g. ecolabel) and aquaculture, ecosystem approach to fisheries and aquaculture and improving resilience of fishery livelihoods. Most recently work has focussed on developing a training course for Ecosystem Approach to Fishery Management and guidelines for tropical trawl fisheries management. The Secretariat is housed in the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand.

(b) **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)**. The Convention on the Conservation of Antarctic Marine Living Resources, also known as the Commission for the Conservation of Antarctic Marine Living Resources, and CCAMLR, is part of the Antarctic Treaty System. The convention was opened for signature on 1 August 1980 and

entered into force on 7 April 1982 by the Commission for the Conservation of Antarctic Marine Living Resources, headquartered in Tasmania, Australia. The goal is to preserve marine life and environmental integrity in and near Antarctica. It was established in large part to concerns that an increase in krill catches in the Southern Ocean could have a serious impact on populations of other marine life which are dependent upon krill for food. In 1989, CCAMLR set up the Ecosystem Monitoring Program (CEMP) to further monitor the effects of fishing and harvesting of species in the area.

(c) **Great Lakes Fishery Commission (GLFC)**. The **Great Lakes Fishery Commission** is a bi-national commission made up of representatives of the United States and Canada. It was formed by the **Convention on Great Lakes Fisheries**, concluded in 1954 and ratified in 1955. It has eight members: four members are appointed by the President of the United States, serving six-year terms, and four are appointed by the Privy Council of Canada.^[1] The commission is charged, under Article Four of the Convention on Great Lakes Fisheries, with conducting research and making recommendations on the management of Great Lakes fisheries, as well attempting the eradication of the sea lamprey from the Great Lakes.

(d) **Indian Ocean Tuna Commission (IOTC)**. The **Indian Ocean Tuna Commission (IOTC)**; French: *CTOI*) is an intergovernmental organization that co-ordinates the regulation and management of tuna in the Indian Ocean. Conceived in 1993, it entered into existence in 1996. A multilateral treaty, the **Agreement for the Establishment of the Indian Ocean Tuna**

Commission was approved by the Council of the Food and Agriculture Organization of the United Nations in November 1993. The agreement entered into force on 27 March 1996 after it had been accepted by a tenth party. The Agreement is open to any state that has coasts within the Indian Ocean region (or adjacent seas) as well as any state that fishes for tuna in the Indian Ocean region. The agreement is also open to regional economic organizations. The IOTC is the successor to the Indo-Pacific Tuna Development and Management Programme, which was established in 1982. As of July 2016, there are 31 members of IOTC:

- (i)  [Australia](#)
- (ii)  [Bangladesh](#)
- (iii)  [China](#)
- (iv)  [Comoros](#)
- (v)  [Eritrea](#)
- (vi)  [European Union](#)
- (vii)  [France](#)
- (viii)  [India](#)
- (ix)  [Indonesia](#)
- (x)  [Iran](#)
- (xi)  [Japan](#)
- (xii)  [Kenya](#)
- (xiii)  [South Korea](#)
- (xiv)  [Madagascar](#)
- (xv)  [Malaysia](#)

- (xvi)  [Maldives](#)
- (xvii)  [Mauritius](#)
- (xviii)  [Mozambique](#)
- (xix)  [Oman](#)
- (xx)  [Pakistan](#)
- (xxi)  [Philippines](#)
- (xxii)  [Seychelles](#)
- (xxiii)  [Sierra Leone](#)
- (xxiv)  [Somalia](#)
- (xxv)  [South Africa](#)
- (xxvi)  [Sri Lanka](#)
- (xxvii)  [Sudan](#)
- (xxviii)  [Tanzania](#)
- (xxix)  [Thailand](#)
- (xxx)  [United Kingdom](#)
- (xxxi)  [Yemen](#)

Vanuatu was a member of the IOTC between 2012 and 2015. It chose to withdraw from the organization. IOTC headquarters are located in Victoria, Seychelles.

- (e) **Inter-American Tropical Tuna Commission (IATTC)**. The Inter-American Tropical Tuna Commission was created by the Convention for the Establishment of an Inter-American Tropical Tuna Commission, signed between the United States and Costa Rica on May 31, 1949. The Convention was signed

by United States Secretary of State Dean Acheson and Costa Rica's Ambassador to the United States, Mario Echandi Jiménez.[1] A number of additional countries later joined the Inter-American Tropical Tuna Commission. Each country is represented by up to four Commissioners. In 2003, the members of the Inter-American Tropical Tuna Commission signed the Antigua Convention, strengthening the Commission's powers. Most members of the Commission ratified the Antigua Convention between 2004 and 2009, but as of 2011, the U.S. had not ratified the Antigua Convention. The headquarters of the IATTC are located in La Jolla, San Diego, California, United States.

(f) **International Commission for the Conservation of Atlantic Tunas (ICCAT)**. The **International Commission for the Conservation of Atlantic Tunas (ICCAT)** is an intergovernmental organization responsible for the management and conservation of tuna and tuna-like species in the Atlantic Ocean and adjacent seas. The organization was established in 1966, at a conference in Rio de Janeiro, Brazil, and operates in English, French and Spanish. The organisation has been strongly criticised by scientists for its repeated failure to conserve the sustainability of the tuna fishery by consistently supporting over-fishing – an internal review branded ICCAT's policies on the eastern Atlantic bluefin tuna fishery a "travesty of fisheries management", and an "international disgrace". Conservationists often refer to ICCAT as "The International Conspiracy to Catch All Tuna". However, in recent years the organization seems to be turning around. For the most iconic species within its management, the Eastern Bluefin Tuna, a very strict recovery plan was adopted. It is too early to

judge its final outcome, but initial indications are encouraging. In general, ICCAT contracting parties seem to have agreed to steer the organization into a direction of relying on sound science, insisting on compliance, and following a good governance model.

(g) **International Pacific Halibut Commission (IPHC).**

The International Pacific Halibut Commission (IPHC) is an International Fisheries Organization, having Canada and the United States as its members, responsible for the management of stocks of Pacific halibut or *Hippoglossus stenolepis* within the Pacific waters of its member states. It was founded in 1923 by an international treaty. The original treaty has been revised three times (1953, 1976, 1979). The 1979 amendment clarified the role of the IPHC in the management of the fishery through the North Pacific Halibut Act of 1982. It has carried out many activities including the use of chartered commercial fishing vessels to undertake bottom trawls and long-lining for sampling fish stocks, banding fish, recording water temperatures using bathythermographs, etc., in the North Pacific and Bering Sea for many years. Also, staff have been stationed at onshore fish processing plants to sample catches, remove otoliths to determine the age of the fish, and many other research activities. The commission holds a regularly Annual Meetings and occasionally Special Meetings as necessary. Its offices were located on the campus of the University of Washington until November 2010. The IPHC has since moved its offices to the Interbay neighbourhood of Seattle.

(h) **International Whaling Commission (IWC)**. The **International Whaling Commission (IWC)** is an international body established under the terms of the 1946 International Convention for the Regulation of Whaling (ICRW) to "provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry". As the decision-making body of the convention, the IWC reviews and revises measures laid down in the "Schedule to the Convention", which govern the conduct of whaling throughout the world. These measures include conferring complete protection of certain species; designate specific areas as whale sanctuaries; set limits on the numbers and size of whales which may be taken; prescribe open and closed seasons and areas for whaling; and prohibit the capture of suckling calves and female whales accompanied by calves. The Commission also mandates the compilation of catch reports and other statistical and biological records, and is actively involved in whale research, including funding, and promoting studies, publishing the results of scientific research, and encouraging studies into related matters, such as the humaneness of the killing operations. Through the "Florianopolis Declaration" of 2018, members of the organization concluded that the purpose of the IWC is the conservation of whales and that they would now safeguard the marine mammals in perpetuity and would allow the recovery of all whale populations to pre-industrial whaling levels. In response, Japan announced on 26 December 2018, that since the IWC failed its duty to promote sustainable hunting, which is one of its stated goals, Japan is withdrawing its membership and will resume commercial hunting in its territorial waters and exclusive economic zone from July 2019, but will cease whaling activities in the Southern Hemisphere.

(i) **North-East Atlantic Fisheries Commission (NEAFC).** The **North East Atlantic Fisheries Commission** (NEAFC) is a regional fisheries management organization that maintains controls over fishing and fishing-related acts in the North East Atlantic Ocean. NEAFC states that its objective is "to ensure the long-term conservation and optimum utilization of the fishery resources in its Convention Area, providing sustainable economic, environmental and social benefits."^[1] The area covered by the NEAFC Convention stretches from the southern tip of Greenland, east to the Barents Sea, and south to Portugal. NEAFC was founded in 1980 and established by the Convention on Future Multilateral Cooperation in Northeast Atlantic Fisheries. It replaced an earlier commission by the same name established by the North-East Atlantic Fisheries Convention of 24 January 1959. United Kingdom fishing will be regulated by the commission post Brexit.

(j) **Northwest Atlantic Fisheries Organization (NAFO).** The **Northwest Atlantic Fisheries Organization** (NAFO) is an intergovernmental organization with a mandate to provide scientific advice and management of fisheries in the north western part of the Atlantic Ocean. NAFO is headquartered in Dartmouth, Nova Scotia, Canada. NAFO's overall objective is to contribute through consultation and cooperation to the optimum utilization, rational management and conservation of the fishery resources of the Convention Area. The NAFO Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries applies to most fishery resources of the Northwest Atlantic except salmon, tunas/marlins, whales, and sedentary species (e.g. shellfish). In 2007 NAFO adopted an Amended Convention. The

Convention must be ratified by 3/4 of the Members to come into effect. The original objective was modernized to include an ecosystem approach to fisheries management. It now expands beyond a sustainable use of the commercial northwest Atlantic fishery resources by committing to also protect the associated marine ecosystems from adverse fisheries effects.

(k) **North Atlantic Salmon Conservation Organization (NASCO).**

The **North Atlantic Salmon Conservation Organization (NASCO)** is an international organization established under the Convention for the Conservation of Salmon in the North Atlantic Ocean from 1 October 1983. The organization's mission is to contribute through consultation and cooperation to the conservation, restoration, enhancement and rational management of salmon stocks. Its headquarters are in Edinburgh, United Kingdom. It was established due to the failure of independent states to protect a global common such as the salmon population in this case. It was argued that international cooperation was necessary to prevent unsustainable over-fishing. The NASCO has established a handful of regulations and guidelines regarding the fishing of salmon, for example, countries are only able to fish within 12 nautical miles of their territory, prohibiting fishing in most of the North Atlantic. In 2020, the NASCO operates with a budget of 636 630 GBP, with a little over 583 000 GBP coming from the member states.

(l) **Pacific Salmon Commission (PSC).** The **Pacific Salmon Commission** is a regulatory body run jointly by the Canadian and United

States governments. Its mandate is to protect stocks of the five species of Pacific salmon. Its precursor was the International Pacific Salmon Fisheries Commission, which operated from 1937 to 1985. The PSC enforces the Pacific Salmon Treaty, ratified by Canada and the U.S. in 1985.

(m) **Southeast Asian Fisheries Development Centre (SEAFDEC).**

The Southeast Asian Fisheries Development Centre (SEAFDEC) is an autonomous intergovernmental body established as a regional treaty organisation in 1967 to promote fisheries development in Southeast Asia. SEAFDEC aims specifically to develop the fishery potentials in the region through training, research and information services to improve the food supply by rational utilisation and development of the fisheries resources. Its services cover the broad areas of fishing gear technology, marine engineering, fishing ground surveys and stock assessment, post-harvest technology as well as development and improvement of aquaculture techniques. SEAFDEC is currently made up of 11 Member Countries, namely Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam, and has the Council of Directors, composed of nominees from Member Countries, as policy-making body to provide directives and guidance on activities of the Centre. The Centre has a Secretariat as its administrative arm, and four technical Departments, namely the Training Department (TD) in Thailand, the Marine Fisheries Research Department (MFRD) in Singapore, the Aquaculture Department (AQD) in the Philippines, and the Marine Fishery Resources Development and Management Department (MFRDMD) in Malaysia, Inland

Fishery Resources Development and Management Department (IFRDMD) in Indonesian. The chief administrator of SEAFDEC is the Secretary-General (Dr. Chumnarn Pongsri) whose various responsibilities are directed towards the unification of the activities of the four Departments. In ensuring effective implementation of SEAFDEC program of activities in close co-ordination with the Member Countries, each country also nominates a National Coordinator to co-ordinate issues and activities with SEAFDEC and within the country as well.

(n) **Western and Central Pacific Fisheries Commission (WCPFC).**

The **Western and Central Pacific Fisheries Commission (WCPFC)** is a treaty-based organisation established to conserve and manage tuna and other highly migratory fish stocks across the western and central areas of the Pacific Ocean. Its full name is **Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean**. It commenced operations in late 2005, and its secretariat is based in Pohnpei, in the northern Pacific state of the Federated States of Micronesia. It was established by the international treaty *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention)*, which entered into force on 19 June 2004. The WCPF Convention is the second regional fisheries management agreement negotiated since the conclusion of the 1995 U.N. Fish Stocks Agreement.

(o) **Commission for the Conservation of Southern Bluefin Tuna (CCSBT).** The Commission for the Conservation of Southern Bluefin

Tuna (CCSBT) is a Regional fisheries management organisation and international organization with the purpose of managing the stocks of the critically endangered Southern bluefin tuna. The secretariat is housed in Canberra, Australia. CCSBT was established by International treaty signed in Canberra on 10 May 1993 by Australia, Japan, and New Zealand, with the commission commencing a year later.

(p) **Central Asian and Caucasus Regional Fisheries and Aquaculture Commission (CAC Fish)**. CACFish was established in 2009 under the provisions of Article XIV of the FAO Constitution, and the CACFish agreement entered into force in 2010. The Commission's objective is to promote the development, conservation, rational management and best utilization of living aquatic resources. The organization also deals with aquaculture. CACFish has the authority to adopt conservation and management measures in the convention area, that is the inland waters of States of Central Asia and the Caucasus. **Members** : CACFish has five members, of which two joined since 2000: Armenia, Azerbaijan (2014), Kyrgyzstan, Tajikistan and Turkey (2011)

(q) **Joint Technical Commission of the Maritime Front (CTMFM)**. CTMFM was established under the Treaty between Uruguay and Argentina concerning the Rio de la Plata and the Corresponding Maritime Boundary, signed in November 1973, which also defines the area covered under the Commission's mandate, the so called "Common Fishing Zone".

CTMFM conducts studies and aims to adopt and coordinate plans and measures relevant to the conservation, preservation and rational exploitation of living resources, and to protect the maritime environment in the Common Fishing Zone of Argentina and Uruguay. In addition, CTMFM sponsors scientific workshops, training courses and joint surveys employing four research vessels in the area covered under its mandate. **Members** CTMFM has two members: Argentina and Uruguay.

(r) **Lake Victoria Fisheries Organization (LVFO)**. LVFO was established in 1994 through the adoption of the Convention for the Establishment of the Lake Victoria Fisheries Organization. Its founding objectives were to harmonize national measures for the sustainable use of the living resources of Lake Victoria, to develop conservation and management measures and to foster related cooperation. LVFO has become a specialized institution of the East African Community (EAC), which entered into force in 2000. In 2016 the LVFO convention was amended to extend its mandate to all EAC fisheries and aquaculture resources and to open membership to all EAC partner States. **Members.** LVFO has four members, of which one has joined since 2000: Burundi (2017), Kenya, United Republic of Tanzania and Uganda.

(s) **Regional Commission for Fisheries (RECOFI)**. The Agreement for the Establishment of the Regional Commission for Fisheries was concluded under Article XIV of the FAO Constitution. It was approved by the FAO Council in 1999 and came into force in 2001.

The objective of RECOFI is to promote the development, conservation, rational management and best utilization of living marine resources within the area of the agreement, i.e., the Gulf and the Sea of Oman. The Commission also deals with aquaculture. **Members.** RECOFI has eight members: Bahrain, Iran (Islamic Republic of), Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. There has been no change in membership since the agreement entered into force.

4.4. **Regional fisheries advisory bodies.** Regional fisheries advisory bodies (RFABs) provide fora for collaboration and coordination and promote sustainable utilization of living aquatic resources by suggesting specific actions and by providing advice to members on fisheries conservation and management. In contrast with RFMOs, RFABs do not have the authority to adopt legally binding conservation and management measures concerning fishing operations and associated activities. As for RFMOs, there have been numerous calls in various international fora, among them COFI and the United Nations General Assembly, to strengthen RFABs. RFABs vary greatly in size, focus areas and activities. One RFAB focuses only on marine mammals, while the others address more general fisheries and fisheries-related issues. Most of the RFABs have been established to oversee marine living resources in national waters, while eight cover inland waters and rivers. Many RFABs also address issues related to aquaculture. Various RFABs are as follows:

- (a) **Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic (ATLAFCO).** The Ministerial Conference on Fisheries Cooperation among African States bordering the Atlantic Ocean

(ATLAFCO) (also well known by its French acronym, COMHAFAT) was created in 1989. Its constitutive convention, the Regional Convention on Fisheries Cooperation among African States bordering the Atlantic Ocean, was adopted in 1991 and entered into force in July 1995. The main objectives of ATLAFCO are the promotion and strengthening of regional cooperation on fisheries development and the coordination and harmonization of efforts and capacities of stakeholders for the conservation and exploitation of marine living resources in African States bordering the Atlantic Ocean. **Members** . ATLAFCO has 22 members: Angola, Benin, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Morocco, Namibia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone and Togo. According to the survey, ATLAFCO provides advice for more than 50 fisheries, and in 2017 more than 12 000 vessels operated in the agreement area. The ATLAFCO convention does not make specific references to the precautionary approach or the ecosystem approach.

(b) **Benquela Current Commission (BCC)**. BCC was established in 2013. Its objective is to promote a coordinated regional approach to the long-term conservation, protection, rehabilitation, enhancement and sustainable use of the Benguela Current Large Marine Ecosystem, and to provide economic, environmental and social benefits. The BCC Convention relates to all human activities within the EEZs of Angola, Namibia and South Africa, including fishing and the conservation and management of transboundary marine living resources. **Members** : BCC has three members: Angola, Namibia and South

Africa. General principles of BCC include sustainable use and management of marine resources, the precautionary principle, protection of biodiversity in the marine environment and conservation of the marine ecosystem. Parties have made a commitment, among other things, to take all necessary measures to protect the marine ecosystem against any adverse impacts, to undertake environmental impact assessment for proposed activities that are likely to cause adverse impacts on the marine and coastal environments, to protect vulnerable species and biological diversity, and to establish mechanisms for collection, sharing, exchange and analysis of relevant data and information, including statistical, biological, environmental and intersectoral data.

(c) **Bay of Bengal Programme – Intergovernmental Organization (BOBP-IGO).**

(d) **Fishery Committee for the Eastern Central Atlantic (CECAF).**

CECAF was established in 1967 under Article VI, Paragraph 2 of the FAO Constitution, replacing the Regional Fisheries Commission for Western Africa, which had been abolished by the FAO Conference the same year. The Committee's statutes were last amended in 2003. Its objective is to promote the sustainable utilization of the living marine resources in the Eastern Central Atlantic by the proper management and development of the fisheries and fishing operations. **Members :** CECAF has 34 members, of which only one has joined since 2000: Angola (2006), Benin, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, Cuba, Democratic Republic of the Congo, Equatorial Guinea, European Union, France, Gabon, Gambia, Ghana, Greece, Guinea, Guinea-Bissau, Italy, Japan, Liberia, Mauritania, Morocco, Netherlands, Nigeria, Norway, Poland,

Republic of Korea, Romania, Sao Tome and Principe, Senegal, Sierra Leone, Spain, Togo and United States of America.

CECAF's role includes keeping the state of the resources under review; promoting the collection, interchange, dissemination and analysis or study of statistical, biological, environmental, and socio-economic data and other marine fishery information; establishing the scientific basis for regulatory measures leading to the conservation and management of marine fishery resources; formulating such measures; and providing advice for the adoption of regulatory measures by its members. It also provides advice on MCS, especially as regards issues of a subregional and regional nature.

(e) **Committee for Inland Fisheries and Aquaculture of Africa (CIFAA)**. The Committee for Inland Fisheries in Africa was established by the FAO Council in 1971 under Article VI, Paragraph 2 of the FAO Constitution. Statutes were amended in 1973, 1975, 2007 and 2015. The 2007 amendment decreed the inclusion of aquaculture, recognizing its importance to Africa, and changed the name to Committee for Inland Fisheries and Aquaculture of Africa (CIFAA). The main objective of the Committee is to promote the development of inland fisheries and aquaculture in Africa, and it covers all species in inland waters of member countries. The most recent amendment was made to address emerging socio-cultural and economic concerns such as biodiversity conservation, climate change, pressure on resources and sustainability.

Members : CIFAA has 37 members, of which only one (Mozambique) has joined since 2000: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo,

Egypt, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritius, Mozambique (2009), Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe. CIFAA's role includes, among other things, promoting, coordinating and assisting national and regional fisheries in research and development leading to the rational utilization of inland fishery resources; and assisting members in establishing the scientific basis for regulatory and other measures for the conservation and improvement of inland fishery resources. Furthermore, the Committee is mandated to promote and coordinate national and regional efforts to prevent damage to the aquatic environment, and to assist in the collection, interchange, dissemination and analysis of statistical, biological and environmental data and other inland fishery information.

(f) **Commission for Small-Scale and Artisanal Fisheries and Aquaculture of Latin America and the Caribbean (COPPESAALC)** .

COPPESAALC was originally established by FAO Council Resolution 4/70 in 1976 as the Commission for Inland Fisheries of Latin America, under Article VI, Paragraph 1 of the FAO Constitution. The Commission was created to assist national and regional efforts to enable development and rational use of inland fisheries in the region. In 2010, the FAO Council adopted revised statutes for the Commission, extending its geographical scope to the Caribbean and its mandate to include aquaculture. In 2018, the statutes were amended to include also marine small-scale and artisanal fisheries, and the name was changed accordingly. The objective of COPPESAALC is to promote the management and

sustainable development of small-scale and artisanal fisheries and aquaculture in accordance with the principles and provisions of the Code of Conduct for Responsible Fisheries, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and other applicable instruments adopted by FAO. **Members :** COPPESAALC has 21 members, of which five have joined since 2000: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba (2010), Dominican Republic (2010), Ecuador, El Salvador (2010), Guatemala, Honduras, Jamaica (2010), Mexico, Nicaragua, Panama (2010), Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of).

(g) **Regional Commission of Fisheries of Gulf of Guinea (COREP).**

COREP was established in 1984 by the Convention Concerning the Regional Development of Fisheries in the Gulf of Guinea. The convention was last amended in 2010. Since 2008, COREP has been a specialized organization of the Economic Community of Central African States. Its main objective is to assist its members in promoting and developing sustainable fisheries and aquaculture development to maximize the potential of aquatic environments.

Members. COREP has five members, of which one has joined since 2000: Cameroon (2003), Congo, Democratic Republic of the Congo, Gabon and Sao Tome and Principe. Angola and Equatorial Guinea have observer status. The Strategic Plan of Action specifies that COREP shall develop strategies to help members strengthen fisheries research and MCS in the region.

(h) **Caribbean Regional Fisheries Mechanism (CRFM)**. CRFM was established in 2002 within the framework of the Caribbean Community (CARICOM) and is considered an associated (rather than a formal) institution of CARICOM. Its objective is to promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region, by:

- (i) assisting members in efficient management and sustainable development of marine and other aquatic resources within their respective jurisdictions.
- (ii) promoting and establishing cooperative arrangements among interested States for the efficient management of shared, straddling or highly migratory marine and other aquatic resources.
- (iii) providing technical advisory and consultative services to members in the development, management, and conservation of their marine and other aquatic resources.

It applies to all fisheries resources, including aquaculture, in areas under national jurisdiction and inland waters. **Members** : CRFM has 17 members: Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and Turks and Caicos Islands. There have been no changes in membership since its inception.

(i) **European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC)**. EIFAAC was originally established by the FAO Council in 1957 as the European Inland Fisheries Advisory Commission (EIFAC),

under Article VI, Paragraph 1 of the FAO Constitution. In 2010, the Commission incorporated aquaculture into its mandate and its title, and adopted new statutes. The main objective of the Commission is to promote sustainable development, conservation, management, protection and restoration of European inland fisheries and aquaculture resources, by providing advice, recommendations and an international collaborative platform for information exchange. The Commission covers all inland waters, lakes and rivers in Europe and applies to all species commercially fished and raised in aquaculture.

Members : EIFAAC has 34 members, of which one has joined since 2000: Albania, Austria, Belgium, Bosnia and Herzegovina (2002), Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Turkey and United Kingdom of Great Britain and Northern Ireland.

(j) **Fishery Committee for the West Central Gulf of Guinea (FCWC).**

The Convention for the Establishment of the Fishery Committee for the West Central Gulf of Guinea was approved by its members in 2007. The convention applies to all living resources in the West Central Gulf of Guinea within the territorial seas and EEZs of the members. The Committee's main objective is to promote cooperation among its members to ensure, through appropriate management, the conservation and optimum utilization of the living marine resources, and to encourage sustainable development of fisheries based on such resources. Its functions include providing a forum for discussion on any fishery-related matter; improving the livelihoods of small-scale fishers and

processors; promoting harmonization of national fisheries legislation and regulations; enhancing cooperation with distant-water fishing countries; strengthening subregional cooperation in MCS; promoting the development of fisheries research and standards for data collection, exchange and reporting; developing and promoting common policies and strategies; and promoting subregional cooperation in the marketing and trading of fish and fish products.

Members : FCWC has six members: Benin, Côte d'Ivoire, Ghana, Liberia, Nigeria and Togo. There have been no changes to the membership of FCWC since its inception. FCWC assesses and provides advice for more than 50 fish stocks. Currently, between 200 and 1 000 vessels operate in the agreement area.

(k) **Pacific Islands Forum Fisheries Agency (FFA)**. FFA was established in 1979 by the South Pacific Forum Fisheries Agency Convention. It applies to tuna and tuna-like species in the South Pacific region. Its objective is to help members to manage, conserve and use highly migratory tuna resources in their EEZs and beyond, through enhancement of national capacity and strengthening of regional solidarity. To meet this objective, FFA facilitates, among other things, the collection, analysis, evaluation and dissemination of relevant statistical, scientific and economic information; the harmonization of policies related to fisheries management; and cooperation in surveillance and enforcement. **Members :** FFA has 17 members, of which one has joined since 2000: Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau (2002), Tonga, Tuvalu and Vanuatu. FFA

provides advice for between one and ten fisheries. Since 2000, the number of vessels operating in the agreement area has consistently been between 3 000 and 7 000. The FFA convention does not make specific reference to the precautionary approach or ecosystem approach. Nevertheless, FFA actively supports its members in implementing the ecosystem approach. For example, it has provided reports on the ecosystem approach to fisheries management to Cook Islands, Micronesia (Federated States of), Palau, Tonga and Vanuatu. According to the survey, FFA supports measures to mitigate bycatch of non-target species and to implement area-based management measures. FFA has also established a system for data collection and data sharing.

(l) **Great Lakes Fishery Commission (GLFC)**

(m) **Lake Chad Basin Commission (LCBC)**. LCBC was established in 1964. Its mandate is to oversee the use of water and other natural resources in the basin; to initiate, promote and coordinate natural resource development projects and research within the basin area; to examine complaints; and to promote the settlement of disputes, thereby promoting regional cooperation.

Members : LCBC has six members, of which one has joined since 2000: Cameroon, Central African Republic, Chad, Libya (2008), Niger and Nigeria. The Sudan was granted observer status in 2000. LCBC projects have addressed topics such as the contribution of fisheries to economic development in the Lake Chad basin and strengthening the relationship between the fisheries sector and research institutions.

(n) **Lake Tanganyika Authority (LTA)**. LTA was established in 2008. Its objectives are the protection of biodiversity and the sustainable management of the natural resources in the Lake Tanganyika Basin, for a healthy environment that continues to harbour high levels of biodiversity and provide sufficient natural resources to sustain future generations. It applies to all elements of the ecosystem of Lake Tanganyika. In meeting its objectives, LTA seeks to ensure sustainable and healthy fisheries, including aquaculture, in Lake Tanganyika, by gathering information on fishing techniques and recommending best practices. **Members** : LTA has four members: Burundi, Democratic Republic of the Congo, United Republic of Tanzania and Zambia. The membership of LTA has not changed since its inception. LTA regularly assesses between 20 and 30 fish stocks and provides advice for up to 10 fisheries. Since 2000, the number of vessels operating in the agreement area has consistently been more than 12 000. The LTA convention text refers to the precautionary approach but not the ecosystem approach.

(o) **Mekong River Commission (MRC)**. MRC was established in 1995 through the Agreement on the Cooperation for Sustainable Development of the Mekong River Basin. Its objectives cover a wide range of issues, including sustainable development, utilization, management and conservation of fisheries. It applies to all species in the Mekong River Basin in member countries.

Members : MRC has four members: Cambodia, Lao People's Democratic Republic, Thailand and Vietnam. There have been no changes to the membership of MRC since its inception. MRC members have agreed to cooperate in fisheries management and to protect the environment, natural resources,

aquatic life and conditions and ecological balance of the Mekong River Basin from pollution or other harmful effects. MRC has established a Fisheries Programme which addresses socio-economic issues, such as the role of fisheries in maintaining livelihoods, and technical issues, such as environmental flow requirements for aquatic ecosystems, related to the impacts of development on the fisheries resources.

(p) **North Atlantic Marine Mammal Commission (NAMMCO).**

NAMMCO was established by the Agreement on Cooperation in Research, Conservation and Management of Marine Mammals in the North Atlantic in 1992. Its objective is to contribute, through regional consultation and cooperation, to the conservation, rational management and study of marine mammals in the North Atlantic. It applies to all marine mammals within the area of its authority. **Members** : NAMMCO has four members: Faroe Islands, Greenland, Iceland and Norway. The membership of NAMMCO has not changed since its inception.

The Commission is mandated to propose measures for conservation and management to its members, on the basis of the best available scientific evidence and taking into account both the complexity and the vulnerability of the marine ecosystem. It has addressed interactions between marine mammals and fisheries, for example through workshops on ecosystem models and on methodological and analytical problems of estimating consumption by marine mammals.

(q) **Latin American Organization for Fishery Development (OLDEPESCA)**. OLDEPESCA was established in 1982 by the Constitutional Agreement of the Latin American Organization for Fishery Development, which entered into force in 1984. Its main purpose is to use Latin American fishery resource potential to meet the region's food requirements and to benefit its people, through concerted action in promoting national development and strengthening regional cooperation in the sector. Its mandate applies to all living marine resources, including aquaculture, in the inland waters, territorial waters and EEZs of its members. **Members** : OLDEPESCA has 12 members: Belize, Bolivia (Plurinational State of), Costa Rica, Cuba, Ecuador, El Salvador, Guyana, Honduras, Mexico, Nicaragua, Peru and Venezuela (Bolivarian Republic of). The membership of OLDEPESCA did not change during the survey period.

(r) **Organization for the Fishing and Aquaculture Sector of the Central American Isthmus (OSPESCA)**. OSPESCA was established in 1995 by the Act of San Salvador. In 1999, its member countries decided to integrate OSPESCA within the Central American Integration System (SICA) in order to promote the fisheries and aquaculture sector and strengthen integration in the subregion. OSPESCA's objective is to promote sustainable and coordinated development of fisheries and aquaculture in Central American by developing and implementing policies, strategies, programmes and projects of regional fisheries and aquaculture. It also supports joint efforts to harmonize and implement fisheries laws and promotes regional organization of fisheries producers. Its coverage includes all marine living resources in the inland waters, territorial seas and EEZs of its members. **Members** : OSPESCA has eight

members: Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama. The membership of OSPESCA has not changed since 2000. OSPESCA regularly assesses and provides advice for between one and ten fisheries. The number of vessels operating in the agreement area has been stably in the range of 1 000 to 3 000 since 2000. The Fisheries and Aquaculture Integration Policy for the Central American Isthmus, which guides the work of OSPESCA, refers specifically to the promotion and application of the ecosystem approach to fisheries and aquaculture.

(s) **Southeast Asian Fisheries Development Center (SEAFDEC).**

SEAFDEC was established in 1967 by the Agreement Establishing the Southeast Asian Fisheries Development Center. The Agreement was last amended in 1994. It covers high seas, territorial waters, EEZs and inland waters in Southeast Asia and applies to all fishery resources. SEAFDEC also addresses aquaculture. The strategic objectives of SEAFDEC are to promote rational and sustainable use of fisheries resources, to enhance the capability of the fisheries sector to address emerging international issues, to enhance access to international trade, to alleviate poverty among fisheries communities and to enhance the contribution of fisheries to food security and livelihoods in the subregion. **Members :** SEAFDEC has 11 members, of which two have joined since 2000: Brunei Darussalam, Cambodia (2000), Indonesia (2002), Japan, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. SEAFDEC regularly assesses and provides advice for between one and ten fisheries. Since 2000, the number of vessels operating in the agreement area has been more than 12 000. **SEAFDEC supports** its members in

combating IUU fishing in various ways, including projects on applying catch certification for international trade in fish and fishery products, developing a regional fishing vessel record for vessels longer than 24 metres, and supporting the implementation of port State measures through regional cooperation. SEAFDEC has also endorsed and is working to implement the Association of Southeast Asian Nations (ASEAN) Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain.

(t) **Secretariat of the Pacific Community (SPC)**. SPC was established in 1947 by the Canberra Agreement. Its objective is to help Pacific people achieve their development goals by delivering technical, scientific, research, policy and training services. The agreement covers national waters and high seas and applies to all fishery resources. It has been amended five times, most recently in 2013. **Members** : SPC has 26 member countries and territories: American Samoa, Australia, Cook Islands, Fiji, France, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United States of America, Vanuatu and Wallis and Futuna Islands. No new members have joined SPC since 2000.

SPC regularly assesses between one and ten fish stocks and provides management and scientific advice for between 10 and 20 fisheries. The number of vessels operating in the agreement area has been stable since 2000, in the range of 3 000 to 7 000. The Canberra Agreement does not make specific reference to the precautionary approach or ecosystem approach to fisheries

management. According to the survey, SPC supports measures to mitigate bycatch and to implement area-based management. For example, SPC and WCPFC cooperate, through the Common Oceans project, on the Bycatch Management Information System, an open-access resource for fishery managers, scientists, fishers and others interests in fishery management, created to support adoption and implementation of science-based management measures and to enable comprehensive and sustainable bycatch management.

(u) **Subregional Fisheries Commission (SRFC)**. SRFC was established by the Convention Establishing the Sub-regional Fisheries Commission, adopted in 1985 and last amended in 1993. The objectives of SRFC are to coordinate and harmonize national policies related to the conservation and exploitation of fisheries resources in the Canary Current and the Gulf of Guinea and to strengthen cooperation for the well-being of its members' populations. It applies to all fisheries resources in the territorial waters and EEZs of its members.

Members : SRFC has had seven members since its establishment: Cabo Verde, Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone. SRFC's role includes ensuring harmonization and consistency of national policies concerning the conservation and exploitation of fisheries resources and fostering subregional cooperation in monitoring, control and surveillance of fisheries zones. It also provides institutional, legal and operational support to eliminate IUU fishing.

(v) **Southwest Indian Ocean Fisheries Commission (SWIOFC)**. SWIOFC was established in 2004 by the FAO Council under Article VI, Paragraph

1 of the FAO Constitution. Its main objective is to promote the sustainable utilization of the living marine resources of the Southwest Indian Ocean region through the proper management and development of the living marine resources, and to address common problems of fisheries management and development faced by its members. It applies to all living marine resources and covers national waters. **Members** : SWIOFC has 12 members: Comoros, France, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Republic of Tanzania and Yemen. The membership of SWIOFC has not changed since its inception. The Commission's role includes helping fishery managers in the development and implementation of fishery management systems that take due account of environmental, social and economic concerns; keeping under review the state of the fishery resources; promoting and coordinating research related to the living marine resources; promoting the collection, exchange, dissemination and analysis or study of statistical, biological, environmental and socio-economic data and other marine fishery information; providing a sound scientific basis to assist members in taking fisheries management decisions; providing advice on management measures; and providing advice and promoting cooperation on MCS, including joint activities.

(w) **Western Central Atlantic Fishery Commission (WECAFC).**

WECAFC was established in 1973 by the FAO Council under Article VI, Paragraph 1 of the FAO Constitution. Its statutes were amended in 1978 and 2006. Its general objective is to promote the effective conservation, management and development of the living marine resources in the Western Central Atlantic, in

accordance with the FAO Code of Conduct for Responsible Fisheries. WECAFC addresses common problems of fisheries management and development faced by its members. It covers national waters and the high seas, and applies to all living marine resources, irrespective of the management responsibilities and authority of other management organizations or arrangements addressing fisheries and other living marine resources in the area. **Members :** WECAFC has 34 members, of which one has joined since 2000: Antigua and Barbuda, Bahamas, Barbados, Belize, Brazil, Colombia, Costa Rica (2013), Cuba, Dominica, Dominican Republic, European Union, France, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, Jamaica, Japan, Mexico, Netherlands, Nicaragua, Panama, Republic of Korea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Spain, Suriname, Trinidad and Tobago, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela (Bolivarian Republic of). WECAFC's role includes assisting its members in implementing relevant international fisheries instruments; promoting, coordinating and, as appropriate, undertaking the collection, exchange, dissemination, analysis and study of statistical, biological, environmental and socio-economic data and other marine fishery information; promoting and facilitating the harmonization of relevant national laws and regulations and the compatibility of conservation and management measures; and assisting its members, at their request, in the conservation, management and development of transboundary and straddling stocks under their respective national jurisdictions. The Commission provides fishery management advice and recommendations to its members based on the best available scientific information.

4.5. Existing RFMO/Commissions in the Indian Ocean

(a) **South Indian Ocean Fisheries Agreement**²⁷. The Southern Indian Ocean Fisheries Agreement (SIOFA) was signed in Rome the 7th July 2006. The SIOFA entered into force on 21 June 2012 and is a legally binding treaty, which aims to ensure the long-term conservation and sustainable use of the fishery resources in the agreement area through cooperation among its contracting parties. The SIOFA applies the following principles to achieve its objectives:-

- (i) Precautionary approach.
- (ii) Ecosystem based approaches to fisheries management.
- (iii) Development of effective monitoring, control and surveillance measures to ensure compliance.

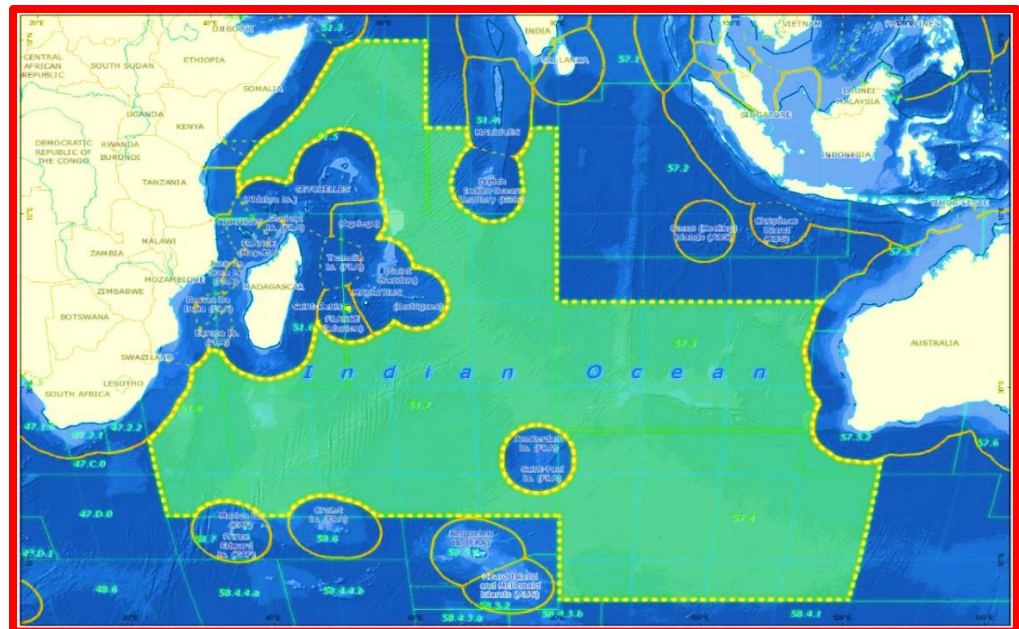


Fig 3 : South Indian Ocean Fisheries Agreement

²⁷ "Southern Indian Ocean Fisheries Agreement (SIOFA)." *Southern Indian Ocean Fisheries Agreement (SIOFA) | SIOFA*, www.apsoi.org/.

(b) **Area of Competence and Cooperation amongst SIOFA States.**

SIOFA has ten Contracting Parties: Australia, China, the Cook Islands, the European Union, France on behalf of its Indian Ocean Territories, Japan, the Republic of Korea, Mauritius, Seychelles and Thailand, one Participating fishing entity: Chinese Taipei and one cooperating non-Contracting Party: Comoros. Kenya, Madagascar, Mozambique and New Zealand are also signatories to this Agreement but have not ratified it. The objectives of this Agreement are to ensure the long-term conservation and sustainable use of the fishery resources in the Area through cooperation among the Contracting Parties and to promote the sustainable development of fisheries in the Area, taking into account the needs of developing States bordering the Area that are Contracting Parties to this Agreement, and in particular the least developed among them and small-island developing States. This Agreement covers fishery resources including fish, molluscs, crustaceans and other sedentary species within the area, but excluding highly migratory species (Annex I of UNCLOS) and sedentary species subject to the fishery jurisdiction of coastal states (Article 77(4) of UNCLOS). SIOFA is adjacent to the convention area of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) in the south, the South Pacific Regional Fisheries Management Organisation (SPRFMO) convention area in the east and the South East Atlantic Fisheries Organisation (SEAFO) convention area to the west. This RFMO was created as a mechanism to formalise, and bring legitimacy to, the international arrangements for the management of the vulnerable fish, molluscs, crustaceans and other sedentary species to avoid a race to fish. The meeting of the parties occurs annually with Mauritius hosting every second year and rotating between

the parties in other years. SIOFA also holds annual meetings of its subsidiary bodies, including its scientific committee. ***The functions of the meeting of the parties include:-***

- (i) Reviewing the state of fishery resources.
- (ii) Promoting research and cooperation.
- (iii) Adopting recommended international minimum standards for fishing.
- (iv) Developing rules and procedures for monitoring vessel compliance.
- (v) Developing measures to prevent, deter and eliminate illegal, unreported and unregulated fishing.

(c) **Indian Ocean Tuna Commission**²⁸. The Indian Ocean Tuna Commission (IOTC) is an intergovernmental organisation responsible for the management of tuna and tuna-like species in the Indian Ocean and was established in **March 1996**. It works to achieve this by promoting cooperation among its Contracting Parties (Members) and Cooperating Non-Contracting Parties in order to ensure the conservation and appropriate utilisation of fish stocks and encouraging the sustainable development of fisheries. There are **31 Contracting Parties to the Commission**, majority of them as Nation States. There are various capacity building activities undertaken in the region and

²⁸ "IOTC: Indian Ocean Tuna Commission / Commission Des Thons De L'Océan Indien." *English*, www.iotc.org/.

projects are steered by the Commission through the Government institutions in each country in support of developing coastal States. The regional workshops are conducted to support and facilitate the compliance with IOTC requirements. States interested in the Indian ocean fisheries of tuna and tuna like species are allowed to participate in the IOTC process as a Cooperating Non-Contracting Party (CNCP). Presently there are only two CNCP viz Liberia and Senegal. There are Subsidiary Bodies in the commission comprising of three committees as Compliance Committee, Standing Committee on Administration and Finance & Scientific Committee. Another entity of the Commission is Working Party that analyses technical problems related to the management goals of the Commission. Currently there are seven active working parties analysing status of the stock of different species and providing options to the Scientific Committee for management recommendations to the Commission. The various functions and responsibilities of the Commission are as follows:-

- (i) To keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and to fisheries based on the stocks.
- (ii) To encourage, recommend, and coordinate research and development activities in respect of the stocks and fisheries covered by the IOTC, and such other activities as the Commission may decide appropriate, such as transfer of technology, training and enhancement, having due regard to the need to ensure the equitable participation of

Members of the Commission in the fisheries and the special interests and needs of Members in the region that are developing countries.

(iii) To adopt on the basis of scientific evidence Conservation and Management Measures (CMM) to ensure the conservation of the stocks covered by the Agreement and to promote the objective of their optimum utilisation throughout the Area.

(iv) To keep under review the economic and social aspects of the fisheries based on the stocks covered by the Agreement bearing in mind, in particular, the interests of developing coastal States.

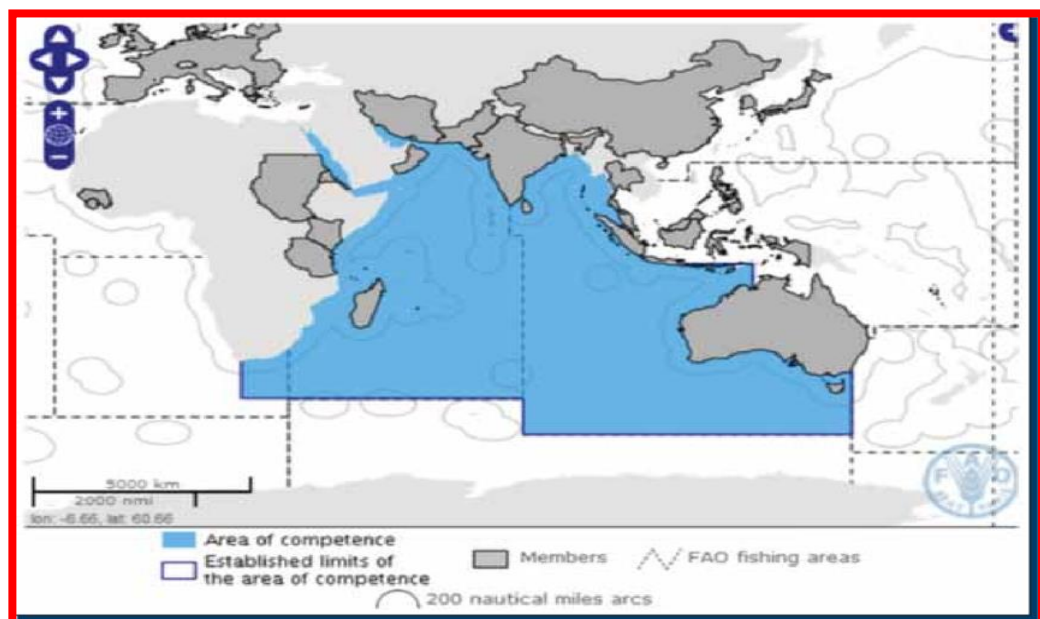


Fig 4: Indian Ocean Tuna Commission²⁹.

²⁹ "IOTC: Indian Ocean Tuna Commission / Commission Des Thons De L'Océan Indien." *English*, www.iotc.org/.

(d) **Bay of Bengal Programme – Inter Governmental Organisation**³⁰.

The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) constituted in 2003 from the erstwhile Bay of Bengal Programme of the Food and Agriculture Organization of United Nations (FAO). It is a Regional Fishery Advisory Body (RFAB) mandated “*to promote, facilitate and secure the long-term development and utilisation of marine fisheries resources of the Bay of Bengal based on responsible fishing practices and environmentally sound management programs*”. The contracting parties (CPs) of the Organisation are ***Bangladesh, India, Maldives and Sri Lanka while Indonesia, Malaysia, Myanmar and Thailand are CNCPs***. The BOBP-IGO is a unique regional fisheries body, specifically mandated to assist the member countries in increasing the livelihood opportunities and improving the quality of life of the small-scale/ artisanal fisher folk in the Bay of Bengal region. The BOBP-IGO is a regional fisheries organization for the Bay of Bengal. The Agreement does not define what constitutes the Bay of Bengal, but the Bay of Bengal is generally considered the north-eastern part of the Indian Ocean surrounded by the basin countries of the Maldives, India, Sri Lanka, Bangladesh, Myanmar, Thailand, Malaysia, and Indonesia.(internationalwatersgovernance.com) **The functions of BOBP-IGO are as follows:-**

- (i) Implementing programs and activities concerning the sustainable development and management of coastal fisheries.

³⁰ “CONNECT WITH BOBP.” BOBP, www.bobpigo.org/.

- (ii) Establishing an expanded network to share responsibilities for fisheries management, training, and information exchange.

- (iii) Assisting Member States in improving the quality of life and increasing the livelihood opportunities of small-scale fishers.

- (iv) Increasing the knowledge and awareness of the benefits, needs, and practices of coastal fisheries management.

- (v) Assisting Member States in harmonizing their policies and legal frameworks regarding the sustainable development and management of the region's coastal fisheries.

- (vi) Training the personnel needed for coastal fisheries planning, research, training, extension and development.

- (vii) Establishing a regional information system to share information on development, planning, research, and training.

- (viii) Supporting the Member States in strengthening their national capabilities for the development and management of coastal fisheries.

- (ix) Transferring to the Member States technologies and techniques to assist in the development of small-scale fisheries.

(x) Establishing a framework for Technical Cooperation among developing Countries in order to promote regional self-reliance in small-scale fisheries development.

(xi) Developing programs to promote female participation in coastal fisheries development.

(xii) Assisting Member States in conducting feasibility studies and project formulation.

(xiii) Performing any other activities as may be approved by the BOBP-IGO Governing Council

(e) **Bay of Bengal Large Marine Ecosystem Project**³¹. Over 400 million people in the Bay of Bengal area are dependent on coastal and marine resources for their food, livelihood, and security. Rapid population growth, high dependence on resources and increased land use has resulted in over exploitation of fish stocks and habitat degradation and has led to considerable uncertainty whether the ecosystem will be able to support the livelihoods of the coastal populations in the future. The current existence of many ineffective

³¹ "The Bay of Bengal Large Marine Ecosystem Project." *The Bay of Bengal Large Marine Ecosystem Project - Home*, www.boblme.org/.

policies, strategies and legal measures at the National level would likely impede the development of any regional arrangements. Other major constraints include weak institutional capacity at national levels, insufficient budgetary commitments, and lack of community stakeholder consultation and empowerment. Maldives, India, Sri Lanka, Bangladesh, Myanmar, Thailand, Indonesia and Malaysia, have come together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project and lay the foundations for a coordinated programme of action designed to improve the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries. The project has **five components** as follows:-

- (i) Strategic Action Programme.
- (ii) Coastal/Marine natural resources management and sustainable use.
- (iii) Improved understanding and predictability of the BOBLME environment.
- (iv) Maintenance of ecosystem health and management of pollution.
- (v) Project management, monitoring and evaluation and knowledge management.

Chapter 5

Necessity for establishment of RFMO in Northern Indian Ocean Region (Arabian Sea & Bay of Bengal)

5.1. **Goal 14** of the *United Nations Sustainable Development Goals* recognises the continued pressure on marine ecosystems and the need to implement performance-based management arrangements for fisheries. Reformulating governance arrangements are prerequisites for achieving this: rectifying gaps while giving effect to existing hortatory obligations enable effective management decisions including for new and/or emerging issues such as climate change. This is particularly evident in the Indian Ocean, which is surrounded by developing states, and where the climate change impacts already evident.

Indian Ocean fisheries governance arrangements are also imperfect: there is incomplete coverage of highly migratory species and high seas areas; and no one organisation where all relevant states share membership. Furthermore, the limited resources of developing coastal states restricts the ability to effectively understand and sustainably manage the resources. If developing coastal states are to meet 21st century challenges, governance arrangements must be modernised to address species, spatial and membership gaps while supporting the implementation of hortatory obligations and ocean-wide, cross-sectorial and cross-jurisdictional programs that: facilitate ocean-wide scientific monitoring of ecological processes and anthropogenic impacts, and enable integrated monitoring, control and surveillance (MCS) of fishing with the adopted management measures to improve certainty of the management.

As discussed earlier too , presently there is No RFMO is existing in northern Indian Ocean region to check /govern the exploitation of high seas and are adjacent to it Indian EEZ. The area adjacent to EEZ i.e., high seas is presently not covered under any general RFMO. There is only one RFMO amongst South Indian Ocean that came into force in 2012 with 10 contracting parties. Presently, there is **no RFMO in this extant of water body except** for the IOTC which includes the Bay of Bengal and a part of the Indian Ocean related to tuna and tuna like species. Northern Indian Ocean comprising of Arabian Sea and Bay of Bengal has a vast expanse of area **without any regulatory mechanism i.e. there is no RFMO for this region to have check** on over exploitation of area/depletion of fish stock and institute conservation & management measures in said area ,also area just adjacent to India's EEZ. Hence, the establishment of RFMOs in the Northern IOR is need of an hour.

Beside above, the Chinese fishing vessels have enhanced fishing activities in the North IOR. Some 400 plus Chinese fishing vessels are estimated annually in the Arabian Sea only. These huge fishing vessels with **latest gadget & fishing** tools are engaged in fishing adjacent to or beyond EEZ of India in the high seas and takes away **good chunk of fishes** which affects Indian fishermen catch, also **India's security & blue economy** too.

These fishing vessels take passage through Maritime Zones of India while proceeding to the fishing grounds in the high seas or heading back to China. While the Chinese fishing vessels indicate China's growing footprint in the IOR, presence of these vessels have raised **security concerns too**. The Arabian Sea and Bay of Bengal are the important fishing zones becoming lucrative due to the availability of fish in these seas.

With the mechanization of the fishing fleet and proliferation of larger boats, conflicts between large-scale and small-scale fishermen are rampant. Poverty, unsustainable fishing practices and a decline in income from fisheries are contributing to a crisis. Addressing this crisis requires cooperation and coordinated efforts of the countries

There is a need to have RFMO in northern IOR to address these issues.

(a) We know, the regional level is the most appropriate level for establishing a collaborative framework to **preserve and protect marine ecosystems efficiently** along with **sustainable benefits for the participating States**. The international community has increasingly recognized that governance of shared fisheries can be strengthened and achieved by formation of Regional Fisheries Management Organisations (RFMOs).

(b) The ***shared resources approach*** is the principle followed by FAO. ***RFMOs are link between international authorities and national jurisdiction.***

(c) States parties to RFMOs have duty to take measures and **deter activities of fishing vessels** of non-party States to the agreement.

5.2. **Development of an RFMO – Regional Cooperation**

(a) **Formulation of RFMO**. The fundamental principle for regulation of fish stocks is “shared resources approach” as stated in the FAO Technical Paper³².

³² FAO Fisheries Technical Paper No. 465, note 2.1 chapter 2. The term ‘shared stocks’ used as synonym of transboundary or joint stocks

The states should not only exploit the marine living resources but also approach shall be such that to conserve and manage fishing stocks for the benefit of others. There is requirement for all States to jointly participate in the conservation of fishery sector through cooperation. RFMOs may be considered as a link between international authorities and national jurisdiction. RFMOs are intergovernmental fisheries organizations having competence to establish conservation and management measures. The conservation and management of marine living resources is a dynamic process and therefore needs to be continuously adjusted with the change in environment, scientific studies and nations interests. Such organization seeks a collaborative approach by all States to institutionalize such framework and formulate methodologies for conserving and managing the fishery stocks in high seas adjacent to waters of their national jurisdiction. It is easier to achieve a regional agreement because the States concerned share common interests in conservation within their region and therefore RFMOs are considered as suitable cooperative instruments for conserving and managing the fish stocks in the high seas. The UNFSA, in article 8(5)³³ therefore, calls for States to establish such regional organisations to conserve and manage straddling and highly migratory fish stocks, where there is no such regional or sub-regional fisheries management organization or arrangement. These RFMOs or

³³ Article 8(5) states that “Where there is no subregional or regional fisheries management organization or arrangement to establish conservation and management measures for a particular straddling fish stock or highly migratory fish stock, relevant coastal States and States fishing on the high seas for such stock in the subregion or region shall cooperate to establish such an organization or enter into other appropriate arrangements to ensure conservation and management of such stock and shall participate in the work of the organization or arrangement”.

arrangements should function in accordance with functions which RFMOs are called to perform as stipulated in Article 10 of UNFSA.

(b) **Strengthening of RFMOs.** RFMOs are considered the best means for achieving cooperation. UNFSA, FAO Compliance Agreement, FAO Code of Conduct for Responsible Fisheries (CCRF) and IPOA-IUU reaffirms and reinforce the role of RFMOs in international and regional fisheries governance. The strengthening of such RFMOs was initially accelerated by the 1987 report of the World Conference on Environment and Development, Agenda 21 of the Johannesburg Plan of Implementation and the 95th Inter-Parliamentary Conference held in Istanbul, Turkey in 1996³⁴. Article 13 of the UNFSA emphasizes on need for strengthening of existing sub-regional and regional RFMOs and arrangements so as to improve their effectiveness in establishing and implementing conservation and management measures for straddling and highly migratory fish stocks³⁵. It is important to note that the said Article refers to the States, not only to States party to the Agreement, which means that the obligation is applicable to even non-parties. The strengthening of RFMOs is required to be undertaken and the same are summarized below in sub paras below: -

(i) **RFMOs and their Relationship with International Instruments.**

The new RFMOs are required to be established to cover all areas and

³⁴ Resolution on Conservation of World Fish Stocks to provide an important source of protein and ensure the continued viability and economic stability of fishing around the World, adopted by the 95th Inter-Parliamentary Conference held in Istanbul, Turkey, 19 April 1996

³⁵ Article 27 – Strengthening of existing organizations and arrangements, UN Fish Stocks Agreement

species, currently not managed by any RFMO. Presently, there are 19 RFMOs and most of them focus on commercially valuable stocks. Every area of ocean is to be covered under such RFMOs jurisdiction to establish binding conservation and management measures. Flag States have no exclusive jurisdiction over high seas. The jurisdiction of the coastal state till the limits of the EEZ and RFMOs cover the high seas, strengthens the global governance system for exploitation of fish stocks on sustainable basis. All interested and related parties should be members of the RFMO. ***The main purpose of developing a RFMO in the region with littoral States is to create level playing fields for all such players.*** Article 8(3) and 9(2) of UNFSA calls upon States to establish such sub-regional or RFMO for a particular straddling or highly migratory fish stock or where new fishery is being developed³⁶. The RFMO developed should ensure participation of interested States on non-discriminatory basis. Participation of any State in RFMO along with its jurisdiction is to be delineated carefully and adequately to deal effectively with the challenges in order to strengthen them. The provisions of Article 5 of UNFSA must be adopted by RFMOs to conserve and manage straddling and highly migratory fish stocks. There is a need for cooperation and coordination among RFMOs, between RFMOs and international bodies, especially FAO. Such cooperation and coordination will result in achieving eco-system-based management, when different RFMOs have jurisdiction over same area or over same species³⁷. RFMOs

³⁶ Article 8(3) – Cooperation for conservation and management; Article 9(2) – Sub-regional and regional fisheries management organisation – UN Fish Stock Agreement

³⁷ FAO Fisheries Technical Paper No. 443, note 1.4 chapter 1. The term ‘ecosystem based management’ means an approach that takes major ecosystem components and services — both structural and functional — into

performance should be reviewed that will strengthen such organizations by global and independent assessors like FAO. It will assist in improving the system and responsibilities of the States, members of RFMO and validate the established objectives. The mandated objectives and goals of RFMO are imposed by international instruments and therefore it finally culminates with strengthening of global fisheries governance system through RFMOs.

(ii) **RFMOs and their Relationship with Members.** The strengthening of RFMOs require decision making process to be simpler, widely accepted by RFMO members respecting sovereignty and non-discrimination³⁸. Decisions should be consensus based; however, it is a lengthy procedure to achieve an outcome with respect to conservation. The decision-making process has to be based on available knowledge depending on scientific evidence, if so required. A balance is required to be drawn whilst arriving upon any decision between the scientific advisory bodies and the governance bodies. The stakeholders are another entity to be involved in decision making process since environmental protection is not only the responsibility of Government alone. Stakeholders may include NGOs who may be included as observers to enhance transparency of an RFMO. Establishment of mechanisms to ensure compliance and enforcement of

account in managing fisheries... It values habitat, embraces a multispecies perspective, and is committed to understanding ecosystem processes... Its goal is to rebuild and sustain populations, species, biological communities and marine ecosystems at high levels of productivity and biological diversity so as not to jeopardize a wide range of goods and services from marine ecosystems while providing food, revenues and recreation for humans'.

³⁸ Page 102, Chapter 10 – *The Special Requirements of Developing States* - Recommended best practices for Regional Fisheries Management Organisations, 2007

conservation and management measures adopted by the member States is also required. The transparent system of RFMO and participation of observers are mechanisms that provides accountability of member States and further puts an onus on member States towards responsibility to conserve and manage natural resources and marine environment.

(iii) **RFMOs and Relation with Non-members.** Article 87³⁹ and 116⁴⁰ of UNCLOS, 1982 provides access to high sea fisheries and responsibility to conserve marine living resources on all States. The Principle of Laws of Treaties states that every treaty in force is binding on parties to it. Therefore, States not party to RFMOs are not bound by the decisions taken by such organizations'. Article 8 of UNFSA brings out the duty of all the coastal States to cooperate, those are fishing in the high seas to become member of such organization or arrangement for agreeing to put into effect such conservation and management measures. Also, only member States of such organization or arrangement or States that apply conservation and management measures shall have access to fishery resources to which those measures apply. Further, enforcement measures may be applied by State party which is member of such organization or arrangement against vessels flying flag of State party to agreement, whether or not such State is member of the organization⁴¹. It is understood therefore any State party to UNFSA provides a State's specific consent to be bound by obligation in

³⁹ UNCLOS Article 87 – Freedom of the High Seas

⁴⁰ UNCLOS Article 116 – Right to fish on the High Seas

⁴¹ Article 21 – Subregional and regional cooperation in enforcement – UN Fish Stock Agreement

an organization of which it is not a member. There is a limitation of freedom of fishing in high seas in accordance with UNCLOS, 1982. However, interestingly this provision of UNFSA does not apply to non-parties to the agreement. States party to the agreement have duty to take measures and deter activities of vessels of non-party States to the agreement. Therefore, such vessels of non-party States may face difficulties unless their vessels abide by the conservation and management measures as per RFMO in place. It needs to be understood that UNFSA draws strength from UNCLOS, 1982.

Chapter 6

Framework and Roadmap towards establishment of RFMO

6.1. Establishment of RFMO in the Northern Indian Ocean

(a) **RFMO in Northern Indian Ocean Region.** India is bounded by the Arabian Sea on the West, the Bay of Bengal in the East and the Indian Ocean in the South. With such a vast expanse of coastline and 2.02 million square km area covered under EEZ, India has huge potential that remains accessed within EEZ and beyond in the high seas. There is a mechanism for undertaking survey and carrying out scientific study by various fisheries institutes established by various Ministries and Departments of the Government of India. The area adjacent to EEZ i.e. high seas is presently not covered under any general RFMO. There is only one RFMO amongst South Indian Ocean that came into force in 2012 with 10 contracting parties. Presently, there is no RFMO in this extant of water body except for the IOTC which includes the Bay of Bengal and a part of the Indian Ocean related to tuna and tuna like species. It therefore leaves a vast expanse of water without any regulatory mechanism in place undermining conservation and management measures in the seas adjacent to India's EEZ. It is considered prudent to develop a RFMO in Northern Indian Ocean that will comprise both the Arabian Sea and the Bay of Bengal.

(b) In accordance with Article 7(3)⁴² of UNFSA, all States adjoining high seas

⁴² Article 7(3) of UNFSA states that "In giving effect to their duty to cooperate, States shall make every effort to agree on compatible conservation and management measures within a reasonable period of time".

are required to make every effort to agree on compatible conservation and management measures within reasonable period of time. However, till such time negotiations are not completed, States may enter into provisional arrangements of practical nature. The States required for negotiations include Pakistan, Oman, Yemen, Somalia, Maldives, Sri Lanka, Bangladesh, Thailand, Myanmar and Indonesia. Presently, Yemen, Somalia and Myanmar are not signatory to UNFSA and Pakistan is yet in process of ratifying UNFSA but has signed the Agreement (UN Treaty Convention)⁴³. The establishment of an RFMO in this region shall establish the governance regime in the area. In accordance with Article 8(3) of UNFSA, only States member of RFMO may have access to fishery. The compliance or participation in such RFMO will give effect to allocation of fishing rights to littoral States which will be part of RFMO developed in the Northern Indian Ocean. If India takes a lead in establishing this RFMO, it is going to be a good incentive both in terms of conservation and exploitation of marine living resources.

6.2. **Negotiation Process**. The negotiation process is required to be undertaken amongst the States involved in establishing the RFMO keeping in consideration developing States⁴⁴. The negotiation process will include studies for the type of fish, stocks available for exploitation with the states and allocation of fishing rights for each State. According to Article 63, 64 and 118 of the UNCLOS, 1982, regional organisations

⁴³ "UN, United Nations, UN Treaties, Treaties." *United Nations*, United Nations, treaties.un.org/.

⁴⁴ Lodge, Michael W, et al. "Recommended Best Practices for Regional Fisheries Management Organizations." *Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organizations*, 2007

are to be established by coastal States and States fishing in the high seas. UNFSA further emphasise on States having “real interest” in fisheries. The allocation of fisheries rights is the foremost criteria. The criteria of allocation depends on establishment of “special interests of coastal State” according to the Article 116 (b) and “fishing patterns” as another element as per article 119 of UNCLOS, 1982 for conservation and management measures. UNFSA in Article 7 adds the geographical distribution and fishing dependency as criteria for establishing compatible conservation and management measures. The geographical distribution has to be established through different factors such as spawning areas, distribution of egg and larvae, occurrence of juvenile fish, distribution of catch and rate of exploitation and state of exploitation of the stock. The agenda is required to be formed up in such a way so as to promote inter-regional cooperation in the area adjacent to EEZ of coastal State. The rules formed should be consistent with principle of freedom on high seas, non-discriminatory and in no way should undermine conservation efforts. The criteria for allocation of fishing rights while developing RFMO needs to be laid down in accordance with Article 11⁴⁵ of UNFSA. The scientific study of the area of RFMO to be established has to be carried out for variety of fish available, stock assessment, any critical biological habitats, requirement of more data, total allowable catch, assessment of impact of fisheries on long term sustainability of stocks, relationship among different species and between species and their ecosystems and high level of technical capacity in order to equally distribute the resources among the members of RFMO.

⁴⁵ Article 11 – New members and participants – UN Fish Stock Agreement

6.3. **Scientific Committee**⁴⁶. Scientific Committee will be formed in accordance with Agreement which acts in advisory capacity to facilitate various work plans. The functions of Scientific Committee are likely to be as follows:-

- (a) To conduct the scientific assessment of the fishery resources and the impact of fishing on the marine environment, taking into account the environmental and oceanographic characteristics of the Area, and the results of relevant scientific research.
- (b) To encourage and promote cooperation in scientific research in order to improve knowledge of the state of the fishery resources.
- (c) To provide scientific advice and recommendations to the Meeting of the Parties for the formulation of measures regarding the monitoring of fishing activities.
- (d) To provide scientific advice and recommendations to the Meeting of the Parties on appropriate standards and format for fishery data collection and exchange.
- (e) Any other scientific function that the Meeting of the Parties may decide.

⁴⁶ Lodge, Michael W, et al. "Recommended Best Practices for Regional Fisheries Management Organizations."

6.4. **Conservation and Management Measures.** The regional level is the most important and appropriate level for establishing a collaborative framework to preserve and protect whole ecosystems efficiently while also providing opportunities for participating States to benefit sustainably from the services they render. RFMOs are established on basis of conservation and management activities and approach, organizational governance and international cooperation. The key pillars of conservation and management are scientific assessment, establishment of conservation and management measures and MCS. The conservation and management activities cover: -

- (a) The number of fish stocks assessed.
- (b) The number of fisheries managed in the RFMO.
- (c) The number of fishing vessels operating in the RFMO area.
- (d) Data collection system is in place and whether data is shared.
- (e) MCS system is in place with mandatory VMS and measures targeting IUU fishing.

6.5. **Salient Features of RFMO.** The objectives of this Agreement are to ensure the long-term conservation and sustainable use of the fishery resources in the Area through cooperation among the Contracting Parties and to promote the sustainable development of fisheries in the Area. The States agreeing to be party to the RFMO along with other interested States and inter-governmental organisations post completion of negotiation and consultation processes will require to enter into an Agreement. The Agreement will require to cover objectives, area of application, general principles, meeting of the parties and their functions, subsidiary bodies, secretariat, duties of flag and coastal states, special requirements of developing states,

transparency while making decisions, cooperation with non-contracting parties, cooperation with other organisations, relation to other agreements, interpretation and settlement of disputes etc. Similarly, rules of procedures will be framed subsequently along with Agreement for Headquarters. Financial and staff regulations will be prescribed amongst the States party to the Agreement. The Agreement will cooperate with other international bodies, adjoining RFMOs and commissions.

6.6. **Monitoring Control and Surveillance.** The MCS mechanism has to be effective with parties designating the competent authority along with the contact point for purposes of receiving reports and notifications issuing authorisations in accordance with conservation and management measures. A record of authorised vessels for fishing vessels authorised to fish in Agreement area will be established under this system. The fishing vessels that are not in the record of authorised fishing vessels will be deemed not to be authorised to fish for, retain on board, tranship or land fishery resources in the Agreement Area. In achieving long term conservation and sustainable use of fishery resources in the Agreement Area, the RFMO has to develop and monitor measures to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing. The listing of IUU Vessels will provide an equitable, transparent and non-discriminatory procedure to ensure robustness of the RFMO. Members of RFMO will be designate ports to which foreign vessels may request entry along with establishing a Port Inspection Scheme for inspecting such vessels on arrival and prior departure from the port. The MCS system will also allow high seas boarding and inspection by the member states and notifying the flag state concerned. The member States will also provide the transshipments and transfers planned in the Agreement Area.

6.7. **Compliance.** The compliance standards will mandate member States of the obligations for conservation and management measures and checklists will be developed, maintained, updated and shared. The compliance standards will include but not be limited, regulations regarding transshipment at sea, documents to be carried by vessels at sea and vessel marking standards, minimum specification for fishing gear, requirement and procedure for retrieval of gear, minimum requirement for labelling of catch, logbook standards, entry, catch and exit reports, procedure for sea inspection, effective port state control, reporting obligations and sighting/ reporting of vessels of non-members of RFMO.

6.8. **Meetings.** There will be a series of meetings between the member States and the schedule of such meetings will be prepared by the Secretariat in consultation with the members, intergovernmental organisations and observers. The meetings will include Meeting of the members, Compliance Committee meetings, Scientific Committee meeting and working group meetings for stock and ecological assessment etc.

Chapter 7

Recommendations and Conclusion

7.1. The recommendation for establishment of RFMO are as follows :

- (a) **Constituting Inter-Ministerial Working Group.** The *first step* towards establishing an RFMO is implementation of obligations and requirements as prescribed by the international framework. India is signatory to UNCLOS, 1982 and UNFSA. However, India is not signatory to the 1993 FAO Compliance Agreement that promotes compliance with international conservation and management measures by fishing vessels on the high seas. The working group will be steered by Department of Fisheries (DoF) with members from the Ministry of Defence (MoD), Ministry of Earth and Sciences (MoES), Ministry of Science and Technology, Ministry of External Affairs, Ministry of Commerce and Industry (MoCI) and other stakeholders. The focus of working group is to concentrate on improvement of national fishery industry.
- (b) **Empowering BOBP-IGO with Enhanced Mandate.** The BOBP-IGO since its establishment has been undertaking various studies in the Bay of Bengal (BoB) region with respect to living marine resources, studies on existing marine ecosystem, transboundary species, implications of climate change and have adequate knowledge about coastal population of littoral States along with the type and gear of fishing boats and their livelihood. The organisation has been successfully implementing programs and activities regarding sustainable development and management of coastal fisheries in the region, therefore has

the know how along with the existing set up of communication with the States in BoB region. The organisation has plethora of information concerning marine ecosystems, biodiversity in the form of marine protected areas, overlapping residual species, nutrient rich waters and vulnerable and endangered species. It is therefore recommended that expertise from BOBP-IGO and BOBLME may be bestowed upon the mandate for enhancing and commencing cooperation amongst littoral States. The **mandate of the organisation may be further enhanced** to Arabian Sea by capacity building through scientific research organisations. The likely set up of BOBP-IGO may be built up on the side-lines of organisational and functional set up in the RFMOs. The point of contacts may be established in the similar way as for BOBP along with FAO and other adjacent and overlapping RFMOs in the Indian Ocean Region (IOR). The pooled knowledge from littoral countries will provide better information and basis to work on models and predictions of living resources. Such cooperative efforts from the different dimensions will enhance the strength and capacities to arrive at meaningful conclusions.

(c) **Port State Measures.** Port State control is an efficient mechanism that has grown with time and internationally recognized by the world resulting in significant impact on substandard shipping. All ships entering ports of other States have to undergo mandatory inspections on arrival in ports. This apparatus is in place in accordance with internationally agreed rules and standards for shipping developed through International Maritime Organisation (IMO) and International Labour Organisation (ILO). Such port state control measures may be given effect in the member States ports of the Northern

Indian Ocean Region RFMO. It will have a substantial effect on IUU fishing. The stringent port control measures will enhance the cost of operations and will also avoid the development of ports of convenience. The port control measures applied in controlling and combating illegal catch should be fair, transparent and non-discriminatory for all fishing vessels and consistent with the RFMO Agreement, UNFSA and UNCLOS, 1982. Such measures also will be required to establish for undertaking inspection of stateless vessels in the area of competence and should be dealt in similar manner as though they are flying their own flag. Such strict compliance and enforcement measures will enforce better conservation and management measures within the RFMO.

(d) **Cooperation among RFMOs.** The establishment of RFMOs facilitates cooperation in the management of various fishery resources available in the region. Cooperation between and among RFMOs will lead to achieving the goal of effective and enhanced conservation and management of fishery resources. There are species so wide ranging that they may be found in governance of two or more regions. A collaborative approach among the RFMOs for catch of such species by undertaking scientific studies and organizing workshops for co-managing the resource and their cooperative management will entail in effective conservation and management of such fishery stocks. Another cooperation among RFMOs can be in suppressing IUU fishing. Fishing vessels engaged in IUU fishing can be found operating in areas governed by several RFMOs. Such IUU fishing can be curbed with cooperation among the RFMOs by following a blacklisting mechanism. A fishing vessel blacklisted by one RFMO, will be automatically blacklisted by adjoining or cooperating RFMOs.

(e) **Development of Industrial/ Deep water fishing Capability.** The deep sea fishing is not an easy solution and will require a structured approach for development. The infrastructure facility like standard boat building yards for construction of new fishing vessels and their repair, servicing facilities, maintenance of hygiene and sanitation conditions, fishing harbour, landing points, processing plants, ice plants, drinking water and bunkering facility are some of the grey areas to be developed in a phased manner with involvement of fishing communities in order to meet international standards. The sound deep sea policy needs orientation regarding operation of Indian fishing vessels operation in deep seas.

(f) **Conservation Efforts.** Allocation of fishing rights for high sea fish stocks require scientific study to be undertaken by the scientific committee. This decision is going to impact India's conservation and management measures as coastal states in EEZ. Therefore, to safeguard our interests of both Coastal State and high seas, conservation and management measures are required to be applied depending on the availability of fish stock especially straddling and highly migratory fish stock. It is therefore recommended that an Inter-ministerial working group may be formed for conceptualizing and formulating the process of research and development by utilizing different pioneer organization's working under different ministries for undertaking a detailed and comprehensive study in the area of interest i.e high seas. This will ensure undertaking cost benefit analysis in terms of pursuing deep sea going capabilities of Indian fishing boats as well as further enhancing capacity of our

fishing industry for larger benefit to food security and boosting economy of our country.

(g) **Implementation of Effective Inspection Regime.** The deep sea going fishing vessels shall be required to obtain license for fishing in high seas and procedure must include and ensure fulfilment of obligation wrt carriage of prescribed navigation, communication and lifesaving equipment. The vessel is to be checked prior issuing of license if engaged in IUU fishing previously or was registered earlier in another State which have engaged in fishing activities undermining conservation and management measures. The salient points for streamlining and implementation of effective mechanism for fisheries in high seas are as follows:

- (i) Selection and installation of monitoring equipment onboard fishing vessels that must be kept in working conditions and activated during navigation. The signals used to monitor such vessels shall be transmitted directly to Fish Management Centers (FMC).
- (ii) Catch by species and fishing area to be informed to the concerned FMC.
- (iii) Holding license at all times onboard the fishing vessel.
- (iv) Display of flag and registration number along with colour code marking as prescribed at all times. Adhere to inspections at sea by the authorized officers.
- (v) Proper identification and marking of fishing gear.
- (vi) Inform departure and arrival at own State ports or foreign ports, if any.

(vii) Comply with conservation and management measures established for stock in fishing area as prescribed under national law or RFMO regulations.

(h) **Monitoring Control and Surveillance.** The effective compliance and enforcement measures for conservation and management of fishery stocks are ensured by adequate MCS and its implementation. The objective of MCS is to strengthen the exercising of flag state responsibility for the fishing vessels flying their flags. MCS does not only means surveillance by ships and aircraft but is to be supported by putting other mechanisms in place like registration system, VMS, observer programmes and inspection. Registration of fishing vessels by flag States is important for monitoring of vessels nationally or at regional level. The registration of fishing vessels will fulfill the obligations required by flag state for their vessels to institutionalize the carriage of navigation, communication and life-saving equipment onboard prior proceeding to sea. It will make sure smooth transition while developing RFMO that will warrant all flag states to establish record of all fishing vessels authorized to be fishing to be held by the Headquarters. It will ensure that authorized vessels only fish in the area of competence. The same regulations will also apply for carrier or mother vessels involved in transshipment of fish from fishing vessels. The records may further be used to categorise the vessels in white, grey or black list depending on inspections conducted by the Flag States or members of RFMO. It will also support in detecting Flag hopping by fishing vessels indulged in IUU fishing, if any.

(i) **Vessel Monitoring System (VMS)**. The other important component of MCS is VMS. This system will not only solve issues of monitoring in India's EEZ, but also for the fishing vessels authorised to undertake fishing in the area of competence. Article 18(g)(iii) of UNFSA also requires development and implementation of VMS as agreed at regional or global level. Hence, development VMS at national level initially will automatically factor in the obligations of RFMO. VMS system will provide with information on position of fishing vessel at regular intervals. Further, when capabilities of VMS enhanced, the system will also allow transmission of catch and effort data along with the fishing area in near real time. Direct and indirect reporting may be deliberated at later stage once VMS is developed at national level. A direct system allows transmission directly from fishing vessels to Flag State as well as RFMO and indirect system transmits data to Flag State and thereafter post compilation of data by Flag State, information is transmitted to the RFMO.

7.2. **Conclusion.** RFMOs play a critical role in the global system of fisheries governance. These organizations are primary mechanisms for achieving the cooperation among all States engaged in fishing, primarily the Coastal States for effective management of international fisheries in the high seas and to the some extent also in the EEZs. The freedom to fish the high seas is now incompatible with optimum utilization of fishery resources and aim of conservation and management. The establishment of RFMO in the northern IOR and cooperation with adjoining RFMOs will enhance the best use of capture fishery resources, thereby further improving food security within the participating States. The cooperation between States within the RFMO (inter and intra RFMO) is very critical for conservation of straddling and highly

migratory fish stocks. Breakdown in such cooperative mechanism can be as disastrous as consequences of open access and unregulated fishing in the given area.

The establishment of RFMO will take considerable time for setting up. It is therefore prudent to put in place interim measures in the likely area of competence for taking appropriate conservation and management efforts to avoid the possibility that stocks might become depleted while negotiations for management are in progress. The notion of arriving at an arrangement or ***empowering already existing organizations such as BOBP-IGO is pertinent to early establishment of RFMO in the Northern IOR.***

The participating States are to be invited for negotiation process to establish interim measures and also enforcing these measures against non-participating States that may undermine the process of such set up. The cooperation between adjoining and overlapping RFMOs will be the next step after development of RFMO. The enhanced cooperation with RFMOs arises from the fact that some species of fish are so wide ranging that they are found in area of competence of more than one organization. The cooperation becomes very important to address many critical issues that the fisheries sector faces, such as excess capacity and the need to control IUU fishing.

In India, foreseeing the immense potential for development of fisheries and for providing focused attention to the sector, the Government in its Union Budget, 2019-20 has announced a new scheme, the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**. A scheme to bring about Blue Revolution through sustainable and responsible development of fisheries sector in India has been launched with highest

ever investment of **Rs. 20,050 crores**, comprising of Central share of Rs. 9407 crore, State share of Rs 4880 crore and beneficiary's contribution of Rs. 5763 crore. PMMSY will be implemented over a period of 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories. The scheme intends to address critical gaps in fish production and productivity, quality, technology, post- harvest infrastructure and management, modernization and strengthening of value chain, traceability, establishing a robust fisheries management framework and fishers' welfare.

7.3. The **matrix** for the assigned role is as follows :

<u>Sl</u>	<u>Objectives</u>	<u>Role/Responsibility</u>	<u>Organisation</u>
1.	Inter-ministerial working group	<p>(a) Discuss obligations of international conventions, agreements & work on the formulation of Area of competence for establishing RFMO.</p> <p>(b) Establishment of RFMO Headquarters in India at a place easily accessible to member States and formation of Secretariat.</p> <p>(c) Undertake financial study for development of such organisation and contribution thereof for conduct of meetings during negotiation process and thereafter.</p>	MoFAH&D, MoD, MEA, MoES, Ministry of Science and Technology
2.	Empowering existing BOBP-IGO	Enhanced mandate to include Arabian sea & engage in talks with available expertise with littoral nations on West IOR in Arabian sea.	MoFAH&D in consultation with BOBP-IGO, MEA, MoCI
3.	Scientific study in high seas	Draw a plan to undertake scientific study under FSI in the high seas in collaboration with institutions under different ministries for finding out fish stock in the Area of Competence	FSI, NIO, CIFNET, CMFRI, CMLRE

4.	Development of Deep sea fishing capability	Construction of new deep sea fishing vessels in standard boat building yards, fitment of suitable navigation, communication & lifesaving equipment	MoS/MMD, DoF, State Fisheries Deptt
5.	Registration & licensing	System to ensure registration of fishing vessels with all criteria of registration fulfilled like seaworthiness, insurance, carriage of navigation, communication, lifesaving & appropriate marking of fishing gears. License given to fishing vessels depending upon crew potential to undertake fishing in the area of competence and able to operate equipment onboard	DG Shipping, State fisheries dept.
6.	Vessel Monitoring System	Provision of satellite based two way system for reporting position, enhanced facilities for transmission of fish catch and effort data along with fishing area in near real time and relaying of safety messages from shore.	ISRO
7.	Monitoring Control and Surveillance	(a) Establishment of Fisheries Management Centre (FMC) in fishing harbours. (b) Inspections, supervision of transshipments, fishing operations,	DoF, State Fisheries Department, ICG

		<p>compliance with conservation and management.</p> <p>(c) Surveillance by authorised ships and aircraft in accordance with national regulatory mechanism guided by Fisheries Act.</p>	
8.	Development of infrastructure facilities	<p>(a) Development of standard boat building yards with repair and servicing facilities for the fishing vessels.</p> <p>(b) Developing facilities of fishing harbours by provisioning of landing points, processing plants, ice plants, drinking water and bunkering facility.</p> <p>(c) Undertake regular community interaction programmes for orientation of fishing community towards operation of fishing vessels in deep seas.</p>	DoF, DG Shipping, State Fisheries Department
9.	Port measures	<p>(a) Identification of ports for landing fish catch by foreign fishing vessels.</p> <p>(b) Developing port state control inspection on arrival and departure of such fishing vessels of member States.</p>	MoS/DGS, DoF, IPA

References

1. *Agreement for the Implementation of the Law of the Sea Convention (1995) relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, UN, New York, 1995 (United Nations, Treaty Series, Vol. 2167, p. 3; Registration No. 37924) available at www.un.org*
2. *Agreement to Promote Compliance with International Conservation and Management Measures (1993) by Fishing Vessels on the High Seas, FAO, Rome, 1993 available at www.fao.org*
3. *Ásmundsson, Stefán(2016) "Regional Fisheries Management Organisations (RFMOs): Who Are They, What Is Their Geographic Coverage on the High Seas and Which Ones Should Be Considered as General RFMOs, Tuna RFMOs and Specialised RFMOs?" www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-fao-19-en.pdf.*
4. *CONNECT WITH BOBP. BOBP, www.bobpigo.org/.*
5. *Convention on the High Seas, Geneva, UN, 1958 (United Nations, Treaty Series, Vol. 450, p. 11; Registration No. 6465) available at www.un.org*
6. *Convention on International Trade in Endangered Species of Wild Fauna and Flora CITES FAO Fisheries Technical Paper No. 465 (1973), Meltzer uses the*

term 'shared stocks' as synonym of transboundary or joint stocks Munro et al. "FAO Fisheries Technical Paper 465. "The Conservation and Management of shared fish stocks" Food and Agriculture Organisation, 2004

7. *D'Andrea, The "Genuine Link Concept" in Responsible Fisheries (2006): Legal aspects and recent developments, FAO Legal Papers Online 61, Nov 2006 available at www.fao.org/legal/prs-ol/paper-e.htm.*
8. *FAO, Code of Conduct for Responsible Fisheries, FAO, Rome, (1995) available at www.fao.org*
9. *FAO, International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing ("IPOA-IUU"), FAO, Rome, (2001) available at www.fao.org*
10. *FAO Legal Papers Online 61, Nov 2006 available at www.fao.org/legal/prs-ol/paper-e.htm*
11. *FAO Fisheries Technical Paper No. 465, Meltzer uses the term 'shared stocks' as synonym of transboundary or joint stocks.*
12. *Fishing ("IPOA-IUU"), FAO, Rome, (2001) available at www.fao.org*

13. Garcia et al. *FAO Fisheries Technical Paper. No. 443(2003)* "The ecosystem approach to fisheries. Issues, terminology, principles, institutional foundations, implementation and outlook. Rome" Food and Agriculture Organisation.
14. IOTC: Indian Ocean Tuna Commission / Commission Des Thons De L'Océan Indien. English, www.iotc.org/.
15. Lodge, Michael W, et al. (2007) "Recommended Best Practices for Regional Fisheries Management Organizations." Report of an Independent Panel to Develop a Model for Improved Governance by Regional Fisheries Management Organizations, 2007, p. 102.
16. Lobach, Terje, et al.(2017) "Regional Fisheries Management Organizations and Advisory Bodies, Activities and Developments ." *FAO Fisheries and Aquaculture Technical Paper, ser. 651, 2020. 651,* [doi:https://doi.org/10.4060/ca7843en](https://doi.org/10.4060/ca7843en) .
17. Løbach, Terje, (2017) et al. "FAO Fisheries Technical Paper 651. ." *Regional Fisheries Management Organisation and Advisory Bodies,* , [doi:https://doi.org/10.4060/](https://doi.org/10.4060/).
18. Majkowski (2007) "Tuna and tuna like species: Global status of fisheries resources" www.tuna-org/documents/other/kobe-report ,.

19. *Marjorie L. Mooney-Seus, Andrew A. Rosenberg, Chatham House (2007) Best Practices for High Seas Fisheries Management: Lessons Learned.*

20. *Mathew NP Ansy (2008/2009) marine fisheries conservation and management in India taking recourse to code of conduct for responsible fisheries(CCRF) and other legal instruments available at https://www.un.org/.../fellows_pages/profiles_2008-2009*

21. *Munro et al. (2004) "FAO Fisheries Technical Paper 465. "The Conservation and Management of shared fish stocks" Food and Agriculture Organisation,*

22. *Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (2000), published 19 January 2000, (A/RES/54/32) available at www.un.org*

23. *Political Declaration and Implementation Plan (2002) adopted at the 2002 World Summit on Environmental and Development held in Johannesburg; UN Department of Economy and Social Affairs, Division for Sustainable Development.*

24. *Resolution on Conservation of World Fish Stocks (1996) to provide an important source of protein and ensure the continued viability and economic stability of fishing around the World, adopted by the 95th Inter-Parliamentary Conference held in Istanbul, Turkey, 19 April 1996.*

25. *Recommended Best Practices for Regional Fisheries*
<https://www.oecd.org/sd-roundtable/papersandpublications/3937429> PDF file "Southern Indian Ocean Fisheries Agreement (SIOFA)." Southern Indian Ocean Fisheries Agreement (SIOFA) | SIOFA, www.apsoi.org/.
26. "The Bay of Bengal Large Marine Ecosystem Project." The Bay of Bengal Large Marine Ecosystem Project - Home, www.boblme.org/.
27. Terje Løbach, T., Petersson, M., Haberkon, E. and Mannini, (2020). Regional fisheries management organizations and advisory bodies www.fao.org/3/ca7843en/CA7843EN.pdf · PDF file.
28. *United Nations Convention on the Law of the Sea (1982)*, UN, Montego Bay, 1982 (United Nations, Treaty Series, Vol. 1833, p. 3; Registration No. 31363) available at www.un.org
29. UNGA, 54th Session, Resolution No. 54/32 (1982) on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation.
30. "UN, United Nations, UN Treaties, Treaties." United Nations, United Nations, treaties.un.org/.
31. 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora CITES

32. "□□□□□□□□□□ □□□□ *Department of Fisheries.*" *Pradhan Mantri Matsya Sampada Yojana | Department of Fisheries, GoI, dof.gov.in/pmmsy.*

Appendix 'A''

REGIONAL FISHERIES MANAGEMENT ORGANISATION(RFMO)

From: arunbhardwaj1971@gmail.com

arunbhardwaj1971@gmail.com

To: arunbhardwaj_00@yahoo.com

Date: Thursday, 25 February, 2021, 12:08 pm IST

Google Forms

Having trouble viewing or submitting this form?

[FILL OUT IN GOOGLE FORMS](#)

I've invited you to fill out a form:

REGIONAL FISHERIES MANAGEMENT ORGANISATION(RFMO)

DO YOU KNOW ABOUT CONCEPT OF REGIONAL FISHERIES MANAGEMENT ORGANISATION(RFMO) IN WORLD & INDIAN OCEAN REGION

Yes

No

DO WE NEED RFMO IN INDIAN OCEAN REGION ?

Yes

No

Maybe

DO YOU KNOW ABOUT EEZ OF INDIA

- Yes
- No

DO YOU KNOW ABOUT HIGH SEAS DEFINATION?

- Yes
- No

WHAT ALL ISSUES ARE IN HIGH SEAS OF INDIAN OCEAN REGION? JUST WRITE NAMES OF ISSUES .

DOES INDIAN OCEAN HIGH SEAS IS PRESENTLY COVERED UNDER ANY GENERAL RFMO

- Yes
- No
- Maybe

DO WE HAVE CHINESE THREAT TO HIGH SEA FISHING IN NORTHEN INDIAN OCEAN REGION

- Yes
- No
- Maybe

IF YES , WHAT ARE THE THREATS ? PLS BROADILY MENTIONS THE THREATS .

Do you agree that Chinese fishing vessels is growing its footprint in the IOR and presence of these vessels have raised security concerns too ??

- Strongly disagree
- Disagree

- Neutral
- Agree
- Strongly agree

WHAT WILL BE ADAVANTAGES BY FORMATION OF RFMO IN NORTHEAN INDIAN OCEAN REGION (NIOR)

DO YOU FEEL GOI ALONG WITH OTHER LITTORAL STATES SHOULD ESTABLISH RFMO ON FAST TRACK ?

- Yes
- No
- Maybe

IF YES , BRIEFLY MENTION WHY ??

whether by establishment of an RFMO in IOR , GOI will ensure governance regime in the area ?

- YES
- No

If India takes a lead in establishing this RFMO, it is going to be a good incentive both in terms of conservation and exploitation of marine living resources ?

- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
-

DO YOU THINK ESTABLISHMENT OF RFMO WILL BOOST THE SECURITY TOO IN NOIR ??

- Yes
- No
- Maybe

Submit

Never submit passwords through Google Forms.