International legal and normative framework for responsible fisheries, with reference to Malaysia's offshore EEZ fisheries management

Mohammad Zaki Ahmad

University of Wollongong
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INTERNATIONAL LEGAL AND NORMATIVE FRAMEWORK FOR RESPONSIBLE FISHERIES, WITH REFERENCE TO MALAYSIA’S OFFSHORE EEZ FISHERIES MANAGEMENT

A thesis submitted in fulfilment of the requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

MOHAMMAD ZAKI AHMAD
BA (Memphis), MA (Wollongong)

October 2011
DECLARATION

I, Mohammad Zaki Ahmad, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor in Philosophy in the Australian National Centre for Ocean Resources and Security, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification at any other academic institution.

Mohammad Zaki Ahmad
20 August 2011
ABSTRACT

The progressive development of international legal and normative framework for responsible fisheries in the aftermath of the 1982 United Nations Convention on the Law of the Sea (LOSC) has been epitomized through the introduction of a series of binding and non-binding global fisheries instruments. These post-LOSC instruments include the UN Fish Stocks Agreement, FAO Code of Conduct for Responsible Fisheries, and the four non-binding International Plans of Actions (IPOAs). They provide the principles, measures, and standards for responsible fisheries in the exclusive economic zone (EEZ).

The adoption and elaboration of these instruments attest to the urgency and strong political commitment of the global community to improve and strengthen the international management and conservation framework for marine capture fisheries. This progress was motivated to address the issues and problems affecting marine fisheries worldwide, as well as the inadequacies of the LOSC. Some of the principles incorporated in the post-LOSC instruments, such as precautionary approach to fisheries and ecosystem approach to fisheries, signify a departure from the traditional species-centric management approach espoused by the LOSC.

In the context of Malaysian fisheries management, international fisheries instruments have provided useful guidelines for the country in establishing or improving its domestic legal, policy, and institutional framework to promote responsible fishing in its EEZ. Guided by its rights and obligations granted by the LOSC and other global fisheries instruments, Malaysia has adopted stringent conservation and management measures for offshore fisheries. However, despite of having this framework in place, Malaysia continues to confront various challenges that undermine its efforts to ensure sustainable fisheries in the offshore areas. Serious depletion of fish stocks and degradation of marine environment, compounded by a high incidence of illegal, unreported and unregulated fishing (IUU), are major concern to Malaysia. A key factor to these problems lies on Malaysia’s failure to fully implement internationally agreed obligations and standards for responsible offshore fisheries. Therefore, to ensure that fishing practices are conducted in responsible manner in the Malaysian EEZ, it is imperative for the country to fully adopt and apply the principles and measures espoused under international fisheries instruments.

This thesis presents an analysis of Malaysian laws, policies, and measures implement the international legal and normative framework for responsible fisheries. The objectives of this thesis are threefold. Firstly, this thesis identifies and analyzes principles and their measures established in binding and non-binding global instruments for responsible fisheries in the EEZ. Secondly, the thesis examines the extent to which Malaysia has adopted these principles and measures in its domestic legal system. It further highlights gaps in the national legal and policy framework for responsible offshore fisheries. Finally, the thesis provides recommendations of policy and legal reforms necessary to address the identified gaps in the national framework.
The completion of this thesis would not have been possible without the assistance, guidance and support from a number of individuals and institutions. Foremost, I wish to convey my sincere gratitude to my supervisors. To Professor Martin Tsamenyi, for his invaluable assistance and intellectual guidance throughout my graduate studies. Under his supervision, I have learned so much on the concept of responsible fisheries and the law of the sea. My heartfelt appreciations extended to Dr. Mary Ann Palma for her unwavering support, encouragement and patience in supervising my thesis. Her helpful advice and insightful comment on my chapters and for helping me to understand the complexity of IUU fishing have made my PhD studies a worthwhile journey. Terima kasih.

I wish to thank the Malaysian government, especially the Ministry of Higher Education (MoHE), for awarding me scholarships to pursue my Master and PhD studies at the University of Wollongong. To my employer, Universiti Utara Malaysia (UUM), Kedah, for granting me study leave and generous stipend for my family. Many thanks to Professor Dr. Mustafa Ishak, former Dean of Faculty of International Studies (now the Vice Chancellor of UUM) who has supported me throughout my academic career in numerous ways. I would also like to thank the staffs at the Registrar Office, notably the Department of Human Resource.

Throughout the three years and a half of my PhD studies, the Australian National Centre for Ocean Resources and Security (ANCORS) has been my “second home.” Its excellent facilities and helpful staffs provided an environment conducive for me to complete my thesis. Special thanks go to Dr. Chris Rahman, with whom I had the pleasure of exchanging ideas and conversations on every imaginable topic during our walk home together. To Ms. Myree Mitchell, administrator extraordinaire, I thank her for her assistance, generosity and delicious cakes. I would like to thank Professor Bill Edeson, Dr. Transform Aqorau, Dr. Warwick Gullet and Mr. Glenn Sant for their insightful explanation on fisheries-related policy and issue. At ANCORS, I have the privilege to meet my fellow colleagues of various nationalities, particularly Adham, Wayne, Pakjuta (Nang), Ben, Dr. Débora, Kamal-Deen, Dr. Kresno, Philimon, Joytishna, Dr. Daisuki, Lorelei, Josie, Quentin, Arief, Filimon and my compatriot, Hazmi Rusli. I am most grateful to my officemates – Dr. Lowell Bautista and Dr. Jane “she works hard for the money” Mbendo- for their unconditional friendship, constant encouragement and for the lift home. My appreciation also goes to I Made Andi Ansana for assisting me in preparing the maps in the thesis. To my fellow students and friends at ANCORS, thank you for the “substantial” time we spent together (e.g. dinner, picnic, BBQ to swimming at the beach).

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This thesis is dedicated to all of them.
<table>
<thead>
<tr>
<th>Acronym</th>
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<td>Ninth National Plan 2006-2010</td>
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<td>AG Chamber</td>
<td>Attorney General’s Chambers (Malaysia)</td>
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<td>AJIL</td>
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<td>Anon.</td>
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<td>DOALOS</td>
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<td>DPPSPM</td>
<td>Departmen Penyelidikan dan Pengurusan Sumber Perikanan Marin</td>
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<td>DWFNs</td>
<td>Distant Water Fishing Nations</td>
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<tr>
<td>EAF</td>
<td>Ecosystem Approach to Fisheries</td>
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<td>EEZ</td>
<td>exclusive economic zone</td>
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<td>EU</td>
<td>European Union</td>
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<td>FAD</td>
<td>Fish Aggregating Device</td>
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<td>Food and Agriculture Organization of the United Nations</td>
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<td>FCLP</td>
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<td>Fisheries Research Institute of Malaysia</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>Global Environment Facility</td>
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<td>Gross National Product</td>
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<td>GPS</td>
<td>Global Positioning System</td>
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<td>GRT</td>
<td>Gross Registered Tonnage</td>
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<td>ICCAT</td>
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<td>ICES</td>
<td>International Council for the Exploration of the Seas</td>
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<td>ICJ</td>
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<td>International Journal of Marine and Coastal Law</td>
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<td>IOTC</td>
<td>Indian Ocean Tuna Commission</td>
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<td>IPOA</td>
<td>International Plan of Action</td>
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<td>IPOA-IUU</td>
<td>International Plan of Action- Illegal, Unreported and Unregulated Fishing</td>
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<td>IPP</td>
<td>Fisheries Research Institute</td>
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<tr>
<td>ISIS</td>
<td>Institute for Strategic and International Studies</td>
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<td>ISEAS</td>
<td>Institute of Southeast Asian Studies</td>
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<td>ITF</td>
<td>International Transport Workers’ Federation</td>
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<td>ITLOS</td>
<td>International Tribunal for the Law of the Sea</td>
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<td>ITQ</td>
<td>Individual Transferable Quota</td>
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<td>IUU Fishing</td>
<td>Illegal, Unreported and Unregulated Fishing</td>
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<td>JTF</td>
<td>Japanese Trust Funds</td>
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<td>Km</td>
<td>Kilometres</td>
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<td>Km²</td>
<td>Square kilometres</td>
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<td>KPI</td>
<td>Key Performance Indicator</td>
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<td>KPNB</td>
<td>Konsortium Perikanan Nasional Berhad</td>
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<td>LKIM</td>
<td>Lembaga Kemajuan Ikan Malaysia</td>
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<td>MAF</td>
<td>Malaysian Armed Forces</td>
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<td>MARDI</td>
<td>Malaysian Agriculture and Research Development Institute</td>
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<td>MARSAL</td>
<td>Marine Research Station Layang-Layang Malaysia</td>
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<td>MCBD</td>
<td>Marine and Coastal Biodiversity</td>
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<td>MCS</td>
<td>Monitoring, Control and Surveillance</td>
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<td>MECC</td>
<td>Maritime Enforcement Coordination Centre</td>
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<td>MEY</td>
<td>Maximum Economic Yield</td>
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<td>MFRDMD</td>
<td>Marine Fishery Resources Development and Management Department</td>
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<td>MIMA</td>
<td>Maritime Institute of Malaysia</td>
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<td>MKN</td>
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<td>Ministry of Agriculture and Agro-Based Industry</td>
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<td>Maximum Sustainable Yield</td>
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<td>MTIC</td>
<td>Malaysian Tuna Industry Corporation</td>
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<td>NAP3</td>
<td>Third National Agricultural Policy</td>
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<td>Fourth National Agricultural Policy</td>
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<td>NBDP</td>
<td>National Biological Diversity Policy</td>
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<td>NEAFC</td>
<td>Northeast Atlantic Fisheries Commission</td>
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<td>NEKMAT</td>
<td>National Fishermen Association</td>
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<td>NEP</td>
<td>New Economic Policy</td>
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<td>NGO</td>
<td>Non-governmental Organization</td>
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<td>NILR</td>
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<td>National Policy on Biological Biodiversity</td>
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<td>National Plan of Action</td>
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<td>Ocean Development &amp; International Law</td>
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<td><em>Pusat Penyelarasan Penguatkuasaan Maritim</em></td>
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<td><em>Program Pembangunan Rakyat Termiskin</em></td>
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<td>RECEIL</td>
<td>Review of European Community &amp; International Environmental Law</td>
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<td>RFMO</td>
<td>Regional Fisheries Management Organization</td>
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<td>RM</td>
<td>Ringgit Malaysia</td>
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<td>Royal Malaysian Airforce</td>
</tr>
<tr>
<td>RMN</td>
<td>Royal Malaysian Navy</td>
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<td>Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region</td>
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<td><em>Skim Pinjaman Khas Pertanian</em></td>
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<td>SEAFDEC</td>
<td>Southeast Asian Fisheries Development Center</td>
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<td>TAC</td>
<td>Total Allowable Catch</td>
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<td>Tuna Development and Management Institute</td>
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<td>United Kingdom</td>
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<td>United Nations Environment Programme</td>
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<td>United State of America</td>
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<td>Virginia Environmental Law Journal</td>
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<td>VMS</td>
<td>Vessel Monitoring System</td>
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<td>WSSD</td>
<td>World Summit on Sustainable Development</td>
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<td>World Trade Organization</td>
</tr>
<tr>
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<td>World Wildlife Fund</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

DECLARATION..................................................................................................................i  
ABSTRACT..........................................................................................................................ii 
ACKNOWLEDGEMENTS ...................................................................................................iii 
LIST OF ACRONYMS AND ABBREVIATION.................................................................v  
TABLE OF CONTENTS..................................................................................................vi  
LIST OF TABLES AND FIGURES ...................................................................................xiii 

## Chapter 1

### INTRODUCTION ........................................................................................................... 1  
1.1. Introduction .................................................................................................................. 1  
1.1.1. Legal and Policy Content of Responsible Fisheries in Treaty and Soft-Law Instruments .......................................................................................................... 2  
1.1.2. Implication of the Concept of Responsible Fisheries to Malaysia ...................... 5  
1.1.3. An Overview of Issues and Challenges Confronting Malaysia in EEZ Fisheries Management ........................................................................................................... 7  
1.2. Research Aims and Objectives .................................................................................... 12  
1.3. Scope and Limitation .................................................................................................. 13  
1.4. Methodology .............................................................................................................. 15  
1.5. Measuring the Adequacy of Malaysia’s National Framework for Responsible Fishing Practices in Offshore Fisheries in its EEZ ................................................................. 16  
1.6. Significance of the Research .................................................................................... 17  
1.7. Structure of Thesis .................................................................................................... 27  

## Chapter 2

### INTERNATIONAL FISHERIES LAW AND POLICY FRAMEWORK FROM THE 1950s TO THE 1980s: A PARADIGM SHIFT TOWARDS SUSTAINABLE FISHERIES ................................................................................................................................. 31  
2.1. Introduction .................................................................................................................. 31  
2.2.1. Post-World War II Era of the 1950s and the 1960s ............................................. 34
Chapter 3
GLOBAL EFFORTS IN THE POST-LOSC PERIOD TOWARDS THE CONCEPTUALIZATION OF AN INTERNATIONAL FRAMEWORK OF RESPONSIBLE FISHERIES ...................................................... 78
3.1. Introduction .............................................................................................................. 78
3.2. Reforming the Legal and Policy Contents of the Global Framework for Fisheries ...... 79
  3.2.1. Nineteenth Session of the COFI Meeting ............................................................. 79
  3.2.2. 1992 Declaration of Cancun ................................................................................. 82
  3.2.3. UNCED and the Development of Responsible Fisheries Concept: the Rio Declaration and Agenda 21 ................................................................. 85
    3.2.3.1. Rio Declaration .............................................................................................. 86
    3.2.3.2. Chapter 17 of Agenda 21 ............................................................................... 89
  3.2.4. 1995 UN Fish Stocks Agreement ........................................................................ 93
  3.2.5. FAO Code of Conduct for Responsible Fisheries ................................................ 98
  3.2.6. International Plans of Action (IPOAs)................................................................. 107
  3.2.7. FAO’s Efforts in Translating the Requirements of the FAO Code of Conduct and its Associated Instruments into Practice ...................................................... 109
    3.2.7.1. FAO Technical Guidelines for Responsible Fisheries ................................. 114
  3.3. Conclusion ............................................................................................................. 116

Chapter 4
INTERNATIONAL LEGAL AND NORMATIVE FRAMEWORK FOR RESPONSIBLE FISHERIES IN THE EEZ................................................................. 119
4.1. Introduction ............................................................................................................. 119
4.2. Sustainable Utilization and Conservation of Fisheries Resources .......................... 120
  4.2.1. Maximum Sustainable Yield (MSY) Estimation .................................................. 121
6.2.1. Fisheries Comprehensive Licensing Policy (FCLP) ........................................ 238
6.2.2. Third National Agricultural Policy 1999-2010 (NAP3) .................................. 241
6.2.4. Malaysia NPOA-Sharks .................................................................................. 245
6.2.5. Malaysia NPOA-Capacity............................................................................... 247
6.2.6. Draft Malaysia NPOA-IUU ............................................................................ 249
6.2.7. Other Relevant National Policies .................................................................... 252
6.3. Malaysia’s Position vis-à-vis International and Regional Fisheries Instruments ...... 256
6.4. National Legal Frameworks for Malaysia’s Marine Capture Fisheries in the EEZ ..... 258
6.4.1. Constitutional Division of Powers within Malaysia’s Federal System ............... 258
6.4.2. Fisheries Act 1985 (Amended 1993) ................................................................. 263
6.4.3. EEZ Act 1984 ................................................................................................. 266
6.4.4. Lembaga Kemajuan Ikan Malaysia Act 1971..................................................... 268
6.4.5. Subsidiary Regulations .................................................................................. 269
6.4.5.1. Fisheries (Prohibition Method of Fishing) Regulations 1980 ....................... 270
6.4.5.2. Fisheries (Maritime) (Licensing of Local Fishing Vessel) Regulations 1985 .......................................................... 271
6.4.5.3. Fisheries (Control of Endangered Species of Fish) Regulations 1999...... 272
6.4.6. Other Laws and Regulations Relevant to Offshore Fisheries Management ...... 273
6.5. Conclusion ............................................................................................................. 274

Chapter 7
NATIONAL INSTITUTIONAL FRAMEWORK FOR FISHERIES MANAGEMENT IN MALAYSIA’S EEZ ............................................................................................................. 277
7.1. Introduction ............................................................................................................. 277
7.2. Fisheries Administrative and Policy-Making Agencies ........................................ 277
7.2.1. Ministry of Agriculture and Agro-Based Industry ............................................ 278
7.2.2. Department of Fisheries Malaysia ................................................................... 280
7.2.3. Fisheries Development Authority of Malaysia .................................................. 286
7.2.4. National Security Council ............................................................................... 295
7.3. Management and Policy Support Agencies .......................................................... 298
7.3.1. Fisheries Research Institute of Malaysia .......................................................... 298
7.3.2. Marine Fishery Resources Development and Management Department ....... 302
LIST OF TABLES AND FIGURES

TABLES

Table 5.1 Public Expenditure for Fisheries Development, Sixth Malaysia Plan to Ninth Malaysia Plan, 1991 to 2010…………………………176

Table 5.2 NAP3 Production Targets for Offshore Marine Fisheries (Tonnes), 2005 to 2010……………………………………196

Table 5.3 Malaysian Fishing Zones with Designated Areas, Vessel Size, Gear Type and Ownership……………………………………..204

Table 5.4 Numbers of Licensed Offshore Fishing Vessels, 2002-2007 (Excluding Anchovy Purse Seine Vessels and Anchovy Boiler Vessels)…………………………………………………………211

Table 5.5 Breakdown of Licensed Fishing Vessels above 70 GRT by Region in 2007…………………………………………………………212

Table 5.6 Number of Registered Foreign Fishermen in Malaysia, 2002-2007……………………………………………………………………215

Table 5.7 Quantity and Value of Landings from Offshore Fisheries 2003-2008……………………………………………………………………222

FIGURES

Figure 5.1 Map of Malaysia’s EEZ: Eastern and Western Segments Bordering Peninsular Malaysia………………………………………190

Figure 5.2 Map of Malaysia’s EEZ: South China Sea, Sulu Sea and Celebes Sea Segments Bordering Sabah and Sarawak………………191

Figure 7.1 Organisational Chart of DoFM (As Effective 2010)…………………………284
Chapter 1
INTRODUCTION

1.1. Introduction

International fisheries law and policy framework has undergone progressive changes over the last 20 years and nowhere are these changes more evident than the emergence of the concept of responsible fisheries enshrined in a series of international instruments, guidelines, action plans, and management measures.\(^1\) The concept has been the subject of discussion in a considerable body of fisheries literatures as can be seen from the varying interpretations of the concept. For example, Tsamenyi and Mfodwo (2002) refer “responsible fishing” as:

\[\text{[A]n umbrella term used to describe a set of inter-related approaches to harvesting, conservation and management of fisheries resources with a strong emphasis on science-based management, the gathering and use of information to more closely control harvesting and conservation and management measures and a much more prescriptive approach to regulation of fishing activity.}\(^2\)

Others, such as Sissenwine and Mace (2003), provide different approach in interpreting “responsible fisheries.” Both agreed that responsible practice in fisheries, from the perspective of an ecosystem approach, means “sustainable production of human

\(^1\) It is noteworthy that a range of international instruments relevant to fisheries, either legally binding treaty or voluntary instruments, provides a set of principles, rules, standards and management measures which constitute the underlying components of responsible fisheries. Section 1.1.1 and Chapter 3 offer further discussion on the legal background and content of these instruments.

benefits, which are distributed “fairly,” without causing unacceptable changes in marine ecosystems.”

Despite the variation in the interpretation of responsible fisheries, the concept itself is of significance as it has now influenced to a considerable extent the behaviour of national governments, regional fisheries management organizations (RFMOs) and stakeholders (e.g. non-government organizations (NGOs) and fishing industry) in policy formulation and practical implementation concerning fisheries development and management.

1.1.1. Legal and Policy Content of Responsible Fisheries in Treaty and Soft-Law Instruments

The clearest expression of responsible fisheries concept is reflected in different range of multilateral treaties, non-binding instruments and resolutions. By far the most significant of these instruments came into existence following the conclusion of the United Nations Convention on the Law of the Sea (LOSC) in 1982. Notable examples

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5 These treaties and “soft law” instruments were, either discussed or negotiated, and eventually adopted at varying stages of meetings and fora under the auspices of the United Nations (UN) General Assembly or the Food and Agriculture Organization (FAO). The rest were approved through separate initiatives by regional fisheries bodies around the world. In addition to the above-mentioned post-LOSC fisheries instruments, Douman, for example, has identified several instruments that make direct reference to the concept of sustainable utilisation and responsible conduct in fisheries. These instruments include the Declaration of the International Conference on Responsible Fishing Cancun, Mexico, 6-8 May 1992 (1992 Declaration of Cancun), Chapter
of these instruments included the FAO Compliance Agreement, the UN Fish Stocks Agreement, and the FAO Code of Conduct for Responsible Fisheries. Additional set of instruments in which the core principle of responsible fisheries were drawn upon consist of four non-binding International Plans of Actions (IPOAs) that individually deal with specific issues in fisheries management, explicitly seabird by-catch, fishing capacity, and shark management, to illegal, unreported and unregulated (IUU) fishing.

These post-LOSC instruments might differ in their scope, focus and legal status but they share a number of attributes. In particular, they each contain a range of widely accepted principles and prescriptive requirements that attempt to address inadequacies as well as complement the rather loose and ill-defined fisheries framework of the LOSC. Equally important are some of the underlying principles of the post-LOSC fisheries instruments - primarily the FAO Compliance Agreement, the UN Fish Stocks Agreement and the FAO Code of Conduct - to which represent a significant departure

8 FAO, Code of Conduct for Responsible Fisheries, hereafter referred to as FAO Code of Conduct or the Code. This voluntary instrument was adopted by consensus during the 28th Session of the FAO Committee on Fisheries (COFI), in Resolution No. 4, on October 31st 1995.
9 These instruments include: the International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds), the International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks), the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) and the International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU).
from the traditional species-centric management approach advocated by the LOSC.\footnote{11} The application of science-based precautionary and ecosystem approach to decision-making process and practical management ostensibly constitutes a prominent example of these principles.\footnote{12}

To fill the gaps in the LOSC framework applicable to resource management and regulatory enforcement of high seas fisheries, the legal contents of the UN Fish Stocks Agreement and the policy recommendations set out by the FAO Code of Conduct place considerable emphasis on bringing the activities of fishing fleets on the high seas under effective control. Beside the provisions for enhancing flag State duties,\footnote{13} the strengthening of management jurisdiction of RFMOs over non-contracting parties has found its way within the framework of these two particular instruments.\footnote{14} This development attests the urgency and commitment of the global community to improve and strengthen international legal and policy framework in the post-LOSC era for better management and conservation of marine capture fisheries within and beyond the exclusive economic zone (EEZ). In sum, the adoption and elaboration of fisheries instruments such as the UN Fish Stocks Agreement, the FAO Code of Conduct and the four IPOAs illuminate the progressive evolution of international fisheries regime over the last 20 years.

\footnote{11} For example, Fontaubert \textit{et al.} rightly observe that the LOSC provisions lack detailed reference to the application of the precautionary approach to fisheries management. See Charlotte de Fontaubert and Indrani Lutchman, with David Downes, and Carolyn Deere, \textit{Achieving Sustainable Fisheries Implementing the New International Legal Regime}, (Gland, Switzerland and Cambridge, UK: International Union for the Conservation of Nature and Natural Resources (IUCN), 2003), p. 12.


\footnote{13} Under the UN Fish Stocks Agreement, the relevant provisions relating to flag State duty are found in Articles 18, 19 and 20 and 22. With respect to flag State responsibility covered by the FAO Code of Conduct, see Articles 8.2.1 to 8.2.10.

\footnote{14} See in particular \textit{UN Fish Stocks Agreement}, Parts III, IV and IX, \textit{FAO Code of Conduct}, Articles 7.7.3 to 7.7.5.
1.1.2. Implication of the Concept of Responsible Fisheries to Malaysia

From the standpoint of Malaysia’s practices in fisheries management, both the LOSC and the subsequently adopted global fisheries instruments mentioned above have been useful for providing the country with comprehensive reference points to develop and strengthen its domestic fisheries laws and policies. Malaysia, through the Department of Fisheries Malaysia (DoFM), has made considerable progress to ensure national legislative and policy framework is in position to support and implement the legal norms and recommendations contained in those instruments, with the view of attaining a broad set of responsible fisheries objectives. Guided by its sovereign rights and legal obligations under the LOSC, Malaysia has set up a comprehensive monitoring, control and surveillance (MCS) system for the country’s EEZ. In spite of this initiative, there is still an absence of a formalized mechanism with command function in dealing with cross-sectoral conflicts arising from multiple uses of natural resources and spaces within the same marine coastal areas and the EEZ.15 This gap of institutional framework is of particular concern as different, competing maritime activities, from fishing, oil and gas exploration and extraction, shipping, to tourism, are highly concentrated within the confine of many commercially important Malaysian fishing grounds, mostly in the narrow corridor of the Malacca Straits on the west coast of Peninsular Malaysia.16

In recent years, considerable steps have been taken by the Malaysian government to implement international fisheries instruments. Intrinsically linked to this employed strategy is the manifestation of the country’s commitment to ensure an integral part of its fisheries management regime to include responsible fisheries approach. A host of general principles and management measures embodied in the

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instruments have been incorporated into the country’s fisheries laws and policies. This is best demonstrated in the subsidiary regulations enacted prior to the LOSC - Fisheries (Prohibition Method of Fishing) Regulations 1980 - which have been subjected to amendment so as to be consistent with the current path towards attaining the overarching goal of ecosystem health and sustainability underpinning responsible fisheries.\(^{17}\)

In response to the call made by the four IPOAs for all countries to develop and adopt their own national plan of action (NPOA),\(^ {18}\) Malaysia has taken the initiatives to produce its own NPOA-Shark\(^ {19}\) and NPOA-Capacity,\(^ {20}\) and is in the process of drafting another NPOA specifically to address IUU fishing.\(^ {21}\) Coincided with the country’s commitment to implement internationally-agreed principles and standards for fisheries management, some of the requirements for responsible fisheries under international fisheries instruments have also been expressly recognised or referred to in Malaysia’s national fisheries policy and management plan. For example, although Malaysia is not a party State to the Compliance Agreement and the UN Fish Stocks Agreement, the text of draft NPOA-IUU of the country expressively recognises the provisions of these treaty instruments regarding sustainable fisheries management and effective flag State control over fishing vessel on the high seas as a reflection of customary international law.\(^ {22}\)

\(^ {17}\) For further detail, see Section 6.4.5.1.
\(^ {18}\) IPOA-Sharks, paragraph 18; and IPOA-IUU, paragraph 25.
\(^ {22}\) Draft Malaysia NPOA-IUU, p.14.
1.1.3. An Overview of Issues and Challenges Confronting Malaysia in EEZ Fisheries Management

Local and government efforts aimed at improving the conservation and management of marine fishery resources in Malaysia have been largely inadequate. This is probably more the case when Malaysia has been unsuccessful to address the continuing deterioration and excessive exploitation of fishery resources in both of its coastal and offshore waters (seaward beyond 30 nautical miles from the coastline to the outer limit of its EEZ). Dating as far back as the mid-1970s, there are indications of a serious decline in the total biomass and catch efforts of demersal and pelagic stocks of inshore and coastal resources. Inshore and coastal waters are not the only fishing grounds where fishing pressures have intensified and consequently could threaten the survival of fisheries resources therein. For the past decade, certain species of demersal stocks found in a number of offshore fishing grounds of the country’s EEZ, for which an assessment of their resource status is available, have experienced similar problems. Severe depletion and overexploitation of fish stocks in the EEZ beyond the sustainable levels are a worldwide phenomenon, and Malaysia, being a country with an extensive EEZ, has not been spared from these problems.

The trend of declining marine fisheries resources in the Malaysian EEZ is driven by a confluence of factors. One dominant factor widely identified in the literature is

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23 Specific areas where there is a marked decline in the estimated biomass of demersal and pelagic species largely concentrate in the coastal waters along the corridor of the Straits of Malacca off the west coast of Peninsular Malaysia and the South China Sea portions in the east coast of Peninsular Malaysia, and those off the Sarawak coasts. See N. Gopinath, and S. Puvanesuri, “Marine Capture Fisheries,” Aquatic Ecosystem Health & Management 9(2006), p. 218. See also Jahara Yahaya and Nik Mustafa Raja Abdullah, Fisheries Resources under Stress: the Malaysian Experience, Paper Presented at the International Association for the Study of Common Property Fourth Annual Common Property, Resource Conference, 16-19 June 1993, Manila, Philippines, pp. 13-14.

24 From the available data from fisheries resources survey conducted from 1997 to 1999, there is a clear sign of decreasing in the abundance of demersal fisheries due to overfishing in the offshore fishing grounds of the EEZ off the west coast of Peninsular Malaysia. Anonymous (Anon.), Executive Summary: Fisheries Resources Survey in the Exclusive Economic Zone of Malaysia 1997-1999, (Kuala Lumpur: DoFM, Ministry of Agriculture Malaysia, 2002), p. 12.

overfishing, a condition aggravated by inadequate and ineffective national fisheries management regime. Other well-documented factors include excessive fishing capacity, unreliable and incomplete scientific database on marine fisheries and ecosystem, lack of surveillance and law enforcement efforts, and the failure by neighboring countries to control their fishing vessels from encroaching into Malaysian fisheries waters.\textsuperscript{26} Furthermore, marine pollution and deterioration of fisheries habitats in the estuaries and coastal wetlands, as exemplified in the destruction of considerable areas of mangrove forests, are also responsible for exacerbating fish stock depletion.\textsuperscript{27} The ill effects elicited by these problems have modified, to certain degree, the quality of the country’s coastal ecosystem habitats critical for breeding and nursery grounds of many commercially important fish species found in the country’s EEZ.\textsuperscript{28}

Another human-induced factor behind the declining of fish stocks in Malaysia’s EEZ is persistent incidents of IUU fishing involving both local and foreign nationals.\textsuperscript{29} These irresponsible fishing practices continue to hinder national efforts to secure responsible and sustainable fisheries not only in that zone but also within the territorial sea. Among the major threats of IUU fishing in Malaysian waters, include misreporting of catch, fishing in unauthorised area contrary to licensing conditions, as well as destructive fishing practices, especially the use of cyanide fishing and fish bombing. Nevertheless, records of vessel sighting and arrest revealed that foreign fishing encroachment is a major IUU fishing issue in the country’s EEZ. This is evident during


the period between 1991 and 2000 when the reported numbers of foreign vessels sighted for illegally fishing in the zone reached nearly 14,500 cases.\textsuperscript{30} Despite that Malaysia, as stated previously, has established a comprehensive MCS mechanism, the Director General of Fisheries Malaysia acknowledged that the country is “still faced with some problems of illegal fishing from foreign fishing vessels in the Malaysia Exclusive Economic Zone.”\textsuperscript{31}

IUU fishing is widely known to have generated “negative economic, environmental, ecological and social impacts” throughout the world.\textsuperscript{32} Its harmful effect, as concluded by Sumaila \textit{et al.} (2006), correlates “to the non-achievement of management goals and sustainability of fisheries.”\textsuperscript{33} It has been suggested that the influxes of illegal foreign fishing fleets in the Malaysian waters have the potential to undermine the security, safety and sovereignty of the country.\textsuperscript{34} Other problem associated with the increased intrusion of foreign fishing vessels is intimidation to local fishers, jeopardizing the harmonious environment of their fishing activities.\textsuperscript{35} In terms of economic impact, the total revenue loss to illegal foreign fishing is substantial. Malaysia reportedly loses nearly one billion ringgit Malaysia (RM) worth of fish and other marine products annually to illegal foreign vessels.\textsuperscript{36}

\begin{itemize}
\item \textsuperscript{30} Hayati Hayatudin, “It’s `War’ on Foreign Trawlers,” \textit{New Straits Times} (Malaysia), 28 February 2002.
\item \textsuperscript{31} \textit{FAO Fisheries Report No. 757}, p. 24.
\item \textsuperscript{32} Mary Ann Palma, \textit{Analysis of the Adequacy of the Philippines Legal, Policy, and Institutional Framework to Combat Illegal, Unreported and Unregulated Fishing}, Unpublished PhD Thesis, University of Wollongong, Australia, 2006, p. 7.
\item \textsuperscript{34} See Abdul Ghani Othman, \textit{Foreign Illegal Fishing in Malaysian Waters: Impact to Malaysia’s Security}, Unpublished Project Paper for Master of Arts (Defence Studies), Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 2004, p. 5.
\item \textsuperscript{35} \textit{Draft Malaysia NPOA-IUU}, p. 16.
\item \textsuperscript{36} This monetary loss was based on an estimated 480,000 tons of fish being stolen each year, valued at RM 2,000 a ton. Farah Khan, “RM1b Revenue Loss Sparks War on Illegal Fishing,” \textit{New Straits Times}, 27 February 2002.
\end{itemize}
Further complicating Malaysia’s efforts to overcome the problems of IUU fishing are the political sensitivities arising from its EEZ boundary arrangement contested by the surrounding States in the Southeast Asian region.\textsuperscript{37} Overlapping EEZ claims, notably in the South China Sea, Sulu Sea, Celebes Sea and the northern parts of the Malacca Straits, have long been contentious issues between Malaysia and its maritime neighbours such as the Philippines, Vietnam and Indonesia. The extension of EEZ claims to the region’s semi-enclosed seas is a well-established State practice, with the repercussion that leaves “only a few high seas pocket with a maze of EEZs.”\textsuperscript{38} At the same time, these neighbouring countries are heavily dependent upon subsistence and commercial fisheries as an important source of revenue, employment and food.\textsuperscript{39}

Without boundary settlement or clearly defined EEZ jurisdiction, apprehending foreign crews and seizing fishing vessels suspected of engaging in illegal fishing activities in disputed areas could pose a major obstacle to Malaysian fisheries enforcement authorities. As early as mid-1990s, there are occasions when the country’s maritime enforcement authorities had to resort to extreme measures in the process of detaining foreign nationals allegedly engaged in fisheries law violation, including to the extent of firing warning shots at fishing boats.\textsuperscript{40} Illustrating the degree of this problem is the much-publicized incident involving the death of two Thai fishermen in 1995 when their trawler was fired upon by a Malaysian navy patrol boat for suspected illegal fishing in the Malaysian fisheries waters. The incident triggered strong diplomatic

\textsuperscript{37} FAO Fisheries Report No. 757, p. 6.

\textsuperscript{38} Ibid.


\textsuperscript{40} Anon., “Fisheries Deputy DG Defends Enforcement Squad Who Opened Fire,” Malaysian National News Agency (Bernama), 23 March 2006.
protest lodged by the Thai government against Malaysia’s action. It is evident that the spillover effects of a stringent fisheries enforcement action by Malaysia in the contested waters can potential be a major source of frictions and provocative responses from neighboring States whenever their nationals are involved. In light of this situation, it is imperative for Malaysia, at the policy-making level, to develop fisheries management strategies that take into account not only conservation objective of fisheries resources, but also political and security sensitivity of neighboring countries, especially when the concerned strategies applicable to the disputed waters.

As inshore and coastal fishing grounds in Malaysia continue to be adversely affected by intense fishing pressure and are increasingly becoming less biologically productive, the only available maritime frontier for fishing expansion within national jurisdiction is the country’s only remaining underexploited offshore fishing grounds in the EEZ. In effect, it is becoming paramount for Malaysia to safeguard its domestic offshore fishing industry by making sure both national and foreign fishing vessels would carry out fishing activities in a sustainable and responsible manner. Accomplishing this objective would warrant a firm commitment and prompt action by Malaysia to establish a comprehensive and appropriate legal, policy and institutional

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43 This problem is further complicated by the fact that nearly all the traditional offshore fishing grounds in the semi-enclosed regional seas surrounding Malaysia—i.e. South China Sea and Sulu-Celebes Sea are already enclosed under some forms of extended national jurisdictions, notably the EEZ and territorial sea. For a comprehensive historical analysis on the fishing activities and areas in the Southeast Asia region, see John G. Butcher, *The Closing of the Frontier: A History of the Marine Fisheries of Southeast Asia c.1850-2000*, (Singapore: Institute of Southeast Asian Studies (ISEAS) Publications, 2004), 442pp.
framework for supporting the implementation of principles and management measures applicable for responsible fishing. As mentioned before, the LOSC and other existing global fisheries instruments, namely, the UN Fish Stocks Agreement, the FAO Code of Conduct and the four IPOAs, may offer the country a comprehensive and progressive set of guidelines in attaining the desired responsible fisheries practices in the EEZ. However, no matter how comprehensive the international legal and policy framework for fisheries is, the full potential and effectiveness of this framework can only be attained if Malaysia has the political will as well as technical and financial capacity to fully implement and comply with this international regime of fisheries.

1.2. Research Aims and Objectives

The primary aim of this thesis is to analyse the extent of Malaysia’s responses and practices for implementing the international framework for responsible fisheries within the context of offshore fisheries management in the country’s EEZ.\footnote{Unless otherwise stated, the appellation “offshore deep-sea fisheries” or “offshore fisheries” is used interchangeably in this thesis when referring to fisheries-related management and harvesting activities occurring in the country’s EEZ waters beyond 30 nautical miles from shoreline up to the outer limits of the zone. As evident in the compilation of annual fisheries statistics published by the Department of Fisheries Malaysia (DoFM), the term “deep-sea fisheries” has been commonly used to refer the aforementioned offshore fishing operations in the zone. See for example, “Status of the Fisheries Sector in Malaysia in 2007,” in DoFM, \textit{Annual Fisheries Statistics 2007}, paragraph 2.4, available online at http://www.dof.gov.my/224 (3 March 2011).} To this end, the aim of this thesis is achieved through a threefold approach. First, it examines the common principles and management measures under international fisheries instruments for the exercise of responsible fishing in the EEZ. Second, this thesis analyses Malaysia’s national policy, legislative and institutional frameworks in ensuring responsible offshore EEZ fisheries. Finally, the thesis identifies and reviews the gaps in the Malaysian framework as they relate to the implementation of international norms for
responsible fisheries, and where applicable, recommends policy and legal reforms necessary for addressing the identified gaps.

The thesis will attempt to answer the following questions: What are the main factors that have driven the changes and reforms in the existing international fisheries regime required for responsible fisheries practice and management? What are the legal, policy and management frameworks of major international instruments that constitute the scope and content of international norms for responsible fisheries in the EEZ? How and to what extent has Malaysia adopted and implemented this framework with respect to the management of EEZ its offshore fisheries? How significant are the gaps in the country’s legal, policy, and institutional framework when applying the principles and standards of international norms for responsible fisheries? What are the institutional issues and challenges confronting Malaysia when implementing these norms?

This thesis argues that Malaysia has made positive responses in giving effect to most of its obligations under the LOSC and implementing the existing rules and standards relevant to global fisheries instruments. However, as will be explained in detail in the succeeding chapters, there are a number of gaps in the national policy, legislative and institutional framework that make such framework ineffective for ensuring that the offshore fisheries in Malaysia are managed and developed in a responsible way.

1.3. Scope and Limitation

The scope of this thesis focuses on the varying legal requirements, general principles and management measures of global fisheries instruments, which can be categorised as a widely adopted normative framework for responsible fisheries in the EEZ. In addition, this thesis focuses on the progress that Malaysia has made in implementing this
framework within the context of the country’s fisheries management. This analysis is centered on the management of offshore marine capture fisheries within the EEZ. It is therefore beyond the scope of this thesis to analyse and discuss global fisheries frameworks and activities in relation to aquaculture and inland fisheries.

The inevitable constraint of space within a single thesis means that it is not possible to conduct an in-depth analysis of all the provisions of every single existing fisheries-related instrument adopted at international and regional levels. In view of the proliferation of these instruments, binding and non-binding, in the last two decades since the conclusion of the LOSC, only the key international instruments on responsible fisheries are analysed. These instruments comprise the LOSC, the FAO Compliance Agreement, the UN Fish Stocks Agreement, the FAO Code of Conduct for Responsible Fisheries, and the IPOAs for fishing capacity management, sharks, seabirds, and IUU fishing. The objective of this analysis is to provide the basis for formulating the benchmark against which Malaysia’s practices in implementing international norms for responsible practices in the context of offshore fisheries management in its EEZ can be measured and analysed.

The focus of this research is restricted to assessing Malaysia’s response at national and regional levels to the existing international legal and normative framework for responsible conduct of offshore fishing and fisheries management. This response is best reflected in legislation, policies, and institutional framework, including measures adopted to conserve and manage fisheries in the EEZ, particularly in offshore fisheries measured to be beyond 30-nm from the shoreline up to the outer limits of the EEZ. Hence, this thesis, except incidentally, excludes comprehensive appraisal not only of

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Malaysia’s practices in coastal fisheries management, but also of the actual implementation of fisheries laws and regulations, as well as the operational capacity of national institutions involved in dealing with fisheries problems in Malaysia’s maritime jurisdictional waters. Furthermore, the evolution of national legal regimes and policies within the context of fisheries management in the country is not a primary concern for this thesis.

Comprehensive examination of all of Malaysia’s current federal and state legislation relating to maritime and oceanic matters, which are outside the realm of fisheries-related matters, is beyond the scope of this study as there are more than 30 such pieces of legislation.\[^{48}\] In a more selective way, this thesis only analyses and discusses Malaysia’s main national legislation and subsidiary acts that are relevant to the management and conservation of fisheries in the offshore areas.

1.4. Methodology

Content analysis of various resources underpins the conceptual foundation of this thesis. Utilising this qualitative technique tool involves identifying, collecting, reviewing and assessing both primary and secondary data generated from a wide range of published and unpublished materials, including internet resources. The main sources of primary data include international, regional and bilateral fisheries-related instruments, United Nations General Assembly (UNGA) resolutions, written reports and documented

records from subsidiary organisations and administrative divisions of the UN, such as
the FAO, including its Committee on Fisheries (COFI), and Division for Oceans Affairs
and the Law of the Sea (DOALOS), as well as RFMOs. Other significant resources
within the context of Malaysian fisheries include national legislation, subsidiary
regulations, maps, official statements and policy documents relevant to the
management, development and conservation of fisheries.

Apart from relying on primary literature, the references used in the thesis have
been obtained from various secondary resources including books, magazines,
unpublished manuscripts of dissertations and scholarly journals in both printed and
electronic forms. Additional sources of secondary literature include selected papers
available from the internet, proceedings of workshops and seminars, as well as
newspaper articles. In addition, the thesis used unpublished and published government
reports on various aspects of fisheries management issued by relevant government
ministries and bodies.

1.5. Measuring the Adequacy of Malaysia’s National Framework for
Responsible Fishing Practices in Offshore Fisheries in its EEZ

To measure the progress that Malaysia has made in implementing global norms for
responsible fisheries that are applicable in the offshore areas of its EEZ, a set of criteria
have been formulated against which to test the adequacy of Malaysia’s national
legislative, policy and institutional framework. These criteria have been developed from
the analysis of relevant provisions established under the LOSC and selected global
fisheries instruments that have been subsequently developed in the post-UNCLOS III
era, in particular the UN Fish Stocks Agreement, the FAO Compliance Agreement, the
FAO Code of Conduct for Responsible Fisheries, and the four IPOAs.
The framework underpinning these criteria is generated from a common set of universally accepted legal requirements, general principles and management measures provided for by these instruments. These criteria concern the application of commonly accepted principles and management measures directed to coastal States to achieve responsible fisheries in the EEZs, primarily the sustainable utilization and conservation of fisheries, ecosystem approach to fisheries, precautionary approach, and international cooperation. Some of the specific measures implementing these principles, in which Chapter 4 will be examining them, include determination of maximum sustainably yield (MSY) and total allowable catch (TAC), elimination of overfishing and overcapacity, minimization of by-catch and discards, and prohibition of destructive fishing gears and methods. As will be highlighted in Chapter 5, for Malaysia’s legislative and policy frameworks to be considered adequate in ensuring responsible conduct of offshore fisheries in the EEZ, the country needs to apply the above international agreed principles and measures.

1.6. Significance of the Research

This thesis is significant for three reasons. First, it provides an important contribution to the growing literature on various aspects of responsible fisheries. Since the signing of the LOSC in 1982, a comprehensive description and analysis of the EEZ fisheries regime under the Convention has and continue to dominate the literature. This trend...
reflects the pivotal role of the Convention’s regime in laying out the legal foundation for fisheries governance in both the areas of EEZ and the high seas, and which provides the bases for many legal and policy frameworks (e.g. conceptual objectives, guiding principles, and management standards) under the post-LOSC fisheries instruments for promoting sustainable and responsible fisheries practices. Evidence of this trend can be traced in the coverage of published work on international fisheries law and policy, which embraced, among other things, a critical analysis of the similarities and interaction between the LOSC fisheries provisions and subsequently adopted agreements and voluntary instruments.\textsuperscript{50} This vast body of existing literature offers not only descriptive information, but also systematic examination of the scope, legal status or practical utility of the fisheries-related provisions established under the LOSC and post-LOSC fisheries instruments.

Along with substantial numbers of published reports, scholarly analysis abounds regarding State and RFMO practices in response to the international legal and policy framework for responsible fisheries.\textsuperscript{51} Several studies have adopted comparative analysis approach to assess the extent to which this global framework for responsible fisheries


fisheries have or have not been incorporated into national and regional practices, focusing largely on examining national fisheries legislation, policies or management actions vis-à-vis internationally adopted principles and measures in various treaty and voluntary fisheries instruments.\textsuperscript{52} The primary objective of these studies is to reflect the overall progress made by States and RFMOs and the challenges confronting them in implementing the aforementioned framework at national or regional levels. Insofar of indentifying and understanding the impact of soft law instruments on the development of a responsible fisheries management framework, the underlying principles and management standards adopted in the FAO Code of Conduct have dominated analysis and discussions in existing literature.\textsuperscript{53} In an effort to promote and coordinate the implementation of the Code, FAO has initiated a series of workshops and published a


wide range of work containing technical guidelines for specific aspects of responsible fisheries management and utilisation.\textsuperscript{54}

While recalling that the legal regimes, general principles and management measures for responsible fishing are well documented and analysed in the literature, it seems that there is no universal consensus with respect to the specific content of the international legal and normative framework for responsible fisheries applicable in offshore areas of the EEZ. Comprehensive analysis and groundbreaking research on the integral elements of responsible fisheries specific for offshore areas of the zone are conspicuously absent. Instead, only a set of common principles and management measures that constitute the essential elements underpinning the broader concept of responsible fisheries have been identified and analysed.\textsuperscript{55} The gaps in this area of study have rendered this research necessary. This is one of the first attempted studies to comprehensively identify and analyse the common set of legal requirements, general principles and management measures representing the integral elements of international norms for responsible offshore fisheries in the EEZs, and against which domestic practices of countries such as in Malaysia can be measured.

Second, the findings of this thesis make significant contributions to the body of knowledge on Malaysia’s participation in and implementation of the international framework required for the exercise of sustained, responsible management of offshore fisheries in its EEZ. As acknowledged by international commentators, there is an extensive body of literature available since the 1970s, focusing on the study of

\textsuperscript{54} Examples of authoritative documents published by the FAO in connection to the operational and technical aspects of the FAO Code of Conduct are listed in Section 3.2.7.

Malaysian fisheries. Throughout the documented history of the country’s marine capture fisheries, one of the predominant themes of discussion has been the coastal fisheries sector. This is understandable given the socio-economic importance of this sector to the country, and the alarming signs of continuing deterioration of coastal fisheries resources due to overexploitation, excessive fishing capacity and environmental degradation. Some of the studies present a general description and critical analysis of all or a combination of issues concerning Malaysian marine fisheries, with strong emphasis on inshore and coastal fisheries. These issues cover the history of fishing practices, profile of resources and fishing fleets, socio-demographic trends, national laws and subsidiary regulations, as well as policies and other measures, including MCS operations. Nonetheless, it is noteworthy that most of the analysis tends to treat the aforementioned themes in a peripheral manner rather than as a principal subject of inquiry. Pre-existing work focusing on in-depth analysis of one particular area of coastal fisheries consist of the work undertaken by Kirkley et al. (2003) concerning management of fishing capacity; Bakar and Looi (1987), and Alam


57 This significance is evident in Malaysian annual fisheries statistics as the coastal fisheries sector has been the largest contributor to the nation’s overall fisheries production over the last two decades and has the highest number of licensed fishing fleets. For the latest statistical data on coastal fishing fleets and landings, see DoFM, Annual Fisheries Statistics 2009, available online at http://www.dof.gov.my/641 (accessed on 26 August 2011).


60 This field of study is covered in the works by James E. Kirkley, Dale Squires, Mohammad Ferdous Alam, and Ishak Haji Omar, “Excess Capacity and Asymmetric Information in
et al. (2002) with respect to fisheries licensing;\textsuperscript{61} and Yahaya (1989) relating to enforcement of fisheries laws and regulations.\textsuperscript{62}

In sharp contrast to the considerable body of literatures on coastal fisheries in Malaysia, there is still relatively little information regarding domestic issues with respect to, and management regime for, offshore fisheries within national jurisdiction. A thorough and instructive analysis of Malaysia’s actions adhering to the legal requirements, general principles and management measures of major post-LOSC international fisheries instruments are rare. Existing studies on the matter tend to restrict the scope of their analysis to Malaysia’s overall management of EEZ fisheries based on the LOSC provisions.\textsuperscript{63}

Insofar as Malaysia’s fisheries in the EEZ are concerned, three major themes seem to occupy a prominent place in the scholarly analysis of many works: first, the


status and exploitation potential of fisheries resources;\(^6^4\) second, the prevailing fisheries problems and their contributing factors;\(^6^5\) and finally, national policies and strategies for fisheries management, notably in the context of MCS and its challenges in practical implementation.\(^6^6\) A comparative analysis of Malaysia’s national legal and policy framework in non fisheries-related fields relevant to EEZ vis-à-vis international law has predominantly been the subject of many existing studies. Some of the topics in existing literature include navigational safety regimes,\(^6^7\) boundary delimitation and territorial


sovereignty disputes, interstate cooperative management and the development of non-living resources, and marine environmental protection and pollution prevention.

In comparison to the substantial scholarly work devoted to the study of various maritime fields in the Malaysian EEZ, comprehensive research on Malaysia’s practices at the domestic and regional levels that specifically related to fisheries management in offshore waters of the country’s EEZ has been poorly represented in mainstream literature. A few of the comprehensive studies on Malaysian offshore fisheries to date can be found in the unpublished work by Ayub (1992) pertinent to the problems and challenges facing domestic offshore fishing fleets, and Tan on the legal status of foreign fishing access to the Malaysian EEZ. A common missing element in these studies is a systematic analysis of the country’s implementation of current international legal and policy frameworks for responsible fisheries in offshore areas. Another aspect that has not received the attention it deserves is the area concerning scholarly analysis in

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72 Tan Geik Hong, Legal and Institutional Aspect of Foreign Fishing in the Exclusive Economic Zone in Malaysia, Unpublished MSc thesis, Department of Maritime Studies, University of Wales, College of Cardiff, Wales.

73 There is, however, an unpublished work by Ramli which analysed policy framework of Malaysia’s fisheries management that include EEZ fisheries. Juita Ramli, Malaysian Marine Fisheries Policy. The Past, Present and the Future, Unpublished MSc thesis, Department of Maritime Studies, University of Wales, College of Cardiff, 1992.
the context of the legal and policy framework relevant to Malaysia’s fisheries management regime applicable to offshore fishing in the EEZ.

Thirdly, this thesis is significant in enhancing the cumulative knowledge regarding the status of, framework for and mechanisms within Malaysia’s legislation, policies and institutions in dealing with the management of offshore fisheries consistent with international standards. The thesis presents an analysis of the latest Malaysian legislative and policy instruments relevant to the country’s measures and strategies for deterring and preventing continuing irresponsible fishing practices, such as IUU fishing, specifically in the EEZ. This approach departs from previous studies on national fisheries legislations by McDorman and Tasneeyanond (1987), as well as by Valencia (1991). Both references only examined provisions of the Fisheries Act 1985, a federal statutory instrument which has already been amended in 1993 in the Fisheries Act 1985 (Amended 1993). An unpublished work by George (1996) comparatively analysed Malaysia’s legal framework, notably the Exclusive Economic Zone Act 1984 (EEZ Act 1984), Fisheries Act 1985 (Amended 1993) and international legal instruments which is arguably outdated and have already been overtaken by a series of important events and changes in the global fisheries regime over the recent years.

One such event that has profoundly influenced the country’s legislative and institutional framework for fisheries enforcement in the offshore areas of its national EEZ is the enactment of the Malaysian Maritime Enforcement Agency Act 2004

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(MMEA Act 2004).\textsuperscript{76} The primary objective of this important piece of legislation is to designate the Malaysian Maritime Enforcement Agency (MMEA) with functional authority and jurisdiction covering areas beyond 12 nautical miles from the shoreline.\textsuperscript{77} Since the enactment of this federal legislation, there has not yet been a comprehensive study on the extent as to how the instrument will influence policy formulation and practical actions specifically with respect to the management and law enforcement of offshore fisheries in the EEZ. This thesis, therefore, adds to the cumulative knowledge on the issues and challenges concerning the formulation and application of fisheries surveillance and law enforcement efforts since the MMEA commenced its formal operations in November 2005. In doing so, the thesis guides readers in identifying and understanding the practical implications arising from the inconsistencies and inadequacies of the existing legal framework which affect enforcement activities in the EEZ.

Finally, this thesis intends to make a practical contribution in the sense of providing needed input to relevant personnel in government ministries and agencies, private corporate bodies, and legal and maritime practitioners. Specific groups of potential beneficiaries of this study might include the DoFM, the MMEA, the Royal Malaysian Navy (RMN) and the Attorney General’s Chambers, along with academic institutions. The intellectual input from this thesis might also be useful to policymakers and legal practitioners as the basis for informed decision-making when amending current or drafting future national legislation and policies for responsible fisheries


\textsuperscript{77} The MMEA is the principal agency assigned with the authority to enforce relevant federal laws and regulations in Malaysia’s EEZ. For a comprehensive legal analysis on the jurisdictional and functional authority of MMEA, see Irwin U. J. Ooi, “The Malaysian Maritime Enforcement Agency Act 2004: Malaysia’s Legal Response to the Threat of Maritime Terrorism,” Australian and New Zealand Maritime Law Journal 21(2007), pp. 70-91.
management applicable in the EEZ. In addition, the conclusions drawn from this study and lessons learned from the analysis of the gaps in the country’s legal and policy framework will provide useful reference for other States, such as the developing countries of Southeast Asia. This thesis may be useful for other countries as a guideline in formulating and implementing national legal and policy framework for responsible fisheries management in the offshore region of the EEZ in order to be consistent with international norms of responsible fisheries.

1.7. Structure of Thesis

This introductory chapter has briefly discussed the dynamic changes that have taken place in the international legal and policy regime for responsible fisheries in the post-UNCLOS III era. This discussion provides the basis for a more thorough study in this subject area. It has also introduced the relationship between the global framework for responsible fisheries and Malaysia’s fisheries management practices, as well as a myriad of issues and challenges confronting the country in EEZ fisheries management. More specifically, the chapter presented the thesis aims, research questions, framework of analysis, and significance of the research.

The succeeding chapters aim to achieve the aims and objectives of this thesis. Specifically, Chapters 2 and 3 trace the origins and evolution of the concept of responsible fisheries in three periods, starting from the post-World War II era up to the year 2010. Chapter 2 analyses a series of chronological events that led to this evolution through two different phases, stretching back from 1950s and 60s after the Second World War to the conclusion of the LOSC in the early 1980s. Chapter 3 continues the discussion by examining the conceptualization of principles and standards for responsible fisheries contained in a series of treaty and non-binding instruments adopted
in the aftermath of the 1992 United Nations Conference on Environment and Development (UNCED). The key factors driving the gradual progression leading up to the emerging concept of responsible fisheries, such as persistent and recurring issues and problems confronted global marine fisheries and the weakness of LOSC fisheries framework are examined in both chapters. Particular emphasis is placed on the concept of responsible fisheries and the major elements constituting the concept as envisaged in international instruments and guidelines. This chapter presents a general analysis of the structure, scope and legal nature of international fisheries-related instruments, as well as the relationship between these instruments. The utility of this approach is to gain a better understanding of the relevant provisions of key international fisheries to provide the legal and policy background of the international framework underpinning responsible fisheries in the EEZ.

The existing legal and policy frameworks for responsible fisheries and their implementation by States (and if relevant, RFMOs) are analysed in Chapter 4. Particular attention is given to the identification and examination of common legal requirements, general principles and management measures of selected global fisheries instruments, which in turn can be classified as an international legal and normative framework for responsible fisheries applicable in the offshore region of the EEZ. The outcome of this analysis is the formulation of a set of criteria against which to test Malaysia’s practices.

Chapter 5 focuses on Malaysia’s fisheries within the EEZ, with particular reference to the offshore fisheries sector. Following the discussion of the key factors behind the country’s policy development on the offshore fisheries industry, an overview of the legal definition, as well as the spatial extent and composition of “Malaysian Fisheries Waters,” is presented. This chapter examines the operational areas of Malaysian offshore fisheries in the EEZ. These discussions serve as the background for
further analysis in the remaining chapters of this thesis. Finally, this chapter presents the profiles of Malaysian offshore fisheries sector, encompassing areas relating to fishing fleets and gear utilisation, the socio-demographic composition of fishermen, resources characteristics and catch statistics, fish ports and post-harvest facilities, as well as the market distribution and trading of fish and fishery products at domestic and international levels.

Chapters 6 and 7 provide an examination of the scope, structure and status of Malaysia’s legislative, policy and institutional frameworks for fisheries management in the EEZ. Chapter 6 reviews the content, structure and focus of national policy documents governing marine fisheries in the country’s maritime jurisdictional waters. Included in this chapter is an analysis of national legislation, subsidiary regulations and ordinances currently in place for managing and regulating offshore fisheries in the Malaysian EEZ. In Chapter 7, particular attention focuses on the functions, jurisdiction, and operational structure of government agencies tasked with fisheries management and enforcement in the offshore areas of the Malaysian EEZ.

Chapter 8 concentrates on Malaysia’s practices in applying the elements of international legal and normative framework for responsible fisheries in the offshore areas of its EEZ. Malaysia’s legislative and policy frameworks and actions are analysed and tested against the criteria developed in Chapter 4. This approach is useful for determining the extent to which the domestic legal and normative framework is consistent with the international framework for responsible fisheries. The findings from this analysis also enhance one’s understanding of the gap between Malaysia’s fisheries management practices, and the requirements under international instruments in achieving the objective of responsible offshore fisheries management in the EEZ.
Chapter 9 synthesises the findings of the research, drawing two major conclusions. First, Malaysia has made progress at the domestic and regional levels in recognizing and implementing global legal and management framework required for responsible fisheries. Central to this practice implies to the incorporation of many principles and measures set out by international fisheries instruments into national fisheries-related legislation and policy. Second, Malaysian management practices for offshore fisheries in the EEZ have arguably been quite selective and incomplete in terms of discharging the requirements of international fisheries instruments, and as a result, may be considered lacking in terms of attaining the desired objectives of sustainable fisheries development and management.

Malaysia, since the proclamation of its EEZ, has shown commitment and willingness to support the implementation of principles and management measures underlying international fisheries law and policy. The progress, however, have been found to be somewhat slow, not only hampered by varying obstacles of insufficient financial, infrastructure and technical capacity, but also aggravated by the absent of integrated national policy programme and comprehensive legislative support. The challenges ahead confronting Malaysian fisheries managers remain on how to reconcile the pressure of realizing the nation’s socio-economic aspiration of maximizing offshore fisheries production while harvesting the resources in a responsible and sustainable manner without allowing them to the extent of suffering the same fate experienced in the country’s severely depleted inshore fisheries.
Chapter 2
INTERNATIONAL FISHERIES LAW AND POLICY FRAMEWORK
FROM THE 1950s TO THE 1980s: A PARADIGM SHIFT
TOWARDS SUSTAINABLE FISHERIES

2.1. Introduction

This chapter traces the origin and evolution of the international frameworks for sustainable exploitation of marine capture fisheries. A series of events that led to this development are examined through two different phases, stretching back from the 1950s to the 1980s. These periods also serve as the basis for dividing the chapter into two major sections. The first section presents discussions of relevant events in the 1950s and 1960s following the end of the Second World War. These events include international conferences such as the 1958 First United Nations Conference on the Law of the Sea (UNCLOS I) and the Second United Nations Conference on the Law of the Sea (UNCLOS II) of the 1960. A chain of important events that led to the conclusion of the LOSC in 1982, including the Third United Nations Conference on the Law of the Sea (UNCLOS III) held from 1973 to 1982, will briefly be examined in the second section of this chapter.

This chapter also provides detailed discussions on the causal factors behind the evolution of international frameworks for fisheries governance. It presents the general background of some of the most important international conferences and conventions by examining their scope of application and structure. With the exception of analysing the inherent weaknesses of the LOSC fisheries management regime, it is beyond the scope of this chapter to include content analysis of the substantive provisions of the Convention. The relevant LOSC provisions, as well as those of other fisheries-related
treaty agreements, soft law instruments and declarations warrant a chapter of its own in the thesis.\textsuperscript{78}


Since the World War II ended, international legal and policy framework for marine fisheries governance has evolved significantly. As the following sections and Chapter 3 will show, nowhere has this evolution been more strikingly portrayed than the principles, conceptual objectives, rules and measures expressed in various legally binding treaties and voluntary fisheries-related instruments and declarations.\textsuperscript{79}

The primary sources of the current global framework for sustainable and responsible practices on marine capture fisheries derive from international fisheries-related instruments adopted after the conclusion of the LOSC. However, the evolution of the modern fisheries legal and policy framework is arguably a culmination of processes spanning more than 60 years since the end of the World War II.\textsuperscript{80} These processes took place against an ever-changing political and social landscape of post-war international relations.\textsuperscript{81} Being an integral part of the law of the sea,\textsuperscript{82} the evolving

\textsuperscript{78} See Chapter 4 for detailed discussions regarding the international legal and policy norms for responsible fisheries in the EEZ.


\textsuperscript{80} Juda expresses the view that this evolution in the field of fisheries governance shared a common ground with the incremental development of the modern international law of the sea of the post-World War II era. Lawrence Juda, \textit{International Law and Ocean Use Management: The Evolution of Ocean Governance}, (London: Routledge, 1996), p. 3.

\textsuperscript{81} Several prominent examples of these events include the rising number of newly independent States following the disintegration of colonialism in the aftermath of World War II; the height of the Cold War era and Communist expansion and counter-expansion; the end of the Cold War era with the demise of the Soviet Union and the advent of globalisation. For an excellent discussion on this topic, see K. R. Dark, \textit{The Waves of Time: Long-Term Change and International Relations}, (London: Continuum International Publishing Group, 2001), 284pp. See also Thomas E. Vadney, \textit{The World Since 1945}, 3\textsuperscript{rd} Edition, (London: Penguin, 1998), 605pp.
elements of the international legal and policy framework for marine fishery resource management shared some similarities with the international law - both were “not developed in isolation, but rather influence[d] and... moulded by the politics, economics and geography of the ‘real world’ to which they appl[ied].”

It is difficult to ascertain a universally agreed timeframe for the evolution of the international legal and policy framework relevant to marine capture fisheries management. This is because the progression of the framework since the end of World War II has been somewhat dynamic and complex. Nonetheless, for the purpose of this thesis, the evolutionary progression of this framework is broadly divided into three major phases: (i) the aftermath of the Second World War to the mid-1970s; (ii) the UNCLOS III sessions to the adoption of the LOSC; and (iii) the post-UNCED era to the present day. Churchill and Lowe (1999) have succinctly summarized the first two phases:

The first is the period up to the middle 1970s, which was characterized by generally narrow coastal States maritime zones and considerable amount of international cooperation in fisheries management through a score of international fishery commission. The second phase is the period since the mid-1970s when broad coastal State zones in the form of 200- mile EFZs and EEZs, inspired by the work of UNCLOS III and embracing most commercially exploitable fish stocks, have become norm, while the role of international fishery commission has been significantly reduced.

The following sections examines the aforementioned progression in order to illustrate how the global fisheries framework evolved into what it has become today, starting with the post-World War II era of the 1950s and the 1960s.

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84 Ibid., at p. 283.
2.2.1. Post-World War II Era of the 1950s and the 1960s

A series of events that unfolded in the early decades after the end of World War II were the driving forces behind the changing perception of the international community towards the need to develop a more stable and comprehensive framework governing the sustainable use of marine living resources. Of all these events, the one that has undoubtedly left a far-reaching influence on modern legal framework for fisheries, especially in the early stages of its evolutionary process, is the progressive expansion of national sovereignty and jurisdictional claims beyond the narrow belt of the territorial sea, and over areas and resources previously belonging to the high seas.\(^85\)

This process of expansionist maritime jurisdictional claims to which Alexander (1983) has referred to as the “ocean enclosure movement” and “creeping jurisdiction”\(^86\) had already gained momentum during the last few centuries before the outbreak of World War II. Leading the way were several Scandinavian countries, which had made claim to various breadths of the territorial sea since the 19\(^{th}\) century,\(^87\) all of which

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exceeded the customary three-mile limit.\textsuperscript{88} It was only in the aftermath of the Truman Proclamations of 1945\textsuperscript{89} that the extension of national jurisdiction further offshore witnessed a dramatic rise, coinciding with the proliferation of claims made by coastal States to the extended territorial sea or to the exclusive fisheries jurisdiction over the adjacent high seas areas off their coasts.\textsuperscript{90}

One of the incentives for this proliferation of offshore maritime claims was the interest of coastal States to secure the enormous wealth of ocean’s resources for future development. For the newly-independent developing fishing States, the main reason for pursuing a wider claim to offshore fisheries beyond the narrow band of the territorial sea was to acquire the fullest control over the access and exploitation of fish stocks within these extended jurisdictional zones.\textsuperscript{91} Another justification for the extension of maritime claims was the perceived failure of international fisheries regulations to prevent the continuing decline of high seas fisheries resources adjacent to the coastal waters. A particular resource which experienced such a decline was the fish stocks with

\textsuperscript{88} Baty holds the view that the 3-mile maximum limit of the territorial sea constituted customary practice. This customary status had been widely supported by formal documents such as legislation and treaties and sanctioned by international law. He further adds that the general acceptance of this limit can be traced back to State practice in the European continent since the end of 18\textsuperscript{th} century. Thomas Baty, “The Three-Mile Limit,” \textit{AJIL} 22(1928), p. 503. Discussion on the origin of the three-mile limit of the territorial sea is offered in H. S. K. Kent “The Historical Origin of the Three-Mile Limit,” \textit{AJIL} 48(1954), pp. 537-554.

\textsuperscript{89} The Truman Proclamation of September 28, 1945 contains two separate presidential proclamations: first, Presidential Proclamation No. 2667, concerning the Policy of the United States with Respect to the Natural resources of the Subsoil and Sea Bed of the Continental Shelf, and second, Presidential Proclamation No. 2668 concerning the Policy of the United States with Respect to Coastal Fisheries in Certain Areas of the High Sea. For an extensive analysis of the origin and process leading to these Proclamations, see Donald Cameron Watt, “First Steps in the Enclosure of the Oceans: The Origins of Truman’s Proclamation on the Resources of the Continental Shelf, 28 September 1945,” \textit{Marine Policy} 3(1979), pp. 211-224.


transboundary nature. Overfishing for such stocks was largely driven by excessive fishing by foreign distant-water fishing fleets of economically developed countries under the pretext of the traditional freedom of fishing doctrine.\footnote{E. S. Russell, “Trawling and the Stocks of Fish,” \textit{Nature} 20 March 1943, p. 323.}

Several coastal nations steadfastly had gone further than simply claiming spatial jurisdiction to the continental shelf and seabed areas to protect fisheries resources on the high seas adjacent to the narrow belt of their territorial sea. Bolstered by their municipal legislation and unilateral declarations, these States had claimed extended sovereignty and exclusive jurisdiction over high seas fisheries off their coasts, with the fundamental objective of acquiring direct control over the management and conservation of common fish stocks.\footnote{Oda, “International Control of Sea Resources,” p. 20.} This form of “sweeping claims” was evident in the practices of Central and Latin American States such as Argentina, Chile, Costa Rica, El Salvador, Honduras and Peru in the late 1940s and early 1950s. Many of them claimed exclusive fisheries jurisdiction extending up to 200-nm from the coast, although it must be stated that each claim varied in scope and purpose.\footnote{R. P. Anand, “Non-European Sources of the Law of the Sea,” in Peter Ehlers, Elizabeth Mann-Borgese, and Rüdiger Wolfrum (eds.), \textit{Marine Issues from a Scientific, Political and Legal Perspective}, (Dordrecht: Kluwer Law International, 2002), p. 30; The type of claims and the relevant proclamations and municipal legislations supporting Latin American claims to an extended territorial sea or fisheries jurisdiction are mentioned in Garcia-Amador, “The Latin American Contribution,” pp. 36-37.} Nowhere in the literature are these claims more extensively analysed than the tripartite Declaration of Santiago of 1952.\footnote{The Declaration was signed on August 18, 1952 and came into force on the same day. The English text of this Declaration is available in United Nations Legal Department, U. N. Legislative Series, \textit{Law and Regulations on the Regime of the Territorial Sea}, U.N. Document ST/LEG/SER.B/6, UN Publication, Sales No. 1957.V.2 (New York: United Nations, 1957), p. 723.} The three signatory States to the Declaration- Chile, Ecuador and Peru- not only jointly declared a “maritime zone” over an enormous oceanic area of the South Pacific up to 200 miles from their respective coasts,\footnote{Paragraph 3(II) of Declaration of Santiago 1952. It is noteworthy that this claim was not meant for the territorial sea to be extended up to a minimum 200 miles from the coast, but rather an} but also declared exclusive fishing jurisdiction within
these extended offshore areas. In the absence of a uniform limit of seaward expansion of maritime territorial claims and exclusive fishing rights, several coastal States, such as the Republic of Korea, Myanmar and Iceland have made claims almost equivalent to those made by the Latin American countries, extending their exclusive fishing rights far beyond the traditional three-mile limit of territorial sea.

The widening of fisheries jurisdictional claims could well serve the interests of coastal States by allowing them to secure exclusive control over the management of offshore fisheries resources. Without such control, their jurisdictional right to protect fisheries resources from intense fishing pressure by foreign vessels would likely be impossible. Yet, the acquisition of these extended jurisdictional claims came at the expense of distant-water fishing nations (DWFN). Even if foreign fishermen were authorised to fish in those waters -waters which formerly comprised the high seas, they

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97 Declaration of Santiago 1952, paragraph VI.
98 Despite many States were having the territorial sea fixed at a breadth greater than three miles, the International Law Commission (ILC) in its report on the law of the sea in 1956 considered that an extension of the territorial sea limit beyond twelve miles is not permitted under international law. See Anon. “United Nations Report of the International Law Commission,” AJIL 51(1957), p. 161.
99 The Government of Iceland, for instance, had unilaterally established a four-mile territorial sea limit on March 19, 1952, and imposed a regulation excluding fishing vessels of all States to fish in those areas. Government of Iceland, The Icelandic Efforts for Fisheries Conservation, Memorandum Submitted to the Council of Europe by the Government of Iceland, (Rikisprentsmiojan Gutenberg, September 1954), pp. 11-14; In Asia, the Republic of Korea, for example, issued a continental shelf proclamation extending seaward out to 200-miles, which was measured from certain designated points off the coast for the purpose of protecting, conserving and utilising marine living and non-living resources. See UN, “Laws and Regulations on the Regime of the Territorial Sea,” p. 30.
could only do so subject to the conditions imposed by the coastal States. This included the requirement to make payment of access fishing fees to the latter.\textsuperscript{100}

In an effort to regulate fishing activities and enforce their claim to 200-miles of exclusive fisheries jurisdiction, there are documented cases where several Latin American States such as Chile, Ecuador and Peru unilaterally engaged in excessive actions to strengthen their jurisdictional claims. Such actions included detaining foreign nationals, seizing fishing vessels and imposing exorbitant monetary fines on the owners of fishing vessels caught fishing within the States’ exclusive jurisdiction.\textsuperscript{101} These unjustified and restrictive measures were a source of increased concerns to the governments of many DWFN, as these enclosed areas were formerly the high seas where there had long been part of their traditional fishing grounds. Prior to the enclosure of the oceans under coastal State jurisdiction, a large flotilla of distant-water fishing fleets routinely visited these areas to conduct fishing activities without restriction under the centuries-old doctrine of freedom of fishing.\textsuperscript{102} As the movement of ocean enclosure intensified, fierce resistance from advanced DWFN, namely Japan, the United Kingdom, the USSR, and the United States, increased.\textsuperscript{103} In sum, the unilateral

\textsuperscript{100} For general discussion on issues associated with fisheries management and conservation measures unilaterally imposed by South American nations within their extended fishing zones, see S. A. Bayitch, “International Fishery Problems in the Western Hemisphere,” \textit{Miami Law Quarterly} 10(1956), p. 500.

\textsuperscript{101} An excellent example of this is the 200-mile fisheries jurisdiction claimed by Chile, Ecuador and Peru under the 1952 Santiago Declaration. The Declaration had an immediate impact on American-flagged tuna fishing fleets operating in those waters. This impact was evident in a series of seizure of American fishing vessels by the authority of claimant States for purportedly fishing illegally within their 200-mile zone. For a detailed account of the arrest of foreign fishing vessels by the States involved, as well as other incidents involving Latin American States, see Arthur H. Dean, Second Geneva Conference on the Law of the Sea: The Fight for Freedom of the Seas,” \textit{AJIL} 54(1960), pp. 764-765.

\textsuperscript{102} Since the 16\textsuperscript{th} century, the doctrine of freedom of the high seas has underpinned the international law of the sea, governing all matters relating to the high seas including fishing activities. For a comprehensive discussion on this doctrine, see R. P. Anand, “Changing Concepts of Freedom of the Seas: A Historical Perspective,” in Jon Van Dyke, Durwood Zaelke and Grant Hewison (eds.), \textit{Freedom for the Seas in the 21\textsuperscript{st} Century: Ocean Governance and Environmental Harmony}, (Washington DC.: Island Press, 1993), pp. 72-86.

\textsuperscript{103} As noted by Oda, the United Kingdom had send protest notes to Peru and Ecuador on 6 February 1948 and 14 September 1951 respectively, while, the United States did send protest notes to
extension by the various Latin American States of coastal fisheries jurisdiction beyond
the limit of the territorial sea, and their subsequent decision to exclude foreign vessels
from fishing in the area was not without controversy.

The extension of offshore fisheries jurisdictional claims in the high seas severely
undermined the fishery interests of distant-water fishing States. It also fundamentally
changed the status quo of the global framework applicable to the governance of marine
fisheries. Indeed, these changes can be categorised into two. The first is perhaps the
gradual erosion of the fundamental doctrine of freedom of fishing on the high seas. As
mentioned earlier, the enclosure of an overwhelming proportion of the high seas by
certain States had made it difficult (or even impossible) for distant-water fishing fleets
to exploit offshore fisheries resources under the pretext of freedom of fishing. This
freedom was a long-held doctrine to which economically developed Western European
States with an established distant-water fishing fleet had cherished and upheld since the
seventeenth century. With the ever-increasing seaward expansion of coastal States’
jurisdictional claims, it was becoming clear that the application of this long-held
doctrine was in jeopardy. Acting in their own benefits, claimant States strictly
regulated fishing access in their extended jurisdictional areas, denying distant-water

argentina, chile and peru on 2 july 1948, and to ecuador on 7 june 1951. see oda,
“international control of sea resources,” pp. 48-49.
see james c. f. wang, handbook on ocean politics and law, (westport: greenwood press,
for nearly 200 years, the freedom of the high seas doctrine underpinned the law of the
sea without much challenged from the 17th century until the end of world war ii. no other author in
modern times has been more influential than the seventeenth century dutch jurist, hugo grotius
whose well-known thesis, mare liberum, advocated the freedom of the high seas doctrine,
including the right of all nations to fish freely. for further details, see hugo grotius, the
freedom of the seas or the right which belongs to the dutch to take part in the east indan
trade, in ralf van deman magoffin (tr.), and james brown scott (ed.), (new york: oxford
(accessed on 3 march 2011).

according to hewison, the acceleration of coastal states’ extension of sovereign jurisdiction
beyond the territorial sea after world war ii posed challenges to the principle of mare liberum,
while strengthening the principle of mare clausum. grant j. hewison, “balancing the freedom
of fishing and coastal state jurisdiction,” ellen hey (ed.), in developments in international
fisheries law, (the hague: kluwer law international 1999), p. 166.
fishing fleets from conducting fishing activities in what were formerly high seas fishing
grounds.\textsuperscript{107}

Furthermore, the traditional misconception of the inexhaustibility of fish stocks was gradually eroded. By the early twentieth century, fisheries resources in the extensive coverage areas of the world’s oceans and seas had proven to be finite, with the acceleration of large-scale industrial fishing expansion were already under way.\textsuperscript{108} Many commercial fisheries resources, including common migratory fish stocks straddling the adjacent areas of the high seas and coastal waters, were showing alarming signs of catch decline, and to a certain degree, dramatic population collapse.\textsuperscript{109} The longstanding, misconceived belief of the inexhaustibility of marine fisheries was steadily losing its acceptance; and apparently, such a belief could no longer be justified in light of the worldwide deterioration of fisheries resources from overfishing.

A balanced and regulated use of ocean fisheries resources in the post-war era was critical in order to protect the long-term sustainability of such resources. It would also minimise the rising conflicts and competition between coastal and distant fishing States arising over the allocation of common fisheries. If the use of marine fisheries was to be subjected to some forms of regulation, a new international legal regime for governing marine fisheries was needed. By the mid-twentieth century, there was an emerging trend of worldwide participation among nation States to codify a new international legal framework governing the use of marine fisheries.\textsuperscript{110}

\textsuperscript{109} Juda, “International Law and Ocean Use Management,” p. 46.
It is worth noting that even during the decades preceding the outbreak of World War II, and as early as the 1930’s, the International Law Commission (ILC) and the League of Nations had initiated a series of discussions and formal diplomatic conferences to accommodate the conflicting interests of nation States.\footnote{For example, the question on the exact outer limit of territorial waters became the principal subject of debate at the 1930 Hague Codification Conference. Even then, the question eventually proved to be too difficult to be resolved by the negotiating parties. René-Jean Dupuy and Daniel Vignes (eds.), \textit{A Handbook on the New Law of the Sea}, Vol. 2, (Dordrecht: Martinus Nijhoff Publishers, 1991), p. 68; For an analysis on the international efforts toward a consensus on the universally acceptable width of the territorial sea, see Jesse S. Reeves, “The Codification of the Law of Territorial Waters,” \textit{AJIL} 24(1930), pp. 486-499.} None of these initiatives, however, produced an acceptable solution, with the critical issue concerning the extent of the territorial sea remained unanswered.\footnote{The failure of the delegations participating in the 1930 Hague Codification Conference to reach a consensus with respect to the legal breadth of the territorial sea was evident, as not even a “single resolution proposing an appropriate breadth was even put to a vote.” Dean, “The Geneva Conference on the Law of the Sea,” p. 613, cited from Reeves, “The Codification of the Law of Territorial Waters,” pp. 486 and 492; see also Gerald Fitzmaurice, “Some Results of the Geneva Conference on the Law of the Sea,” \textit{ICLQ} 8(1959), p. 74.} This indecision exhibited by the international community to certain extent subsequently affected other maritime-related matters.\footnote{The failure of the delegations to arrive at a decision on the exact width of the territorial sea has direct repercussions in terms of solving other interrelated problems pertaining to delimitation of contiguous zones, the continental shelf, as well as the conservation of living resources and the high seas. This view is held in the work by Burdick H. Brittin, “Article 3, Regime of the Territorial Sea,” \textit{AJIL} 50(1956), p. 934.}

Irreconcilable differences between the two opposing groups of States - coastal and major distant-water fishing States - remained unresolved, and to some degree, provided a source of provocative actions and responses, often escalated into highly publicised hostile skirmishes between the affected States.\footnote{One of the well-known cases is the ‘Cod War’ between Great Britain and Iceland (1958-1979). Comprehensive discussion of this case is available in the work by Bruce Mitchell, “Politics, Fish, and International Resource Management: The British-Icelandic Cod War,” \textit{Geographical Review} 66(1976), pp. 127-138.} Outstanding issues such as fisheries allocation and the maximum extent of national maritime jurisdiction became the bane of contention that would require a careful compromise through multilateral negotiations. The urgent need to address these issues, along with a host of newly
emerging problems concerning the application of the law of the sea, such as maritime boundary delimitation, the accurate extent of the continental shelf, jurisdiction in the contiguous zones, navigational passage, as well as marine scientific research, occupied an important part of international relations of the post-war era.\textsuperscript{115} The stage was set for a series of diplomatic negotiations under the auspices of the UN for addressing the aforementioned issues - a process that spanned more than 40 years and initially started with the Geneva Convention on the Law of the Sea of 1958.

\subsection*{2.2.1.1. UNCLOS I}

Some of the earliest multilateral efforts by the international community immediately following the end of World War II were directed at alleviating problematic issues concerning the use and jurisdiction of the world’s oceans. Most notable of these international efforts was the convening of two major diplomatic conferences under the auspices of the UN: UNCLOS I\textsuperscript{116} and UNCLOS II, which were held in Geneva in 1958 and 1960 respectively.\textsuperscript{117} Of these two conferences, UNCLOS I resulted in four separate multilateral conventions,\textsuperscript{118} one of which was applicable to the conservation and management of high seas fisheries: 1958 Geneva Convention on Fishing and


\textsuperscript{118} The four Conventions are as follows: (i) Convention on the Territorial Sea and the Contiguous Zone; (ii) Convention on the High Seas; (iii) Convention on Fishing and Conservation of the Living Resources of the High Seas; and (iv) Convention on the Continental Shelf. In addition to these Conventions, there is an optional protocol on dispute settlement: the Optional Protocol of Signature Concerning the Compulsory Settlement of Disputes.}
Conservation of the Living Resources of the High Seas (*hereafter referred to as* Geneva Convention on High Seas Fisheries).\(^{119}\) This treaty instrument contains provisions stipulating the rights, duties, obligations and liabilities of all contracting States whose nationals and vessels are engaged in high seas fisheries.\(^{120}\) It also recognises the rights that coastal States have to participate in fisheries conservation efforts in the high seas areas adjacent to their coasts. Within the specific context of the international legal regime for fisheries governance, the Geneva Convention on High Seas Fisheries represents a major achievement of the 1958 Geneva Conference for providing a comprehensive, codified system for regulating fishing activities and the conservation of natural living resources of the high seas.\(^{121}\)

With some of its provisions reflect a declaration of pre-existing rules of customary international law, the Geneva Convention on High Seas Fisheries, particularly in Article 1(1), reaffirms the fundamental principle of the freedom of fishing. Under this principle, the right of all nations to fish freely on the high seas is guaranteed.\(^{122}\) Whilst this provision clearly secures the approval of States with major interest in distant-water fishing operations, the Convention does provide developing coastal States with certain rights with respect to the conservation and management of fisheries resources in the adjacent high seas. The text of the Convention unequivocally recognises the ‘special interests’ of coastal States with regard to “the maintenance of the productivity of living resources in high seas areas adjacent to their territorial sea.”\(^{123}\)

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\(^{120}\) The Convention consists of twenty-two articles.


\(^{122}\) See Article 2 of the Geneva Convention on the High Seas. It upholds the freedom of the high seas doctrine and sets the very foundation of the doctrine - the principle of freedom of fishing.

In spite of this recognition, many observers viewed the adoption of the Geneva Convention on High Seas Fisheries as a “half-attempt” by the international community to address the conservation issues of offshore fisheries in areas adjacent to territorial sea. The Convention did acknowledge the special interest of coastal States to participate in any effort or program covering fisheries conservation in the adjoining high seas; but it falls short of empowering the States concerned with sufficient jurisdictional rights and prescriptive enforcement power to regulate foreign nationals and fishing vessels in relevant areas. When exercising this special right, including the imposition of its unilateral conservation measures outside the boundary of national jurisdiction, coastal States must take into consideration the fact that the established principles of flag State jurisdiction directly govern the duties and actions of fishing States on the high seas. This implies that any foreign national or vessel engaged in high seas fishing may only be subjected to the legislative and enforcement jurisdiction of its own flag State. Accordingly, the ability of coastal States to adopt unilateral conservation measures for fisheries can hardly be seen as bestowing the concerned

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125 This entitlement remains applicable even if the nationals of coastal States do not engage in fishing operations in the area concerned. See Articles 6(1) and (2) of the Geneva Convention on High Sea Fisheries.


127 Geneva Convention on the High Seas, Article 7(1).

128 The exclusivity of flag State jurisdiction is not absolute as the nationals of flagged vessels on the high seas are subjected to intervention from third party States for a number of reasons such as piracy, slave trading, illegal broadcasting and drug trafficking. For further details, see Churchill and Lowe, “The Law of the Sea,” pp. 209-213.
States with any exclusive or preferential fishing rights in the high seas adjacent to their territorial sea.\textsuperscript{129}

The ambiguous nature that characterised many Convention’s obligations, particularly in relation to the conservation of high seas fisheries, had left the fishing States with substantial discretion when applying the conservation measures to their own nationals and fishing fleets. An excellent example of this ambiguity is the obligation imposed on States with respect to cooperative management in high seas fisheries. While all States are obliged to cooperate with each other in implementing relevant measures for the conservation of fisheries resources in the high seas,\textsuperscript{130} this obligation, as suggested by Aqorau (1998), is too “weak” for it to be effective.\textsuperscript{131} This obligation had also allowed fishing States whose vessels are engaged in high seas fishing, particularly DWFN, to refuse the implementation of conservation measures introduced unilaterally by the adjacent coastal States if such measures do not require urgent implementation, or would potentially or actually discriminate against foreign fishermen.\textsuperscript{132}

The Geneva Convention on High Seas Fisheries has evoked wider criticisms for its failure to resolve differences of opinion regarding the standard breadth of the territorial sea and the exclusive fisheries zone contiguous to the coasts. The text of the Convention neither provides the exact width of the territorial sea nor defines the legal status of the extended exclusive fishing rights of States.\textsuperscript{133} Their impreciseness and

\begin{itemize}
\item \textsuperscript{130} \textit{Geneva Convention on High Seas Fisheries}, Article 1(2).
\item \textsuperscript{131} See Aqorau, “Analysis of the Responses of the Pacific Island States,” p. 25.
\item \textsuperscript{132} \textit{Geneva Convention on High Seas Fisheries}, Article 7(2).
\item \textsuperscript{133} The maximum seaward limit of the territorial sea from the coast is expressed in an ambiguous manner under the Geneva Convention on the Territorial Sea and Contiguous Zone. This is evident, for example, in Article 6 of the Convention, which stipulated that: “The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea.” Of the four 1958 Geneva Conventions, the Geneva Convention on High Seas Fisheries has the least number of contracting parties at 37. For
\end{itemize}
open-ended nature were found to be unacceptable. As such, only a few instruments at the national and international levels have made reference to the Geneva Convention on High Seas Fisheries. Such inadequate support, as Juda (1996) correctly observed, has caused the Convention to become “an ineffective instrument in addressing international fishery problems.”

The failure of the Geneva Convention on High Seas Fisheries to reconcile the diversity of views on the agreed breadth of the territorial sea and the legal status of the exclusive fishery zone had direct repercussions on the allocation and distribution of marine fisheries worldwide. Few would deny that most of the developing coastal States participating in the 1958 Geneva Conference and during the conferences of the 1960s had strongly favoured a wider extension of the territorial sea and exclusive control over marine living resources in the nearby high seas. Such expansionist view of maritime claims dominated the position upheld by a vast majority of newly independent nations from Asian and Africa participated in the Conference. This view was concurrent with the established practice of numerous Latin American countries that had already proclaimed 200-miles of sovereignty or fisheries jurisdiction. Together, this group of States had pushed for the recognition of extended sovereign jurisdiction and exclusive fishing rights beyond the outer limit of the territorial sea to assert greater

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134 Such inadequate support, as Juda (1996) correctly observed, has caused the Convention to become “an ineffective instrument in addressing international fishery problems.”
137 Tanaka holds the view that the spatial extent of the territorial sea zone, for example, “prima facie coincides with the monopoly of marine resources by the coastal States.” Yoshifumi Tanaka, A Dual Approach to Ocean Governance: The Cases of Zonal and Integrated Management in International Law of the Sea, Ashgate International Law Series, (Surrey, England: Ashgate, 2008), p. 4.
control over the access, utilisation, and conservation of marine living and non-living resources within these areas.

The fulfilment of an aspiration held by the group of developing coastal States to increase control over marine resources was dependent upon the degree of compromise between traditional fishing nations and leading maritime nations. There was an urgency to strike a delicate balance between equality in the global distribution of ocean resources and the rights of all States to enjoy the freedom of the sea such as the right to navigation and overflight. 138 It became evident that the expectation of developing coastal States to an extended sovereign jurisdiction was never going to be realised. The expected compromise was never reached as major maritime nations, notably the United Kingdom, Japan and the United States, continued to push for the maintenance of a three-mile territorial limit. 139 To these maritime nations, it was in their best interest to secure a narrower limit of the territorial sea and thereby, enabling a significant proportion of the world’s oceans retained the legal status of “high seas”. By retaining this status, the freedom of the high seas doctrine could continue to prevail, including the right of major maritime nations to fish and navigate unimpeded. In retrospect, the reaffirmation of the freedom of fishing principle, combined with the Convention’s failure to set the standard breadth of the territorial sea and exclusive fishing rights beyond territorial sea limit, contributed in part to the overall failure of the Geneva Convention on High Seas Fisheries in resolving the long-standing issues in fisheries management. Arguably, the Convention failed to accommodate the growing concern of

138 The extension of the territorial sea beyond the traditional limit of 3-miles was a source of great concern to major maritime powers, particularly the United States. This extension, as pointed out by Dean, “threatens the security of the United States by reducing the efficiency of its naval and air power, and by subjecting it to increased risk surprise attack.” Dean, “The Geneva Conference on the Law of the Sea,” p. 610.

139 For a detailed discussion on the struggles between the major maritime powers and developing coastal States during the negotiation process on fisheries jurisdictional issues at the Conference, see Lawrence Juda, “International Law and Ocean Use Management,” pp. 145-147.
developing coastal States to eliminate open access fisheries regime, a regime that was long being held accountable for the prevalent practices of unregulated and irresponsible fishing by distant-water fleets off their coast.  

2.2.1.2. UNCLOS II

The failure of the first Geneva Conference to reach a consensus on the definite breadth of the territorial sea and the juridical nature of exclusive fishing rights eventually led to the convening of the UNCLOS II in 1960. With a narrower scope than the UNCLOS I, the UNCLOS II was held primary with the objective of achieving what its predecessor had failed to do: resolving the issue of the appropriate width of the territorial sea and the exclusive fisheries jurisdiction. Nevertheless, the later Conference, like its predecessor, failed to reach any satisfactory agreement on either issue. A joint United States-Canada proposal for a six-mile territorial sea limit plus a contiguous fishing zone of the same width fell short by one vote required for the two-thirds majority for the proposal to be adopted.

The ambiguity surrounding the breadth of the territorial sea and extended offshore fishing limits in the Geneva Convention on High Seas Fisheries, combined with the failure of the UNCLOS II to resolve the matter, was no longer viewed to be

acceptable to the growing numbers of coastal States. For the majority of economically underdeveloped and newly independent coastal nations from Africa and Asia, it was inconceivable that the principle of freedom of fishing continued to prevail in the adjacent high seas areas off their coasts. The basis of their argument lies on the inherent weakness of the principle of freedom of fishing that was gradually becoming more discernible in the early years after World War II. The principle had greatly benefited a few Western European fishing nations and the United States, whose enormous capital and advanced fisheries technology enabled them to take full advantage of fisheries exploitation in offshore maritime areas predominantly at the expense of poorly developed coastal States.

Under the condition of near-anarchy and free access to common property resources, which intrinsically linked with the doctrine freedom of fishing, many of the world’s commercially valuable transboundary fish stocks on the high seas were biological overfished by large numbers of foreign distant-water fleets during the 1960s.\textsuperscript{143} This condition significantly threatened the long-term sustainability of fish stocks not only on the high seas, but also in adjoining coastal waters. Such activity aroused considerable concern and resentment from developing coastal States as they relied heavily on fisheries as an important source of export revenue, food and employment. In an attempt to protect their own fishery interests from distant-water fleets of developed fishing nations, most of the coastal States enthusiastically imposed greater control over the fisheries resources in the adjoining areas of high seas. This was intended to be achieved by: (i) claiming a territorial sea limit exceeding three miles (it was previously 12-miles); and (ii) claiming an exclusive fishing zone up to 200-miles

seaward from the shore. It was now clear that the trend of State practices of claiming an extended maritime jurisdiction beyond the narrow 3-mile limit of the territorial sea was no longer confined to the traditional domain of Latin American countries.

2.2.2. UNCLOS III and the LOSC

The two previous Geneva Conferences on the Law of the Sea failed to define the precise limit of national jurisdictional claims and exclusive fishery rights extended beyond the limit of territorial sea. In turn, this created conflicts and animosities between coastal and traditional maritime powers over the control and utilisation of ocean fisheries resources. At the start of the first organisational session of the UNCLOS III which was convened in New York in 1973, the trend towards advancing claims to extra-territorial fishing jurisdiction beyond the traditional three-mile limit (some States had claimed up to 200-miles), had almost evolved into a universal norm of State practice. Approximately 35 percent of the ocean had been brought under the jurisdiction of coastal States, with 32 States claiming extended fishing zones of various breadths. Based on the estimation made by Alexander (1983), 12 of these extended fishing zones were claimed up to a full 200 nautical miles.

This situation, together with the emergence of a wide spectrum of issues relating to the appropriation, utilisation and interaction of ocean spaces and resources, meant

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that the existing global legal regime that had been developed after World War II was neither effective nor adequate in addressing contemporary maritime-related problems.\(^{150}\)

A more orderly and stable regime for marine fisheries governance was imperative to ensure the fishing rights of States were balanced by their obligation to undertake conservation and regulatory measures necessary for securing sustainable conservation and rational utilisation of fisheries.\(^{151}\)

With the exploitation of worldwide ocean fisheries (particularly by DWFN) intensifying at an unprecedented rate,\(^{152}\) a re-examination of the old international framework for the management and conservation of marine living resources was inevitable. This development, along with the need to create a new and stable international legal framework with a unified set of permissible and forbidden conducts covering all aspects of ocean use, eventually led to the convening of the Third United Nations Conference on the Law of the Sea (UNCLOS III) from 1973 to 1982.\(^{153}\) The very existence of the 1982 LOSC was a product from the outcome of a series of multilateral diplomatic conferences acknowledged by many as the most ambitious and truly universal treaty-making efforts under the auspices of the United Nations:

\(^{150}\) The emerging maritime issues at that time included maritime boundary delimitation, baseline and navigational regimes in the international straits, protection of marine environment, mineral exploitation in the deep-sea bed, maximum spatial limits of continental shelves and the legal status of archipelagic waters.

\(^{151}\) Part of the reasons that triggered this call to reform the global legal regime for fisheries came from the growing demands of newly independent states to an equitable allocation of benefits obtained from the exploitation of marine natural resources. Juda, “International Law and Ocean Use Management,” p. 162.

\(^{152}\) This development was partly driven by advances in fishing technology, mounting pressure for increased fish supplies by growing populations, as well as the rapid expansion of industrial fishing fleets resulting from substantial investment.

Following a series of intense protracted negotiations and consensus-building approaches, it took almost nine years for the conference to be finally concluded, culminating in the adoption of the LOSC final text on April 30, 1982. The Convention was opened for signature on 10th December 1982 in Montego Bay, Jamaica, and came into force nearly 12 years later on November 16, 1994. As at 30 November 2010, 161 States, including those from the European Union and landlocked States, have either acceded or ratified the Convention.

Widely known as the first codified all-inclusive global legal instrument for ocean management, the LOSC arguably represents profound achievement of the international community in developing a comprehensive and innovative international regime for ocean governance in the post-World War II era. Indeed, the LOSC, as mentioned in Chapter 1, is of paramount importance to many subsequently adopted international and regional fisheries instruments. It sets up the legal foundation underlying the management and regulatory framework embedded in those instruments.

Drawing from its extensive 320 articles and 9 annexes, the LOSC has been rightly referred by Koh (1983) as the “constitution for the oceans” that offers a comprehensive legal framework for governing virtually all facets of resources and activities associated with the oceans. Many of its legal rules represent a statement of

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154 The conference involved more than 150 countries with diverse political and legal systems and with varying levels of economic development. The composition of the delegations included those representing sovereign nations, as well as specialised intergovernmental agencies. See Bernardo Zuleta, “The Law of the Sea after Montego Bay,” San Diego Law Review 20(1983), p. 476.
155 The text of the Convention was adopted by a vote of 130 to 4 with 17 abstentions.
156 The 1982 LOSC came into force a year after the 60th country- Guyana- formally ratified the Convention.
157 A list of States that have ratified or acceded to the LOSC is available online at http://www.un.org/Depts/los/reference_files/status2010.pdf (accessed on 1 January 2011).
codified pre-existing general rules, principles and norms regulating the use of ocean space and resources. Nevertheless, Amrasuriya (2001) sounds a note of caution that not all the Convention’s provisions are directly sourced from codified rules of customary international law. The Convention also contains innovative provisions, principles, concepts and binding obligations, which have transformed not only the traditional regime of the law of the sea, but international law in general. Some of these novel provisions have gradually evolved into international customary law principles to which the International Court of Justice (ICJ) has periodically recognized them in some of its landmark decisions. The pivotal role that the LOSC has played in the development of the contemporary international law of the sea is evidenced by the fact that the Convention’s framework constitutes the legal basis for several international and regional instruments for dealing with the challenges arising from the competing use of ocean space and resources in the post-UNCLOS III era.

One of the greatest achievements of the LOSC in the area of law of the sea development is its adoption of a set of universally agreed and spatially defined functional jurisdictional zones, which is something that the previous UNCLOS sessions

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162 The EEZ regime, for example, has attained the status of customary international law and this, under the ICJ judgment, is recognized in Libya/Malta Continental Shelf case (1985). Continental Shelf (Libyan Arab Jamahiriya/Malta), Judgment, ICJ Reports 1985, paragraph 34, at p. 33.
had failed to achieve.\textsuperscript{164} Accompanying each of these zones are certain rights and duties of States pertaining to the development, utilisation and conservation of marine living resources. Indeed, the partition of the world’s oceans into multiple zones of jurisdiction has directly influenced the way States manage these resources. However, it has also brought certain difficulties and one of which is the management of transboundary fish stocks with migratory patterns that cut across different jurisdictional zones.\textsuperscript{165}

### 2.2.2.1. The EEZ and Fisheries Regime under the LOSC

Of all the jurisdictional zones sanctioned by the LOSC, none has had a greater impact on the contemporary international legal and policy framework for marine fisheries management than the EEZ.\textsuperscript{166} Cited as one of the most innovative features of the LOSC, the advent of the EEZ regime has had far-reaching repercussions not only on the allocation of States’ functional rights and obligations over fisheries resources in the offshore waters of the zone,\textsuperscript{167} but also “beyond the boundaries of the regime

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\textsuperscript{164} Examples of spatially based maritime jurisdiction zones include the zone 12-nm from the territorial sea, the contiguous zone, the zone 200-nm from States’ EEZ, the continental shelf and the high seas. For further information on the evolutionary process of the spatial and jurisdictional division of ocean space, see S. M. Garcia and M. Hayashi, “Division of the Oceans and Ecosystem Management,” pp. 445-474.

\textsuperscript{165} See the discussion below on the problems relating to the zonal management approach to fisheries.


\textsuperscript{167} One instance of such repercussion is the direct impact of extended zone of coastal State jurisdiction to the high seas areas formerly accessible to all. In areas where foreign fishing fleets excluded from fishing, it has significantly changed the pattern of offshore fishery exploitation of DWFN fleets, forcing the fleets to intensify their fishing efforts on the high seas areas beyond the EEZ. See Oda, “International Law of the Resources of the Sea,” p. 66.
themselves.” Under this regime, a coastal State is bestowed with the sovereign rights
for the purpose of exploiting, conserving and managing both living and non-living
resources up to 200-nm from the territorial sea baseline. The connection between the
establishment of the EEZ and the sovereign rights of coastal States over potentially
everous natural resources, including fisheries, had arguably given rise to near
universal acceptance of this regime. As early as 1970s, the worldwide proliferation of
EEZ claims visibly manifested this acceptance. Predominantly instigated by newly
independent coastal States, the extension of EEZ jurisdiction was motivated in part by
their intractable desire to push for greater access and maximum control over the huge
wealth of offshore marine living resources, and more importantly, the opportunity to
exploit these resources on a larger scale than before. By the time the LOSC was
opened for signature in 1982, the extension of the EEZ jurisdiction seaward beyond the
territorial sea had become a customary legal norm for States.

Apart from the expected socio-economic benefits derived from the creation of
EEZ regime, the universal claim to this extended maritime zone has transformed the
legal status of the oceans and resources worldwide. One of the legal consequences
accompanying the introduction of the EEZ regime was the disappearance of a vast
segment of maritime frontier that previously belonged to the high seas regime, and
which guaranteed all States free access to natural living resources under the traditional

Change,” in Alf Håkon Hoel and Are K. Sydnes Syma A. Ebbin, (eds.), A Sea Change: The
Exclusive Economic Zone and Governance Institutions for Living Marine Resources,
(Dordrecht: Springer, 2005), p. 11.
169 See LOSC, Articles 55-57.
170 Several decades before the endorsement of a codified EEZ regime under the LOSC, some of the
regime’s conceptual framework had gained widespread acceptance and gradually evolved into
established customary State practice. One such practice was the near universal claim to a 200-
nm EEZ and Exclusive Fishery Zone (EFZ). See Jaye Ellis, “The Exclusive Economic Zone and
396.
171 For a discussion on the wide range of economic benefits that coastal States gained within their
respective EEZs, see Attard, “The Exclusive Economic Zone in International Law,” p. 1-31.
notion of freedom of fishing. Nonetheless, the sovereign rights bestowed on coastal States do not prejudice the entitlement of other States to continue enjoying the freedom of the seas within the EEZ zone, including the freedom of navigation; the laying of submarine cables and pipelines; and the freedom of overflight. This entitlement, however, was not absolute and greatly restricted when compared to the freedom of high seas regime.

Notwithstanding the on-going worldwide maritime sovereignty disputes and overlapping EEZ claims, particularly in the enclosed and semi-enclosed sea areas, the widespread extension of EEZ claims has radically transformed the redistribution pattern of global marine capture fisheries. With substantial portions of the ocean up to 200-nm from the territorial sea baseline enclosed under the jurisdiction of coastal States,


Article 58(1) of the LOSC.

Under Article 58(3), the Convention imposes the obligation on all States in exercising their rights of freedom of the sea in the EEZ of other coastal States to give consideration to the rights and duties of, and comply with the laws and regulations established by, the coastal State.


It is widely known that nearly 40% of the world’s oceans are enclosed within the EEZs of coastal States. See Jon L. Jacobson, “International Fisheries Law in the Year 2010,” Louisiana Law Review 45(1985), p. 1179; see also Quentin Hanich, Clive Schofield and Peter Cozens, “Ocean of Opportunity? The Limits of Maritime Claims in the Western and Central Pacific Region” in Quentin Hanich and Martin Tsamenyi (eds), Navigating Pacific Fisheries: Legal and Policy Trends in the Implementation of International Fisheries Instruments in the Western
approximately 90 to 95 percent of the world’s exploitable marine fisheries resources would fall within the exclusive control of coastal States. As a result, access to and control over fisheries resources in the majority of offshore and coastal fishing grounds worldwide have now been transferred from the international to the national regime, mostly at the expense of distant-water fishing States.

Coastal States not only now have greater access to potentially abundant fisheries resources, but also increased regulatory and enforcement powers over the conservation of these resources. Accentuating this argument is the coexistence of two fundamental principles established under the EEZ regime of the LOSC: (i) the sovereign rights of coastal States’ over fisheries resources in their EEZs; and (ii) their duties and obligations to ensure such resources are utilised and developed in a sustainable manner. These provisions provide a more favourable condition for the effective management and sustainable conservation of offshore fish stocks in the oceans and seas that previously qualified as the high seas. Given that coastal States, in accordance to the LOSC, retained exclusive jurisdiction over marine living resources within their EEZ, an area encompassed previously subject to open access regime, they are in a better position to determine what kind of necessary conservation measures to protect these resources as long as the adopted measure are compatible with the Convention.

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179 One of the fundamental changes in fisheries management practices is the departure from “open access to resources and regulation based primarily on flag State jurisdiction, to near-exclusive coastal State access to resources and regulation based primarily through not exclusively on coastal State jurisdiction.” Churchill and Lowe, “The Law of the Sea,” p. 176.

180 See, in particular, Articles 56 and 61(2) of the LOSC.

By virtue of the EEZ regime under the LOSC, coastal States have the sovereign rights and considerable discretion in determining the manner in which fisheries resources are to be utilized and developed, but fell short of having the right to overexploit or deplete them. The Convention recognises that fisheries resources are not immune from progressive depletion, overexploitation or even population collapse, unless proper management and regulatory measures are implemented. Accordingly, regardless of whether the exploitation of marine living resources has taken place within the EEZs, the considerable benefits to be obtained by coastal States from such exploitation are balanced by their obligation and duty to protect and conserve such resources. In other words, coastal States not only have preferential rights and greater access to potentially abundant fishery stocks within this zone, but also an increased obligation relating to fishery conservation. Therefore, coastal States were not only direct beneficiaries but also regulators of fishing activities and marine living resources, including species of fish with a migratory range extending into the high seas.

The fundamental components of the LOSC legal framework for governing the conservation and management of EEZ fisheries is best represented in Articles 61 and 62. The substance of these aforementioned articles lies on the general obligations and their accompanying implementation measures in connection to fisheries conservation within the zone. In brief, a coastal State is obliged to determine the total permissible catch level of marine living resources, along with its own harvesting capacity. A coastal State is duty bound under Article 62(2) to allocate any surplus from this

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182 LOSC, Article 61(2).
183 Edeson, “A Brief Introduction to the Principal Provisions of the International Legal Regime,” p. 18. It appears that fisheries conservation objective of the LOSC not only extends to targeted fish species, but also the marine ecosystem and biological components supporting these species. See, for example, Article 61(4) of the Convention.
184 Hey, “Global Fisheries Instruments,” p. 22.
185 LOSC, Article 61(1).
186 LOSC, Article 62(2).
permissible catch to other States in order to promote the objective of “optimum utilization” of marine living resources within the zone.\textsuperscript{187} Despite this legal requirement, it seems that the LOSC grants coastal States considerable discretion in determining the allowable catch level, as well as the ability to refuse allocation of any surplus to other States if the appropriate catch level has not yet been determined.\textsuperscript{188} When exercising their fishing rights in the EEZ, coastal States have the obligation to implement proper conservation and management measures based on best scientific evidence available in order to ensure fisheries resources are not endangered by over-exploitation.\textsuperscript{189}

Meanwhile Article 61(3) stipulates that coastal States need to adopt conservation measures designed to maintain or restore populations of harvested species at levels that produce a maximum sustainable yield (MSY).\textsuperscript{190} Although the MSY concept has been widely criticised for its limitations,\textsuperscript{191} the LOSC and other subsequently adopted international fisheries instruments have never abandoned the concept, and thus it continues to be one of the principle objectives of sustainable fisheries management.\textsuperscript{192}

The scope of the conservation duty established under the LOSC also encompasses certain categories of migratory fish species, which include shared stocks, straddling stocks and highly migratory fish stocks.\textsuperscript{193} Unlike shared and straddling fish stocks, Annex 1 to the Convention provides a list of species categorised as “highly

\textsuperscript{187} LOSC, Article 62(1).
\textsuperscript{188} Many commentators share similar view that Article 297(3) of the Convention contributes to the absence of a compulsory dispute settlement mechanism regarding the conservation of living resources in the EEZ, leaving coastal States with substantial discretionary power with respect to setting the permissible catch level, determining its harvesting capacity, allocating fishery surplus to other States and prescribing terms and conditions established under national laws and regulations. See Tanaka, A Dual Approach to Ocean Governance,” pp. 54-55; see also Edeson, “A Brief Introduction to the Principal Provisions of the International Legal Regime,” p. 21.
\textsuperscript{189} LOSC, Article 61(2).
\textsuperscript{190} LOSC, Article 61(3).
\textsuperscript{191} For further discussion on the concept of MSY and its limitations, see Section 4.2.1.
\textsuperscript{193} See specifically, Article 63(2) for straddling fish stocks, and Article 64 for highly migratory species.
migratory”, including, among others, marlins, swordfish, particular varieties of tuna, as well as cetacean and oceanic shark species. Based on scientific observation, the migratory range of these species is not merely confined within the EEZ of one State. They are either distributed across the EEZ of several States and the adjacent high seas (straddling stocks), or migrated throughout a vast distance of oceans and seas, within and beyond national jurisdictions (highly migratory stocks). The migratory pattern of these offshore fish species has made cooperation between the affected States, either directly or through regional organisation, a prerequisite for the sustainable conservation and management of these species. Apart from the previously mentioned fish stocks, anadromous and catadromous stocks are two particular migratory fish species accorded with the protection under the LOSC fisheries framework.

The LOSC also assigns to States or competent international organisations the right to formulate and adopt relatively stringent conservation and regulatory measures for marine mammals. The Convention places emphasis on the need for States to cooperate in implementing conservation measures for these particular species—similar to the management approach applicable to straddling and migratory fish stocks.

Coastal States possess legislative and enforcement power, which directly link to their ability to fulfil their obligation to manage and conserve fisheries resources in their EEZ as provided for in the LOSC. Coastal States have the legislative authority to prescribe various terms and conditions regulating all activities associated with foreign fishing access in their EEZ. At the same time, the right of foreign vessels to fish in the

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194 The LOSC requires that the States concerned cooperate either directly or through appropriate international organisations towards achieving conservation and promoting optimum utilisation of such species. See Article 63(1) with respect to shared fish stocks; Article 63(2) for straddling fish stocks and Article 64(1) for highly migratory fish stocks.

195 The provisions relating to States’ obligations with respect to the conservation of anadromous species such as salmon and sturgeon, and catadromous species including eel, are found in Articles 66 and 67 respectively.

196 *LOSC*, Article 65.
EEZ of coastal States is subject to their compliance with the terms and conditions imposed by the States concerned.\footnote{Churchill and Lowe, “The Law of the Sea,” p. 291.} These terms and conditions are specified in Article 62(4) of the Convention, covering various matters including fishing permits and resource fees, fish quota, regulation on fishing seasons, vessel and gear restrictions, reporting requirements, as well as the training of personnel and the transfer of fishing technology.

Coastal States, in accordance to Article 73(1) of the LOSC, have the authority to prescribe national fisheries laws and regulations applicable to foreigners and vessels so long as in conformity with the Convention. The same article confers coastal States with the enforcement jurisdiction to undertake the necessary measures in enforcing the laws and regulation. These measures involve boarding and inspections, arresting and instituting judicial proceedings. To deter the infringement of the prescribed regulatory measures, the LOSC grants coastal States the authority to impose penalties for the infringements provided that such penalties do not include corporal punishment (such as imprisonment), unless there is an agreement to the contrary between the States concerned.\footnote{LOSC, Article 73(3).}

With respect to straddling and highly migratory fish stocks, the Convention stipulates specific management requirements. The LOSC requires relevant coastal States and fishing States to engage in cooperative management, either directly or through international or regional organisations.\footnote{LOSC, Article 63(2) concerning straddling fish stocks and Article 64(1) regarding highly migratory fish stocks.} It is noteworthy that when dealing with the conservation aspect of straddling fish stocks, this requirement for cooperation is confined only to areas beyond the outer boundaries of the EEZ, such as the high
seas.\footnote{LOS, Article 63(2).} In contrast, the level of geographic coverage required for State cooperation with respect to the conservation of highly migratory fish stocks applicable throughout the entire migratory range of the stocks. This includes all affected States whose EEZ abound with such stocks and those states fishing for the same stocks on the high seas.\footnote{LOS, Article 64(1)} Hence, in light of the transboundary nature of some fish stocks, the Convention’s fisheries framework is not built entirely around EEZ-based fisheries provisions but is rather supplemented and complemented by additional provisions and requirements pertinent to high seas fisheries management.\footnote{The legal provisions of LOSC relating to high seas fisheries can be found in Articles 116 to 120 of Part VII, with considerable numbers of provisions concentrate on flag State duties and the need for cooperation in fisheries conservation.}

\textbf{2.2.2.2. Inherent Weaknesses of the LOSC Fisheries Legal Regime}

The international fisheries legal framework established under the LOSC was initially thought to provide a viable and effective solution for worldwide depletion and overexploitation of fish stocks in marine areas within and outside national jurisdiction.\footnote{See Ellen Hey, “Reconceptualization of the Issues Involved in International Fisheries Conservation and Management,” in Ellen Hey, \textit{Developments in International Fisheries Law}, (The Hague: Kluwer Law International, 1999), p. 579. In contrast, Kwiatkowska, in reviewing the work of Burke, claims that the “EEZ/EFZ has, on the whole accomplished the basic goal of improving fishery management.” Barbara Kwiatkowska, “Review Work(s): The New International Law of Fisheries: UNCLOS 1982 and Beyond. by William T. Burke,” \textit{AJIL} 89(1995), p. 676.} In reality, however, this framework has not been able to fully attain its objective due to the inherent weaknesses of the Convention’s fisheries provisions and the progressive failure of States to exercise their obligations for fisheries conservation and management effectively.\footnote{According to Rayfuse, the jurisdictional framework embedded in the LOSC EEZ regime has proven to be an “inappropriate mechanism for the resolution of fisheries conservation and management issues.” Rayfuse, “The Interrelationship between the Global Instruments,” p. 111.} Many commentators agree that the extension of coastal States’ EEZ jurisdiction in the vast offshore fishing areas, even prior to the conclusion
of the final session of UNCLOS III, did not deliver the expected conservation benefits needed to address the pervasive problem of overfishing and environmental degradation. Nor did the regime provide greater incentive for States to be more responsible in the way they utilised and managed fish stocks. Overall, the fisheries regime established under the Convention has proven to be ineffective in compelling States to protect straddling and highly migratory fish stocks, and in resolving disagreements and disputes arising from fisheries conservation issues. Towards the end of the 1980s to the 1990s, evidences of State practices have shown that the failure of numerous coastal and fishing States to regulate excessive fishing efforts affecting transboundary fisheries, which in turn led to the problem of overfishing. Even countries traditionally known for pursuing best practices in fisheries management have not been spared from the devastating social and economic impact of the collapse of valuable pelagic and demersal fish stocks in their EEZs. Prominent examples of such collapse include the Atlantic groundfish fisheries in the Canadian EEZ off the east coast

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206 Even before the LOSC came into force in 1994, Pardo identified that the Convention’s EEZ fisheries provisions had failed to encourage coastal States to adopt a more effective management and conservation approach of fisheries resources. See Pardo, “The Convention on the Law of the Sea: A Preliminary Appraisal,” p. 498.


208 Meltzer provides a list of straddling fish stocks which have been subjected to overexploitation, including: pollock in the Bering Sea high seas ‘Donut Hole’; orange roughy in the Challenger Plateau off New Zealand; hake, southern blue whiting and squid off Argentina’s Patagonian Shelf; cod, American plaice, yellowtail and redfish off the Canadian Grand Banks in the Northwest Atlantic; jack mackerel off Chile and Peru; redfish in the Barents Sea ‘Loop Hole’ off Norway; and pollock in the Sea of Okhotsk ‘Peanut Hole.’ Evelyne Meltzer, “Global Overview of Straddling and Highly Migratory Fish Stocks: The Non-Sustainable Nature of High Seas Fisheries,” ODIL 25(1994), p. 262.

209 In providing an explanation for the dramatic collapse of the Newfoundland fishery, Schrank blames the fisheries authorities, specifically the “Canadian fisheries service [for being] corky”. He further added that, “They had a sophisticated science program matched by an equally sophisticated fisheries management system. Both facets were probably among the best in the world.” William E. Schrank, “Is There Any Hope for Fisheries Management?,” Marine Policy 31(2007), p. 302.
of Newfoundland\textsuperscript{210} and the Northeast Arctic capelin fisheries of the Russian EEZ in the Barents Sea.\textsuperscript{211} The trend towards the serious decline, gross overexploitation and even total collapse of transboundary fish stocks in EEZs inevitably raised doubt and scepticism over the ability, capacity and political will of States to discharge fully their stipulated obligations for conserving and managing these particular stocks.\textsuperscript{212}

The legal framework of the LOSC for marine fisheries management has its own shortcomings. Conspicuously missing from the Convention is an adequate legal framework prescribing clear and specific guidelines for States to conserve and protect straddling and highly migratory stocks.\textsuperscript{213} The LOSC falls short of offering clear guidance for relevant States in giving effect to their conservation and management obligations over the entire range of transboundary fish stocks between the EEZ and the


\textsuperscript{212} Survey of selected State practices in fisheries management in the EEZ have indicated that a significant number of them failed to uphold the obligation imposed by the LOSC for the conservation and management of fisheries in that zone. This failure is demonstrated in the noticeable trend related with the declining of catch rate, overexploitation of resources and serious deterioration of ecosystems and habitats in their respective EEZs. For a detailed studies of the driving factors behind the fisheries crisis of groundfish stocks off the east coast of Canada, see William E. Schrank, “Extended Fisheries Jurisdiction: Origins of the Current Crisis in Atlantic Canada’s Fisheries,” \textit{Marine Policy} 19(1995), pp. 285-299.

From a legal standpoint, Rayfuse (1999) contends that the LOSC has placed too much emphasis on the jurisdictional issues of States without providing substantive guidelines with respect to the conservation and management of transboundary fish stocks. Evidently, specific mechanisms or highly prescriptive procedures for giving effect to States’ obligations, either directly or through regional organisation, are missing from the text of the Convention. As a result, the relevant States have faced difficulty in interpreting and applying the Convention’s obligations relating to the management of straddling and highly migratory fish stocks.

The second weakness of the LOSC with respect to the management of transboundary fisheries is that the obligation of relevant States to establish cooperative management for such fisheries is set in vague terms. The rather ambiguous language of the LOSC of requiring cooperation between States when dealing with the management of migratory fish species has been viewed as the primary factor undermining the effectiveness of fisheries conservation efforts on the high seas. Whilst the LOSC has placed firm obligations on high seas fishing States and adjoining coastal States to enter into negotiations in good faith and to reach agreement on the

214 States have a wide discretion when choosing the form of cooperation when discharging their duty under Article 63(3) for the conservation of straddling fish stocks in the adjacent areas of high seas. However, pursuant to Article 64(1), there appears to be an obligation imposed on the States to cooperate with respect to the management and conservation of highly migratory species, either directly or through a RFMO. Tore Henriksen, “Revisiting the Freedom of Fishing and Legal Obligation on States,” *ODIL* 40(2009), p. 95.


217 Apart from the difficulty in interpreting and applying the fisheries provisions of LOSC, Barston has identified additional factors, which may have contributed to the problems of management and conservation of transboundary fisheries. These factors include vessel reflagging, insufficient scientific data on the accurate status of fish stocks and their supporting environment, including marine ecosystem, as well as enforcement problems in the EEZs and on the high seas. Ronald Barston, “United Nations Conference on Straddling and Highly Migratory Fish Stocks,” *Marine Policy* 18(1995), p. 160.

218 According to Rayfuse, the weak nature of these particular provisions has resulted in “difficulty and disagreement over the interpretation and application of the provisions.” See Rayfuse, “The Interrelationship between the Global Instruments,” pp. 111-112.

necessary measures for the conservation of straddling fish stocks on the high seas, there is no express obligation on other States to reach agreement on this subject. Moreover, because the migration of these fish stocks typically spans multiple jurisdictional zones, transboundary cooperation has become a critical component in managing the stocks; otherwise, the conservation efforts of an individual State within its own national jurisdictional waters might be rendered futile.

The LOSC, through Article 63(2), imposes a requirement on coastal States and high seas fishing States to seek cooperation with the objective of achieving a coherent management measure for transboundary fish stocks across their migratory range. Ironically, the rest of the Convention’s articles do not provide specific mechanisms to assist those States in discharging the requirement for cooperation. The precise manner in which to seek this cooperation has not been expressly elaborated. None of the provisions of the Convention, as Hayashi (1995) has argued, explicitly mentions the consequences arising from the failure of States to reach a conservation agreement for straddling stocks. Articles 63(2), 64, 117 and 118 illustrate that the Convention’s provisions are less than clear with regard to the exact nature and extent of the cooperation. Criticism has also been directed to Article 63(2), which is silent on the specific temporary measures or procedures to be applied whilst the relevant States are waiting to reach an appropriate conservation agreement, or alternatively, the measures

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220 The duty to cooperate for the conservation of straddling fish stocks under Article 63(2) is only applicable in areas beyond the EEZ to the adjacent high seas. In contrast, Article 64 places a clear obligation on States to cooperate with respect to the conservation of these stocks across their migratory range. See Tanaka, “A Dual Approach to Ocean Governance,” p. 64.

221 Nonetheless, Miles and Burke hold the view that “the obligation to cooperate does not disappear because an effort is initially unsuccessful”, and even if an attempt to reach an agreed measure is unsuccessful, “an obligation would still apply to each fishing state to take unilaterally conceived measures affecting its own flagged vessels.” See Miles and Burke, “Pressures on the United Nations Convention on the Law of the Sea of 1982,” p. 351.

222 See in particular Articles 63 and 64 of the Convention.

to be applied if the States concerned are unable to reach an agreement.\textsuperscript{224} Nothing in the Convention explicitly requires affected coastal States and States flagging their vessels to adopt a reasonable course of action designed to prevent overexploitation of the transboundary stocks.\textsuperscript{225} Adoption of provisions of this type would be helpful in overcoming problems associated with the on-going decline of straddling fish stocks such as pollock. This is especially the case for those stocks found in the enclaves of the high seas bounded by EEZs of one or more coastal States, such as the ‘Donut Hole’ in the Central Bering Sea\textsuperscript{226} or ‘Peanut Hole’ of the Sea of Okhotsk.\textsuperscript{227}

The reason why negotiating parties had encountered difficulties in reaching an agreement with respect to the conservation measures for straddling fish stocks is that the provisions of the LOSC do not specify criteria for an acceptable allocation of harvesting rights over the stocks among the States fishing in those zones.\textsuperscript{228} It is widely recognised that in order for a fisheries conservation agreement to be successful, the negotiating parties must allocate access to common fish stocks.\textsuperscript{229} Apart from granting coastal States with the sovereign rights to exploit and manage marine living resources


\textsuperscript{225} These provisional measures may include, among others, imposing a temporary fishing moratorium and allocating a catch quota and other agreed conservation measures at either the national or regional level. See Davies and Redgewell, “The International Legal Regulation of Straddling Fish Stocks,” p. 236.


within the EEZ, the Convention, according to Tanaka (2008), is silent on the question regarding the distribution of fishing rights among all States - coastal and high seas fishing States - over similar fish stock that straddle between the EEZ(s) and adjacent high seas. Practical application of the LOSC’s obligations for the management of transboundary fish stocks is difficult when there is no specific mechanism or precise criteria to guide the relevant States in discharging their obligation in this area.

Another weakness of the LOSC’s fisheries framework is its emphasis on a zonal approach to managing marine fisheries. As such, this particular approach failed to address the continuing deterioration of commercially important transboundary fisheries populations. The reason behind the ineffectiveness of this approach lies in its operation - one that is intrinsically linked to the universal partition of oceans and seas under a suite of functional maritime zones established under the LOSC. Indeed, oceanic frontiers are now divided into zones of national jurisdiction (which extend out a distance offshore up to 200-nm from the territorial sea baseline) and the high seas. In turn, this jurisdictional delineation of maritime space dictates the manner in which coastal and fishing States formulate and implement their fisheries policies and regulations. This is because the measures adopted by the relevant States must accord

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231 This argument is epitomised in the growing conservation problems associated with transboundary migratory species which clearly intersect with the inherent problems associated with the zonal management approach established under the LOSC. Ibid., p. 65.
233 Within zones of national jurisdiction - a maritime space extending up to 200-nm from the EEZ, coastal States have the discretion to further subdivide maritime space into several segments of zones in order to promote the enhanced conservation of, and greater access to, fisheries resources. For instance, smaller zones have been set up for traditional artisanal fisheries and large-scale industrial fisheries, as well as for other purposes such as maritime traffic safety, national marine parks, ports and military training. Garcia and Hayashi, “Division of the Oceans and Ecosystem Management,” p. 468.
with their assigned access rights and conservation duties over fisheries resources within the zone.\textsuperscript{234}

Even so, the approach to manage fisheries resources within the perimeter of States’ jurisdictional zones undoubtedly disregards the temporal and biological distribution of various species of fish, as well as the ecological interaction between the fish stocks and their surrounding marine ecosystem.\textsuperscript{235} Churchill and Lowe (1999) have observed that the Convention’s EEZ regime on fisheries seems to “convey the impression that most of the fish stocks only confine themselves to the EEZ of a single State.”\textsuperscript{236} In reality, however, the boundary lines of EEZs in many parts of the world rarely coincide with the natural migratory boundaries of fish stocks.\textsuperscript{237} Indeed, the biological nature of transboundary marine fisheries, including straddling and migratory fish stocks, has been scientifically proven to be very complex. As previously stated, these stocks have a migratory range that spans across a number of EEZs and high seas areas.\textsuperscript{238} Hence, in view of the poor institutional fit between the migratory nature of the stocks and the designated maritime jurisdictional zones, many have questioned the

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\item \textsuperscript{234}González-Laxe further elucidates this relationship between functional jurisdictional areas and the inherent rights and duties of States, especially when dealing with access to fish stocks. In his view, “access to resources is regulated by exclusivity regimes, which define the rights and duties of people and producers and guarantee the resources (property) and the capacities (fishing rights), and it is also regulated by allocation mechanisms and the transferability of fishing rights, as well as by those structures responsible for the implementation of regulations.” See Fernando González-Laxe, “Territorialisation Processes in Fisheries Management,” \textit{OCM} 51(2008), p. 265.
\item \textsuperscript{235}According to Kirk, the Convention’s disregard of the natural distribution of fisheries resources has created a “mismatch” of maritime jurisdictional zones and fisheries ecosystem. Elizabeth A. Kirk, “Maritime Zone and Ecosystem Approach: Mismatch?,” \textit{Review of European Community & International Environmental Law} (RECEIL) 8(1999), p. 69; In spite of this, the LOSC does have provisions that clearly recognise the transboundary nature of marine living resources, and hence urges some forms of cooperation between States when harvesting these particular resources. See Articles 63 to 67 of the Convention.
\item \textsuperscript{238}The migratory pattern of many principal commercial fish stocks, such as tuna and tuna-like species, are commonly characterised by their transboundary nature, crossing the artificial line of maritime boundaries. See Ma, Carmen A. Ablan and Len R. Garces, “Exclusive Economic Zones and the Management of Fisheries in the South China Sea,” in Syma A. Ebbin, Alf Håkon Hoel and Are K. Sydnes (eds.), \textit{A Sea Change: The Exclusive Economic Zone and Governance Institutions for Living Marine Resources}, (Dordrecht: Springer, 2005), p. 143.
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validity of the LOSC’s zonal management approach as an effective regime for achieving the long-term conservation and sustainable utilisation of transboundary fish stocks.\textsuperscript{239}

Considering that the migratory range of transboundary fisheries generally cuts across a number of politically drawn maritime zones, it is highly unlikely that one State, acting independently, would be able to set up an effective and comprehensive management regime for these fisheries within its own national jurisdiction. Even if a State has adopted and enforced stringent conservation and regulatory measures for these fish stocks, there is always the possibility that these national initiatives would be undermined by unsustainable and irresponsible fishing practices in the vicinity of the high seas, or by ineffective fisheries conservation efforts in the EEZ of other States.\textsuperscript{240} If the conservation regime for common migratory fish stocks adopted by coastal States in their EEZs is incompatible with those on the adjacent high seas, there is a risk of mismanagement and/or inequality in the benefits to be gained from exploiting such stocks. This situation can detrimentally affect the quality and quantity of straddling and highly migratory species within the EEZs of coastal States.

Accordingly, grave concern over the sustainability of fish stocks from excessive fishing in the adjacent high seas to the outer boundary of EEZ has spurred coastal States to act unilaterally to prevent it from occurring. This was evident when some these States have imposed a more stringent regulatory measure over foreign fishing vessel operating in those areas. In the case of State legislative practices, both Argentina and Canada have enacted national legislation which provided for them to exercise enforcement of their conservation measures over foreign fishing vessels involved in fishing straddling and

\textsuperscript{239} Ibid.
highly migratory fish stocks outside their national jurisdictional waters.\textsuperscript{241} Chile has passed similar legislation to which the country’s \textit{Fisheries Law No. 19.079 of 12 August 1991} provides the possibility that national conservation measures could be put in place for the management of straddling and highly migratory fish stocks located both within its EEZ and in the adjacent high seas outside the country.\textsuperscript{242} The enabling legislation stipulates that failure to comply with such measures may lead to the possible restriction or even banning of any landing of catches or their by-product obtained from the alleged infringement in the Chilean port.\textsuperscript{243}

It should be pointed out that such unilateral action has, in many cases, escalated into a series of bitter diplomatic disputes and tensions between the coastal States and high seas fishing States. Intense competition over the world’s remaining and yet increasingly depleted fish stocks in major fishing regions in the enclave of high seas immediately beyond the EEZs, such as the Bering Sea, the Pacific, the Northeast Atlantic and the Southwest Atlantic, have in many cases exacerbated disputes and tensions among involving fishing States and coastal States.\textsuperscript{244}

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\item For Argentina: \textit{Act No. 23.968 of 14 September 1991}, Article 5(3), reprinted in Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs (DOALAS), Office of Legal Affairs, \textit{Law of the Sea Bulletin No. 20}, (New York: UN, 1992 (March), p. 20. For Canada: \textit{Coastal Fisheries Protection Act (C-33)}, amended May 1994; see in particular, sections 5.1(c) and (d), 5.2 and 7. The full text of this Canadian legislation is available online at http://laws.justice.gc.ca/PDF/Statute/C/C-33.pdf (accessed on 13 March 2010).
\item \textit{Ibid.}, Article 124.
\end{itemize}
\end{footnotesize}
The question of compatibility of transboundary fisheries management measures within and beyond the national jurisdiction of States has and continues to be a major fisheries management issue in the post-LOSC era. The LOSC clearly affirms the requirement for both coastal States and high seas fishing States to pursue cooperation when dealing with the conservation of transboundary fish stocks in both the EEZ and on the high seas. However, there is an opinion that the Convention does not provide reference points or clear guidelines to facilitate cooperation in pursuant to compatibility between fisheries conservation regimes across different zones. This is especially the case in Article 63(2) of the LOSC, which provides no reference to the obligation of affected coastal States and high seas fishing States to enter into an agreement for the compatible management and conservation of common straddling fish stocks in the areas of the high seas and those under national EEZs. In the absence of such an agreement, these fisheries could be subjected to ineffective management, as well as unsustainable fishing practices, resulting from a lack of coordination between relevant States.

The problems associated with managing straddling and highly migratory fisheries in several regions of the high seas prolonged throughout the mid-1980s and up to the 1990s, and were closely intertwined with the difficulty in ensuring compliance with established conservation and regulatory measures for transboundary fisheries under the LOSC regime. This difficulty was exacerbated by a combination of factors, but chief among them was the lack of an effective international mechanism under the

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245 As cited by Barston, the incompatibility of management and conservation measures within and beyond States’ EEZ was a central issue during the course of negotiations at the United Nations Conference on Straddling and Highly Migratory Fish Stocks. See Barston, “United Nations Conference on Straddling and Highly Migratory Fish Stocks,” p. 163.


247 Even if States have failed to reach agreement on fisheries conservation measures on the high seas, Miles and Burke hold the view that “an obligation would still apply to each fishing State to take unilateral conservation measures affecting its own flag vessels.” See Miles and Burke, “Pressures on the United Nations Convention,” p. 351.
The LOSC places a general requirement on high seas fishing States to cooperate with each other for conservation and management purposes, but the major obstacle in giving effect to this obligation is the absence of provisions dealing with the monitoring, control, surveillance and enforcement of vessels engaged in high seas fishing. Neither detailed enforcement procedures (e.g. the right to board vessels and conduct inspections) nor a clearly defined extraterritorial jurisdiction of coastal States in areas beyond the EEZs has been expressly provided for by the LOSC. The fisheries framework established under the Convention also lacks international guidelines for the imposition of sanctions against vessels and/or nationals acting in contravention of fisheries rules applicable on the high seas.

In relation to the duty of States to cooperate in the management of highly migratory fish stocks on the high seas, Article 118, for example, is rather vague and deemed to be unlikely to facilitate such cooperation. The Convention’s provisions contain no reference to the prescriptive implications to the States concerned if such agreement failed to be reached, subsequently, indicating that the critical element required for successful interstate cooperation in high seas fisheries management is missing from the LOSC.

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249 See Articles 118 and 119 of the Convention.


251 In Christie’s opinion, the fisheries standards imposed on coastal States by the LOSC for the conservation and utilisation of EEZ fisheries are “largely ambiguous, incredibly flexible, and virtually unenforceable.” Donna R. Christie, “It Don’t Come EEZ: The Failure and Future of Coastal State Fisheries Management,” *Journal of Transnational Law & Policy* 14(2004), p. 34.


The absence of clearly defined guidelines on how to manage and regulate shared stocks that occur in the EEZ areas of two or more States is another inherent weakness of LOSC fisheries regime. Article 63(1) requires States to cooperate directly or through appropriate sub-regional or regional organisation, but falls short of imposing an obligation on States to reach an agreement. This confers great flexibility on States to manage shared stocks in their respective EEZ, but may well lead to disparity in management standards and inequality in the allocation of resources.

Because of the vague nature of coastal States’ rights and responsibilities under the LOSC when managing straddling fish stocks with a migratory range transcending across the EEZ and high seas, it has, to a certain degree, posed a peculiar management challenge to both coastal and fishing States. Interpretation and application of LOSC provisions regarding the rights of coastal States to manage the said stocks beyond the outer limits of their EEZs and onto the adjacent high seas areas remain, as noted earlier, a matter for contention. Indeed, debate over this issue has occasionally escalated into conflict and animosity between DWFN and coastal States. These problems often arose when the latter group of States unilaterally imposed stringent conservation measures for straddling fishery stocks in the high seas beyond their 200-nm EEZ jurisdiction. One of the best know examples of this is the much-publicised “Turbot War” between Canada and the European Union in 1995 over the quotas and allocation rights for the management of straddling groundfish stocks on the Atlantic Ocean, adjacent to Canadian’s proclaimed EEZ waters off Newfoundland.254

Apart from the underlying weakness of the LOSC fisheries framework, another explanation for the problems associated with fisheries conservation is that irresponsible fisheries practices were tolerated, sometimes even encouraged by either the coastal

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States or flag States. These practices, which included the reflagging of vessels, overcapitalisation, the deployment of fleets with an excessive fishing capacity, the use of destructive fishing gear and methods, as well as the failure of flag States to exercise effective control over vessels flying their flags, have all been identified by Doulman (2007). In summary, the deficiency of the LOSC fisheries provisions, combined with the inability and refusal of a great number of coastal and fishing States to discharge their obligations and implement proper measures for fisheries conservation, has rendered fisheries conservation objectives under the Convention untenable.

2.3. Conclusion

This chapter has examined the background and driving forces behind the dynamic changes in the international framework governing marine capture fisheries. It has analysed the chronological events that triggered this development through two different stages, stretching back to the 1950s until the LOSC was opened for adoption in 1982. From the foregoing discussion, it can be argued that the international legal and policy framework for ocean fisheries governance has undergone a significant transformation since the end of World War II. This transformation took place in progressive stages and against an ever changing social, economic and political landscape of post-war international relations.

The adoption of several, legally binding treaty instruments with provisions applicable to fisheries management, was the result of efforts by the global community to address some of the outstanding issues and problems relating to coastal and offshore fisheries in the post-war period. Among the most significant of these hard law

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255 Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 203.
256 Paragraph 4 of the Convention’s preamble expressly states this objective.
instruments is the LOSC- the first codified all-inclusive global legal instrument for ocean management.

Finalised after a series of intense, protracted negotiations and consensus building measures of UNCLOS III session, the greatest achievement of the LOSC as shown in this chapter lies in its framework of spatially defined, functional jurisdictional zones, as well as its innovative and comprehensive provisions - in particular EEZ regime - for the future direction of fisheries management. Indeed, this was an achievement, in which the previous sessions of UNCLOS I and II had failed to accomplish.

From the perspective of fisheries management, this chapter has highlighted the significance of the EEZ regime conceived by the LOSC. No other jurisdictional zone recognised by the LOSC has changed the international legal and policy framework for marine fisheries management more than the EEZ. The universal claim to this extended maritime zone has radically transformed the distribution pattern of global marine capture fisheries, with substantial portions of the world’s exploitable marine fisheries resources falling under the exclusive control of coastal States. Apart from the socio-economic benefits enjoyed by coastal states as a result of the abundant fisheries created by the EEZ regime, coastal States also have an increased regulatory and enforcement responsibility with respect to the conservation of these resources as set out in the LOSC provisions.

The LOSC has received strong criticism for the ambiguous (and thus ineffective) obligations it imposes upon coastal States and fishing States to manage fisheries resources. Indeed, it has been observed that the LOSC fisheries framework does not provide sufficient guidelines for States to carry out effective management of fisheries resources, particularly in respect to transboundary species such as straddling
and highly migratory fish stocks. As a result, a multitude of fisheries-related issues emerged and persisted, predominantly in the form of overfishing, a high incidental catch and discard rate, reflagging of vessels, and overcapitalisation. These problems cast doubts on the comprehensiveness of the LOSC fisheries regime to reverse the trend of worldwide depletion of marine fisheries resources. This, in turn, prompted the need for reform in the international legal and policy framework for fisheries.

A paradigm shift in the international fisheries regime was urgently needed. A new regime was required for closing the gaps that had been left by the LOSC fisheries framework, and equally significant, promoting a more sustainable, responsible form of fisheries practice in harmony with the environment. This call was noticeably gaining ground in the world of international fisheries, and by the early 1990s, the need for a responsible fisheries regime was given a high profile in the international fisheries agenda. The succeeding chapter will discuss this development in detail.
Chapter 3

GLOBAL EFFORTS IN THE POST-LOSC PERIOD TOWARDS THE CONCEPTUALIZATION OF AN INTERNATIONAL FRAMEWORK OF RESPONSIBLE FISHERIES

3.1. Introduction

This chapter is a continuation of the previous discussion on the origin and evolution of the global legal and policy framework for fisheries governance, with special emphasis on the post-LOSC period. It focuses on the current, universally agreed principles, rules and standards for responsible fisheries enunciated in legally binding treaty and voluntary instruments adopted in the post LOSC era. Similar to Chapter 2, this chapter does not provide an extensive legal or policy analysis of the substantive provisions of the relevant international instruments adopted after the LOSC, as it will be covered in Chapter 4.

The major factors that triggered the development of internationally acceptable principles and standards on responsible fisheries applicable to coastal States in managing EEZ fisheries are discussed in this chapter. It also examines the general background, scope and structure of the following treaty and voluntary instruments: the Nineteenth Session of the FAO Committee on Fisheries (COFI) Meeting, 1992 Declaration of Cancun, the Rio Declaration, Chapter 17 of Agenda 21, the UN Fish Stocks Agreement, the FAO Code of Conduct for Responsible Fisheries, and the four IPOAs- IPOA-IUU, IPOA-Capacity, IPOA-Seabird and IPOA-Sharks. A background description of technical guidelines and supplementary documents initiated by the FAO
to support the practical implementation of those voluntary instruments is also offered in this chapter.\textsuperscript{257}

3.2. Reforming the Legal and Policy Contents of the Global Framework for Fisheries

In an effort to address the underlying weakness of the LOSC fisheries legal regime and the prevailing crisis in world fisheries, the global community increasingly called for the international legal and policy framework for fisheries governance to be re-assessed and revamped. As stated in Chapter 2, there was an increased societal awareness for a paradigm shift towards a fisheries management regime that was more prescriptive, regulatory, and science-based in its approach and content. The push for the conceptualization of responsible fisheries regime started to gain momentum, and by early 1990s, it was high on the international fisheries agenda at both regional and international levels. The following sections will discuss the development of this regime, starting with the Nineteenth Session of the FAO COFI meeting in 1991.

3.2.1. Nineteenth Session of the COFI Meeting

As widely acknowledged in the literatures on fisheries, the initial concept of responsible fishing and the call for a code of conduct establishing such a practice was formally raised at the Nineteenth Session of the FAO COFI Meeting that took place from 8-12 April, 1991 (hereafter ‘COFI Meeting’ or ‘the Meeting’).\textsuperscript{258} Attended by government

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\textsuperscript{257} Due to space constraints of this thesis, this chapter confines its discussion on the FAO technical guidelines for responsible fisheries up to 2009, namely FAO, “Fisheries Management. 2. The Ecosystem Approach to Fisheries. 2.2 Human Dimensions of the Ecosystem Approach to Fisheries,” FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2, Add. 2, (Rome: FAO, 2009), 88pp
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delegations and interested observers from different non-government organization, the Meeting was convened within the context of formulation and discussion on issues related to large-scale, pelagic driftnet fishing operations and their detrimental impact on marine living resources and their ecosystem. The agenda of the COFI Meeting was largely devoted to highlighting the issues and challenges facing the management of fisheries worldwide, as well as the scope for remedial action through individual and collective efforts. The Meeting also evaluated the progress made in implementing the Strategy and Programmes of Action endorsed by the 1984 FAO World Fisheries Conference for Fisheries Management and Development. A number of priority actions were also recommended at the Meeting for the FAO to execute, with a view to realizing the long-term goals of sustainable use and ecologically sound development of fisheries resources.

However, the COFI Meeting was far more influential in that it affirmed the decisive role the FAO would be expected to play in promoting responsible fisheries. The functional scope of the Organization, as will be discussed in the succeeding sections, extends to, among others, enhancing the technical and scientific capabilities of governments and international/regional organisations in addressing the various issues in

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259 The Session involved 87 members of the COFI, observers from 7 other FAO member nations, one non-Member Nation of the FAO (Taiwan), the Holy See, representatives from various UN organisations and European Economic Community, as well as observers from 14 IGOs and NGOs. See FAO, “Report of the Nineteenth Session of the Committee on Fisheries, Rome, 9-12 April 1991,” FAO Fisheries Report No. 459, (Rome: FAO, 1991), p. 1.


261 The FAO World Conference on Fisheries Management and Development was held in Rome from 27 June to 6 July 1984. In the opening statement made by the FAO Director General, he explicitly recognized the continuing validity of the principles, strategies and measures introduced by the 1984 FAO World Fisheries Conference on Fisheries Management and Development were not only as a source of guidance but also “aspiration to those responsible for the planning and execution of fisheries management and development.” FAO Fisheries Report No. 459, p. 54.

262 Ibid., paragraph 82, at p. 13.
global fisheries and their habitats. As a UN agency with “the most representative international authority” in the field of fisheries and aquaculture, the FAO possesses an important advantage over other organisations as its deliberations, recommendations, as well as resolutions have far-reaching effects on fisheries management and conservation practices around the world.\textsuperscript{263} Indeed, the universality of FAO membership offers every State an opportunity to participate in the decision-making process of the Organization. This arrangement has reinforced the status of the FAO as the most appropriate international body to deliver to States the technical guidelines and training programmes for promoting sustainable development in fisheries and the protection of the aquatic environment. The importance of the FAO has been further emphasised at the COFI Meeting, where the Organization decided to undertake different range of initiatives designed to promote responsible fisheries. These initiatives included developing a standard vessel marking system and improved methods of monitoring and enforcement, encouraging interstate cooperation, and enhancing national capabilities in the collection, analysis, reporting and dissemination of reliable fisheries statistics and data.\textsuperscript{264} Directing its attention to the broader issues of the use of non-selective fishing gear and urgent need for a reduction in the incidental capture of non-target fish species, the Meeting requested the FAO to intensify its work on the development of selective fishing gear technology and to assess the impact of such gear on marine animal behaviour. In particular, the 1992 COFI Meeting raised the possibility of the FAO “elaborating guidelines or a code of practice for responsible fisheries which would take into account all the technical, socio-economic and environmental factors involved”.\textsuperscript{265} This request was and continues to occupy the major thrust of the FAO’s programme of

\textsuperscript{263} Ibid., p. 57.
\textsuperscript{265} Ibid., paragraph 82, at p. 13.
work in the fields of fisheries and aquaculture, and received strong support from the international community, as illustrated in the convening of the International Conference on Responsible Fishing in Cancun, Mexico in 1992.

### 3.2.2. 1992 Declaration of Cancun

In response to the request made at the Nineteenth Session of the COFI Meeting for the FAO to draft a code of practice for responsible fisheries, the Mexican government, in collaboration with the FAO, hosted an International Conference on Responsible Fishing in Cancun, Mexico from 6-8 May 1992.\(^{266}\) Despite this was a low-key event with a narrow scope, the Conference did play a significant role in the development of an international regime for responsible fisheries governance.\(^{267}\) It proved instrumental as a forum at which important groundwork could be carried out, and triggered the development of a comprehensive code and set of standards and guidelines for responsible fishing.\(^{268}\)

After three day of deliberations and debates, the outcome of the Conference resulted in the adoption of the Declaration of Cancun,\(^{269}\) a document viewed by many as promoting a completely different approach to fisheries management and development under the umbrella concept of “responsible fisheries”. This new orientation marked a departure from the species-centric management approach (predominantly espoused under the LOSC fisheries regime) to a sustained, responsible utilisation and

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\(^{266}\) The Conference is hereafter referred to as ‘Cancun Conference’.

\(^{267}\) In spite of this, the attendance at the Conference was strong. Representatives from more than 60 countries, including from attended the Conference, as well as key representatives of RFMOs, IGOs, and NGOs.


management of fishery resources with a concurrent recognition of the importance of the environmental protection of fisheries habitat. The key principles contained in the text of the Declaration of Cancun with a view to ensure that fisheries and fishing activities are conducted responsibly provide that:

[S]ustainable utilization of fisheries resources in harmony with the environment; the use of capture and aquaculture practices which are not harmful to ecosystems, resources or their quality; the incorporation of added value to such products through transformation processes meeting the required sanitary standards; the conduct of commercial practices so as to provide consumers access to good quality products.

The above-mentioned principles could then be practically applied to fisheries management and conservation by urging States to take appropriate action for implementing a variety of measures proposed in the Declaration of Cancun. Examples of such measures central to this advocacy include adopting effective fisheries planning and management standards (including appropriate mechanisms to ensure responsible fishing in the EEZs) and improving scientific knowledge relating to the biology, abundance, distribution and fluctuation of fisheries resources. Other measures include promoting and enhancing the collection of data necessary for the conservation and sustainable utilisation of fisheries resources. Additional measures in the Declaration involve systematically assessing the impact of fishing, aquaculture and other activities on the marine environment, fostering international cooperation and collaboration on matters relating to joint research, and facilitating the transfer and exchange of technological information on matters relating to fisheries.

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271 Declaration of Cancun, paragraph 10.
272 Paragraph 3.
273 Declaration of Cancun, paragraph 4.
274 Paragraph 7.
275 Paragraph 16.
Specific measures addressing the factors and behaviours attributed to irresponsible and non-sustainable fisheries are also endorsed by the Declaration of Cancun. In particular, States are required to promote the development and use of selective fishing gear and selective fishing practices\textsuperscript{276} while flag States must abstain from reflagging vessels as a means of avoiding compliance with applicable conservation and management rules for fishing activities on the high seas. Indeed, these principles are a testimony to the urgent need at the time to reverse some of the most persistent and prevailing problems affecting global fisheries.\textsuperscript{277}

The 1992 Declaration of Cancun is a non-binding instrument that placed the concept of responsible behaviour in fisheries at the forefront of the international fisheries agenda.\textsuperscript{278} Equally important is the Declaration’s recognition of the paramount role of the FAO to consult other international organisations for the preparation of an international code of conduct for sustainable and responsible fisheries.\textsuperscript{279} Beyond the organisational framework of the FAO, the call for the preparation of the code was so important that it became one of the main topics of debate at international fora immediately after the Cancun Conference.\textsuperscript{280} Most prominent of these fora was the United Nations Conference on Environmental Development (UNCED) (popularly

\textsuperscript{276} Declaration of Cancun, paragraph 6.
\textsuperscript{277} Marashi, “Summary Information on the Role of International Fishery,” paragraph 9.
\textsuperscript{278} Doulman has noted that the Declaration of Cancun was given worldwide publicity, even though the Conference that led to its adoption was a low-key meeting. Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 191.
\textsuperscript{279} See Agrees: 1 of the Declaration of Cancun.
\textsuperscript{280} The FAO Technical Consultation on High Seas Fishing, which was held in around September 1992, was one of the FAO-initiated for recommending the elaboration of a code to overcome the issues affecting high seas fisheries. FAO, “Papers Presented at the Technical Consultation on High Seas Fishing: Rome, 7-15 September 1992,” FAO Fisheries Report No. 484 Suppl., (Rome: FAO, 1992), paragraph 49, at p. 36.
known as the “Earth Summit”) that was held from 3-14 June 1992, in Rio de Janeiro, Brazil.  

3.2.3. UNCED and the Development of Responsible Fisheries Concept: the Rio Declaration and Agenda 21

A list of long-standing issues relating to global resource sustainability and environmental protection received global coverage during the UNCED plenary sessions in 1992. Among the most critical issues were the overexploitation of aquatic living resources and the progressive deterioration of the vulnerable marine ecosystem, both of which needed remedial action by the international community. Concern over these issues eventually led to the creation of a series of progressive instruments, including framework document, action programme and declaration. Of these instruments, the Rio Declaration on Environment and Development (Rio Declaration) and the Programme of Action Agenda 21, specifically Chapter 17, typify the most significant achievement of the UNCED in the development of a global policy framework for the sustainable use and responsible management of living resources within the context of marine environmental protection.

The contents of both the Rio Declaration and Agenda 21 share several similarities with respect to their underlying objectives and strategies. In particular, they each recognise the paramount importance of the governments of nation State as the

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281 As opposed to the Cancun Conference, the UNCED plenary session was unprecedented for a UN conference, in terms of both its size and the scope of its concerns. Over 170 governments participated, involving more than 100 heads of state and 2,000 NGO representatives.

282 These documents are Agenda 21, the Rio Declaration on Environment and Development, the Statement of Principles for the Sustainable Management of Forests, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity. The first three documents are non-binding, whilst the last two were formulated as legally binding agreements.

283 The Rio Declaration and Agenda 21 are both voluntary agreements, but in the opinion of Lugten and Andrew, the instruments “carry [a] moral obligation that states will comply with the principles and implement the provisions.” See Gail Lugten and Neil Andrew, “Maximum Sustainable Yield of Marine Capture Fisheries in Developing Archipelagic States- Balancing Laws, Science, Politics and Practice,” IJML 23(2008), p. 8.
main actors responsible for implementing the document provisions and undertaking the appropriate action to ensure the sustainability and protection of the marine environment and its living resources. In this regard, the principles and decision-making approaches enshrined in these two particular instruments have led to the articulation of a number of non-binding rules increasingly adopted by States and relevant stakeholders. These principles are important in that they can guide ocean law and policy reforms at the national and international levels, thereby making ecological and sustainable development of natural resources, including ocean and marine resources, attainable.

Several principles expressed in the Rio Declaration and Agenda 21, including precautionary principles as well as those relating to international cooperation in fisheries management and an ecosystem-based management approach in fisheries, replicate the important substance of responsible fisheries advanced in the Declaration of Cancun.

### 3.2.3.1. Rio Declaration

The Rio Declaration consists of 27 non-binding principles and nearly all of which focus on the sustainable and environmentally sound development of renewable natural resources, together with the protection of the environment and its biodiversity. At first sight, the Declaration is not a statement for marine fisheries governance per se.

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284 The Preamble of Agenda 21, for example, clearly recognises that successful implementation of the Agenda’s principles, strategies and measures is “first and foremost the responsibility of Governments”. See Agenda 21, paragraph 1.3.


287 The theme of sustainable development extends throughout the policy contents of the Rio Declaration and is covered in various fields, from economy and trade to environmental protection, biodiversity conservation and the need for cooperation between States.
However, an examination on some of the concepts and principles embedded in the Declaration reveals their connection with the intrinsic elements of responsible practices in fisheries. The most of obvious of these elements include an ecosystem approach to fisheries management, precautionary management principle and the emphasis on international cooperation in bringing about sustainable management and conservation in fisheries.

To be more precise, Principle 4 of the Declaration deals with “Environmental Protection in the Development Process” and captures the essence of ecosystem approach to fisheries management and conservation. It starts by referring to a broad range of requirements for all States to implement as part of the sustainable development objective, one of which is environmental protection.

In recognition of the complex relationship between biological and physical components of ecosystems, components which often extend beyond the jurisdictional boundary of a single State, the Declaration places emphasis on the need for multilateral cooperation in order “to conserve, protect and restore the health and integrity of the earth's ecosystem”. This collaborative approach has generally been perceived to be more efficient and effective in addressing environmental problems of a transboundary nature than the initiatives taken independently by individual States.

Another profound contribution of the Rio Declaration towards the development of a contemporary international fisheries policy and legal framework is its adoption of a more cautious, science-based approach to the process of decision-making and management, now known as the precautionary principle. This principle is encapsulated in Principle 15 of the Declaration:

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See Principle 7 of Rio Declaration entitled “State Cooperation to Protect Ecosystem”.

Trouwborst holds the view that the UNCED represents a breakthrough for the development of the precautionary principle in international law as he further elaborated that the four documents
In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Beyond its endorsement in the Rio Declaration, the precautionary approach has undergone significant development in terms of its acceptance and implementation at the national, regional and international level.\textsuperscript{290} Aside from many non-related fisheries issues it has covered,\textsuperscript{291} the precautionary approach espoused in the Rio Declaration has received widespread endorsement and application in various areas of fisheries management. Indeed, the precautionary principle, together with the technical measures for its practical implementation, has been expressly endorsed by many subsequently adopted post-UNCED instruments in the form of multilateral treaties, resolutions and recommendations relevant to marine fisheries governance.\textsuperscript{292} At the national level, there has been a trend towards the practical application and adoption of the precautionary approach to fisheries conservation among a significant number of coastal and fishing States. Indeed, this trend is evident as can be seen with the incorporation of the precautionary approach into the texts of their domestic legislation, action plans and policies, as discussed in Chapter 4.

\begin{footnotesize}
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\item However, Birnie and Boyle are of the opinion that the precautionary approach has fallen short of being universally applied. Patricia Birnie and Alan Boyle, \textit{International Law and the Environment}, 2\textsuperscript{nd} ed., (New York: Oxford University Press, 2002), p. 119.
\item These issues include energy, air pollution, trading of endangered species, migratory birds and persistent organic pollutants. See Trouwborst, “Evolution and Status of the Precautionary Principle.” p. 29.
\item The clause in Article 6(2) of the UN Fish Stocks Agreement on precautionary approach theme merely cited verbatim from the paragraphs stipulated in Principle 15 of Rio Declaration, which stated:
\end{itemize}
\end{footnotesize}

“States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures”.

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3.2.3.2. Chapter 17 of Agenda 21

Agenda 21 is perhaps one of the greatest achievements of the UNCED in that it has established a framework for guiding the global community in achieving both the sustainable development of critical resources, including fisheries, and the protection of the aquatic environment. A lengthy, non-binding document with worldwide implication, Agenda 21 is widely recognised as an action blueprint for achieving good governance and sustainability in all areas of the world affected by human activities, including marine and coastal fisheries. It is directed at both government and non-government organisations, and places considerable emphasis on supporting States in designing and implementing their own national programme for the sustainable development of living resources. In addition, Agenda 21 serves as a mechanism for operationalising the different set of principles advanced in the Rio Declaration, including those principles, which, as noted earlier, constitute the conceptual framework for responsible fisheries.

Structurally, Agenda 21 is divided into 40 chapters with four separate sections, encompassing both sectoral and interdisciplinary themes. Chapter 17 of

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294 Hanchard affirms that Agenda 21 is the most effective action programme ever sanctioned by the international community. Hanchard, “The Implementation of the 1995 FAO Code of Conduct for Responsible Fisheries Management,” p. 73.


296 Section I deals with “Social & Economic Dimensions,” Section II focuses on “Conservation & Management of Resources for Development”, Section III addresses “Strengthening the Role of Major Groups” and Section IV deals with the “Means of Implementation”.

297 The core 6 themes of Agenda 21 are: (i) the revitalisation of growth and sustainability; (ii) the achievement of sustainable living; (iii) the efficient use of resources; (iv) the management of global and regional resources, including action programmes dealing with the atmosphere, oceans and seas, as well as living marine resources; (v) managing chemicals and waste; and (vi) the management of human settlements.
Agenda 21 is probably the most important and complex chapter in terms of providing an appropriate course of action to secure the preservation and sustainable development of the environment and its resources. It also incorporates a more holistic approach when dealing with marine resources in terms of its principles, strategies and recommendations, most of which, as will be discussed below, are compatible with the central notion of responsible fisheries.

The core elements of Chapter 17 are contained in seven programme areas, each of them supplemented by a series of objectives, activities and mechanisms for implementation. The overarching objective of these programme areas is to offer States and other non-government entities (whether international or regional) a set of guidelines to address specific matters relating to marine living resources and their ecosystem. It also has been a source of guidance and inspiration to those agencies responsible for the design and development of appropriate domestic programs for marine and coastal environment protection and the sustainable use of resources.

Chapter 17 of Agenda 21 is only a voluntary instrument but it does affirm and complement the rights and obligations of States prescribed by maritime-related treaty instruments, most notably the LOSC, as well as those developed under the auspices of the IMO and other related bodies. In this context, coastal States continue to be bound

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298 The title of the Chapter is “Protection of the Oceans, all Kinds of Seas, Including Enclosed and Semi-enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of their Living Resources.”


300 These programme areas encompass: (i) Integrated management and sustainable development of coastal and marine areas, including EEZs; (ii) Marine environmental protection; (iii) Sustainable use and conservation of marine living resources of the high seas; (iv) Sustainable use and conservation of marine living resources under national jurisdiction; (v) Addressing critical uncertainties for the management of the marine environment and climate change; (vi) Strengthening international, including regional, cooperation and coordination; and (vii) Sustainable development of small islands.

301 Mohd Nizam Basiron, “The Implementation of Chapter 17 of Agenda 21 in Malaysia Challenges and Opportunities,” OCM 41(1998), p. 2. See also Chapter 17, paragraphs 17.73 and 17.74.
by their obligation to ensure the proper conservation and management of marine living resources in their EEZs in accordance with the LOSC requirements.\textsuperscript{302}

Chapter 17 is considered by many as one of the few post-LOSC instruments which has significant influence on the development of a global framework towards achieving sustainable practices in marine fisheries conservation and management.\textsuperscript{303} In recognising the complex relationship between components of the ecosystem and human activities, Chapter 17 acknowledges that a more holistic approach is needed. Accordingly, it has placed greater emphasis on an integrated management and sustainable development approach for coastal and marine areas and resources, rather than simply regulating fishing operations.\textsuperscript{304} Not only must this development and management approach be integrated in its content, it must also be “precautionary and anticipatory in ambit”.\textsuperscript{305} Indeed, all these principles represent the integral components of the international normative framework for responsible fisheries.

The chief concerns of Chapter 17 are the universally agreed concepts and principles for the protection and conservation of marine and coastal ecosystems and their habitats. As evident in paragraphs 17.74(e) and (f), States should take concrete steps to protect and restore endangered marine species, as well as preserve rare or fragile ecosystems, habitats and other ecologically sensitive areas.

Another significant aspect of Chapter 17 in the global effort to solve prevalent problems in marine fisheries worldwide lies in its proposed management priorities, some of which are directly linked to irresponsible, unsustainable and destructive fishing

\textsuperscript{302}Chapter 17, paragraph 17.77.  
\textsuperscript{303}As an example, Vince points out that Agenda 21 has enhanced Australia’s commitment “to ecological sustainable practices in its approach to marine management”. Vince, “Policy Responses to IUU Fishing,” p. 687.  
\textsuperscript{304}Chapter 1 of Agenda 21, paragraph 17.1.  
\textsuperscript{305}Ibid.
practices. Programme Area C of Chapter 17\textsuperscript{306} in particular highlights international concern over the root cause and behaviour associated with the problem of fisheries management in the high seas and EEZs. Paragraph 17.45 of the Programme explicitly recognises the problem of overfishing on the high seas, associating the cause of the problem to inadequate management, including the adoption, monitoring and enforcement of effective conservation measures. The same paragraph also identifies the management concerns prevalent in this fisheries sector. These concerns include unregulated fishing activities, overcapitalization, excessive fleet size, reflagging of vessels to avoid regulatory compliance and the use of non-selective fishing gear.\textsuperscript{307}

Beyond the management of high seas fisheries, Programme Area C of Chapter 17 acknowledges that many areas under national jurisdiction, including the EEZs, are experiencing fisheries management problems. Exacerbated by uncontrolled and intense fishing efforts on the adjacent high seas areas following the advent of EEZ regime, some of these problems encompass local overfishing, unauthorised incursions by foreign fleets, degradation of the ecosystem, overcapitalisation, excessive fleet size, non-selective fishing gear, unreliable databases and increasing competition between artisanal and large-scale fishing operations.\textsuperscript{308} In response to these alarming threats to fisheries resources in the EEZ; Chapter 17 urges States to ensure those resources are conserved and managed in accordance with the LOSC requirements.\textsuperscript{309}

Insofar as high seas fisheries are concerned, a number of remedial measures have been suggested. These measures also apply to the problems affecting fisheries populations which lie within the adjoining national EEZs, particularly straddling fish

\begin{footnotesize}
\textsuperscript{306} Programme Area C deals with the “Use and Conservation of Marine Living Resources of the High Seas” and contains 25 major paragraphs.
\textsuperscript{307} Others issues and problems include lack of sufficient cooperation between States and unreliable databases.
\textsuperscript{308} Chapter 17 of Agenda 21, paragraph 17.71
\textsuperscript{309} Ibid., at paragraph 17.77.
\end{footnotesize}
stocks. These measures require States, among other things, to monitor and enforce fisheries conservation measures, promote, develop and use selective fishing gear and practices, minimise waste of target species and by-catch of non-target species,\textsuperscript{310} deter reflagging of vessels,\textsuperscript{311} and prohibit the use of dynamite, poison and other destructive fishing practices.\textsuperscript{312} States should also take positive action to carry out the exchange of data and information derived from scientific research in order to gain better knowledge and understanding of high seas fish stocks.\textsuperscript{313}

Another important contribution of Chapter 17 of Agenda 21 can be found in the recommendation made under paragraph 17.52(e) for the convening of an intergovernmental conference under the purview of the United Nations regarding the management and conservation of straddling fish stocks and highly migratory fish stocks. The outcome of this multilateral conference eventually led to the adoption of the UN Fish Stocks Agreement. The following section discusses this legally binding instrument.

### 3.2.4. 1995 UN Fish Stocks Agreement

In response to international concern over the declining state of high seas fisheries, as well as the recommendation made at theUNCED, the UN Fish Stocks Agreement was adopted on 4 August, 1995 at the sixth session of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks.\textsuperscript{314} The Agreement contains provisions which

\begin{itemize}
\item \textsuperscript{310} Chapter 17 of Agenda 21, paragraph 17.46(c).
\item \textsuperscript{311} Ibid., paragraph 17.52.
\item \textsuperscript{312} Paragraph 17.53.
\item \textsuperscript{313} Paragraph 17.56.
\item \textsuperscript{314} For a comprehensive analysis of the Conference, including the views expressed by several delegations during the formulation of the Agreement, see Barston, “United Nations Conference on Straddling and Highly Migratory Fish Stocks,” pp. 159-66.
\end{itemize}
primarily address the leading causes and symptoms of problems affecting high seas fisheries, and to a lesser extent, transboundary stocks within areas under the EEZs.\textsuperscript{315}

The UN Fish Stocks Agreement consists of a preamble, 50 articles and 2 annexes.\textsuperscript{316} From a cursory examination of its contents, the drafters of the Agreement were never envisioned for the instrument to operate as a comprehensive legal regime applicable to all types of fisheries. It is clear from its very title that the Agreement contains a narrow scope, being almost entirely devoted to securing the long-term conservation and sustainable utilisation of straddling and highly migratory fish stocks through effective implementation of the LOSC provisions.\textsuperscript{317} Consistent with the objective of the Agreement, the instrument applies foremost to the conservation and management of straddling and highly migratory fish stocks in areas beyond national jurisdiction.\textsuperscript{318}

Despite its narrow scope, the UN Fish Stocks Agreement has direct implications for the management regime of offshore fisheries within the EEZ.\textsuperscript{319} Indeed, the Agreement offers “the incentive necessary for [coastal States to carry out] the most immediate changes in EEZ management.”\textsuperscript{320} This assumption is premised on Articles 6 and 7 of the Agreement. Both provisions broaden the Agreement’s fisheries management objective to include the conservation and management of straddling and

\textsuperscript{315} The Agreement was adopted on 4 December 1995 and came into force on 11 December 2001. As of March 2010, 77 countries have ratified or acceded to the Convention. The current status of the Agreement, including a list of contracting parties, as at 30 November 2010, is available online at http://www.un.org/Depts/los/reference_files/status2010.pdf (accessed on 11 August 2010).

\textsuperscript{316} The Agreement’s content is divided into 13 parts.

\textsuperscript{317} Article 4 of the UN Fish Stocks Agreement expressly states that it must be interpreted and applied in the context of, and in a manner consistent with, the LOSC without “prejudice [to] the rights, jurisdiction and duties of States under the Convention.”


\textsuperscript{320} Christie, “It Don't Come EEZ,” p. 35.
highly migratory fish stocks specifically within areas of national jurisdiction.\(^{321}\) Christie (2004) takes the view that this requirement may further enhance the duty of coastal States to prevent problems of overfishing in the EEZ, as set forth in Article 61 of the LOSC.\(^{322}\)

The adoption of UN Fish Stocks Agreement marked a tremendous achievement of the international community towards improving the international framework of fisheries laws and regulations applicable to transboundary fish stocks on the high seas and in the EEZs. As well as reiterating and supplementing international legal norms under the LOSC for the management of such stocks,\(^{323}\) the UN Fish Stocks Agreement, as has frequently been highlighted in the literature, reinforces and expands the norms through the introduction of new concepts and detailed regulatory standards for fisheries management.\(^{324}\) Under the Agreement, greater emphasis is placed on more prescriptive and cautious science-based measures and standards for the management of fisheries in the context of the treaty texts.\(^{325}\) According to Hayashi (1995), these measures and standards provide the basis for assisting States to implement effectively the LOSC provisions on the management of straddling and highly migratory stocks.\(^{326}\)

\(^{321}\) *UN Fish Stocks Agreement*, Article 3.


\(^{324}\) For example, Markowski states that that UN Fish Stocks Agreement places more importance on incorporating scientific evidence and information within the management and conservation framework for straddling and highly migratory fish stocks than the LOSC. The basis of her argument is that in contrast to Article 61(2) of LOSC, the requirement under the UN Fish Stocks Agreement (Article 5(b) for the conservation and management measures to be based on the best scientific evidence available is “a clearly normative requirement.” Markowski, “The International Legal Standard for Sustainable EEZ Fisheries Management,” p. 14.

The very broad range of requirements prescribed under Article 5 of the Agreement is clearly designed to overcome the problems associated with irresponsible fishing practices affecting such stocks. These requirements, many of which qualify as the clearest expression of the concept of responsible fisheries directed to both flag and coastal States cover various matters. These matters include the development and utilisation of selective and environmentally safe fishing gear, the generation and transmission of timely, complete and accurate data on various biological and operational aspects of fisheries, the prevention or elimination of overfishing and excessive fishing capacity, the protection of biodiversity in marine environment and effective monitoring, control and surveillance measures.

Beside these general requirements, the UN Fish Stocks Agreement goes further by introducing innovative principles and new regulatory standards that are consistent with the central notion of responsible fisheries. These include an ecosystem approach to fisheries, compatibility and consistency of fisheries management measures on the high seas and in EEZ and a precautionary approach to fisheries management and conservation. The precautionary approach, one which encapsulates the core principles of the Agreement, is perhaps one the most innovative principles in the international

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327 The Agreement was concluded under the auspices of the UN General Assembly during the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks in 1992. The Conference was initiated in response to the recommendation adopted in Agenda 21 with its basis was the urgent need to implement the LOSC’s provisions on high seas fisheries through the development of transboundary cooperation and appropriate mechanisms for addressing ongoing fisheries issues, such as unregulated fishing, overcapitalisation of fishing fleet and extensive use of unselective fishing gear, reflagging of vessels and inadequate cooperation between States. See paragraph 17.50, U. N. Conference on Environment and Development Agenda 21, Chapter 17.

328 UN Fish Stocks Agreement, Article 5(f).
329 Article 5(f).
330 Article 5(f).
331 Article 5(g).
332 Article 5(l).
333 The provisions relating to the requirement of compatibility only apply to the management of straddling fish stocks and highly migratory fish stocks.
334 Articles 6 and Annex 11.
regime for fisheries management. Article 6 exemplifies this, being devoted entirely to the application of the precautionary approach. As such, it focuses more on the general obligation of the concerned State in implementing this approach, placing emphasis on science and information-based methodology to fulfil this obligation. To support the practical application of the Agreement’s provisions on the precautionary approach to fisheries, Annex II of the Agreement contains specific technical guidelines on how States and RFMOs should pursue this objective. These guidelines include the application of precautionary reference points, referred to as ‘target reference points’ and ‘limit reference points’, to ensure marine living resources are not subjected to overexploitation which will be discussed in some detail in Chapter 4.

The UN Fish Stocks Agreement also serves as an important international fisheries instrument for promoting responsible fisheries in that it strengthens and expands the scope of duties of flag States already established under the LOSC and the FAO Compliance Agreement. Indeed, specific guidelines for States in exercising effective control and jurisdiction over vessels flying their State flag have been elaborated within the provisions of the UN Fish Stocks Agreement. Articles 18 and 19, for example, reiterate the basic responsibilities of flag States contained in Articles III (1) and (3) of the Compliance Agreement for the purpose of ensuring vessels fishing on the high seas comply with conservation and management measures. Effective implementation of these measures is vital to ensure flag States prevent their flagged vessels from engaging in unregulated and unsustainable fishing practices in the high

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335 See, for instance, the comment made by Fontaubert et al., “Achieving Sustainable Fisheries,” p. 15.
336 See Articles 6(3)(a) and 6(3)(d).
338 The UN Fish Stocks Agreement abandons the exemptions contained in the Compliance Agreement on fishing vessel less than 24 metres from the application of management measures.
seas. In short, the UN Fish Stocks Agreement offers much more depth and substance to the rights and responsibilities of flag States than the LOSC, and supplemented the FAO Compliance Agreement in preventing vessels from engaging in irresponsible and destructive high seas fishing practices.

Overall, the UN Fish Stocks Agreement has made a significant contribution in a number of areas. Most notably it has improved and strengthened the fisheries legal framework under the LOSC in relation to the conservation and management of straddling and highly migratory stocks, both in the areas of the high seas and of those related to the cooperative management of fisheries between fishing States and coastal States within the national EEZs. Effective implementation of the Agreement’s provisions may be beneficial in dealing with the issues and problems arising from the ambiguous wording of flag State obligations under the LOSC, as well as the lack of explicit technical guidelines in the latter as to the manner in which these stocks should be managed.

### 3.2.5. FAO Code of Conduct for Responsible Fisheries

There are a number of soft law instruments emanating from the works of the COFI which seek to address the continuing crisis in global fisheries in the post-UNCED era. One prominent example is the FAO Code of Conduct for Responsible Fisheries (hereinafter the FAO Code of Conduct or the Code). Unanimously adopted on 31 October 1995 at the Twenty-eighth Session of the FAO Conference, the FAO Code Conduct is by far the most significant soft law instrument on fisheries ever developed.

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340 The complete text of the Code is available online at http://www.fao.org/docrep/005/v9878e/v9878e00.HTM (accessed on 3 September 2010).
with its primary purpose being the promotion of the sustainable use of fisheries resources and responsible fishing practices, including in the aquaculture sector.

One may argue that the elaboration of the FAO Code of Conduct represents the gradual progression and improvement of the modern international framework for fisheries governance. Rather than concentrating on a species-centric approach to fisheries management, the substance of this framework places a greater emphasis towards managing human behaviour by fostering a culture of accountability and establishing an environmentally sound fisheries management process. As Doulman (2007) has opined, the consensual adoption of the Code was a landmark because:

[I]t paved the way for countries and stakeholders to embark on a new mode of thinking about how fisheries should be managed and utilized. The concept of responsibility sought to put people at the centre of the fisheries equation, recognizing that above all fisheries management was about the management of people and not the management of fish.\textsuperscript{341}

While many developing countries reportedly faced the difficulty in implementing the FAO Code of Conduct,\textsuperscript{342} the Code continued to be seen as a valuable, guiding document which made responsible fisheries practices “a widely adopted norm in fisheries management.”\textsuperscript{343} Indeed, there has been noticeable progress over the last 15 years with respect to the legal and practical application of the Code among FAO members and RFMOs in relation to the management of marine capture fisheries.\textsuperscript{344} It is

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\textsuperscript{341} Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 229.

\textsuperscript{342} These obstacles and constraints have been noted in the COFI’s progress report on the implementation of the Code and include, among others, insufficient funding, a lack of technical and institutional capacity, inappropriate legislative frameworks for coastal fisheries, under-utilisation of the media and a lack of participation by stakeholders. The severity of this situation was further compounded by inadequate or lack of access to information in the field of fisheries research. COFI, COFI, “Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action, Twenty-fourth Session, Rome, 26 February-2 March 2001, COFI/2001/3, 2001, paragraph 47, available online at http://www.fao.org/docrep/meeting /003/x9187e.htm (11 February 2011).

\textsuperscript{343} Xue, “China and International Fisheries Law and Policy,” p. 60.

\textsuperscript{344} Based on a 2009 report by the COFI on the progress achieved in implementing the Code of Conduct and related IPOAs, it was reported that 93 percent of the respondents from 68 FAO member countries had put in place a national policy and legislative framework that either totally
\end{footnotesize}
argued that the FAO Code of Conduct has profoundly dictated the manner in which marine fisheries resources should be managed, conserved and developed at different levels (from individual fisheries, coastal management units to an international level) and in fisheries operations (from harvesting and processing to trading activities).

The FAO Code of Conduct is divided into 12 main Articles with two Annexes. While the first five Articles of the Code are introductory in nature, the substantive provisions of the Code are enumerated in Articles 6 to 12. The foundation of the Code can be found in Article 6. It contains 19 general principles under which the integral elements of the normative framework for responsible fisheries are made of. Following these principles are six thematic articles, contained in Articles 7 to 12. These Articles cover fisheries management (Article 7), fishing operations (Article 8), aquaculture development (Article 9), integration of fisheries into coastal area management (Article 10), post-harvesting and trade (Article 11) and fisheries research (Article 12).

In addition, the Code contains provisions concerning the need for States to prevent overexploitation of fisheries resources by: (i) ensuring the level of fishing intensity is commensurate with the state of those resources; (ii) establishing interstate cooperative arrangements in fisheries for effective resource management and conservation; and (iii) exercising effective control over vessels that fly their flags.

345 These two Annexes provide background information regarding the negotiation process that eventually led to the adoption of the Code; while the second one concentrates on the text of the FAO Conference Resolution of 4/95 pertaining to the Code’s adoption.

347 These articles cover the nature, scope and objectives of the Code, its relationship with other international instruments, the implementation of the Code, as well as special requirements for developing countries.

348 See Article 6.4 and especially Article 10.3 in relation to regional cooperation to improve management in fisheries.

349 The Code contains provisions dedicated to flag States duties as stipulated in Article 8.2.
The Code also incorporates measures to foster the protection of the marine aquatic environment and the maintenance of biodiversity resources through the elimination of destructive, non-selective and environmentally unsound fishing gear and practices.\textsuperscript{350}

Considered by the FAO as “the most complete operational reference for fisheries management,”\textsuperscript{351} one of the most remarkable aspects of the Code is its complex and innovative set of principles, norms and standards for responsible fisheries practices which simultaneously acknowledge the importance of maintaining the integrity of the marine environment.\textsuperscript{352} Not only do these principles and measures serve as the basis for a universally accepted standard of responsible behaviour when harvesting fish, their intended application, as previously mentioned, clearly transcends the sectoral range of post-harvesting activities, from processing and trading, to the integration of fisheries into coastal area management.\textsuperscript{353}

The FAO Code of Conduct plays an important role in encouraging responsible behaviour and advocating accountability in fisheries practices. Even though fisheries stakeholders have no legal obligation to implement the Code, or being subjected to punitive sanctions for non-compliance, there is a strong moral obligation on them to

\textsuperscript{350}See, for example, Articles 6.6, 6.7, 5(f) and 6(3)(c), and 8.5 of the Code with respect to the development and use of selective fishing gear. See also Article 8.4.2 with respect to prohibition on the use of dynamite, poison and other destructive fishing practices.


\textsuperscript{352}Moore is of the view that the FAO Code of Conduct contains the most comprehensive and innovative range of principles and standards of behaviour for responsible practices. Moore, “The Code of Conduct for Responsible Fisheries,” p. 85; Hey meanwhile has described the instrument as “the perfect agenda for attaining sustainable fishing practices” Ellen Hey, “Global Fisheries Regulations In the First Half of the 1990s,” \textit{IJMCL} 11(1996), p. 483; Doulman recognises the Code as “One of the world’s most influential and comprehensive fisheries instruments developed and intended to be implemented in a holistic manner in marine and inland capture fisheries and aquaculture.” Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 191; In contrast, Schorr and Caddy assert that the Code “fails to provide specific and concrete guidance, and thus, would require substantial interpretation” in its implementation. Schorr and Caddy, “Sustainability Criteria for Fisheries Subsidies,” p. 30.

take the necessary action in implementing the Code.\textsuperscript{354} Moreover, in spite that the FAO Code of Conduct is not legally-binding,\textsuperscript{355} this does not mean it is devoid of a legally-binding effect in terms of overcoming the worldwide fisheries crisis in the EEZ areas and beyond. As will be shown in the succeeding paragraphs, the Code’s voluntary provisions are just as important as any other legally-binding treaty or obligatory instrument.

First, there is a clear link between the FAO Code of Conduct and other hard law instruments related to fisheries.\textsuperscript{356} Certain provisions of the Code are rooted in established principles of international law, and therefore may already have a legally binding effect, as would any hard law instrument.\textsuperscript{357} To this end, Article 3 explicitly requires the instrument to be interpreted and applied in a manner consistent with the LOSC. Article 3.2 of the Code further indicates the close relationship between this voluntary instrument and other legally-binding treaty instruments such as the UN Fish Stocks Agreement.

Second, the contents of the Code, though voluntary, could still be made compulsory wherever its provisions have been incorporated into domestic laws or regional agreements.\textsuperscript{358} In reality, progress has already being made in the implementation of the Code’s requirements at the national level. According to biennial

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\item The soft-law nature of the FAO Code of Conduct means that there is no obligation for States to implement its provisions. However, Lugten holds the view that the principles set out in the instrument are undergoing the process of passing into customary international law, as evidenced by her analysis of the practice of States in implementing particular aspects of the Code or its entire content at the national and international level. Gail Lugten, “Soft Law with Hidden Teeth: The Case for a FAO International Plan of Action on Sea Turtles;” \textit{Journal of International Wildlife Law and Policy} 9(2006), p. 167.
\item See Article 1.1 of the Code of Conduct.
\item As stipulated in this article, the Code is to be interpreted and applied in a manner consistent with the relevant provisions of the UN Fish Stocks Agreements and in accordance with other applicable rules of international law.
\end{itemize}
reports provided to the COFI in regard to the status of the implementation, most FAO member countries have taken concrete steps to harmonise their national fisheries law and policy with the Code’s requirements.\textsuperscript{359} This positive development has prompted Moore (1999) to point out that that the Code has strengthened and complemented the set of rules, principles and objectives already established in legally binding international fisheries instruments, and could further encourage responsible behaviour in fisheries management.\textsuperscript{360} The voluntary nature of the FAO Code of Conduct also means that it has an advantage over binding instruments in that it contains substantive articles that render support to the implementation of other hard law instruments, namely the LOSC and the UN Fish Stocks Agreement.\textsuperscript{361} This has been made possible through the Code’s framework of guiding principles, management standards and best suggested practices designed to address various issues and problems affecting marine capture fisheries as a whole.\textsuperscript{362} The contribution of the Code, in Friedrich’s view, extends beyond accommodating international rules of fisheries governance as it “constitutes a step forwards in the progressive development towards modern fisheries governance.”\textsuperscript{363} It offers a much more detailed elaboration of universally accepted principles and management standards “that seek to promote change in the way in which fisheries and

\textsuperscript{359} Some of the notable examples of these documents include the Canadian Code of Conduct for Responsible Fisheries Operations, the United States of America Implementation Plan for the Code of Conduct for Responsible Fisheries and the Regional Guidelines for Responsible Fishing Operations in Southeast Asia.

\textsuperscript{360} Moore further asserts that the Code “should be viewed as a package designed to confront fisheries and aquaculture issues and problems at different levels and on different areas” Moore, “The Code of Conduct for Responsible Fisheries,” p. 313.


\textsuperscript{362} Although inland and aquaculture fisheries are among the types of fisheries that fall under the scope of the Code, Hosch points out that the Code was “drafted with marine fisheries in mind”, given that the Code has integrated the provisions of a host binding instruments that primarily deal with ocean and marine fisheries, such as the LOSC, the UN Fish Stocks Agreement and the FAO Compliance Agreement. See G. Hosch, “Analysis of the Implementation and Impact of the FAO Code of Conduct for Responsible Fisheries since 1995,” \textit{FAO Fisheries and Aquaculture Circular No. 1038}, (Rome: FAO, 2009), pp. 1-2.

aquaculture are managed and utilized.”

Rather than being a static document, the framers of the Code intended it to be a “living” one. As such, its substantive provisions were deliberately drafted to be capable of evolve in response to new emerging developments, scientific discoveries and practical experiences.

The comprehensive coverage of the FAO Code of Conduct can be attributed to its voluntary status as critic doubts whether a legally binding fisheries agreement could successfully encompass so many different types of fisheries. Evidence of this can be seen in the narrow scope of the UN Fish Stocks Agreement concentrating exclusively on the management of straddling and highly migratory fish stocks. In contrast, the FAO Code of Conduct embraces all aspects of the fisheries sector, irrespective of its size, scale or level of development. Indeed, the extent of the Code’s coverage can be seen in its regulation of socio-economic factors within the context of fisheries management, such as labour conditions, training and participation, artisanal and indigenous fishers, education, food security and the need to integrate fisheries into coastal area management. In light of this coverage, the Code is of great importance towards improving the existing global policy framework for responsible fisheries governance.

By virtue of the fact that the FAO Code of Conduct is a voluntary document and hence, without legally binding effect, States have no obligation to implement the Code’s provisions unless a particular provision has either achieved the status of

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364 Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 189.
customary international law or has been incorporated into a State’s national legislation. This arrangement has its advantages. It should be pointed out that States and fisheries stakeholders have virtually complete discretion when choosing which of the Code’s principles and measures to implement, as well as the flexibility of tailoring these principles and measures to their individual capabilities and/or changing circumstances.

Moreover, the Code was developed with the global objective of achieving a more rational and sustainable utilisation of fisheries resources across jurisdictions and different fishing activities. This means that its provisions are applicable to many groups associated with fisheries, not just governments and RFMOs, but also NGOs, fishermen, fish marketers, and other relevant stakeholders involved in the management, conservation and trade of fisheries resources and products. The sheer number of fisheries stakeholders that have implemented the Code partly explains its success, giving the fact that the various parts of the fisheries sector are closely related to each other.

Insofar as fisheries conservation and management in the EEZ are concerned, the principles and standards of the FAO Code of Conduct have been progressively accepted as an integral part of the international norm for responsible and sustainable fisheries practices. Schorr and Caddy (2007) have observed that “the Code itself enjoys a breath

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368 Since there is no formal acceptance process for the Code, States could immediately proceed to implement the instrument at the national and regional level without the need for ratification.
369 The Code, through Article 5.1, expressly recognises the varying capacity of developing countries to implement the recommendations contained in the instrument.
370 The principles and standards embodied in the Code also serve as a reference for regional fisheries bodies (RFBs) when drafting their own conventions. See Patricia Lee Devaney, Regional Fisheries Management Organizations: Bringing Order to Disorder, p. 3, available online at http://www.pon.org/downloads/ien14_4Devaney.pdf (accessed on 13 June 2008).
371 See Article 1.2.
372 This has led Doulman to suggest that “the issues at stake [of irresponsible and non-sustainable fishing practices] were too important to be left to a select group irrespective of their roles and functions in the fisheries sector.” Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” pp. 192-193.
of support and an absence of dissent that is rare even for a “voluntary” agreement.”

Indeed, some of the Code’s provisions contain a detailed elaboration of fishery principles and are widely perceived to be compatible with the modern framework for sustainable fisheries management that takes into account environmental considerations. An example of this lies in the Code’s recognition of the link between fisheries management and the conservation and sustainable use of marine ecosystem and its biodiversity resources. Given the uncertainty surrounding the biological state of fisheries and the paucity of scientific information on fisheries and their environment, the Code places a strong emphasis on applying a precautionary approach to the process of fisheries management.

Since its adoption, the FAO Code of Conduct has served as a widely accepted reference point for the practical implementation of the responsible fisheries concept. It was noted earlier that this function has been reinforced in recent years through the FAO’s programme of work in fisheries that supports the dissemination and practical application of the principles and measures endorsed in the Code. An integral part of this programme is the elaboration of a series of instruments linked to the Code - the four IPOAs and the Strategy for Improving Information on Status and Trends of Capture Fisheries (Strategy–STF). The following section briefly discusses these IPOAs.

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374 This is evidenced in Articles 6.2, 6.4, 6.6, 7.2.2 and 7.3.3.
375 Article 7.5 of the Code is dedicated to the application of the precautionary approach.
376 To promote the widest State support for the implementation of, and adherence to, the Code’s requirements, Article 4.2 grants the FAO the power to monitor the progress of the Code’s application and practical effect, and to report accordingly to the COFI.
377 Adopted by the COFI at its Twenty-fifth Session Meeting in 2003, the instrument is intended to offer “a framework, strategy and plan for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy-making and management for the conservation and sustainable use of fishery resources within ecosystems.” FAO, Strategy for Improving Information on Status and Trends of Capture Fisheries, (Rome: FAO, 2003), quoted from the abstract of the document.
3.2.6. International Plans of Action (IPOAs)

Within the first decade following the finalisation of the FAO Code of Conduct, COFI has developed a set of implementing instruments in the form of IPOAs. To date, these instruments consist of International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds), International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks), International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity), and the International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). The first three IPOAs— the IPOA-Seabirds, IPOA-Capacity and IPOA-Shark— were published in a single volume in 1999. This was followed by the endorsement of the IPOA-IUU document at the Twenty-fourth Session of COFI meeting on 2 March 2001.

As voluntary instruments elaborated within the framework of the FAO Code of Conduct, these IPOAs reinforce and supplement both the principles and objectives of the Code with regard to specific issues of fisheries management, and hence form an integral part of it. These IPOAs provide detailed guidelines in which the international community can use to address issues affecting global fisheries. Like the FAO Code of

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382 All three documents were adopted by the COFI during the 23rd session of its meeting in February 1999 and afterward endorsed by the FAO Council in June 1999.
383 The FAO Council formally endorsed the IPOA-IUU on 23 June 2001 during the 120th session of the FAO Council in Rome, Italy.
384 Apart from the four IPOAs, a binding instrument, the FAO Compliance Agreement, was concluded within the framework of the Code and currently forms an integral component of it.
385 William Edeson, “The International Plan of Action on Illegal Unreported and Unregulated Fishing: The Legal Context of a Non-Legally Binding Instrument,” *IJMCL* 16(2001), p. 608; All four IPOAs are also consistent with the basic provisions of legally binding instruments, such as the LOSC, the FAO Compliance Agreement and the UN Fish Stocks Agreement.
Conduct, these IPOAs are structured in accordance with international treaty instruments but incorporated a suite of principles, norms, standards and best practices designed to address specific global concerns in fisheries.\textsuperscript{386}

The IPOA-Sharks has been developed mainly to address the management and conservation of sharks worldwide due to their diminishing numbers resulting from lack of adequate management as waste and discards.\textsuperscript{387} The IPOA-Seabirds seeks to reduce the problems of incidental by-catch and mortality of seabirds in the longline fisheries industry through a host of proposed measures and activities.\textsuperscript{388} Concerns over unsustainable fishing levels in many parts of the world prompted the development of the IPOA-Capacity. It calls upon States to assess their fishing capacity, and if required, adjust or reduce their capacity in order to overcome overcapitalisation and overfishing.\textsuperscript{389}

As opposed to IPOA-Sharks and IPOA-Seabirds, which “are very specific in their focus,”\textsuperscript{390} the scope of the IPOA-Capacity extends beyond the general issue of fishing capacity, as evidenced by the inclusion of measures aimed to protect biodiversity and habitats in the marine environment from the adverse impact of fishing activities, such as the use of non-selective fishing gears.\textsuperscript{391} From an operational standpoint of view, the IPOA-IUU contains substantive provisions that serve as useful

\textsuperscript{386} The intent and purpose of these IPOAs have been viewed by Hanchard as “part and parcel of the Code in that they serve to ensure responsible fisheries in specific issues”. Hanchard, “The Implementation of the 1995 FAO Code of Conduct,” p.76.

\textsuperscript{387} See paragraphs 4 and 7 of the IPOA-Shark.

\textsuperscript{388} The text of paragraph 2 of IPOA-Seabirds expressly highlights the longline fisheries sector where seabirds are commonly caught as by-catch. These sector involved the capturing of some of the most commercially important fish stocks such as tuna, swordfish and billfish; Patagonia toothfish in the Southern Ocean and halibut, black cod, Pacific cod, Greenland halibut, cod, haddock, tusk and ling in the northern oceans (Pacific and Atlantic). The species of seabirds most frequently taken are albatrosses and petrels in the Southern Ocean, northern fulmars in the North Atlantic and albatrosses, gulls and fulmars in the North Pacific fisheries.”

\textsuperscript{389} Hosch, “Analysis of the Implementation and Impact of the FAO Code of Conduct,” p. 3.


\textsuperscript{391} IPOA-Capacity, paragraph 9(iv).
guidelines for States and other interested actors in eliminating all forms of activities associated with IUU fishing within and outside their national jurisdiction.

The implementation of all four IPOAs is fundamentally important because, when viewed as a package, they have the potential to reinforce as well as deepen the implementation of the FAO Code of Conduct. The measures contained in these IPOAs provide a comprehensive “toolbox”, allowing States and relevant stakeholders the flexibility to choose which measures to implement according to their own capabilities and circumstances.  

All four documents seem to share the common goal of encouraging States to devise and adopt their own NPOA to ensure the effective management and sustainable exploitation of fisheries resources and fishing activities. In sum, the principles and measures of these four IPOAs, along with the FAO Code of Conduct, provide a valuable reference tool that may prove useful in guiding individual States in devising their own management and regulatory measures for responsible fisheries at national level.

3.2.7. FAO’s Efforts in Translating the Requirements of the FAO Code of Conduct and its Associated Instruments into Practice

More than 15 years have passed since the adoption of the FAO Code Conduct in 1995. During this time, there have been signs that the aspirations, principles and measures expressed in the Code, and those enunciated in its related plans of action and strategies, have been widely disseminated through publication, with some of them translated into

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393 To promote worldwide awareness of the FAO Code of Conduct, more than 13,000 copies of the printed Code and its technical guidelines have been distributed in over 40 different languages.
policy and legislative practices at the national level.\textsuperscript{394} Such progress has been driven by the FAO’s efforts in promoting and supporting the interpretation and practical application of the FAO Code of Conduct among governments and relevant stakeholders through a wide range of programmes and initiatives.\textsuperscript{395} The time and effort expended by the FAO to implement these initiatives is a testimony to the Organization’s commitment in discharging its assigned duty to oversee and support the Code’s implementation.\textsuperscript{396} Indeed, the desire of the FAO to discharge this duty effectively is so paramount that it has occupied the highest priority of the Organization’s work programme in fisheries since 1997.\textsuperscript{397}

In close collaboration with its member countries, interested nations and external organisations, the FAO has embarked on a series of initiatives to broaden and deepen the implementation of the Code and the IPOAs.\textsuperscript{398} These activities include technical training courses, workshops, educational outreach programs, technical meetings and specialised surveys.\textsuperscript{399} Numerous advisory and expert consultation sessions have been


\textsuperscript{395} FAO member countries that responded to the 2002 biennial questionnaire on the implementation status of the Code revealed that the necessary steps were being taken to support the Code’s application through, among other things, the revision of national fisheries policy and legislation, the establishment of cooperation with other member countries, the strengthening of fisheries management measures and the translation of the Code into native languages. \textit{Ibid.}, at paragraph 21.

\textsuperscript{396} Document Meeting COFI/2009/2, paragraph 3, at p. 2.

\textsuperscript{397} Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 208.

\textsuperscript{398} The FAO has worked closely with the Australian Government to organize an Expert Consultation on Illegal, Unreported and Unregulated Fishing, which was held in Sydney, Australia from 15 to 19 May 2000. See K. Bray, “A Global Review of Illegal, Unreported and Unregulated (IUU) Fishing,” \textit{Document AUS: IUU/2000/6}, 2000, 53p; There is also a series of collaboration between the FAO and NGOs, such as Birdlife International, with respect to the elaboration of the IPOA-Seabirds.

\textsuperscript{399} A series of documents were produced resulting from the outcome of regionally based workshops convened under the auspices of the FAO and with the overarching objective to ascertain the
organised with the assistance of the FAO over the years, with the focus of these sessions being the specific technical issues and matters relating to fisheries management and conservation.\footnote{400} Having regard to the practical difficulties of fully implementing the Code and its associated instruments,\footnote{401} these sessions have been particularly important for offering a wide range of technical assistance to requesting States in overcoming the difficulties.\footnote{402}

As has been affirmed in the twenty-sixth session of the COFI in 2005, capacity-building exercise serves one of the important components of technical assistance programs designed to assist States in implementing the Code, and increase the rate and comprehensiveness of the scope of the implementation.\footnote{403} In order for the recipient States to apply the Code in an effective and sustainable manner, the programs have very broad scope, ranging from specific regional projects to individual technical consultancies.\footnote{404} Overall, the above activities are instrumental in operationalising the level of progress in implementing the Code and the four IPOAs. These documents are available online at http://www.fao.org/fishery/ccrf/publications/en (accessed on 23 December 2010).

Examples of such sessions include the Expert Consultation on Ecosystem-Based Fisheries, Reykjavik, Iceland from 16-19 September 2002; the Expert Consultation on Catalysing the Transition away from Overcapacity in Marine Capture Fisheries, Rome, 15-18 October 2002; and the Regional Workshop on Networking for Improved Access to Fisheries and Aquaculture Information in Africa, Grahamstown, South Africa, 3-7 November 2003.

Most of the developing countries in the western and central Pacific are small island States where the technical aspects of the Code’s policy framework were difficult to implement due to limited resources and capacity.\footnote{401} FAO Fisheries Report No 731, pp.16 and 76.


Webster and Collins, “Fisheries Information in Developing Countries,” p. viii.

This was achieved through raising the level of awareness of stakeholders, improving understanding of the instrument and strengthening regional and international collaboration among governments, institutions and other fisheries stakeholders.
concept of responsible fisheries inherent in the Code and its associated instruments at the national and regional levels.

In addition to a host of initiatives introduced under the FAO’s regular work programme, there are also special programmes designed to promote responsible fisheries management. The most well known example among these has been the Global Partnerships for Responsible Fisheries (FishCode) programme. Funded by a consortium of donor countries, the programme serves as an extra-budgetary mechanism to mobilise and channel the necessary funds to finance projects relevant to the implementation of the Code and its associated fisheries instruments. The Programme has been instrumental in raising awareness and understanding of the Code and its other linked instruments among the relevant stakeholders in the fisheries sector. This has been accomplished through publication-related activities, including mainstream FAO publications such as the FAO Fisheries Technical Papers and FAO Legislative Studies, as well as the FishCode Reviews and technical guidelines.

An excellent example of these programs is the Sustainable Fisheries Livelihoods Programmes (SFLP). This programme concentrates on assisting West African countries in reforming their institutional and legal arrangement for fisheries. The SFLP also designs and executes poverty reduction strategies for small-scale fishing communities. See COFI, “Progress in the Implementation of the Code of Conduct for Responsible Fisheries and Related International Plans of Action, Twenty-fifth Session, Rome, Italy, 24-28 February 2003,” COFI/2003/2, at paragraph 15.


As of 2010, the major financial contributors to the FishCode Trust are the governments of Finland, Japan, Sweden, the United Kingdom, USA and Iceland. A complete list of their respective collaborating agency partners is available online at http://www.fao.org/fishery/fishcode/funding/en (accessed on 11 October 2010).

Hosch noted that, as of 2009, nearly “USD19 million have been channelled through FishCode Fund” and “[t]his is supplementing FAO’s regular programme budget with an average of USD1.7 million a year.” Hosch, “Analysis of the Implementation and Impact of the FAO Code of Conduct,” p. 63.

Ibid.
successful outcome of this Programme eventually precipitated the broadening of the FAO’s scope of activities to global and regional projects, which at present cover a wide range of areas relating to the Code.\(^{410}\)

From the above discussion, it is obvious that the FAO, working in conjunction with its member countries and relevant organisations, has made a considerable effort in planning and hosting a staggering number of work programmes and activities aimed at supporting the practical application of the FAO Code of Conduct and its associated instruments. Ironically, critics argue that only little progress has been made in the national implementation of the Code, and that this progress has been slow and incremental at government and fisheries administration levels.\(^{411}\) Such criticism has not gone unnoticed, and the FAO appears to be firmly committed in reversing this trend and ensuring that the Code is widely implemented in, or incorporated into, the fisheries law and policy of States. Indeed, the FAO continues to take significant steps in developing ways for States to transform the aspirations and principles inherent in the Code into practical operations. Perhaps one of the greatest achievements of the FAO towards attaining this objective can be seen in its elaboration and distribution of a series of non-binding technical guidelines for responsible fisheries. The succeeding section provides a detailed discussion of these guidelines.


\(^{411}\) FAO Fisheries Report No 731, p. 59.
3.2.7.1. **The FAO Technical Guidelines for Responsible Fisheries**

Since the adoption of the FAO Code of Conduct, its policy goals, general principles and measures have been further reinforced and complemented by a series of Technical Guidelines for Responsible Fisheries. Prepared, issued and disseminated by the FAO, 23 technical guidelines have been produced so far as of September 2010, with the latest document to date offering technical guidance on how to translate the concept of an ecosystem-based approach to fisheries management into practice.

Each of the technical guidelines individually deals with a specific subject area associated with the articles of the Code. These technical guidelines can be categorised...
into three groups. One group focuses on themes that run parallel to the Code’s substantive articles such as fisheries management, aquaculture development, and the integration of fisheries into coastal area management. Others concentrate on addressing either a broad range of management issues (e.g. the ecosystem approach to fisheries management and increasing the contribution of small-scale fisheries to alleviate poverty and provide food security). Narrower and more specialised topics are also included in the Code such as the use of vessel monitoring systems and good aquaculture feed manufacturing practice.\footnote{Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” pp. 209-210.}

Similar to the FAO Code of Conduct, these technical guidelines are non-binding in the context of international law and are intended to be dynamic documents. The latter implies that the guidelines are designed to be flexible in their application, and may even be subjected to revision as new information becomes more available or as new circumstances arise.\footnote{These provisions are explicitly noted in every section of the document under the title ‘Preparation of this Document.’} To increase the dissemination and impact of the Code, the FAO has also started to translate these guidelines into various languages so as to make them widely accessible.\footnote{To widen the impact of the FAO Code Conduct and the IPOA-IUU, the FAO has embarked on the development of simple versions of these instruments. These simple versions have also been translated into various languages by stakeholders with a view to reinforcing the implementation of the instruments.}

Technical guidelines play a pivotal role in strengthening and supporting the implementation of the FAO Code of Conduct. In particular, they offer detailed guidance and assistance to the relevant fisheries stakeholders on how to translate the Code’s high-level policy goals and principles into practice.\footnote{Hanchard, “The Implementation of the 1995 FAO Code of Conduct,” p. 76.} In certain technical guidelines, a concrete course of action in the form of operational objectives, performance measures
and indicators are provided in order to translate a specific principle of the Code into reality.\textsuperscript{419}

In addition to supporting the practical application of the Code, these technical guidelines also act as a concise reference point for guiding policy development on a wide range of fisheries issues.\textsuperscript{420} These guidelines are also instrumental in promoting the consistent interpretation and application of concepts and measures contained in the Code. Such consistency is vital to achieve a more coherent national and regional policy or strategy, as well as the overall effective implementation of the FAO Code of Conduct for responsible practices in fisheries.

### 3.3. Conclusion

This chapter has examined the driving forces behind the dynamic changes occurring in the contemporary international framework for sustainable and responsible practices in marine capture fisheries in the post-LOSC era to the present. It has argued that the concept of responsible fisheries is expressed in a set of rules, principles, standards and measures contained in legally binding treaties, voluntary instruments and declarations adopted or elaborated in the succeeding years after the conclusion of the LOSC.

The proliferation of international legal and policy instruments for fisheries governance during the post LOSC era was an outcome of collective efforts by the international community, fuelled in part by their mounting concerns over the unsustainable use and ineffective management of coastal and offshore fisheries worldwide. In an effort to resolve the crisis in the fisheries sector, and the weaknesses of the LOSC fisheries provisions as discussed in Chapter 2 of this thesis, there were growing calls by the international community for the FAO and UN General Assembly

\textsuperscript{419} FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2, p. 5.
\textsuperscript{420} FAO Fisheries Report No 731, paragraph 15, at p. 3.
to assume a greater role in revising the international framework for fisheries governance in place at the time. By the early 1990s, the need for a ‘responsible fisheries’ model started to gain momentum, and it was given high profile status in the international fisheries agenda in various fora.

The concept of responsible fishing was given form and substance through the introduction of general principles and management measure embodied in a series of legally binding and voluntary instruments. These principles and measures symbolize the dynamic changes in the international regime for fisheries governance of the post-LOSC era, within which resource conservation objectives have played an increasingly important role in influencing fisheries management measures at the national, regional and international levels. The inclusion of several innovative principles that are central to the concept of responsible fisheries is what differentiated these instruments from the traditional species-centric approach to fishery conservation and management espoused in the LOSC. The fundamental elements of the concept of responsible fisheries are: (i) the concept of accountability in fisheries management, fishing operations, and fisheries sectors as a whole; and (ii) an emphasis on a more holistic, integrated, precautionary approach to the management and utilisation of fisheries resources without compromising the integrity and sustainability of the marine ecosystem and its biodiversity.

These profound changes in the global legal and policy framework for marine fisheries in the post-LOSC era offer some hope that the dire state of global fisheries can be addressed effectively as long as States are willing and committed to fully implement and incorporate the framework. Post-LOSC instruments, such as the UN Fish Stocks Agreement, the FAO Code of Conduct and the four IPOAs, combined with the LOSC itself, are particularly important in providing universally accepted principles and
implementation measures for attaining responsible fisheries in the EEZs. Based on these international binding and non-binding instruments, the following chapter will discuss in detail a range of principles, standards and measures which coastal States can adopt and apply in the EEZ to achieve responsible and sustainable utilization and management of fisheries resources.
Chapter 4
INTERNATIONAL LEGAL AND NORMATIVE FRAMEWORK FOR RESPONSIBLE FISHERIES IN THE EEZ

4.1. Introduction
This chapter examines the general principles and management measures, which constitute an integral component of the international legal and normative framework for responsible fisheries in the EEZ. The focal point of this chapter is to provide an analysis of the contents of, and the inter-relationship between, these principles and measures established in both international and regional fisheries-related instruments that have been previously discussed in Chapters 2 and 3.

It also examines numerous examples of State practices, inclusive of the European Union (EU) and RFMOs, which have embraced and implemented principles and measures for responsible fisheries. These principles consist of sustainable utilization and conservation of fisheries resources, ecosystem approach to fisheries (EAF), precautionary approach to fisheries management, and cooperation for the management and conservation of fisheries. Each of these principles and their respective implementing measures will be analysed as they relate to coastal State jurisdiction. It is from this analysis that a set of criteria will be formulated, and subsequently utilized for appraising the progress that Malaysia has made as a coastal State in promoting responsible fisheries management in the offshore areas of its EEZ.\footnote{For an analysis of Malaysia’s legislative and policy practices in implementing international principles and measures mentioned above, see Chapter 8.}

It will be seen in this chapter that the existing principles and guidelines as set forth in the current international fisheries management framework are sufficient to
provide reference points for coastal States to develop an array of measures to conserve, manage and develop fisheries resources in a more sustainable and responsible manner.

4.2. Sustainable Utilization and Conservation of Fisheries Resources

The fundamental tenet of responsible fisheries as envisaged in many international instruments, resolutions and initiatives is for coastal States to promote optimum utilization of marine living resources without subjecting them to the danger of being overexploited. 422 This principle has been recognised under the LOSC fisheries framework, particularly in connection with the management and conservation objective of EEZ fisheries. This is evident in Article 61(2) of the Convention, which stipulates that: “The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation.” Similar requirements but directly applicable to highly migratory and straddling fish stocks in the EEZs and on the high seas have been integrated into the legal framework of the UN Fish Stocks Agreement. 423 In addition, the common overreaching objective of achieving sustainable utilization of fisheries resources over the long-term are embedded in the FAO Code of Conduct and the IPOAs. 424 It is important to note that all provisions in international instruments pertaining to long-term sustainability of fisheries resources are directed not only to targeted species, but also apply to associated and dependent species. 425

In order to translate or operationalize the overarching objective of sustainable utilization of marine living resources into specific measures at national level, all

422 See DoFM, Regional Guidelines for Responsible Fisheries in Southeast Asia: Responsible Fisheries Management, (Putrajaya: Communication Section, DoFM, 2008), p. 81.
423 UN Fish Stocks Agreement, Articles 5(a) and 5(e).
424 FAO Code of Conduct, 6.3; IPOA-Capacity, paragraph 7.
425 LOSC, Article 61(4); FAO Code of Conduct, Article 6.2.
international fisheries-related instruments discussed in Chapters 2 and 3 have articulated a common set of principles and management measures that can be adopted and implemented by coastal States (inclusive of Malaysia) in their respective EEZs. These principles and measures, which will be examined below, include among others, the setting of maximum sustainable yield (MSY) estimation, determining the total allowable catch (TAC), and preventing or eliminating overcapacity and excessive fishing capacity.

4.2.1. **Maximum Sustainable Yield (MSY) Estimation**

One of the fundamental components of responsible management of EEZ fisheries is the requirement for a coastal State to adopt management measures which are designed to maintain or restore fishery stocks at levels based on the estimated maximum sustainable yield (MSY). The practical value of MSY to individual States or RFMOs lies on its importance as reference points for realizing the objective of long-term sustainable yield of a given fish stocks as well as for rebuilding depleted or heavily exploited population of stocks. In addition, its utility closely links to biological reference points predominantly used in estimating the potential yield or total allowable catch of fishery.

The merits and demerits of utilizing the MSY to support fisheries management objectives have been debated and discussed extensively by legal scholars and fisheries

426 Based on FAO’s definition, MSY can be broadly referred to as the maximum amount of annual catch or yield of fish stocks that can be taken indefinitely without disturbing the reproduction process of the said stocks. See http://www.fao.org/fi/glossary/default.asp (accessed on 2 October 2010).


Regardless of criticisms directed to the difficulty of its calculation or practical application in the management of marine capture fisheries, the MSY concept has been embedded into the LOSC as part of the overarching objectives of fisheries management and conservation in the EEZ. The use of MSY is also found in other provisions of international fisheries instruments, most notably the UN Fish Stocks Agreement and the FAO Code of Conduct. However, it will be shown in the discussions below and in Section 4.4 that these instruments have reinterpreted and reassigned the role of MSY away from its original function under the LOSC.

As stated previously, the MSY concept as enshrined in the LOSC is tied to the fundamental objective of conservation and management of EEZ fisheries and is seen as a target to be obtained in fisheries management. This is demonstrated in Article 61(3). Coastal States are obliged under the EEZ regime to adopt and implement proper

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429 Much has been written about the drawbacks of calculating the classical pre-LOSC conservation concept of MSY. Arguably, the individual works by Larkin and Sissenwine have been widely recognized as a classical work on the general utility of MSY concept applicable to fisheries management. See, for example, P. A. Larkin, “An Epitaph for the Concept of Maximum Sustainable Yield”, Transactions of the American Fisheries Society 106(1977), 1-11; and M. P. Sissenwine, “Is MSY an Adequate Foundation for Optimum Yield?,” Fisheries 3(1978), pp. 22-42.


432 The endorsement of MSY concept in the instruments for global fisheries governance can be traced to its origin as early as 1950s. For example, Lugten and Andrew have traced the incorporation of MSY concept at both the 1955 Rome Technical Conference on Fisheries and at the UNCLOS I. Lugten and Andrew, “Maximum Sustainable Yield Marine Capture Fisheries,” p. 4.

433 LOSC, Article 61(3); UN Fish Stock Agreement, Article 5(b) and Annex II, paragraph 2; and FAO Code of Conduct, Article 7.2.1. Other instrument with direct reference to MSY in the context of fisheries conservation and management includes Article 30 of Plan of Implementation of the World Summit on Sustainable (the WSSD Plan).

434 There has been a paradigm shift over the recent years with the changing role of MSY in fisheries management. Several elements of precautionary approach recommended by several post-LOSC fisheries instruments have been incorporated into the mechanism. One of which is that MSY should be served as a biological limit to be avoided in fisheries mortality rather than a target to be reached.

435 Article 119(1)(a) of the LOSC reiterates similar reference to MSY but within the context of high seas fisheries.
conservation and management measures “designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield.” In other words, there is an obligation for coastal States to prevent targeted fishery stocks in the zone from being overfished by placing appropriate restriction on the allowable catch of such stocks at limits defined by MSY.\(^{436}\)

The wording of Article 61(3) also provides an indication that coastal States may have considerable discretion in establishing fisheries management measures applicable to the EEZ. It requires States to take into account environmental, social and economic considerations when setting MSY. These considerations include “the economic needs of coastal fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global.”\(^{437}\) Because of the high level of flexibility accorded to coastal States in determining the MSY based on a number of factors,\(^{438}\) this particular provision has been the subject of criticisms.\(^{439}\)

Under the LOSC, the application of MSY in fisheries management is seen as a desirable threshold for the sustainable exploitation of fish stocks (also referred to as

\(^{436}\)Ironically, there is no dedicated provision under the LOSC legally requiring coastal States to conserve and protect marine mammals at MSY level.

\(^{437}\)In relation to the factors in qualifying MSY, Article 5(b) of the UN Fish Stocks Agreement and Article 7.2.1 of FAO Code of Conduct resemble similar wording of Article 61(3) of the LOSC.

\(^{438}\)In spite of this criticism, Kwiatkowska agrees with Koers that the wordings of LOSC is flexible in allowing States to use alternative biological indicators for sustainable level of harvested fisheries other than MSY is somewhat relevant in safeguarding the socio-economic interests of local fishery. She concur with Koers that this relevancy is because “[the MSY] sometimes makes no economic sense as in some situation [where] it is economically more important to protect fishermen than to protect stocks.” See Kwiatkowska, “The 200 Miles EEZ in the New Law of the Sea,” p. 49, cited from A.W. Koers, “International Regulation of Marine fisheries: Some Problems and Proposals”, 4. *Annals of International Studies*, (London: Fishing News (Book) Ltd, 1973), p. 195.

\(^{439}\)Indeed, the precise standard on what constitute these factors or the standard quantify the “level” to produce the MSY of the harvested species are missing in the provisions of LOSC and other subsequent global fishery instruments, such as UN Fish Stocks Agreement and FAO Code of Conduct. See D. P. O’Connell, *The International Law of the Sea*, I. A. Shearer (ed.), Vol. 1, (Oxford: Clarendon Press, 1982), p. 565, cited in Xue, “China and International Fisheries Law and Policy,” p. 19.
target reference points). Its application in this regard, however, has a number of disadvantages. It is universally acknowledged that there is practical difficulty in estimating a MSY as a safe limit for sustainable fish catch. Sufficient and accurate long-term series of fishery data - a prerequisite for calculating the MSY - are often unavailable. Stock assessment is critical in generating accurate fisheries data but often scarce due to limited capacity of States to conduct such assessments. In practice, the process for determining MSY is time consuming, difficult, and costly to implement.\textsuperscript{440} It is also impossible to estimate accurate MSY level that reflects the true state of the fish stocks given the inherent scientific uncertainties and imperfect knowledge of such stocks.\textsuperscript{441} The manner in which MSY limit was calculated has often taken a very little account on these particular conditions and there is no guarantee that fishing mortality would not exceed the given limit.

MSY is a model frequently used for single-species fisheries management while disregarded the diversity of ecosystem components in its calculation procedure.\textsuperscript{442} The use of single-species MSY model has in many cases contributed to severe depletion or even collapse of fish stocks in the EEZ due to inaccurate estimation of target fishing mortality which is mistakenly set higher than MSY.\textsuperscript{443} The nature of MSY modelling also makes it difficult to apply to multispecies fisheries. The complexity of species

\textsuperscript{440} For a detailed discussion on the difficulties of applying fishery regulation through output control limit, see Section 4.2.2 below concerning TAC.

\textsuperscript{441} The reason for this is that the model failed to take into account the uncertainties in fisheries system given the complexities of the variability of and interaction among fish stocks and other components of ecosystems, as well as the dynamic changes of oceanographic and climatic conditions.


interaction within a marine ecosystem, a typical characteristic of multi-species fishery in tropical waters, makes it impractical for fisheries managers to use MSY indicator alone for regulating the species concerned in isolation.\textsuperscript{444}

Unreliable estimation of MSY is an issue of concern, particularly but not exclusively to developing coastal States with vast EEZ.\textsuperscript{445} This is because relevant scientific information or data on the biological status of fisheries and their surrounding environment are often poorly developed or deficient in the developing States.\textsuperscript{446}

Information concerning the pattern and level of fishing efforts, including their impacts on marine ecosystem and habitats, has also often been lacking. Where there is a lack of scientific information or unavailable data, some coastal States have in the past delayed or failed to fully formulate and adopt appropriate fisheries conservation policies and measures.\textsuperscript{447}

Although the MSY remains in the LOSC fisheries regime as the core reference for managing marine capture fisheries, this conventional biological indicator has lost its favour as target reference points for fisheries management in the UN Fish Stocks Agreement and FAO Code of Conduct.\textsuperscript{448} Instead of being envisioned as a suitable target limit to be reached for fisheries exploitation, the principle of MSY embedded in these post-LOCS instruments is treated as an extreme limit to be avoided while taking into account the whole fisheries ecosystem. This approach highlights the need to incorporate essential principles of responsible fisheries management regime,

\textsuperscript{445} Kirkley et al., “Excess Capacity and Asymmetric Information in Developing Country Fisheries,” p. 651.
\textsuperscript{446} David J. Die and John F. Caddy, “Sustainable Yield Indicators from Biomass: Are There Appropriate Reference Points for Use in Tropical Fisheries?,” 
\textsuperscript{447} Supongpan, “Indicators as Management Tool for Sustainable Fisheries,” p. 24.
particularly the ecosystem and precautionary approach to fisheries. These two principles are discussed in detail in section 4.3 and 4.4 respectively.

### 4.2.2. Determination of Total Allowable Catch

In giving effect to the principle of conservation and sustainable use of EEZ fisheries resources, one of the fundamental management measures for coastal States is to determine total allowable catch (TAC) for such resources. This requirement is consistent with Article 61(1) of LOSC within which the coastal State has an obligation to set an allowable catch for marine living resources in that zone. With respect to the conservation of straddling and highly migratory fish stocks, the UN Fish Stocks Agreement reiterates this particular obligation under Article 10(b), where the application of TAC is broadened by requiring relevant coastal States and high seas fishing States to establish cooperative management of the same stocks that occur within the EEZs and adjacent high seas areas.

Besides the setting of TAC, another fundamental requirement imposed upon coastal State pertaining to the management of EEZ fisheries is the determination of its own harvesting capacity. Ascertaining this capacity assists coastal States in determining whether there is a possibility of allocating surplus stocks to foreign fishermen. This surplus is determined by taking the difference between the TAC and the domestic harvesting capacity of the coastal State.

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449 Christie holds the view that the language used in Article 61(1) is ambiguous for it to create any enforceable international obligation imposed on coastal State to determine an allowable catch. She further elaborates that the provision of the Article “may simply be declaring the setting the TAC is within exclusive domain of the coastal states, or it may be creating a duty for coastal States to set an allowable catch. See Christie, “It Don't Come EEZ,” p. 6.

450 LOSC, Article 62(2).

451 This surplus is determined by taking the difference between the TAC and the domestic harvesting capacity of the coastal State.
other arrangements. In applying this provision, coastal States seem to have considerable
discretionary power over the allocation of the surplus stocks. This power includes the
refusal to grant any surplus to foreign fishing States for whatever reason. If coastal
States decided to grant access to the surplus stocks to other State, there is a range of
conditions that may be imposed and a number of factors to be considered by the coastal
State as elucidated in Article 63(3) of the LOSC:

[The] coastal State shall take into account all relevant factors, including, *inter alia*, the significance of the living resources of the area to the
economy of the coastal State concerned and its other national interests,
the provisions of articles 69 and 70, the requirements of developing States
in the subregion or region in harvesting part of the surplus and the need to
minimize economic dislocation in States whose nationals have habitually
fished [there].

Based on this provision, Hey (1989) argues that the LOSC does establish the general
rights and category of States to access resource surplus in a foreign EEZ, along with the
conditions on which such access should be based.\footnote{Ellen Hey, *The Regime For the Exploitation of Transboundary Marine Fisheries Resources: The
United Nations Law of the Sea Convention Cooperation Between States*, (Dordrecht: Martinus
Nijhoff Publishers, 1989), p. 47.} She also affirms that the
Convention falls short of granting specific States with the absolute right to participate in
the management and conservation of fisheries resources in a foreign EEZ, which, if
proceeded, would contradict with a coastal State’s sovereign rights and jurisdiction over
the management and development of living resources the zone as provided for in
Articles 56(1).\footnote{Ibid., pp. 47-48.}

From a theoretical point of view, critics question the absolute duty of coastal
States under the LOSC in determining the allowable catch for marine living resources in
their EEZ;\textsuperscript{454} while others are sceptical of whether TAC typifies a mandatory or predominant mechanism for managing fisheries in that zone.\textsuperscript{455} In terms of practical implementation and effectiveness, it has been demonstrated in a considerable body of literature that it is uncommon for every TAC and quota-based fisheries management system (i.e. Individual Transferable Quotas (ITQs), Individual Transferable Traps (ITTs), and Individual Vessel Quotas (IVQs)) to fully achieve their intended goals of securing sustainable or optimum economic utilization of fisheries resources. Intensified catch competition amongst fishing operators\textsuperscript{456} and inappropriate setting of excessive quota limits\textsuperscript{457} have been cited as the leading causes of overexploitation of resources. Other commentators blamed technical and financial burden in setting up accurate catch

\textsuperscript{454} See for example, Oda, “Fisheries under the United Nations Convention,” p. 743; and Burke, “The New International Law of Fisheries,” p. 44.

\textsuperscript{455} Kwiatkowska, “The 200 Miles EEZ in the New Law of the Sea,” pp. 43 and 49; and Christie, “It Don’t Come EEZ,” pp. 8-9; Meanwhile, Ryu et al. argue that the TAC system is not perceived to be compulsory for coastal States to apply with, but rather a system that can be viewed as one of the possible management conservation and measures for fisheries.” Jeong-Gon Ryu, Jongoh Nam and John M. Gates, “Limitations of the Korean Conventional Fisheries Management Regime and Expanding Korean TAC System Toward Output Control Systems,” Marine Policy 30 (2006), p. 513.

\textsuperscript{456} This system has been known to put pressure on vessels’ owners and operators to maximize their catch efforts on the available limited catch quota and inevitably intensified wasteful competitions among fishing operators and owners, a phenomenon known as the race-to-fish incentives. The effect of this condition triggered a chain reaction on the capacity level of fishing fleets, from accelerating considerable capital and financial investments on fishing boats and gears, increasing harvesting cost to inherently reducing profitability. This increased financial pressure eventually led to overcapacity that would undermined the long-term sustainability of fish stocks. See Yumiko Kura, Carmen Revenga, Eriko Hoshino and Greg Mock, Fishing for Answers: Making Sense of the Global Fish Crisis, (Washington D.C.: World Resources Institute, 2004), p. 91.

\textsuperscript{457} There are several instances where TAC levels have been mistakenly set higher than the scientific recommendation, hence causing temporary decline of fish stocks and in some cases, triggering serious disputes between the affected fishermen and government authority. An excellent example of this can be found in FAO technical report which cited a study conducted by OECD that identified 24 of 37 stocks managed by individual quotas in 11 countries were mistakenly set too high, causing temporary decline in stock abundance. See Gary R. Morgan, “Individual Quota Management in Fisheries- Methodologies for Determining Catch Quotas and Initial Quota Allocation,” FAO Fisheries Technical Paper No. 371, (Rome: FAO, 1997), p. 3. See also R. Francis, D. Gilbert and J. Annala, “Fisheries Management by Individual Quotas: Theory and Practice,” Marine Policy 17(1993), pp. 64-65, with respect to discussion on ITQs for selected commercially important fish stocks which were mistakenly set of by New Zealand fisheries authority due to poor scientific advice.
quota,\footnote{458} and the difficulty in carrying out quota surveillance and enforcement.\footnote{459} These challenges have inhibited many coastal States to integrate the TAC system into national fisheries management strategies.\footnote{460}

In acknowledging these practical challenges of establishing TAC regime in the EEZ, the LOSC has conferred coastal State with “virtual free hand” when setting this allowable catch within its zone based on their domestic fishing capacities and resources.\footnote{461} This has also given rise to academic debates on whether the LOSC fisheries provisions intended to establish an absolute duty on the part of coastal States to establish TAC for fisheries in the EEZ. An upshot of this is the common practice for many coastal States to exploit this flexibility. There were cases where a number of West African and Pacific island States reportedly granted DWFNs access to the lucrative tuna resources in their EEZs regardless of whether TAC was set or based on sustainable levels of resource exploitation.\footnote{462}

\footnote{458} The setting of TACs for fishery quota management may burden coastal States with added responsibility in terms of acquiring extensive and accurate biological and fishery-related data prerequisite for stock assessment. The process of collecting and compiling data is commonly acknowledged as a difficult, time consuming and costly exercise and, as Dahmani affirmed, demands “experience scientific and managerial personnel to analyze the collected data.” These challenges are more prevalent among developing countries, which have to contend with the lack of financial, technical or human capacity. M. Dahmani, The Fisheries Regime of the Exclusive Economic Zone, (Dordrecht: Martinus Nijhoff, 1987,” p. 51; see also Kura et al., “Fishing for Answers: Making Sense of the Global Fish Crisis,” p. 92.

\footnote{459} Comprehensive monitoring and enforcement scheme is often required in multispecies fisheries management, especially when involving the monitoring of quota at an individual vessel level. Additional surveillance requirement is vital to ensure fishing efforts do not exceed with the established quota allocation but is expensive and difficult undertaking. Morgan, “Individual Quota Management in Fisheries-Methodologies,” p. 4.

\footnote{460} These challenges is not endemic exclusively amongst developing coastal States but also affected developed countries with advanced fisheries management regime. Such is the case of Australia where the implementation of country’s individual fishery quota program was delayed for many years because of insufficient data available in order to establish the TACs confidently. B. Scott and G. Geen, “ITQs May be Good in Theory but Can They Work in Practice?” Australian Fisheries 50(1991), pp. 14-17.


\footnote{462} Emma Witbooi, “The Infusion of Sustainability into Bilateral Fisheries Agreements with Developing Countries: The European Union Example,” Marine Policy, 32(2008), p. 673; For detail discussion on the issues and problems regarding fishing agreement between sub-Saharan West African coastal States and EU, see Vlad M. Kaczynski and David L. Fluharty, “European Policies in West Africa: Who Benefits from Fisheries Agreements?,” Marine Policy
Notwithstanding the above criticisms and challenges, the application of TAC from the perspective of legal and practical experience of selected few countries has been well documented.\textsuperscript{463} It is generally understood that TAC, unless used in isolation, can be effective for regulating the level of catch efforts as long as the mechanism is properly set and enforced.\textsuperscript{464} Over the last two decades, the TAC and ITQs are perhaps the most preferred forms of output control mechanism employed by individual States to ensure sustainable fishing efforts and optimize catch performance in the EEZs.\textsuperscript{465} The use of TAC is common in many fisheries to restrict the quantity of selected fish stocks that can be harvested justifiably based on their biological carrying capacity.\textsuperscript{466}

A number of States worldwide have also promulgated national legislation with provision to put TAC into practice in their respective EEZs. Examples of such


\textsuperscript{464} For example, it has long been recognized by fisheries managers and marine scientists that TAC is effective if it is used to regulate a single species or fish stocks with commercial value (such as abalone and lobster), which are harvested using one particular type of fishing gear or method. However, TAC is seldom being used in isolation but rather complemented by other input control mechanisms (e.g. gear restriction, closed fishing season and catch moratorium) to regulate the harvesting of the aforementioned species. This is certainly the case concerning the management and conservation of rock lobster species in South Africa. South African fisheries authority had set the TAC, along with the imposition of temporal catch measures e.g. commercial and recreational fishing season, for rock lobster species. See Department of Environmental Affairs and Tourism, Minister of Environmental Affairs and Tourism, Marthinus van Schalkwyk Announces West Coast Rock Lobster and Total Allowable Catch, 4 January 2008, available online at http://www.info.gov.za/speeches/2008/08010711451001.htm (accessed on 2 March 2010); Meanwhile, Morgan suggests that the application of TACs alone were unable to prevent the dramatic collapses of herring stocks in Iceland, British Columbia, and Europe. See Morgan, “Individual Quota Management in Fisheries- Methodologies,” p. 1.


\textsuperscript{466} The TAC is normally set based on time duration of harvesting fish, either during annually or specific fishing season. See Churchill and Lowe, “The Law of the Sea,” p. 283.\end{footnotes}
provisions can be found in the national fisheries laws and regulations of Indonesia, New Zealand, South Africa, and United States. Indonesia is the only country amongst Southeast Asian States with fisheries laws that expressively sanction total allowable catch for fish stocks in the EEZ of the country. As an example, 1985 *Decree of the Minister of Agriculture on the Determination of Total Allowable Catch in the Indonesian Exclusive Economic Zone* stipulates in Article 1 the exact amount of allowable catch for certain species of fish in the EEZ, encompassing tuna, bonito and skipjack tuna and demersal fish. Indonesian also had adopted a terminology which is synonymous to the TAC, in its fisheries legislation. Specifically, Article 7(3) of *Fisheries Law No. 31/2004* provides that “The Minister shall determine the potentially and permitted quantity of fish caught...after considering the recommendation of the national commission examining fish resources.” (Emphasis added.).

Reference regarding the use of TAC can also be found in several legislations and regulations in other States. The *Fisheries Act 1996* of New Zealand empowers the Minister responsible for administration of the Act to allocate the portion of TAC for commercial catch by foreign fishing vessels. Insofar as the conservation of fisheries resources in South African waters is concerned, the country has enacted *Marine Living Resources Act of 1998* that contains provisions on the use of TAC, total applied effort, or a combination thereof to allocate fish stocks between local and foreign commercial fishermen.

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467 Indonesia, *Decree of the Minister of Agriculture on the Determination of Total Allowable Catch in the Indonesian Exclusive Economic Zone*, No. 473a/KPTS/IK 250.6/1985; In addition, Article 2 of the same Decree stipulates that the number of vessels authorized to fish in that zone will be premised on productivity of each vessel, gear used and the number of allowable catch for each species of stocks.

468 See for example, New Zealand, *Fisheries (Declaration of New Stocks Subject to Quota Management System) Notice 2006; Fisheries (Foreign Fishing Vessel) Regulations 2001; and Fisheries (Southern Blue Whiting Total Allowable Catch) Notice 2000.*

469 New Zealand, *Fisheries Act 1996 (No. 88 of 1996)*, Articles 81(1) and (2).

From the foregoing discussion, it is evident that the TAC is continued to be accepted and implemented as one of the primarily tools of catch management in the EEZs. However, in addition to TAC, a combination of fisheries management measures, including output\textsuperscript{471} and input control mechanisms,\textsuperscript{472} and technical conservation measures would need to be implemented to ensure a more effective fisheries management.\textsuperscript{473} If fisheries resources in the zone are to be harvested and managed responsibly,\textsuperscript{474} it is desirable for fisheries managers and policymakers to restrict the intensity of fishing by means of regulating catches and fishing effort.\textsuperscript{475} It is for this reason that the following section provides detailed discussion on one of the critical measures for promoting and supporting responsible fisheries management: the elimination of excess fishing capacity.

### 4.2.3. Prevention or Elimination of Overfishing and Excessive Fishing Capacity

With the intent to achieve sustainable utilization and conservation of fisheries resources,\textsuperscript{476} international fisheries instruments, particularly the FAO Code of Conduct and the IPOA-Capacity, call upon coastal States to prevent or eliminate overfishing and excess fishing capacity.\textsuperscript{477} Similar provision is set out in Article 5(h) of the UN Fish

\textsuperscript{471} Input control involves regulating the total intensity of efforts, which can be put into catching fish. Examples of this mechanism include restriction on the number of fishing unit, gear used and vessel size and power through licensing system. FAO, “Fisheries Management,” \textit{FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 1}, (Rome: FAO, 2000), pp. 46 and 48.

\textsuperscript{472} Output control directly regulates the amount of fish taking out of a fishery. Notable examples of this mechanism include catch quotas, ITQ, bags limit, and by-catch limit. Pope, “Input and Output Controls,” p. 223.

\textsuperscript{473} Examples of technical measures include mesh size restriction, seasonal and area restriction or closure, and gear restriction.

\textsuperscript{474} FAO Code of Conduct, Articles 7.2.2 and 7.6.7.

\textsuperscript{475} Tom Kompas, “Fisheries Management: Economic Efficiency and the Concept of ‘Maximum Economic Yield,’” \textit{Australian Commodities} 12(2005), p. 154.

\textsuperscript{476} FAO Code of Conduct, Article 6.3; and IPOA-Capacity, paragraph 2.

\textsuperscript{477} Excess fishing capacity arises “when the potential catch or effort level exceeds the actual catch or [actual] effort level in a given period.” See J. M. Ward, J. E. Kirkley, R. Metzner and S.
Stocks Agreement, which applies to the management of fishing capacity in fishing for straddling and highly migratory fisheries.

The issue of excessive harvesting capacity in marine capture fisheries has been a topic of great concern in international fisheries agendas for the past 20 years. As acknowledged in the Twenty-Seventh Session of COFI meeting in 2007, overcapacity in fishing fleets not only presents a major threat to long-term resource sustainability, but also undermines the efficacy of worldwide fisheries conservation and management efforts. The globalization of fisheries has been, and continues to be problematic, generating detrimental biological, economic, and social consequences to marine capture fisheries in areas within the EEZ and on the high seas. Overcapacity has been thought to be largely responsible for economical and biological overexploitation of fishery stocks.

Pascoe, “Measuring and Assessing Capacity in Fisheries: Basic Concepts and Management Options,” FAO Fisheries Technical Paper 433/1, (Rome: FAO, 2004), p. 4; In contrast to excessive fishing capacity, overcapacity in fisheries is triggered when any fishing efforts exceeded the sustainable catch levels of fisheries resources. Unlike overcapitalization, which includes only the capital stock (a fixed input), overcapacity is “more all-encompassing in that it included all fixed inputs (capital such as the vessel and engine) and variable inputs to harvest operations, such as labour (crew), fuel, ice, and other relevant variables.” FAO, “Report of the Technical Consultation on the Measurement of Fishing Capacity. Mexico City, Mexico, 29 November to 3 December 1999,” FAO Fisheries Report No. 615, hereinafter referred to as FAO Fisheries Report No. 615, (Rome: FAO, 2000), p. 6.

For example, the final document of UNCED, Chapter 17 of Agenda 2, identifies overcapitalisation and excessive fleet sizes as the underlying symptom associated with irresponsible fishing practices and the primary causes to crisis in global marine fisheries. See paragraph 17.45 of Chapter 17, Agenda 21; The 1995 Kyoto Declaration is another international instruments recognized the degradation of the aquatic environment placed “enormous strains upon the fishery sector's capability to sustain its necessary contribution to food security.” “The Kyoto Declaration and Plan of Action on the Sustainable Contribution of Fisheries to Food Security, Kyoto, Japan, 4-9 December 1995,” Fisheries Agency, The Government of Japan, 1995, available online at http://www.fao.org/docrep/012/ac442e/ac442e.pdf (accessed on 27 October 2010).

resources (particularly economically important species),\textsuperscript{481} inefficient economic wastage and the loss of potential socio-economic benefits to the fishing industry.\textsuperscript{482} There is also an obvious correlation between excessive levels of fishing efforts and IUU fishing.\textsuperscript{483} Alongside harmful fisheries subsidies programme and inappropriate, poorly implemented domestic fisheries management regime,\textsuperscript{484} fleet overcapitalization has been identified as the main driving force for fishing operators to engage in irresponsible fishing practices such as IUU fishing.\textsuperscript{485}

In view of the detrimental impacts of widespread problems of overfishing and excessive fishing, the management of fishing capacity, as an integral component of responsible fisheries management, is given great attention in the FAO Code of Conduct and IPOA-Capacity. Apart from preventing or eliminating excess fishing capacity, coastal States are encouraged to ensure that fishing efforts are to be maintained at levels commensurate with the long-term sustainable use of resources and their availability.\textsuperscript{486} If excess fishing capacity exists, it is essential that coastal States undertake necessary

\textsuperscript{481} Ward \textit{et al.}, “Measuring and Assessing Capacity in Fisheries,” p. 10.

\textsuperscript{482} The reduction of fish stocks to biologically and ecologically harmful level as generated from excessive fishing capacity that invariably caused the loss or reduction of potential benefits linked with long-term viability of fisheries production, such as food, income and employment. S. Pascoe and D. Gréboval (eds.), “Measuring Capacity in Fisheries,” \textit{FAO Fisheries Technical Paper No. 445, hereafter referred to as FAO Fisheries Technical Paper No. 445}, (Rome: FAO, 2003), p. 1.


\textsuperscript{484} This is particularly the case with respect to the reduction of fleet capacity and allocation of fishing rights or quotas. OECD, \textit{Why Fish Piracy Persists: the Economics of Illegal, Unreported and Unregulated Fishing}, (Paris: OECD Publications, 2005), p. 14.


\textsuperscript{486} \textit{FAO Code of Conduct}, Article 6.3; and \textit{IPOA-Capacity}, paragraph 2.
steps in reducing fishing effort at levels to restore diminished stocks back to sustainable levels.\textsuperscript{487}

The overall objective of fishing management capacity is to achieve a balance between fishing effort and fisheries production.\textsuperscript{488} Attaining this desirable balance would entail adjustment on the level of fishing capacity either through ensuring restricted or exclusive access to a fishery or a direct or indirect control of both fisheries inputs and outputs. However, under a range of international instruments, the initial step for controlling fishing capacity is for States to monitor and assess the capacity of its fishing fleets.\textsuperscript{489} As discussed in section 4.2.2, coastal States have an obligation under the LOSC to determine the harvesting capacity of fisheries resources in their EEZ. One of the means in discharging this obligation is for these States to carry out assessment on national fleet capacity in target fisheries.\textsuperscript{490} The IPOA-Capacity further extends the need to assess fleet capacity to the systematic identification of national fishing capacity.\textsuperscript{491} The FAO Code of Conduct also stresses the fundamental importance for States to examine and appraise the performance of their fishing capacity in terms of fishing gears, methods and practices.\textsuperscript{492} Any imbalance that exists between the available fishery resources and management objectives should be subject to regular assessment.\textsuperscript{493}

\textsuperscript{487} \textit{FAO Code of Conduct}, Article 7.6.3; and \textit{IPOA-Capacity}, paragraph 7.
\textsuperscript{488} \textit{FAO Code of Conduct}, Articles 7.1.8 and 7.6.1.
\textsuperscript{489} In spite of the requirement for assessing and monitoring fishing capacity, there is no internationally agreed or standardized definition of how fishing capacity should be quantified and measured. The FAO, for example, provides a basic definition of fishing capacity as “the amount of fish (or fishing effort) that can be produced of a period of time (e.g. a year or a fishing season) by a vessel or a fleet if fully utilized and for a given resource condition.” This definition, thus, implies that overcapacity in a fishery exists when any fishing efforts exceeded the sustainable catch levels of fisheries resources. See \textit{FAO Fisheries Report No. 615}, p. 6.
\textsuperscript{490} Article 62(2) of the LOSC.
\textsuperscript{491} \textit{IPOA-Capacity}, paragraph 13.
\textsuperscript{492} \textit{FAO Code of Conduct}, Article 7.6.4.
\textsuperscript{493} \textit{IPOA-Capacity}, paragraph 20.
The IPOA-IUU also calls upon States to develop national plan of actions on fishing capacity (NPOA-Capacity).\textsuperscript{494} States are urged to take periodic evaluation and monitoring of the implementation of NPOA-Capacity at least every four years in order to identify cost effective strategies.\textsuperscript{495} In terms of worldwide State practices, there is, however, little progress being made in relation to the completion of preliminary assessment of national fishing capacity and formal adoption of NPOA-Capacity. According to a 2009 survey conducted by COFI, less than 70 percent of the 68 FAO Member Countries who responded to the questionnaire survey had conducted preliminary assessment of fishing capacity, but only 40 percent completed the assessment.\textsuperscript{496}

For most developing countries, the process of assessing and monitoring fishing capacity has not been without challenges. One such challenge identified by Gréboval (2001) is the lack of complete database and information regarding fleet inventories employed in the fisheries sector in the EEZ.\textsuperscript{497} For States to enhance their monitoring and assessment capabilities of fishing capacity, the creation and maintenance of an appropriate record of fishing vessels with the authorization to fish in the national EEZ should be given priority.\textsuperscript{498}

At the national level, there are various examples of frequently used management tools for controlling fishing capacity in the EEZs. As an example, States may apply direct control and restriction on the amount of fishing effort or factors of production

\begin{itemize}
\item \textsuperscript{494} \textit{IPOA-Capacity}, paragraph 21.
\item \textsuperscript{495} \textit{Ibid.}, paragraph 24.
\item \textsuperscript{497} Gréboval, “The International Plan of Action for the Management of Fishing Capacity,” paragraph 14, at p. 239.
\item \textsuperscript{498} In addition to monitoring physical characteristics of fishing fleet, it is also essential for States to better assess fleet dynamics from the context of investment-disinvestment, and deployment, such as temporal and spatial allocation fishing inputs. \textit{Ibid.}, paragraph 16, at p. 239.
\end{itemize}
used to catch fish, such as fishing vessels and fishers, as well as various types of fishing gears. Input control measures can be utilised, especially those known as “incentive blocking measures.” These measures involve limiting the number of fishing units through the issuance of licenses or permits; imposing temporal and spatial restriction on fishing efforts (i.e. allowable fishing seasons or days, and open and closed fishing areas); and adopting restriction on the size and power of vessels and gears. In contrast, output control measures directly regulate the quantities of fish catch through TAC, Individual Vessel Quota (IVQ), bag limits and trip limits.\(^{499}\) It is a common practice for coastal States to employ a fisheries management system based on a combination of output and input measures to regulate fishing capacity.\(^{500}\)

One of the predominant methods employed worldwide for reducing excess fishing capacity is the implementation of fleet reduction scheme. The method generally involves relocating redundant fishing vessels to areas where fisheries resources remain underexploited. If relocating such vessels is not a possible option, the vessels would generally be scrapped, left to be depreciated, or exported to other countries.\(^{501}\)

Another option of government intervention measure aimed at making adjustments on the level of fleet capacity through the reduction of the size of unwanted domestic fishing fleet is public funded vessel buy-back programme. Underpinning the central element of this programme is the purchase and removal of fishing capitals (i.e. vessels and gears) and fishing licenses or permits from a national fleet. It spite of the

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499 Trips limits and bag limits are frequently used method to regulate recreational fishing. Pope, “Input and Output Controls,” p. 232.

500 For instance, the implementation of vessel buyback program in the fishing fleet of Canada’s New England groundfish fishery is concurrent with the implementation of input control measure such as vessel licensing scheme. Quinn Weninger, and K.E. McConnell, “Buyback Programs in Commercial Fisheries: Efficiency versus Transfers,” Canadian Journal of Economics, 33(2000), p. 395.

high cost it might involve, vessel buyback programme has been widely adopted to control or reduce the number of entry to a fishery. Many important fishing States have taken the initiatives of removing excess fishing capacity through this programme, such as Canada, Norway, Australia, Japan, the United States, Taiwan and numerous EU States.  

Other alternative management strategies that coastal States should consider to prevent excessive fishing capacity and overfishing include the reduction or removal of any harmful fisheries subsidies and economic incentives contributing directly or indirectly to the build-up of such capacity. Various forms of subsidies and economic incentives have been and continue to be employed worldwide, many of which are the main causes of fleet overcapitalization, intensified fishing efforts and overfishing. In the reports published by the FAO and the World Bank, the extensive use of subsidies was identified as one of the factors responsible in expansionistic fishing capacity and

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503 Subsidies can be broadly implied to diverse set of government intervention. Schrank, for example, has specifically classified fisheries subsidies into several categories. Some of these categories include direct government payments to fishing industry (e.g. purchasing new fishing vessels, vessel decommissioning payments (buybacks), fishermen’s unemployment insurance, compensation for closed seasons); tax waiver and deferral (e.g. fuel tax exemptions for fishing vessel fuel, and sales tax exemptions); government loans and loan guarantees, and insurance (e.g. loans with lower than market interest rates or longer than usual amortization periods); implicit payments to, or charges against the industry (e.g. landing bans on foreign vessels, import quotas and prohibitions on foreign direct investment). W. E. Schrank, “Introducing Fisheries Subsidies,” FAO Fisheries Technical Paper No. 437, (Rome: FAO, 2003), pp. 11-13.
504 Statistical evidence relating to the extensive use of subsidies and other forms of economic supports in fishery sectors worldwide are available in numerous literatures. Based on the World Bank report, for example, a total of US$ 14 to 20 billion of environmentally harmful subsidies had been granted annually to fishery sector worldwide- a sum, as Milazzo estimated, amounting to approximately 20 to 25% of the first-sale revenues of global fisheries. Matteo Milazzo, Subsidies in World Fisheries: A Reexamination, World Bank Technical Paper No. 406 (Fisheries Series), (Washington, DC: World Bank, 1998), p. 74.
for creating market distortion in fish trade.\textsuperscript{506} It is therefore in the interest of both governments and users to eliminate harmful fisheries subsidies and other economic incentives in order to maintain the level of fishing effort within sustainable fishery production. This strategy is articulated in Paragraph 26 of IPOA-Capacity. Whilst specific provision in dealing with harmful fisheries subsidies is noticeably missing in the FAO Code Conduct, the instrument does set a general requirement for States to eliminate all contributing factors undermining long-term sustainability of fisheries resources, and thereby, implies the need for States to remove any form of subsidies or economic incentives that would threaten fisheries sustainability.

When implementing any fleet reduction measures, coastal States, in accordance to the IPOA-Capacity, should exercise caution and refrain from transferring capacity to other areas identified as overfished or areas outside national jurisdiction.\textsuperscript{507} Avoiding this undesirable transfer of capacity would necessitate States not only to be cautious, but to also ensure that capacity is not transferred to the jurisdiction of a foreign State unless with the expressed permission from the latter.\textsuperscript{508} There are many instances where countries with fleet overcapitalization had transferred their excess fishing capacity to a foreign EEZ or in adjacent high seas areas under the RFMOs jurisdiction.\textsuperscript{509} An excellent example of this is the reduction of excessive fishing efforts and surplus


\textsuperscript{507} IPOA-Capacity, paragraph 37.

\textsuperscript{508} Ibid., paragraph 37.

\textsuperscript{509} This transferring of overcapacity of fleet outside of national jurisdiction is deemed as irresponsible fishing practices by Tsamenyi and Mfodwo, and may be taken through various means. These include the operation of joint venture chartered arrangement via access agreements; the transferring of inappropriate models of industrial fishing to developing States via the terms of access agreements, inclusive of vessel and gear types; and the granting of unsuitable aid to developing States via access agreements. Tsamenyi and Mfodwo, “Responsible Fishing and Access Agreements,” p. 1.
fisheries labour in the Senegalese EEZ in which it had exacerbated local fishermen to relocate their operation into the neighbouring EEZs of Guinea, Mauritania, and Guinea-Bissau.\textsuperscript{510}

It is worth emphasizing that any form of capacity reduction scheme may also generate socio-economic ramifications to affected stakeholders, especially displaced fishing community. The disposal of unwanted vessels under fleet reduction programme, for example, is inevitably linked with the reduction of employment opportunities in affected fisheries sector, and possibly, post-harvest supporting industry.\textsuperscript{511} As a result, the FAO Code of Conduct calls upon States to evaluate and take into account cost effectiveness and social impact of the capacity reduction measures to all level of user groups.\textsuperscript{512} The livelihood of those directly and indirectly affected from this capacity reduction measures must be given due consideration by coastal States, and if necessary, provide those who have been displaced with alternative sources of employment or income.\textsuperscript{513}

4.3. Ecosystem Approach to Fisheries (EAF) Management

One of the integral components of responsible fisheries practices in the EEZ is the requirement for coastal States to incorporate ecosystem considerations into their fisheries management planning and implementation. Of all the varying expressions and definitions pertinent to this approach to fisheries management,\textsuperscript{514} none is more relevant

\begin{flushleft}
\textsuperscript{510} Ward \textit{et al.}, “Measuring and Assessing Capacity in Fisheries,” p. 14.  \\
\textsuperscript{512} \textit{FAO Code of Conduct}, Articles 7.6.3 and 7.2.2.  \\
\textsuperscript{513} \textit{IPOA-Capacity}, paragraph 22.  \\
\end{flushleft}
than the term “ecosystem approach to fisheries (EAF)” adopted by the FAO in the context of responsible fisheries. A great number of the FAO technical documents and conference deliberations over last ten years have frequently used the term EAF when referring to ecosystem considerations in fisheries management. Notwithstanding the absence of a generic interpretation or universally agreed definition of the concerned approach, the FAO Technical Guidelines for Responsible Fisheries No 4, Supplement 2 provides a definition of EAF:

An ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.

Given this definition, it can be interpreted that the fundamental objective of EAF lies on accommodating and reconciling various demands and interests (or values) of stakeholders (e.g. fishing community, fisheries industry and NGOs). At the same time, it focuses on maintaining, protecting and restoring the health and integrity of marine

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515 A/Res/63/112, 24 February 2009, hereafter referred to as Resolution 63/112. Both resolutions recognized the importance of protecting vulnerable marine ecosystems, such as cold-water corals, seamounts, hydrothermal vents and other underwater features, from destructive fishing practices. Other examples adopted at regional and national level are EU Marine Strategy Framework Directive and US Ocean Commission Report respectively.

516 Critics argue that neither of the given interpretation of this approach nor its definition and expression has attained a universally agreed status. There is noticeably a diverse set of expressions relevant to ecosystem approach in fisheries management perspective. A growing body of contemporary literatures in the forms of journal articles have also described and reviewed these expressions. Examples of these expressions include ecosystem approaches to marine resource management (EAM), ecosystem-based fisheries management (EBFM), ecosystem-based management (EBM), and ecosystem approach to fisheries (EAF). See Steven A. Murawski, “Ten Myths Concerning Ecosystem Approaches to Marine Resource Management,” Marine Policy 31(2007), pp. 681-690, in relation to EAM; Richard Curtin and Raúl Prellezo, “Understanding Marine Ecosystem Based Management: A Literature Review,” Marine Policy 34(2010), pp. 821-830, with regard to EBM; Sarah K. Gaichas, “A Context for Ecosystem-based Fishery Management: Developing Concepts of Ecosystems and Sustainability,” Marine Policy 32(2008), pp. 393-401, relating to EBFM; and J. Link, “What does Ecosystem-based Fisheries Management Mean?,” Fisheries 27(2002), pp. 18-21.

The term of EAF initially came into existence during the FAO Consultation on Ecosystem-Based Fisheries Management held in Reykjavik from 16-19 September 2002.
ecosystem and its habitats to ensure their continued functions of providing services and goods for human beings.\(^{517}\)

As pointed out by Morishita (2008), EAF is now a widely accepted form of management approach in the field of marine capture fisheries.\(^{518}\) The conceptual origin of EAF, however, is not new, and has been the subject of many discussions in literatures.\(^{519}\) However, it is only during the last four decades that the key principles and requirements related to EAF steadily gained recognition and approval in treaties and voluntary instruments.\(^{520}\) Some of the instruments that could be related to EAF are the following: the 1972 United Nations World Conference on Human Environment, the LOSC, the 1992 Convention on Biological Diversity (CBD), the UNCED and its Agenda 21, the UN Fish Stocks Agreement, the 1995 Kyoto Declaration on the Sustainable Contribution of Fisheries to Food Security, the 1995 Jakarta Mandate on Marine and Coastal Biological Diversity, and the FAO Code of Conduct.\(^{521}\)

The 2001 Reykjavik Declaration, in reaffirming the EAF principles and conceptual objectives set out in the LOSC and the FAO Code of Conduct, reiterates the

\(^{517}\) Gopinath and Puvanesuri, “Marine Capture Fisheries,” p. 216.


\(^{520}\) This development occurred in a period where there was a trend of rising societal awareness of the interactions between living aquatic resources fisheries resources and different ecosystem components, and the concerns over the potential and actual irreversible impacts of fishing and non-fishing activities to the particular resources and the rest of ecosystem.

\(^{521}\) Annex 1 of FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2 provides a summary of legal and policy basis relevance to EAF. See FAO Fisheries Department, “The Ecosystem Approach to Fisheries,” FAO Technical Guidelines for Responsible Fisheries No. 4, Suppl. 2, (Rome: FAO, 2003), pp. 73-82.
call for ecosystem considerations to be integrated into fisheries management regime.\(^{522}\)

Similar call for the application of EAF has been endorsed under Article 30(d) of the WSSD Plan of Implementation, which explicitly encourages States and RFMOs to implement the approach by the year 2010.

The LOSC,\(^{523}\) Chapter 17 of Agenda 21,\(^{524}\) the UN Fish Stocks Agreement\(^{525}\) and the FAO Code of Conduct\(^{526}\) requires coastal States to adopt conservation and management measures with the aim of protecting and maintaining marine aquatic ecosystem along with the long-term sustainability of fish stocks. The LOSC, in particular, accords special protection to marine ecosystem and its components, including different groups of fish species (i.e. target or non-target) and fragile habitats. Following this, coastal States are obliged to take into consideration the dynamic interaction and interdependence between fish stocks when deciding the appropriate conservation measures to prevent overfishing in the EEZ.\(^{527}\) In the context of compatibility of measures for the conservation and management of straddling fish

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\(^{522}\) The 2001 Reykjavik Declaration endorses various management measures and strategies essential for States to achieve the agreed objectives of responsible and sustainable fisheries within the marine ecosystems. These measures and strategies include, among others: the requirement for States to introduce effective management plans, including mechanisms to reduce excess fishing capacity (paragraph 2); strengthen and improve, and where appropriate establish, regional and international fisheries management organizations and incorporate ecosystem considerations in their work programme (paragraph 3); and adopt preventive actions against the adverse impacts of non-fisheries activities on the components of marine ecosystems and fisheries (para. 4). The Declaration also emphasises for the States and RFMOs to incorporate ecosystem considerations by advancing the scientific basis for building on the existing and future available scientific knowledge. This is achieved by means of, among others, identify and describe the structure, components, interaction and functioning of relevant marine ecosystem components, (5(b)), build or enhance systematic monitoring of natural variability and its relations to ecosystem productivity (5(c)), improve the monitoring of by-catch and discards in all fisheries (5(d)), and assess the negative impacts of non-fisheries activities on the marine environment (5(f)).

\(^{523}\) The Preamble of the LOSC, for example, concedes, “...the problems of ocean space are closely interrelated and need to be considered as a whole.”

\(^{524}\) Chapter 17 of Agenda 21 urges coastal States to develop and manage coastal areas in an integrated manner and maintain marine biological diversity and resources productivity. See in particular paragraphs 17.5 and 17.7.

\(^{525}\) The Agreement illustrates the overriding priority of protecting marine ecosystems and preserving biodiversity as stated in its Preamble: “Conscious of the need to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimize the risk of long-term or irreversible effects of fishing operations.”

\(^{526}\) See Article 6.1 and 7.2.2(d) of the FAO Code of Conduct.

\(^{527}\) Article 61(3).
stocks, a similar provision is found in Article 7(d) of the UN Fish Stocks Agreement. It provides that such measures should:

[T]ake into account the biological unity and other biological characteristics of the stocks and the relationships between the distribution of the stocks, the fisheries and the geographical particularities of the region concerned, including the extent to which the stocks occur and are fished in areas under national jurisdiction.

The UN Fish Stocks Agreement and the FAO Code of Conduct further provide that conservation measures are to be applied to species belonging to the same ecosystem or associated with or dependent upon the target species. The legislation of a number of States incorporates this provision. For example, Tonga’s *Fisheries Management Act 2002* expressly recognizes the need “to protect the ecosystem as a whole and the general aquatic environment and adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon target stocks.”

When determining fisheries conservation and management measures, another noteworthy aspect for coastal States to consider under the EAF principle is the direct and indirect impacts of fisheries and non-fisheries activities on the entire biological and ecological components of the marine ecosystem. According to Article 61(4) of the LOSC, the components in question encompass “species associated with or dependent upon harvested species.” As a rule, coastal States are obliged to take into account the effects of fishing on these species with a view to maintaining or restoring their populations “above levels at which their reproduction may become seriously threatened.” These provisions clearly show that the conservation objective of the Convention has been broadened to include not only targeted stocks, but also other

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528 *UN Fish Stocks Agreement, Article 5(e); FAO Code of Conduct, Article 6.2.*
ecosystem features. States are called upon to conduct assessment on the impacts of human and environmental factors on target and non-target stocks. Significant alteration or removal of both target and non-target species would likely to cause serious decline on the overall health and productivity of living marine resources and ecosystems.

A great number of coastal States have acknowledged the protection of fragile and vulnerable ecosystem against the detrimental impacts of fishing by enacting relevant national laws applicable to EEZ fisheries. Canada, Papua New Guinea, Mauritius, Tonga, and South Africa are among the countries whose respective national legislation prescribed such provision.

The current orientation towards EAF management signifies a new phase of fisheries management paradigm, a paradigm that has purportedly evolved over the last few years. Sinclair et al. note that Australia’s 1998 Oceans Policy and Canada’s 1997 Oceans Act are excellent examples of national legislative and policy instruments to have adapted to this trend established under international law. Sinclair et al., “Responsible Fisheries in the Marine Ecosystem,” p. 257.

UN Fish Stocks Agreement, Article 5(d); FAO Code of Conduct, Article 7.2.3.

One such example of this is the decline of predatory species occupying high tropic levels in worldwide marine fisheries habitat, such as sharks, billfishes and tunas resulted from uncontrolled harvesting or incidental catch of such species. It is estimated that more than 90% of large predatory fishes throughout the world oceans have perished. In general, the declining of marine predators in higher tropic environment would have a wider ecological consequence on other marine communities. Because of the complexity and inter-dependence of the components of marine ecosystem, any disturbance or removal predators from fisheries activities may substantially alter the structures and functions of the marine communities in the ecosystem. See Ransom A. Myers and Boris Worm, “Rapid Worldwide Depletion of Predatory Fish Communities, Nature 423(2003), p. 282. See also Michael R. Heithaus, Alejandro Frid, Aaron J. Wirsing, and Boris Worm, “Predicting Ecological Consequences of Marine Top Predators Declines,” Trends in Ecology and Evolution 23(2008), p. 202.

Canada, Canada National Marine Conservation Areas Act (S.C. 2002, c. 18), sections 4(4) and 9(1).


Tonga, Fisheries Management Act 2002 (No. 26 of 2002), section 4(e).

South Africa, Marine Living Resources Act 1998, sections 2(e) and 43(2)(e).

According to the FAO technical guideline, the EAF is not envisioned as a revolutionary approach deviating from the conventional management regime in fisheries. It is rather seen as an approach embracing a more integrated and holistic way of managing resources without disregarding the fragile fisheries environment and its habitats.

The principles and management measures of EAF have attained a worldwide recognition in the framework for promoting responsible fisheries, mainly through their incorporation into national and regional policy and legal frameworks. In view of the complex interaction and interdependency of fisheries resources and associated ecosystems, the EAF also entails cooperation among relevant governments and authorities.

A number of measures related to the protection of marine ecosystem warrant elaboration in the following sections. These measures are prohibition on the use of destructive fishing gears and practices and minimizing by-catch and discard. Another principle of responsible fisheries, namely precautionary approach to fisheries, which is related to ecosystem approach to fisheries, will be discussed in detail in the later stage in this chapter.

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4.3.1. Prohibition of Destructive Fishing Gears and Methods

As mentioned earlier, one of the goals of EAF is to ensure that essential habitats for fish are protected against the adverse impacts of human activities, specifically from the use of indiscriminate and destructive fishing gears and techniques. Much has been written on the negative impacts of illegal fishing practices on marine environment and vulnerable fish habitats, such as seagrass beds, coral reefs, algaes, and benthic organisms. Dynamite and cyanide fishing, the use of fine meshed nets, and bottom trawling (including scrapers and dredgers) are amongst the most common form of fishing methods responsible for the destruction of critical habitats in many parts of the world. Cyanide and blast fishing, for instance, are reportedly rampant in the Asia-Pacific region, particularly in Southeast Asia. Blast fishing is a problem of immediate

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542 One of the identified common denominators responsible for the widespread deterioration of tropical marine ecosystem and alteration in the integrity and sustainability of marine biodiversity in Asia-Pacific region is the persistent trend of destructive fishing practices. See Julian Clifton, “Prospects for Co-management in Indonesia’s Marine Protected Areas,” Marine Policy 27(2003), pp. 389-395.

543 The widespread use and devastating effects of blast fishing, for example, are regarded by Fox et al., to be “the largest immediate threat to coral reef ecosystem in some countries.” Helen E. Fox, Jos S. Pet, Rosmin Dahuri and Roy L. Caldwell, “Recovery in Rubble Fields: Long-term Impacts of Blast Fishing,” Marine Pollution Bulletin 46(2003), p. 1024.

544 While fish bombing and cyanide fishing are mostly confined in areas along the fringing of coastline, other destructive fishing practices, notably trawling operations, are mostly occurred in both coastal and offshore waters. The harmful effect of mobile bottom trawling fishing gears, such as otter trawls and beam trawls, on fragile marine benthic habitats (e.g. cold-water and deep-sea coral reef) on the high seas has also been documented. For further discussion, see Mathew Gianni, High Seas Bottom Trawl Fisheries and their Impact on the Biodiversity of Vulnerable Deep-Sea Ecosystems: Summary Findings, Paper Prepared for IUCN, WWF, The Natural Resources Defense Council (NRDC), February 2004, 14pp, available online at www.panda.org/downloads/ marine/Giannisummaryfindingsfeb04.doc (accessed on 12 March 2011).

concern for causing severe damage to extensive areas of coral reefs in the order of 2 to 3 square metres (m²) to a very large crater as big as 10 to 20 m².

Under the international fisheries instruments, there are direct and indirect references related to the elimination of destructive fishing practices. The LOSC, the UN Fish Stocks Agreement, as well as soft law instruments, such as the FAO Code of Conduct and Chapter 17 of Agenda 21, contain provisions in this respect. The FAO Code of Conduct, for example, urges States to prohibit the use of destructive fishing gears and methods, including “dynamite, poisoning and other comparable destructive fishing practices.” At the domestic level, many coastal States have shown serious commitment in phasing out or banning the use of destructive fishing gears or methods in their respective national jurisdiction. Some countries make the use of such methods

548 It is important to note that neither reference to the prohibition of destructive fishing practices is expressively set out in the LOSC nor the targeted timescale assigned to States for putting an end to these environmentally destructive fishing practices. However, Article 62(4)(c) of the Convention does empower coastal State to prescribe rules on gear restriction for the purpose of regulating foreign fishing in the EEZ. This specific provision clearly empowers a coastal State with a broad discretion to restrict or totally prohibit under its national laws any forms of fishing gears or methods in which it deemed to be destructive and detrimental to the sustainability of fisheries resources and environment.
549 As like the LOSC, there is no provision under the UN Fish Stocks Agreement specifically prohibiting destructive fishing practices. However, it does highlight the need to “minimize the risk of long-term or irreversible effects of fishing operations’ in its Preamble. This statement can be interpreted as granting States with the authorization to prohibit any forms of destructive fishing gears or methods, which cause long-term or irreversible impact on the fish stocks and the environment.
550 Article 8.4.2.
551 Paragraph 17.53.
552 FAO Code of Conduct, Article 8.4.2.
553 Regarding the progress in implementing the FAO Code of Conduct, it was reported by COFI in 2009 that the prohibition of destructive fishing practices remain “the most commonly applied management tool in inland and marine fisheries,” followed by the protection of endangered species.” See Document Meeting COFI/2009/2, paragraph 12, at p. 4.
as a punishable offence under domestic fisheries legislation. These countries include Indonesia\textsuperscript{554}, the Philippines\textsuperscript{555}, Tanzania\textsuperscript{556}, Northern Marianas Islands\textsuperscript{557}, and Samoa\textsuperscript{558}.

4.3.2. Minimizing By-catch, Discard and Waste

The worldwide trend of indiscriminate capture of non-target species (or commonly referred to as by-catch), along with high mortality rate of discarded unwanted species, poses a major obstacle towards achieving better fisheries management and responsible fishing.\textsuperscript{559} A considerable body of scientific literature obviously points to the extensive use of non-selective fishing gear in commercial fishing industry (e.g. gill nets, long-line hooks, and pair trawler nets) as the prominent cause of by-catch,\textsuperscript{560} often with severe consequences that may result in biological overfishing, loss of marine ecosystem biodiversity, and diminishing profit for both fishing industry and community.\textsuperscript{561} Whilst

\begin{itemize}
  \item Indonesia, \textit{Fisheries Law No. 31/2004}, Articles 8 and 84.
  \item Northern Marianas Islands, \textit{Cyanide Fishing Act of 1999 (Public Law No 11-112)}, section 3.
  \item These non-target species may include juvenile fish, dependent and associated target species, undersize target species, and endangered marine species.
  \item Moore \textit{et al.} provide good examples of the detrimental effects of by-catch on fishing industry and fishermen, which include the loss of fishing bait, valuable time spent of identifying and removing target species from fishing gear, including sorting the target and unwanted species,
the accurate figure of by-catch at global level is somewhat impossible to ascertain, an issue compounded by unreliability and paucity of scientific data and information in the fields of fisheries,\(^{562}\) it was estimated by that in 2005, approximately 20 million tonnes of fish were taken annually as by-catch.\(^{563}\)


\(^{565}\) Based on the estimation made by IWC, between 65,000 and 80,000 cetaceans (e.g. dolphins and porpoise) and pinnipeds (e.g. seals) each year were incidentally caught and drown by unsselective fishing gear, notably gill nets. S. P. Northridge, S. P. “An Updated World Review of Interactions between Marine Mammals and Fisheries,” *FAO Fisheries Technical Paper No. 251, (Suppl. 1)*, (Rome: FAO, 1991), 58pp.
are killed or injured annually from long-line fisheries.\textsuperscript{566} Shrimp trawling is another major non-selective fishing gear responsible for unintentional catch of a large portion of marine turtles with endangered status, including the leatherback, loggerhead and olive riddle turtles.\textsuperscript{567}

The harmful effect of by-catch is synonymous with the wastage generated from the deliberate discarding of undesirable (often dead) marine species into the sea, most species of which have very little or no commercial value.\textsuperscript{568} Besides unwanted marine species, unused organs from the processed species, target and non-target, also make up considerable amount of resource wastage. The practice of discarding organs such as offal in the Gulf of Alaska and Bering Sea/Aleutian Islands groundfish fisheries exemplifies this problem. It was reported that the discarded offal produced from processed fish weighed more than four times the total weight of the whole fish thrown into the sea.\textsuperscript{569} In other places, before the promulgation of rules in 2000 for restricting shark finning in Hawaii long-line tuna and swordfish fisheries, as many as 65 to 76 percent of sharks incidentally caught from such fisheries had been regularly finned while the remaining carcass were thrown overboard.\textsuperscript{570}


\textsuperscript{568} For an analysis of the economics of catch discarding in fisheries, see Ragnar Arnason, \textquoteleft On Catch Discarding in Fisheries,	extquoteright \textit{Marine Resource Economics} 9(1994), pp. 189-207.


\textsuperscript{570} See Eric Gilman, Shelley Clarke, Nigel Brothers, Joanna Alfaro-Shigueto, John Mandelman, Jeff Mangel, Samantha Petersen, Susanna Piovano, Nicola Thomson, Paul Dalzell, Miguel
There appears to be noticeable progress amongst countries and RFMOs that have adopted technical, social or regulatory measures to address the problem of by-catch in world fisheries. The necessity to address the issues of by-catch, waste, and discards is acknowledged under the different international fisheries instruments. The UN Fish Stocks Agreement, for example, contains provisions for mitigating this global fisheries issue. Specifically, Article 5(f) stipulates that coastal States and States fishing on the high seas, in an effort to conserve and manage straddling fish stocks and highly migratory fish stocks, are required “to minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species.” A relevant requirement for reducing by-catch, waste and discards of non-target species can be found in Article 6.6 of the FAO Code of Conduct, as well as in other voluntary instruments that deal with specific fisheries issues, including IPOA-Seabird, the IPOA-Capacity, and the IPOA-Shark.

Discharging the requirement for minimizing by-catch and discards would entail States to adopt a range of measures to ensure that fishing gears, methods and practices, to the extent practicable, are sufficiently selective. To accomplish this, States need to develop and promote the utilization of technologically improved selective,

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Hall and Mainprize provide an excellence explanation and examples of these first two measures. Particularly, they argue that the technical approach involves mostly on improving the selectivity of fishing gear through gear modification, which is generally tailored for specific fisheries such as the requirement for installing Turtle Exclusion Devices (TEDs) and By-catch Reduction Devices (BRDs) in shrimp trawling fisheries or sorting grinds for protecting juveniles of commercial species such as haddock and cod. In contrast, the fundamental element of social measures for mitigating by-catch encompasses alteration on “the attitudes and values of fishers and ensure that economic incentives are aligned with those of conserving marine ecosystem and communities.” This may include ensuring that “fishers are fully aware of just how much current [by-catch and discarding] practices cost them.” For further reading, see Hall and Mainprize, “Managing By-catch and Discards,” in particular, pp. 136-140, with respect to technical measures, and 143-146, with respect to social measures.

As can be recalled, Chapter 17 of Agenda 21 has listed insufficiency of selective fishing gears as one of the major contributing factors that led to global fisheries crisis. See paragraph 17.45. IPOA- Seabirds, paragraph 10; IPOA-Capacity, paragraph 9(iv), and IPOA-Sharks, paragraph 22.

*FAO Code of Conduct, Article 8.5.1, IPOA-Capacity, paragraph 9(iv).*
environmentally safe and cost-effective fishing gears and methods.\footnote{UN Fish Stocks Agreement, Article 5(f); FAO Code of Conduct, Article 6.6.} Article 12.10 of the FAO Code of Conduct calls on States to carry out studies on the selectivity of fishing gears, the environmental impact of fishing gear on target species, and the behavior of target and non-target species in relation to such fishing gears. Fishing gears, methods and practices identified to be non-selective are to be phased out and replaced with alternatives that are more environmental friendly and consistent with responsible fisheries practices.\footnote{FAO Code of Conduct, Article 8.4.5.} A critical component of developing technologically improved selective and cost effective fishing devices and techniques is the need for States to promote scientific research and apply new technology in the design of and material used in fishing gears. The emphasis on the use of a scientific approach to the problem of by-catch is consistent with the requirement set out under Article 5(k) of the UN Fish Stocks Agreement, which provides that States should promote and carry out scientific research and develop appropriate technologies in support of responsible fishery conservation and management.

Fundamental to the success of developing of more environmental-friendly fishing gears and techniques is the long-term cooperation and collaboration between States, research institutions and stakeholders in the fisheries industry.\footnote{See, for example, T. M. Cox, R. L. Lewison, R. Žydelis, L. B. Crowder, C. Safina, and A. J. Read, “Comparing Effectiveness of Experimental and Implemented Bycatch Reduction Measures: the Ideal and the Real,” Conservation Biology 21(2007), pp. 1155-1164.} Some of the gears designed by States and concerned institutions to mitigate or eliminate by-catch of sea turtle, seabirds and marine mammal species include turtle excluder devices (TEDs) and by-catch reduction devices (BRDs).\footnote{FAO Code of Conduct, Article 8.4.5.} The U.S. National Marine Fisheries Service (NMFS), for example, has been working closely with local shrimp trawl fishing industry in the Gulf of Mexico to develop TEDs in reducing the mortality of sea turtles.
incidentally captured in shrimp trawl gear. RFMOs also promote the use of selective fishing gears and methods to reduce the incidental mortality of certain marine species. Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), for example, has established a set of procedures in the Convention area to minimize seabird by-catch in longline fishing by preventing birds from attempting to seize baited hooks during periods when the lines are set.

International fisheries instruments not only promote the sharing and dissemination of research output on by-catch mitigating measures, but also the transfer of new technology to intended recipients (e.g. boat owners and fishing operators). The FAO Code of Conduct encourages States to make available all relevant research information and output, such as newly improved selective or ecologically friendly fishing gear, to all fishers. The dissemination of such information and the transfer of technology are crucial especially to developing countries, which may lack the financial and human capacity to develop their own effective and selective fishing methods. For example, the NMFS, in implementing the provisions of the Code, has introduced a plan, which include cooperation with other nations fishing for tuna in the Eastern Tropical Pacific Ocean in developing selective fishing gears and techniques to minimize the incidental catch of dolphins in tuna purse seine fishery.

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579 NMFS is also currently cooperating with other fishery industries in research projects designed to develop fishing gear that reduce sea turtle by-catch in “the Atlantic pelagic longline fisheries, the Hawaii-based deep set longline fishery, the Atlantic sea scallop dredge fishery, non-shrimp trawl fisheries in the Atlantic and Gulf.” See NOAA Fisheries, Office of Protected Resources, Leatherback Turtle (Dermochelys coriacea), in http://www.nmfs.noaa.gov/pt/species/turtles/leatherback.htmwww.nmfs.noaa.gov (accessed on 15 March 2011).

580 CCAMLR, Conservation Measures 25-02 (2005), Minimization of the Incidental Mortality of Seabirds in the Course of Longline Fishing or Longline Fishing Research in the Convention Area.

581 FAO Code of Conduct, Article 8.4.3.

Apart from cooperative requirement in developing selective and environmentally friendly fishing gears and techniques, one area where cooperation in minimizing by-catch and discards has been accorded priority at regional level is the collection and dissemination of data. The UN Fish Stocks Agreement, in particular, stresses the need for States to collect and exchange data with the relevant RFMO in achieving the goal of effective assessment of both target and non-target species.\textsuperscript{583} Any assessment process in determining the most appropriate and selective fishing gear would require States to have a reliable and accurate data on the technical aspects of fisheries such as fish size, mesh size or gear, catch composition, by-catch discard, and fishery areas.\textsuperscript{584} The availability of such technical data provides the basis for sound decision-making process, particularly when selecting or adopting the most practical and appropriate measures mitigating by-catch and discard practices. A large number of coastal States worldwide have taken positive actions to control and mitigate the problem of by-catch and discards by adopting policy and legislative measures prohibiting the practice of discard within their national fisheries jurisdiction. Among these States are Canada, the Comoros, Ecuador, Equatorial Guinea, Iceland, Iran, Indonesia, India, Lithuania, Namibia, Nicaragua, Nigeria, Norway, Peru, the Philippines, South Africa, Seychelles, and USA.\textsuperscript{585} Norway, for instance, has banned the practice of discarding haddock, cod and mackerel stocks in the country’s territorial sea and EEZ.\textsuperscript{586} The ban on by-catch discarding are also currently enforceable in Canada’s Atlantic groundfish fishery, making it an offence for certain captured groundfish from being thrown to the

\textsuperscript{583} UN Fish Stocks Agreement, Article 3(1). See also Article 12.4 of the FAO Code of Conduct.

\textsuperscript{584} FAO Code of Conduct, Article 7.6.9 stipulates that States should carry out appropriate measures directed to protect juveniles and spawners.


\textsuperscript{586} See, for example, Norway, Regulation of 22 December 2004 Relating to Sea-Water Fisheries, Article 48.
sea, unless specifically authorised. Additionally, legislative measures that explicitly restrict or prohibit the removal of organs from by-catch caught in certain fisheries have been widely introduced by States. The US, Australia and South Africa have enacted national legislation prohibiting the removal of shark fins and tails and discarding the remainder of the shark at sea.

At the international and regional levels, a moratorium on the use of large-scale drift-net fishing is already put in place. The UN General Assembly has led the global initiative of banning large-scale pelagic driftnet on the high seas through the Resolution 44/225 in 1992. This resolution has gained significant support from individual States and RFMOs. For example, the United States has enacted *Magnuson-Stevens Fishery Conservation and Management Act*, which contains provision prohibiting large-scale driftnet fishing activity within the country’s EEZ and beyond the EEZ of any nation.

In the case of the EU, fishing vessels flagged to its members are subjected to moratorium on driftnet fishing for harvesting highly migratory pelagic species in northeast Atlantic Ocean and the Mediterranean. Regional fisheries organization such as International Commission for the Conservation of Atlantic Tunas (ICCAT) also implement binding measures prohibiting its members, including non-EU members of the Mediterranean countries (i.e. Algeria, Morocco, Tunisia and Turkey) from engaging in driftnet fishing.

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587 Hall and Mainprize, “Managing By-catch and Discards,” p. 142.
Efforts to mitigate incidental catches of unwanted marine species from large-scale driftnet fishing in certain regional seas have already in existence prior to the UN worldwide ban on the use of such gear. A group of South Pacific Island nations have agreed to seek immediate ban on long driftnets fishing in the South Pacific through the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific.\(^{593}\) Under this Convention, each party is required to prohibit its nationals and vessels from fishing with driftnets within the convention area\(^ {594}\) and undertake necessary measures against transhipment of catches obtained from driftnet fishing so long as they are consistent with international law.\(^ {595}\) In giving effect to this Convention, both Australia and New Zealand have enacted legislation that contains provisions prohibiting driftnet fishing in their respective EEZs.\(^ {596}\) These are only best-known examples of measures adopted by regional organizations and individual States to minimize by-catch and discards.

### 4.4. Precautionary Approach

One of the central pillars of responsible practices in the EEZ fisheries management is the application of precautionary approach to fisheries management. The conceptual objective and legal basis of this cautious and science-based management approach have been formally established and appeared in many post-LOSC international instruments.\(^ {597}\) The UN Fish Stocks Agreement and the FAO Code of Conduct are of

\(^{593}\) Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific, 24 November 1989, which was signed in Wellington, New Zealand on November 29, 1989, hereinafter referred to as Wellington Convention.

\(^{594}\) Wellington Convention, Article 3(1)(a).

\(^{595}\) Ibid., at Article 3(1)(b).


\(^{597}\) It is noteworthy that the conceptual components and principle of precautionary approach has already emerged in a number of international conference documents for environmental protection elaborated prior to the adoption of the above post-LOSC instruments- i.e., UN Fish Stocks Agreement and the FAO Code of Conduct. Of particularly relevant is the inclusion of the
particularly relevant in this respect. Both instruments contain a considerable number of provisions devoted entirely to the guiding principles, conceptual objectives, and management standards of the precautionary approach. 598 Article 7.5 of the FAO Code of Conduct is central to this advocacy, stating that:

States should apply the precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment.

This general requirement is also similar to Article 6(1) of the UN Fish Stocks Agreement providing for a precautionary-based conservation, management and exploitation of straddling and highly migratory fish stocks in areas of the high seas and national jurisdiction. 599 The Agreement goes on to provide guidelines on the application of precautionary approach to fisheries through the specification of precautionary reference points in Annex II. 600 Not only would these guidelines likely to enhance the precautionary principle for sustainable management of living resources and environment in the UNCED documents, such as Rio Declaration (Principle 15) and Chapter 17 of Agenda 21 (paragraphs 17.1 and 17.5(d)); Other international instruments that endorse precautionary consideration in fisheries management process but within the conceptual frameworks of EAF, include: 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem (paragraph 5) and 1995 Jakarta Mandate on Marine and Coastal Biological Diversity (Annex II to decision II/10, paragraph 3(a)).


Annex II contains seven articles, with their scope encompasses matters, such as obligation and procedures related to, among others, the setting of precautionary reference points and measures to be taken when such reference points are approached or exceeded, as well as management strategies to restore or maintain targeted and non-targeted stocks.
operational effect of precautionary principle in fisheries governance, but also the existing fisheries management framework under the LOSC.  

When scientific basis for fisheries policymaking is scarce, it is imperative for the management objectives to be set conservatively in order to safeguard the productivity of fish stocks over the long-term. This may include specification of allowable exploitation limits that either have a lower risk of causing overfishing or enabled for stocks rebuilding in overexploited fish stocks. To translate the principle of precautionary approach into practical sense, international fisheries instruments expressively endorse the requirement for States and RFMOs to identify and establish specific resource reference points: (i) stock-specific target reference points (TRPs) and (ii) stock-specific limit reference points (LRPs). For fisheries managers, the utility of these biological reference points lies as a measurable indicator that defines desirable or undesirable fisheries conditions, such as fishery overexploitation and stocks collapse. These indicators also correspond to management targets or thresholds to be avoided, and if such threshold is exceeded, pre-agreed management actions or responses are triggered to restrict and mitigate undesirable conditions.

Target reference points stand for the target of actual production level to be reached, while limit reference points, in contrast, represent the threshold limits that are viewed to be undesirable and of which catch level should not be exceeded at all cost. Because of the prevalent uncertainties of the status of fish stocks and the complex, dynamic nature of fisheries which are difficult to control, the precautionary

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602 Matics, “Measures for Enhancing Marine Fisheries Stock in Southeast Asia,” p. 239.
603 FAO Code of Conduct, Article 7.5.3(a) for TRPS, and Article 7.5.3(b) for LRPCs; UN Fish Stocks Agreement, Annex II, Article 2.
605 A specific example of this undesirable outcome identified by Moore is the population decline of spawning stock biomass below a specified critical level that would threaten recruitment of targeted species. Moore, “The Code of Conduct for Responsible Fisheries,” p. 98.
management approach requires TRPs to be set at points lower than the LRPs. Previously the level of fishing mortality of TRPs commonly corresponded to MSY. For precautionary purposes however, the fishing mortality would need to be set at a level less than the estimated MSY.\textsuperscript{606} This in turn would allow TRP to act as a buffer zone against the risky outcome of overexploited stocks if harvesting levels exceeded the LRPs.\textsuperscript{607}

Both the UN Fish Stocks Agreement and the FAO Code of Conduct make it clear that coastal States should predetermine in advance a range of contingency measures or responses that can be used once the TRPs are exceeded or when LRPs are closely approached.\textsuperscript{608} According to these instruments, one of the required criteria is for these reference points and contingency measures to be premised on best scientific evidence available.\textsuperscript{609}

As depicted in a growing body of literature relating to fisheries management, precautionary approach represents a significant departure from conventional fisheries management practice as it reverses the burden of proof.\textsuperscript{610} Traditionally, this burden of proof largely resides on management authorities (e.g. fisheries managers and policy makers), requiring them to demonstrate concrete evidence of real or perceived damage to fish stocks before any stringent measure can be introduced.\textsuperscript{611} On the other hand, the key element underpinning precautionary approach demands that States and resource

\textsuperscript{606} Grafton et al. make an argument that MSY by itself is not suitable as management target or even as an indicator to guide fisheries management. See Grafton et al., “Benchmarking for Fisheries Governance,” p. 472.

\textsuperscript{607} Schorr and Caddy suggest that MSY is deemed to be more appropriate as a reference to LRPs rather than TRPs given the fact that using MSY as a target reference points has been found to be dangerous from preventing unsustainable exploitation of targeted fisheries resources. Schorr and Caddy, “Sustainability Criteria for Fisheries Subsidies,” p. 10.

\textsuperscript{608} UN Fish Stocks Agreement, Article 6.3(b); FAO Code of Conduct, Articles 7.5.3(a) and (b).

\textsuperscript{609} UN Fish Stock Agreement, Article 6.3(b); FAO Code of Conduct, Article 7.5.3.

\textsuperscript{610} See, for example, Gonzalez-Laxe, “The Precautionary Principle in Fisheries Management,” p 496; and Fontaubert et al., “Achieving Sustainable Fisheries,” p. 15.

users to avoid from engaging in any fishing activities that may inflict harm or irreversible destruction to target and non-target species, or marine environment and its habitats, unless there is clear evidence indicating otherwise.\textsuperscript{612} It can be concluded that precautionary approach entails re-orientation of behaviour in fisheries management practices, involving pre-emptive measures to be institutionalized into management actions designed to curtail or eliminate the risks of irreversible damage or long-term effect caused by fishing operations, irrespective of whether or not undesirable outcomes are scientifically proven.

The UN Fish Stocks Agreement and the FAO Code of Conduct provide that States should not draw on scientific uncertainty as an excuse for postponing or failing to take fisheries conservation measures.\textsuperscript{613} Precautionary approach implies that coastal States should exercise prudent foresight preferably in all stages of fisheries management process—from planning, developing to executing fisheries policy.\textsuperscript{614} States should also adopt flexible management strategies through contingency plans and pre-emptive measures to avert or mitigate negative impact of fishing activities.\textsuperscript{615} The US \textit{Magnuson-Stevens Fishery Conservation and Management Act 1996} for example, requires the development of national fisheries management plans to define measurable criteria in determining whether or not fish stocks are being overexploited or reaching

\begin{itemize}
\item Geir Hønneland, “Towards a Precautionary Fisheries Management in Russia?,” \textit{OCM} 48(2005), p. 620.
\item \textit{FAO Code of Conduct}, Articles 6.5 and 7.5.1; and \textit{UN Fish Stocks Agreement}, Article 6(2).
\item \textit{FAO Fisheries Technical Paper No. 350/1}, p. 7.
\item See Article 6(7) of UN Fish Stocks Agreement with respect to the utilization of emergency management measures used in response to natural phenomena causing significant adverse impacts on fisheries for straddling stocks and highly migratory fish stocks; and Article 6(7) pertaining to the adoption of emergency measures where it is fishing activity itself which presents a serious threat to the sustainability of stocks.
\end{itemize}
overexploitation, as well as in specifying relevant conservation and management measures to prevent or mitigate undesirable outcomes.\footnote{See section 303(10) of \textit{Magnuson-Stevens Fishery Conservation and Management Act 1996} for the United States of America. See also Darcy, and Matlock, “Application of the Precautionary Approach,” p. 856.}

Explicit reference to precautionary approach can be found in regional fisheries management agreements, such as in the CCAMLR.\footnote{Graeme Parkes, “Precautionary Fisheries Management: the CCAMLR Approach,” \textit{Marine Policy} 24(2000), pp. 83-91.} Other RFMOs, such as the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Northwest Atlantic Fisheries Organization (NAFO) International Commission for the Conservation of Atlantic Tunas (ICCAT) and Inter-American Tropical Tuna Commission (IATTC), have institutionalized precautionary approach as a guiding principle for fisheries conservation.\footnote{See Marjorie L. Mooney-Seus and Andrew A. Rosenberg, \textit{Regional Fisheries Management Organizations: Progress in Adopting the Precautionary Approach and Ecosystem-Based Management}, Recommended Best Practices for Regional Fisheries Management Organizations, Technical Study No. 1, (London: Chatham House, 2007), 153pp; Both Caddy and Cochrane, however, contend that the practical application and enforcement of this precautionary approach as the basis of fisheries resource management still relies on “the discretion of member countries, since few commissions have an explicit role in enforcing the regulations they develop.” See Caddy and Cochrane, “A Review of Fisheries Management Past and Present,” p. 669.}

At national level, there are varying State practices associated with the integration of precautionary approach into domestic fisheries law.\footnote{Richards \textit{et al.} note that precautionary reference points, which will be discussed below, “have been used extensively as a management tool in North America and Europe,” Laura J. Richards and Jean-Jacques Maguire, “Recent International Agreements and the Precautionary Approach: New Directions for Fisheries Management Science,” \textit{Canadian Journal of Fisheries and Aquatic Sciences} 55(1998), pp. 1546-1547; In recent times, selected coastal States have been reported by Hosch \textit{et al.}, to be lagging behind in terms of adopting and implementing these reference points as their fisheries management tool. See Hosch \textit{et al.}, “The 1995 FAO Code of Conduct for Responsible Fisheries,” p. 193.} A number of coastal States, namely Australia, Canada, Marshall Island, Antigua and Barbuda, and Tonga have articulated precautionary principle in their national fisheries legislation, including those dealing specifically with the issues of fisheries management in the EEZ. For example, Canada, through the preamble of its \textit{Oceans Act 1996}, underlines the country’s commitment to promote “the wide application of the precautionary approach to the
conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment.

Similarly, Tonga’s *Fisheries Management Act 2002* has established the requirement for applying precautionary approach to fisheries, which is based on the standards set by the UN Fish Stocks Agreement. Section 203(3) of *Marshall Islands Revised Code 2004* also points to the use of precautionary approach to achieve the objective of conservation, management and sustainable use of the fishery resources. More recently, *Fisheries Act, 2006* of Antigua and Barbuda stipulates the need for its national fisheries plan to incorporate the principle of precautionary approach.

Despite numerous debates and criticisms on the application of precautionary approach to fisheries, international fisheries instruments still consider the approach as the proper cause of management action where uncertainty is prevalent. As discussed in scholarly literature, the underlying cause of this uncertainty resides on the lack of accurate knowledge on various matters in the fields of fisheries and environment upon which decision-making in fisheries management is based. These matters are related to, among others, the true status of renewable fisheries resources (e.g., resource

620 As stipulated in section of 30(c) of the same Act, the national strategy for the management of estuarine, coastal and marine ecosystems in waters within Canada’s national jurisdiction will be based on the principles of the precautionary approach.


625 Meanwhile, González-Laxe holds the view that this uncertainty “is the *sine qua non* condition for the legitimisation of the precautionary and preventive principle.” Fernando González-Laxe, “The Precautionary Principle in Fisheries Management,” p. 496; see also Richards and Maguire, “Recent International Agreements and the Precautionary Approach,” p. 1546.

population, productivity, mortality rate), the process of and interaction within marine ecosystem components, and the precise scale of impacts from human activities (fishing and non-fishing activities) and natural phenomena (climatic changes and El Nino events) on fisheries resources and marine environment. Such factors are aggravated by the lack of comprehensive and reliable scientific data and information of dynamic and complex nature of fisheries systems which the FAO explicitly notes as being “difficult to control, not well understood and subject to changes in the environment and human values.” Nonetheless, precautionary approach entails re-orientation of behaviour in fisheries management practices in an environment of uncertainty, involving pre-emptive measures to be institutionalized into management actions designed to curtail or eliminate the risks of irreversible damage or long-term effect caused by fishing operations, irrespective that these undesirable outcomes have yet to be scientifically proven.

4.5. Conclusion

This chapter discussed the fundamental components of international legal and normative framework for responsible fisheries in the EEZ insofar as coastal State jurisdiction is concerned. It has examined the legal content of, and inter-relationship between, the general principles and management measures of the framework articulated in many fisheries-related international instruments, including the LOSC, the UN Fish

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Stocks Agreement, the FAO Code of Conduct and the four IPOAs. Examples of these principles included sustainable utilization and conservation of fisheries resources; EAF; and precautionary approach to fisheries management. The scope of the chapter also extended to analyzing different range of management measures for implementing the above principles, covering from the setting of MSY and TAC, eliminating or reducing excess fishing capacity, prohibiting destructive fishing gears and practices, to minimizing by-catch, discard and waste. Analysis of the aforementioned principles and measures in turn yield a set of criteria that will be utilized for testing the adequacy of Malaysia’s national legislative, policy, and institutional framework in implementing the global norms for responsible fisheries that are applicable in the offshore areas of its EEZ.

While it remains debatable on whether responsible fishing has already attained the status of customary international law, there is an established trend supportive towards the concept of responsible fishing in the treaty texts and voluntary instruments relevant to fisheries. Through an analysis on the contents of selected States’ legislations and policy statements, this chapter demonstrated evidence of State practices of embracing and implementing these principle and measures, albeit there is marked inequalities of actual implementation between the States given their different level of resource, institutional and legislative capacity.

The analysis of the above principles and measures also led to a conclusion that responsible fisheries, from operational standpoint of view, embraces complex and comprehensive approach to fishing and fisheries management, an approach that is much more prescriptive, regulatory and science-based in its content than the LOSC fisheries framework. Thus, rather than fully focusing on a species-centric approach to fisheries management espoused in the latter, the inherent nature of responsible fisheries
framework of the post-LOC international fisheries instruments largely concentrates on both managing human behaviour by fostering the culture of accountability, and establishing an environmentally sound fisheries management process. This chapter also demonstrated that the existing principles and measures are sufficient to provide reference points for coastal States to develop an array of measures to conserve, manage and develop fisheries resources in a more sustainable and responsible manner.
Chapter 5
A PROFILE OF MALAYSIA'S EEZ FISHERIES WITH SPECIAL REFERENCE TO THE OFFSHORE FISHERIES SECTOR

5.1. Introduction
This chapter examines the background of Malaysia’s offshore fisheries in the country’s EEZ - that is, 30 nautical miles from the shore. As a backdrop to the following discussion, this chapter begins by analysing the key factors driving the Malaysian government’s policy of expansion and modernisation of its domestic offshore fisheries sector. Most notable among these factors are the declining state of inshore and coastal fisheries resources, the expansion of Malaysia’s maritime jurisdictional zone and the preferential development of the fisheries sector as a significant source of food, revenue and employment. This discussion is followed by a brief examination of the legal definition, physical extent and composition of “Malaysian Fisheries Waters” and authorised areas for offshore fishing operations in the EEZ. This also serves as the geographical background for discussions in the current and succeeding chapters of this thesis.

Finally, this chapter includes a profile of Malaysia’s offshore fisheries sector, which includes a discussion of the country’s fishing areas, fishing fleets and gear utilisation, socio-demographic aspects of the players involved in the industry, catch rates and species composition, fishing ports and post-harvesting facilities, as well as the market distribution and trading of fish at domestic and international levels.
5.2. The Development of Malaysia’s Offshore Fisheries: its Driving Factors and Gradual Progression

Since the mid-1980s, the Malaysian government has sought aggressive expansion of its domestic offshore fishing industry.\(^{630}\) This policy-orientation underpins the strategic trusts outlined in various national policy documents, some of which are specifically designed to enhance national food production and generate increased economic revenue. Of these documents, the most significant is a series of National Agricultural Policy (NAP) documents, including the First National Agricultural Policy (NAP1, 1984-1991), the Second National Agricultural Policy (NAP2), and the Third National Agricultural Policy (NAP3, 1998-2010).\(^{631}\) Other examples include Malaysia Five Year Plan, with the most recent of which is the Ninth Malaysia Plan 2006-2010 (9MP).\(^{632}\) All these documents have identified offshore fishing and aquaculture as the main sector with the room for future expansion.

Primarily aimed at providing an alternative source for the nation’s fisheries production, the offshore fisheries development strategy also marks a fundamental change in the direction of Malaysia’s fisheries development policy. In particular, it signifies a departure from the country’s production-orientation policy of the late 1970s to early 1980s, which focused extensively on improving the productivity of the inshore (0 to 5 nautical miles) and coastal (5 to 30 nautical miles) fisheries sector. There is now


\(^{631}\) The NAP represents a comprehensive government document outlining the strategic direction of Malaysia’s agricultural development. For a background discussion on NAP3, see Section 6.2.2 of Chapter 6.

\(^{632}\) Economic Planning Unit (EPU), Ninth Malaysia Plan 1996-2000, (Putrajaya, Selangor: EPU, Prime Minister’s Department, Malaysia, 1991), paragraph 3.38, at p. 90.
a shift within Malaysia’s national fisheries policy towards developing alternative fisheries sectors, including both offshore fishing and aquaculture.  

There are many reasons behind Malaysia’s policy transition from labour-intensive nearshore fisheries to profit-oriented mechanized offshore industrial fisheries. Three fundamental factors underpin the policy transition; they are to: (i) enhance marine capture fisheries production for domestic consumption and export; (ii) eradicate socio-economic problems plaguing predominantly poor, artisanal fishing communities; and (iii) relieve intense fishing pressure off inshore fishery resources. In addition, catch production levels, the socio-economic implications for stakeholders and the biological status of marine fisheries resources were given equal consideration when determining the policy objectives for the expansion of offshore fisheries. This consideration continues to form the basis of decision for the country’s fisheries management regime until now. 

Even before the launching of NAP1, and when the Fisheries Development Authority of Malaysia (Lembaga Kemajuan Ikan Malaysia, LKIM) and the DoFM embarked on a series of development programs and management schemes, the expansion of the offshore fisheries industry had already gained momentum dating as far back as the early 1970s. Throughout the Second Malaysia Plan (1971-1975) to the
Fifth Malaysia Plan (1971-1990), a variety of government initiatives and development programmes were launched to stimulate and promote the growth of the offshore deep-sea fisheries sector and its related downstream activities through the development or construction of canning facilities, warehouses, cold plants, logistics, and distribution centres. Generous investments from public funds and foreign aid provided the financial support needed to execute these programmes. The major thrust of these programmes was to modernise domestic offshore fishing fleets, mostly trawlers and purse seiners, as well as to train a cadre of skilled fishing captains and crews.

The LKIM was and still is one of the leading government agencies entrusted by the Ministry of Agriculture to ‘spearhead’ the planning, designing and execution of projects for modernising offshore fishing fleets throughout the country. Some of the earliest and most ambitious investment projects undertaken by the Agency were concentrated on modernising offshore trawler fleets in Sarawak and the surrounding regional states in the east coast of Peninsular Malaysia, namely Terengganu, Kelantan and Pahang. Implemented from 1973 to 1979, the projects were largely aimed at encouraging *bumiputera*-owned fishing trawlers to venture further offshore to deep

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637 Lembaga Kemajuan Ikan Malaysia Act 1971. The profile and function of the DoFM and the LKIM are discussed in Chapter 7 of Sections 7.2.1.2 and 7.2.1.3 respectively.


639 Other projects embarked by the LKIM in its early history, especially in the 1970s, included joint ventures with foreign private company for offshore fishing in the east coast of Peninsular Malaysia, the establishment of aquaculture farms and the construction of processing plants, ice factories landing ports and processing complexes. Lim Teck Ghee, “Conflict over Natural Resources in Malaysia: The Struggle of Small-scale Fishermen,” in Lim Teck Ghee and Mark J. Valencia (eds.), *Conflict over Natural Resources in South-East Asia and the Pacific*, (Singapore: Oxford University Press, 1990), pp. 154-163.

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waters of the South China Sea.\textsuperscript{640} As Yahaya (1981) has observed, RM9.823 million was spent on the construction of 173 fishing boats under the Second Malaysia Plan (1970-75), while the allocation under the Third Malaysia Plan (1976-80) increased considerably to RM31.0 million for the purchase of an additional of 187 boats.\textsuperscript{641} The underlying objective of these programmes was essentially to increase offshore catch production through efficient harvesting of fish. Achieving this meant the utilisation of larger and more modern fishing trawlers, not only equipped with advanced fishing technology but also manned by competent and knowledgeable local captains and crews.

In fulfilling its socio-economic responsibilities such as enhancing fisheries production, generating employment, and increasing the level of income, the fundamental objectives of the LKIM-initiated fleet modernisation programmes were generally consistent with then recently launched National Economic Policy (NEP). The two-prolonged objectives of the NEP - eliminating social unrest and eradicating racially based economic disparity - had far implication on the direction of the Agency’s fisheries development programmes. In a sense, these programmes concentrated on the objective of alleviating socio-economic conditions among the poorest members of fishing community (i.e. traditional artisanal fishermen), many of whom are financially incapable to acquire larger, more modern boats or mechanical gear to operate further offshore.\textsuperscript{642}

\begin{footnotesize}
\begin{itemize}
  \item[\textsuperscript{640}] From the perspective of Malaysia’s fisheries sector, the term ‘bumiputera’ is used to differentiate between ethnic Malay and indigenous peoples, such as Kadazan and Bajau Laut (bumiputera), and non-Malay races, including Chinese, Indian and Sikh (also known as non-bumiputera).
  \item[\textsuperscript{642}] Ministry of Agriculture, Fisheries Division, “Offshore Fisheries Development, Programme Proposal,” p. 35.
\end{itemize}
\end{footnotesize}
From the perspective of Malaysian fisheries sector, the need to address unequal distribution of income and ownership among the two largest ethnic groups involved in the sector - the Malay and the Chinese - became upmost priority for many of the offshore fisheries development programs. The underlying reason behind the economic division between these ethnic groups arose when the Chinese historically dominated the industrial scale trawler operations, while the traditional artisanal fishing activities were mostly operated by the Malay fisherman.\textsuperscript{643} This situation in which Yahaya (1988) referred to as the “dualistic nature of the Malaysian fisheries sector,” will be further discussed in the succeeding parts of this section.

It is important to note that offshore fisheries development programs introduced by the DoFM and of those initiated by the LKIM have not been without criticism. Such criticisms focused primarily on the fleet mechanisation programmes. Ghee (1990) asserted that these programmes greatly benefited those commercial vessel owners who were already financially stable, but had little or no effect in raising the socio-economic conditions of small, artisanal fishing communities.\textsuperscript{644}

In relation to the biological sustainability of marine fisheries, the production-oriented strategy, which was one of the salient features of many LKIM-initiated programs in Peninsular Malaysia, proved to be incompatible with the fisheries conservation objectives outlined by the DoFM. It was feared that the constant drive to maximise production yields in underexploited offshore fishing grounds by means of mechanisation of fishing fleet, increased licensed fishing units and the utilisation of technologically advanced fishing gear, would cause adverse outcomes.\textsuperscript{645} In particular, there was mounting concern over the state of overexploited fishery resources (already


\textsuperscript{644} Ghee, “Conflict over Natural Resources in Malaysia,” pp. 154-163.

pervasive in inshore and coastal fishing grounds) in the offshore areas. If left unregulated, this undesirable situation would not only expose many important offshore fishery stocks to overfishing, but also threaten the survival of certain transboundary species commonly found in marine sanctuaries and habitats in the coastal and inshore areas of the country. These areas are widely recognised as home to a diverse and highly productive ecosystem and its habitats (such as mangrove forests, coral reefs and sea grasses) that are critical for offshore fish species as they provide nursery, spawning and feeding grounds for these species.

Like neighbouring countries in the region, such as Thailand, Vietnam and the Philippines, Malaysia relies greatly on the active participation of the private sector, from individuals to corporations, to generate sufficient capital to carry out a viable domestic offshore deep-sea fisheries industry, particularly tuna fisheries. The call for support from the private sector is closely intertwined with the operational nature of the offshore fisheries industry that invariably uses large fishing vessels equipped with advanced fishing technology. This type of fishing operation often requires a substantial amount of capital, as well as experienced skippers and crews to conduct the operation effectively. Arguably, attracting private investors to participate in the industry is challenging because of the high degree of risk that is involved. Indeed, many potential

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646 Demersal species, which are already showing symptoms of severe depletion in the country’s inshore areas, are also being overexploited in the offshore fishing grounds of the EEZ, particularly in the west coast of Peninsular Malaysia. Anon. Anon. Executive Summary: Fisheries Resources Survey in the Exclusive Economic Zone of Malaysia 1997-1999, (Kuala Lumpur: DoFM, Ministry of Agriculture Malaysia, 2002), p. 12.


648 For instance, the total investment in Malaysia’s tuna industry from 2002-2010 is approximately RM1.764 billion, with the bulk of the investment coming from the private sector (RM1.10 billion or 57.2%). The remaining RM754.85 million (42.8%) is sourced from public funds. Anon. “Delegation,” Berita Perikanan (in Malay Language), Bil. 45, Julai 2002, p. 2.
investors are unwilling to part with their money unless there is a reasonable return on their investment and attractive government incentives.

Without government incentives and assistance, it would not be possible for traditional fishermen to venture into offshore fishing operations. Not all traditional small-scale fishermen possess the managerial expertise, financial resources and assets that are prerequisite when embarking on such operations. Hence, this situation further justified the importance of investment being made by both government and private sector in the industry. Based on DoFM’s estimation in 2007, the total amount of private sector investment in the offshore fishing industry for the year 2010 was expected to reach approximately RM1 billion. Private sector support has become synonymous with the development of Malaysia’s offshore fishing industry for the past decade. As Rahimah (2000) has commented, “the gradual shift from artisanal fishing to one that is commercially oriented has been made possible by [the] active participation of the private sector and the use of new technologies.”

Evidently, the success of Malaysia’s offshore fisheries industry is strongly connected with government initiatives designed to encourage private investment in the sector. These initiatives involved some of the generous economic incentive package offered by the Malaysian government. Examples of these incentives included tax deductions for ‘pioneer status’, tax exemptions for imports and sales on fishing equipment and machinery, easily accessible credit and loan facilities through Bank


Pertanian Malaysia (Agriculture Bank of Malaysia) with low interest rates and flexible repayment options, and tax exemptions from statutory income.\textsuperscript{652}

Apart from the financial incentives discussed above, a number of government initiatives aimed at promoting and facilitating the participation of the private sector in the expansion of the offshore fisheries sector have been adopted. These include, among others, encouraging joint ventures between private sector entities and foreign companies with expertise in offshore deep-sea fishing operations, conducting training schemes for local skippers and fishermen and offering consultative and marketing services.\textsuperscript{653}

To create an environment conducive to the expansion of the offshore fisheries industry, the Malaysian government has ensured that the infrastructure required to support the industry is in place. This infrastructure encompasses deep-sea fishing ports and landing complexes, ice-making factories, tuna canneries and cold storage and distribution facilities.\textsuperscript{654} Another government initiative, but one with a stronger emphasis on increasing the number of fishing units, is the adoption of a licensing policy which imposes relatively few restrictions on the issuance of new and renewal licenses for offshore fishing vessels categorized under C2 class (vessels of 70 GRT and above).\textsuperscript{655}

\textsuperscript{652} Detailed information regarding the incentives offered to companies engaged in the offshore fishing industry is available online at the Malaysian Industrial Development Authority (MIDA) website at http://www.mida.gov.my/en_v2/index.php?page=agricultural-sector (accessed on 6 March 2010).

\textsuperscript{653} The Tuna Development Business Centre (TDBC), which was established by the DoFM, serves as a ‘one stop centre’ for the collection and dissemination of tuna landing in Penang Port from foreign and locally registered tuna fishing vessels operating in the Indian Ocean.

\textsuperscript{654} The construction and refurbishment of modern deep-sea fishing ports and landing complex such as Port of Tanjung Manis in Sarawak and Penang Port in Penang, are recent examples of Federal Government initiatives aimed at promoting the offshore fishing sector and stimulating the growth of other related downstream sectors. Anon., “Tanjung Manis Fishing Port A Catalyst For Deep Sea Fishing,” Bernama, March 2, 2007.

In the last two decades, the Malaysian Government has continued to show a strong commitment in developing a national fisheries industry and an offshore fisheries industry in particular. Throughout the Sixth Malaysia Plan (1991-1995) to the Ninth Malaysia Plan (2006-2010), significant amounts of public funds were allocated for fisheries development programmes and projects. During the implementation of these plans, both the LKIM and the DoFM channelled substantial funding for implementing a variety of programs and projects, including those aimed at accelerating the growth of the offshore fisheries sector (see Table 5.1 below).  

### Table 5.1
**Public Expenditure for Fisheries Development, Sixth Malaysia Plan to Ninth Malaysia Plan, 1991 to 2010**

<table>
<thead>
<tr>
<th>Malaysia Plan</th>
<th>Funding (RM million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sixth Malaysia Plan (1991-1995)</td>
<td>408.4</td>
</tr>
<tr>
<td>Seventh Malaysia Plan (1996-2000)</td>
<td>495.8</td>
</tr>
<tr>
<td>Eighth Malaysia Plan (2001-2005)</td>
<td>414.3</td>
</tr>
<tr>
<td>Ninth Malaysia Plan (2006-2010)</td>
<td>660.2</td>
</tr>
</tbody>
</table>

Mindful that most of Malaysia’s inshore fishery resources have already reached the point closer to or surpassed the estimated maximum potential yield of production, the only remaining fisheries sector with potential for growth is left to the offshore fishing sector in the country’s EEZ. The following sections will discuss the driving

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656 The amount of funding allocated for the development of the marine fisheries sector is so substantial that the DoFM needs to spend an estimated RM 361,742 a day in order to exhaust the funding by the end of 2010. See Planning, Development & International, “Fisheries Sector Performance,” in DoFM, “Report of Annual Conference of Senior Officers,” p. 5.

factors that have influenced the decision of the Malaysian government to focus on the expansion of the country’s offshore fishing sector. Serious depletion of inshore and coastal fishery resources, the expansion of the country’s national maritime jurisdiction and the potential to generate additional sources of food, employment and revenue are some of these factors.

5.2.1. Serious Depletion of Inshore and Coastal Fisheries Resources

The declining trend of inshore and coastal fisheries resources provides one of the catalysts behind the transformation of Malaysia’s fisheries policy towards the expansion of its domestic offshore fishing sector. Overexploitation of demersal, pelagic, and cephalopod species in the inshore and coastal waters of Malaysia has been academically documented since the mid-1970s. Like most of the major coastal fishing grounds in Southeast Asia, there is conclusive evidence pointing to a marked decline in the biomass of demersal and pelagic species in the coastal waters of the country. This is evident in the water off the west coast and east coast of Peninsular Malaysia, as well as those off the Sarawak coast.

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Malaysia’s decision to expand its offshore fishing sector is because for many years there has been a recorded trend of decline of the total biomass of inshore and coastal resources of pelagic and demersal stocks. While coastal fisheries have been dominating the country’s marine capture fishing industry for the last 30 years in terms of employment and total catch, pelagic, demersal and shrimp species - all of which are commercially significant - have either been extensively fished or overexploited. The problem arises due to several factors, including destructive fishing practices and the pressure of excessive fishing efforts from the large-scale trawl fishing and the mechanisation of domestic fishing fleets. Certain species of fish in some of the most important coastal fishing grounds in Peninsular Malaysia have already been exploited at a level reaching or surpassing their estimated MSY, dating as far back as the 1980s. For example, a cursory examination of the catch statistical data for pelagic fish stocks in the coastal waters from 1986 to 1996 reveals that the exploitation level has reached or exceeded the MSY of 140,000 metric tonnes.

Intense and unrestricted fishing efforts, as well as the destruction of fragile marine ecosystems and habitats, are partly responsible for the rapid deterioration of

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660 For example, resources survey data from 1971 to 1997 in the coastal waters of Kedah-Perlis (Malacca Straits off the west coast of Peninsular Malaysia) shows an almost 75% decline in demersal landing rates. See National Action Plan Technical Committee for Managing Fishing Capacity, DoFM, Effective Development and Management of Fisheries Resources through Fishing Capacity Management (in Malay Language), Paper Presented at Annual Conference of DoFM Senior Ranking Officers, 15-19 January 2007, p. 2.

661 Annual fisheries statistical report issued by the DoFM for the year 2007 concluded that inshore fisheries were the largest contributor to the nation’s fish production in terms of catch level - 1,117,056 tonnes with an estimated value at RM4,166.66 million or 80.86% of total production. By contrast, the landings from the offshore fisheries sector generated only 264,367 tonnes with a value of RM 873.26 million. There were 38,420 fishing vessels licensed to operate in coastal areas in comparison to only 801 licensed offshore fishing vessels. DoFM, Annual Fisheries Statistics 2007, see paragraphs 1 and 2.2 in section “Status of the Fisheries Sector in Malaysia in 2007,” available online at http://www.dof.gov.my/224 (accessed on 3 March 2011).

662 The observable trend in the decline of coastal fisheries is well-documented and will be discussed in detail in Section 5.4.4.

economically important fisheries resources in the above-mentioned areas. Overfishing and declining resource biomass have been particularly detrimental to demersal fish species in the Malacca Straits and east coast of Peninsular Malaysia off the coast of Terengganu and Kelantan. Several observable symptoms of overfishing, which have been widely discussed in many DoFM documents and the general literature include: (i) the decrease in total catch; (ii) the reduction in the average age and body size of species caught; (iii) the decline in catch per unit effort (CPUE); and (iv) the proportionate increase of trash fish in catch composition.

As noted, the enormity of inshore and coastal fisheries deterioration is exacerbated by the intense pressure from excess fishing capacity in the sector. In response, one of the chief objectives of Malaysia’s fisheries management program has been to relocate the country's fishing efforts to underexploited fishing grounds further offshore. This management strategy not only intended to increase fisheries production in those areas, but also to secure the continuing contribution of coastal fisheries to the long-term viability of Malaysia’s fisheries industry. Based on the statistical data on catch landing for the last two decades, this sub-sector has been the largest contributor to the fishery production of the country.

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Multiple factors have contributed to the drastic decline of fish stocks in both inshore and coastal waters of Malaysia prior to the country’s declaration of the EEZ in 1980. Foremost among them are excessive fishing pressure and overcapacity from the rapid and uncontrolled expansion of trawling industry in the late 1960s and early 1970s. In effect, the proliferation of these highly efficient and productive trawler fleets had intensified fishing efforts in inshore fishing grounds. This inevitably caused overexploitation of fish stocks in those areas, thereby depriving traditional small-scale fishing communities of their already meagre revenue. Before the introduction of fisheries zoning system and policy restrictions on trawler operations in the inshore waters in the early 1980s, it was a common sight for many local and foreign fishing trawlers to fish in all those waters. As fishing competition over economically valuable species of tropical shrimp and demersal fish intensified, the spatial concentration of fishing operations by commercial mini trawlers in particular was mostly confined in the shallow, nutrient and resource rich inshore waters of the country, areas where such species strived. The frequent incursions made by these commercial fishing operators into these waters- the traditional fishing grounds for small-scale fishermen- turned into

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668 Jahara Yahaya, “Fishery Management and Regulation in Peninsular Malaysia,” p. 84.
670 For a detailed discussion on Malaysia’s fishing zones under the 1981 Fisheries Comprehensive Licensing Policy (FCLP), see Chapter 6.

Unrestricted entry of trawlers into the country’s inshore fisheries not only accelerated overexploitation of these resources, in particular species with high market value such as shrimp and demersal reef fish,\footnote{Alam \textit{et al.}, “Sustainable Fisheries Development in the Tropics,” p. 325; and Kirkley and Squires, “Excess Capacity and Asymmetric Information in Developing Country Fisheries,” p. 649.} but also exacerbated conflict and resentment amongst small-scale artisanal fishermen. The latter perceived the profit-oriented trawler operators as “poachers” who were depriving them of their traditional fishing rights.\footnote{Taupek and Nasir, “Monitoring, Measurement and Assessment of Fishing Capacity,” p. 130.} Intense rivalry over access to the already depleted inshore fisheries resources had further aggravated animosity between them, often escalating into violent skirmishes.\footnote{Goh Cheng Teik, “The Fishing Conflict in Penang and Perak: Personal Memoir,” \textit{Kajian Ekonomi Malaysia} 13(1976), p. 19.} Indeed, incidents involving physical violence between the two groups can be traced as far back as the early 1960s, with most of the incidents occurred in the west coast of Peninsular Malaysia.\footnote{According to Omar, from 1970 to 1973 a total of 100 incidents occurred between these two groups of fishing gear operators. The enormity of the situation can be gleaned from “the fact that over 1,000 boats were involved (nearly 400 trawlers and 800 inshore fishing boats), over 60 boats were sunk, and 23 fishermen killed.” See Omar, “Market Power, Vertical Linkages and Government Policy,” p. 28, cited from K. Tiews (ed.), \textit{Proceedings of the International Seminars on Fisheries Resources and their Management in Southeast Asia,} Berlin, 19 November-6 December 1974, Organized by German Foundation for International Development in cooperation with the Federal Research Board for Fisheries and FAO (Bonn: Druckerei Heinz Lammerich, 1974).} Not only did these incidents result in considerable loss of life and property, it also had the potential to intensify the racial unrest between the predominantly Malay artisanal fishermen and Chinese trawler operators. Avoiding this racial tension became a government priority as the country had just endured at the time its worst racial riots on May 13, 1969.\footnote{Yahaya “Fishery Management and Regulation in Peninsular Malaysia,” p. 85.}
The conflict between the two different groups of gear user was fuelled by two main issues. First, both groups were competing for similar fish stocks in open access inshore fishing grounds, an area where the artisanal fishermen had traditionally conducted their fishing activities. In contrast to large-scale trawl operators, artisanal fishermen generally employed smaller vessels and adopted non-mechanised fishing methods with low productivity, such as gill/drifts nets, hook and line, lift nets, as well as traps and fishing stakes. As a result, their already low incomes were further reduced with the dwindling supply of inshore fish stocks triggered by the extensive exploitation from large-scale trawl fishing operations. Given the limited harvesting capability generating from their vessel and fishing gear, traditional artisanal fishermen were unable to extend their fishing operations further offshore, hence, improve their catch size and revenue. Their vessels and fishing gear essentially confined them to fish in waters adjacent to the shoreline.

Second, as fishing trawlers frequently entered into shallow inshore fishing grounds, many artisanal fishermen had to bear a significant loss of income when their nets and other passive fishing gear (e.g. gillnets and fishing traps) became damaged by the large-scale operators. Incursions by other types of commercial fishing boats, such as purse seiners and Apollo boats, into the congested inshore fishing grounds compounded the problems of overcapacity and resource depletion. Reducing

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677 According to Omar, in contrast to small-scale artisanal fishermen, large-scale (trawling) fishing operations commonly involved the use of large vessels of 30-70 GRT and highly efficient fishing gear. These operations were characterised by the indiscriminate capture of fish, including juvenile fish. Omar, “Market Power, Vertical Linkages and Government Policy,” p. 20.


680 “Apollo boat” fishing operation involves two boat trawlers working in pair when pulling one single trawl net with heavy tin chains. Because of the destructive nature of this fishing operation to the sea floor and benthic habitats, the operational areas in Malaysian waters for Apollo boat is restricted to fishing zone B in the Krian district, Perak, northwest of Peninsular Malaysia. See DoFM, Policy and Procedure Book for Licensing of Vessel, Fishing Appliance and Fishermen Registration, (Putrajaya, DoFM), p. 38.
overcapacity and intense fishing efforts in the nearshore waters of the country had become even more daunting for the DoFM with the constant encroachment of foreign fishing vessels from the neighbouring countries, especially Thai and Indonesian fishing trawlers.\footnote{Saharuddin, “Development and Management of Malaysian Marine Fisheries,” p. 120.} The weakness of fisheries enforcement at sea had further aggravated the problems of foreign fishing encroachment in those areas.\footnote{However, this zone, which is also known as ‘Fishing Zone A,’ is reserved for owner-operated purse seine vessels which are less than 20 GRT in size.}

Other factors contributing to the decline of fish stocks in Malaysia’s inshore fisheries included the widespread degradation of the marine ecosystem and its habitats caused by the extensive use of destructive fishing techniques and excessive trawling activities, as well as marine pollution from sea-based and land-based sources. Cyanide fishing, fish bombing, towed-bottom fishing gear (including pair trawling, push nets and otter trawling) were among unsustainable fishing methods and gear known to have inflicted extensive destruction on vulnerable marine ecosystems and habitats in Malaysia.\footnote{The widespread use and devastating effects of blast fishing are regarded by Fox et al., to be “the largest immediate threat to coral reef ecosystem in some countries,” including Malaysia. See Fox \textit{et al.}, “Recovery in Rubble Fields,” p. 1024.} Occurring almost exclusively in the inshore reef areas off the state of Sabah, the continual incidents of cyanide and blast fishing have caused extensive damage to the reef ecosystem and related habitats.\footnote{Studies have shown that more than 10% of the coral reefs in the waters off Sabah have been destroyed, diminishing almost 75% of fisheries population over the years. See Anon., “Sabah’s Coral Reefs under Big Threat,” \textit{The Star}, Monday, 16 July 2007; and Anon., “Sabah Fishermen Urged to End Illegal Fish Bombing,” \textit{New Straits Times}, 28 April 2007; “Fish Bombing Causing Problems for Oil Rigs,” \textit{New Straits Times}, 23 October 2005; Joniston Bangkuai, “Need for Harsher Penalties to Cripple Fish Bombing Activities in Sabah,” \textit{News Straits Times}, 25 April 2001; “Fish Bombing: Six Filipino Illegal Held,” Daily Express, Monday, 17 April 2006; and Raynore Mering, “Move to Check Bombing of Fish,” \textit{New Straits Times}, 14 March 2001.}

Licensing violation involving the use of prohibited mobile fishing gear such as push nets (\textit{pukat rawa sorong}) and trawl nets (\textit{pukat tunda}) by the local fishing operators has frequently been reported in the inshore fishing grounds off the west coast
of Peninsular Malaysia.\textsuperscript{685} These particular fishing instruments not only catch indiscriminately a high proportion of non-target marine species in the shallow inshore waters (such as juvenile and undersize target species), but also destroy benthic species and seabed habitats, such as coral reefs and seagrass meadows. As mentioned earlier, the destruction of these habitats can considerably reduce critical spawning and nursery areas for juvenile fish.\textsuperscript{686} Another factor responsible for the significant decrease in marine benthic species is the intentional or unintentional abandonment of gillnets and traps by trawl operators.\textsuperscript{687}

The indiscriminate nature of the trawling method which captures and drags everything along its path has contributed to, among other things, a high mortality rate of juvenile benthic species and a substantial catch of low-value “trash fish” in demersal fishery landings.\textsuperscript{688} A comparative study on the reported landings in the east coast region of Peninsular Malaysia from 2000-2006 indicated that an average of 22 to 26 percent of the composition of trawl landings consisted of trash fish.\textsuperscript{689}

Apart from that, illegal trawling activities are also responsible for inflicting extensive damage to coral reefs and seagrass beds. The problem is more acute along the


\textsuperscript{687} The abandoned pair trawls and push nets can cause ghost fishing when the offenders dismantle the prohibited nets from their boats as a way of destroying evidence when escaping from maritime enforcement authorities. Zahaitun Mahani binti Zakaria, \textit{Destructive Fishing in Malaysia: The Need for Local Participation in Fisheries Management}, Paper Presented at the 4\textsuperscript{th} Regional Meeting of the Marine Affairs Institute of the Asia Pacific Region, Pusan, Korea, 11-14 September, 2002, p. 7.

\textsuperscript{688} The composition of trash fish from driftnets and gillnets fisheries is much lower than from trawl fisheries. Ahmad \textit{et al.}, “Overview of the National Fisheries Situation,” p. 859.

coastal areas off Sabah that is widely known as an important breeding and spawning grounds for marine and inter-tidal species in the region.\textsuperscript{690}

Trawling and destructive fishing practices are not the only human activities degrading the tropical ecosystem, its habitats and fishery stocks. There is a direct correlation between marine pollution and the destruction or alteration of the structure and function of fragile marine ecosystems and habitats supporting fisheries resources in the inshore zone. Many viewed the integrity and quality of marine habitats in the inshore zone of Malaysia, that is, mangrove forests, coral reefs, and seagrass, as being progressively threatened by vessel-borne pollution.\textsuperscript{691} Shipping operations such as tank cleaning, operational discharges, de-ballasting, and oil spills from shipping incidents, are some of the sources of marine pollution from sea-related activities.\textsuperscript{692}

Besides pollution from vessels, coastal marine ecosystem of the country has been under increasing pressure from land-based pollution, including sedimentation, untreated sewage discharges, industrial toxic waste effluent and mining run-off. Possible source of this pollution generated from activities include coastal reclamation, dredging operations, coral extraction, land conversion for aquaculture, sand mining and mangrove deforestation.\textsuperscript{693} Over the years, this type of pollution has caused the greatest destruction on the fisheries habitats in the Straits of Malacca, an international


The strait regularly referred to not only as the busiest shipping lanes in the world but also one of Malaysia’s most important fishing grounds. Notable examples of such fishing grounds are the waters surrounding islets of Pulau Perak and Pulau Jarak in the northwest sector of the Straits, and the waters around Pulau Bidan located between the coast of Langkawi and Pangkor islands. It has been estimated that 70 percent of the marine pollution in the Straits has been generated from land-based sources, a condition worsened by pressures emanating not only from an increasing population density, but also expanding industrialisation and agriculture activities, particularly along the west coast of Peninsular Malaysia bordering the Straits.

In response to the above problems, the Malaysian fisheries authorities in the last two decades have adopted a proactive approach by implementing a number of management strategies and one of which relocating fishing efforts from the already saturated inshore fishing grounds to the remaining underexploited offshore fishing grounds of the country’s EEZ. These strategies are based on the fact that the only available maritime areas that offer potential for growth in fisheries are the offshore waters of the country’s EEZ.

Despite reports confirming heavy exploitation of demersal fisheries in certain areas of the EEZ (particularly off the west coast and east coast of Peninsular Malaysia), there are other offshore areas where certain species of fish stocks remain largely underexploited. A resource survey report suggested that pelagic fish stocks in the

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offshore waters of Malaysia’s EEZ (particularly in the South China Sea portions off the east coast of Sarawak and west coast of Sabah) are yet to be fully exploited, and therefore can still accommodate fishing expansion.\textsuperscript{698} Assessment results derived from a combination of research surveys and catch statistics reveal that the biomass level of small pelagic fish species in Sarawak EEZ was at its highest in 2001 at 879,548 metric tonnes and of this amount, 340,013 metric tonnes are still available for harvesting.\textsuperscript{699}

As the discussion above has shown, the Malaysian government has had little option but to relocate fishing operations to fishing grounds further offshore. Coupled with the country’s already overexploited inshore fisheries, this move coincided with Malaysia’s acquisition of a vast EEZ with potentially rich marine living resources. The declaration of the EEZ is pivotal to understanding the second factor behind Malaysia’s decision to expand its offshore fishing industry. To this issue we now turn.

\subsection*{5.2.2. Expansion of Malaysia’s Maritime Jurisdiction}

The second key factor that has influenced Malaysia’s national policy on offshore fisheries development is the expansion of its maritime zones in the wake of the country proclaiming its EEZ on 25 April 1980.\textsuperscript{700} This proclamation occurred at a time when neighbouring members of the Association of Southeast Asian Nations (ASEAN) had already claimed extended EEZ jurisdiction over large tracts of regional seas and oceans, areas previously comprising the high seas.\textsuperscript{701} Of these countries, only a few (namely, \begin{itemize}
\item Rajali \textit{et al.}, “The Status of the Demersal Fish Resource” p. 7.
\item \textit{Warta Kerajaan}, Jilid 24, No. 9, Tambahan No. 25, Perundangan (A), 25 April 1980.
\item For a discussion on the impact of EEZ claims by ASEAN countries on the legal and resources management regime, see Tangsubkul and Fung-wai, “The New Law of the Sea and Development in Southeast Asia,” pp. 865-866.
\end{itemize}
Indonesia and the Philippines) claimed a sizable area of maritime space and thus acquired potentially rich marine resources. Meanwhile Singapore, being a ‘geographically disadvantaged state,’ is yet to claim an EEZ.

From the perspective of Malaysia’s maritime interest, the anticipated outcome from the country’s EEZ declaration was geared towards the spatial expansion of national maritime jurisdiction offshore beyond its traditional 12-nm territorial sea limits. Without a doubt, Malaysia’s EEZ is the country’s largest maritime jurisdictional zone. The total size of the zone encompasses a marine area of almost 450,233 square kilometres (sq km²), an area far bigger than the landmass of the country combined.

The maximum breath of Malaysia’s EEZ up 200-nm is excluded in the Malacca Straits. This exception is due to the Strait’s narrowness and close proximity to the Indonesian border, as well as the existing boundary delimitation agreement based on the 1969 Agreements concerning Delimitation of Continental Shelves between the two countries.

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702 The size of the EEZ claimed by Indonesia and the Philippines is around 3.1 million km² and 2.2 million km² respectively. This data is extracted from Lugten and Andrew, “Maximum Sustainable Yield Marine Capture Fisheries,” pp. 19 and 22.


705 This information is based on data provided by Sutarji that was obtained from the Hydrographic Department, Royal Malaysian Navy (RMN), Hj. Sutarji Bin Hj. Kasmin, “Malaysia’s Maritime Law Enforcement Agencies and Auxiliary Security Agencies,” in Abdul Razak Baginda (ed.), Malaysia’s Defence & Security Since 1957, (Kuala Lumpur: Malaysian Strategic Research Centre, 2009), p. 188. As stated in several literatures, there is a discrepancy in terms of the total area of Malaysia’s claimed EEZ. For example, the DoFM has quoted the total size of Malaysia to be nearly 548,800 sq km². See DoFM, DoFM, Action Plan for the Conservation & Sustainable Use of Fishery Resources: Biological Diversity of Malaysia, (Kuala Terengganu: Department Penyelidikan dan Pengurusan Sumber Perikanan Marin, 2006), p. 6; In contrast, Haller-Trost indicates that the total size of the zone is 183,200 sq km². R. Haller-Trost, The Contested Maritime and Territorial Boundaries of Malaysia: An International Law Perspective, International Boundary Studies Series, (Cambridge, MA Kluwer Law International, 1998), p. 2.

It is noteworthy that the inferred boundary segments of Malaysia’s EEZ overlap with the outer limits of its claimed continental shelf. These boundary segments are displayed in *Peta Menunjukkan Sempadan Perairan dan Pelantar Benua Malaysia* or in English: the Map Showing the Territorial Waters and Continental Shelf Boundaries of Malaysia (hereafter *1979 Malaysian New Map*). Large portions of these segments are bordered by different maritime zones claimed by the neighbouring States, including Indonesia, the Philippines, Brunei, Singapore, Thailand and Vietnam. This creates a situation where a huge area of Malaysia’s EEZ is without direct access to a high seas corridor (*see Figure 5.1 and Figure 5.2*).

Based on the maps below, the Malaysian EEZ can generally be divided into four main sectors. The first two sectors are located along the coasts of Peninsular Malaysia and comprise the Malacca Straits on the western side and the South China Sea on the eastern side. The remaining sectors border the two states of East Malaysia namely, Sarawak and Sabah, encompassing the South China Sea bordering their western coasts, and the Celebes and Sulu Sea along the southeastern parts of Sabah.
Figure 5.1
Map of Malaysia’s EEZ: Eastern and Western Segments Bordering Peninsular Malaysia
Figure 5.2
Map of Malaysia’s EEZ: South China Sea, Sulu Sea and Celebes Sea Segments Bordering Sabah and Sarawak

Of great importance of the EEZ to Malaysia is the immense socio-economic benefits generated from both living and non-living marine resources in the area. Alongside petroleum and natural gas platforms (which are highly concentrated in the
offshore areas of Malaysia’s EEZ), offshore fisheries constitute one of the most active economic activities in the EEZ. The acquisition of extensive offshore fishing grounds following Malaysia’s EEZ proclamation offered an opportunity for the country to further increase the production of its marine fisheries, an opportunity which in the past had been largely confined to its territorial waters. In order to utilise the country’s marine living resources, the Malaysian government set about developing offshore fisheries in order to increase fisheries production, an objective enshrined in various national policy documents (e.g. NAP and Malaysia Five Year Plan).

Shortly after Malaysia’s proclamation of its EEZ, institutional frameworks were to facilitate effective policy formulation and implementation for the country’s offshore fishery expansion. The functional scope of national fishery bodies such as the LKIM and the DoFM was broadened to include the formulation and implementation of specific programs designed to encourage local fishing operators to expand their commercial operations into the newly acquired offshore fishing grounds. It was hoped that the transfer of fishing activities further offshore would relieve the intense fishing pressure that had affected most of the country’s inshore waters.

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708 Malaysia’s offshore oil and natural gas fields are mostly concentrated in the EEZ areas off the east coasts of Kelantan and Terengganu and off the north coast of Sarawak. See, for example, Vivian Forbes and Nizam Basiron, *Malaysia’s Maritime Space: an Analytical Atlas of Environments and Resources*, (Kuala Lumpur: MIMA, 1998), p. 62.

709 With the acquisition of more extensive fishing grounds under the EEZ Declaration, along with the subsequent development of the offshore fishery industry, the total landings in the country increased from 198,377 metric tonnes in 1965 to 747,000 metric in 1989 (an increase of almost 300%). See Fatimah Mohd Arshad and Kusairi Mohd Noh, “Agricultural Marketing Information for Selected Commodities in Malaysia,” *Extension Bulletin 392*, Food & Fertilizer Technology Center, Taipei, 1 October 1994: http://www.agnet.org/library/eb/392/ (accessed on 2 January 2009), p. 2.

710 Apart from the NAP and Malaysia’s Five Year Plan, the management strategies to increase fisheries production by expanding offshore fisheries are contained in the Strategic Action Plan for the Development of Tuna Industry.

711 These initiatives are designed primarily to solve problems plaguing the coastal fishing industry including conflict between traditional artisanal fishers and commercial trawl operators resulting from intense competition over fishing access in the common pool of inshore fishing grounds, persistent incidents of illegal intrusion into Malaysia’s coastal waters by unlicensed foreign (and local) fishing trawlers and over-exploitation of inshore fisheries resources.
The extension of Malaysia’s maritime jurisdiction has opened up a new frontier for local offshore fishing operators and private investors to explore and exploit fisheries resources therein. It also provides an opportunity for offshore deep-sea fishermen to expand their operations into the country’s newly-claimed EEZ. As all the rich offshore fishing grounds in the regional seas of Southeast Asia have been enclosed under the EEZs of neighbouring coastal States, it seems that the only available fishing grounds for Malaysian-flagged vessels to operate in were the offshore waters of the country’s EEZ and the high seas.

5.2.3. Offshore Fisheries as a Source of Food, Revenue and Employment

The marine capture fishing industry in Malaysia can be broadly categorised into two groups: (i) coastal/inshore fisheries; and (ii) offshore deep-sea fisheries. The fishing industry and other agricultural sectors continue to play a prominent role in the social-economic development of the country, despite the focus of the country’s economy has shifted from agriculture to industrial activity since the late 1980s. Diversification in export commodities was also evident, with the construction, petrochemical and electronic-based manufacturing industries being among the largest contributors to the

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712 According to Mohamed, the concept of the EEZ represents an opportunity for Malaysia to overcome some of the problems prevalent in its fishing industry, including “improving the socio-economic condition of the fishery sector, controlling foreign fishing in waters adjacent to the coast, eliminating gear damage caused by foreign fishing and eliminating rampant piracy in Malaysian waters.” See Mohamed, “National Management of Malaysian Fisheries,” pp. 2-3.

713 It is noteworthy that Malaysian flagged fishing vessels had the authorization to fishing in the EEZ of a foreign country if there was an access fishing agreement concluded between Malaysia and that of a particular country.

714 The categorisation of these two groups is based on the areas where marine resources are captured. Inshore/coastal fisheries involve the harvesting of fish in the waters less than 30 nautical miles from the shoreline, whereas offshore fisheries are located 30 nautical miles from the shoreline. See DoFM, *Annual Fisheries Statistics 2007*, (Putrajaya: DoFM, 2008), see section “Status of the Fisheries Sector in Malaysia in 2007,” paragraph 2.4.

715 In line with the Vision 2020 within which the country is targeted to become a fully developed nation by 2020, the Second Outline Perspective Plan, 1991-2000 (OPP2) has identified manufacturing and industrial sector as the growth engine for the country’s economy.
Gross Domestic Product (GDP), surpassing that of the agricultural sector.\textsuperscript{716} In spite of this changing economic landscape, the agricultural sector, including fishing, continues to be the prime sector for generating revenue, enhancing food security and improving the socio-economic standard of Malaysian society, particularly for coastal communities.\textsuperscript{717}

While the total revenue from the fishing industry, including aquaculture, relatively represent only a small percentage of Malaysia’s GDP (e.g. 1.2 percent\textsuperscript{718} and 1.3 percent in 2007 and 2009 respectively),\textsuperscript{719} it is nonetheless a major contributor to the country’s foreign exchange earnings through the export of fish and fishery-related products. Since 1995, Malaysia has not only been a net importer of fish in terms of volume, but also a net exporter in terms of monetary value.\textsuperscript{720}

As stated earlier, the coastal fisheries sector remains the largest contributor to the nation’s total fishery production in terms of quantity and revenue.\textsuperscript{721} On the other hand, the offshore fisheries sector has experienced a steady growth in recent years, with total landings amounting to 221,289 metric tonnes in 2005 to 277,527 metric tonnes in 2008.\textsuperscript{722} Although the landings from offshore fisheries represent a relatively small

\textsuperscript{716} The diversification of Malaysian economy and industrialization has led to an expected and relative decline in the contribution of agricultural sector, including fisheries, livestock, and forestry to country’s GDP. Ong Khun Wai, IV, \textit{National Study: Malaysia}, p. 98, http://www.unescap.org/rural/doc/OA/Malaysia.PDF (accessed on 2 January 2009).

\textsuperscript{717} See Ahmad \textit{et al.}, \textit{An Overview of the Socioeconomic Status of Fisheries in Malaysia}, p. 518.


\textsuperscript{720} The only exception was in 1997 when Malaysia’s net export fish earnings reached a negative value of RM39.6 million (or US$14.04 million) as the country was a net importer of fish in terms of both quantity and value. Ahmad \textit{et al.}, \textit{An Overview of the Socioeconomic Status of Fisheries in Malaysia}, p. 517.


\textsuperscript{722} Ministry of Agriculture and Agro-Based Industry (MOA), \textit{Agriculture Statistical Handbook 2008} (in Malay Language), (Kuala Lumpur, MOA, Malaysia, 2008), p. 121.
percentage of the nation’s total fish production, this sub-sector has been deemed to have the potential for further growth, assuming the exploitation of pelagic fish resources in the offshore waters of the country’s EEZ is yet to reach optimal production levels.

There has been in recent years an increasing expectation placed upon the expansion of the highly lucrative oceanic tuna fisheries, with a particular focus on tuna production from Malaysia’s high sea fishing fleets in the Indian Ocean. Indeed, the tuna fisheries sector is becoming increasingly significant to the country’s economic development. A constant supply of tuna catches sourced from both the high seas and the EEZ areas of the country would be likely to stimulate the growth of related downstream activities, especially processing, canneries, surimi production, packaging, as well as support services such as vessel construction and maintenance.

The main contribution of the fishing industry to the Malaysian economy can be seen through the country’s workforce. In 2008, for example, the industry employed 104,597 people working onboard licensed fishing vessels, a noticeable increase from 89,433 in 2003. This figure does not include the thousands of people who work on unlicensed traditional fishing vessels (including part-time workers) and those involved in supporting industries. Meanwhile, a demographic overview of Malaysia’s deep-sea EEZ fishing sector is provided in Section 5.4.3.

The fishing industry continues to play a critical role in providing a source of food for domestic consumption. Fish has been a major component of the Malaysian diet.

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724 For example, demersal fish species from the offshore areas of Sarawak’s portion of the EEZ in the South China Sea are reportedly underexploited. See Anon., “Fisheries Resources Survey in the Exclusive Economic Zone,” p. 15.


since the 1960s\textsuperscript{728} and is widely regarded as the most accessible and affordable form of animal protein.\textsuperscript{729} In response to the country’s growing population and the public perception that fish is a healthy source of protein, the consumption of fish per capita is expected to reach 60 kg in 2010, a slight increase from 59.8 kg in 2003.\textsuperscript{730} By 2010, the NAP3 has projected the total demand for fish to increase to 1,591,000 metric tonnes based on the per capita consumption expected for that particular year. Table 5.2 provides details on the production targets set up by the NAP3 for offshore marine fisheries from 2005 to 2010.\textsuperscript{731} Hence, further expansion of the offshore fisheries in its EEZ and the high seas is imperative for Malaysia to reach its fish production target for 2010 as forecasted under the NAP3.

\textbf{Table 5.2}

\textbf{NAP3 Production Targets for Offshore Marine Fisheries (Tonnes), 2005 to 2010}

<table>
<thead>
<tr>
<th>Years</th>
<th>Metric Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>21,1296</td>
</tr>
<tr>
<td>2006</td>
<td>21,8026</td>
</tr>
<tr>
<td>2007</td>
<td>22,4970</td>
</tr>
<tr>
<td>2008</td>
<td>23,2135</td>
</tr>
<tr>
<td>2009</td>
<td>23,9528</td>
</tr>
<tr>
<td>2010</td>
<td>24,7157</td>
</tr>
</tbody>
</table>


\textsuperscript{728} As early as the 1960s to the mid-1980s, fish formed approximately 60% of the total animal protein consumed in the country, a percentage much higher than in other Asian countries at that time. H. Josupeit, “The Economic and Social Effects of the Fishing Industry- a Comparative Study,” \textit{FAO Fisheries Circular No. 314}, Revision 1, FIP/C314 (Rev. 1), (Rome: FAO, 1981), 36p.


\textsuperscript{731} \textit{Ibid.}, p. 12.
5.3. Background on Malaysian Fisheries Waters

The coverage area of both coastal and offshore fisheries encompasses “Malaysian Fisheries Waters.” Section 2 of the *Fisheries Act 1985 (Amended 1993)* defines the term “Malaysian Fisheries Waters” as:

Maritime waters under the jurisdiction of Malaysia over which exclusive fishing rights or fisheries management rights are claimed by law and includes the internal waters of Malaysia, the territorial sea of Malaysia and the maritime waters comprised in the exclusive economic zone of Malaysia.\(^{732}\)

Based on this definition, “Malaysian Fisheries Waters’ consists of three distinctive maritime jurisdictions: the internal water, the territorial sea and the EEZ- all of which are measured seaward from the baselines of territorial sea. For the purpose of fisheries management and conservation, the coverage of jurisdictional scope of the *Fisheries Act 1985 (Amended 1993)* extends throughout “Malaysian Fisheries Waters,” despite the fact that the LOSC prescribes different set of legal regimes for each zone.\(^{733}\)

The legal definition and spatial extent of both the Malaysian territorial sea and the EEZ are provided in municipal and national legislation, namely, the *Emergency (Essential Powers) Ordinance, No. 7 1969* (hereafter 1969 *Emergency Ordinance*)\(^{734}\) and the *EEZ Act 1984*. Whereas the maximum breadth of EEZ that Malaysia can claimed under the *EEZ Act 1984* is consistent with Article 57 of the LOSC,\(^{735}\) the 1969 *Emergency Ordinance* still defines the country’s territorial sea and its breadth in

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\(^{732}\) *Fisheries Act 1985 (Amended 1993)*, part 1, section 2.


\(^{734}\) The Ordinance was approved by the National Operations Council on 28 July 1969 and enacted on 2 August 1969.

\(^{735}\) Section 3(1) of the *EEZ Act 1984* defines EEZ as:

The exclusive economic zone of Malaysia, as proclaimed by the Yang di-Pertuan Agong vide P.U.(A) 115/80, is an area beyond and adjacent to the territorial sea of Malaysia and, subject to subsections (2) and (4), extends to a distance of two hundred nautical miles from the baselines from which the breadth of the territorial sea is measured.
accordance with the outdated provisions of the 1958 Geneva Convention on the Territorial Sea:

The breadth of the territorial waters of Malaysia shall be twelve nautical miles and such breadth shall except in the Straits of Malacca, the Sulu Sea and the Celebes Sea be measured in accordance with articles 3, 4, 6, 7, 8, 9, 10, 11, 12 and 13 of the Geneva Convention on the Territorial Sea and the Contiguous Zone (1958).\footnote{736}{See Section 3(1) of 1969 Emergency Ordinance.}

This definition has placed Malaysia in an awkward position in terms of fulfilling its obligations under the new requirements of the LOSC. Indeed Malaysia, being a contracting party to LOSC since 1996, is subject to Article 311(1) of the Convention. According to this Article, the legal provisions of the Convention prevail over the requirements of the four 1958 Geneva Conventions. Therefore, any municipal legislation or subsidiary regulation that refers to the 1958 Geneva Conventions (or any other international convention preceding the LOSC), would need to be amended so that it is consistent with the provisions of the LOSC.\footnote{737}{Ramli, “MIMA Report on Status of Maritime-Related National Laws,” p. 4.} To date, the definition of “territorial sea” provided in section 3(1) of the 1969 Emergency Ordinance has yet to be amended.\footnote{738}{A bill which is intended to amend selected provisions of the 1969 Emergency Ordinance was tabled in Parliament in 2006 for endorsement. However, the proposed amendments do not relate to Section 3(1). The bill is available online at http://www.parlimen.gov.my/billindexbi/pdf/DR142006E.pdf (accessed on 15 April 2010).} Consequently, Ooi (2007) argues that the drafters of the Malaysia Maritime Enforcement Agency (MMEA) Act 2004 have no alternative but to apply the definition prescribed in the 1958 Geneva Convention on the Territorial Sea because “that [is] still good law nationally.”\footnote{739}{Ooi, “The Malaysian Maritime Enforcement Agency Act 2004,” p. 80.} In fulfilling the country’s obligation under international law, he further adds that Malaysia is likely to find “itself in the surreal legal position where its international relations are governed by the UNCLOS [LOSC],
whereas from a domestic perspective, its territorial sea is demarcated under the *Geneva Convention*.\textsuperscript{740}

The validity of the country’s territorial sea and EEZ, which make up the “Malaysian Fisheries Waters,” has been discussed in a number of studies.\textsuperscript{741} Questionable practices in delimiting the country’s maritime boundaries, along with the absence of proclaimed EEZ limits and territorial sea baselines, are some of the reasons why the spatial extent of “Malaysian Fisheries Waters” remains uncertain and disputed by the neighbouring countries.\textsuperscript{742} Apparently, Malaysia to date has never published an official map specifically showing the precise geographical coordinates of the baselines from which these boundaries are measured. The only official large-scale map showing the delineation of the country’s maritime boundaries is the 1979 Malaysian New Map, which was published more than 30 years ago. A part from the country’s continental shelf claims, this particular map displays the outer limits of “Malaysian territorial waters.”\textsuperscript{743} However, if one interprets the provisions contained in Malaysia’s municipal legislation, in particular the *Emergency (Essential Powers) Ordinance No. 7, 1969*, the expression “Malaysian territorial waters” can be construed as “territorial sea” (as defined under the LOSC).\textsuperscript{744} Although Malaysia has made no formal attempt to declare the exact coordinates of its EEZ boundary limits, the existing delineation, as mentioned earlier, is similar to the country’s continental shelf boundary displayed in the 1979 Malaysian New Map. This is obviously at odds with the spirit of continental shelf

\textsuperscript{740} Ibid.


\textsuperscript{742} Herriman and Mohamed, “A Malacca Straits EEZ Boundary: Factors for Consideration,” p. 760.

\textsuperscript{743} Herriman and Mohamed, “A Malacca Straits EEZ Boundary: Factors for Consideration,” p. 757.

regime embodied in the LOSC as the Convention calls for the co-location of continental shelf and EEZ boundaries as a matter of absolute necessity.\footnote{\textsuperscript{745}}

Several arguments have been made to explain the inconsistency between Malaysia’s boundary delimitation practices and international law requirements.\footnote{\textsuperscript{746}} One argument is that the basis of the country’s territorial sea and continental shelf boundary derives from a series of baselines incompatible with the LOSC provisions. It seems that the outer limits of Malaysia’s territorial sea, continental shelf and EEZ have been measured using inferred straight baseline system. This system is deemed incompatible with the provisions of the Convention which allow the use of straight baselines for delineating maritime zones only in certain circumstances. Underpinning the basis of this inconsistencies include: (i) the geographical features of numerous Malaysia’s coastlines are not deeply indented; and (ii) there is not an island fringe along the country’s coastlines in its immediate vicinity, the geographical features of Malaysia fail to satisfy the criteria for using the straight baseline method.\footnote{\textsuperscript{747}} As opposed to the use of this system, Malaysia, in accordance to Article 7(1) of LOSC, should use the low water lines along its coasts to define the normal baseline and then measure its territorial sea and EEZ.

Another point of contention in relation to the validity of Malaysia’s territorial sea and EEZ claims is the absence of precise geographical coordinates of the baselines from which the breadth of these maritime zones is measured. The country has neither formally declared the exact geographical coordinates for the baselines from which the

\footnote{\textsuperscript{745}} See Article 78 of the LOSC.
\footnote{\textsuperscript{746}} For a discussion on the validity of Malaysia’s territorial sea baseline and EEZ claim in the northern sector of the Malacca Straits, see Valencia, “Validity of Malaysia’s Baselines and Territorial Sea Claim,” pp. 367-373.
\footnote{\textsuperscript{747}} In the Malacca Straits, for example, Valencia affirms that there is a fringe of islands along the west coast of Peninsular Malaysia, notably, Pulau Langkawi, Pulau Pinang, Pulau Pangkor and Pulau Angsa, all of which “should have been incorporated (connected) in a normal baseline system.” See Valencia, “Validity of Malaysia's Baselines and Territorial Sea Claim,” ip. 370.
country’s territorial seas and EEZ limits are measured, nor deposited charts or lists showing the baselines with the Secretary-General of the United Nations. As such, the 1979 Malaysian Map does not show any precise geographical coordinates even though this is a requirement under Article 57 of the LOSC. It seems ironic that Malaysia has enacted national legislation - i.e. the EEZ Act 1984 - to give effect to its EEZ rights and assigned domestic authorities to regulate a wide range of activities in the zone, including fisheries, but has not yet prescribed the geographical coordinates on which the country’s EEZ boundaries have been based.

While the EEZ Act 1984 contains a provision that expressly recognise the obligation to submit charts and lists of EEZ baseline coordinates to the Secretary-General of the United Nations, the country is yet to make such a submission. Malaysia, being a contracting party to the LOSC, is obliged under international law to determine its territorial sea baselines and publicise them. Failure to do so is obviously a contravention of Articles 16(1) and (2) of the Convention. For this reason, it is only appropriate for Malaysia to determine its territorial sea baselines, particularly if one considers that these baselines act as a datum or starting line for measuring other maritime zones such as the EEZ and continental shelf.

The establishment of maritime baselines as a prerequisite condition of delimiting maritime boundaries enjoy a wide acceptance under international law. Malaysia’s failure, however, to establish its baselines could compromise the country’s sovereignty and even legislative jurisdiction over its claimed maritime jurisdictional zones. This is especially the case with respect to the overlapping EEZ claims in the northern sector of the Malacca Straits as well as South China Sea off Sabah between Malaysia and its

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748 LOSC, Article 6(2).
750 EEZ Act 1984, Part III, subsections 3(2), (3) and 3(4).
751 Under these provisions, every State party to the LOSC is obliged to declare its baselines in charts or list geographical coordinates and publicise them.
adjacent neighbouring countries, Indonesia and the Philippines. Malaysia’s inability to adjust certain sections of its baseline segments consistent with the LOSC poses an obstacle for the effective implementation of fisheries management measures and law enforcement efforts. Without this adjustment, George (1996) has indicated that the country might be “exercising prescriptive and enforcement jurisdiction over the high seas beyond the entitled Exclusive Economic Zone.” Lingering questions over the legal status of the country’s contested EEZ areas, compounded by the absence of information on the exact outer limits of the zone, could hamper fisheries enforcement measures by Malaysian authorities. Such a problem is illustrated in the difficulty confronting Malaysian federal agencies in enforcing national fisheries laws and regulations against Indonesian fishing trawlers. These trawlers have been encroaching into the overlapping EEZ waters in the north-west of the Malacca Straits, near Pulau Jarak and Pulau Perak, areas which Indonesia has contested.

With respect to the authorised operational areas for offshore fishing in Malaysian Fisheries Waters, the designated fishing zones are confined to waters beyond 30 nautical miles from the shorelines to the outer limits of the EEZ of the country. Only licensed vessels of 70 GRT and above are permitted to conduct fishing operations in this area.

5.4. Profiles of Malaysian Offshore Fisheries in the EEZ

The following section contains general profiles of Malaysian offshore fisheries in the national EEZ, concentrating on fishing areas, fishing fleets and gear utilisation, socio-demographic aspects of fishermen, resource characteristics and catch statistics, fishing

752 George, “An Examination of the Consistencies and Inconsistencies, p. 13.
ports and post-harvesting facilities, as well as the trading of fish and fish products at domestic and international levels.

5.4.1. Fishing Areas

Before one proceed with the discussion relating to major offshore fishing grounds in Malaysian EEZ waters, it is necessary first to discuss the four allocated fishing zones under the current fishery licensing system. Background information of each of fishing zones is presented in Table 5.3 below. As indicated in the table, the location of coastal fishing activities predominantly confines to waters within 30 nautical miles from the shoreline. Fishing Zone A (0-5 nautical miles) is reserved exclusively for traditional small-scale artisanal vessels, with larger vessels (i.e. those in class B and C) being permitted to fish further away from the shorelines (beyond 5 nautical miles to 30 nautical miles). Turning to deep-sea fishing operations, C2 class licensed commercial fishing vessels with an engine capacity above 70 GRT can only fish in their designated C2 fishing zone, that is, beyond 30 nautical miles from the coastlines to the outer limit of Malaysia’s claimed EEZ.\(^754\) It is important to note that while spatial control over access to fisheries resources is an important aspect of the licensing scheme, the equitable distribution of fishery resources among the traditional and commercial fishing sector remains the cornerstone of the zoning system.\(^755\)

\(^754\) Another fishing zone which was added to the licensing scheme is C3 fishing zone, which applies to tuna fishing areas outside of the country’s national jurisdiction, in particular the high seas of the Indian Ocean.

\(^755\) One of the main objectives of the fisheries licensing scheme is to reduce income disparity between predominantly Malay, small-scale artisanal fishermen and Chinese, large-scale fishing vessel operators. Yahaya, “Fishery Management and Regulation in Peninsular Malaysia,” p. 85.
Table 5.3
Malaysian Fishing Zones with Designated Areas, Vessel Size, Gear Type and Ownership

<table>
<thead>
<tr>
<th>Fishing Zone</th>
<th>Area</th>
<th>Vessel Size and Gear Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>• less than 5 nautical miles from the coastline</td>
<td>• reserved solely for artisanal fishing vessels using traditional fishing gear</td>
</tr>
<tr>
<td></td>
<td>• reserved solely for artisanal fishing</td>
<td>• authorised to fish beyond the 5 nautical mile limit</td>
</tr>
<tr>
<td></td>
<td>vessels using traditional fishing gear</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>• between 5 and 12 nautical miles</td>
<td>• owner-operator trawlers or purse seiners of less than 40 GRT</td>
</tr>
<tr>
<td>C</td>
<td>• between 12 and 30 nautical miles</td>
<td>• commercial trawlers and other vessels between 40 and 70 GRT</td>
</tr>
<tr>
<td>C2</td>
<td>• beyond 30 nautical miles to outer limit</td>
<td>• deep-sea fishing vessels of 70 GRT and above</td>
</tr>
<tr>
<td></td>
<td>of EEZ</td>
<td></td>
</tr>
</tbody>
</table>

Moving on to the operational areas of deep-sea fishing sector, there are four main offshore fishing grounds in Malaysia. The first two occupy the deep waters off the east coast and west coast of Peninsular Malaysia, while the remainder are located in the deep waters contiguous to the coasts of Sarawak and extending to the north-western parts off Sabah, stretching across a vast southern portion of the South China Sea. Several surveys have shown that Malaysia’s EEZ waters off Sarawak and Sabah are the only remaining offshore fishing grounds for pelagic resources, including oceanic tuna.\footnote{Anon., “Fisheries Resources Survey in the Exclusive Economic Zone,” p. 23.}

In the west coast of Peninsular Malaysia, numerous literatures recognize that the corridors of Malaysian EEZ covering the Malacca Straits as the traditional fishing grounds for coastal and offshore fisheries sector in the country.\footnote{DoFM, “Action Plan for the Conservation & Sustainable Use of Fishery Resources,” p. 6.} Out of an estimated EEZ area of 56,450 sq km², the geographical distribution of offshore fishing in the...
Malacca Straits is mainly concentrated in the northern sector of the Straits. Specifically, the coverage area of this fishing ground encompasses the deeper waters south of the Langkawi Island and around the remote islands of Perak and Jarak at the northern tip of the Straits, adjacent to the Andaman Sea.\footnote{758} Due to the narrowness of the southern parts of the Malacca Straits, the northern corridors are the only offshore fishing grounds with sufficient width for C2 class trawlers and purse seiners of 70 GRT and above to fish legally beyond 30 nautical miles from the coastlines without encroaching into Indonesian waters. The corridors also permit larger offshore fishing boats to conduct their fishing operations safety, reducing the risk of collision with large cargo and tanker ships passing through the Straits’ highly congested shipping lanes.

Other important areas for offshore fishing in Malaysia’s EEZ are the waters off the east coast of Peninsular Malaysia. These waters comprise an area size of approximately 135,650 sq km\footnote{759} and include a large portion of the South China Sea.\footnote{760} Some of the most important offshore fishing grounds for trawlers are the waters more than 30 nautical miles from the shores of Kuala Tok Bali in the state of Kelantan, as well as the northeastern parts of Perhentian Besar Island off Terengganu. Other important offshore fishing grounds in this region include the waters off the coast of Pahang and Mersing, east Johor.\footnote{761}

The eastern sector of Malaysia’s EEZ off Sarawak and Sabah constitute the largest portions of the country’s EEZ. The combined size of this sector is approximately 250,000 km\(^2\) or 46 percent of the total size of the country’s EEZ, with the area

\footnote{758} The distance of Pulau Perak and Pulau Jarak is almost 55 nautical miles and 25 nautical miles respectively from Malaysia’s nearest land point. 
\footnote{761} *Ibid.*, at p. 4.
encompassing the southern part of the South China Sea. Meanwhile, the surface area of Malaysia’s EEZ waters off Sarawak is approximately 160,000 sq km\(^2\). The physical feature of these areas varies from the presence of the continental shelf with gradually declined slopes reaching to the depth from 200 to 1,000 meters to shelf areas where the waters above interspaced with offshore islands, reefs, islets and atolls.

Around 25 percent or 32,430 km\(^2\) of the continental shelf area in Sarawak is untrawlable, dominated by coral reefs and undulating rough grounds, which is only suitable for certain types of fishing gear, such as hook and line, bottom long-line and trap. These topographical features, combined with certain oceanic conditions (e.g. enrichment of nutrient generating from upwelling near the continental shelf during the northeast monsoon season), have created highly productive offshore fishing grounds. Indeed, the eastern portions of Malaysia’s EEZ off Sarawak are regarded as the last maritime frontier for offshore fisheries expansion in the country. Based on several resource surveys, these areas are synonymous with highly diverse and abundant deep-water fishery resources, including demersal, small pelagic and tuna species, none of which have been exploited to their maximum potential yield of 504,541 metric tonnes.

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765 Ibid.
766 Ibid., at p. 203.
768 Gambang et al., “Overview of Biology and Exploitation of the Small Pelagic Fish,” p. 2.
The total size of Malaysia’s EEZ off the west coast of Sabah reaches almost 90,000 km² with an estimated offshore fishing coverage area of nearly 25,000 km². A large tract of these offshore waters encompass the Palawan Trench, a deep-sea trench with a depth ranging from 2,000 to 2,500 metres and stretching towards the offshore EEZ waters of Sarawak. The most significant offshore fishing grounds in the Sabah portions of Malaysia’s EEZ are located in the waters along the Palawan Trench, around the Swallow Reef (Pulau Layang-Layang), and also off Semporna and the northern part of Kudat. Major offshore fishing grounds for purse seine fishing are the waters off Lahad Datu, north of Kudat, as well as the waters around the remote islands, atolls and islets of the Spratly archipelagos off the west coast of the state. Small pelagic fish such as scads, mackerels and sardines are the dominant species targeted by these vessels.

Any discussion of the offshore fishing grounds in Malaysia’s EEZ off Sarawak and Sabah would be incomplete without reference to the Spratly Islands. Located in the southern parts of the South China Sea, the Spratly Islands encompass a scattered group of islands, islets, reefs, cays, shoals and rocks. These (mostly submerged) maritime features have long been the subject of contested sovereignty and territorial disputes.

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among multiple claimant States.\footnote{For a brief discussion on the background, geographical nature, and geopolitical value of the claimant States over the Spratly Islands, see Clive Schofield, “Dangerous Ground: A Geographical Overview of the South China Sea,” in Sam Bateman and Ralf Emmer (eds.), Security and International Politics in the South China Sea: Towards a Co-op, (Hoboken: Routledge, 2008), pp. 7-25. For an extensive discussion on the factors influencing the behaviour of the claimant States in response to the Spratly Island disputes, see also Christopher Chung, The Spratly Islands Dispute: Decision Units and Domestic Politics, Unpublished PhD Thesis, University of New South Wales-Australian Defence Force Academy, School of Humanities and Social Science, 2004.} Malaysia’s occupation of, and claim to, a portion of these contested maritime features, namely, Amboyna Cay, Swallow Reef, Dallas Reef, Louisa Reef, Royal Charlotte Reef, Ardasier Reef, Mariveles Reef, South Luconia Shoals, North Luconia Shoals, Investigator Shoal and Erica Reef, has presented the country with the opportunity to acquire and control some of the most productive offshore fishing grounds in the South China Sea.\footnote{In an effort to consolidate its claim over these maritime features, Malaysia has stationed troops on the islands and also built structures on them (e.g. a helipad, buildings and radar antenna systems). For a list of year when Malaysia started to occupy these maritime features in the Spratly archipelago, see Salleh et al., “Malaysia’s Policy Towards Its 1963-2008 Territorial Disputes,” see particularly Table 1, at p. 113.} The physical and oceanographic characteristics of the waters surrounding these maritime features are conducive for higher biological distribution and production of fish, making them ideal offshore fishing grounds for small pelagic and oceanic tuna species.\footnote{Oceanic tuna - e.g. skipjack and yellowfin tuna - are among several marine species that thrive in areas of high salinity, such as the waters around reef complexes (as in the Spratly Islands). For further reading on the biological distribution and production of pelagic species, including tuna, in the offshore waters off Sarawak, see Rajali Hadil and Richard Rumpet, “Distribution and Biological Status of the Pelagic Resources of Sarawak, Malaysia,” Fisheries Bulletin No. 68, DoFM, MOA, 1991.}

Among the most important offshore fishing grounds in Malaysia’s EEZ off Sarawak are the waters around the shoals and fringing reefs of South Luconia Shoals and North Luconia Shoals. These waters are highly productive for targeting neritic tuna species such as longtail tuna, frigate tuna, kawakawa and bullet tuna.\footnote{This complex network of reefs and shoals is located 85 nautical miles west northwest off Tanjong Baram, Miri, Sarawak.} The main fishing areas for oceanic tuna in Malaysia’s EEZ concentrate on the remote waters surrounding the country’s occupied Swallow Reef, Ardasier Bank, Erica Reef, and
South Luconia Shoals.\textsuperscript{779} The economic value of these fishing areas for tuna and pelagic fisheries is so high that they have recently become attractive locations for illegal fishing activities by foreign fishing vessels from neighbouring countries, especially China and Vietnam.\textsuperscript{780}

Of the four main offshore fishing grounds in Malaysia’s EEZ, the Malacca Straits are generally viewed as the most extensively exploited. An examination of recent catch surveys in the Straits indicates that the biomass status of demersal and pelagic resources has nearly exceeded the maximum level of exploitation.\textsuperscript{781} Various factors have contributed to this problem, including extensive and uncontrolled fishing beyond the MSY by both local and foreign trawlers, as well as the destruction of fisheries ecosystem and its habitats by marine pollution and contamination from land and shipping-based activities.\textsuperscript{782} Similarly, offshore demersal fisheries in the EEZ waters off the east coast of Peninsular Malaysia are exhibiting signs of serious depletion.\textsuperscript{783} By contrast, offshore pelagic and demersal fish resources in EEZ off Sarawak and Sabah are reportedly underexploited.\textsuperscript{784}

\begin{flushleft}
\footnotesize

\textsuperscript{780} Anon., “APMM Detains 6 Foreign Fishing Boats,” \textit{The Borneo Post} (in Malay Language), 8 April 2008. 2008

\textsuperscript{781} See Gambang \textit{et al.}, \textit{Overview of Biology and Exploitation of the Small Pelagic Fish}, p. 2; see also Gopinath and Puvanesuri, \textit{Marine Capture Fisheries}, pp. 216-217.

\textsuperscript{782} Examples of land-based pollution responsible for causing deterioration to fisheries population include coastal erosion and sedimentation, untreated sewage and agricultural and industrial waste. Most of this pollution derives from activities associated with urbanisation, agricultural practices and industrialisation. On the other hand, shipping operations, as well as the discharge of oil (both accidental and intentional) are responsible for vessel-sourced pollution, such as oil spills from vessel incidents, de-sludging and oil residue from tanker cleaning. See Abdullah \textit{et al.}, “The GEF/UNDP/IMO Malacca Straits Demonstration Project,” pp. 160-178; and Chua Thia Eng, James N. Paw, and Flordeliz Y. Guarin, “The Environmental Impact of Aquaculture and the Effects of Pollution on Coastal Aquaculture Development in Southeast Asia,” \textit{Marine Pollution Bulletin} 20(1989), 335-343.

\textsuperscript{783} Ahmad \textit{et al.}, “Status of Demersal Fishery Resources of Malaysia,” p. 104.

\textsuperscript{784} Gopinath and Puvanesuri, “Marine Capture Fisheries,” p. 216.
\end{flushleft}
5.4.2. Fishing Fleets and Gear Utilisation

Under the current vessel licensing policy, Malaysian registered vessels engaging in offshore fishing in the country’s EEZ are classified as C2 class vessels. This category of vessels is reserved for those vessels 70 GRT and above which, as indicated earlier, can only operate in areas greater than 30 nautical miles from the shoreline to the outer limits of the EEZ. However, not all of these vessels are automatically categorised as offshore deep-sea fishing vessels. Some obtained license to catch tuna, while others are categorised as anchovy purse seiners and anchovy processing vessels.\textsuperscript{785} Due to excessive fishing capacity in the inshore fishing grounds of the country, the DoFM has imposed a temporary moratorium on issuing new licences for fishing vessels seeking to operate in Fishing Zone B and C1. The official stance of the DoFM is to only approve licence applications for vessels under the C2 class category for offshore fishing in the EEZ and under C3 class for oceanic tuna fishing on the high seas and in the Indian Ocean.\textsuperscript{786}

According to the annual fisheries statistics released by the DoFM for 2007, the number of C2 vessels licensed for offshore fishing in areas beyond 30 nautical miles from the shoreline was comparatively smaller than those licensed for coastal fishing. In that particular year, the total number of fishing boats licensed in Malaysia was 39,221, an increase of 2.47% from 38,276 in 2006.\textsuperscript{787} From this 2007 figure, 38,420 vessels (less than 70 GRT) were designated to operate in the immediate vicinity of coastal areas (within 30 nautical miles from the shore) while only 801 vessels (70 GRT and above) were classed as C2 offshore fishing vessels (\textbf{Table 5.4}).\textsuperscript{788} A regional breakdown of the


\textsuperscript{787} DoFM, Annual Fisheries Statistics 2007, see section: “Status of the Fisheries Sector in Malaysia in 2007,” at paragraph 2.2.

\textsuperscript{788} \textit{Ibid.},
number of licensed offshore fishing vessels is given in **Table 5.5**. It reveals that Peninsular Malaysia recorded the largest number of registered offshore fishing vessels with 648 units, followed by Sarawak, Sabah, and finally the Federal Territory of Labuan with 15 units.\(^{789}\) It is important to note that the total number of licensed fishing vessels of 70 GRT and above as indicated in **Table 5.4** for the year 2007 is 1317 units which is significantly higher than the total number of offshore fishing vessels (801 units) contained in the DoFM’s annual fisheries statistics (**Table 5.3**). As stated earlier, this discrepancy is because the number of registered anchovy purse seine vessels and anchovy boiler vessels of sizes 70 GRT and above has been omitted from the total number of licensed offshore fishing vessels (see **Table 5.4**).

**Table 5.4**

**Numbers of Licensed Offshore Fishing Vessels, 2002-2007 (Excluding Anchovy Purse Seine Vessels and Anchovy Boiler Vessels)**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>613</td>
</tr>
<tr>
<td>2003</td>
<td>751</td>
</tr>
<tr>
<td>2004</td>
<td>761</td>
</tr>
<tr>
<td>2005</td>
<td>761</td>
</tr>
<tr>
<td>2006</td>
<td>824</td>
</tr>
<tr>
<td>2007</td>
<td>801</td>
</tr>
</tbody>
</table>

\(^{789}\) Ibid., at Table 2.1, “Number of Licensed Fishing Vessels by State and Tonnage Class, 2007.”
Table 5.5
Breakdown of Licensed Fishing Vessels above 70 GRT by Region in 2007

<table>
<thead>
<tr>
<th>Region</th>
<th>No. Vessels Above 70 GRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Coast of Peninsular Malaysia</td>
<td>304</td>
</tr>
<tr>
<td>East Coast of Peninsular Malaysia</td>
<td>344</td>
</tr>
<tr>
<td>Sarawak</td>
<td>648</td>
</tr>
<tr>
<td>Sabah</td>
<td>6</td>
</tr>
<tr>
<td>Labuan Federal Territory</td>
<td>15</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1317</strong></td>
</tr>
</tbody>
</table>

Unlike multi-gear, labour-intensive coastal fisheries, the primary fishing gear utilised by the country’s offshore fishing operators consists predominantly of mechanised trawl nets (pukat tunda) and purse seine (pukat jerut). Trawlers generally target bottom dwelling demersal species, while surface-dwelling pelagic fish species, including tuna, are targeted by purse seiners. Other types of fishing gear commonly utilised by C2 class fishing vessels in the offshore fishing grounds of Malaysia’s EEZ include anchovy purse seines (pukat jerut bilis), hooks and lines (pancing), longlines (rawai) and gillnets (pukat jaring). Purse seines, together with trawl nets, hooks and lines, as well as drift gillnets, represent the dominant fishing gear utilised for targeting tuna species in the offshore waters of Malaysia’s EEZ.

Oceanographic feature, behavioural characteristic and migratory pattern of tuna species influence the type of fishing gear used in tuna fisheries in the country’s EEZ.

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790 Fisheries operators involved in this sector generally use a variety of fishing gears, both fixed and mobile.
791 The bulk of deep-sea fisheries production in Sabah comes from purse seine fisheries (approximately 95.3%). The highest catches of deep-sea fish in FT Labuan come from trawl fisheries (approximately 72.9%). See Sabah ICZM Spatial Plan Work Group, “Sabah ICZM Spatial Plan,” p. 57.
792 For example, the two monsoon seasons, which dominate the oceanographic feature in the South China Sea, play a crucial role in determining the peak spawning periods for pelagic species in
Gillnets and purse seines constitute the main fishing gear used for capturing highly migratory oceanic tuna species, often swimming in large schools in the deep waters of the South China Sea. Both purse seines and trawl nets are used as the primary fishing gear to capture neritic tuna species in the deep water in the northern parts of the Malacca Straits and the shallow waters surrounding numerous shoals and reefs of the Spratly Islands in the South China Sea. Although statistical data on the actual number of troll lines and handlines used by licensed vessels of 70 GRT and above is unavailable, anecdotal evidence suggests that these particular fishing methods have been widely used in hook and line fishing for catching tuna and tuna-like species.

Based on the available recorded tuna landings in Malaysia, the most efficient and highly productive method of catching tuna is purse seine. In 2006, purse seiners recorded the highest tuna landings in the country with 33,923 metric tonnes. This was followed by trawl nets (18,629 metric tonnes), and hooks and lines (1,670 metric tonnes). Purse seine fishing is commonly used in conjunction with fish aggregating devices (FADs) or unjang or unjam as it is locally known. The effectiveness of FADs in aggregating more tuna in Malaysian fisheries waters is closely linked to tuna migration route in the deep basins of the oceanic waters, as well as the seasonal monsoon pattern when “more fish [seem] to aggregate under FADs between the months of March to June.”

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794 DoFM, Annual Fisheries Statistic- 2006, see Table 4.6: Landings of Marine Fish by Gear Group and Species, Malaysia, 2006.
5.4.3. Socio-Demographic Aspects

The largest number of Malaysian nationals working on-board licensed fishing vessels in the country has been dominated by the ethnic Malays and indigenous (bumiputera) groups. In 2006, for example, the Malays and other bumiputera groups accounted for 29,742 of the total number of local fishers working in Peninsular Malaysia, followed by the Chinese at 15,053 and Indian fishers at 243.\(^{797}\) A similar trend can be seen in the composition of ethnic groups employed in C2 class offshore fishing vessels.

Nonetheless, as the statistics below demonstrate, Malaysia’s fisheries industry is highly dependent on foreign workers.\(^{798}\) Over the last decade, the industry has experienced an acute shortage of local workers, particularly from young Malaysian workers who seemed to prefer less laborious, higher paying positions with better conditions, such as those offered in the services and manufacturing sectors.\(^{799}\) In 2007 there were 28,656 registered foreign nationals working on-board licensed fishing vessels in Malaysia, with the highest proportion being Thais and Indonesians (Table 5.6).

Majority of the foreigners employed in the offshore fishing sector, mostly serving on-board large trawlers and purse seiners with a tonnage capacity above 40 GRT.\(^{800}\) However, according to industry sources, the actual number of foreign nationals working in the country’s marine fisheries industry is much higher than the national

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\(^{797}\) DoFM, *Annual Fisheries Statistics-2006*, see in particular “Table 1.3: Number of Fishermen-Working on Licensed Fishing Vessels by Fisheries Districts, Malaysia, 2006.”

\(^{798}\) Non-Malaysian workers accounted for approximately 60% of the workforce in the country’s offshore deep-sea fishing sector, and almost 55% of skippers in C2 fishing vessels. *Strategic Action Plan for the Development of Tuna Industry*, p. 9.


average compiled by the DoFM as “the proportion of foreign crews in some sectors has been suggested to be in excess of 90%.”

**Table 5.6**

**Number of Registered Foreign Fishermen in Malaysia, 2002-2007**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>17,809</td>
</tr>
<tr>
<td>2003</td>
<td>30,008</td>
</tr>
<tr>
<td>2004</td>
<td>28,154</td>
</tr>
<tr>
<td>2005</td>
<td>25,888</td>
</tr>
<tr>
<td>2006</td>
<td>26,167</td>
</tr>
<tr>
<td>2007</td>
<td>28,656</td>
</tr>
</tbody>
</table>

*Source: DoFM, Annual Fisheries Statistics (2002-2007).*

Based on the composition of foreign fishers working on-board vessels registered specifically in the east coast states of Peninsular Malaysia (i.e. Kelantan, Terengganu, Pahang, and Johor (eastern area)), a total of 8,879 foreign fishers, mostly Thai nationals, were reportedly working on the region’s licensed vessels. In contrast, diverse nationalities make up the salient feature of the workforce on offshore fishing vessels in the East Malaysian states of Sarawak and Sabah, including the Federal Territory of Labuan (FT Labuan). While the Thais represent the largest group of foreigners working in Sarawak’s fishing industry (1,860 people), there is also a significant number of Indonesian fishers (1,070 people). On the other hand, Filipinos (90 people) and the

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mainland Chinese (122 people) are among the dominant groups of foreign nationals employed by fishing vessels registered in the FT Labuan.\textsuperscript{802}

It can be observed that the geographical proximity of the home country of the foreign fishermen to Malaysia may have affected the composition of foreigners working in the fishing industry.\textsuperscript{803} As such, the large number of Thais fishers employed in the offshore fishing sector in Perlis, Kelantan and Terengganu is not surprising, taking into account the geographical closeness of Thailand to those states.\textsuperscript{804} The strong presence of Indonesian and Filipino fishers in the Borneo states of Sarawak and Sabah has been facilitated by the fact that both of these Malaysian states share land or sea boundaries with Indonesia and the Philippines.

Overall, Malaysia’s marine fisheries industry relies heavily on the service of foreign workers. Several factors have been identified for the reluctance of local fishermen, especially among the younger generations, to work in the fisheries industry. One factor is the poor working conditions on-board offshore fishing boats - conditions which are antithetical to the comfort and safety typically seen in modern work settings.\textsuperscript{805} Another explanation is the small percentage of Malaysians prepared to endure a life at sea with low wages, poor diet and minimal standards of cleanliness and hygiene.\textsuperscript{806}

The influx of foreign workers into Malaysia’s offshore fishing industry has the potential to threaten the country’s socio-economic interests and national security.

\textsuperscript{802} See Table 1.4, “Malaysia- Number of Approved Foreign Fishermen by State, 2006,” in DoFM, \textit{Annual Fisheries Statistic-2006}.


\textsuperscript{804} For example, of the 5,127 fishermen registered in Perlis, 3,321 are Thai nationals. These Thai fishers work onboard licensed fishing trawlers and purse seiners. Masoffi Abdul Karim, “Perikanan Laut Perlis,” \textit{Berita Perikanan} Bil. 51, January 2008, p. 8.


\textsuperscript{806} Net, “M’sia Wants More from Deepsea Fishing”; see also Sea Resource Management Sdn Bhd, “Case Study on Illegal, Unreported and Unregulated (IUU) Fishing,” p. 23.
Foreign fishing crews, both licensed and unlicensed, have reportedly engaged in various forms of IUU fishing activities in Malaysian fisheries waters. Anecdotal evidence and media reports suggest that it is common for foreign-manned fishing boats in Malaysia’s EEZ to tranship their catches to larger vessels at sea operated by their compatriots. This problem is compounded by the fact that significant portions of catches harvested by Malaysian licensed deep-sea fishing boats are most often landed outside of LKIM-designated fishing ports. In 2008, for example, DoFM successfully seized 1.5 tonnes of fish worth of RM150,000 and apprehended 28 Thai nationals of the crew members of Kelantan-registered trawlers who allegedly unloading their catches to larger Terengganu-registered cargo ships.\(^{807}\) It was believed that the newly transferred cargo was destined for markets along the Malaysian-Thai border.\(^{808}\)

The smuggling of government-subsidised fuel from local fishermen to foreign fishing boats is also a serious problem in the Malaysian fisheries waters. Investigations by the LKIM reveal that in 2007 local fishermen illegally resold nearly 8% of the total 70 million litres of government-subsidised fuel to Indonesian and Thai nationals.\(^{809}\) This smuggling activity has been fuelled by high demand for cheaper diesel from fishers and boat operators from neighbouring countries, particularly Indonesia and Thailand where the market price of diesel is higher than in Malaysia.\(^{810}\)

Attention must also be directed to illegal trawling activities by foreign-operated fishing fleets in coastal fisheries waters. The frequent intrusions of foreign-manned Malaysian’s registered deep-sea trawlers into prohibited coastal fishing zone contravene their licensing condition. These illegal activities could also led to negative repercussion

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\(^{808}\) Ibid.


on the socio-economic interest of local traditional and small-scale fishermen authorized to operate in that zone, with the consequence of reducing their already meagre income level by further depleting the fish stocks in those areas.  

In view of the above problems, it has become essential for the Malaysian government to take measures to reduce the reliance of the fisheries industry on foreign workers. One such measure which has been in place since the late 1970s, but with little success, is to develop and strengthen the skills of Malaysia’s own skippers, engine drivers and crews. Another crucial strategy is to reduce the country’s reliance on foreign labour within the industry. However, this requires the implementation of a broad range of programs that focus on the utilisation of technological innovation (i.e. the building of strong, fuel-efficient fishing vessels with highly efficient motorised fishing gear).

5.4.4. Resource Characteristics and Catch Statistics

There are a myriad of fish species inhabiting the tropical waters of Malaysia’s EEZ. Of these species, 460 are of commercial value, especially demersal and pelagic species, including semi-pelagic and tuna varieties. Demersal fish species are commonly captured by deep-sea bottom trawlers. They can be distinguished by their bottom-dwelling nature and are mostly found around the continental shelf in the country’s EEZ.

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813 These government programs cover a broad range of issues including fishery training, the dissemination of technological developments in fishing technique, infrastructure developments, finance schemes and the introduction of improved fishing gear and vessels. Sea Resources Management Sdn Bhd, “Case Study on Illegal, Unreported and Unregulated (IUU) Fishing,” p. 20.
Some of the most dominant demersal species landed by deep-sea bottom trawlers include threadfin bream (locally known as kerisi), goatfish (biji nangka), ray (pari), trevally (cermin), snapper (jenakah) and red snapper (ikan merah).\textsuperscript{815} As stated earlier, the likelihood of targeting demersal fish in the offshore waters of the country’s EEZ only exists in the areas of Sarawak and Sabah, as the exploitation of these fish stocks has surpassed the maximum potential yield in other areas.

Pelagic species, as opposed to demersal species, tend to be surface feeders, scattering and moving about in shoals or schools.\textsuperscript{816} The pelagic species can be categorised into several different groups including small pelagic, large pelagic, as well as neritic and oceanic tuna species. The small pelagic species are the most frequently captured species by purse seiners in the deep waters of offshore fishing grounds. Examples of these species include round scads (selayang), anchovies (bilis), Indian mackerels (kembong), sardines (tamban), yellow stripe scads (selar kuning), and Spanish mackerels (tenggiri).\textsuperscript{817}

The distribution of small pelagic and neritic tuna species is mostly concentrated in the deep EEZ waters on the east coast of Peninsular Malaysia, as well as the waters surrounding numerous shoals and the shallow continental shelf areas of the contested Spratly Islands of the South China Sea. The deep waters of the Palawan Trench located off the west coast of Sabah is also a prime location for oceanic tuna and is yet to be fully explored by local fishermen.\textsuperscript{818}

\textsuperscript{815} Ahmad et al., “Overview of the National Fisheries Situation,” p. 841.
\textsuperscript{816} Survey reports show that oceanic tuna species such as skipjack and yellowfin co-exist alongside similar schools of fish in the shallow offshore waters of the Sarawak portion of Malaysia’s EEZ where food is more readily available. See Rumpet, “Stocks Assessment of Oceanic Tuna,” p. 142.
\textsuperscript{817} Ahmad et al., \textit{Overview of the National Fisheries Situation}, p. 842.
\textsuperscript{818} Marine and Resource Research Branch, Sabah Fisheries Department, “Status Sumber Perikanan Marin Negeri Sabah,” p. 2.
Small pelagic species, notably Indian mackerels (*Rastrelliger* sp), are the main target for large offshore deep-sea commercial purse seiners and trawlers in the Straits of Malacca.\(^{819}\) Based on scientific observation and catch statistics provided by the DoFM for 2006, pelagic fish species recorded the highest tonnage of the total fishery production from commercial C2 class purse seine vessels.\(^{820}\) Even though large pelagic species recorded a lower landing rate than the small pelagic species, marlin and swordfish have been the two varieties of the large pelagic species with the highest recorded landings in Penang Port, followed by barracudas that are landed in a smaller quantity.\(^{821}\)

Unlike the country’s EEZ waters off the Malacca Straits, a recent assessment of fish biomass in Sarawak’s EEZ has revealed that small pelagic species constitute the most abundant fishery resources, with an estimated catch of 879,548 metric tonnes - the highest of any maritime jurisdictional zone in Malaysia.\(^{822}\) In offshore and deep sea fishing grounds, the dominant species include Indian mackerel (*Rastrelliger* sp.), scad (*Selar* sp.) and round scad (*Decapterus* sp).\(^{823}\)

It is generally accepted that the oceanic tuna fisheries in the Sabah portion of Malaysia’s EEZ, especially in the offshore waters along the Palawan Trench, the outer portion (>100 metres deep) of the continental shelf and around the Sipadan and Ligitan islands, are expected to become significantly important to Sabah’s offshore fisheries.

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\(^{820}\) See “Chart VIII: Purse Seine Fish Landings by Main Species, Malaysia 2006,” DoFM, *Annual Fisheries Statistic - 2006*.


\(^{822}\) Gambang et al., *Overview of Biology and Exploitation of the Small Pelagic Fish*, p. 6.

sector in the future.\textsuperscript{824} Previous resource surveys have indicated that oceanic tuna such as albacore, yellowfin and skipjack tuna are still unexploited in this area, as the total landing volume of these species has been much lower than the estimated potential yield of approximately 18,000 tonnes.\textsuperscript{825}

Malaysia’s total marine fishery production for 2008 was 1,379,770 metric tonnes, estimated to be worth around RM 4,939.32 million.\textsuperscript{826} In comparison to the coastal fisheries sector, fishery landings from offshore deep-sea fishing represent a very small fraction of the country’s overall fishery production, with only 277,530 metric tonnes or 20.8 percent of the nation’s total annual production.\textsuperscript{827} Although the size of offshore EEZ fishing grounds in the east coast of Peninsular Malaysia are larger than in the west coast region, the former produced lower catches than the latter in terms of total landings. In 2008, the annual landings from the offshore fisheries sector amounted to 123,741 metric tonnes in the west coast region, compared to only 104,382 metric tonnes in the east coast region.\textsuperscript{828}

On-going efforts by the Malaysian government to improve annual fish production from the offshore deep-sea fishing sector have achieved some success. There has been an increase in catch rate and value from 2004 to 2008 (see Table 5.7). A trend towards an increase in catch volume from the offshore fisheries sector can also be observed across a ten-year period, with the sector’s total landings registering a significant rise of 251,289 million metric tonnes in 2006 from 52,580 million metric

\textsuperscript{826} DoFM, \textit{Status of the Fisheries Sector in Malaysia in 2006}, paragraph 1.
\textsuperscript{827} Ibid.
\textsuperscript{828} MOA, “Agriculture Statistical Handbook 2008,” p. 121.
tonnes in 1996.\textsuperscript{829} Based on the current level of production, the offshore fishing sector is yet to exploit to its full potential and can still meet the projected annual production of 434,000 million metric tonnes for 2010 as outlined in the NAP3.\textsuperscript{830}

### Table 5.7
**Quantity and Value of Landings from Offshore Fisheries 2003-2008**

<table>
<thead>
<tr>
<th>Year</th>
<th>Landing (000’ Tonnes)</th>
<th>Value in RM (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>198,450</td>
<td>546.55</td>
</tr>
<tr>
<td>2004</td>
<td>271,495</td>
<td>854.60</td>
</tr>
<tr>
<td>2005</td>
<td>221,289</td>
<td>730.62</td>
</tr>
<tr>
<td>2006</td>
<td>251,331</td>
<td>861.39</td>
</tr>
<tr>
<td>2007</td>
<td>264,311</td>
<td>890.22</td>
</tr>
<tr>
<td>2008</td>
<td>277,527</td>
<td>934.50</td>
</tr>
</tbody>
</table>

*Sources: MOA, Agriculture Statistical Handbook 2008, p. 121; and DoFM, Annual Fisheries Statistic- 2004*

In recent years, tuna fisheries have become increasingly important to Malaysia, both for domestic consumption and as a high-value export commodity. The most important species of tuna include neritic tuna, such as albacore (*ikan kayu*), skipjack, longtail and bullet tuna.\textsuperscript{831} Yellowfin and bigeye tuna, on the other hand, have consistently made up the highest proportion of oceanic tuna catches landed in Malaysian ports.\textsuperscript{832} In terms of tonnage, these two species represent the principal

\textsuperscript{829} The only exception to this volume increase was in 2005 which recorded 221,285 metric tonnes. Anon., “Fishery Projects under 6MP Yield Positive Results,” *Business Times* (Malaysia), 19 August 1996.


\textsuperscript{831} Gopinath and Puvanesuri, *Marine Capture Fisheries*, p. 220.

\textsuperscript{832} For example, the most commercially significant tuna species captured by purse seiners in Sabah is skipjack tuna, which accounted for 72.5% of the total catch, followed by yellowfin/bigeye tuna at 27.5%. Richard Rumpet, *Stock Assessment of Skipjack (Katsuwonus pelamis) and*
catches of oceanic tuna landed at the privately managed Penang Port, one of the largest and most prominent tuna-landing centres in the country. The bulk of these catches, however, are caught by Taiwanese and Chinese longliners in the Eastern Indian Ocean.

5.4.5. Fishing Ports and Facilities

There are currently thirty-six major fishery complexes providing landing facilities and other ancillary services to C2 class vessels in Malaysia. Twenty-seven of these complexes are located in Peninsular Malaysia, five in Sarawak, three in Sabah and one in the Federal Territory of Labuan (FT Labuan). With the exception of the privately controlled tuna fishing port at Batu Maung, Penang, all of these fisheries landing sites are administered by the LKIM.

Of these LKIM-managed fishery complexes, four of them are regarded as the country’s most important deep-sea fishing ports based on the volume of catches landed and the number of C2 class fishing vessels using the ports. These ports comprise Chendering Fisheries Port in Terengganu, Kuala Perlis Fisheries Complex in Perlis, Tok Bali Fisheries Complex in Kelantan and Tanjung Manis Integrated Fishing Ports in Sarawak. Along with landing berths for vessels exceeding 70 GRT, these deep-sea fishing ports also serve as an integrated one-stop centre for fishery trading. Equipped

833 Yellowfin (Thunnus albacares) off Sarawak and Sabah Water, Fisheries Research Institute Sarawak Branch, Department of Fisheries Malaysia, 2000.
836 This figure has been calculated using information provided on the LKIM website. A complete list of fishery complexes in Malaysia is available at the LKIM website. See www.lkim.gov.my (accessed on 3 July 2010).
837 Effective December 2004, MITP has been granted a 32-year concession period to manage, operate and develop the former Batu Maung Fisheries Complex in Penang. Errol Loh, “MITP Aims to Turn Penang into a Leading Tuna Port,” The Star, 26 January 2008.

with a wide range of facilities including ice making plants, marketing and auction halls, cold storage rooms, packaging centres, fish processing plants (for processing fish meals, surimi and otoshimi), the ports also provide customs and immigration offices to facilitate the administrative process of importing and exporting fish. Apart from LKIM-managed fishing ports, there are more than 100 privately owned and managed fishing ports and jetties in operation, virtually all of which cater to catch landings from coastal fisheries. The landings and operational activities of these landing sites are yet to be documented.

At present, only a few of the existing fishing ports in Malaysia have adequate facilities and infrastructure to support the landing and processing of high-value tuna for the export market. The Penang Port in Batu Maung, Penang, and Tanjung Manis Integrated Fishing Port in Mukah, Sarawak, are among the few fishing ports with the requisite facilities and infrastructure. The Penang Port, in particular, is the most active, operational tuna landing and transhipment hub in Malaysia. Equipped with a 163-metre wharf capable of holding vessels with up to 800 GRT capacity, the port recorded the highest tuna landing in Malaysia for 2006 with 15,210 metric tonnes, most of which were oceanic tuna captured in the Eastern Indian Ocean.

An alternative deep-sea fishing port in Malaysia for landing tuna catches, particularly oceanic and neritic tuna species caught in the South China Sea, is the recently completed RM332 million Tanjung Manis Port. It is the largest and most

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840 In the 1960s and 70s, the Penang port was the largest tuna port in Asia before Phuket took over that position in the beginning of 1990s. “More Fishing Boats, Less Fish: Malaysian Vessels are Joining the Hunt for Tunas,” The Star, 22 May 2007.
841 A total of 1,670 tonnes of oceanic tunas were landed in Penang port in 2006, amounted to a value of RM 16.77 million. See DoFM, Annual Fisheries Statistic-2006, p. 27.
technologically advanced deep-sea fishing port in the country.\textsuperscript{842} From April 2007 to January 2008, 3,354 metric tonnes of deep-sea fish landed at the port, with a value of RM1.9 million.\textsuperscript{843} Modelled after the deep-sea fishing port in Skagen, Denmark, the infrastructure and facilities of the Tanjung Manis fishing port are distinct from any other fishing port in Malaysia and has gained the American and EU-recognised international certification standard for food safety.\textsuperscript{844} This recognition is vital to fulfil Malaysia’s vision to expand the export of its seafood products to EU countries.

However, despite this recognition, the facilities and post-harvesting practices used in most of Malaysia’s fishing ports and licensed deep-sea fishing vessels do not conform to the hygiene standards and export requirements imposed by major seafood-importing countries, especially the United States and the EU. Such was the concern over the safety of Malaysian seafood products destined for the EU market that since June 2008 the export of the country’s seafood products from captured fisheries sector has been temporarily suspended.\textsuperscript{845}

5.4.6. Domestic Distribution and Marketing of Fishery Products

Detailed information on the structure, conduct and performance of the domestic distribution and marketing of offshore fishery products, either fresh or processed, is generally unavailable. Indeed, there is very little data available to the public on the distribution of processed catches, particularly tuna catches. The tuna cannery sector has long relied on small tuna species (e.g. kawakawa, frigate and skipjack) from both


\textsuperscript{845} Anon. “Industry Loses RM600m after EU Curbs” \textit{The Star}, 3 September 2008.
coastal and offshore domestic fisheries, as well as imported tuna (e.g. skipjack and yellowfin) from Indonesia and Thailand.

Despite a lack of information regarding the marketing and distribution of fishery catches from offshore fisheries, the marketing and distribution of products from Malaysia’s marine capture fisheries is well documented. The distribution system for fishery can be divided into two major systems: (i) the fisher-middlemen trading system; and (ii) the LKIM-controlled fish marketing system. A number of factors influence the selection of fishery marketing and distribution systems. As Ishak (1994) has observed, these factors are based on “business and social interactions that exist between parties.”

Throughout the entire process of fish distribution, from the time of landing until the fish reaches the consumer, both systems appear to share a common trait. There is a chain of activity involving multiple stages and different actors encompassing boat owners, assemblers (locally known as daganan, fishermen associations, coastal wholesalers, consignment or commission agents, itinerant dealers (or peraih), and retailers.

In the fisher-middlemen trading arrangement, fish producers (i.e. boat owners, whether operators or non-operators) sell their catches to the coastal wholesaler (i.e. private middlemen, who are locally known as tauke). This traditional marketing system has been developed (and strengthened) through the socio-economic links forged between fishers and middlemen.

It has been a common practice for the middlemen to provide the fishermen with initial capital such as fuel, food provisions and fishing nets, as well as access to credit facilities to purchase new boats or spare parts. The fishermen, in return, have an obligation to deliver their catches to the middlemen at a

predetermined price - most often lower than the prevailing market price. A similar arrangement is also observed in Sabah and Sarawak. The coastal wholesalers, who make up the dominant middlemen, own the vast majority of C2 class (i.e. large size) offshore deep-sea fishing boats that are registered in those states. In Sarawak, for example, the private traders and businessmen who mostly own these vessels employ crews to carry out the fishing operations on their behalf. Once the fish has been caught, the crews are required to hand their catches over to the coastal wholesalers.849

Throughout this supply chain, the middlemen also act as wholesalers and transporters, delivering and selling the fish to wholesalers at the inland wholesale centres or terminal markets located in major urban areas of Malaysia (e.g. Selayang, Johore Bahru, Klang, Kuching and Puchong), or directly to institutional buyers (e.g. restaurants, caterers and hotels). Apart from institutional buyers, retailers constitute the major buyers of fish in the wholesale market, eventually re-selling the fish at higher prices to consumers at numerous wet markets throughout the country.850

Numerous studies dating as far back as the 1980s have highlighted that the fisher-middlemen system is detrimental to the financial interests of Malaysian fishermen.851 Under this system, fishermen are more likely to gain a low market price for their catches,852 mainly due to price manipulation by unscrupulous middlemen who

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have often adopted non-transparency mechanism when determining the prices of fish. To reduce and eliminate this exploitation, the LKIM has been entrusted with the task of formulating and implementing alternative fish marketing and distribution strategies, with the overall aim of improving the livelihood and financial independence of fishermen in the country.

A LKIM-controlled fish marketing system is presently being adopted in 27 fishery complexes. Under this system, the landed catches are sold through an open auction system or by direct consignment to a wholesaler or their agent. The local area’s National Fishermen Association (NEKMAT) assumes the primary task of administering and controlling the auction process on behalf of its respective members. This auction system not only allows large quantities of (previously unsold) fish to be cleared, but also provides fishermen with competitive and fair prices for their catches through an open and transparent selling mechanism. This mechanism also prevents manipulation of fish price commonly seen in the traditional fisher-middlemen trading system. The catches sold to NEKMAT or wholesale agents are generally sent to several wholesale markets in Kuala Lumpur and other major cities. The rest are sold directly to hotels, hypermarkets supermarket chains and restaurants. NEKMAT also sells the fish


855 National Fishermen’s Association (NEKMAT), Marketing of Fish, available online at www.nekmat.com (accessed on 30 December 2009).
directly to end consumers at numerous agricultural markets organised by the Federal Agricultural Marketing Authority (FAMA).

5.4.7. International Trade of Fish and Fish Products

Fish and fishery products represent the second largest food commodity exported by Malaysia. As mentioned previously, since 2000 Malaysia has been not only been a net importer of fish in terms of volume, but also a net exporter of fish in terms of monetary value. In line with the development strategies of NAP3, a higher foreign exchange earnings generated from the export of high-grade seafood products is to be used for importing cheaper fish, especially from Thailand and Indonesia, in order to meet the requirements of the country’s domestic fish consumption. In recent years, statistical data have revealed that the export of fishery commodities and products from Malaysia continue to experience an upward trend in both volume and value. Even so, the data does not specify the proportion of foreign exchange earnings generated from fishery products sourced from the offshore fisheries sector of the country’s EEZ. One of the reasons for this is that neither the final destination of fish is documented after the catch has left landing sites or processing facilities, nor such data are made available in the DoFM annual fisheries statistics. The only available figure indicating the volume and value of exported fishery commodities is in relation to tuna sourced from Malaysia’s EEZ or in the Indian Ocean. This is because these tuna catches regularly landed in Penang Port.

The total export volume of seafood products from Malaysia registered an increase of 17.2 percent from 241,781 metric tonnes in 2003 to 283,385 metric tonnes
In terms of value, the exported fishery commodities were reported to be worth RM2,252.6 million in 2004, which was a significant increase of almost 33.9 percent from RM1,682 million in 2003. The main seafood products exported from Malaysia include fresh, chilled, frozen and dried fish, cephalopod (e.g. squids, cuttlefish and octopus) and crustacean (e.g. shrimp and prawns, including aquaculture freshwater prawns). These products are mostly exported to Thailand, China, USA, Indonesia, Singapore, Japan and EU countries such as Holland, the UK and Italy.

Of the top five countries that imported fishery products from Malaysia in 2004, Asian countries occupy the first four positions. Thailand ranked first in terms of volume with 57,080 metric tonnes, followed by Singapore with 45,198 metric tonnes, China with 32,420 metric tonnes, Indonesia with 22,245 metric tonnes and finally USA in fifth position with 20,848 metric tonnes. The bulk of these exported fishery products are in the form of fresh and processed fishery products, with frozen fish constituting the largest percentage of export volume. When ranking the above countries in terms of the value of their imports, the order is reversed. Indeed, the USA is the largest importer of Malaysian fishery commodities based on value, importing RM532.8 million dollars worth of fishery products. The USA is followed by Singapore with RM251.4 million, Japan with RM221.2 million, Italy with RM161 million and China with RM121 million. Shrimps and prawns, both frozen and fresh, constitute the largest

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859 Fresh and processed fishery products, together with frozen fish constitute the largest percentage of export volume at 45.1%. DoFM, “Status of Export and Import of Fishery Commodities,” paragraph 7.
composition of high-value seafood products exported to these countries in 2004, amounting to 51,415.60 metric tonnes or RM1, 089 million in value.\(^{861}\)

Malaysia generally imports fishery products to meet the requirements of its increasing domestic consumption and canning industry. Thailand, Indonesia, Vietnam, China, Singapore, and India are the major suppliers of fish and fishery products to Malaysia, with Thailand being the largest supplier in terms of value and quantity.\(^{862}\) The major fishery products imported by Malaysia include fresh, chilled and frozen fish such as Indian mackerel, pomfret and sardines, fish meals, tuna, as well as fresh and frozen prawns and shrimp.

As highlighted earlier, there is no accurate data indicating the exact figure and monetary value of exported fishery commodities deriving from Malaysia’s offshore fishing sector. In spite of this, numerous public documents relating to Malaysia’s fisheries development policy have recognised tuna and tuna-related products sourced from commercial offshore fisheries in the country’s EEZ and Indian Ocean as being important export commodities. Because the total percentage of domestic tuna production is negligible in comparison to Malaysia’s overall fishery landings, the country’s export of tuna and tuna-related products generally depends on oceanic tuna landings at Penang Port. These landings are mostly unloaded by foreign fishing vessels, particularly Taiwanese and Chinese long liners operating in the eastern Indian Ocean.\(^{863}\) Yellowfin and bigeye tuna represent the dominant species of high-value tuna exported by Malaysia, mostly in fresh and chilled form and destined for the lucrative sashimi market in Japan and Taiwan. Meanwhile, canned albacore and skipjack tuna are mostly

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\(^{861}\) DoFM, “Status of Export and Import of Fishery Commodities,” paragraph 6, at Table 5: Composition of Export and Import of fishery Commodities, Malaysia, 2004.

\(^{862}\) DoFM, “Status of Export and Import of Fishery Commodities,” paragraph 10, at Table 9: Malaysia Import by Main Countries, 2004.

\(^{863}\) In 2006, 1,670 metric tonnes of oceanic tunas, valued at RM16.99 millions were landed in Penang Batu Maung port. DoFM, “Status of the Fisheries Sector in Malaysia in 2006,” paragraph 2.4.
exported to US and Japan. In recent years, Malaysia’s export of tuna and tuna-related products has shown a noticeable decline due to a number of factors. One of these factors is a decline in oceanic tuna landing in Penang Port. This is due to many domestic vessels not being operational due to rising fuel prices, as well as a preference by regional ports, particularly in Singapore and Phuket, for foreign tuna fishing vessels to land their catches rather than domestic vessels.\textsuperscript{864}

5.5. Conclusion

Although there are conflicting views regarding the level of contribution of Malaysia’s fisheries industry to the economic well-being of the country, the industry remains an important source of food, employment and foreign exchange for the last two decades. In response to a series of developments in the fisheries sector including the depletion of inshore fisheries resources, the expansion of the country’s maritime jurisdictional zones and the growing importance of the fishery industry to the nation’s socio-economic growth in the mid-1980s, the Malaysian government has shifted its focus towards the development of aquaculture and offshore fishing. This is reflected in the expansion of the offshore fishing sector which occupies one of the strategic trusts outlined in Malaysia’s numerous national development policies. This policy-orientation was aimed not only at ensuring future food security, but also improving the socio-economic status of predominantly low-income coastal fishing communities and maintaining the long-term sustainability of the fisheries sector.

Both past and present government initiatives aimed at developing and modernising Malaysia’s offshore deep-sea fishing fleets have achieved several positive outcomes, including an increase in offshore fisheries production in recent years.

\textsuperscript{864} The landing of tunas at Penang in 2006 registered a significant decrease of almost 50.88\% from the year 2005. DoFM, “Status of the Fisheries Sector in Malaysia in 2006,” paragraph 2.4.
However, despite these positive outcomes, the nation’s sustainability and development objectives for the fisheries industry have at times led to contradictory outcome. The country’s expansionist policy, which aimed to improve domestic fishery production without jeopardising the sustainability of marine resources, not only failed to prevent the overexploitation of coastal inshore fisheries resources, but also placed increasing pressure on offshore fisheries resources in the country’s EEZ. Resource surveys carried out on fisheries resources in selected EEZ areas of the country suggest that the level of resource exploitation in these areas is unsustainable. Among the problems identified in the resources survey is the declining of biomass of demersal and pelagic species population to a point where a viable fishery is no longer possible. In the offshore waters off the west coast of Peninsular Malaysia, for example, the average catch rates of the two species have dropped over a ten years period.865

The country’s production-oriented approach to fisheries development through the mechanisation of fishing vessels and gear has undermined the conservation objectives as outlined in the country fisheries development policy. It is therefore paramount for Malaysia to seek a balance in its offshore fisheries management policy between the rational exploitation of resources and the long-term sustainability of fisheries resources based on the principles of responsible fishing. The next chapter examines the framework for fisheries management in the Malaysian EEZ which addresses the mounting pressures to the country’s offshore fisheries from fishing activities.

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865 For example, the catch rate of these species in the region has declined from 118.7 kg in 1987 to 49.1 kg in 1997. See Gopinath and Puvanesuri, Marine Capture Fisheries, p. 217, cited from P. E. Chee, “The Pelagic Fishery of the West Coast of Peninsular Malaysia,” in F. M. Yusoff, M. Shariff, N. Gopinath, H. M. Ibrahim, R. A. Nik Mustafa (eds.), Towards Sustainable Management of the Straits Of Malacca, Malacca Straits, Research and Development Centre (MASDEC), (Serdang, Malaysia: MASDEC, Universiti Putra Malaysia, 2000), pp. 127-143.
Chapter 6
NATIONAL LEGAL AND POLICY FRAMEWORK FOR FISHERIES CONSERVATION AND MANAGEMENT IN MALAYSIA’S EEZ

6.1. Introduction

One of the essential conditions for marine fisheries resources to be managed and developed in a responsible and sustained manner is for States to take positive action towards establishing an effective and appropriate legislative and policy framework at the national level. The FAO Code of Conduct and the IPOA-IUU are among the few non-binding international fisheries instruments that have incorporated this requirement.\footnote{See, for example, Articles 7.3.3 and 7.7.1 of the FAO Code of Conduct; IPOA-IUU, paragraph 16 for the need for States to establish a national legislative framework; and IPOA-Capacity, paragraphs 19-24 with respect to national plan of action.} This chapter provides an insight into Malaysia’s national legislative and policy framework in managing offshore fisheries effectively. To achieve this objective, the country’s national policies, laws and regulations relevant to marine capture fisheries management and the protection of the marine ecosystem and its biodiversity are examined in this chapter.

This chapter is organised into three main sections. The first section sets the scene by reviewing the content, structure and function of policy documents governing marine fisheries in Malaysia’s waters, including the offshore region of its EEZ. The second section of this chapter offers a brief discussion of Malaysia’s position in relation to its ratification of, and accession to, fisheries-related instruments concluded at the international and regional levels. This is followed by an examination of the legal framework that is currently in place for managing and regulating offshore fisheries in
the EEZ. This section starts by examining the constitutional division within the Federal system of the country. Following this, Malaysia’s national legislation, subsidiary regulations and ordinances with fisheries-related elements are scrutinised to determine the extent of the country’s legislative practices in managing offshore fisheries.

This chapter provides the framework for assessing how Malaysia implements international principles and standards on responsible fishing, which will be discussed in Chapter 8. By examining Malaysia’s legislative and policy framework, the gaps that may exist within the framework in terms of promoting effective management and conservation of fisheries resources will be highlighted.

6.2. Policy Management Framework for Offshore Fisheries in Malaysia’s EEZ

A coordinated and efficient fisheries resources management and conservation plan rely on a set of clearly defined principles, objectives and strategies entrenched within the national policy framework. On the policy front, Malaysia continues to formulate, implement, review and when necessary, revise its national policies to achieve increased fisheries production, the sustainable utilisation of fishery resources and the

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protection of the marine ecosystem and its biodiversity resources.\textsuperscript{869} Throughout the course of developing and managing Malaysia’s fisheries resources, the underlying criteria used for policy deliberation have frequently involved all or a combination of the following factors: national development goals, commercial growth, international law requirements, environmental conditions, socio-economic considerations and biological characteristics of fisheries resources.\textsuperscript{870} More importantly, these factors are generally intertwined and have profoundly affected the direction of policy objectives and strategies for securing the long-term sustainable use and management of marine capture fisheries, including offshore fisheries.\textsuperscript{871}

Malaysia’s fisheries management policy since 1981 has sought to address the long-standing issues affecting its coastal fisheries sector. As discussed in Chapter 5, these issues include income inequalities among fishermen with different ethnic and cultural backgrounds, illegal and destructive fishing, deterioration of the marine ecosystem and its habitats, as well as the biological and economic overexploitation of fishery stocks. Indeed, these issues have all been well researched and identified as priority areas for Malaysia’s national fisheries management agenda.\textsuperscript{872} The adoption of a variety of management measures directed to different areas of coastal fisheries, including vessel and gear licensing, minimum mesh size requirements, closed fishing areas and seasons to banned fishing gear and methods have all been critical elements

\textsuperscript{869} \textit{Malaysia NPOA-Capacity}, p. 4.

\textsuperscript{870} These factors represent the variables influencing the agreed goals and objectives for Malaysian fisheries management as canvassed during an expert consultative workshop held in Langkawi in 2000. See DoFM, \textit{Conference Report, National Conference on Management of Coastal Fisheries in Malaysia}, 11-12 March 2003, Kuala Lumpur, Malaysia, (DoFM: Kuala Lumpur, 2003), see in particular Fig. 2, at p. 11.

\textsuperscript{871} For instance, the correlation between overcapacity and overexploitation of fisheries resources in Malaysia’s coastal waters has been well researched and documented in the literatures. Examples of works include Ahmad \textit{et al.}, “Overview of the National Fisheries Situation,” pp. 833- 884; see also Gopinath and Puvanesuri, “Marine Capture Fisheries,” pp. 215-226.

\textsuperscript{872} \textit{Malaysia NPOA-Capacity}, p. 4.
within the framework of many national policy documents for fisheries management and conservation.

Ironically, a national policy and action program specifically to guide and direct the utilisation and management of the country’s offshore EEZ fisheries resources in a rational, sustained manner and in harmony with the environment is lacking in Malaysia.\(^{873}\) Instead, the dominant theme of the country’s management and conservation policies is maximizing the productivity of these fisheries.\(^{874}\) Nowhere is this production-orientation more evident than in National Fisheries Development Plan until the Year 2000\(^{875}\) and the Strategic Action Plan for the Development of Tuna Industry in Malaysia 2002-2010. These strategies are heavily rooted in the exploration and exploitation of fisheries resources on a commercial scale through the expansion and modernisation of the nation’s fishing fleets.

Notwithstanding the basic gap that exists in Malaysia’s legislative and policy framework for sustainable fisheries, there are several policies and action plans which deal with the management, conservation and development of Malaysia’s marine fisheries as a whole, and to certain extent, offshore fisheries in the national EEZ. These documents include the Fisheries Comprehensive Licensing Policy (FCLP), the Third National Agricultural Policy 1999-2010 (NAP3), the Strategic Action Plan for the Development of Tuna Industry in Malaysia 2002-2010, the Malaysia NPOA for Sharks,

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874 Malaysia NPOA-Capacity recognises that a comprehensive management framework for the sustainable use and responsible management of marine fisheries is firmly established in the country. See *Malaysia NPOA-Capacity*, p. 7.

and Capacity and the Draft Malaysia NPOA-IUU. Apart from these instruments, there are additional policy documents that extend to non-fisheries issues but are still relevant to offshore fisheries governance in the EEZ of Malaysia. These sectoral instruments include the National Policy on Biological Biodiversity (NPB) and the Ninth Malaysia Plan 2006-2010 (9MP).

6.2.1. Fisheries Comprehensive Licensing Policy (FCLP)

The Fisheries Comprehensive Licensing Policy (FCLP), which was first introduced in 1981, provides detailed regulations and rules covering all aspects of fisheries licensing and fishing zones in Malaysian fisheries waters. Nearly 25 years have lapsed since the first introduction of FCLP, and yet it remains relevant to Malaysia’s practices in marine fisheries management, including its offshore EEZ fisheries. In the past two decades, the FCLP has undergone several amendments to ensure its licensing scheme is up to date with the international requirements, management needs, and the changes in the biological status of fishery resources. However, many of the basic regulations and management measures contained in the FCLP have been retained and continue to operate as an integral part of the present licensing system. This is evident in the ongoing implementation of vessel licensing scheme and spatially based fisheries zoning system as outlined in the recently released DoFM’s Policy and Procedure Book for Licensing of Vessel, Fishing Appliance and Fishermen Registration.  

Greater flexibility in the provisions of the Fisheries Act 1985 (Amended 1993) means that the process of drafting and revising fishery regulatory measures, such as |

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876 Detailed procedures of applying and issuing fishing license are outlined in DoFM, Policy and Procedure Book for Licensing of Vessel, Fishing Appliance and Fishermen Registration (in Malay Language), (Putrajaya: DoFM), 236pp. It is interesting to note that the procedure book does contain any specific year of publication.
licensing and fishing gear restrictions, can take place without the need for parliamentary consent, a process that is typically lengthy.\(^{877}\) This is the reason why the management framework of the FCLP remains till today relevant for managing marine fishing activities in Malaysia.

The implementation of a plethora of management measures (as prescribed by the FCLP) reflects the positive steps taken by Malaysian fisheries authorities towards a more holistic and sustainable management approach to declining inshore fishery resources, particularly in the Straits of Malacca off the west coast of Peninsular Malaysia. Supplemented by the adoption of additional management measures (e.g. vessel monitoring system, port inspections and vessel-buy back schemes), this approach is consistent with the overarching objective of FCLP which is to enhance fisheries resources and their sustainable use in the future. Equally important is the fact that the DoFM was aware of the urgent need to curtail the detrimental impact of unrestricted fishing efforts and overcapacity, a problem aggravated by open access fisheries and the expansion of mechanised industrial fishing fleets such as trawlers and purse seiners in the beginning of 1970s.\(^{878}\) As Bakar and Hoi (1987) have noted, the introduction of FCLP was timely as overfishing in most of the country’s inshore fishing grounds was prevalent.\(^{879}\) The problems associated with overfishing in Malaysia led to the introduction of a comprehensive licensing system and other restrictive fishing measures such as the spatial and temporal closure of fishing grounds, prohibition on certain types of fishing gears, restrictions on mesh size and a reduction in the permissible size of vessels and their engine power.\(^{880}\) However, uncontrolled and excessive fishing efforts were believed to be the driving forces behind overexploited inshore fishery stocks. It


\(^{878}\) Yahaya and Abdullah, “Fisheries Resources under Stress,” pp. 15-16.


\(^{880}\) Ibid.
soon became apparent that ineffective and poorly coordinated fishery control measures imposed by various states were aggravating the situation.

In addition to the biological and ecological condition of fisheries, the management objectives of the FCLP inextricably link to social, economic and political considerations.\footnote{Shahrom bin Abdul Majid, “Controlling Fishing Effort: Malaysia’s Experience and Problems,” in Expert Consultation on the Regulation of Fishing Effort (Fishing Mortality), Rome, Italy, 17 January 1983, FAO Fisheries Report No. 289 (Suppl. 3), (Rome: FAO, 1985), p. 321; Kirkley et al., “Excess Capacity and Asymmetric Information,” p. 650; and Saharuddin, “Development and Management of Malaysian Marine Fisheries,” p. 123.} A strong emphasis towards promoting socio-economic equity and enhancing the income of local fishing communities clearly underpins the policy’s objectives, a view shared by many commentators and highlighted in the reports of the FAO.\footnote{See, for example, Yahaya, “Fishery Management and Regulation in Peninsular Malaysia pp. 83-98; and Bakar and Looi, “License Limitation: An Approach to the Regulation of Fishing Efforts,” p. 449.} This socio-economic consideration relates directly to the objective of FCLP and continues to be relevant today.\footnote{Apart from the equitable distribution of resources, the policy objectives of the fisheries licensing system include the prevention of resource overexploitation and the restructuring of vessel ownership pattern. See FAO/FishCode, “Report of the Global Fisheries Enforcement Training Workshop, Kuala Lumpur, Malaysia, 18–22 July 2005,” FAO/FishCode Review No. 18, (Rome: FAO, 2007), paragraph 36, at p. 4.} These factors include eliminating competition over common fisheries resources in the inshore waters; minimising conflicts between commercial vessel operators and artisanal fishermen; restructuring ownership pattern of fishing vessel among the country’s multicultural groups in accordance with the New Economic Policy (NEP); and promoting the modernisation and development of the offshore deep-sea fishing industry.\footnote{Salehan Bin Lamin, “Situation of MCS in Malaysia,” Annex IV, in FAO, Report of the National Workshop on Fisheries Monitoring Control and Surveillance in Support of Fisheries Management, Goa, India, 12-17 February, 2001, (Rome: FAO, 2001), p. 71.}

The FCLP employs a wide range of measures to ensure that fishing activities in Malaysian fisheries waters are conducted in a responsible and sustainable manner. These measures include the mandatory registration of vessels, licensing requirements for fishing vessels and gear, the introduction of a fisheries zoning system and closed
fishing areas (e.g. marine parks and reserves), as well as a prohibition on the use of destructive fishing gear and methods (e.g. pair trawling, fish bombing and cyanide fishing). The implementation of these measures is supported by national legislation and subsidiary regulations at both the federal and state level. These fisheries legal framework will be discussed below.

Malaysia’s fisheries licensing system can be viewed as a dynamic tool rather than a static one when regulating fishing efforts in the country. To accommodate the changing biological and ecological nature of fish stocks, the rising management needs of the domestic fisheries industry and the evolving international legal requirements for fisheries, the policy frameworks and management measures of the FCLP have been periodically revised in order to make them more effective tools for the better management of marine capture fisheries.

As already discussed, Malaysia’s four designated fishing zones within national waters, namely A, B, C and C2 occupy a prominent place within the FCLP framework. Each of these zones is designated with a particular marine area, specific fishing gear, a vessel class and ownership status. Under the current system of fishery licensing, the operational areas for coastal and offshore fishing vessels are different for each zone. These designated fishing zones have already been briefly described in Table 5.3.

6.2.2. Third National Agricultural Policy 1999-2010 (NAP3)

The strategic objectives for developing marine capture fisheries in Malaysia, including offshore fisheries, can be found in numerous economic-related policy documents. One such document is the NAP3 which establishes the policy framework for guiding the

The primary aim of the NAP3 is to increase national food production through the maximum utilisation of resources in the agricultural sector. This particular strategy not only guarantees the self-sufficiency of the national food supply, but also generates substantial revenue and foreign currency exchange from export earnings. Indeed, the NAP3 specifies a wide range of objectives, principles, and implementing mechanisms, setting the benchmark for the overall development of the agriculture sector in the country. The main policy thrust of the NAP3 is to transform Malaysia’s agriculture sector (and the fisheries industry in particular), into one that is more sustainable, self-sufficient, commercially-oriented and competitive.

The NAP3 not only focuses on the continuing development, commercialisation and expansion of the coastal fisheries sector, but also other sectors in the fisheries industry such as aquaculture and offshore fisheries. To achieve this objective, there is a need to establish and strengthen relevant institutional mechanisms, ancillary services and critical infrastructure related to fisheries development and management. The effective mobilisation of human and financial resources, as well as coordinated efforts between the public and private sectors are also crucial. One critical element that can facilitate effective implementation of the NAP3 measures is a set of “concrete mechanisms that provide for greater focus and specialization and better policy coordination among the key institutions, stakeholders and players involved in

Omar points out that prior to the introduction of the NAP1 in 1984, there was no specific national policy document guiding the development of Malaysia’s agricultural sector, including its fisheries. Omar, “Market Power, Vertical Linkages and Government Policy,” p. 13.

The NAP3 aims to enhance food security and combat inflation by increasing domestic food production. To achieve this aim, the policy not only gives greater emphasis to enhance the production level of cost-competitive food products, such as fishery products, select fruits, vegetables and livestock, but also seeks to improve the marketing of the country’s agriculture products and infrastructure.

Sabah has introduced its own agricultural development policy: Second Sabah Agriculture Policy (DPNS2). The rationale for this policy document is to give effect to the development objectives and management strategies of the NAP3.
agricultural development.” To support the realisation of NAP3 objectives for the expansion of the offshore fisheries sector, a set of enabling and supportive measures have been outlined, including:

- technical training programs for new offshore fishing operators;
- access to credit facilities for purchasing/building new boats and gear (as provided by the Agriculture Credit Finance Scheme and the Fund for Food Scheme); and
- tax exceptions for new entrants to the industry (as legislated under the *Income Tax 1967 and Promotion of Investment Act 1986*).

While NAP3 outlines a range of strategies with heavy reliance on the productivity and market growth of the national fishing industry, the precise strategies to secure the sustainable utilisation and conservation of fisheries resources is missing from its policy framework.


The Strategic Action Plan for the Development of Tuna Industry (hereafter referred to as the Tuna Plan) is to date the only national policy document specifically devoted to developing Malaysia’s tuna fisheries industry within and outside the country’s national jurisdiction. The document expressly identifies tuna fisheries as the sector for future growth and accordingly outlines a series of strategies and action programs designed to achieve this objective from 2002 to 2010. The Tuna Plan essentially sets out a framework to guide the DoFM and other parties (e.g. the LKIM and corporate entities) interested in developing tuna fisheries not only within the confines of Malaysia’s EEZ.

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boundaries, but also on the high seas (particularly in the Indian and the Pacific Ocean). To this end, the Tuna Plan sets out the objective of tuna development and the various issues and challenges facing the tuna fishing industry in Malaysia.\(^\text{890}\)

The Tuna Plan embraces a set of strategic actions to secure successful and viable expansion of Malaysia’s domestic tuna fishing industry. These actions include developing tuna fishing technology, enhancing the technical skills of fishermen, increasing capacity in tuna fishing operations, providing credit and financial incentives for private sector participation and developing critical infrastructure and supporting industries.\(^\text{891}\) In recognising the importance of strategic collaboration between government and the private sector (including foreign entrepreneurs) in developing Malaysia’s tuna fisheries, the Plan proposes the formation of the Malaysian Tuna Industry Corporation (MTIC).\(^\text{892}\) The scope of the MTIC’s activities includes establishing a joint venture between Malaysia’s private sector and foreign companies in tuna fishing. Other proposed initiatives to facilitate the expansion of the domestic tuna fishing industry consist of the establishment of the Tuna Development and Management Institute (TDMI)\(^\text{893}\) and four Tuna Regional Growth Centres.\(^\text{894}\) Each of these strategic plans, including their respective implementing measures, has been assigned a timeline for practical implementation.\(^\text{895}\)

\(^{890}\) The challenges in developing the country’s tuna industry can be grouped into five major categories: (i) the small number of local tuna fishing fleets; (ii) the strong presence of foreigners working in tuna fisheries; (iii) a lack of participation by private investors; (iv) uncertainty regarding the biological status of oceanic tuna resources due to the limited amount of available research and scientific information; and (v) the limited use of technology in tuna fishing and post-harvesting operations. *Strategic Action Plan for the Development of Tuna Industry*, p. 9.


\(^{892}\) *Ibid.*, at p. 11.


\(^{894}\) These centres have been proposed to be located in Penang and Tanjung Pelepas (Peninsular Malaysia), Semporna (State of Sabah) and Labuan (FT Labuan). All these locations are where the country’s major deep-sea sea fishing ports located.

\(^{895}\) *Strategic Action Plan for the Development of Tuna Industry*, p. 17.
6.2.4. Malaysia NPOA-Sharks

Malaysia introduced its own NPOA-Sharks in 2006 as part of its commitment to meet the recommendation made under the IPOA-Sharks, specifically to formulate and adopt a national plan of action for the conservation and management of shark stocks.\footnote{IPOA-Sharks, paragraph 18.} Malaysia NPOA-Sharks was conceived primarily to advance the responsible management and conservation of sharks and their long-term sustainable utilisation. Despite the narrow scope suggested by the document’s title, the Plan’s management and conservation measures transcends the treatment of just sharks. Instead, it deals with all other species of chondrichthyan and cartilaginous fishes such as rays, skates, and chimaeras.\footnote{Malaysia NPOA-Sharks, p. iii.}

The Malaysia NPOA-Sharks is divided into four major parts. The first part highlights various issues and challenges involving the conservation and management of shark fisheries in Malaysia, as well as the proposed strategies and measures to address them. An overview of the biological and socio-economic status of shark fisheries, including post-harvesting activities such as the trading of shark-related products, is provided in the second part of the document. As highlighted by Chew (2005), the official view held by fisheries officers is that no large-scale industry exists in shark fishing, and that any shark catches in the country predominantly come from by-catch activities.\footnote{Hilary Chew, “Curbing a Cruel Act,” The Star, 15 November 2005.} There has been, however, a worrying trend in recent years towards increased shark landings in the country, thus refuting the claim that sharks are not desirable target stocks.\footnote{While shark landings represent only a small percentage of the total landings of commercial fish species (less than 2.2%) the export of lucrative processed shark products, particularly dried shark fin, to Asian countries such as China and Hong has reportedly increased in recent years due to surging demand. Sea Resources Management Sdn. Bhd., “Case Study on Illegal, Unreported and Unregulated (IUU) Fishing,” p. 124.}

\footnote{896} \footnote{897} \footnote{898} \footnote{899}
The third part of Malaysia NPOA-Sharks outlines a set of action programs which must be implemented within a designated timeframe. These action programs are not only oriented toward securing the utilisation of shark resources in a sustainable way, but also preserving the socio-economic status of stakeholders directly involved in shark fisheries, including fishers and traders. Accompanying each of these action programs is an implementing schedule that provides a timeframe for all the proposed measures and strategies, starting from 2006 up to 2010. For policy makers and fishery managers alike, the implementing schedule serves as a useful tool for monitoring and assessing the progress of the relevant measures. In ensuring these particular measures and the Plan itself remain effective and responsive to the evolving issues and problems affecting shark fisheries, the document contains a mechanism to monitor, evaluate, and verify the performance of the implemented action plans.

The final part of Malaysia NPOA-Sharks provides a list of activities which the Malaysian government should undertake with regard to conservation, enhancement and management of shark resources. These activities include strengthening data collection on shark biology and related habitats, encouraging the full utilisation of elasmobranch catches by improving the value of shark by-products, especially the meat, skin and cartilage, as well as establishing a coordinated framework to facilitate effective consultation among multiple stakeholders in various fields.

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900 Malaysia NPOA-Sharks, p. 52.
901 These action programs also seek to sustain the shark fisheries industry for the future and coordinate research on sharks to enhance knowledge of the species. Malaysia NPOA-Sharks, pp. 49-51.
902 Malaysia NPOA-Sharks, p. iii.
903 In acknowledging the country’s lack of proper national institutional mechanism for capacity building and coordination regarding shark research and management, the functional utility of the Malaysia NPOA-Sharks also serves as a document to guide fishery managers, relevant government agencies, universities and relevant stakeholders in the mobilisation and coordination of their manpower, assets and financial resources to manage, enhance, and conserve shark resources. Malaysia NPOA-Sharks, p. 48.
904 Malaysia NPOA-Sharks, p. 50.
It is important to note that Malaysia NPOA-Sharks is in itself an insufficient policy document to guide the day-to-day management and operation of shark species. The document lacks specific and comprehensive technical measures to deal effectively with the complexity of a tropical multi-species and multi-gear characteristic of Malaysian fisheries. Given the complexity of tropical fisheries, a comprehensive rather than fragmented fisheries management system is necessary. What is required is a policy document that focuses on protecting not only on a certain mono-species (i.e. sharks), but also other forms of marine aquatic life. As such, there is an urgent need for the relevant fisheries authority to revise and update Malaysia NPOA-Sharks, as well as developing additional policy document for promoting responsible fisheries.

6.2.5. Malaysia NPOA-Capacity

Malaysia has issued its own NPOA-Capacity as one of its initiatives to satisfy the requirement espoused under Section 11 of the IPOA-Capacity. The Plan serves as a national policy guideline for managing and regulating the level of fishing activity in the country in an efficient, equitable and transparent manner by 2010. The document contains reference to a series of action plans and measures that are intended to, among other things, assist fishery managers and policy-makers to assess the issue of overcapacity in the country’s fisheries and identify an appropriate remedial mechanism so that a balance can be found between the desired level of fishing and the availability

905 Taking into account the dynamic interaction between various fish species in tropical multi-species of the country, the Director General of the Malaysian Fisheries Department has expressly acknowledged in the Plan that “management is best achieved for fish population as a whole.” Malaysia NPOA-Sharks, p. iv.

906 For instance, with the exception of the whale shark species (Rhincodon typus) which are protected under the Fisheries (Control of Endangered Species of Fish) Regulations 1999, there is an absence of specific national legislation relating to the management of sharks and rays. Malaysia NPOA-Sharks, pp. 2-3.
of fisheries resources.\textsuperscript{908} In addition to highlighting the issues and challenges facing marine capture fisheries in Malaysia,\textsuperscript{909} Malaysia NPOA-Capacity proposes a series of management measures and implementing activities to address them. It also outlines the function of relevant government agencies mandated to manage fishing capacity in the country,\textsuperscript{910} as well as the agencies assigned to each of the key strategies and action plans to be implemented under the Plan.\textsuperscript{911}

The core elements of Malaysia NPOA-Capacity are encapsulated in 4 major strategies and 32 accompanying actions. Supplementing each of these actions are the Key Performance Indicators (KPIs). These indicators act as a benchmark to gauge the performance and effectiveness of the implementing actions.\textsuperscript{912}

The key strategies required to achieve the Plan’s objectives are listed under section 5.3 of the Plan. These strategies are as follows: (i) review and implement effective conservation and management measures; (ii) strengthen enforcement capacity and capability; (iii) promote public awareness and education programs; and (iv) promote responsible fishing practices.\textsuperscript{913} Several of the accompanying main actions to these strategies directly affect the management of fishing capacity in the offshore regions of the Malaysian EEZ, including C2 class fishing fleets. These main actions cover matters concerning spatial redeployment of C2 class vessels from overexploited resource areas to underexploited resource areas, licence cancellation for non-performing

\textsuperscript{908} Malaysia NPOA-Capacity, p. 1.  
\textsuperscript{909} Ibid., at p. 9.  
\textsuperscript{910} Malaysia NPOA-Capacity, pp. 4-8.  
\textsuperscript{911} A list of agencies responsible for the implementation of the Plan’s recommended strategies and actions is found in Section 7: Work Plan and Timeline. See Malaysia NPOA-Capacity, pp. 15-17.  
\textsuperscript{912} KPIs serve as a recommended performance benchmark when implementing the prescribed actions in the Plan.  
\textsuperscript{913} For a complete list of prescribed actions and their respective KPIs, refer to Malaysia NPOA-Capacity, at pp. 11-13.
vessels which failed to achieve the required landed catch, and the installation of VMS equipment.

Each of these strategies and actions is assigned with specific implementing agency and an allocated time for implementation (from 2007 to 2010). This is to ensure that all the action plans and strategies are translated into practical actions for managing national fishing capacity. The DoFM is the principal agency entrusted with the task of reviewing, revising and updating the Plan every four years to ensure its effectiveness.914

In addition to the other on-going initiatives for managing marine fisheries, such as mesh size restrictions, fishing zoning systems and vessel and gear licensing, the Malaysia NPOA-Capacity represents an important policy document useful in supplementing and reinforcing the effectiveness of fisheries management measures. The document also offers guidance and direction in the national effort to ensure the level of domestic fishing capacity is aligned with the sustainability of fisheries resources, both in the country’s coastal and offshore fishing areas.

6.2.6. Draft Malaysia NPOA-IUU

The Draft Malaysia NPOA-IUU was prepared in 2006 in response to the call made by the IPOA-IUU for every State to develop its own national plan of action to address all forms of IUU fishing.915 The Draft Malaysia NPOA-IUU outlines a range of strategies and action plans to combat IUU fishing at a national, regional and international level. Priority is given to national initiatives under the plan to combat this irresponsible and

915 See paragraph 25 of the IPOA-IUU on the development and implementation of a national plan of action to address IUU fishing.
unsustainable practice that has been rampant in the country’s EEZ, an area “in which the management regime is less developed.”

A set of general principles and management measures elaborated under the IPOA-IUU has been incorporated into the framework of Draft Malaysia NPOA-IUU. The draft plan has also embraced the definition of “IUU fishing” and has closely followed various management measures identified in the IPOA-IUU. The definition of “IUU fishing” in paragraph 1.3 of the draft plan shares some similarities with the one given in the IPOA-IUU. A variety of fisheries measures to combat IUU fishing directed to all States, as well as to other categories of States such as flag, port, coastal and market States, are also prescribed in the draft plan. An additional function of the Draft Malaysia NPOA-IUU is to act as a permanent record of the national management and conservation regime for the country’s marine capture fisheries. The national legislative and regulatory framework for supporting marine fisheries management initiatives in the country has also been highlighted in the Plan.

Aside from adopting the structural framework of the IPOA-IUU, the Draft is based on the “Model Plan for a Pacific Island Country: National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing” (Model Plan), a regional project document funded by the FAO Technical Cooperation Program. Indeed, the introductory section of the Draft Malaysia NPOA-IUU is almost identical to the Model Plan, although it is important to note that the latter was developed specifically for countries in the Pacific Islands.

Nevertheless, the content of the prescribed measures of the Model Plan has been modified in Draft Malaysia NPOA-IUU in accordance with local fisheries management conditions and structures.
Malaysia’s decision to formulate its own Plan of Action is perhaps rooted in the country’s desire and commitment to implement legally binding and non-binding international obligations for responsible fishing practices at the national level. This sentiment is expressed in the text of the draft document which declares that the country “is in compliance with relevant norms of international laws on the fisheries,” including the provisions of global fisheries agreements to which the country has not yet become a party. Examples of such agreements include the U.N. Fish Stock Agreement and the FAO Compliance Agreement. In this regard, the text of Draft Malaysia NPOA-IUU recognises that the provisions contained in these agreements reflect rules of customary international law, including those rules relating to prescribed measures for vessels engaged in high seas fisheries.

In terms of Malaysia giving effect to international legal and policy requirements for combating IUU fishing, most of the principles and measures contained in the Draft Malaysia NPOA-IUU are consistent with the IPOA-IUU and other international fisheries instruments. The wording of the Plan explicitly acknowledges that a fisheries management regime in Malaysian fisheries waters is “well-established and effective”. In spite of this admission, frequent incidents of IUU fishing in the country’s fisheries waters have become an increasing source of concern for fishery managers. This concern is largely founded on the fact that these activities continue to undermine national efforts to secure the effective management of the marine capture fisheries industry and its potential benefits.

It is the responsibility of Malaysia to ensure that necessary steps are taken to minimise or reverse this trend within its waters. One such measure is for the Draft

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920 Draft Malaysia NPOA-IUU, p. 13.
922 Draft Malaysia NPOA-IUU, p. 12.
Malaysia NPOA-IUU to be periodically reviewed and its measures revised in accordance with changing circumstances. This suggested action constitutes part of the on-going process towards improving the country’s overall fisheries management regime. By reviewing the Plan, any gaps in the fisheries management framework can be identified, and appropriate action taken to fill in such gaps, thereby ensuring the effectiveness of country’s efforts to deal with IUU fishing. For this reason, the Draft Malaysia NPOA-IUU is regarded as “living document,” subject to review and revision at least every four years.

As will be discussed in the following sections and chapters, the measures and initiatives elaborated in the Draft Malaysia NPOA-IUU, as well as those embodied in other domestic legislation and polices are still perceived to be inadequate to ensure the responsible management of offshore fisheries in the Malaysian EEZ.

### 6.2.7. Other Relevant National Policies

In addition to the policies discussed above, there are other sectoral-based national policies affecting different aspects of the management and development of offshore fisheries in Malaysia’s EEZ. The two most important policy documents comprise Malaysia’s National Policy on Biological Biodiversity (NPBD) and the Ninth Malaysia National Plan 2006-2010 (9MP).

#### 6.2.7.1. National Policy on Biological Biodiversity

The National Policy on Biological Diversity (NPBD), which was declared officially on 16 April 1998, provides policy direction for the effective conservation and management
of Malaysia’s biological diversity.\footnote{Malaysia’s National Policy on Biological Diversity was endorsed by the Malaysian government on 22 October 1997. See Ministry of Science, Technology and Environment (MOSTE), Malaysia, National Policy on Biological Diversity, hereinafter referred to as NPBD, (Kuala Lumpur: MOSTE, 1998). The complete text of this policy document is available online at http://www.arbec.com.my/NBP.pdf (accessed on 13 May 2010).} Some of the fundamental principles embodied in this document derive from the Convention on Biological Diversity (CBD), a legally binding agreement adopted at the Earth Summit, Rio de Janeiro in 1992, and to which Malaysia has been a party since 1994.\footnote{Malaysia ratified the CBD on June 26, 1994.}

The NPBD contains multiple objectives, with the focus of promoting effective conservation and sustainable utilisation of the nation’s biological diversity, securing long-term food security for the nation, and preserving Malaysia’s unique biological heritage for the benefit of present and future generations.\footnote{NPBD, p. 3.} Indeed, the generic nature of these objectives has made them applicable to both terrestrial and marine biodiversity resources in the country.\footnote{However, the generic nature of the action plans and implementing strategies outlined in the NPBD has been criticised by Basiron to which he argued that the policy document “has no clear-cut programme which is proposed to address threats to marine biodiversity and enhance its conservation.” Mohd Nizam Basiron, “Issues in Policy and Law on the Conservation of Marine Biodiversity: A Malaysian Case Study,” in Dennis Rumley, Sanjay Chaturvedi, and Vijay Sakhuja (eds.), Fisheries Exploitation in the Indian Ocean: Threats and Opportunities, (Singapore: ISEAS, 2009), p. 272.}

A set of implementing strategies, action plans and programmes to achieve the defined policy goals are prescribed in the NPBD. The document places special emphasis on a 15-point implementing strategy that includes, among others:

- improving scientific knowledge;
- strengthening conservation programmes;
- enhancing skills, capabilities and competence to the relevant stakeholders (e.g. fisheries managers, and policy makers);
- enhancing institutional frameworks for the management of biological diversity;
- reviewing and updating legislative frameworks for effective biological diversity management; and
developing a centre of excellence in industrial research in tropical biological diversity.\textsuperscript{927}

Accompanying each of the strategies above is a specific action programme to be implemented pursuant to the defined policy goals. Within the NPBD framework, the most critical element for translating the outlined strategies into practical actions is the setting up of an appropriate institutional arrangement. This involves identifying the relevant government agencies or units responsible for implementing the recommended action plans and programs (as stated in the document).\textsuperscript{928} The NPBD also recognises the central role of non-governmental organisations, the private sector and the public in carrying out the various action plans, thus ensuring the sustainable utilisation and conservation of Malaysia’s biological diversity.\textsuperscript{929} In summary, the introduction of the NPBD is testimony to Malaysia’s fervent wish to transform the country into a centre of excellence in the study, conservation and utilisation of tropical biological diversity by 2020.

\textbf{6.2.7.2. Ninth Malaysia National Plan 2006-2010}

The Ninth Malaysia Plan 2006-2010 (9MP) is an important national planning document for charting the direction of socio-economic development of Malaysia until 2010.\textsuperscript{930}
The principal thrust of the current 9MP is to revitalise the agriculture and agro-industry sector, which is deemed as the country’s main engine for socio-economic growth.931

According to the 9MP, the development priority for fisheries sector is inclined towards enhancing the productivity of the sector, with both the aquaculture and the offshore fishing industry have been chosen as priority sectors for growth. Indeed, the document is intended to serve as a reference point, providing the basic blueprint for modernising and expanding the offshore fishing industry and its value-added downstream activities. To achieve this objective, a series of policy actions are outlined in the document. A fundamental component of these policy actions is the commercialisation of national fisheries sector.932 In realising this objective, 9MP proposes the allocation of substantial funding for critical infrastructure and human resource development and training programs.933

The formation of a privately run national fisheries consortium, locally called the Konsortium Perikanan Nasional Berhad (KPNB), has also been proposed under the Plan. The principal reason behind the creation of this consortium is to enhance the production of offshore fisheries while supporting the growth of upstream and downstream fisheries-related activities.934

931 9MP, paragraph 3.02, at p. 81; Other objectives of the 9MP include enhancing the productivity of the agriculture sector, improving the competitiveness and resilience of the national economy, encouraging greater participation from the private sector in the agricultural sector, including fisheries, and strengthening the institutional capacity of enhancing agricultural production.


6.3. Malaysia’s Position vis-à-vis International and Regional Fisheries Instruments

Throughout the long course of its fisheries management and conservation efforts, the Malaysian government has generally supported the implementation of some of the world’s most influential agreements, declarations and resolutions to promote and facilitate responsible practices in fisheries. This trend is evident in the country’s ratification of, and accession to, regional and international fisheries-related instruments.

One particular example of a legally binding instrument with global implications for fisheries governance (and to which Malaysia is a party) is the LOSC. In giving effect to this Convention, the obligations, principles and standards entrenched in the instrument have been largely incorporated into Malaysia’s national laws and regulations. Insofar as fisheries management is concerned, the EEZ Act 1984 and the Fisheries Act 1985 exemplify two important pieces of legislation that regulate the management and activities of offshore fisheries in the country’s EEZ.\textsuperscript{935} In spite of the promulgation of these statutes, Malaysia has not yet enacted specific legislation giving effect to all its obligations and rights under the LOSC.\textsuperscript{936}

To date, Malaysia has neither acceded to the UN Fish Stock Agreement nor become a signatory party to the FAO Compliance Agreement. These particular instruments are notable examples of post-LOSC legally binding treaties designed to ensure the responsible use of fisheries resources worldwide. Indeed, their legal frameworks contain prescriptive requirements and science-based measures which are central to the notion of responsible fisheries. The UN Fish Stocks Agreement has been particularly influential in shaping the direction of international law regarding the conservation and management of straddling and highly migratory fish stocks. Even

\textsuperscript{935} A more detailed examination of these pieces of legislation is provided in ensuing Section 6.4.

though Malaysia is not a State party to this instrument, there is no denying that the instrument’s provisions are a vital source of reference in guiding the country when managing these particular stocks inside its EEZ. Hence, the text of Malaysia’s Draft IPOA-IUU expressly recognises that the requirements prescribed in the instruments form part of customary international law rules, which affect the activities of vessels, engaged in high seas fishing.937

Ironically, Malaysia is yet to enact national legislation or regulations incorporating the general principles and management measures contained in the UN Fish Stocks Agreement and the FAO Compliance Agreement. If Malaysia is committed to improving the effectiveness of its domestic policy and legal framework for marine fisheries governance in the offshore waters of its EEZ, it is essential for the country to give priority to the legal requirements and principles of the above instruments at the national level by incorporating them into its own legislation, national policies and plans.938

With regard to Malaysia’s position vis-à-vis non-binding fisheries instruments, the country has, as indicated earlier, expressed its commitment to adopt internationally accepted, non-binding principles and standards of behaviour for responsible fisheries endorsed in the Declaration of Cancun, Chapter 17 of Agenda 21, the FAO Code of Conduct and its associated instruments, as well as the four IPOAs mentioned earlier.939

In view of the transboundary nature of marine fishery stocks and the growing importance of offshore fishing activities beyond the country’s national jurisdiction (particularly those involving lucrative tuna fisheries), Malaysia is a contracting party to


938 Such action would also be consistent with the call made by the FAO Code of Conduct and the IPOA-IUU for all States to become party to and/or implement relevant international and regional fisheries instruments, binding and non-binding. See FAO Code of Conduct, Annex 2, paragraph 24; and IPOA-IUU, paragraph 12.

several RFMOs. Foremost among these bodies is the Indian Ocean Tuna Commission (IOTC) which Malaysia joined in 1996. Malaysia became a State party to this FAO regional body to enable its fishing fleets to access oceanic tuna resources in the Indian Ocean. Malaysia is also a State member of other regional fisheries organisations, such as the Asia Pacific Fisheries Commission (APFIC) and the Southeast Asian Fisheries Development Centre (SEAFDEC), which have more of an advisory role in fisheries.

6.4. National Legal Frameworks for Malaysia’s Marine Capture Fisheries in the EEZ

A myriad of fisheries-related laws, subsidiary regulations, orders and ordinances constitute Malaysia’s legal system. Nevertheless, before examining this legal system relating to the management and conservation of EEZ fisheries, a familiarity with the separation of powers doctrine, as enshrined in the constitution of the country, is required.

6.4.1. Constitutional Division of Powers within Malaysia’s Federal System

Malaysia is a Commonwealth country which inherited its legal and administrative system from its former colonial master, the Great Britain. For this reason, the country’s system of government is predominantly modelled after the Westminster system. Nonetheless, it is the only ASEAN country with a federal system but governed by a constitutional monarchy (raja berperlembagaan in Malay language). Occupying the highest level of legislative authority in the country is the Federal Constitution (hereafter

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940. Malaysia comprises thirteen states and three federal territories, and is governed by a parliamentary democracy.

941. English common law is not the only source of law that forms the basic framework of Malaysia’s legal system. Secondary legal systems, such as Islamic law and local customary law, have also influenced certain areas of law in the country. See Shaikh Mohamed Noordin and Lim Pui Ken, *An Overview of Malaysian Legal System and Research*, available online at http://www.nyulawglobal.org/globalex/malaysia.htm (accessed on 1 June 2010).
Malaysia’s Constitution). As the supreme law of the country, it sets the foundation for the division of legislative authority between the federal and state governments regarding the conservation and management of natural resources, including fisheries.

The division of law-making authority between federal and state governments is enumerated in the Ninth Schedule of Malaysia’s Constitution. This Schedule contains three major lists: (i) the Federal List; (ii) the State List; and (iii) the Concurrent List. Each List assigns specific legislative power on a range of matters to different levels of governments. Under the State List, for example, the state government has full jurisdictional control over matters and activities regarding state land management including coastal areas (from a low water line landward). In contrast, the federal government has authority over matters pertaining to the sea and marine resources, including fisheries in coastal areas. An exception to this is turtle management and conservation, which remains under the purview of the state government.

The east Malaysian states of Sabah and Sarawak have been accorded special rights and greater power over legislative and executive matters under the Concurrent List. This privilege was expressly entrenched in two separate agreements as a condition of the two states joining the Malaysian Federation on 16 September 1963. Under the Concurrent List, the scope of Sabah and Sarawak’s legislative power extends to matters

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944 The Federal List, which is represented as the First List of the Ninth Schedule, covers 27 matters pertaining to external affairs, national defence, internal security, communication and transport, civil and criminal law, citizenship, finance, health, trade and commerce, labour, shipping, navigation and fisheries.
945 The State List comprises of 27 headings on matters relating to real property, agriculture, forestry, local government, Islamic law, and riverine fishing.
946 The subject areas of the Concurrent List, which are allocated to both the Federal and State Government, encompass social welfare, scholarships, protection of wildlife and town and country planning.
947 The full terms and conditions are embedded in a 20-point agreement for Sabah and an 18-point agreement for Sarawak. Both agreements were concluded separately with the Federal Government in Peninsular Malaysia.
pertinent to marine, inland and estuarine fisheries. Consequently, the Legislative Assembly of these two states has the power to enact fisheries laws and regulations. Sarawak, for instance, has enacted the *Fisheries (Maritime) (Sarawak) Regulations 1976* on 26 November 1976.\(^{948}\) This instrument remains one of the most important pieces of delegated legislation ever enacted for regulating fishing and fisheries in Sarawak’s estuarine and maritime waters adjacent to its coast.\(^{949}\) Hence, it can be observed that the power to promulgate and implement fisheries laws and regulations is less restrictive than those allocated to each of the 11 existing states in Peninsular Malaysia.\(^{950}\) One can even conclude that the fisheries legal system in Malaysia is characterised by a very complex system of fisheries laws and regulations enacted at both the federal and state level.

While the legislative power over land and maritime-related matters prescribed in the Concurrent List is evenly distributed between federal and state governments of Sarawak and Sabah, the Federal Parliament, under Article 74 of Malaysia’s Constitution, has legislative supremacy over matters enumerated in the Federal and State Lists.\(^{951}\) The Parliament may enact any federal laws on matters prescribed in the State List relating to navigation, shipping, and fisheries. This arrangement ensures that the country’s domestic laws are consistent with the rights, duties and obligations established under international conventions to which Malaysia is a party, or if requested by the legislative assembly of the concerned state.\(^{952}\) If there is an inconsistency between a federal and state law, Article 75 of the Constitution stipulates that the former will take precedence over the latter. By way of illustration, the divisional arrangement

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\(^{948}\) These Regulations contains 15 articles and six schedules.

\(^{949}\) Subsection 1(1), *Fisheries (Maritime) (Sarawak) Regulations 1976*.


\(^{952}\) *Federal Constitution*, Article 76(1).
of legislative power is more obvious in areas within the boundaries of 12 nautical miles of the Malaysia’s territorial sea. This is especially the case with matters concerning the application of state and federal laws on natural resource management, land use, and forestry. For example, the Emergency (Essential Powers) Ordinance No. 7 (Amended 1969) divides the legislative jurisdiction of the country’s territorial sea between the state and federal government. Under Section 4(2) of the Ordinance, the legislative authority of the state government is restricted to maritime areas within three nautical miles from low-water mark, while the federal government has a similar scope of authority, but in areas seaward three nautical miles from low water marks.953

The constitutional division of powers in Malaysia has often been cited as the main impediment towards achieving a comprehensive, integrated and efficient management regime for terrestrial, coastal and marine living resources in Malaysia.954 A striking example of this is the management and protection of ecosystems in the coastal areas in which, as discussed earlier, are critical breeding and spawning grounds for offshore fish species. In this area, an integrated ecosystem management and conservation regime is difficult to achieve due to the overlapping functions and competing jurisdiction of federal and state government.955

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953 Section 49(1) of the Emergency (Essential Powers) Ordinance, No. 7 (Amended 1969).
At present, Malaysia’s Constitution does not contain specific reference on which institution, be it from federal or state, is responsible for the management of coastal ecosystems and their habitats. This dilemma has arguably resulted the absence of a centralised agency or ministry with exclusive jurisdiction to manage and regulate coastal zones effectively. Such a deficiency could hamper efforts to implement policy and regulatory measures for the protection of coastal ecosystems in a concerted and decisive manner. The lack of transparency in policy formulation and implementation (which is common among the plethora of agencies involved in fisheries regulation of the country), combined with their competing jurisdictions and overlapping functions, only leads to inter-agency conflict and policy discrepancies on matters such as fisheries resource conservation and marine environmental protection.

Nevertheless, the above complications may be less of an issue for fisheries managers and policy makers when managing and regulating marine capture fisheries inside the boundaries of the country’s EEZ and continental shelf. This is because the *Emergency (Essential Powers) Ordinance, No. 7 (Amended 1969)* stipulates that the development and management activities of fisheries in those two zones are subject to federal laws and regulations. Hence, federal legislation governs the current national legal framework for regulating all aspects of offshore fisheries in the country’s EEZ waters (i.e. beyond 30 nautical miles from the shoreline).

Of the 688 or so pieces of federal legislation operating in the country, the *EEZ Act 1984* and the *Fisheries Act 1985 (Amended 1993)* represent the most important national laws governing fisheries-related matters in the country, including those relating to offshore fisheries in Malaysia's EEZ. Strengthening the domestic legal framework for fisheries management, conservation and enforcement. See Flewwelling and Hosch, "Country Review: Malaysia," p. 146.

management in the country is a series of subsidiary regulations, with most of which have been enacted under the *Fisheries Act 1985 (Amended 1993)*. In addition, a wide range of non-fisheries related federal laws offer additional support for the effective management of fisheries in the country. These pieces of sectoral-based legislation, though not directly addressing marine capture fisheries *per se*, have incorporated provisions which are relevant to certain aspects of offshore fisheries management.\(^{961}\)

### 6.4.2. Fisheries Act 1985 (Amended 1993)

The *Fisheries Act 1985 (Amended 1993)* is currently the most important piece of enabling legislation on Malaysian fisheries waters, governing the management, conservation, utilisation, and development of marine and estuarine fisheries.\(^{962}\) Initially known as the *Fisheries Act 1985* until its amendment in 1993,\(^ {963}\) the Act is an improved and expanded version of the repealed *Fisheries Act 1963*.\(^ {964}\)

From a cursory examination of the old and amended version of the *Fisheries Act 1985*, including its subsidiary regulations, it is clear that Malaysia has shown a high level of commitment to improve the compatibility of its domestic fisheries laws with international legal requirements and management practices. This commitment has been translated into practice with the incorporation of the LOSC principles, rights, obligations, and management measures of EEZ fisheries into the Act.\(^ {965}\)

The legal scope and application of the *Fisheries Act 1985 (Amended 1993)* are not narrowly confined to regulating fishing activities of local operators. As highlighted

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\(^{961}\) It is worth noting that to date, there is not a single comprehensive federal statute specifically dealing with high sea fisheries, although there was an expectation that one would be tabled in Parliament by 2010.

\(^{962}\) The original text was enacted on 22 May 1985. An overview of the subsidiary regulations enacted under the *Fisheries Act 1985 (Amended 1993)* is provided below in Section 6.4.5.

\(^{963}\) The amended version of the Act came into effect on 1 September 1993.

\(^{964}\) See *Fisheries Act 1985 (Amended 1993)*, section 62.

in a number of literatures, even the older version of the Act already provides regulatory and enforcement measures, as well as remedial solutions, to overcome the persistent cases of illegal encroachment of foreign fishing vessels in the country’s maritime jurisdictional waters, including the EEZ.\footnote{966}

Whatever circumstances led to the enactment of the \textit{Fisheries Act 1985 (Amended 1993)}, the main reason behind its enactment was a series of a momentous international events and national issues in the 1980s that significantly instigated the country’s interest in maritime and fisheries matters. To begin with, the earlier version of the 1985 Act, which only came into force on January 1, 1986, resulted from Malaysia’s decision to give effect to its duties, rights, and obligations under the LOSC shortly after the country had become a party to the Convention.\footnote{967} Another reason for the enactment of the Act was the government’s desire to establish a sufficient legal framework to regulate fisheries and fishing activities in its newly acquired and geographically vast offshore fishing grounds following the 1980 EEZ declaration.\footnote{968}

The \textit{Fisheries Act 1985 (Amended 1993)} contains provisions on a variety of fisheries-related matters including fisheries management plans, administration duties and responsibilities of enforcement officers, terms and conditions for vessel and gear licensing, prohibition of unsustainable fishing techniques and gear, offences and judicial procedures as well as penalties for fisheries offences. To ensure consistency with the country’s Federal Constitution, the Act also contains provisions relating to the division

\footnote{966}{One of the deterrent mechanisms incorporated into the Act to address illegal foreign fishing is the imposition of harsher penalty for fisheries law violation. See McDorman and Tasneeyanond, “Increasing Problems for Thailand’s Fisheries,” p. 208; See Yahaya, “Fishery Management and Regulation in Peninsular Malaysia,” p. 91.}

\footnote{967}{The Act not only ensures that the provisions of the country’s principal fisheries legislation is consistent with the rules and requirements embodied in the LOSC, it also demonstrates the country’s commitment to manage and develop its domestic fisheries industry without compromising international rules and recommendations.}

\footnote{968}{Saharuddin, “Development and Management of Malaysian Marine Fisheries,” pp. 118-119.}
of authority between federal and state governments with respect to the protection and conservation of turtle and inland fisheries.  

The rights and duties of foreign fishing vessels, along with their right to access fishery resources in Malaysian fisheries waters, are covered in Part V of the Act. The same part of the Act also prescribes the rights and rules of passage for foreign fishing vessels when travelling through Malaysian waters on their way to other fishing grounds. Section 16 of the Act sets out extensive requirements that must be fulfilled by foreign vessels when passing through the country’s fisheries waters, but stops short of specifying which of the passage regime defined under the LOSC (i.e. the innocent passage or transit passage regime) that the vessels are entitled.

To ensure compliance with the rules and regulations under the Fisheries Act 1985 (Amended 1993), Part X of the Act stipulates a range of enforcement measures and procedures. Foremost among these measures is the imposition of penalties for fisheries offences involving local and foreign fishermen. The prescribed penalties for illegal foreign fishing activities under the Act have been acknowledged by many commentators to be much harsher than those under the Fisheries Act 1963. Foreign nationals, whether vessel owners, masters or crewmembers, who violated fisheries laws and regulations under the Act, are liable to a substantial monetary fine, and may be

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969 See, for example, subsection 3(1) of the Act.
970 Based on the 1985 version of the Act, this particular provision is of great relevance to Thai distant-water fishing fleets which have to travel through Malaysian EEZ waters on their way to other fishing grounds and to access the high seas. McDorman and Tasneeyanond, “Increasing Problems for Thailand’s Fisheries,” p. 208.
971 Some of these enforcement measures and procedures relate to the power of authorised officers to stop, board, search and inspect any vessel within Malaysian fisheries water. The Act also assigns to fisheries officers powers of arrest and investigation if they reasonably suspect an offence has been committed under the Act. See sections 46, 47 and 47A of the Fisheries Act 1985 (Amended 1993).
972 See section 31 of the Act.
973 Severe penalties are imposed on foreign fishing vessels, owners, masters and crew members found guilty of an offence. For owners and masters, section 25(a) provides that the fine must not exceed RM 1 million and RM 100,000 for every crew member. In addition to a financial penalty,
subject to a prison term not exceeding two years for failure to pay any fine. Flewwelling and Hosch (2006) have suggested that these penalties are sufficiently severe and may deter future violations of the Act as well as punish fisheries offenders who breach the relevant laws and regulations.

With the exception of turtles and inland fisheries management, the *Fisheries Act 1985 (Amended 1993)* gives authority to the Director-General of Fisheries on matters relating to federal fisheries. This includes the power to review fisheries plans based on the best available scientific information and to set the terms and conditions for issuing fishing permits. Under section 61 of the Act, the Minister of Agriculture (presently known as Minister of Agriculture and Agro-Based Industry) has extensive authority to make the necessary regulations for the proper conservation, management and development of various fisheries-related activities, from fishery harvesting to the landing of catches at port.

### 6.4.3. EEZ Act 1984

The *EEZ Act 1984* is, to date, the only piece of national legislation specifically enacted for governing maritime-related activities and resources in Malaysia’s EEZ and certain aspects of the country’s continental shelf. The Act received its royal decree on 24 December 1984 and was gazetted on 31 December 1984. The *EEZ Act 1984* consists of 10 parts and 42 sections, with most of its provisions being consistent with the EEZ regime sanctioned by the LOSC. Indeed, some of the Act’s provisions are identical to

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974 See section 25(b).
976 *Fisheries Act 1985 (Amended 1993)*, subsection 6(1).
977 Subsection 10(1).
978 It is important to point out that this process took place nearly two years after the EEZ regime was formally codified under the LOSC. Prior to the finalisation of the Convention in 1982, Malaysia had already declared its EEZ in 1980.
the articles of the EEZ regime, as provided for by the Convention. 979 Unlike the 
*Fisheries Act 1985 (Amended 1993)*, the EEZ Act 1984 has yet to be amended or 
supplemented by any other statute or subsidiary regulation.

It is important to note that the *EEZ Act 1984* and the current *Fisheries Act 1985 
(Amended 1993)* must be read together, as each statute references the other. 980 This 
cross-referencing arrangement is explicitly stated in Section 2 and Section 16 of the 
*EEZ Act 1984* and the *Fisheries Act 1985 (Amended 1993)* respectively, and this has 
proven beneficial in strengthening and complementing each of the statutes’ regulatory 
practices and frameworks for fisheries management. Indeed, any gaps that exist in the 
legal frameworks of these federal statutes can be filled by the other acts thus ensuring 
that fisheries resources in EEZ areas are better managed and effectively regulated.

The *EEZ Act 1984* not only recognises Malaysia’s sovereign rights and duties in 
the EEZ under the corresponding regime of the LOSC. It also prescribes rules and 
regulations mirrored on Part V of the Convention which govern almost every aspect of 
the use of the sea and resources in that zone, ranging from the exploration and 
exploitation of marine resources (including offshore oil drilling and fishing) to activities 
related to marine scientific research and navigation. In addition, the Act contains 
provisions pertaining to the protection and conservation of marine environment in the 
EEZ. These provisions complement environmental-related legislations and regulations 
enacted in the country such as the *Environmental Quality Act 1974*. 981

979  *LOSC*, Article 56(1).

980  Anon., “Public Prosecutor can Empower a Fisheries Officer to Prosecute Case,” *New Straits Times*, 26 October 2002.

981  See sections 9 to 15 of the *EEZ Act 1984*.  

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6.4.4. Lembaga Kemajuan Ikan Malaysia Act 1971

Enacted in 1971, the *Lembaga Kemajuan Ikan Malaysia Act 1971* (LKIM Act 1971) is a federal statute establishing the Fisheries Development Authority of Malaysia or the *Lembaga Kemajuan Ikan Malaysia* (hereinafter LKIM), a quasi-government agency responsible for the commercial development of the domestic fisheries industry and the enhancement of the socio-economic status of the local fishing community.

The Act is divided into five major parts and consists of 26 sections and two schedules. The key provision of the Act is found in Section 4 that gives treatment to the administrative and enforcement functions assigned to LKIM. The LKIM’s scope of duty covers the country’s entire fishery distribution chain, from the unloading of catches at various ports and landing complexes, to the marketing and processing of fishery products for the local and export market. The LKIM is also empowered to supervise and regulate the country’s fisheries marketing system, as well as control and assist the Fishermen's Association and its activities. The Agency’s regulatory powers over the country’s fishery distribution system were enhanced with the amendment of the *Fish Marketing Regulation Scheme 1973* in January 1986. The functions and responsibilities of the LKIM will be further discussed in Section 7.2.3.

The other provisions of the *LKIM Act 1971* cover specific matters pertaining to the Act’s enforcement and penalty scheme. Apparently, the authority to enforce the provisions of the Act has been assigned to the relevant public and LKIM officers.

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982 The *LKIM Act 1971 (Act No. 49)*, received its royal assent on 27 September 1971 and was gazetted on 30 September 1971. The Act came into effect in different states of the country on different dates. In the states of Peninsular Malaysia, the Act came into effect on 1 November 1971; whereas the relevant dates for Sarawak and Sabah were 1 July 1973 and 1 August 1995 respectively.

983 Fisheries Development Authority of Malaysia is known in the Malay term as *Lembaga Kemajuan Ikan Malaysia*.


985 Part III of *LKIM Act 1971*.

986 Part IV of *LKIM Act 1971*.

987 *LKIM Act 1971*, section 11.
Their authority encompasses a wide range of enforcement activities, including entering premises and conducting inspections, as well as powers of arrest, seizure, investigation and prosecution.\textsuperscript{988} To ensure compliance with the provisions of the Act and to discourage repeat offenders, any person or corporate entity found guilty of an offence under the Act is liable to both criminal and administrative sanctions. These sanctions include the imposition of a fine, a prison term (not to exceed two years)\textsuperscript{989} and the possibility of having their goods, assets or proceeds of sale confiscated by the court.\textsuperscript{990} In summary, the \textit{LKIM Act 1971} has established a legal platform for the LKIM to improve effectively the socio-economic conditions of fishing communities and to promote the commercial expansion of Malaysia’s fisheries industry.

\textbf{6.4.5. Subsidiary Regulations}

Subsidiary regulations enacted under certain federal statutes are another important source of fisheries laws in Malaysia. There has been over the past 25 years a proliferation of subsidiary regulations governing different aspects of the management and conservation of the country’s marine fisheries, including offshore fisheries. Of the various Acts governing this area, the \textit{Fisheries Act 1985 (Amended 1993)} has the most number of subsidiary regulations enacted under it. Of the eleven subsidiary regulations issued under the Act, eight of them are particularly relevant in promoting responsible practices in offshore EEZ fisheries.\textsuperscript{991}

\begin{footnotes}
\footnote{988}{A complete list of enforcement powers prescribed under the \textit{LKIM Act 1971} can be found in Sections 12-15 of the Act.}
\footnote{989}{\textit{LKIM Act 1971}, section 17(1).}
\footnote{990}{\textit{LKIM Act 1971}, section 19.}
\footnote{991}{The very existence of these subsidiary regulations, together with their enabling Acts, provides a comprehensive legal environment for further enhancing the effectiveness of marine capture fisheries management and conservation. Yahaya \textit{et al.}, “Marine Fisheries,” p. 184.}
\end{footnotes}
It is perhaps fair to say that these subsidiary regulations differ in their objectives and target areas. Nonetheless, one particular facet, which all these regulations have in common, is their ultimate function: to support the implementation of their enabling legislation, which is the *Fisheries Act 1985 (Amended 1993)*. Technical operating procedures and detailed measures to facilitate sustainable and responsible fisheries have been incorporated into the framework of these subsidiary regulations. These standards and measures are directed to a variety of matters pertaining to, among others, fishery licensing conditions and procedures, the protection of endangered species of marine fish and mammals, the establishment of protected marine and fisheries areas and the prohibition on the use or possession of destructive fishing gear and methods.

It can be concluded that Malaysia’s subsidiary regulations are rather essential for supporting the technical application of their respective enabling pieces of legislation, many of which contain basic frameworks for fisheries laws. In particular, the *Fisheries Act 1985 (Amended 1993)* provides a set of basic administrative and legal provisions for the management and protection of fisheries without specifying detailed technical measures or strategies to achieve its objectives. A discussion of the subsidiary regulations enacted under the *Fisheries Act 1985 (Amended 1993)* and their relationship to offshore fisheries management in the national EEZ is provided in the succeeding sections.

6.4.5.1. **Fisheries (Prohibition Method of Fishing) Regulations 1980**

Malaysia has developed a regulation to ensure responsible fishing behaviour and the protection of fragile fisheries ecosystems against the damaging impact of illegal and destructive fishing activities, in the form of the *Fisheries (Prohibition Method of Fishing) Regulations 1980*. This Regulation strictly prohibits the use or possession of
certain types of fishing gear and techniques known to cause extensive destruction to fisheries resources and the marine environment.\footnote{992} In particular, the prohibited fishing gear and techniques include dynamite and cyanide fishing, electric fishing, the use of push nets, pair trawling and beam trawling.\footnote{993} The amended version of this Regulation, which came into effect in 1990, has inserted additional fishing gears on the prohibited list, including drift nets, as well as gill nets (known locally as \textit{pukat pari}) with a mesh size of more than 25.4 centimetres (10 inches) used to target ray species.\footnote{994} The inclusion of a wide range of offences in this Regulation not only aims to eliminate illegal and destructive fishing practices, but most importantly to prevent such practices from causing severe damage to the marine ecosystem and its habitats critical for spawning and breeding of fish.

6.4.5.2. Fisheries (Maritime) (Licensing of Local Fishing Vessel) Regulations 1985

The \textit{Fisheries (Maritime) (Licensing of Local Fishing Vessel) Regulations 1985}, enacted under the old \textit{Fisheries Act 1985}, remains an important subsidiary regulation that provides detailed regulatory specifications for the licensing of vessels engaged in fishing activities in Malaysian fisheries waters, including in the EEZ.\footnote{995} However, as stipulated in subsection 1(2), the Regulation only applies to local registered fishing vessels operating inside Malaysia’s waters. Underpinning the Regulation is a set of procedures, terms and conditions regarding vessel licensing, covering the aspects of the seaworthiness of vessels and safety requirements attached to licence applications,
licensing fees and deposits payable, conditions for licence identification and vessel marking. Compounded penalty for violating the provisions of the Regulation is also included. The functional scope and responsibilities of the Director-General of Fisheries pertaining to processing the licensing application of a vessel are also specified in the Regulation.

6.4.5.3. Fisheries (Control of Endangered Species of Fish) Regulations 1999

The Fisheries (Control of Endangered Species of Fish) Regulations 1999 was made under Section 61 of the Fisheries Act 1985 (Amended 1993) with the primary objective of protecting a list of endangered species of fish and marine mammals. The Regulation stems from a growing realisation that legal measure is required to prevent these species from potential collapse due to uncontrolled harvesting and trading activities. Under the Schedule to the Regulation, 25 species of fish and marine mammals are subject to federal protection. They are divided into five species, namely dolphin, shark, whale, clam, and dugong. In 2008, the total number of the protected species on the list increased to 30 with the addition of five species of sawfish as stipulated under the Fisheries (Control of Endangered Species of Fish) (Amendment) Regulations 2008.

To encourage compliance with the Regulation, it is a punishable offence for anyone without a valid permit to fish for, harass, catch, kill, possess, sell, buy, export or

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997 Coincidently, all of these species make up the list of endangered species under the Convention on International Trade of Endangered Species (CITES).

998 The text of this amended Regulation was enacted on 18 February 2008.
transport any of the listed endangered species.\textsuperscript{999} If any of the endangered species are accidentally caught, they must be released immediately if still alive, or reported to the Fisheries Officer and the carcass disposed of as instructed.\textsuperscript{1000} In essence, the enactment of this Regulation reflects Malaysia’s commitment to protect and preserve the threatened marine biodiversity and its components in line with the call made by the CITES Convention to which the country has been a State party since 1977.

6.4.6. Other Laws and Regulations Relevant to Offshore Fisheries Management

In addition to the above legislative and regulatory instruments, a series of special laws, subsidiary regulations and ordinances form part of Malaysia’s legal regime for regulating offshore fisheries in its EEZ. The Merchant Shipping Ordinance 1952 (Amended 1991) and the Malaysian Maritime Enforcement Agency Act 2004 (MMEA Act 2004) are cases in point.

The Merchant Shipping Ordinance 1952 (Amended 1991) exemplifies one of the remaining pre-independence laws introduced during the British colonial administration, which continues to govern various aspects of merchant shipping operations involving Malaysian-registered vessels.\textsuperscript{1001} The Ordinance prescribes terms and conditions with respect to vessel registration, the transfer of vessel ownership, vessel construction applications, certification requirements, as well as standards for navigational and communication equipment. While the legal content of the Ordinance applies principally to Malaysian-registered merchant vessels and shipping-related matters, there is one particular provision under the Ordinance that directly affects the registration process of...

\textsuperscript{999} Subregulation 2(1).
\textsuperscript{1000} Subregulation 2(3).
\textsuperscript{1001} The Ordinance came into force on 1 March 1953 with the exception of the provisions under Part XIII.
offshore fishing vessels. Under Section 13(c) of the Ordinance, any local fishing vessel exceeding 500 GRT is required to be registered with the Marine Department. Failure to do so deprives the vessel of the right to use the Malaysian flag and from enjoying the privileges, benefits and protection which is normally accorded to Malaysian ships.

With the passage of the MMEA Act 2004, the Malaysian Maritime Enforcement Agency (MMEA) was created. Section 6(1)(a) of the Act provides that the MMEA is the principal federal agency charged with maintaining law and order within the boundaries of “Malaysian Maritime Zone”. It also has the responsibility of providing institutional platforms and support services to any associated national agency with enforcement-related functions. In this regard, the Agency can be tasked to perform similar fisheries enforcement functions as those entrusted to the DoFM in federal waters such as in the country’s EEZ. Insofar as the enforcement of fisheries laws in the vast and remote areas of the zone is concerned, the scope of the MMEA’s fisheries-related functions includes activities pertinent to monitoring, surveillance, detection, boarding, inspection, detaining and, if necessary, prosecuting fishing vessels suspected for infringing fisheries law. The MMEA will be further discussed in Chapter 7.

6.5. Conclusion

This chapter has shown that the cornerstone of Malaysia’s fisheries management agenda for the past 30 years has moved towards the sustainable development of the country’s marine fisheries resources and the protection of the marine ecosystem and its habitats.

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1002 Merchant Shipping Ordinance 1952 (Amended 1991), section 13(c).
1003 Based on the interpretation of Section 2 of the MMEA Act 2004, “Malaysian Maritime Zone” encompasses the country’s internal waters, territorial sea, continental shelf, exclusive economic zone, and Malaysian Fisheries Waters. This zone also includes the air space over this land and water.
1004 Section 6 (1)(f).
1005 For example, the function of the MMEA includes performing enforcement-related activities bestowed to the DoFM under section 47 of the Fisheries Act 1985 (Amended 1993).
This policy orientation is firmly rooted in numerous sectoral and fisheries-related policy documents and statements. To translate the content of these national policies into operation, Malaysia has adopted various action plans, programs and strategies.

It has been established in this chapter that Malaysia has made progress in recent years by making policy and legislative changes which conform to universally accepted principles and measures for responsible fisheries as envisaged by the FAO Code of Conduct and other instruments such as the IPOA-IUU, the IPOA-Capacity and the IPOA Sharks. Malaysia’s efforts in incorporating these principles and measures into its own national framework of fisheries laws and management plans (with the overarching objective of attaining sustainable fisheries and marine ecosystem protection) are commendable.

As the long-term conservation of fisheries resources and marine ecosystem protection have become more critical and yet increasingly difficult to execute in the vast area of the country’s EEZ, Malaysia has begun to realise the urgent need to improve the compatibility of its national fisheries laws and policies with global legal requirements and principles for responsible fisheries. The urgency for the country to improve its legislative and policy framework in accordance with the international requirements has been compounded by reports that fish stocks in certain portions of the country’s EEZ are severely depleted- a situation which warrants serious attention and appropriate management action. These issues will be discussed in Chapter 8.

While efforts have been made to devise an appropriate and comprehensive legislative and policy framework for the management and conservation of fisheries in the country’s EEZ, Malaysia has also taken steps to build its institutional capacity to ensure the practical implementation of its legal and policy framework on fisheries. The
succeeding chapter discusses Malaysia’s institutional framework in relation to fisheries management in the country’s EEZ.
Chapter 7
NATIONAL INSTITUTIONAL FRAMEWORK FOR FISHERIES MANAGEMENT IN MALAYSIA’S EEZ

7.1. Introduction
An effective institutional framework, combined with efficient operational system to support inter-agency cooperation and coordination, is fundamental for successful fisheries governance and ensuring responsible fishing practices.\textsuperscript{1006} In view of this argument, this chapter examines the institutional arrangement for fisheries management in Malaysia’s EEZ. It includes an examination of the functional scope, organisational structure and operational systems of the country’s government agencies with respect to implementing fisheries-related functions. Based on their designated functions, these agencies may be categorised into four main groups: administrative and policy-making agencies, management and policy-support agencies, enforcement agencies, and inter-agency cooperative and coordinating bodies.

7.2. Fisheries Administrative and Policy-Making Agencies
A number of government agencies in Malaysia can be classified as administrative and policy-making fisheries units. The Ministry of Agriculture and Agro-Based Industry (MOA) and the DoFM are two of the most important government agencies belonging in this category. The policy making power exerted by these two agencies has the potential to influence the conservation, management and development of offshore fisheries. Other

\textsuperscript{1006} This requirement underpins one of the central elements for responsible fisheries as provided in the IPOA-IUU and the FAO Code of Conduct: the need for States to establish effective institutional frameworks for fisheries management and enforcement. See Paragraph 9.1, \textit{IPOA-IUU}; and Article 10.9.2 of FAO Code of Conduct.
government agencies with similar policy-making functions relevant to offshore fisheries management and development include the LKIM, the Department of Environment (DOE) and the National Security Council (locally known as the Majlis Keselamatan Negara (MKN)).

7.2.1. Ministry of Agriculture and Agro-Based Industry

The Ministry of Agriculture and Agro-Based Industry (Kementerian Pertanian & Industri Asas Tani Malaysia, hereafter MOA) is the leading federal ministry in charge of the overall management and development of the country’s agricultural sector and its subsidiary industries. With the 9MP espousing that the agricultural sector holds the key to the country’s economic growth, the newly restructured MOA has been given the mandate to devise and implement a wide range of policies, strategies and programs designed to reach this objective.

Coinciding with the recent revitalization of agricultural sector under the NAP3 as the engine of economic growth, the mission of the MOA is to transform the nation’s agricultural sector into one that is modern, dynamic, competitive and guided by the NAP3. This sectoral policy document, as discussed earlier, contains a set of strategic policy objectives as well as implementing mechanisms to achieve the sustainable development of the agricultural sector. Indeed, the MOA has the task of applying the various general strategies elaborated in this document, as well as assisting with the drafting of the Fourth National Agricultural Policy (NAP4). Historically, the MOA

\[1007\] Examples of agricultural sectors targeted by the MOA for expansion include large-scale industrial crops such as oil palm and rubber, as well as livestock and fisheries.

\[1008\] A detailed description of the NAP3 was provided for in Section 6.2.2 of Chapter 6.
(previously known as the Ministry of Agriculture)\textsuperscript{1009} was responsible for the preparation and implementation of the early NAP documents, particularly NAP1 and NAP2.\textsuperscript{1010} However, unlike its predecessors, the NAP3 places special emphasis on the development of the country’s marine fisheries, with the priority being given to the expansion of the aquaculture industry and the modernisation of the offshore fishing industry.\textsuperscript{1011}

The functions of the MOA involve formulating, monitoring and evaluating the performance of policies and strategies contained in the 9MP and the NAP. This is evident at the operational level, with the Ministry assigned with the tasks of overseeing and coordinating the implementation of these policies and strategies through the mobilization and maximum utilisation of all available government resources, including the resources of agencies within and outside the MOA’s organisational structure.

Not only is the MOA the leading federal ministry with administrative power over agricultural-related matters, it is also responsible for imparting knowledge and awareness of the latest findings and innovations in agricultural technology and management techniques. This dissemination of knowledge and expertise is intended to strengthen the technical and management capabilities of local stakeholders and communities involved in agriculture. In achieving this objective, the MOA serves as a one-stop agency offering both the private and public sectors with technical and management advice on various agricultural-related matters. To this end, the MOA is also involved in the following activities: (i) collecting, analysing and sharing data and

\begin{itemize}
\item \textsuperscript{1009} The Ministry was later renamed the Ministry of Agriculture and Agro-Based Industries (MOA) on 27 March 2004.
\item \textsuperscript{1010} Both of these policy documents focused on the need to improve agricultural productivity through the use of technology and expanding new agricultural land. Md. Wahid Murad, Nik Hashim Nik Mustapha and Chamhuri Siwar, “Review of Malaysian Agricultural Policies with Regards to Sustainability,” \textit{American Journal of Environmental Sciences} 4(2008), p. 611.
\item \textsuperscript{1011} Before the introduction of the NAP in 1984, Malaysia did not have a national policy document guiding the country’s agricultural development in areas such as fisheries. Omar, Market Power, Vertical Linkages and Government Policy,” p. 13.
\end{itemize}
information; (ii) coordinating consultation and research programs involving relevant agencies and departments with relevant agricultural and technical expertise; and (iii) organising and publicising training programs and seminars to the public and private sector.

Several government departments and technical bodies are currently under the auspices of the MOA, each with a different function and jurisdiction. The DoFM and the LKIM are the two most important agencies under the Ministry for managing and developing marine capture fisheries in Malaysian fisheries waters, including in the offshore fisheries sector. The succeeding sections will discuss these organisations.

7.2.2. Department of Fisheries Malaysia

As an administrative body under the MOA, the Department of Fisheries Malaysia (DoFM) oversees all aspects of administration and conservation of fisheries in Malaysian fisheries waters. Whereas the MOA is the highest decision-making body for fisheries development affairs in Malaysia, the DoFM remains the principal federal agency in charge of the day-to-day operation of inland, aquaculture and marine capture fisheries in the country.

The departments under the MOA consist of the Department of Agriculture (DOA), the DoFM and Veterinary Services, while the technical agencies under the purview of the Ministry include: Malaysian Agricultural Research and Development Institute (MARDI), Federal Agricultural Marketing Authority (FAMA), Lembaga Pertubuhan Peladang (LPP), Bank Pertanian Malaysia (BPM), Muda Agricultural Development Authority (MADA), Kemubu Agricultural Development Authority (KADA) and Malaysian Pineapple Industry Board (MPIB).


The origin of DoFM can be traced back to 1894 when it was known then as the Colonial Fisheries Unit. Throughout the agency’s history, it has also been referred to as the British-Malaya Department of Fisheries, the Department of Fisheries of the Malayan Union & Singapore and the Pan-Malayan Department of Fisheries.

It is important to note that the power to pass regulations under the enabling legislation is given to the Minister of Agriculture and Agro-Based Industry.
The functions of the DoFM include collecting, compiling and disseminating fisheries statistical data, issuing vessel and gear licences, supervising and controlling fishing capacity, assessing and determining the status of fisheries resources, protecting fisheries ecosystem, training fishermen in handling vessel and operating fishing gears as well as drafting and enforcing fisheries laws and regulations. In order to secure properly managed and conserved marine fisheries resources, the DoFM has been empowered with the authority to devise and implement specific procedures, conditions and rules in relation to licensing of vessel and gear, catch reporting and VMS installation. It is also the main agency mandated for overseeing the preparation and formulation of national management plans for resource protection and management in fisheries. As part of this undertaking, the Department has developed and implemented a number of plans, including, among others, the Strategic Action Plan for Tuna Development and two national plans of action: Malaysia’s NPOA-Sharks and NPOA-Capacity.

The DoFM is involved in assisting the Attorney General’s Chambers (AGC) of Malaysia with the drafting of federal laws and regulations governing the conservation, management and utilisation of federal fisheries. It also oversees the compliance and enforcement of these laws and regulations, with the Department’s legal division prescribing administrative penalties against offenders, which serve as deterrent against potential violations of fisheries laws.

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1016 As stipulated in the Fisheries Act 1985 (Amended 1993), the Director General of Fisheries has the power to formulate and implement a wide range of initiatives deemed necessary for the sustainable development, utilisation and management of fisheries in Malaysian fisheries water. The Director General also has the authority to prepare and review fisheries plans, impose specific terms and conditions on fishing licences and authorise foreign fishing access.

1017 The installation of a VMS is compulsory for all C2 class fishing vessels.

1018 The responsibility for drafting federal legislation and subsidiary regulations for fisheries in Malaysia lies primary with the Attorney General’s (AG) Chambers.
The DoFM also plays an important role in providing administrative and technical support to state-level fisheries departments throughout Peninsular Malaysia. In this respect, the support provided by the Department concentrates on preparing, planning, coordinating and executing programs and activities related to the protection, conservation and management of inland and aquaculture fisheries within the state’s jurisdictional area. Therefore, the state fisheries departments in Peninsular Malaysia act as the operational arm of the DoFM, although it is important to note that this administrative arrangement does not fully apply to fisheries departments in Sabah and Sarawak. In these two states, fisheries departments have greater independence and authority than their counterparts in Peninsular Malaysia. For example, Sabah’s fisheries department is, as Yahaya el al. (2005) has pointed out, “the most independent fisheries agency in the country”, with its operational and administrative costs being entirely borne by the state government.

Consequently, unlike in the Peninsular Malaysia, the DoFM does not have absolute power to determine the direction of marine fisheries management policies and programs in Sabah and Sarawak, including the prerogative to determine the exact number of licences issued by the fisheries department of these respective states to local fishing boats and gear. Such situation is to be expected given that the Concurrent List of the Federal Constitution, as noted earlier, bestows the state government of Sabah and Sarawak with substantial legislative and executive powers over matters pertaining to marine and estuarine fisheries.

Under this constitutionally-stipulated division of powers, differences in institutions, legislations and management standards concerning fisheries between the

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1019 As can be recalled, the management of turtles is the only area of fisheries management which is exempted from federal authority.
1021 Ibid.
states in Peninsular Malaysia, and Sarawak and Sabah may hinder concerted efforts
towards greater efficiency of conservation and management of fisheries in the country’s
EEZ. In sum, one may argue that the development of policy and regulatory framework,
and formulation of management measures governing offshore fisheries in the zone off
the coasts of the latter two states is, to a certain degree, beyond the full control of
federal fisheries bodies such as the DoFM and the LKIM.

The current organisational structure of the DoFM has been set up in such a way
to provide effective and efficient support to the deliberation and enforcement of
fisheries-related policies and regulatory measures. A prominent feature of this
organisational structure is a layer of administrative and operational system of
bureaucracy. Within the organisational framework of the DoFM, there are 12 major
divisions, with each division being headed by a Director and supported by subsidiary
sections. The DoFM is headed by the Director General of Fisheries who is assisted by
two Deputy Director Generals, namely the Deputy Director General (Operation) and the
Deputy Director General (Development). At the state level, twelve state fisheries offices
are responsible for all the district fisheries offices throughout Malaysia. Figure 7.1
provides a chart of the organisational structure of the DoFM.

Each of the divisions and sections in the chart below holds specific functions
and responsibilities, but three are particularly relevant in the management and control of
offshore fisheries activities in the national EEZ: the Licensing & Resource Management
Division, the Legal Division and the Resource Protection Division.
The Licensing & Resource Management Division is the administrative unit responsible for charting the policy direction for the sustainable development, conservation and utilisation of fisheries resources in Malaysia. The tasks performed by this Division include developing and executing procedures and guidelines on matters concerning fisheries licensing, including the terms and conditions attaching to the application of fishing gear and vessel licence applications, as well as determining the
types of licences to be granted. However, the responsibility of the Licensing and Resource Management Division is not merely to supervise and manage the licence application process. It is also responsible for issuing and renewing licences and permits for both local and foreign fishing operators on behalf of, and upon receiving written approval from, the Director General of the DoFM. To ensure compliance with the stipulated licensing conditions, the Division has been empowered to supervise, document and monitor the activities of licence holders. Apart from determining and controlling the allocation of licences for fishing vessels and gear, the Division also serves as the primary administrative unit under the DoFM for formulating programs for the development of tuna fisheries.

Staffed by competent personnel with legal expertise in fisheries matters, and receiving advisory support from the legal office of the AG Chamber, the Legal Section of the DoFM holds a number of responsibilities. The primary function of this Section is to act as a source of reference for interested stakeholders such as government agencies, the public and legal practitioners in relation to Malaysian fisheries laws and regulations. As an in-house legal advisory body to the DoFM, the Section provides strategic advice and expert opinion on legal matters concerning international and regional fisheries which affect Malaysia’s national interest. The Legal Section not only reviews draft bills and regulations on issues related to fisheries, it also plays a crucial role in ensuring the smooth passage of bills and regulations through Parliament and the relevant Ministries. The prosecution of individuals and corporate entities for fisheries offences lies within the jurisdiction of the Legal Section, so too the preparation of appeals and the supervision of all cases being tried before a Magistrate, Session or the High Court involving non-compoundable offences under Malaysia’s fisheries laws. The

1022 Prior to any fisheries-related bill being tabled in Parliament for debate, the Legal Section must seek approval from the AG’s Chamber Office.
power to set fines for compoundable offences available under the *Fisheries Act 1985 (Amended 1993)* and its subsidiary regulations could also be assigned to the Legal Section. With respect to the Resource Protection Division, Section 7.2.3.2 will elaborate in the details the background and functional scope of this Division.

7.2.3. Fisheries Development Authority of Malaysia

The LKIM, as noted earlier, is a statutory body established under the *LKIM Act 1971*. As an Agency under the purview of the MOA, its primary functions involve fostering and facilitating the commercial expansion of the nation’s fisheries industry through the efficient distribution, processing and marketing of fish and fishery products. To accomplish this, the LKIM has been empowered with the authority to develop critical infrastructure and engage in post-harvesting processes across the country’s marine fisheries sector. As stipulated under the *LKIM Act 1971*, additional roles envisaged for the LKIM include planning, constructing, regulating and operating fisheries inspection centres and landing complexes throughout Malaysia, including deep-sea fishing ports. A further function of the LKIM involves collecting, compiling and disseminating relevant statistical information and data regarding the volume, value and species of fish landed at LKIM-managed fishing ports and landing complexes.

The main rationale for setting up this quasi-governmental body in 1972 was the pressing need at the time for the creation of a public agency empowered with administrative and regulatory functions to translate the nation’s aspirations and

1023 *Lembaga Kemajuan Ikan Malaysia 1971*, section 3.
1024 This authority is not extended to fisheries landing complexes in the state of Sabah, with the exemption of fisheries landing complex under the Federal administration in FT Labuan.
1025 Majuikan Sdn Bhd - a wholly-owned subsidiary of the LKIM - operates a barter-trade complex distributing fish from Indonesia for the local market. A complete list of fisheries inspection centres is available at http://www.lkim.gov.my/pemeriksaan (accessed on 3 July 2010).
objectives (as espoused in the NEP) into a tangible reality.\textsuperscript{1026} The highly ambitious objectives of the NEP were premised on achieving national unity through eradicating poverty in Malaysian society and restructuring the economy so that eliminates race identification associated with certain economic functions. When the NEP was conceived in July 1971, it coincided with the Malaysian government’s realisation that interventionist measures were necessary to rectify the socio-economic inequality that existed among different racial groups within the country’s fishing community. As a consequence from this, the LKIM was established with the primary task of devising and implementing poverty reduction programs as well as projects directed to local fishing communities, particularly poor Malay traditional fishermen.

Under the government’s directive, the LKIM was also instructed to develop administrative programs aimed at restructuring fishermen associations and cooperatives so that their needs would be met.\textsuperscript{1027} In light of the pervasive trend of overfishing in Malaysia’s inshore waters, it was thought that the creation of the LKIM would act as an effective channel for formulating, coordinating and implementing fisheries development strategies and programs for the expansion of what was still a formative local offshore fisheries industry.

Operating in a manner akin to a commercial enterprise, the LKIM has a variety of statutory defined responsibilities. These include, among others, developing and managing efficient and effective fisheries enterprises, marketing fish products, providing and overseeing credit facilities to increase fisheries production, stimulating and supporting the progress of socio-economic programs for fishermen’s associations and registering, financing and supervising these associations. The LKIM not only acts

\textsuperscript{1026} The NEP was initially introduced in the Second Malaysia Plan (1971-1975) following the aftermath of the racial riots of 13 May 1969.

as the principal agency for planning, formulating and implementing a wide range of programs and projects in an effort to alleviate the dire socio-economic position of predominantly Malay fishing communities. In conjunction with the policies and objectives for fisheries development set out in the NAP3 and the 9MP, the Agency has formed a partnership with the DoFM, with both organisations engaged in planning, formulating and implementing policies and programs for the expansion and modernisation of Malaysia’s domestic offshore fishing industry.

Numerous development programmes and projects have been initiated to translate the desired goals of the LKIM into reality. Examples of LKIM-devised programmes and projects aimed at improving the socio-economic condition of Malay fishermen include the Diversification and Elevation of Income Programme, the People’s Prosperity Development Schemes and the Parliamentary Constituency Small-Scale Agriculture Project. Other programmes, such as the Fishermen Community Development Program, constitute an integral part of the Program Pembangunan Rakyat Termiskin (PPRT) that is a national poverty elimination program assisting impoverished fishing communities and villages across the country.

In keeping with the national agricultural goal set out in the NAP3, that is to expedite the process of modernising the country’s fisheries industry, the main thrust of the LKIM’s development programs is to maximise production in the fisheries sector through the expansion and modernisation of national fishing effort. To achieve this

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1028 As can be recalled, the LKIM-initiated development programs have been designed with socio-economic goals in mind, helping bring to fruition Malaysia’s aspiration under the NEP for economic disparity among its multi-ethnic population to be eliminated, particularly among its local fishing community.

1029 These projects involve the LKIM supplying targeted fishermen with fishing gear and equipment, as well as training programs, landing infrastructure and distribution and marketing services. Detailed information on these programs is available online at http://www.lkim.gov.my/122 (accessed on 3 July 2010).

objective, the LKIM has sought to encourage Malaysian fishermen to adopt advanced fishing vessels and gear, and has focused on strengthening the marketing and distribution system of fishery products at the national level. To enhance the welfare of small-scale fishing communities, and more importantly boost the nation’s fishery production, both the LKIM and the DoFM have been involved in a joint-program to relocate the fishing operations of small-scale traditional fishermen further offshore, and to encourage these fishermen to engage in aquaculture activities and other endeavours in the agricultural sector.\footnote{Sulochana Nair, “Poverty Among Fishermen,” The Centre For Poverty and Development Studies (CPDS), Faculty of Economic and Administration, University of Malaya, 14 July 2009, available online at http://cpds.fep.um.edu.my/events/2009/Seminar/POVERTYAMONGFISHERMEN.pdf (accessed on 16 July 2010).}

One of the popular approaches adopted by the LKIM to maximise the output of national fisheries through the expansion of offshore fishing fleets is to provide fishermen with financial subsidies and credit schemes. This financial support enables fishermen to acquire larger and more powerful boats with motorised fishing gear and equipment. In collaboration with Agrobank Malaysia (formerly Bank Pertanian Malaysia), the LKIM has been the principal Agency entrusted by various federal ministries and state governments to coordinate and supervise a number of support grants and credit schemes intended to improve the socio-economic welfare of rural fishermen and increase fishery production. One of the earliest examples of such schemes is the Special Agricultural Credit Scheme (known locally as the Skim Pinjaman Khas Pertanian (SACS)). The Scheme, which was first introduced in 1986, provided low-interest loans and was intended to encourage small-scale fishermen to both embark on large-scale fishing practices and participate in value-added downstream activities such
as processing fish balls, surimi, and shrimp paste, and fish crackers. Indeed, it can be argued that the principal focus of the Agency has been coordinating and assisting the local fishermen to access readily available credit facilities.

Since its inception in 1972, the Agency has been actively involved in nearly every stage of the nation’s fishery distribution system. These stages cover the administration and maintenance of selected landing and fish inspection complexes, the collection and dissemination of real-time information on the price of selected fish species, the management and upgrading of storage and processing facilities, the supply and transportation of fish to customers, to the promotion of Malaysia’s fishery products at the national and international level. To provide adequate support services for fishery distribution in the country, the Agency is also involved in supplying ice for fish storage, operating refrigerated freight services, as well as maintaining cold storage facilities in fisheries inspection centres and landing complexes. However, the LKIM is not the only government-related entity directly involved in commercial fishing enterprises and activities in Malaysia. In particular, the Agency’s wholly owned subsidiary- Majuikan Sdn Bhd (MAJUKAN)- has actively engaged in such enterprises and activities throughout the country’s fisheries supply chains, from seafood product manufacturing, forwarding company, to offshore fishing operations. With the establishment of this subsidiary company, together with participation from fishermen cooperatives, the LKIM’s involvement in commercial fisheries trading has been

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1032 Bank Pertanian Malaysia has fully authority over the grant and repayment of the loan, while the LKIM is responsible for selecting and recommending the candidates who are suitable for the loan.

1033 This objective differs from that of the DoFM, which is to achieve the optimal utilisation and management of fishery resources.


considerably reduced. For this reason, the Agency is currently renewing its focus on improving the social conditions of Malaysia’s fishing community.\textsuperscript{1036}

Another important function of the LKIM is to foster entrepreneurial skills in fishermen by organising business management courses, either directly or through fishermen cooperatives, so that fishing communities can market their own fish and fishery products.\textsuperscript{1037} These cooperative organisations play a leading role in the distribution and marketing of fish. There are currently four major categories of cooperatives in the country. These categories are: (i) Area Fishermen Cooperative (AFC) (Persatuan Nelayan Kawasan or PNK); (ii) State Fishermen Cooperative (Persatuan Nelayan Negeri or PNN); (iii) National Fishermen Cooperative (NFC) (Persatuan Nelayan Kebangsaan or NEKMAT); (vi) and Fishermen Cooperative Company (Syarikat Kerjasama Nelayan or SKN). The scope of the LKIM’s responsibility is to promote, register, supervise, finance and regulate these cooperative institutions and their fishery marketing activities. It can be argued that the above institutions provide a suitable platform for Malaysian fishermen to be directly involved in the decision-making and implementation process regarding the marketing and distribution of their own fish products and thereby fulfilling the LKIM’s intention of instilling self-reliance in the management of their affairs.\textsuperscript{1038}

\textsuperscript{1036} Scholarly inquiry on this policy change is well documented. Omar (1995), for example, has claimed that the LKIM, through its subsidiary companies, notably Pemasaran Ikan Koperasi Nelayan (PIKN) and Syarikat Pemasaran Ikan Malaysia (SPIM), has a history of abortive attempts at market intervention and poor performance in commercial fish trading. Jahara views the failure of these business enterprises eventually led to a substantial shift in the core function of the LKIM - marked by a decreased involvement in the commercial aspects of the fisheries industry and a heightened focus on elevating the socio-economic status of the local fishing community. Jahara Yahaya, “Capture Fisheries in Peninsular Malaysia: Lessons from Majuikan's Experience,” \textit{Marine Policy} 5(1981), p. 322.


\textsuperscript{1038} \textit{Ibid.}
5.5.1.4. Department of Environment, Malaysia

The primary function of the Department of Environment (DOE) is to manage, protect, control, monitor and rehabilitate the terrestrial, marine and coastal environment in Malaysia. The Agency, which was established in 1975, is accountable to the Ministry of Natural Resources and Environment (MNRE).\textsuperscript{1039} Within the organisational framework of the DOE there are different administrative and enforcement divisions. Each division is responsible for specific areas of environmental management, with some being directly involved in the protection of the country’s marine and coastal environment. Two particular units of the Agency, which are of relevance to the management and protection of fisheries and their surrounding marine environment in Malaysia’s EEZ are the Marine Data Section and the Marine Division. The former falls under the administration of the Water and Marine Division and has the responsibility of collecting, compiling, analysing, and disseminating information on the quality of marine water. It also conducts regular monitoring and reporting on the status of marine water quality, and if required, undertakes immediate remedial action in response to the presence of pollution.

Meanwhile, the Marine Division is responsible for preparing and formulating policy guidelines and strategies to prevent and control marine pollution. It is also involved in evaluating, analysing and reporting on the status of the marine environment, and consequently prepares various guidelines and strategies. The Division has also been designated the responsibility of coordinating and implementing pollution control programs among the DOE’s departmental branches at the state level.

The DOE is among the few federal government bodies responsible for preventing pollution and enhancing the environment through the supervision and

\textsuperscript{1039} The Agency was initially known as the Environment Division but was later the Department of Environment (DOE) in 1983.
enforcement of the *Environmental Quality Act 1974* and its 34 subsidiary regulations, rules and orders.\textsuperscript{1040} It also has the additional responsibility of enforcing the *EEZ Act 1984* and seven other pieces of legislation and ministerial orders enacted at both the federal and state level concerning the management and protection of the environment.\textsuperscript{1041}

As the principal federal agency responsible for dealing with all forms of marine pollution stipulated under the *Environmental Quality Act 1974*,\textsuperscript{1042} the DOE has been empowered to address problems such as oil spills generated from ships, oil platforms, terminals and other sources.\textsuperscript{1043} The administrative functions of the Agency involve devising and implementing plans, directives, programs and procedures for marine environmental protection in the country. Not only can the Agency enforce the above-mentioned laws and regulations governing environmental issues, it can prescribe penalties for the contravention of such laws and regulations. These actions supplement and further strengthen the efforts of the DoFM’s, which are aimed at protecting the future viability of fish stocks and their surrounding ecosystem. Although the DoFM is the principal agency responsible for ensuring the country’s fishery resources are utilised optimally and sustainably, the role of the DOE is to prevent and minimise the impact of environmental pollution and thus provide an additional layer of protection against the

\textsuperscript{1040} The *Environmental Quality Act 1974* received royal assent on 8 March 1974 and came into force on 15 April 1975. The statute has been amended several times and contains many subsidiary regulations, rules and orders. A complete list of these instruments is available online at http://www.doe.gov.my/en/content/environmental-quality-act-1974 (accessed on 23 July 2010).

\textsuperscript{1041} Other relevant statutes and orders on environmental management and protection include: *Sabah Conservation of Environment (Prescribed Activities) Order 1999*; *Exclusive Economic Zone (Appointment of Authorized Officer) Order 2001*; *Custom Duties (Amendment) (No. 35) Order 1989* (made under the *Customs Act 1967*); *Promotion of Investment (Promoted Activities and Products) (Amendment) (No. 10) Order 1990* (made under the *Promotion of Investment Act, 1986*); *Customs (Prohibition of Import) Order 1998, (Amendment) 2006*; *Customs (Prohibition of Export) Order 1998 (Amendment) 2006*; and *Sarawak Natural Resources and Environment (Prescribed Activities) Order 1994*.

\textsuperscript{1042} See in particular the Enforcement Division of the Act which contains enforcement procedures as well as the power of government officers in carrying out of investigations and the prosecution of offenders.

harmful impact of pollution on fishery resources. This role is justified given the harmful effects of vessel-sourced pollution on the health of fisheries resources and the integrity of coastal and marine ecosystems in the country.\footnote{1044}

Ironically, while the DOE is entrusted to enforce marine environmental laws within Malaysia’s jurisdictional waters, enforcing these laws or simply just providing an immediate response to the incidents of marine pollution posed significant operational challenges for the Agency. Indeed, the DOE has insufficient financial and human resources to conduct effective law enforcement in the vast space of the country’s EEZ. Consequently, the task of enforcing environmental-related laws and regulations has been delegated to other federal agencies such as the Marine Department, the DoFM, the Royal Malaysian Navy, the Marine Operation Force and the Royal Customs and Excise Department. Sections 27 and 29 of the \textit{Environmental Quality Act 1974} empower multiple federal enforcement agencies and departments to implement the provisions of the Act. This arrangement may appear satisfactory, but problems surfaced when many of these agencies began to treat the enforcement of environmental laws as a low priority. This situation can be attributed to the fact that manpower, assets, and financial resources of these agencies are insufficient to perform their primarily-assigned enforcement roles effectively.\footnote{1045}


\footnote{1045} Kasmin, “Opinion: Enforcing the Laws for Cleaner Seas.”
7.2.4. National Security Council

Established on 7th of July 1971, the National Security Council (hereafter MKN) operates under the purview of the Prime Minister’s Department. As an Agency answerable to the Malaysian Cabinet, the MKN is the highest decision-making body in the country when dealing with matters of national security, maintaining public order and managing crises and disasters in the country, including in the EEZ. As a self-contained decision-making unit chaired by the Prime Minister of Malaysia, the Agency is made up of representatives from different government ministries, departments, as well as military and civilian agencies. As the Prime Minister is directly involved in the policymaking process of the MKN, the Agency is clearly one of the country’s most important decision-making bodies with respect to national maritime security and safety. Many of the MKN’s decisions on security and defence are characterised by quick consensus among the Agency’s committee members. Based on the observation made by Chung (2004), the subsequent endorsement of these decisions by the Prime Minister insinuates that they are unlikely to be reversed by external opponents outside the group.

The MKN serves as the highest policy-making and coordinating body on security and public order in Malaysia. Its scope of duty extends to mobilisation and coordination of national resources and assets so as to ensure the policies that it has

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1047 To accomplish its mandate as a decision-making agency for the security and defence of the country, nine committees have been established within the structural framework of the MKN, Hj. Sutarji Bin Hj. Kasmin, “The Malaysian Armed Forces After 50 Years of Independence,” in Abdul Razak Baginda (ed.), Malaysia’s Defence & Security Since 1957, (Kuala Lumpur: Malaysian Strategic Research Centre, 2009), p. 146.

1048 The composition of the Agency is as follows: the Deputy Prime Minister (Vice Chairman), the Minister for Foreign Affairs, the Minister for Defence, the Minister for Information, Communication and Culture, the Chief of Defence Forces (CDF), the Inspector-General of Police (IGP) and the Chief Secretary of the Government. See Kasmin, “The Malaysian Armed Forces After 50 Years of Independence,” p. 146.

issued are executed by the relevant ministries or agencies in a comprehensive and effective manner. As part of this undertaking, the MKN is required to prepare and issue directives, operational procedures, instructions and orders for national security and public safety, as well as monitor the movements and activities of foreign fishermen in the country’s territory and extended maritime jurisdiction. At the operational level, the MKN has been entrusted to supervise, monitor and coordinate the action of relevant agencies in response to pending crises, as well as state emergencies and disasters. In addition to these responsibilities, its functions extend to monitoring and analysing these events and crises at the national, regional and global level to ensure they pose no risk to Malaysia’s security, defence and public safety.

The policy decisions made by the MKN not only have direct implications for the country’s national security; some of these decisions even have influenced the policy direction of fisheries management in Malaysian fisheries waters. This is certainly the case in the context of offshore fisheries management regime in Malaysia’s EEZ in the eastern portions of the South China Sea. The most significant areas in this regard are the waters surrounding the contested offshore islets and reefs occupied by Malaysia in the Spratly Islands of the South China Sea. Overlapping sovereignty and jurisdictional claims in the Spratly Islands between Malaysia and its rival claimant States have long been a major source of regional tension and instability in the region. The potential for escalation of armed conflict in the area concerned has been a matter of great concern for

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1050 This process includes reviewing current policies and drafting new policies, a task which often requires a coordinated effort with various agencies.

1051 Since its inception in 1971, the MKN has issued a total of 21 MKN Orders addressing a wide range of security threats and issues confronting the country. These include the rising tide of Vietnamese boat people in the 1970s, joint military cooperation and border patrol with its maritime neighbouring States, suppression of terrorist activities, smuggling contraband and goods, and responding to natural disasters.

1052 The MKN is also the responsible for assisting the National Action Council (also known as Majlis Tindakan Negara (MTN)) in policy decision-making relating to national security and defence matters.

the Malaysian government. Malaysia’s decision to avoid engaging in any form of military conflict in the area has been the driving factor behind the MKN issuing so many policy directives over the past three decades. Because of national security and safety concerns in the Spratly Islands, these directives have specified the authorised fishing grounds where offshore deep-sea fishing operators are allowed to carry out their fishing operations, as well as exclusion zones for fishing activity due to fears of safety.

The MKN’s own Maritime Security Policy Division has been actively involved in analysing, monitoring and advising Malaysian government agencies (e.g. the Ministry of Defence, the Prime Minister’s Department, the DoFM, the RMN and the RMAF) on matters pertaining to the Spratly Islands that may have potential security implications for the country. It also plays a crucial role in supervising and coordinating the planning and execution of law enforcement and surveillance operations, including in relation to fisheries matters within the contested waters where Malaysia’s EEZ lies.

The overall impression that one receives of the MKN is of a national decision-making body which has successfully averted military confrontation between Malaysian and its rival claimant states, thereby preventing human casualties and ensuring the safety of its fishermen. An equally important part of Malaysia’s foreign policy is its reliance on various diplomatic options when dealing with security threats - options that have, to apart from threatening regional stability and national security, Malaysia’s deep-seated concern over the Spratly Islands has arisen from several military skirmishes between the Chinese Navy and the Vietnamese over Paracel Island near Malaysia’s claimed maritime features. See Teh Kuang Chang, “China’s Claim of Sovereignty over Spratly and Paracel Islands: A Historical and Legal Perspective,” *Case Western Reserve Journal of International Law* 23(1991), pp. 410-413.

In addition, certain MKN’s policy decisions and directives have affected the country’s fishermen in a positive way. Of these directives, the most important centre on the instruction given to military and civilian enforcement agencies to provide necessary protection to local fishermen, especially against any harassment from illegal foreign fishermen and vessels, and to assist with the efforts of the DoFM to protect offshore fisheries resources from foreign illegal fishing.
some extent, contributed to the maintenance of peace, stability and order in Southeast Asia.\textsuperscript{1056}

7.3. Management and Policy Support Agencies

There are several agencies with management and policy support functions applicable to fisheries management and conservation in Malaysian fisheries waters. Of these agencies, the most notable are the Fisheries Research Institute Malaysia, the Marine Fisheries Resources Development and Management Department, as well as the Maritime Institute of Malaysia. These agencies primarily serve as advisory bodies to the relevant policy-making government entities, providing information, policy recommendations and expert opinions. The contribution of these agencies has considerably shaped Malaysia’s policy framework in offshore fisheries management. As such, relevant decision-making authorities have regularly utilised input from these agencies to make informed decisions when formulating and selecting the most appropriate national policy, guiding principle, action plan, goal, or strategy for the effective management and conservation of fisheries resources. The general background and specific functions of this second category of agencies are described below.

7.3.1. Fisheries Research Institute of Malaysia

The Fisheries Research Institute of Malaysia (FRI) is one of the research bodies attached to the Research Division of the DoFM.\textsuperscript{1057} Its mission is to provide sound scientific knowledge and expertise to relevant stakeholder and promote the long-term

\textsuperscript{1056} The adoption of peaceful policy frameworks, such as refraining from the use of military power or force, has enabled Malaysia to avoid any escalation in armed conflicts, thus contributing to the continuity of peace in the region. Ruhanas Harun, “The Evolution and Development of Malaysia's National Security,” in Abdul Razak Baginda (ed.), \textit{Malaysia's Defence & Security since 1957}, (Kuala Lumpur: Malaysian Strategic Research Centre, 2009), p. 45.

\textsuperscript{1057} The FRI was formally established by the British colonial office in 1956.
sustainable use and responsible management of the nation’s fisheries resources.\textsuperscript{1058} The FRI is involved in a broad range of activities including planning, supervising, coordinating and monitoring research across various disciplines of fisheries studies.\textsuperscript{1059} In recent years, however, the scope of its research has been narrowed down to six specialised disciplines. They are: (i) fishery resources (marine and inland); (ii) aquatic ecology; (iii) biotechnology; (iv) fisheries product development, (v) fish health; and (vi) aquaculture.\textsuperscript{1060}

Another important function of the FRI is to act as a repository for statistical data, information and scientific publications relating to marine aquatic and aquaculture fisheries, as well as socio-economic aspects of fisheries. There are many instances where the FRI’s role in maintaining, exchanging and sharing properly recorded data and information on the status of Malaysia’s fisheries has led to many desirable benefits, and one of which, as suggested by Matics (1997), is that of supporting the efficient management of fisheries in the region.\textsuperscript{1061}

The FRI also plays a very important role in enhancing human resource capacity in the field of fisheries science and technology. In its quest to fulfil this role, the Institute, often in collaboration with other local research centres, government agencies and universities, has organised a number of seminars, workshops, lectures, and training programs. It is anticipated that through these activities, a larger pool of competent, local

\textsuperscript{1058} The mission and vision of FRI are available online at http://www.fri.gov.my/

\textsuperscript{1059} The FRI not only carries out its research activities independently, it also works in collaboration with local partners such as the FRI’s research branches, government, administrative and research bodies, higher education institutions and corporate bodies. Notable examples of FRI research partnerships – both past and present - include MFRDMD-SEAFDEC, Japan International Research Centre for Agricultural Sciences (JIRCAS), the LKIM, the Malaysian Centre for Remote Sensing (MACRES), the World Fish Center, the National Fishermen Association (NEKMAT) and MIMOS Berhad.

\textsuperscript{1060} The FRI has conducted research on, among other things, the biomass of commercial fishes, benthos, benthic and sub-tidal ecosystems, the tagging of economically significant pelagic species, stock enhancement and stock population of sea turtles, regional satellite telemetry and fish forecasting.

\textsuperscript{1061} Matics, “Measures for Enhancing Marine Fisheries Stock,” p. 238.
administrative personnel can be developed, along with an increased number of qualified researchers and scientists with strong technical expertise in the areas of marine aquatic resources, fish stocks assessment, biodiversity, marine ecology, oceanography, and aquaculture technology.

The FRI has been further entrusted to oversee and maintain a network of fisheries research branches throughout the country, including in the state of Sarawak and Sabah. The Marine Research Station Layang-Layang Malaysia (MARSAL), the country’s only offshore research station on the remote Swallow Reef (Pulau Layang-Layang) in the South China Sea, is also under the supervision and management of the FRI.

Additional role of the FRI extends to providing advisory and consultancy services to relevant stakeholder communities such as public fisheries administrators and managers, policy makers, fishermen and fish farmers. In the last two decades, the role of the Institute as a fisheries advisory and consultative body has been reinforced, mainly due to the role played by the FRI in enhancing the quality and quantity of scientific data and information on fisheries science and technology. It is commonly acknowledged that reliable, timely and accurate data on marine fisheries and biodiversity in Malaysia (and within the regional seas) is largely inadequate, if not unavailable. Nevertheless, the

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1062 Presently, the FRI administers ten research branches, with the most important focusing on marine capture fisheries. These branches consist of FRI Pulau Sayak, FRI Batu Maung, FRI Rantau Panjang, FRI Gelang Patah, FRI TG Demong, SEAFDEC-MFRDMD, FRI Labuan and FRI Bintawa.

1063 MARSAL, which was built in 2003, provides an offshore base station for facilitating all research activities in the waters and maritime features surrounding Pulau Layang-Layang (Swallow Reef) of the Spratly Islands. The scope of research includes studies on coral reefs, fish stock population and distribution, biodiversity, oceanography, climate and marine geology. DoFM, *MARSAL Highlights 2006 & 2007*, (Kuala Lumpur: DoFM, 2007), p. 5.

1064 As widely acknowledged in the literature, reliable, accurate and comprehensive scientific data is fundamental for policy deliberation and for the sustainable management and conservation of fish stocks and fisheries ecosystem. See for example, Doulman, “Coping with the Extended Vulnerability of Marine Ecosystems,” p. 204.
governments and stakeholder communities still place heavy reliance on this questionable data as part of their policy planning and decision-making process.

In addition, the strengthening of the FRI advisory and consultative functions in the past ten years has been inextricably linked to one of chief policy concerns of the NAP3: enhancing the productivity and competitiveness of Malaysia’s fisheries industry. Being a major provider of science and research services for the domestic fisheries sector, the FRI has a vital role to play in the realisation of this national policy objective. Indeed, the Institute can provide input obtained from its research-related activities- input which might be helpful to certain government agencies, notably the DoFM and the LKIM, when developing and designing their own fisheries development programs and strategies in pursuit of the agreed fisheries objectives.

In fulfilling its prominent role as a fisheries advisory body, the FRI has taken numerous steps to enhance its technical competency and research capability. In terms of enhancing critical infrastructure and facilities, FRI has undergone physical changes for the past two decades. Most notable of these changes is when its administrative headquarters in Gelugor moved to the present building with well-equipped facilities in Batu Maung, Penang in 1995.

Evidence of Malaysia’s commitment to improving research facilities and equipment across the country’s networks of fisheries research centres can be seen through its substantial allocation of public funding under the Five Year Plan. The annual budget allocated for DOFM, for example, has been channelled for upgrading the existing FRI research branches, including the acquisition of larger and more modern research vessels.\textsuperscript{1065} In terms of human resource development, many staff members of

\textsuperscript{1065} For example, the Institute has purchased research survey vessels such as K. K. K. Malong (1973-1993) and K. K. Manchong (1985).
the FRI were granted the opportunity to pursue post-graduate studies at local or foreign universities and other higher learning institutions.

7.3.2. Marine Fishery Resources Development and Management Department

The Marine Fishery Resources Development and Management Department (MFRDMD) is one of the national fisheries research centres under the administration of the FRI. Based in Chendering, Terengganu, the MFRDMD was initially responsible for planning, coordinating and implementing a range of research programs and projects, with domestic inland and marine capture fisheries dominating the Department’s areas of research. However, as of April 1992, the Department has broadened its areas of research to encompass not only domestic fisheries but also regional marine fisheries and ecosystem components. This development has been driven by research and development partnership established between the MFRDMD and the SEAFDEC. From this partnership emerged two research entities, namely the MFRDMD and the MFRDMD-SEAFDEC, with the latter becoming the fourth research branch under the SEAFDEC.

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1066 The MFRDMD was formerly known as the Marine Fishery Resources Research Centre (MFRRC). Locally, it is known as the Departmen Penyelidikan dan Pengurusan Sumber Perikanan Marin (DPPSPM).

1067 As indicated in various MFRDMD-SEAFDEC reports and documentation, the resource surveys conducted by the Centre not only cover a large portion of Malaysia’s claimed EEZ, but also the surrounding regional seas such as the Gulf of Thailand, the Straits of Malacca, the Andaman Sea and the South China Sea. See SEAFDEC, Highlights of the SEAFDEC Inter-department Collaborative Research Programs on Fishery Resources in the South China Sea, Area 1: Gulf of Thailand and East Coast of Peninsular Malaysia, Special Paper No. SEC/SP/39, (Bangkok: SEAFDEC, 1999).

1068 The establishment of the MFRDMD-SEAFDEC was approved by the Southeast Asian Fisheries Development Center Council at its twenty-third Meeting in Bangkok in December 1990, and eventually formalised in April 1992.

1069 SEAFDEC has three other technical departments in Southeast Asia, with each department has specific roles and responsibilities. They consist of the Marine Fisheries Research Department (MFRD), the Aquaculture Department (AQD) and the Training Department (TD).
As part of this joint venture, the two research centres share the same buildings, research facilities and personnel. At the same time, each centre promotes a different but intertwined objective which focuses on promoting the responsible and sustainable use of marine living resources. The MFRDMD continues to serve as a FRI-affiliated national research centre on marine fisheries. In contrast, the MFRDMD-SEAFDEC primarily acts as a regional research centre, with its mission being to fulfil the fisheries management needs of SEAFDEC’s member countries. Both of these institutions, however, are headed by the same personnel chosen by the DoFM.

The coexistence of these research institutions has greatly benefited Malaysia, particularly if one considers that the MFRDMD-SEAFDEC was not created solely to serve the interests of SEAFDEC member countries. As a principal regional forum for interstate cooperation and consultation in the research and management of inland and marine capture fisheries in Southeast Asia, the Centre also provides extensive support services to Malaysia in its effort to promote the sustainable development of fisheries resources within the boundaries of its national jurisdiction, including its EEZ. As such, the country has been one of the major beneficiaries of technical and practical assistance offered by MFRDMD-SEAFDEC. Amongst the areas of assistance, which have greatly contributed to the improvement of the country’s fisheries management include funding for collaborative research-linked activities, management guidelines and

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1070 While the Malaysian government has allocated land and provided buildings for the MFRDMD, as well as research vessels, office equipment, professional and administrative staff, the financial source of fellowship salaries for visiting trainees from member countries and Japanese professional staff, are funded by the SEAFDEC.

1071 The Centre commenced operation on 3 May 1992 at its own building in Chendering, Trengganu.

1072 The MFRDMD is headed by a Director who also serves as the Chief for the SEAFDEC-MFRDMD.

1073 The declaration of EEZs in the regional seas arguably provides SEAFDEC with the opportunity to play a more active role in assisting its member countries to develop and manage shared marine fisheries resources in a sustainable way.
advices, technical training and education programs,\textsuperscript{1074} as well as scientific information pertinent to fisheries.

The fundamental role of the MFRDMD-SEAFDEC is to act as a regional forum for facilitating interstate cooperation in promoting sustainable utilisation and management of fisheries among the SEAFDEC members, including Malaysia. Its task is to provide scientific advices, practical guidelines and policy recommendations to government entities and stakeholder communities in relation to fisheries management. In compiling these advices and recommendations, the Centre relies on findings generated from a broad range of research and research-linked activities. The MFRDMD-SEAFDEC, therefore, has been entrusted with the coordination and delivery of a range of research programs in the field of marine fisheries.

While the Centre is a relatively new regional research facility for fisheries, it has successfully completed a substantial number of research projects within allocated timeframes, often through the expertise sharing and cooperation with other SEAFDEC members. Apart from the biological, ecological and oceanographic studies conducted by the Centre on commercially significant fish species, most of the Centre’s research focus on the exploitation of marine living resources, as well as population assessments of fish stocks and endangered aquatic species (e.g. sharks and marine turtles) and the health status of the marine ecosystem and its habitat. Some of the most recent research projects funded by the Japanese Trust Funds (JTF) program include the “Tagging Program for Economically Important Pelagic Species in the South China Sea and Andaman Sea,”\textsuperscript{1075}

\textsuperscript{1074} Stock assessment and taxonomy are the two most common forms of technical training programs.

\textsuperscript{1075} The “Tagging Program for Economically Important Pelagic Species in the South China Sea and Andaman Sea” is an ongoing research project initiated in 2007 under the Japanese Trust Funds II (JTF II) program in collaboration with SEAFDEC-TD. The principal objective of the project is to acquire ecological information on four commercially important pelagic fish species in the South China Sea and Andaman Sea – Indian mackerel, short mackerel, Japanese scads and short fin scads. See Syed Abdullah Syed Abdul Kadir and Ku Kassim Ku Yaacob (eds.), \textit{SEAFDEC-MFRDMD/DPPSPM Highlights 2007}, (Chendering: MFRDMD, 2007), pp. 5-6.
and “Research for Stock Enhancement of Sea Turtles in the Southeast Asian Region.”

Access to scientific data and information on the ecological characteristics of commercially important fish species is critical in understanding the condition of these species (e.g. migration patterns, spawning seasons and feeding grounds). Such data and information may also form the basis for informed decision-making when identifying potentially productive fishing grounds in the offshore waters of the regional EEZs. The discovery of these fishing grounds could further accelerate the expansion of the country’s offshore fishing industry in the EEZ, providing the opportunity for interested local offshore fishing operators to venture further offshore into new and underexploited fishing frontiers.

The MFRDMD-SEAFDEC also serves as a forum for discussion and exchange on practical and scientific issues relating to fisheries management among ASEAN members. This involves collecting, compiling and organising information and data acquired from its research and survey activities on marine fisheries and disseminating them to relevant parties. To this end, the MFRDMD-SEAFDEC has launched a series of consultation programs and training activities in the form of seminars, conferences and workshops. In further enhancing the dissemination of knowledge on fisheries and innovation in fishing technology, the Centre has also actively engaged in

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1076 This program formed part of the Japanese Trust Fund IV (JTF IV) Program, which was undertaken between 2004 and 2009. This program was composed of three major areas, namely, tagging and satellite tracking telemetry, DNA studies and the interaction between fisheries and sea turtles. Detailed discussion on the program is offered in the work by Syed Abdullah bin Syed Abdul Kadir and Osamu Abe (eds.), Report of Regional Core Expert Group Meeting on Research for Stock Enhancement of Sea Turtles (Japanese Trust Fund IV Program), (Chendering: SEAFDEC-MFRDMD, 2010).

1077 For instance, the MFRDMD-SEAFDEC serves as repository for marine fish specimens from the South China Sea. The main function of this repository is to provide a range of services to ASEAN member countries, such as “archiving, cataloguing and maintaining an extensive collection of taxonomic reference specimens and literature for use of indentifying marine fauna.” Kadir and Yaacob, “SEAFDEC-MFRDMD/DPPSPM Highlights 2007,” p. 24.

1078 These training programs cover a range of topics including the identification of fish larvae, hydroacoustic and oceanographic data processing, the management of fisheries resources and the taxonomy and biology of sharks and rays.
publishing its research findings in various reports, journal articles and statistical bulletins, many of which are accessible to the public through the internet.

Consistent with its objective of promoting the long-term sustainable utilisation of marine fisheries, the MFRDMD-SEAFDEC has also been tasked to carry out research for the development of fish capture technology and gear, with an emphasis on radar detection systems and selective, environmentally friendly fishing gear, such as TEDs, Malaysian Acetes Efficiency Devices (MAEDs) and Juvenile and Trash Excluder Devices (JTEDs). \(^{1079}\)

### 5.5.2.3. Maritime Institute of Malaysia

Maritime Institute of Malaysia (MIMA) is as a policy research institute with a mandate to advise the Malaysian government on various maritime matters at the national, regional and international level, particularly where such matters affect the country’s national interests. \(^{1080}\) Incorporated on July 19, 1993 under Malaysia’s *Companies Act 1965*, the Institute does not have any decision-making power over the planning and implementation of maritime affairs. \(^{1081}\) In contrast, its functional capacity has been confined to being an advisory and consultancy body for the Malaysian government, providing expert opinions, policy options, strategies and recommendations on maritime-related matters.

In line with its mission to serve as the premier national resource and reference centre for maritime affairs, \(^{1082}\) the MIMA plays a prominent role in undertaking policy studies and research-linked activities in various maritime fields. In undertaking this

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\(^{1079}\) MAEDs, for example, is a device that is attached to the trawler nets with the purpose of minimizing by-catch of juvenile fish and jelly fish while allowing the capturing of Acetes. See Kadir and Yaacob, “SEAFDEC-MFRDMD/DPPSPM Highlights 2007,” pp. 16-17.


\(^{1081}\) As corporate body, the MIMA is a company limited by guarantee without a share capital, but has its own Board of Directors.

role, the MIMA’s in-house researchers have been directly involved in organising and undertaking a series of policy research programs, many of which are conducted in collaboration with local and foreign research organisations, higher learning institutions and government agencies.¹⁰⁸³ This mobilisation of expertise is intended to further enhance the MIMA’s research capability, enabling it to offer the best and most timely policy options, recommendations and opinions to the Malaysian government on maritime matters.

The major fundamental themes of the MIMA’s research activities cut across diverse maritime-related areas, albeit the emphasis is strongly placed upon in areas of economics and industry, ocean law and policy, coastal and marine environments, maritime security and diplomacy.¹⁰⁸⁴ In line with these themes, four research centres have been integrated into MIMA’s organisational structure. They are the Centre for Maritime Economics and Industries (MEI), the Centre for Ocean Law and Policy (OLAP), the Centre for Straits of Malacca and the Centre for Maritime Security and Environment (MSE).¹⁰⁸⁵ Supported by a team of administrative officers, each centre has its own group of researchers with specific duties, such as carrying out research projects and other research-linked activities that are relevant to the centre’s assigned themes.

The MIMA serves as an important body for imparting knowledge, building technical capacity and raising awareness on maritime issues among the general public and maritime practitioners. In accomplishing these functions, the MIMA is actively

¹⁰⁸³ The MIMA has successfully completed a total of 16 research projects and one non-research project in 2009. MIMA, MIMA Annual Report 2009, (Kuala Lumpur, MIMA, 2009), p. 9
¹⁰⁸⁴ The selection process of research area involves consultation between MIMA and stakeholders from the public and private sector. The information obtained from this consultation process not only facilitates the identification of the Agency’s research priorities, but also ensures the research satisfies the needs of the maritime community and the government. Added to this, the selection of research areas provides the MIMA with the flexibility and independence to pursue its own topics of interest.
¹⁰⁸⁵ The Centre for Maritime Security and Environment (MSE) is the newest research centre established under the MIMA. Formally set up on 16 June 2008, the MSE resulted from the merging of the Centre for Maritime Security and Diplomacy (MSD) with the Centre for Coastal and Marine Environment (CMER).
involved in publishing its research findings in both the print and electronic media.\textsuperscript{1086} It also organises short courses, conferences, symposiums, seminars and workshops in an effort to raise awareness on a myriad of maritime issues.\textsuperscript{1087} Nevertheless, the central part of the MIMA’s awareness programme rests with the Maritime Awareness Programme (MAP), which covers a variety of fields and topics, including marine tourism, Malaysia's coral reef and other ecosystem habitats, law of the sea, joint development in the disputed maritime areas, climate change, coastal zone development, maritime economics and security.\textsuperscript{1088} With the multitude of maritime-related themes underpinning its research programmes and awareness campaigns, the MIMA has transformed itself into a truly multi-disciplinary research organisation, while at the same time realising its goal of becoming the premier maritime policy think-tank in the region.

7.4. National Fisheries Law Enforcement and Surveillance Agency

Since the commencement of formal operation of the MMEA in November 2005, the area that has undergone the most profound change in its operational structure is the fisheries law enforcement and surveillance regime in the offshore region of Malaysia’s EEZ. Bolstered by the MMEA’s considerable statutory power prescribed under the \textit{MMEA Act 2004}, the Agency now forms “the backbone of Malaysia’s maritime law

\textsuperscript{1086} For an extensive list of publications, research reports, articles, as well as conference and seminar papers, see MIMA, \textit{MIMA Annual Report 2009}, (Kuala Lumpur, MIMA, 2009), at pp 26-36.

\textsuperscript{1087} In 2009 the MIMA was involved in organising and conducting a total of 14 seminars, conferences, training courses, roundtable discussions and workshops, many of which involved collaboration with selected government agencies, universities and training institutions. See MIMA, \textit{MIMA Annual Report 2009}, Kuala Lumpur, MIMA, 2009, p. 9.

\textsuperscript{1088} At the core of the MIMA’s public awareness campaigns is the Maritime Awareness Programme (MAP), which involves public forums and technical lectures. The topics covered by the MAP include marine tourism, the status of Malaysia's corals, joint development in disputed areas, architecture in coastal zones, maritime economics and security. The MAP not only benefits the general public and maritime practitioners, it also serves as an avenue for exchanging ideas on maritime matters and issues between participants and the Agency.
enforcement agencies.” Nonetheless, from a legal perspective, the enforcement of federal fisheries laws and regulations within the EEZ remains the joint responsibility of multiple federal enforcement agencies. These agencies include the MMEA, the Resource Protection Division of the DoFM, the Royal Malaysian Navy (RMN) and the Royal Malaysian Air Force (RMAF). A detailed discussion of these enforcement agencies and their roles is provided in the succeeding sections.

7.4.1. Malaysian Maritime Enforcement Agency (MMEA)

Formally established on 15 February 2005 under the MMEA Act 2004, the MMEA is the leading paramilitary agency responsible for the enforcement of federal law and order, including fisheries-related legislation applicable in Malaysia’s maritime zone. With a function similar to that of a coastguard unit, the MMEA is empowered under the MMEA Act 2004 to perform a variety of peacetime roles within maritime

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1090 With the exception of the RMN and the RMAF, whose constabulary functions are primarily to aid other federal agencies in Malaysia’s maritime area, the remaining federal enforcement agencies and subsidiary units are responsible for implementing specific federal statutes and ordinances. See http://www.maritime.gov.my/agencies.html (accessed on 26 July 2010).
1091 The MMEA achieved operational status on 30 November 2005, but initially with restricted coverage of its operational areas (which mostly comprised of areas along the Straits of Malacca and the east coast of Peninsular Malaysia). Its current operational areas have now been extended to both sea areas and airspaces beyond the country’s 12-nm territorial sea to the outer limits of its EEZ. K. Ruka, “MMEA to Be Deployed,” The Star, 14 November 2005. See also “The MMEA is Newly Enforcement Agency in Malaysia,” New Straits Times, 11 October 2005, p. 6.
1092 The MMEA forms part of the Malaysian Civil Service and, unlike the RMN and the RMAF, is currently placed under the Prime Minister’s Department.
1093 In his analysis of the legal contents of the MMEA Act 2004, Ooi has pointed out that the MMEA seems to have the power to implement an exhaustive list of domestic statutes and codes. Examples of such statutes and codes (as provided by Ooi) include: the Emergency (Essential Powers) Ordinance, No. 7 1969, the Continental Shelf Act 1966, the Fisheries Act 1985 (Amended 1993), the Mutual Assistance in Criminal Matters Act 2002, the EEZ Act 1984, the Police Act 1967, the Customs Act 1967 and the Criminal Procedure Code. See Ooi, “The Malaysian Maritime Enforcement Agency Act 2004,” pp. 71-72.
jurisdictional zones of the country, ranging from search and rescue operations, the prevention and suppression of criminal activities, to aerial and coastal surveillance. In giving effect to its maritime enforcement functions, the MMEA has been granted a multitude of statutory powers enumerated in the same Act. These powers include: boarding and inspecting vessels, detaining persons suspected of violating fisheries laws, collecting intelligence information and investigating any offence, prosecuting alleged offenders, as well as conducting hot pursuit. The MMEA’s areas of responsibility also extend beyond law enforcement activities to the training of its officers and personnel through the establishment and operation of training centres and institutions. As stipulated in section 17(1) of the MMEA Act 2004, the Agency can also be placed under the command and control of the Malaysian Armed Forces during times of war, emergency or crisis.

In accordance with its statutory power to perform various maritime enforcement functions, the MMEA may conduct surveillance and enforcement operations of fisheries laws and regulations in Malaysian fisheries waters on behalf of the DoFM. In contrast to shortage of enforcement assets and human resources available to the DoFM, the MMEA possesses a relatively large inventory of surveillance and enforcement assets for deployment in the geographically vast and remote region of the country’s EEZ. In terms

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1095 The operational area of the MMEA covers the Malaysian Maritime Zone, and to facilitate effective operation, is in turn divided into five major Maritime Regions under which consisting of 18 Maritime Districts.
1096 MMEA Act 2004, section 6(1)(b).
1097 Section 6(1)(c).
1098 Section 6(1)(e).
1099 MMEA Act 2004, section 7(2)(b).
1100 Section 3(2).
1101 Section 7(2)(d).
1102 Prosecution can only occur with permission from the Public Prosecutor. See section 8 of the MMEA Act 2004.
1103 MMEA Act 2004, section 7(2)(e).
1104 Section 6(1)(g); It has been reported in the media that the MMEA will move to its new training centre in Sungai Ular, Kuatan by in 2011. At a cost of almost RM 290 million, the centre is equipped with administration buildings, hostels and housing quarters. See Roslina Mohamad, “Taking Charge of Maritime Zone,” The Star, 8 July 2010.
of the quality of assets available for fisheries law enforcement operations, the MMEA, manned by well-trained and experience personnel recruited from the military and other civilian enforcement agencies, ostensibly provides a far more effective and efficient maritime enforcement platform than the DoFM can offer. This undertaking is supported by the MMEA’s own fleet of offshore patrol vessels, several of which are ex-RMN vessels with the capability of operating at sea for extended periods of time and in rough weather conditions.

During its early years of operation, the MMEA’s inventory of enforcement assets and systems derived from diverse sources, primarily patrol vessels and equipment inherited from other enforcement agencies and departments. The RMN, in particular, has been supportive of the MMEA’s formation. Such support is evidenced the transferring 15 of RMN patrol crafts and two 72 meter Langkawi class offshore patrol vessels, together with many of its former personnel and crews, to the MMEA.

As a new enforcement agency tasked with the responsibility of maintaining law and order in the vast expanse of Malaysia’s maritime estate, the ability of the MMEA to perform its role properly and efficiently has been undermined by inadequate physical assets and manpower. With the existing fleet of surface patrol vessels and aircrafts cannot be deployed effectively and safely in the outer regions of Malaysia’s EEZ (beyond 50 nautical miles from the shoreline), the Agency is not in position to effectively enforce Malaysian fisheries law in the area. To overcome this problem,

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1105 Apart from 25 new vessels, the assets available to the MMEA in its first year were drawn from various Malaysian enforcement agencies. A total of 72 vessels and boats in which the MMEA inherited came from various agencies: 19 from the RMN, 21 from the Marine Department, 15 from the Marine Police 5 from the Royal Malaysian Customs Department, and 12 from the DoFM. See Anon. “First Phase APMM Concentrates on the Malacca Straits,” Bernama (in Malay Language), 10 October 2005.


1107 Nearly all the MMEA’s inventory of patrol vessels and boats were inherited from other enforcement agencies and are considered old (some have been in operation for over 25 years), lack manoeuvrability and lack the endurance to operate further away from their bases in the deep waters of the outer limits of the country’s EEZ boundaries.
the MMEA has gradually upgraded its maritime enforcement capability and efficiency through an aggressive recruitment drive for service personnel and asset modernisation programs. A good example of the latter type of program is the procurement of larger and more modern offshore patrol vessels, fixed wing aircrafts, helicopters, weapons and communication equipment. The Malaysian government has certainly made a firm commitment to enhance the MMEA’s enforcement and surveillance capabilities. This is commitment is demonstrated during the 9MP period (2006-2010) when a substantial public expenditure was spent for the procurement of assets for the Agency. In 2009 alone, for example, approximately RM600 million of government funding was allocated for the purchase of three used Eurocopter Dauphin N3 and two Bombardier CL-415MP amphibious aircrafts. An additional RM622 million was earmarked for the MMEA under the 2010 budget, with a substantial portion of the allocation going to asset procurement. All of these initiatives not only would strengthen the MMEA’s enforcement and surveillance capabilities, but also help transform the Agency into a more formidable and well-equipped maritime enforcement Agency in the region.


1109 Under the Ninth Malaysia Plan (2006-2010) nearly RM1.8 billion (US$500 million) has been allocated for the MMEA operation. Based on market sources, “procurement of services and equipment during the 2006–2008 period have been estimated at US$150 million, with an initial RM100 million (US$28 million) for the procurement of essential assets for its first year of operations.” Desmond Cheng, “Malaysia; Maritime Enforcement” U.S. Commercial Service, Department of Commerce, U.S.A., 2006.


7.4.2. DoFM’s Resource Protection Division

Resource Protection Division of the DoFM (hereafter the Division) is responsible for almost every enforcement measure of the *Fisheries Act 1985 (Amended 1993)* and its subsidiary regulations. Nonetheless, since the MMEA attained full operational status in 2005 the Division’s fisheries enforcement capability has drastically diminished. As a result, the Division’s six P-series patrol boats and six KPS-series boats, along with a significant number of the Department’s enforcement personnel were transferred to the MMEA. The loss of these enforcement assets, along with the manpower, subsequently prompted the DoFM to shift its fisheries law enforcement operations to inland fisheries and coastal areas within 12-nm of Malaysia’s territorial sea. Thus, the MMEA has become the only government agency entrusted to carry out fisheries enforcement and surveillance in the remaining marine areas which reach the outer limits of Malaysia’s EEZ boundaries.

Notwithstanding the change to its enforcement priorities, the Division remains a critical subsidiary unit of the DoFM for conducting fisheries enforcement and surveillance activities in Malaysia’s EEZ. The unit has been tasked to oversee, implement, monitor and coordinate the Department’s Vessel Monitoring System (VMS) program. Under this program, it is compulsory for all C2 class vessels operating in the offshore fishing areas of the EEZ to install vessel-tracking devices and comply with prescribed monitoring requirements. As well as devising and issuing policy directives, rules and procedures under the VMS program, the Division is required to collect, analyse, compile and document the status and activities of the participating vessels.

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1113 This information includes the position of a vessel at a certain time, as well as its course and speed.
Concerning with the practical surveillance and enforcement actions, the Division is responsible for planning and executing aerial surveillance activities and programs, a role in which it undertakes with other agencies equipped with patrol aircraft fleets such as the RMAF and the MMEA. The DoFM has also been assigned the role of coordinating and supervising the implementation of ‘Operasi Bersepadu’ or Coordinated Operation, that is, an integrated enforcement program involving all the Fisheries Resource Protection Divisions at the state-level.\footnote{In addition, there are also joint-operations identified by Othman involving RMN and Marine Police to prevent illegal and destructive fishing practices. These include Ops Samudra, Ops Perkasa, and Ops Gulung.}

7.4.3. Royal Malaysian Navy

One of three major components of the Malaysian Armed Forces (MAF), the Royal Malaysian Navy (RMN) is responsible for safeguarding the country’s maritime sovereignty and integrity.\footnote{The foundation of the RMN can be traced back to the Straits Settlement Naval Volunteer Reserve (SSNVR) in Singapore, which was established by the British Colonial Office on 27 April 1934.} Citing a number of sources, Chung (2004) noted that the RMN has the dual task of defending the nation from foreign military aggression and performing constabulary duties in Malaysia’s vast maritime frontiers,\footnote{Chung shared similar view with Mak and Karniol that RMN’s efforts of balancing its dual roles of warfighting and maritime resource protection have subsequently delayed its expansion. See Chung, “The Spratly Islands Dispute,” p. 136; cited from Robert Karniol, “Balancing Act. Country Briefing: Malaysia,” \textit{Jane’s Defence Weekly}, 3 April 2002, p. 26 and J. N. Mak, “The Modernization of the Malaysian Armed Forces,” \textit{Contemporary Southeast Asia} 19(1997), p. 46.} albeit the operational areas mostly concentrate outside the country’s 12-nm territorial sea limit.\footnote{Sutarji, “Malaysia's Maritime Law Enforcement Agencies,” p. 196.} These constabulary duties include providing surveillance and enforcement services to other federal enforcement agencies and departments such as the Marine Operation Force, the DoFM, the DOE and the Marine Department of Malaysia.\footnote{Yahaya \textit{et al.}, “Marine Fisheries,” p. 136; see also Madzli Haji Harun, Wan Mariam Wan Abdullah, and Zuha Rosulfila Abu Hassan, “The Challenges and Importance of Malaysian}
RMN not only has an important role to play in supporting the implementation of applicable national laws and regulations, but is also expected to assist government agencies and departments in executing a variety of civilian enforcement initiatives. These include the reduction in marine pollution, drug interdiction, ensuring navigational safety, combating piracy and armed robbery at sea, and preventing contraband and arms smuggling activities.\textsuperscript{1119}

As a corollary to its constabulary functions which are aimed at protecting the country’s marine living and non-living resources, one of the vital roles of the RMN is to assist the DoFM in ensuring the compliance of existing fisheries laws and regulatory measures in Malaysian fisheries waters.\textsuperscript{1120} Prior to the commencement of the MMEA enforcement operation, negotiated joint sea patrol operations between the RMN and the DoFM were common practices. As is often the case in coastal fisheries waters, these operations involved the deployment of RMN surface patrol vessels alongside patrol boats from the DoFM’s Resource Protection Division. In addition, the RMN’s routine and coordinated patrolling operation at sea coincides with the opportunity to conduct surveillance and monitoring of fishing activities on behalf of the DoFM.

All the arrests made by the Royal Navy for any alleged fisheries offences are carried out as “civil arrests” as it does not have the power to prosecute offenders. Inevitably, it is a common practice for the RMN to surrender the detained offender to either the DoFM or MMEA to proceed with the prosecution. During their deployment, the RMN’s patrol vessels are expected to perform a wide range of constabulary functions within an extensive maritime area of the country, including fisheries law

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\textsuperscript{1120} In addition to these activities, the RMN is tasked to conduct search-and rescue missions, attending to disaster relief operations and participating in multilateral humanitarian and UN peacekeeping operations.

Executing these additional tasks is, to some extent, compatible with the RMN’s overarching objective of protecting national sovereignty in Malaysia’s maritime jurisdiction.
\end{flushright}
enforcement and surveillance. However, its core function remains protecting the country in the event of war.1121

With the MMEA now in operation, several constabulary functions previously performed by the RMN have been re-assigned to the former.1122 One particular area significantly affected by this development is the enforcement of fisheries laws and regulations, over which the MMEA has now assumed a greater role. Nonetheless, cooperation between these two organisations continues to prevail in the fields of maritime enforcement and surveillance.1123 Besides focusing on its naval services, the RMN’s patrolling activities complement its secondary mandate to assist other federal maritime agencies, such as the MMEA, in detecting and intercepting infringing activities at sea.1124 This form of assistance has its benefits, not only in terms of reinforcing the MMEA’s law enforcement work, but more importantly, enhancing enforcement and surveillance efforts in Malaysia’s maritime jurisdictional areas.

7.4.4. Royal Malaysian Air Force (RMAF)

The Royal Malaysian Air Force (RMAF) forms an integral part of the Malaysian Armed Forces. Its primary function is to protect the country’s airspace, including the airspace above Malaysian fisheries waters. Equipped with fleets of fixed wing aircrafts and


1122 Not until recent in recent time that the maritime law enforcement activities in the country had been conducted in a sectoral manner, involving not less than five maritime enforcement agencies and department. They are: the RMN, the DoFM, the Royal Custom Department Malaysia, the Royal Malaysia Marine Police and the Maritime Department of Malaysia. Madzli Haji Harun, Wan Mariam Wan Abdullah, and Zuha Rosafila Abu Hassan, “The Challenges and Importance of Malaysian Maritime Policies in 21st Century,” Conference Paper, p. 128, available at http://hdl.handle.net/123456789/623 (accessed on 29 July 2010).

1123 Such cooperation is facilitated by the fact that a large proportion of service personnel under the MMEA were former RMN officers and crew members.

1124 As noted earlier, the RMN’s patrolling operations assist the MMEA in executing its maritime-related duties, including ensuring compliance with, and enforcement of, fisheries laws.
helicopters suitable for maritime patrol operation, the RMAF provides an important platform for aerial surveillance in the country’s maritime jurisdiction. Since the MMEA attained its operational status, the RMAF has continued to fulfil its traditional role of providing aerial surveillance over EEZ areas.1125 Whilst the MMEA’s aircrafts and helicopters are being assigned to perform similar maritime aerial surveillance,1126 the capability of this existing fleet is still insufficient to operate over the country’s EEZ with harsh weather conditions during the monsoon season.1127 The challenging issue that MMEA faced on the aspect of aerial surveillance operation is also shared by the RMAF. According to Sutarji and Hashim (2009), RMAF has been highly selective in determining the frequency of its maritime surveillance operations, which are often dependent upon the arising needs of the Malaysian Armed Forces.1128 Such selectivity is a result of the RMAF’s limited resources, particularly its small number of aircraft fleet, minimal funding and lack of manpower, as well as the vast geographical area that it must cover.

As the DoFM is not equipped with its own maritime aerial capability, its work on fisheries law enforcement operation continues to be supported by the RMAF. Indeed, a close relationship exists between the RMAF and the DoFM, as the former is regularly entrusted to conduct aerial fisheries surveillance and patrolling operations on behalf of the former. Illustrating the extent of this cooperative arrangement is that on-board observers from the Supervision Section of the DoFM’s Resources Protection Division have frequently accompanied RMAF operational flights.1129 Moreover, if the RMAF

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1126 The capability of this fleet has been enhanced with the acquisition of a multi-purpose Bombardier 415 MP amphibious aircraft and a Eurocopter Dauphin.
1127 The enforcement challenges facing the MMEA are exacerbated by the distribution of foreign and local deep-sea fishing operations across a vast area of the zone.
1129 Lamin, “Situation of MCS in Malaysia,” p.75
patrol aircraft sights any activity that involves an infringement of fisheries laws, the information is immediately transferred to a patrol vessel operating in the vicinity of the area via the Operation Control Centre (OCC). Based in the DoFM’s headquarters in Putrajaya, the OCC is directly connected to the RMAF’s airborne surveillance programme. As a result, this allows the OCC, upon receiving the relevant information from the RMAF’s aircraft, to transmit the information and deploy patrol vessels so that the targeted fishing vessels in issue can be intercepted.\textsuperscript{1130} This air surveillance platform, combined with the VMS program and the installation of modern over the horizon radar surveillance systems, is expected to transmit information to offshore patrol vessels at sea at a faster rate, thereby ensuring the immediate deployment of patrol vessels to the targeted fishing vessel. This system not only substantially reduces the operational costs of regular surface patrolling at sea, but also minimises unnecessary bureaucratic inefficiencies and delays.\textsuperscript{1131}

\textbf{7.5. Inter-Agency Cooperative and Coordinating Bodies}

A well-directed and coordinated maritime management measures and enforcement operation have their advantages in terms of streamlining operations, minimising the undesirable duplication of efforts and ensuring competent and efficient deployment of available resources. In view of this, there is a need to establish a government body or entity in Malaysia to supervise, coordinate and monitor the management and enforcement operations carried out by multiple government agencies. Indeed, a number of inter-agency cooperative and coordinating entities have been established, forming part of Malaysia’s national institutional framework. Of these entities, two are involved in the management and law enforcement of offshore EEZ fisheries: the National

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{1130} \textit{Ibid.}
\item \textsuperscript{1131} Flewwelling \textit{et al.}, “Recent Trends in Monitoring, Control and Surveillance Systems,” p. 87.
\end{itemize}
\end{footnotesize}
Maritime Coordinating Committee (NMCC) and the Maritime Enforcement Coordination Centre (MECC).

7.5.1. National Maritime Coordinating Committee

The National Maritime Coordinating Committee (NMCC) reports to the MKN and its primary responsibility involves supervising and co-ordinating activities related to maritime law enforcement.\textsuperscript{1132} Headed by the Secretary to the MKN, the NMCC is also empowered to formulate and issue directives and policies pertaining to law enforcement at sea. Like the MKN, NMCC membership comprises representatives from multiple federal government agencies such as the DoFM, the Attorney General’s Chambers, the Ministry of Foreign Affairs, the DOE and the Marine Department.

Given that the NMCC only meets every six months, the establishment of the Maritime Operations Enforcement Committee (MOEC)\textsuperscript{1133} is crucial to the MKN’s organisational structure in terms of regularly monitoring and supervising the day-to-day operational aspects of the various enforcement agencies. This committee meets on a quarterly basis to discuss and plan any operational requirements that require co-coordination.

7.5.2. Maritime Enforcement Coordinating Centre

Created on 31 December 1985,\textsuperscript{1134} the Maritime Enforcement Coordinating Centre (MECC) is the main coordinating body for maritime enforcement and surveillance

\textsuperscript{1132} In line with the Malaysian government decision in April 1980, an ad-hoc NMCC had its first meeting in August 1983, chaired by the then Secretary of the NSC (now called National Security Division (NSD)).

\textsuperscript{1133} The MOEC was established in 1986.

\textsuperscript{1134} Chaired by the NSC Secretary, the MECC is, in effect, the operational arm of the NMCC. Both the MECC and the NMCC were formally established on 31 December 1985.
activities within Malaysia’s maritime jurisdictional boundaries, including the EEZ. Based in Lumut, Perak,\(^{1135}\) the MECC forms an integral part of the MMEA’s operational arm.\(^{1136}\) The absence of any command or arrest powers has not prevented the MECC from executing its task of monitoring, coordinating and supervising all enforcement and surveillance operations involving multiple government agencies in the country’s national maritime jurisdiction, whether at sea or in the airspace above it.\(^{1137}\) Through this coordinated operational framework, the unnecessary duplication of enforcement and surveillance efforts (which typically occurs when multiple enforcement agencies are involved), can be reduced or avoided. More importantly, national assets and human resources can be utilised in an efficient and effective manner.

Additional functions of the MECC include formulating standard operating procedures (SOPs) to facilitate operational compatibility between various maritime enforcement agencies, as well as supervising the utilisation of assets for search and rescue operations, oil pollution and spill detection, joint aerial surveillance and at-sea patrol operations.\(^{1138}\) The MECC also has the additional task of collecting, compiling and exchanging data, operational trends and intelligence information among the relevant maritime enforcement agencies for further action.\(^{1139}\)

Consistent with its role of ensuring the safety of lives at sea, the MECC, often in conjunction with the DoFM, the Marine Department, the RMN and representatives from

\(^{1135}\) In January 1984, the MECC moved to a permanent building in its present location.
\(^{1136}\) On 12 Jun 2008, the MKN decided to transfer the MECC’s operation to the MMEA. See Prime Minister’s Department, National Security Division, Prime Minister’s Department, Malaysia, “Pusat Penyelarasan Penguatkuasaan Maritim (PPPM),” 10 April 2009, available at http://www.bkn.gov.my (accessed on 21 August 2010)
\(^{1137}\) The component of the MECC comprises members and units from all maritime law enforcement agencies in Malaysia. Headed by the MMEA, these enforcement agencies include including the RMN, the RMAF, the Royal Malaysian Police (Marine and Air Unit) as well as the DoFM, the Royal Malaysian Customs Department, the Immigration Department, the Ministry of Domestic Trade and Consumer Affair, Sabah Park and the Sandakan Municipal Council.
\(^{1138}\) The air and sea elements of the MMEA’s operations are frequently directed to combat illegal activities such as smuggling, illegal fishing, illegal immigrants and drug trafficking.
\(^{1139}\) Such information covers various topics including piracy and armed robbery at sea, as well as the illegal intrusion of foreign fishing vessels.
other enforcement agencies, has conducted a series of educational programs and engaged in regular dialogue with local fishermen regarding maritime safety. The thrust of these programs and discussions is to educate and heighten awareness among fishermen and the general community on issues of maritime safety, from unauthorised fishing areas in highly dense or trafficked sea-lanes, to basic maritime and navigational laws and emergency safety procedures.

7.6. Conclusion

This chapter has examined the national institutional framework for fisheries resource management in the EEZ of Malaysia, focusing on the functional scope, organisational structure and operations of relevant government agencies. This chapter has also indicated that a complex institutional framework consisting of policy-making, administrative enforcement and coordinating bodies has been put in place, one which support, and at the same time is supported by, a suite of national legislation, subsidiary regulations, orders and ordinances.

However, it has been argued that effective policy-making affecting fisheries management regime in Malaysia’s EEZ has been hampered by a number of constraints. These include overlapping jurisdictional claims and unclear functional boundaries, a disparity in assets and human resource capability among surveillance and enforcement agencies and a lack of clearly defined and authoritative coordinating mechanisms.

For the most part, institutional arrangements in Malaysia remain mostly sectoral, single purpose, with multiple government agencies, each with different authority and functional capacity, are involved in fisheries management and enforcement. This

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layered institutional structure stems from a plethora of domestic laws that empower too many implementing agencies to perform overlapping roles.\textsuperscript{1141} This is indeed problematic as it may precipitate the duplication of enforcement efforts, inaction and the inefficient use of resources.

To overcome the long-standing problems associated with a sectoral-based approach to maritime enforcement in the country’s EEZ, Malaysia has streamlined the number of agencies and departments involved in formulating and executing enforcement and surveillance operations. An integral part of this process has been the creation of the MMEA. However, the ability of the MMEA to fulfil its assigned roles of carrying out effective fisheries enforcement, monitoring and surveillance has been undermined by a number of factors. The sheer expanse of Malaysia’s maritime jurisdictional area presents a great challenge to the Agency in carrying such tasks, compounded by insufficient manpower, physical assets, and funding. Furthermore, if the existing laws with provision that bestows enforcement powers to other government agencies and departments remain in force, critics argued that MMEA is just another additional enforcement agency in the country.

This chapter has revealed that a combination of an adequate and effective institutional framework and efficient operational system to support inter-agency cooperation and coordination is essential for successful fisheries governance and responsible fishing practices in the EEZ. It is reasonable to suggest that the success of this institutional framework intrinsically links to the appropriate policy and legislative framework that is closely aligned with the general principles and implementing measures articulated in international fisheries instruments.

\textsuperscript{1141} In the case of national laws on the marine environment, Ramli observes this arrangement to have given rise of varying interpretations of the laws by these implementing agencies, consequently, creating management inefficiencies and operational difficulties in protecting the marine environment from pollution. See Ramli, “MIMA Report on Status of Maritime-Related National Laws,” p. 9.
This thesis proceeds with a discussion of how Malaysia implements internationally agreed principles and standards for responsible fisheries as provided in Chapter 4.
Chapter 8
MALAYSIA’S RESPONSE TO THE INTERNATIONAL LEGAL
AND NORMATIVE FRAMEWORK FOR RESPONSIBLE
OFFSHORE FISHERIES IN THE EEZ

8.1. Introduction
As discussed in Chapter 4, international fisheries instruments offer a comprehensive set of principles and measures for coastal States at the national and regional levels towards achieving sustainable and responsible development of fisheries in the EEZ and equally important, the preservation of associated marine ecosystems. This principles and measures provide States with the basis not only for policy and administrative guidance but also as a direction to devise and implement the components of national policy and regulatory framework aimed at attaining optimal benefits from the utilisation of fisheries resources in the zone. In this chapter, the extent to which Malaysia has adopted the international framework for responsible fisheries management provided in Chapter 4 will be analysed, specifically in the offshore areas of its EEZ. This analysis will be done by way of examining the specific provisions of national policies and legislation discussed in Chapter 6.1142

This chapter is divided into two parts. The first part comprises four major sections, with each section examining the extent to which the key principles of responsible fisheries reflected in Malaysia’s legislative and policy practices. These principles encompass: (i) the sustainable utilisation and conservation of marine fisheries resources; (ii) the ecosystem-based approach to fisheries management; (iii) the

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1142 As noted in Chapters 1 and 5, the terms “offshore fisheries” and “offshore deep-sea fisheries” refer to fisheries-related activities conducted beyond 30 nautical miles from the shoreline to the outer limits Malaysia’s EEZ.
precautionary approach to fisheries conservation and management; and (iv) interstate cooperation for fisheries management. Each of these sections will examine the progress that Malaysia has made in terms of implementing these principles by appraising the country’s adoption of relevant measures endorsed by international fisheries instruments.\textsuperscript{1143} In addition, this chapter highlights the fundamental challenges affecting the country’s practical implementation of international principles and management measures for responsible fisheries.

8.2. Sustainable Utilisation and Conservation of Marine Fisheries Resources

One of the central principles enunciated in international fisheries instruments is the need for coastal States to promote the optimum utilisation of marine living resources in the EEZ without subjecting such resources to over-exploitation.\textsuperscript{1144} In the case of Malaysia, this principle has been explicitly recognised in the \textit{Fisheries Act 1985 (Amended Act 1993)}, National Plan of Action for Deep-Sea Fisheries Development, and the Malaysia NPOA-Capacity. In particular, section 6(1) of the \textit{Fisheries Act 1985 (Amended 1993)} requires that states that the Director-General of the DoFM is to prepare fisheries plans that are “designed to ensure optimum utilization of fishery resources, consistent with sound conservation and management principles and with avoidance of overfishing.” Express reference to this principle can also be found in a number of Malaysia’s national policy documents relating to offshore fisheries management, specifically the National Plan of Action for Deep-Sea Fisheries Development. The Plan states that the development of deep-sea fisheries should focus on the sustainable management of deep-

\textsuperscript{1143} These measures include: the establishment of TAC and MSY, eliminating excess fishing capacity and the adoption of EAF management measures and operational frameworks such as the prohibition of destructive fishing gear and methods and a reduction in, or avoidance of, by-catch and discard; \textit{LOSC}, Article 61(2); \textit{UN Fish Stocks Agreement}, Article 5(h); and \textit{FAO Code of Conduct}, Articles 6.3, 7.1.1 and 7.2.1.
sea fisheries resources through rational and scientifically based management and protective methods so that resources can be utilised optimally.\textsuperscript{1145}

Another policy document referring to this principle is the Malaysia NPOA-Capacity. The document points out that, with the support from the existing legislative and regulatory framework, management measures targeting marine capture fisheries can be formulated and adopted with the aim of striking “a balance among fishing efforts, [the] sustainability of resources and environmental conservation.”\textsuperscript{1146} In light of the problem of overfishing pervasive in the country, the document outlines a number of strategies for Malaysia to adopt within a designated timeframe. These strategies, which may be applied to the management of Malaysia’s offshore fisheries in the EEZ, include regulating fishing effort, implementing Individual Quota System (IQS) based on estimated TAC, eliminating illegal fishing and cancelling licenses of non-compliant C2 zone vessels.\textsuperscript{1147}

In giving effect to practical implementation of this principle, a myriad of fisheries management and conservation measures have been adopted by Malaysia. Some of which involve restricting the levels of fishing input and output, while others relate to the technical management approach. However, the following sections will only cover those measures that give effect to the principle of sustainable utilisation and conservation of marine fisheries resources based on the criteria developed in Chapter 4. The setting of MSY, the determination of a TAC, and eliminating excess fishing capacity are examples of such measures.

\textsuperscript{1145} National Plan of Action for Deep-Sea Fisheries Development, paragraph 4.1(g), at p. 8.
\textsuperscript{1146} Malaysia NPOA-Capacity, paragraph 3.4, p. 7.
\textsuperscript{1147} Malaysia NPOA-Capacity, paragraph 5.3.1, at p. 11.
8.2.1. Setting of Maximum Sustainable Yield

The need for coastal States to adopt management and conservation measures for ensuring fisheries resources are harvested at sustainable level is a fundamental requirement of international fisheries instruments on responsible fisheries.\(^{1148}\) Similar to the steps taken by its neighbouring countries, such as Indonesia,\(^{1149}\) Malaysia has recognized the concept of MSY as a management benchmark for marine capture fisheries in both the coastal and offshore fisheries sector. Evidently, the concept has been widely accepted in the field of coastal fisheries management in Malaysia since the early 1970s, serving as a biological indicator of the status and health of the country’s marine fisheries resources.\(^{1150}\)

In the context of EEZ fisheries management, MSY is commonly utilized as a biological reference point for determining the potential catch yield, as well as detecting biological overfishing of multispecies fisheries in the zone.\(^{1151}\) This is evident in the literature on the health and biomass of particular groups of fish species in the offshore areas of Malaysia, most notably demersal, semi-pelagic and pelagic fish species.\(^{1152}\)

\(^{1148}\) LOSC, Article 61(3); UN Fish Stocks Agreement, Article 5(b); and FAO Code of Conduct, Article 7.2.1.


\(^{1151}\) For example, assessments show that catch production from marine capture fisheries in the EEZ waters off both the west coast and east coast of Peninsular Malaysia have surpassed the estimated MSY, while resources for extensive exploitation remain in the EEZ off Sarawak. Albert Chuan Gambang, Hadil Bin Rajali, and Daud Awang, Overview of Biology And Exploitation of the Small Pelagic Fish Resources of the EEZ of Sarawak, Paper Presented at National Fisheries Symposium, Kota Bahru, Kelantan, 2003, p. 2, available online at http://www.fri.gov.my/friswak/publication/pelagic2003.pdf (accessed on 5 March 2010).

\(^{1152}\) See, for instance, the work by Hadil Rajali, A. C. Gambang, R. Rumpet, A.H. Nurridan, A. Daud and M. Jamil, ‘The Status of the Demersal Fish Resource Beyond 30 Nautical Miles
At the policy level, the concept of MSY has been referred to in national policy instruments as the benchmark for controlling fishing effort. The Malaysia NPOA-Capacity, for example, identifies MSY as an underlying component of action plans to ensure that fishing capacity is at a level where fisheries resources can be harvested in a responsible and sustainable way.\footnote{Malaysia NPOA-Capacity, p. 11.} In support of this action plan, the DoFM has regulated the level of fishing effort in each fishing zone through a strict allocation of fishing licenses within the recommended MSY catch limit.\footnote{Often, the licence quota for fishing vessels and gear is set below the recommended MSY limit. For a detailed discussion on the precautionary approach in the fishery licensing process, see section 8.4.}

The concept of MSY is not the only mechanism guiding the management of fisheries in Malaysia’s waters. Other variant of conventional fisheries indicators such as Maximum Economic Yield (MEY) and optimum effort are often used to guide local fisheries managers and scientists in the aspect of building sustainable fisheries. Because of the uncertainty surrounding the scientific information on offshore fisheries resources, coupled with a lack of accurate data on catch landing rates,\footnote{There is a lack of scientific research on fisheries abundance and species composition in the deeper offshore waters of Malaysia’s EEZ due to infrequent research activity in that area. With the exception of some fragmented research and a few resource surveys which were recently carried out in a specific isolated offshore area of Malaysia’s EEZ, only two comprehensive offshore deep-sea fisheries surveys have been conducted in the zone, with each showing different estimated figures for potential exploitation of fishery resources. As a result, these two surveys have been subjected to criticism. For discussions on fisheries research and survey activities previously conducted in Malaysia’s EEZ, see Jamon, “Deep-Sea Resources Research and Survey,”; On the criticism relating to the research results of the two comprehensive fisheries resources surveys in Malaysia’s EEZ conducted from 1985-1987 and from 1996-1997, see, Sea Resources Management Sdn Bhd, “Case Study on Illegal, Unreported and Unregulated (IUU) Fishing,” p. 17.} the DoFM has adopted a more cautious approach when utilising MSY as a fisheries management benchmark in
recent years. A detailed discussion on the incorporation of the precautionary approach into the MSY model for offshore fisheries in Malaysia’s EEZ is provided in Section 8.4.

Malaysia continues to use MSY as a reference point for the sustainable utilisation and management of its offshore deep-sea fisheries in the EEZ. Despite this positive move, the most striking gap is the fact that its domestic fisheries legislation does not expressly refer to MSY as a conservation goal for long-term sustainability of fisheries in the EEZ. The only provision with reference to the MSY concept is Section 6(1) of the Fisheries Act 1985 (Amendment) 1993. This section, which concerns the sustainable exploitation of fisheries stocks, requires the Director General of Fisheries to ensure that the existing fisheries plan is reviewed continually so as to achieve the optimum utilisation of fisheries resources and thus avoid overfishing.

8.2.2. Determination of Total Allowable Catch

The determination of a TAC for fish stocks subject to harvesting in the EEZ represents an important international criterion for coastal States to adopt in order to ensure those stocks are harvested sustainably.\textsuperscript{1156} Despite this requirement, there is no established legislative practice (or policy deliberation) in respect to the setting of TAC for the conservation and management of fisheries resources in the offshore areas of Malaysia’s EEZ. As such, neither a specific regulation to put a TAC into practice has been promulgated nor the existing national laws of relevance to fisheries (i.e. the Fisheries Act 1985 (Amended 1993) and the EEZ Act 1984) explicitly mentions the application of this output control mechanism for regulating fisheries resources in the EEZ.\textsuperscript{1157}

Furthermore, legal provisions regulating the allocation of any surplus in allowable catch

\textsuperscript{1156} LOSC, Article 61(1); and UN Fish Stocks Agreement, Article 10(b) with respect to straddling fish stocks and highly migratory fish stocks.

\textsuperscript{1157} Historically, Indonesia is the only ASEAN State with EEZ legislation that explicitly recognised the implementation of a TAC as part of its obligation under the LOSC. Lim, “EEZ Legislation of ASEAN States,” p. 176.
are missing in these particular statutes. Neither statute prohibits foreign vessels from fishing in Malaysia’s EEZ despite the absent of provisions on the allocation.

At the policy level, the establishment of TAC is also missing.\textsuperscript{1158} Whereas sectoral policy documents, such as NAP3, expressly recognise offshore deep-sea fisheries expansion as one of the priority areas to enhance food production and generate national revenue,\textsuperscript{1159} nothing in the document specifically mentions the setting up of TAC as a strategy for ensuring sustainable fisheries in this sector. The only exception to this is Malaysia’s NPOA-Capacity. It includes the application of an Individual Quota System (IQS) through TAC estimation as part of the requirement in dealing with the problems of excess fishing capacity and overfishing in Malaysian fisheries waters inclusive of the offshore waters of the country’s EEZ.\textsuperscript{1160} Nevertheless, insofar as the viability of the IQS is concerned, there is little evidence to suggest that this system has been applied despite its anticipated application in 2010.\textsuperscript{1161}

The reasoning why the TAC regime is not a well-established practice in Malaysia’s management of its EEZ fisheries lies on a combination of factors. These factors include the difficulty associated with setting up TAC due to inadequacy of a comprehensive fish stocks assessment database,\textsuperscript{1162} the complexity and diversity of


\textsuperscript{1160} Malaysia NPOA-Capacity, p. 11.


\textsuperscript{1162} The DoFM and its various research branches continue to be burdened by constraints in carrying out scientific research and stock assessments due to limited expertise, assets funding and
species composition and interaction in the country’s EEZ fisheries, and inaccurate and unreliable catch statistical data and information on fishing effort.

On the question of granting fishing surplus to foreign States which is a requirement under Article 62(2) of the LOSC to promote optimum utilisation of resources, determining this particular surplus would be problematic for Malaysia as it is yet to declare allowable catch limits for fish stocks in its EEZ. It can be argued that the vague nature of the LOSC fisheries framework provides Malaysia with the flexibility to deal with this matter. Under the Convention, the country has considerable discretion to determine the policy direction and management standards governing the allocation of surplus fish stocks within its EEZ. The conspicuous absence of a TAC in public policy documents and regulatory frameworks has not deterred Malaysia from granting foreign fishing fleets access to its EEZ fisheries. This situation has been facilitated by the fact that offshore fisheries resources in the country’s EEZ are perceived to be under-exploited, thus leaving the sector ripe for expansion by domestic and foreign fishing operators.

The legal basis for granting such access to foreign fishing fleets is stipulated in the EEZ Act 1984 and the Fisheries Act 1985 (Amended 1993). Section 15 of the EEZ Act 1984 makes it clear that the right of foreign vessel to fish in Malaysian fisheries waters, including the country’s EEZ, is subject to international agreement. Rather than

\[1163\text{ These are the underlying reasons for the discrepancy between catch statistical information and resources survey data in demersal fisheries in Malaysia’s EEZ. See Anon., Executive Summary: Fisheries Resources Survey in the Exclusive Economic Zone of Malaysia 1997-1999, (Kuala Lumpur DoFM, Ministry of Agriculture Malaysia, 2002), pp. 21-22.}\]

\[1164\text{ It has been difficult for Malaysian fisheries authorities to ascertain the catch levels from vessels engaged in IUU fishing in Malaysian waters. This is due to the underreporting and misreporting of catches from such vessels. Gopinath and Puvanesuri, “Marine Capture Fisheries,” p. 220.}\]

\[1165\text{ The factors which Malaysia needs to consider when granting (or refusing) its surplus fish stocks to foreign States include the significance of the living resources to the coastal State’s economy, as well as the provision with respect to the rights of the landlocked and geographically disadvantaged States that habitually fish there. See LOSC, Article 62(2)(3).}\]
referring only to the LOSC regarding the terms and conditions governing foreign access to surplus fishery resources,\textsuperscript{1166} the \textit{Fisheries Act 1985 (Amended 1993)} has listed additional terms and conditions for foreign fishing access. The substance of the conditions places a heavy emphasis towards the principle of reciprocity in terms of the type and amount of assistance and co-operation that a foreign State may contribute to Malaysia’s fishery sector.\textsuperscript{1167} Under the licensing condition, foreign fishing vessels are confined to the category C2 fishing zone, albeit at present the issuance of this category of license to foreign-flagged vessels has been suspended.\textsuperscript{1168}

Observations on past practices suggest that Malaysia has never entered any direct agreement with a foreign government regarding to access to its offshore resources in the EEZ.\textsuperscript{1169} Instead, the most common way for foreign fishing vessels to exploit these resources was through joint venture arrangements or fisheries licensing agreements.\textsuperscript{1170} A series of joint venture arrangements were established with foreign fleets, most of which owned by private entities from developed fishing nations such as Taiwan, the Philippines and Thailand.\textsuperscript{1171} The outcome of these arrangements, however, has been met with mixed success. Increased frequency of underreporting and illegal transhipment of catches by foreign-chartered fishing vessels has further worsened the stress on Malaysia’s fisheries resources. In response to this, the DoFM, since 31

\textsuperscript{1166} LOSC, Article 62(3).
\textsuperscript{1167} Examples of these conditions include establishing fishery research cooperation, developing the conservation, management and development of fisheries resources, as well as training Malaysian personnel and transferring technological advancements to the local fishing industry.
\textsuperscript{1168} DoFM, “Policy and Procedure Book for Licensing of Vessel,” p. 18.
\textsuperscript{1169} Flewwelling and Hosch, “Country Review: Malaysia,” p. 146.
\textsuperscript{1170} The establishment of joint-venture arrangements in fisheries operations was one of the strategic management goals identified in policy documents such as the NAP1 to accelerate the expansion and commercialisation of the nation’s deep-sea fishing industry. The NAP1 has also identified the utilisation of local and foreign expertise as one of the strategies to increase the country’s offshore fisheries production.
\textsuperscript{1171} For a detailed historical analysis on Malaysia’s joint venture fisheries arrangements, see Valencia, “Malaysia and the Law of the Sea,” in particular, at pp. 99-100; see also Mohamed, “National Management of Malaysian Fisheries,” p. 13. For a discussion on the problems associated with joint venture fishing arrangements during the early phase of its development, see Yahaya, “Fishery Management and Regulation in Peninsular Malaysia,” p. 85.
December 2007, has ceased issuing new or additional permits to foreign-chartered fishing boats to fish in Malaysian fisheries waters.\textsuperscript{1172} To date, there are no joint venture arrangements involving local companies or foreign-flagged fishing fleets to fish in Malaysia’s EEZ.\textsuperscript{1173}

In sum, rather than depending exclusively on input control mechanisms such as vessel and gear licensing, closed fishing areas and regulatory restrictions on fishing gear, it is essential for Malaysia to integrate TAC systems into existing fisheries legislation and management mechanisms. Particular attention should be focused on amending the existing fisheries laws and regulations, with a view to identifying and defining the rights and responsibilities of relevant officials and fishing authorities for setting up TAC.

8.2.3. Preventing and Eliminating Excess Fishing Capacity

Preventing or eliminating excess fishing capacity is one of the widely accepted principles for responsible fisheries - one that is firmly rooted in post-LOSC fisheries instruments.\textsuperscript{1174} The application of this principle is not new to Malaysia as its origin dates back as far as the 1980s with the launch of a series of socio-economic programmes and input control measures designed for mitigating excessive fishing effort in inshore fisheries at the time.


\textsuperscript{1174} \textit{FAO Code of Conduct}, Articles 6.3, 7.2.2(a), and 7.1.8; and \textit{IPOA-Capacity}, paragraphs 2 and 26. Although the elimination of excess fishing capacity is not mentioned explicitly in the LOSC, coastal States are obligated under Article 61 to undertake necessary action to ensure fishing efforts are regulated so as to avoid overexploitation of fisheries resources.
In order for the country’s fishing capacity to be properly managed, it is critical for Malaysia to take necessary steps to monitor and assess the level of fishing capacity of domestic and foreign fleets fishing in the country’s maritime jurisdiction, including in the deep offshore waters of its EEZ. This is to identify whether the harvesting abilities of these fishing fleets are in balance with the available fisheries resources, and to enable immediate action to be taken in the event of any imbalance. Paragraph 7 of Malaysia NPOA-Capacity designates a number of implementing agencies, among them the Fisheries Research Institute (IPP), the MFRDMD and the Licensing and Resource Division (P&PS) to conduct assessments on the level of fishing capacity.

To prevent and eliminate excess fishing capacity, the DoFM has employed a variety of fisheries management strategies since 1987, with input control mechanisms and spatially based restriction measures as the cornerstone of these strategies. Some of these management strategies are expressly mentioned in policy documents on fisheries management. For example, Malaysia NPOA-Capacity prescribes a list of measures with the aim to acquire the desired balance between fishing input and production. These measures include, *inter alia*:

- Issuing licenses for fishing boats and gear;
- Spatially distributing fishing effort based on vessel tonnage, gear use and ownership patterns;
- Establishing a registration system for fishermen;

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1175 This action is consistent with the requirement in Article 62(2) of the LOSC for coastal States to determine the capacity of their national fishing fleets in harvesting resources within its EEZ. Even Part III, Sect. 1 of *IPOA-Capacity* noted the need for coastal States and RFMOs to monitor and assess fishing capacity within their areas of competency. See also FAO Code of Conduct, Article 7.6.3.

1176 *IPOA-Capacity*, paragraph 21.

1177 *Malaysia NPOA-Capacity*, p. 15.

1178 As stated by Stobutzki *et al.*, a moratorium has been imposed on the issuing of new licences for fishing vessels gear since 1987, with the goal of reducing extensive fishing efforts in coastal fishing areas while promoting the expansion of the offshore fisheries sector. Stobutzki *et al.*, “Decline of Demersal Coastal Fisheries Resources,” p. 138.
• Relocating fishermen seeking to leave the fishing industry to other non-fishing industries; and
• Continuing research into resource potential and the development of environmentally friendly fishing gear.\textsuperscript{1179}

Besides establishing a quota for new offshore deep-sea fishing licenses, one of the recent management strategies to control excessive fishing effort is to transfer certain numbers of C2 class fishing vessels from overexploited offshore EEZ fishing grounds to underexploited areas. This redeployment strategy is one of the implementing measures outlined in Malaysia NPOA-Capacity to control excessive fishing effort in the country.\textsuperscript{1180} To determine the effectiveness of measures, such as vessel redeployment program, periodic evaluations are conducted using predetermined performance indicators. For example, the targeted percentage for vessel redeployment in the C2 fishing zone is set at 5 percent annually.\textsuperscript{1181} In order to ensure that only registered vessels with an active fishing status operate in the deep waters of Malaysia’s EEZ, all C2 class fishing vessels must demonstrate their capacity to satisfy the minimum catch quota set by the DoFM.\textsuperscript{1182} Failure to reach this quota may lead to the revocation of their license.\textsuperscript{1183}

The implementation of technical and management measures to reverse the trend of overfishing in Malaysia’s jurisdictional waters has received legislative support. The \textit{Fisheries Act 1985 (Amended 1993)} and its subsidiary regulations accord relevant

\begin{footnotesize}
\begin{itemize}
\item Other relevant management and technical measures to control fishing efforts in the country include the establishment of a marine protection area, the construction of artificial reefs and a prohibition on the use of destructive fishing gear and methods. See \textit{Malaysia NPOA-Capacity}, p. 34.
\item \textit{Malaysia NPOA-Capacity}, Part of Strategy 1, at p. 11.
\item \textit{Malaysia NPOA-Capacity}, pp. 11 and 15.
\item \textit{Malaysia NPOA-Capacity}, p. 11.
\item The Key Performance Indicators (KPI) for Malaysia’s NPOA-Capacity suggests a more stringent measure when dealing with non-performing C2 class vessels - vessel which failed to meet minimum catch quota. The license for these particular vessels may be subjected to cancellation. \textit{Malaysia NPOA-Capacity}, p. 11.
\end{itemize}
\end{footnotesize}
government agencies the authority to develop and implement the measures. Apart from
the laws for regulating fishing licenses, the *Fisheries Act 1985 (Amended 1993)*
prescribes terms and conditions regarding the regulated use of fishing gear and methods
as a way to promote sustainable fishing effort. Under the Act, access to a particular
fisheries area is restricted through the establishment of marine parks and reserves, closed fishing seasons and the demarcation of prohibited fishing areas.

A network of marine protected areas have been in operation since the early
1980s, and at present, enclosing the surrounding waters of 40 islands in Peninsular
Malaysia and island groups in Labuan, Sabah. The protected status of these areas
derives from the provision of federal statute such as the *Establishment of Marine Parks
Malaysia Order 1994*. Under the First Schedule of the Order, “the limit of any area
or part of an area established as a marine park shall be at a distance of two nautical
miles seaward from the outermost points of the islands specified”. Implication arising
from this provision means that any form of fishing activities are prohibited within the
radius of this limit without written permission of the Director General.

Of the above measures, both the fisheries licensing scheme and the fisheries
zoning system are among the most important mechanisms for controlling fishing
capacity in the offshore waters of the country’s EEZ. The licensing scheme, for

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1184 *Fisheries Act 1985 (Amended 1993)*, section 19 and subsection 61(m).
1186 See part IX, sections 41 to 45 of the *Fisheries Act 1985 (Amended 1993)*. See also *Establishment
of Marine Parks Malaysia Order 1994*.
1188 *Fisheries Act 1985 (Amended 1993)*, section 61(i).
1189 Geographical profiles and maps of islands gazetted as marine park areas are provided in Forbes
1190 With respect to subsidiary regulations on closed fishing areas and seasons, see in particular
*Fisheries (Closed Season to Catch Kerapu Fry) Regulations 1996*; *Fisheries (Prohibited Areas) Regulations 1994* and *Fisheries (Prohibited Areas)(Rantau Abang) Regulations 1991*; Pertaining to the only piece of ordinance related to the establishment of marine parks and
marine reserves in Malaysia, see *Establishment of Marine Parks Malaysia Order 1994*.
1191 *Fisheries Act 1985 (Amended 1993)*, section 43(1).
example, serves as the major input control mechanism for ensuring fishing effort remains at a sustainable level. It also constitutes one of the critical components of MCS mechanism in detecting non-compliance with fisheries conservation measures to ensure fishing activities in the offshore waters of the country’s EEZ are conducted in orderly, rational and responsible manner. This policy decision to concentrate on regulating the level of fishing input of Malaysia’s offshore deep-sea fishing sector represents a noticeable departure from the production-oriented management strategies synonymous with the recent sectoral-based policy instruments, including the NAP. Such is significant of this policy transition towards achieving a sustainable way of fishing that ironically, the aforementioned strategies place stronger emphasis on the rapid expansion and modernisation of offshore fishing operations without considering the emerging trends of overcapacity and declining stocks in many isolated fishing grounds within Malaysia’s EEZ.

8.3. Ecosystem Approach to Fisheries

One of the international norms for responsible fisheries is protecting marine and coastal environments, including the biodiversity of aquatic habitats, from the detrimental impacts of human activities and natural phenomena. Malaysia has been moving forward in this respect with its commitment to apply EAF principle being increasingly noticeable in the last two decades. Ever since the country ratified the United Nations Convention on Biological Diversity 1992 (CBD) in 1994, its commitment to maintain the integrity and critical function of the marine ecosystem and its biodiversity resources has indeed gained momentum. This development is epitomised through a series of

1193 LOSC, Article 184(5); FAO Code of Conduct, Article 6.1 and 7.2.2; and Chapter 17, Agenda 21, paragraph 17.7.
1194 Raja Mohammad Noordin Raja Omar, Mahyam Mohd Isa, Mohd Akhir Arshad and Zulkafli Abd. Rashid, “Recent Developments in the Management of Aquatic Biodiversity in Malaysia.”
policy and regulatory measures, particularly in the conservation and management of the country’s terrestrial zones and resources.

With regard to the growing need for biodiversity conservation and marine environmental protection, Malaysia has made progress in introducing governmental measures and one of the key features of these measures is the protection of the coastal and marine environment (including the EEZ) and its biodiversity resources. This is evident in Malaysia’s policies, laws and regulations, as well as in the country’s implementation of technical and management measures. These initiatives are examined in detail in the following sections.

It is only in recent years that Malaysia’s public policy agenda has increasingly focused on the environmental management of marine and coastal areas. Central to this policy orientation is to maintain the integrity of the marine ecosystem and its components adversely affected by unsustainable fishing activities and environmental pollution. Marine ecosystem and its habitats, such a mangrove and coral reefs, are critical for supporting biodiversity resources which the country depends on for various socio-economic reasons, ranging from employment, and food to foreign exchange earnings. Malaysia has taken considerable time in translating this policy into practice, but conscious that it is of utmost importance for the country to apply an ecosystem approach to fisheries management. This argument has been further reinforced in light of government concerns over severe deterioration of fragile and vulnerable marine ecosystem and its biological resources from destructive human forces.

\[\text{Ibid., p. 6.}
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In response to this condition, numerous public awareness campaigns, driven by both local and foreign NGOs, have strongly promoted the urgency for protecting the marine environment and the diversity of species inhabiting in ecosystem. Nearly all of these campaigns have shared similar concern, that of unregulated human induced activities causing the rapid loss of marine biodiversity in the country.  

It has been observed that public policy and regulatory responses to marine environmental protection and biodiversity conservation in Malaysian fisheries waters, including the EEZ, have been considerably influenced by international binding and non-binding instruments to which the country is a party. The formal acceptance and implementation of these legal instruments arguably make up the central elements of Malaysia’s regime on the protection of the marine environment and the conservation of living resources in its national jurisdiction. Not only has Malaysia ratified or acceded to the above international conventions, the principles and legal frameworks of some of these instruments have been incorporated into the country’s national laws, policies and programs. A noteworthy example of this is the *Merchant Shipping (Oil Pollution) Act 1995*, a federal law enacted to give effect to the country’s accession to the
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (Fund Convention 1971) and the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969).\textsuperscript{1200}

The \textit{Merchant Shipping (Oil Pollution) Act 1995} serves as an important piece of national legislation for governing liability and compensation for oil pollution and damage resulting from maritime incidents involving oil tankers.\textsuperscript{1201} Whist the aforementioned instruments are not directly applicable to fisheries management, they nonetheless allow monetary compensation to be paid to Malaysian government’s efforts in rehabilitating degraded ecosystems and habitats in the EEZ, including fish stocks affected by oil pollution.

Apart from the \textit{Merchant Shipping (Oil Pollution) Act 1995}, both the \textit{EEZ Act 1984} and the \textit{Environmental Protection Act 1995} protect Malaysia’s marine environment from vessel-generated pollution. These Acts share some similarities namely, incorporating relevant legal requirements and management standards of international instruments into their respective provisions. The \textit{EEZ Act 1984} is largely premised on the LOSC framework on marine environmental protection. Similarly, some of the legal principles and management standards contained in MARPOL 73/78, an IMO Convention to which the country has been a party in 1993, have been incorporated into the legal framework of the \textit{Environmental Protection Act 1995}.

\textsuperscript{1200} The Fund Convention 1971 and the CLC Convention 1969\textit{J} were acceded to by Malaysia on 6 April 1995 and 6 January 1995 respectively. It is noteworthy that the enforcement of both Conventions has ceased. Although Malaysia denounced the CLC Convention 1969 on 9 June 2005, it is yet to denounce the Fund Convention 1971. See IMO, \textit{Status of Multilateral Conventions and Instruments in respect of Which the International Maritime Organization or its Secretary-general Performs Depository or other Functions as at 31 December 2008}, see in particular pp. 218, 221 and 252, available at http://www.imo.org/includes/blastDataOnly.aspx?data_id=3D25891/Status-2008.pdf (accessed on 13 October 2009).

\textsuperscript{1201} See in particular Part II of the Act.
Consistent with the international call to protect threatened marine species from the detrimental impact of human activities, subsidiary regulations enacted under the *Fisheries Act 1985 (Amendment) 1993* represent one of the steps taken by Malaysia to protect and conserve endangered species. In giving effect to its obligation under the Convention on International Trade of Endangered Species (CITES), the *Fisheries (Control of Endangered Species of Fish) Regulation 1999* has been introduced. The main objective of this Regulation is to extend federal protection to a select group of endangered fish species in the country. As listed in its Schedule, the Regulation divides 25 species into five major groups, namely, whales, dugongs, dolphins, giant clams and sharks. These groups correspond with the species listed under CITES as endangered and are thus protected against over-exploitation through international trade. All of the listed species are subject to federal protection and prohibited from being disturbed, harassed, caught, killed, taken, sold, bought, exported or transported, unless written permission is obtained from the Director General of Fisheries Malaysia.

Besides the enactment of several national laws and regulations, not a single policy document has been introduced specifically for the conservation and management of the marine ecosystem and its biodiversity in Malaysian fisheries waters. At the policy level, the National Biological Diversity Policy (NBDP) 1998 is the closest policy instrument with reference to the conservation and protection of Malaysia’s diverse and quintessential marine ecosystem and biodiversity resources. The country’s practices show that its past policies and regulatory frameworks have been devoted to promoting the better management and sustainable utilisation of terrestrial zones (e.g. inland forests), as well as vulnerable coastal ecosystems and habitats (e.g. mangrove forests).

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1202 FAO Code of Conduct, Articles 7.2.2(d) and 7.6.9.
1203 Malaysia acceded to CITES on 20 October 1977.
1204 *Fisheries (Control of Endangered Species of Fish) 1999*, subregulation 2(1).
seagrass beds and coral reefs). While enactments for the management of terrestrial areas and resources can be traced back to the British colonial period, the imperative to address effectively the declining state of marine habitats, including biodiversity resources, in Malaysia’s coastal areas through legislative and policy reforms has been received less treatment by the government for the last two decades. As indicated in the environmental management objectives in many sectoral policy documents, programs and action plans of relevance to fisheries, the protection and rehabilitation of marine habitats and biodiversity in coastal and offshore areas of the country’s maritime jurisdiction relatively did not share the same status as fisheries resources protection as an important policy drivers.

It was not until 1998, when Malaysia introduced its own National Biological Diversity Policy (NBDP), that the need to conserve and manage marine aquatic biodiversity in both coastal and offshore areas started to gain the country’s attention. The MOA has appointed the DoFM as the prime Agency responsible for dealing with all matters relating to the implementation of two particular programs of the CBD: the Marine and Coastal Biodiversity (MCBD) and the Biodiversity of Inland Water Ecosystems (BDIWE). The Agency’s tasks also include implementing management strategies and actions plans endorsed in the NBDP.

Recently, there has been evidence of increased commitment by the federal government on matters relating to the protection and conservation of offshore aquatic

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1206 For a complete list of initiatives related to coastal resources and zone management, see Mazlin B. Mokhtar and Sarah Aziz Bt. A Ghan Aziz, “Integrated Coastal Zone Management Using the Ecosystem Approach, Some Perspective in Malaysia,” OCM 46(2003), Table 2, at p. 409.

1207 The reason for introducing the NBDP was to give effect to the country’s obligations under the Convention of Biological Diversity (CBD) 1995.

1208 Omar et al., “Recent Developments in the Management of Aquatic Biodiversity in Malaysia,” p. 3.
biodiversity. During the Eighth Malaysian Plan (2001-2005) and the Ninth Malaysian Plan (2006-2010), the DoFM and its subsidiary research institutions introduced a series of initiatives in the form of actions plans, conservation projects and research activities relevant to biodiversity conservation in marine and inland fisheries.\(^\text{1209}\) During the Eighth Malaysian Plan, the MFRDMD-SEAFDEC, together with MARSAL, conducted a series of research projects on the parameters of biology, oceanography and ecology relevant to offshore fisheries resources in the EEZ. Some of these research projects focused on marine biodiversity studies and acoustic surveys on pelagic fish species around Pulau Layang-Layang (Swallow Reef), Terumbu Ubi (Ardasier Reef) and Terumbu Laya (Dallas Reefs) in the Spratly Islands.\(^\text{1210}\) The projects not only represent a significant step towards determining the status of marine biological diversity, and more specifically, pelagic fisheries resources in the area, but also enable researchers to formulate and prepare the most appropriate and effective conservation and management measures for these fisheries.

**8.3.1. Prohibition of Destructive Fishing Gear and Practices**

One of the EAF-based management measures for responsible fisheries is the need for coastal States to ensure the marine aquatic ecosystem and its habitats are subject to protection against the harmful impact of human activities.\(^\text{1211}\) In giving effect to this principle, it may be recalled that international fisheries instruments make it clear that

\(^{1209}\) *Ibid.*, at pp. 4-5.


\(^{1211}\) This general principle emphasises the need for coastal States to protect and rehabilitate all critical fisheries habitats within marine ecosystems, including reefs, nursery and swamping areas, from the adverse impact of fishing activities. See *FAO Code of Conduct*, Article 6.8. See also *LOS*, Articles 62 and 12.10 on the requirement for coastal States to reduce the adverse impact of fishing operations on target and non-target fish stocks, including related aquatic ecosystems.
States must establish appropriate measures for prohibiting the use of poison, dynamite and other destructive fishing practices.\textsuperscript{1212} The FAO Code of Conduct, for example, places strong emphasis on regional collaborative arrangements and coordinated efforts to develop and implement environmentally friendly fishing gear, technology, materials and operational methods, which reduce the loss of fishing gear.\textsuperscript{1213}

Cyanide fishing, fish bombing, \textit{muroami} fishing and towed-bottom fishing gear (including pair trawling, push nets and otter trawling) are some of the fishing methods and gears known to inflict extensive destruction on both fisheries population and their associated vulnerable marine habitats in Malaysia’s coastal waters.\textsuperscript{1214} As like in coastal areas, there are many instances where offshore fishing grounds in the country’s EEZ and the adjacent surrounding seas are not immune from the detrimental impact of destructive fishing methods, although such impact are less intense in the former. In the Spratly Islands of the South China Sea, the use of explosives by both local and foreign fleets in the waters surrounding remote offshore islands and atolls has caused extensive destruction to coral reefs. Such destructive fishing practices are perceived ironically by those involved as an effective means to recover the cost of a long, arduous trip to the rich offshore reef fishing grounds, as well as a way to reduce the length of time spent at sea.\textsuperscript{1215}

The damaging effects of illegal and destructive fishing methods in Malaysia’s coastal and offshore waters has prompted the government to introduce a host of regulatory and technical preventative measures. Accordingly, the use or intended use of destructive fishing devices and methods in Malaysian fisheries waters, including in the

\textsuperscript{1212} FAO Code of Conduct, Article 8.4.2.
\textsuperscript{1213} FAO Code of Conduct, Article 8.4.6.
\textsuperscript{1214} Blast fishing, for instance, is regarded as “the largest immediate threat to coral reef ecosystems in some countries,” including Malaysia. See Fox \textit{et al.}, “Recovery in Rubble Fields,” p. 1024.
deep waters of the country’s EEZ, is an offence under the national law. The legal instruments prohibiting destructive fishing practices include the *Fisheries Act 1985 (Amended 1993)* and the *Fisheries (Prohibition Methods of Fishing) Regulations 1980 (Amended 1990)*. Section 26(1)(a) of the *Fisheries Act 1985 (Amended) 1993* provides that any person who “uses or attempts to use any explosive, poison or pollutant, or any apparatus utilizing an electric current” for fishing is guilty of an offence under the Act. Moreover, any person in possession or in control of a prohibited fishing substance or method (as listed in subsection (1)(a) of the Act) is presumed to have an intention to use the substance or method, and may thus be liable under the Act. Additionally, any authorised officer who reasonably believes that an offence has been committed in contravention of section 26 of the *Fisheries Act 1985 (Amended 1993)*, may, without warrant, seize any fish vessel, including its gear, equipment, furniture, stores and cargo, as well as any prohibited substance, pollutant or fishing appliance.

The *Fisheries (Prohibition Methods of Fishing) Regulations (Amended 1990)* is the principal subsidiary regulation that deals with destructive fishing practices in Malaysian fisheries waters and EEZ waters in particular. It contains provisions prohibiting the use of destructive fishing gears and methods. Examples of these gears and methods are listed in the Regulation’s schedule and include pair trawling, electrocution methods, push nets, as well as drift nets and gills net with a mesh size

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1216 *Fisheries Act 1985 (Amended 1993)*, subsection 26(2).
1217 *Fisheries Act 1985*, subsection 31(2).
1218 Subsection 47(1)(e).
1219 Subsection 47(1)(d).
1221 The Regulation is one of the subsidiary regulation adopted under the *Fisheries Act 1985 (Amended 1993)*.
greater than 25.4 cm (10 inches). As highlighted in Malaysia NPOA Sharks, the nationwide ban on drift nets with a mesh size more than 25.4 cm has left a positive impact on the population of shark and ray species by reducing their excessive exploitation.

Complementing the above regulatory measures is the national licensing scheme and the artificial reef development program. Under the licensing scheme, all local and foreign fishing vessels authorised to fish in the Malaysian fisheries waters, including those licensed to operate in offshore fisheries in the EEZ, must comply with national fisheries laws, including those laws that prohibit the use of destructive fishing activities. This condition is clearly stated in section 26 of the *Fisheries Act 1985 (Amended 1993)* and section 2 of the *Fisheries (Prohibition Methods of Fishing) Regulations 1980*, which prohibits commercial fishing boats, including C2 class deep-sea trawlers), from fishing in waters adjacent to inshore areas. There are two main reasons for this prohibition. The first is to restrict highly efficient trawlers from accessing already overexploited resources in inshore areas. The second is to confine commercial fishing method, notably otter trawling, in fishing zones further away from the coasts and estuaries where fragile ecosystems and habitats such as seagrass beds and coral reefs are found.

Artificial reef development programs are an integral part of Malaysia’s fisheries management strategy. As such, these programs aim to reduce the impact of destructive fishing practices while enhancing the productivity of fisheries in Malaysian waters and generating tourism. This is achieved by rehabilitating destroyed marine habitats, increasing fish stock, as well as constructing and deploying artificial reefs in both non-

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1222 *Fisheries (Prohibition Methods of Fishing) Regulations (Amended 1990)*, Schedules 1, 2, 3 and 4.
1223 *Malaysia NPOA-Shark*, p. 42.
1224 A total of 54 artificial tire reefs, 10 boat reefs and 10 concrete reefs have been constructed throughout the country. Gopinath and Puvanesuri, “Marine Capture Fisheries,” p. 222.
protected and protected marine areas. Another important function of artificial reefs is to reduce by-catch, thereby hindering large trawlers from carrying out their fishing operations in the country’s inshore waters. Despite the good intention behind the introduction of artificial reef programs, it is suggested that the agencies responsible for these programs, particularly the LKIM and the DoFM, should conduct extensive and thorough research to assess the impact of artificial reefs on the overall health of the surrounding marine environment and the sustainability of marine resources. Results from the research should be taken into consideration when determining the feasibility of deploying artificial reefs.

Despite the prohibition of fishing gear and methods that are not environmentally friendly under the national law, it was reported that the use of destructive fishing practices by both local and foreign fishermen continues to persist in the country. While local fishermen (excluding those in the waters of Sabah) have been identified as the dominant group of perpetrators operating in the inshore fishing areas, anecdotal information suggest that foreign fishing operators are the main group engaged in destructive fishing in the surrounding waters of the offshore shoals, atolls and islands within the country’s EEZ in the Spratly Islands. The practices, commonly used by these fishermen include payaos as a fish aggregating device (i.e., rafts made of bamboo,

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fiberglass or metal, anchored at waters up to 2000m deep), the *muroami* method for capturing neritic tuna species, as well as blast fishing.¹²³⁰

Several factors may have caused the persistent use of destructive fishing practices in Malaysian fisheries waters, including in the remote offshore areas of the EEZ. One factor is the enforcement of fisheries regulations, which remains weak and ineffective. This problem is further compounded by the absence of adequate enforcement mechanisms and a relatively weak political commitment in many areas to carry out the enforcement task effectively. The difficulty in enforcing fisheries laws within an area as vast as Malaysia’s EEZ poses significant challenges for enforcement authorities. Another reason for the prevalent use of destructive fishing methods in the country are the prevailing gaps in the current fisheries licensing conditions. While licensed offshore trawlers must comply with specific procedures designed to avoid the dredging of the seabed during fishing operations, mechanised mobile fishing gear requiring constant contact with the seabed (such as trawl dredges and otter trawlers) continues to be permitted in the fishing zones beyond the inshore waters (12 nautical miles to the outer limit of the country’s EEZ).¹²³¹ The continuing uses of these harmful trawling methods not bring about extensive destruction to marine ecosystems and habitats, but also the incidental catch of unwanted species (i.e. low-value species and juvenile fish). Trawling operations in shrimp fisheries, which is a common activities along the west coast of Peninsular Malaysia, have made the situation worse. The following section contains a discussion on the extent of Malaysia’s policy and legal practices to minimise by-catch and discard.

8.3.2. Reduction of By-Catch and Discard

Reducing the incidence of by-catch and discard mortality in fisheries population underpins one of the principal management measures under the EAF framework.1232 Ever since Malaysia proclaimed the EEZ, the country has made a firm commitment towards protecting non-targeted species (i.e. juvenile and low-value species) against indiscriminate catching through legislation and policies. A widespread practice of by-catch and a high rate of discard mortality of undesirable marine species is increasingly becoming a norm in tropical multi-fisheries and multi-gear fisheries in the country’s offshore EEZ waters. Data available in annual fisheries statistics shows that the trash fish generated from by-catch constitute the highest percentage of species composition landed in the country. Hence, it is in Malaysia’s best interest not only to conserve target resources but also to protect non-target species from incidental capture using unselective fishing gears or methods. Under these initiatives, the overriding priority is to avoid wastage and minimize by-catch through the development and promotion of the use selective, environmentally friendly and cost effective fishing gear and techniques. The DoFM’s network of research centres played a pivotal role in executing the tasks.

The country has a history of responding to international calls for reducing unselective catches in marine fisheries. Fundamental to this government effort is the introduction of a series of by-catch reduction programmes, with a greater emphasis given to the application of different technical management measures. These measures include the launching of inter-agency projects for developing technologically advanced selective fishing gear, community-outreach education programs, and regulatory

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1232 FAO Code of Conduct, Articles 6.6, 7.2.2(g) and 7.6.9. With respect to reducing by-catch of shark, see IPOA-Shark, paragraph 4.
restrictions on gear and mesh size.\textsuperscript{1233} In addressing the problem of incidental catch of non-target small and juvenile fish in shrimp trawl fisheries, the DoFM, with cooperation from local fishermen associations, has conducted a series of community outreach programmes. These programmes aim to educate and encourage trawl operators either to change the mesh shape of their nets from square to diamond, or alternatively, to increase the size of their mesh nets. Efforts have been made to encourage shrimp trawlers to equip their vessels with by-catch excluder devices, such as TEDs, to reduce the incidental catch of marine turtles. However, this has brought mixed results.\textsuperscript{1234}

Malaysia is yet to enact any specific legislative instrument that incorporates by-catch reduction measures specifically for C2 class offshore fishing vessels. However, a regulatory framework for reducing by-catch has already established in Malaysia. The \textit{Fisheries Act 1985 (Amended 1993)} is currently the only federal statute dealing with by-catch in fisheries. Two of its supporting regulations, the \textit{Fisheries (Control of Endangered Species of Fish) Regulations 1999} and the \textit{Fisheries (Prohibition of Method of Fishing) Regulations 1980}, contain specific provisions on the use of selective fish gear to protect certain marine species. However, the most common regulatory measure aimed at reducing the indiscriminate capture of non-target organisms in the marine ecosystem is the restriction on mesh panels, shapes and sizes.

\textsuperscript{1233} Apart from the DoFM, the principal agency responsible in carrying out these programs is the MFRDMD.

\textsuperscript{1234} For example, despite the combined efforts by the SEAFDEC, the MFRDMD and the State Department of Fisheries, Kedah, conducting trials in Malaysian waters on the feasibility and effectiveness of newly designed TEDs in minimising turtle by-catch without reducing the catch performance of shrimp trawlers, many local trawler operators remain unconvinced of their efficacy and are thus, unwilling to use such devices at the ground level. See Bundit Chokesanguan, \textit{Implementation of Turtle Excluder Devices in Southeast Asia}, SEAFDEC-FAO Workshop on Assessing the relative importance of sea turtle mortality due to fisheries in Southeast Asia 19-23 March 2007, Bangkok, Thailand, p. 2; available at http://id.seafdec.org/knowledge/document/Fishery\%20Technology/Workshop_IMPLEMENTATION\%20OF\%20THE\%20TURTLE\%20EXCLUDER\%20DEVICES.pdf (accessed on 13 October 2009).
The *Fisheries Act 1985 (Amended 1993)* not only serves as an important piece of legislation for managing and regulating activities linked to the harvesting of fisheries resources, but also contains provisions intended for the protection of aquatic mammals and turtles from intentional and incidental capture. According to section 61 of the Act, Minister of Agriculture is empowered to introduce regulatory measures in the pursuit for the proper conservation, development and management of fisheries, including marine turtles, in federal fisheries waters. These measures may include prescribing minimum mesh sizes and net sizes,\textsuperscript{1235} and limiting the quantity, size and weight of fish caught and retained or traded.\textsuperscript{1236}

The *Fisheries (Prohibition of Methods of Fishing) Regulations 1980* contain a number of specific provisions requiring the use of minimum mesh sizes for reducing the incidental catch of juvenile and undersize fish. The Fourth Schedule of this Regulation expressively prohibits the use of gill and drift nets with a mesh size greater than 25.4 cm (10 inches) anywhere between the water surface and the seabed by either drifting or anchoring.\textsuperscript{1237} Even with this restriction on the mesh size, anecdotal information suggests that the prevalent use of trawl nets with a larger mesh size than what is legally permitted has been rampant among licensed local and illegal foreign fishing trawlers. While a host of fisheries regulations restricting certain fishing gears and mesh sizes have been in place since the 1980s, the implementation of these regulatory measures have not been without difficulty. Like its predecessor, the Regulation of 1980 has been ineffective in terms of their practical application partly due to widespread non-compliance, opposition and resistance among trawl fishermen, as well as local political

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\item[1235] *Fisheries Act 1985 (Amended 1993)*, subsection 61(h).
\item[1236] Subsection 61(g).
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Relevant Malaysian enforcement authorities have failed to enforce minimum mesh size regulations for the nets installed in trawling fishing fleets. From this failure, indiscriminate catching of marine species in tropical multi-species ecosystem becomes a norm, which has also been observed as a peculiar feature in the regional waters of Southeast Asia.

Regarding the protection of aquatic mammals and turtles from direct and incidental catch in Malaysia’s EEZ, these species are afforded federal protection under the *Fisheries Act 1985 (Amended 1993)*. Section 27 of the Act contains four subsections that deal specifically with the protection and conservation of aquatic mammals and sea turtles. These provisions are supported by the *Fisheries (Control of Endangered Species of Fish) Regulation 1999*. The primary concern of this Regulation is to protect endangered species of fish against by-catch in the country’s fisheries waters. Regulation 2(3) explicitly prohibits the direct and incidental catch of endangered species listed in its Schedule and sets out a procedure for fishermen to follow when incidental catch occurs:

> Where any endangered species of fish specified in the Schedule is caught or taken unavoidably during fishing, such endangered species of fish shall, if it is alive, be released immediately or, if it is dead, the catching or taking thereof shall be reported to a fisheries officers and the endangered species of fish shall be disposed of in accordance with his direction [emphasis added].

Even though Malaysia’s four endangered marine turtle species, namely the leatherback, green, hawksbill and olive ridley, are not listed in the Schedule, the

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1238 As early as the 1980s, attempts by the Malaysian Government to force trawl operators to use a mesh size more than 40 mm for the cod end of their trawl nets had failed, as these trawlers continued to use smaller 25 mm meshes, inevitably leading to a higher proportion of incidental catching of juvenile fish and non-targeted species. Jon G. Sutinen, Jahara Yahaya, and Vorawoot Hirunruk, “Fisheries Law Enforcement Programs, Practices and Problems in Malaysia, the Philippines, and Thailand,” in James Barney Marsh (ed), *Resources and Environment in Asia’s Marine Sector*, (Washington: Taylor & Francis, 1992), p. 133.

Regulation is intended to complement the existing regulatory framework embodied in the *Fisheries Act 1985 (Amended 1993)*\(^{1240}\) as well as state regulations for turtle protection and conservation.\(^{1241}\) The wording of section 27(3) of the *Fisheries Act 1985 (Amended 1993)* is similar to section 2(3) of the Regulation insofar as live turtles must be immediately released if caught or taken incidentally. However, unlike the *Fisheries (Control of Endangered Species of Fish) Regulation 1999*, the *Fisheries Act 1985 (Amended 1993)* stipulates a monetary fine not exceeding RM 5,000 for contravention of sections 27(1) and 27(3).

Malaysia’s *Fisheries (Control of Endangered Species of Fish) Regulation 1999* places greater emphasis on preventing the intentional and incidental capture of non-target marine species, with the vulnerable and endangered groups of sharks, whales and sea turtles form the targeted species. Although the primary objective of this established regulatory framework is to confer federal protection on the above species, this initiative has been far from ineffective in protecting the species concerned against certain fishing activities. The accurate number of protected marine mammals, which are deliberately and incidentally caught (such as cetaceans, dugongs and whales), is difficult to ascertain as there is no dedicated institutional system in place with the role to monitor these catches or ensure proper documentation.\(^{1242}\)

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\(^{1240}\) See subsection 38.

\(^{1241}\) With the exception of Selangor and Perlis, legislation protecting marine turtles has been enacted in every state in Malaysia. This legislation includes: the *Wildlife Conservation Enactment 1997* (Sabah), section 87, as well as items 8 and 9 under Part I of Schedule 1; the *Wildlife Protection Ordinance 1990* (Sarawak); the *Turtle Enactment 1951 (Amended 1989)* (Terengganu); the *Fisheries (Turtle and Turtles’ Eggs) Rules 1976* (Negeri Sembilan); the Fisheries (Turtle and Turtles’ Eggs) Rules 1978 (Kelantan); and the *Fisheries (Turtle and Turtles’ Eggs) Rules 1989* (Melaka).

\(^{1242}\) One study has concluded that cetacean and dugong by-catches are much greater in gillnet fishing than in any other type of fishing gear. Saifullah A. Jaaman, Yuhana U. Lah-Anyi, and Graham J. Pierce, “The Magnitude and Sustainability of Marine Mammal By-catch in Fisheries in East Malaysia,” *Journal of the Marine Biological Association of the United Kingdom* 89(2009), p. 917.
The absence of a meaningful and comprehensive regulatory regime for restricting the use of indiscriminate fishing gear and methods has allowed some local fishermen and trawl operators to continue engaging in such activities. The recurrent use of non-selective trawl fishing gear, particularly in the shrimp fishery sector, has been blamed for the indiscriminate catching of considerable amounts of juvenile and undersize fish species, including low value trash fish.\textsuperscript{1243} In 2006, for example, trash fish accounted for the highest percentage of species composition in landings by C2 class trawlers operating in the waters off the west coast of Peninsular Malaysia.\textsuperscript{1244} The indiscriminate catching of marine species is not only confined to fish species but also marine mammals and sea turtles.\textsuperscript{1245} Media reports on the indiscriminate capture of non-target organisms in Malaysian fisheries waters have increased in frequency in recent years. The incidental catch of endangered whale sharks (\textit{Rhincodon typus}) by trawl vessels 30 nautical miles from the shorelines dominated the headlines.\textsuperscript{1246} Studies have concluded that excessive by-catch and discard of target and non-target species including vulnerable species, such as marine turtles, adversely alters the abundance and composition of biodiversity in Malaysian waters and in the vicinity regional seas.\textsuperscript{1247}

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\item Che Utama Che Musa and Ahmad Adnan Nuruddin, “Trash Fish Production and National Fish Feed Requirement in Malaysia,” in \textit{Collected Papers of the APFIC Regional Workshop "Low Value and Trash Fish in the Asia-Pacific Region,"} Hanoi, Vietnam, 7-9 June 2005, (Bangkok: Asia-Pacific Fishery Commission and FAO Regional Office for Asia and the Pacific, 2007), see in particular figures 1 and 2 for the percentage and tonnage of trash fish in proportion to Malaysia’s total annual fish landing, at p. 109.
\item Records show that 14,781 metric tonnes of trash fish were landed by C2 class trawlers in 2006. DoFM, \textit{Annual Fisheries Statistic 2006}, Putrajaya: DoFM, 2006. See in particular, Table 4.7.1, \textit{Fishing Effort and Landings of Trawlers by Tonnage Class and Species, West Coast Of Peninsular Malaysia, 2006}.
\item Although shark harvesting is regarded as an opportunistic activity because there are no specialised fisheries targeting this species in Malaysia, shark landings are officially documented in the DoFM annual catch statistical report under the category of “yu” species. \textit{Malaysia NPOA-Sharks}, p. 7.
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This activity not only threatens the long-term viability of Malaysia’s fisheries industry, but also results in a substantial loss of revenue for the country.\(^{1248}\)

In addition to Malaysia’s regulatory framework, which expressly prohibits the use of indiscriminate fishing devices, there are policy practices aimed at improving the technical development and application of resource friendly fishing gear or gears targeting particular sizes and species of fish and other marine organisms. These practices are consistent with the requirement of international fisheries instruments for States to develop and apply selective, environmentally friendly and cost-effective fishing devices and practices.\(^{1249}\) In developing these types of fishing gear and practices, Malaysia’s current policy appears to leaning towards establishing partnership programs with regional fisheries bodies such as the SEAFDEC.\(^{1250}\) This cooperative arrangement is crucial for the development of ‘turtle excluding devices’ or TEDs for shrimp trawl nets. In the last two decades, significant progress has been made on the research and development of TEDs and other selective fishing devices designed for minimising the incidental catch and mortality of marine turtles in fisheries. The SEAFDEC-MFRDMD has been at the forefront of this development. It has successfully designed, built and tested a number of suitable TEDs without significantly reducing the catch rate of target species or increasing the fuel consumption of fishing operations.\(^{1251}\) Examples of recent collaborative efforts involving the SEAFDEC and the DoFM intended to improve the


\(^{1249}\) Such efforts are consistent with Article 7.6.9 of the FAO Code of Conduct which encourages States and sub-regional and regional fisheries management organisations to promote, to the full extent practicable, the development and use of selective, environmentally safe and cost effective fishing gear and techniques.

selectivity of fishing devices include the development and testing of Juvenile and Trash Excluder Devices (JTEDs) and Malaysian Acetes Efficiency Devices (MAEDs).\textsuperscript{1252}

Despite a series of experimental trials proving that locally, designed TEDs are cost-effective and suitable for use in tropical fishing conditions, Malaysian trawl operators have generally responded poorly towards employing these devices. Over the years, the use of TEDs has not become a common practice among C2 class deep-sea fishing trawl operators. One possible reason for this low participation is the gaps in the existing fisheries regulatory framework, such as an explicit requirement for fishing trawlers to install TEDs.

While the provisions of the \textit{Fisheries Act 1985 (Amended 1993)} and its subsidiary regulation (i.e. \textit{Fisheries (Control of Endangered Species of Fish) Regulations 1999}) are intended to reduce the indiscriminate capture of selected endangered marine species, a comprehensive regulatory measure for prohibiting the use of fishing gear catches both target and non-target species is yet to be introduced. The lack of meaningful regulations on the restrictive use of non-selective fishing gear provides an incentive for many Malaysian trawl fleets to continue using gears that maximise their catch, resulting in a high proportion of trash fish landings.\textsuperscript{1253}

It is advisable for relevant fisheries authorities to carry out a comprehensive evaluation on the effectiveness of Malaysia’s policies and regulatory frameworks with respect to the use of selective fishing gear and other by-catch reduction measures. One policy option that might reduce the incidental capture of undesirable target and non-target species in the offshore areas of the country is to restrict the number of licenses issued to trawlers operating in the C2 fishing zone of the EEZ. In relation to this, the

\textsuperscript{1252} Kadir and Yaakob (eds.), “SEAFDEC-MFRMD/DPPSPM Highlights 2007,” pp. 15-17.

effectiveness of this licensing policy can be further strengthened with the introduction of regulatory measures on gear restriction and maximum size of mesh, such as the extension of the cod end mesh size from the currently required 25 mm (one inch) in purse seine and trawl nets.

8.4. Precautionary Approach to Fisheries Management

The application of the precautionary approach to fisheries management is fundamental to the concept of responsible fisheries as advocated by numerous international instruments concluded in the past two decades. Amidst the on-going debate on the best way to implement precautionary principle in the management of tropical multi-species and multi-gear fisheries, Malaysia has incorporated some forms of precautionary approach into its policy framework as well as in the practical management of its offshore fisheries. Even though the practical application of the precautionary approach does exist in Malaysia’s fisheries management regime, there is little mention of the approach being implemented in official policy and legal documents. Likewise, not a single provision in Malaysia’s fisheries laws and regulations explicitly endorses the application of the precautionary approach for coastal or deep-sea fisheries management. It is only recently that this management approach

1254 FAO Code of Conduct, Articles 7.1.8, 7.4.2, 7.5, 7.5.1, 7.5.2, and 7.5.4; UN Fish Stocks Agreement, Article 6 and Annex II.
1255 The precautionary principle has not been formulated in absolute terms and offers only little guidance on how to apply it in practice, Garcia, “The Precautionary Principle,” p. 30.
1256 Jusoh holds the view that the earliest application of the precautionary principle to the management of marine capture fisheries in Malaysia can be traced back to the 1960s when the government responded to the rapid expansion of mechanised trawling operations in inshore fishing areas and its adverse effect on the sustainability of biological resources and the subsistence fishing communities. See Mohd. Mazlan Jusoh, “Management of Living Aquatic Resources in the Straits of Malacca,” in F. M. Yusoff M. Shariff, N. Gopinath, H. M. Ibrahim, and R. A. Nik Mustafa (eds.), Towards Sustainable Management of the Straits of Malacca: Proceedings of International Conference on the Straits of Malacca, 19-22 April 1999, Malacca, Malaysia, Serdang, Malaysia Malacca Straits Research and Development Centre (MASDEC), University Putra Malaysia, 2000, p. 16.
has been expressively mentioned in the text of the NPOA-Capacity as an integral part of the country’s management strategy for controlling fishing capacity.1258

As previously noted, Malaysia has incorporated precautionary method in the management of its marine capture fisheries. This is evident in the country’s fisheries management objectives that place heavy emphasis on determining reference points for potential resource yields and the allowable limit of fishing effort in coastal and offshore fisheries. Given the lack of adequate knowledge about the biological parameters of Malaysian fisheries, as well as the unreliability of catch landing statistics, the DoFM has adopted a conservative approach when formulating biological reference points such as MSY for the sustainable exploitation of offshore fisheries. The conservative estimation of this MSY limit stems from the lack of reliable and accurate data on stocks, especially when the stocks are shared or have a transboundary nature. Moreover, consistent with the recommendations made by researchers from various sections of the DoFM, the potential rate of exploitation and the allowable level of fishing effort for different groups of fish species are generally set conservatively below the estimated figure of MSY.1259

The average potential catch limit is often set at 20 to 40 percent less than the estimated MSY. By setting a conservative MSY figure, a safety margin exists for targeted fisheries in the event of overfishing, as well as the possibility for an increase in production for the species in question. In order for sustainable productivity in marine capture fisheries to continue, the DoFM has adopted a precautionary approach in controlling the level of fishing effort. This practice will be discussed below.

1258 Malaysia NPOA-Capacity, p. 4.
1259 For example, Rajali et al., suggest that to reduce the risk of stock collapse of deep-sea demersal species in the offshore EEZ waters off Sarawak, the present number of deep sea fishing fleets registered in the state should be maintained to leave a safety margin in the MSY estimation for these particular stocks, thus allowing them to mature and reproduce. See Rajali et al., “The Status of the Demersal Fish Resource,” p. 6.
The conservative approach in determining MSY estimation is not the only policy action adopted by the DoFM to achieve sustainable fisheries management. Another key component of the precautionary paradigm which has been applied in the management of Malaysia’s multi-species fisheries is the use of alternative indicators as tools underpinning scientific advice in fisheries management and conservation.\textsuperscript{1260} In view of the inherent weakness of MSY to accurately gauge the biological state of marine fisheries, several alternative indicators have been employed. These indicators are also applicable for assessing the status of fisheries in the offshore region of Malaysia’s EEZ. These indicators can be classified into two primary groups: (i) reference points such as catch per unit effort (CPUE), optimum fishing effort and Maximum Economic Yield (MEY); and (ii) length frequency analysis and trigger points (catch limit above MSY).\textsuperscript{1261}

The Malaysian approach of applying precautionary measure in fisheries management has two underlying objectives: first, to serve as an important tool for monitoring and assessing the current state of fish stocks;\textsuperscript{1262} and second, to identify undesirable fishery conditions in advance, thus allowing fisheries authorities to devise an appropriate management responses or adjust any existing response.\textsuperscript{1263} The latter apparently satisfies the requirement of international instruments for coastal States to adopt a cautious approach in fisheries management and to prescribe precautionary management strategies, notably limit reference points which are designed to avoid overfishing.\textsuperscript{1264} Indeed, the use of the above alternative indicators is of particular significance to local fisheries managers, as these indicators represent the thresholds that

\begin{footnotesize}
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\item DoFM, “Regional Guidelines for Responsible Fisheries in Southeast Asia,” p. 118.
\item \textit{Malaysia NPOA-Capacity}, p. 5.
\item \textit{Malaysia NPOA-Sharks}, p. 45.
\item \textit{Malaysia NPOA-Capacity}, p. 5.
\item \textit{FAO Code of Conduct}, Article 7.5.3; see the argument made by J. F. Caddy, “Fisheries Management in the Twenty-First Century: Will New Paradigms Apply?,” \textit{Reviews in Fish Biology and Fisheries} 9(1999), p. 271.
\end{enumerate}
\end{footnotesize}
define overfishing. Pre-negotiated corrective measures in turn could be developed and implemented with the aim of reversing the adverse impact on the survivability of fishery resources.\textsuperscript{1265}

The application of the precautionary method is most evident in Malaysia’s policy actions in the context of managing excessive fishing capacity. The DoFM has adopted a cautious approach by setting licensing quotas for fishing units authorized to operate in the country’s fisheries jurisdiction. By restricting the number of license, the capacity of fishing fleets (the number of fishing units and their engine power) will be set at a level where fisheries resources can be harvested in a sustainable manner. This policy has been in practice since the introduction of the 1981 Fisheries Licensing Policy, with the Agency regularly setting the number of licensed vessels and gears for each designated fishing zone less than the predetermined recommended license quota.\textsuperscript{1266}

As is often the case, the criteria used in the licensing scheme has been influenced by a variety of factors, ranging from vessel size and engine power, the socio-economic status of the fishing community, as well as the biological characteristics of fish species.\textsuperscript{1267} Therefore, to estimate the catch efficiency of various sized fishing vessels and types of gear used in the country’s fisheries, both the CPUE and the Surplus Production model are probably the most widely used methods for fisheries analysis. These models, in conjunction with other available data such as biomass, fish mortality

\textsuperscript{1265} Ibid., p. 26.
\textsuperscript{1266} Bakar and Looi, “License Limitation: an Approach to the Regulation,” p. 450.
rates, vessel numbers and gear performance are useful in identifying potential trouble spots and forecasting overcapacity issues for specific fisheries. Such a precautionary action is an important part of the DoFM’s attempt to regulate fishing effort and subsequently, prevent excessive fishing capacity. Nonetheless, the Agency is highly aware that cautious approach in fisheries management is necessary because of the difficulty in assessing the full extent of overfishing in the country and the inadequate scientific advice generating from uncertainty surrounding resource status.\textsuperscript{1268} Unreliability of catch statistics and continual problems of IUU fishing, which may result inaccuracy of the actual catch efforts of fishing fleets, including those operating in the offshore areas of the country’s EEZ, compounded the problem.\textsuperscript{1269}

Another justification for the precautionary approach to be embedded into Malaysia’s fisheries management regime is the assumption that fishing fleets might become more efficient over time due to technological improvements in fish detection and harvesting such as Global Positioning Systems (GPS), net haulers, and echo sounders. The consequence of this situation has made it difficult for fisheries managers to accurately assess and predict overcapacity in the future.\textsuperscript{1270}

Malaysia has identified a range of policy actions to be carried out for preventing potential build-up of overcapacity. These actions include, \textit{inter alia}, imposing a moratorium on new licences and thus preventing the entry of additional fishing vessels

\textsuperscript{1268} The latter is due to paucity of data on various biological parameters of fisheries, such as mortality rates, stock abundance and assemblage. Mathew, Sebastian Mathew, “Fishing Legislation and Gear Conflicts in Coastal Waters: A Case Study of Selected Asian Countries,” in \textit{Samudra Monograph}, (Brussels: CSF Liaison Office, 1990), p. 50.

\textsuperscript{1269} Rather than data which capture changes in and processes of ocean/coastal areas and resources, Saharuddin cites that “much [of the] available data are in the form of inventories (forest resources, fisheries landings.” Saharuddin, “National Ocean Policy,” p. 343.

into over-exploited fishing areas, freezing the number of fishing vessels currently in operation, and providing alternative employment and incentives for those seeking to enter over-exploited fisheries. The DoFM is also in the process of considering the implementation of an exit plan designed to reduce the level of excess fishing capacity among C2 class trawler fleets, including the implementation of a buyback scheme.

8.5. Conclusion

As the foregoing discussion has shown, the principles and management measures espoused in international fisheries instruments are invaluable to Malaysia as a guideline in policy and management decision in ensuring sustainable use of offshore fisheries resources and protection of their marine habitats in the country’s EEZ. Malaysia has made considerable progress in its attempt to restore depleted resources and protect fisheries ecosystem. This is generally achieved through the establishment and strengthening of legal and policy frameworks in the country, as well as participation in regional cooperative management of fisheries.

One can argue that the inclusion of international legal principles and measures in Malaysia’s domestic framework is an indication that Malaysia is moving forward with its commitment to promote responsible fisheries. However, as demonstrated in this chapter, these measures are rather incomplete and it is imperative for the country to undertake urgent reforms in its national legislative and policy framework for offshore fisheries management in the EEZ.

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Chapter 9
Conclusion

The post-Second World War era has witnessed an enormous progress associated with the transformation of international fisheries law and policy framework. Predominantly more environmentally conscious with the inclination towards utilising and managing fisheries resources in a sustainable and responsible manner, the legal and policy content of this transformation is reflected in the universally agreed principles, conceptual objectives, rules and management measures articulated in various legally-binding treaties, voluntary instruments and declarations that were adopted or elaborated in the post-war era. Chapter 2 and 3 examined the transformation that took place in progressive stages and against an ever-changing social, economic and political landscape of post-war international relations.

As illustrated in Chapter 2, historians and legal scholars identified the driving forces behind the changing perception of and impetus for the global community to establish a more stable and comprehensive system of rules and principles in the international fisheries regime. In their view, these driving forces are arguably inseparable from the community’s response to the trends and events unfolded after the Second World War. The two key variables which have been singled out in the chapter as perhaps the most influential to the evolution of modern international fisheries law are: (i) the extension of national sovereignty and jurisdictional claims beyond the narrow belt of the territorial sea, and over areas previously under the high seas regime; and (ii) the threat to long-term sustainability of worldwide marine fisheries caused by mismanagement of resources and the environment.
The lack of proper and effective management of marine fisheries has raised alarming and widespread concerns among global community over the long-term sustainability of these renewable resources. Within the first three decades of post-war period, fisheries resources were increasingly coming under mounting pressure from overfishing, aggravated by the relentless expansion of fishing efforts arising out of accelerated growth of worldwide fishing fleets, and the growing demand for fish as a source animal protein. There was conclusive evidence where commercially important fish stocks in different parts of the world’s oceans, as attested, for example, in different numbers of FAO reports, were either diminishing or overexploited. In some cases, the harmful impact of overfishing led to the total collapse of few, economically important fisheries. The crisis had been further exacerbated by a host of other factors such as the degradation of marine ecosystem from environmental pollution and destructive fishing, combined with the high rate of by-catch and discards.

Fuelled in part by less than satisfactory traditional framework for fisheries management and enforcement contained in the 1958 Geneva Convention on High Seas Fisheries, this thesis demonstrated that the severity and pervasiveness of excessive fishing and alarming depletion of fish stock on a worldwide basis had helped to push ocean fisheries issues and their remedial measures into the forefront of international meeting agenda as early as 1960s. The initiatives taken by the global community to improve the legal regime for fisheries governance had led to the proliferation of legally binding instruments with provisions applicable to fisheries management. Among the most significant of these hard law instruments was the LOSC. The Convention is a landmark treaty instrument developed with one of the primary intentions to provide a more comprehensive and universal legal framework for governing sustainable use and rational management of fisheries resources. It was emphasized in Chapter 2 that no
other than the development of the EEZ regime under the LOSC has changed international fisheries regulation in a significant manner. Indeed, the universal claims to EEZ radically altered the distribution pattern of global marine capture fisheries. Substantial portion of the world’s commercially exploitable fish stocks of approximately 90 percent fell under the exclusive control of coastal States. The immense socio-economic benefits from the acquisition of these abundant fisheries resources created by the EEZ regime are not without restriction. The regime also presents an increased regulatory and enforcement duty for coastal States with respect to the conservation of fisheries resources.

However, this thesis has shown that the LOSC fisheries framework evoked criticism for the ambiguous duties and obligation imposed upon signatory States in relation to fisheries management and conservation, including the obligation to establish cooperative fisheries management measures. To many observers, the Convention’s fisheries provisions, specifically those in Part V and Part VII that are applicable to the EEZ and on the high seas respectively, did not provide substantive guideline and specific operational mechanisms for effective fisheries conservation and management, particularly in respect of straddling and highly migratory fish stocks.

It was anticipate that the EEZ regime of the Convention would create a system of just and equitable allocation of fisheries resources, as well as efficient resources management and conservation for both current and future generations to derive maximum benefit from the zone. Nonetheless, this is very far from being the case. The universal extension of coastal States’ EEZ jurisdictions in the vast offshore fishing grounds ironically did not deliver the expected conservation benefits needed to effectively address the pervasive problems of overfishing and environmental degradation. Further, the LOSC did not seem to provide greater incentive for States to
be more responsible in the way they utilise and manage fish stocks. As a result, a multitude of fisheries-related issues, as well as conflict and disagreement over the conservation of fish stocks that migrated across jurisdictional boundaries, became the norm in the first decade shortly after the adoption of LOSC. Some the prominent examples of these issues included overfishing, high incidental catch and discard rate of non-target species, reflagging of vessels, overcapitalization, and the use of modern and technological advance fleets creating overcapacity. These problems were further aggravated by the Convention’s species-centric approach that places low priority towards sustainable conservation and protection of marine ecosystem and habitats where a wide range of fish and non-fish species coexist.

It was becoming evident that the narrow approach of the LOSC fisheries framework was perceived to be insufficient in dealing with the increasing degradation of the marine environment and the loss of biodiversity resources from the adverse impacts of fishing operations and natural phenomena. These questions cast a doubt over the comprehensiveness of the LOSC fisheries framework to reverse not only the continuing trend of worldwide depletion of fish stocks but also severe deterioration of marine environment and its habitat. Increased awareness among societal community of the importance of marine environmental protection, asides from the need to conserve natural living resources for future generations, necessitate the need to establish a legal and policy system that would promote a holistic approach to manage fisheries and their surrounding ecosystem.

A paradigm shift in the international regime for fisheries governance was urgently needed with the aim of closing the gaps that had been left by the LOSC fisheries framework, and equally important, promoting a more sustainable, responsible form of fisheries practice in harmony with the environment. This, in turn, entailed the
international community to undertake the necessary reform in the international legal and policy framework for fisheries. By the early 1990s, the need for a ‘responsible fisheries’ model already gained momentum as it attained a greater attention in the international fisheries agenda, including in UNCED and FAO meetings and conferences.

As discussed in Chapter 3, the concept of responsible fisheries was eventually given the form and substance through the adoption of broad principles, measures and standards as found in a series of legally binding and voluntary instruments. Notable examples of some of the most influential instruments of relevance for promoting responsible fisheries in the EEZ were examined, including the UN Fish Stocks Agreement, Chapter 17 of Agenda 21, the FAO Code of Conduct, and the four IPOAs, namely IPOA-IUU, IPOA-Capacity, IPOA-Sharks and IPOA-Seabirds. These instruments contain a wide range and often interrelated principles, rules, standards and measures which epitomise the dynamic changes in the international regime for fisheries governance of the post-LOSC era. Whilst these post-LOSC instruments may be differ in their scope, focus and legal status, they share a number of attributes. In particular, they each contain a range of widely accepted principles, detailed measures, and prescriptive requirements useful in addressing inadequacies as well as complement the rather loose and ill-defined fisheries framework of the LOSC.

A common set of legal requirements, general principles and management measures, which form an integral component of international legal and normative framework applicable for responsible fisheries in the EEZ, were discussed in Chapter 4. The contents of, and the inter-relationship, between these principles and measures sourced from both international and regional fisheries-related instruments, but only as far as they are related to coastal State jurisdiction, were analyzed. These principles consist of sustainable utilization and conservation of fisheries resources; ecosystem
approach to fisheries (EAF); and lastly, precautionary approach to fisheries management. In addition, the scope of discussion in the chapter has covered various management measures in implementing these principles, which encompassed the setting of MSY and TAC, eliminating or reducing excess fishing capacity, prohibiting destructive fishing gears and practices, and minimizing by-catch, discard and waste.

It is from this analysis of principles and measures that an examination was made on the adequacy of Malaysia’s national legislative, policy and institutional framework in implementing the global norms for responsible fisheries applicable in offshore areas of its EEZ. In order for the country’s practices in fisheries management to be consistent with the requirement of international legal and normative framework for responsible fisheries, this thesis argued that, it needs to adopt and implement the prescribed principles and measures drawn from international instruments.

From an operational perspective, it is established in this thesis that the central notion of responsible fisheries embraces a complex and comprehensive approach to fishing and fisheries management, an approach that is much more prescriptive, regulatory and science-based in its content than the LOSC fisheries framework. Rather than concentrating on a species-centric approach to fisheries management as espoused in the latter, the inherent nature of responsible fisheries concept under the post-LOSC fisheries instrument places a greater emphasis towards managing human behaviour by fostering the culture of accountability and establishing an environmentally sound fisheries management process, therefore placing people at the centre of fisheries equation.

The combination of principles and their implementing measures established in the LOSC and other subsequently adopted international fisheries instruments have greatly enhanced the overall effectiveness of international fisheries law and policy. This

368
improvement however, does not necessary guarantee for these principles and measures to be fully implemented by, or incorporated into, the fisheries legislation and policy of States. Indeed, attaining the objective of responsible fisheries is rested primarily on the political will by the leadership, technical and financial capacity of individual States, and State’s participation in cooperative initiatives for implementing international instruments in a sustained and complete manner.

At the level of actual policy-making and practical management action, the thesis argues that an increasing number of coastal States are generally supportive of implementing the concept of responsible fisheries, although it is fair to say that this implementation has been far from satisfactory and selective in its character, particularly among the developing countries. One other important observation is that to facilitate effective implementation of international framework of principles and measures for responsible fisheries at national level, it is crucial for the relevant policy, legislative and institutional framework to be put in place by the coastal States, other than having the political, financial, human resources and technical capacity. In the case of Malaysia, Chapters 6 and 7 provide an examination of the scope, structure and status of Malaysia’s legislative, policy and institutional arrangement for managing fisheries in the EEZ.

In Chapter 6, it is argued that the cornerstone of Malaysia’s fisheries management agenda for the past 30 years has been largely moved towards maximizing national fishery production. This policy-orientation is firmly rooted in numerous sectoral and fisheries-related policy documents and statements. At the same time, numerous action plans, programs and strategies have been adopted and implemented with the objective of not only ensuring the harvesting of the country’s marine fisheries
resources at a sustainable level, and but also preserving the integrity and ecology of surrounding marine ecosystem.

Since the proclamation of the country’s EEZ, Malaysia has started to initiate policy and legislative reforms that govern the management of its marine capture fisheries and related development activities to be consistent with the principles and measures prescribed by the relevant international fisheries instruments. The harmonization of national laws and policy with the provision of international instruments, in particular the LOSC, is also intended to give effect to the country’s rights, duties and obligations so that it can fully reap the legal and economic benefits provided to in such instruments. Recent examples of these initiatives can be seen from the country’s adoption of two NPOAs (i.e. NPOA-Sharks and NPOA-Capacity) and Regional Code of Conduct for Responsible Fisheries to carry attain the overarching objective of sustainable fisheries and marine ecosystem protection.

While progress have been made by Malaysia to establish an appropriate and comprehensive legislative and policy framework for the management and conservation of fisheries in the country’s EEZ, Chapter 7 has demonstrated that throughout the course of Malaysian fisheries management, the country has taken the steps to enhance its national institutional capacity for practical implementation of the framework. Establishing an effective institutional framework, combined with efficient operational systems to support inter-agency cooperation and coordination, is regarded by Malaysia as fundamental for a successful fisheries governance. As such, the recent introduction of MMEA exemplifies one of the Malaysia’s initiatives to overcome the challenges arising from the previous sectoral institutional arrangement in the EEZ. Previously, it is well documented that there were too many agencies with legislative power responsible to
enforce different federal laws and regulations, resulting in duplication of efforts and inefficient use of resources and assets for regulatory enforcement.

Malaysia’s efforts in enhancing its legislative and policy framework to manage offshore EEZ fisheries in line with the current legal and normative framework for responsible fisheries is commendable, but the progress of incorporating this framework into the country’s national fisheries laws and policy has been arguably slow and selective for a number of reasons. One reason is that provisions embodied in its present national fisheries legislation have not made specific reference to certain principles of responsible fisheries drawn from post-LOSC fisheries instruments.

Malaysian fisheries laws and subsidiary regulations, particularly those enacted in 1980s, were introduced at a time when the now modern concept of responsible fisheries management, notably the precautionary and ecosystem-based approach to fisheries management, and compatibility in the management of shared and transboundary fishery resources, were yet to become the central themes in the agenda of international fisheries meetings. *The Fisheries Act 1985 (Amended 1993)* is one such example. Nearly 18 years has passed since the Act was amended in 1993 and yet during that time, it has been overtaken by progressive development in the international fisheries regime. Malaysia’s current legislative and policy framework is arguably insufficient not only to accommodate its commitment to meet the requirements of modern fisheries management, but also in keeping abreast with international aspiration towards achieving responsible fisheries. Since Malaysia’s management regime for marine fisheries has been insufficient to guarantee sustainable fisheries, a shift in fisheries management philosophy and approach is required.

To address this gap, it is recommended for Malaysia to review and amend the content its current fisheries legislative framework so as to be consistent with the latest
principles, measures and general guidelines of the international fisheries instruments. It needs to incorporate concepts of responsible fisheries, such as precautionary and ecosystem-based approach to fisheries management, into the text of its national fisheries laws and regulations.

Furthermore, Malaysia would need to accede to and eventually adopt in national legislation international conventions of relevance to the conservation of straddling and highly migratory fish stocks such as the UN Fish Stock Agreement. This exercise would facilitate and provide adequate legal basis for the administration, control and enforcement of activities involving such stocks in the EEZ.

Relevant to the management of shared fish stocks, it can be observed that Malaysia needs to closely engage with its neighboring ASEAN States (i.e. Thailand, Indonesia, Vietnam and the Philippines) to reach a more meaningful cooperation for the management and conservation of shared stocks. While there are varying degrees of cooperative mechanisms and programmes set up between these countries through regional fisheries management bodies, such as SEAFDEC and AFFIC, these cooperative measures are still deficient and mainly concentrate on marine scientific research, data collection, resources survey, and technical training exchange. Nevertheless, the main issue of overfishing affecting the management of shared pelagic fish stocks in the region remains unresolved.

The management of shared stocks involving Malaysia and its neighbouring States is further complicated by the ongoing overlapping maritime boundary disputes and contested maritime features in certain portion the country’s EEZ. While the definite resolution of overlapping maritime boundary and features remains the subject of political and diplomatic negotiation, it is not an excuse for Malaysia and its neighbouring States not to pursue some forms of cooperative measures to regulate the
harvesting level of shared fishery resources. The migratory nature of the fish stocks itself require coordinated and coherent management measures to be adopted by States that share the stocks.

In general, the Malaysian fisheries industry has achieved considerable progress and desired results, especially in terms of increasing commercial fisheries landings from both coastal and offshore fishing sectors. Notwithstanding these positive outcomes, the persistence of various fisheries issues continues to be a major cause of concern to the country. The issue on overexploitation of demersal and pelagic species, which is a long-standing trend in the country’s inshore fishing areas since the mid-1970s, has yet to be reversed, threatening the long-term sustainability of the country’s overall marine capture fisheries industry.

At the same time, there is an alarming concern that commercially important fish stocks in its EEZ waters may encounter the same fate as inshore fisheries. Analysis of recent resource surveys and annual statistical landings reveals that the populations of certain shared stocks of pelagic species and highly migratory fish stocks are showing some indications of serious decline or even over-exploitation in some areas of offshore fishing grounds in Malaysian EEZ, in particular the waters off the west coast and east coast of Peninsular Malaysia.

As mentioned earlier, the performance of Malaysia’s policy and regulatory initiatives towards addressing many issues affecting its marine capture fisheries have been unsatisfactory, aggravated further by incomplete implementation of sound fisheries management measures. The inability of the country to overcome institutional, legal and resource constraints in fisheries enforcement is also an underlying reason for the persistence of certain problems, such as the illegal fishing of foreign boats in offshore fishing grounds of the country’s EEZ.
Nevertheless, the overall performance of Malaysian fisheries management framework has greatly improved over the years, albeit the substantial financial, human resource, structural and technical constrains within its fisheries administrative system, along with inadequate law enforcement efforts in the country’s EEZ continue to be problematic. Part of the reasons underlying this improvement is the gradual paradigm shift in Malaysia’s fisheries governance from a narrow, resource-centric and production-oriented management approach to a more holistic, comprehensive and proactive fisheries management that take into account the close interaction between exploited biological resources and marine environment. The relevant Malaysian fisheries authorities are also aware of the need to incorporate more feasible and realistic conservation strategies in the country’s fisheries management without disregarding a variety of domestic-influenced factors, encompassing from local fishing culture, administrative and governance system, socio-economic structure, to biological and ecological characteristics of the fisheries itself.
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