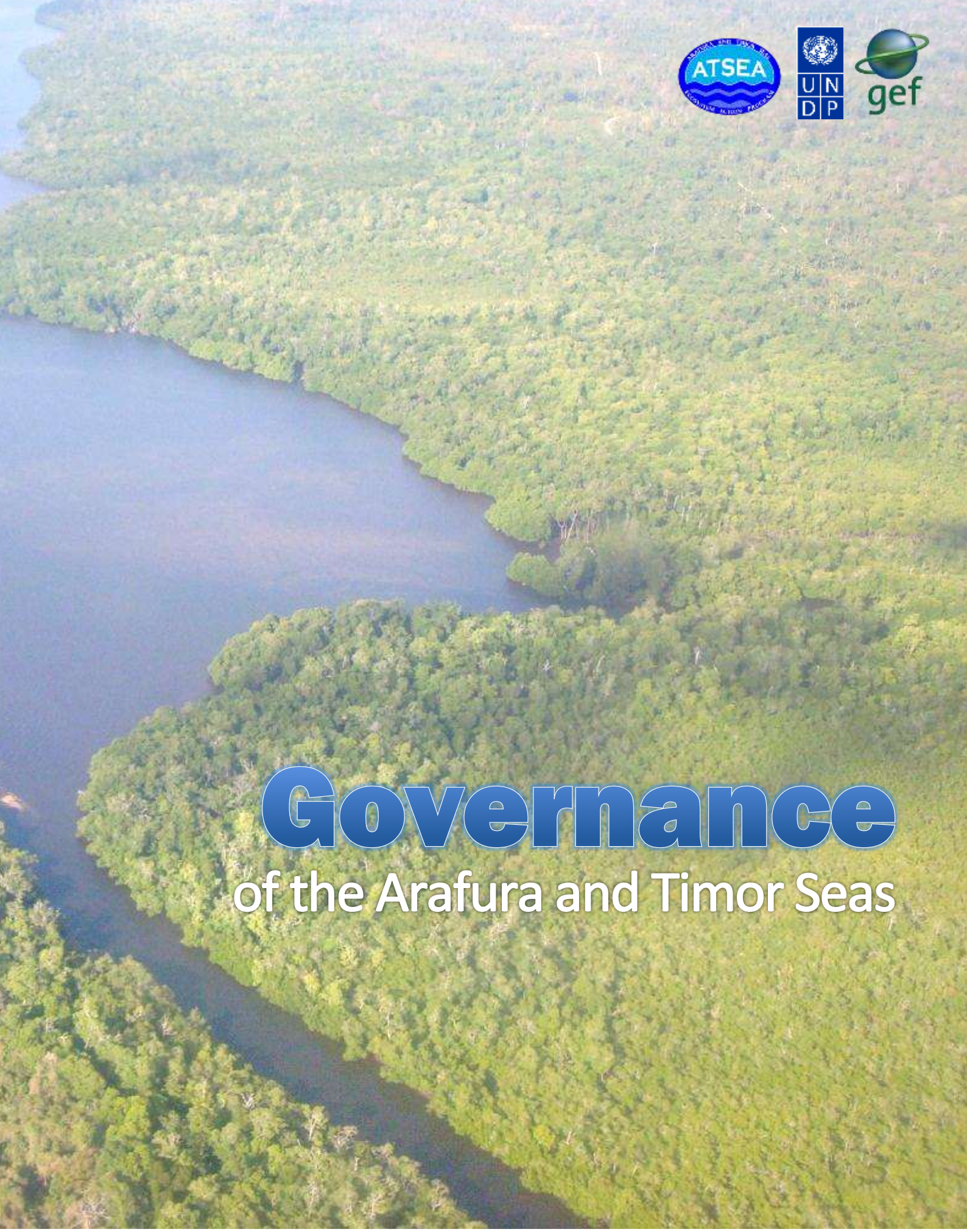

Governance
of the Arafura and Timor Seas

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Technical Paper for the
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Contents

GLOSSARY

AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
APEC	Asia-Pacific Economic Cooperation
ATSEA	Arafura and Timor Seas Ecosystem Action (Programme)
ATSEF	Arafura and Timor Seas Experts Forum
COBSEA	Coordinating Body on the Seas of East Asia
CTI	Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security
DAFF	Department of Agriculture, Fisheries and Forestry (Australia)
EEZ	Economic Exclusive Zone
FWG	APEC Fisheries Working Group
GEF	United Nations Global Environment Fund
IUU	Illegal, unregulated and unreported (fishing)
MCS	Monitoring, Control and Surveillance
MOU	Memorandum of Understanding
OCS	Offshore Constitutional Settlement
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
RPOA	Regional Plan of Action
UNCLOS	United Nations Convention on the Law of the Sea
WCPFC	Western and Central Pacific Fisheries Commission
WGMAF	Working Group on Marine Affairs and Fisheries

1 INTRODUCTION

The Arafura and Timor Seas (ATS) represent a semi-enclosed sea area bordered by Indonesia, Australia, Timor-Leste and Papua New Guinea. The ATS is characterized by marked ecological connectivity in the form of shared fish stocks and biodiversity and strong land-sea interactions (Alongi, 2011). Vast pristine and highly threatened coastal and marine ecosystems, which provide important environmental services to millions of people, underscore the urgent need for trans-boundary management and inter-governmental cooperation.

Lack of reliable data regarding legal fishing activities combined with high levels of illegal, unregulated, and unreported (IUU) fishing in the Arafura and Timor Seas, means that annual production is very difficult to determine.

The socio-economic characteristics and conditions within and between each of the countries surrounding the ATS vary greatly but communities also share many common issues. These include remoteness, cultural and linguistic diversity, poverty amongst coastal communities, mobility and migration, and shared use and management of marine resources (Stacey *et al.*, 2011).

The four nations fringing the ATS have different legislative frameworks and different approaches to the management and protection of living and non-living resources. With the exception of Australia, the three countries of the ATS are developing nations and as a result, the amount of resources available for regulation of fisheries activities is starkly contrasted. The Australian fisheries sector is highly regulated through strict enforcement of the numbers of licences issued, units of fishing gear and other fishery inputs plus quota or output arrangements have also been introduced. Generally, these fisheries represent a highly evolved and effective governance system (Stacey *et al.*, 2011). The level of regulation in Indonesia, Timor-Leste and Papua New Guinea are not so well resourced and as a result face many additional challenges.

The following document is a technical document summarising a range of legislation that affects the marine environment of the Arafura and Timor Seas. It was produced as part of the Arafura and Timor Seas Ecosystem Action Program a forum funded by the United Nations Global Environment Facility (GEF) for bringing together the littoral nations of the Arafura and Timor Seas to work on transboundary marine issues. Further information describing the socio-economic and biophysical features of the ATS region can be found in two accompanying reports, Stacey et al. (2011) and Alongi (2011) respectively.

Information in this paper is presented at three levels to include international law, regional policies and national laws relating to each of the four nations fringing the Arafura and Timor Seas. This is intended as a summary and is not exhaustive in its detail. Information from Indonesia, Timor-Leste and Papua New Guinea was provided to the ATSEA Program by representatives of each nation and as a consequence the level of detail and nature of information for each nation varies. The summary of legislation for Australia was gleaned from publicly available information.

2 INTERNATIONAL LAW FRAMEWORK

A number of international treaties govern the use and management of ocean, seas and their resources. The international agreements most relevant to the ATS region are summarised below.

2.1 United Nations Convention on the Law of the Sea (UNCLOS)

The 1982 UN Convention on the Law of the Sea (UNCLOS) defines a coastal state's jurisdictional right for internationally recognized maritime zones, including inland waters, the territorial sea, the continuous zone, and the Economic Exclusive Zone (EEZ).

UNCLOS addresses the rights and obligations of nations in regard to access to marine resources, particularly relating to Exclusive Economic Zones (EEZ). Part IX of the 1982 United Nations Convention on the Law of the Sea (1982 UNCLOS) specifically addresses the subject of "Enclosed and Semi-Enclosed seas" in Articles 122 and 123. In these articles, the Convention recognises special geographical situations where two or more bordering states must cooperate to manage shared marine environments.

Indonesia, Australia and Papua New Guinea are signatories to UNCLOS, but Timor-Leste is not (United Nations, 2011).

2.2 Fisheries related instruments

The 1995 UN Fish Stocks Agreement

The '*United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*' was adopted in 1995. The Agreement establishes significant principles for the conservation and management of fish stocks and emphasizes that all related management must be based on the precautionary approach and the best available scientific information and should promote optimum utilization of fisheries resources both within and beyond each state's exclusive economic zone. The Agreement came into effect in December 2001.

The 1993 FAO Compliance Agreement

This agreement addresses concerns about the reduction of fish stocks on the high seas as a result of IUU fishing and attempts to overcome the problem of reflagging and flag of convenience associated with fishing vessels attempting to avoid the application of high seas conservation and management measures determined by regional fisheries organizations. The Compliance Agreement promotes Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (1993 FAO Compliance Agreement) and was adopted in November 1993, entering into force on 24 April 2003.
Timor-Leste is not a signatory party to the Compliance Agreement.

Code of Conduct for Responsible Fisheries (CCRF)

The Code of Conduct for Responsible Fisheries (CCRF) was agreed in October 1995 as a guide ("guidelines") for the management and conservation of biological resources of participating countries. Just as the 1993 FAO Compliance Agreement and the 1995 UN Fish Stocks Agreement, CCRF also urges countries to ensure that vessels do not catch fish that are not in accordance with the provisions of conservation. The CCRF also includes flag state obligations to perform effective control of fishing vessels. The FAO has issued International Plans of Action for sustainable fisheries management, as the implementation mechanism of the CCRF, namely:

- International Plan of Action for the Management of Fishing Capacity (IPOA-FISHING CAPACITY).
- International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).
- International Plan of Action for Reducing incidental catches of Seabird in Long-line Fisheries (IPOA-seabirds).
- International Plan of Action for Illegal, Unreported and Unregulated fishing (IPOA-IUU).

2.3 Biodiversity Related Instruments

Convention on Biological Diversity (CBD)

The CBD establishes three main goals: the conservation of biological diversity, the sustainable use of

its components, and the fair and equitable sharing of the benefits from the use of genetic resources. A significant provision of the CBD is the requirement that environmental impact assessments be performed for proposed activities likely to have significant adverse impacts on the environment.
Other **biodiversity related instruments**, with their own objectives and commitments include:

- International Convention for the Regulation of Whaling
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS, also known as the Bonn Convention)
- Convention concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention).
- Strategic plan for Biodiversity 2011-2020 adopted in the tenth COP Convention on Biodiversity in Japan October 2010
- Protection of coral reefs for sustainable livelihood and development, UN Committee II resolution (co-sponsored by Indonesia, PNG, Australia and Timor-Leste)

2.4 Pollution related instruments

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)

The London Convention aims to promote the effective control of all sources of marine pollution and take practical steps to prevent pollution of the sea by dumping of wastes and other matter.

International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)

MARPOL was initially adopted in 1973, based on an ecosystem approach to management. It is the main international convention addressing prevention of pollution of the marine environment by ships from operational or accidental causes and includes six technical annexes. The Convention defines special areas of sea area based on oceanographic and ecological conditions and particular transportation traffic.

Convention on Oil Pollution, Preparedness, Response and Cooperation

The chief treaty addressing oil pollution by facilitating international cooperation to prepare for, and respond to, major oil and chemical pollution incidents and encouraging countries to develop and maintain adequate capability to deal with oil and chemical pollution emergencies.

Basel Convention

Another instrument dealing comprehensively with hazardous and other wastes is the 1989 Basel Convention on the control of transboundary movements of hazardous wastes and their disposal. The convention is the most comprehensive global environment treaty dealing with hazardous and other wastes, aimed to protect human health and the environment against the adverse effects of the generation, management, transboundary movement and disposal of hazardous and other wastes. On the issue of the wastes generated aboard ships, the Parties to the Convention have underlined the importance of close cooperation between the Basel Convention and the International Maritime Organization. This issue has raised the question of the relationship between the Convention and other treaties regulating maritime affairs that are under the framework of the IMO.

3 REGIONAL POLICY FRAMEWORK

3.1 Environment

Action Plan for the Protection and Sustainable Development of the Marine Environment and Coastal Areas of the East Asian Region (East Asian Action Plan)

The **Regional Seas Programme** of the United Nations Environment Programme (UNEP) was established as a comprehensive approach to addressing environmental problems in the management of marine and coastal areas. UNEP formulated the East Asian Action Plan in 1981 which is governed by the **Coordinating Body on the Seas of East Asia (COBSEA).** The Arafura and Timor Seas fall within this region. The main components of the Action Plan are: assessment of the effects of human activities on the marine environment; control of coastal pollution; protection of mangroves, seagrasses and coral reefs; and waste management. The programme does not include a mandatory convention but promotes compliance with existing environmental treaties based on member country goodwill.

Countries participating in COBSEA include Cambodia, China, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore, Thailand, and Vietnam

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)

PEMSEA was established in 1999 as a regional activity following the **Regional Programme for Marine Pollution Prevention and Management in the East Asian Seas**, funded by GEF, implemented by UNDP and executed by IMO. PEMSEA became an independent international institution in November 2009, based in Manila, the Philippines. The aims of the programme are to protect the life support systems of the seas of East Asia and enable the sustainable use of their renewable resources through intergovernmental, interagency, and inter-sector partnerships. Participating countries to this programme include Brunei Darussalam, Cambodia, Korea, Indonesia, Japan, Malaysia, China, Timor-Leste, Philippines, Singapore, Thailand, Vietnam and Timor-Leste.

Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI)

The CTI aims to bring together six governments in a multilateral partnership to conserve the extraordinary marine life in the region. Using coral and reef fish diversity as two major criteria, the boundaries of Coral Triangle (CT) are defined by scientists as covering all or parts of the exclusive economic zones of Indonesia (Central and Eastern), Timor-Leste, the Philippines, Malaysia (part of Borneo), Papua New Guinea and the Solomon Islands. CTI officially launched a Regional Plan of Action for the CT at the World Ocean Conference in Manado, Indonesia, in May 2009. The action plan has five overall goals covering priority seascapes, ecosystem approach to management of fisheries and other marine resources, marine protected areas, climate change adaptation and threatened species.[1] In addition, each of the six participating countries has drawn up a National Plan of Action. Timor-Leste is also engaged in the CTI Pacific programme in partnership with Papua New Guinea, Solomon Islands, Fiji and Vanuatu.

[1] Interim Regional CTI Secretariat. Regional Plan of Action: Coral Triangle Initiative on coral reefs, fisheries and food security (CTI-CCF). Interim Regional CTI Secretariat, Jakarta, Indonesia, 2009

3.2 Fisheries

APEC Fisheries Working Group (FWG)

The Asia-Pacific Economic Cooperation (APEC) was established in 1989 in response to the growing interdependence among Asia-Pacific economies. There are 21 member economies, including Australia, Indonesia and Papua New Guinea. The **APEC Fisheries Working Group (FWG)** was created by Senior Officials in 1991 and is one of several APEC working groups that define and support sectoral work programmes.

In 2005, the **Bali Plan of Action** was established to guide the priorities of APEC and its working groups that deal with ocean related issues. In 2011, the two working groups dealing with marine and fisheries issues, namely the Marine Resource Conservation Working Group (MRCWG) and the Fisheries Working Group (FWG) were merged to become the **Ocean and Fisheries Working Group (OFWG)**.

Western and Central Pacific Fisheries Commission (WCPFC)

The **WCPFC** was established by the **Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention)** which entered into force on 19 June 2004. The WCPF Convention draws on many of the provisions of the 1995 UN Fish Stocks Agreement while, also reflecting the special political, socio-economic, geographical and environmental characteristics of the western and central Pacific Ocean (WCPO) region. The WCPFC Convention seeks to address problems in the management of high seas fisheries resulting from unregulated fishing, over-capitalization, excessive fleet capacity, vessel re-flagging to escape controls, insufficiently selective gear, unreliable databases and insufficient multilateral cooperation in respect to conservation and management of highly migratory fish stocks.

Among the ATSEA countries, Australia and Papua New Guinea are full members of WCPFC whereas Indonesia is a cooperating non-member.

Regional Plan of Action (RPOA) to Promote Responsible Fishing Practices (including Combating IUU Fishing) in the Region (South East Asia)

The RPOA is a regional forum working to enhance responsible fisheries management, including measures to combat IUU fishing. The RPOA was signed in 2007 by fisheries ministers from Australia, Indonesia, Timor-Leste and Papua New Guinea, as well as ministers from Brunei Darussalam, Cambodia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. It is a voluntary instrument taking its core principles from already established international instruments promoting responsible fishing practices. Indonesia and Australia are joint chairs. The Department of Agriculture, Fisheries and Forestry (DAFF) is the lead Australian agency on RPOA matters.

The RPOA has the ministerial mandate to develop and implement new and revised capture fisheries management arrangements. A high level Coordination Committee meets annually to review progress and agree a forward work program. The Coordination Committee is advised by representatives from the FAO/Asia-Pacific Fishery Commission, the Southeast Asian Fisheries Development Centre, InfoFish and the Worldfish Center.

Importantly, the RPOA has established a Regional Monitoring, Control and Surveillance (MCS) Network, plus three sub-regional MCS networks which includes the Arafura and Timor Seas Network – membership being Australia, Indonesia, East Timor and Papua New Guinea. Parallel with establishing the MCS networks, the RPOA developed an international-best- practice MCS Curriculum for use by member countries.

The RPOA has recently completed two major studies which have the potential to significantly improve the level of fisheries management in the ATS:

1. *Framework for Model Fisheries Legislation in South East Asia* – a study providing in-depth analysis of the gaps, strengths and weaknesses in each RPOA country's fisheries legislation, and a detailed framework for legislation to foster regional harmonization of fisheries management arrangements including stronger legal action against IUU fishing.
2. *Net Returns: A Human Capacity Development Framework for Marine Capture Fisheries Management in South East Asia* – a study to provide guidance to RPOA countries' fisheries management, donor and technical agencies on capacity building priorities across eight major management themes, for example, fisheries management planning, fisheries capacity management, strengthening MCS and information systems, and strengthening regional and international cooperation[2].

3.3 Arafura and Timor Seas Experts Forum (ATSEF)

The Arafura and Timor Seas Experts Forum is a non-binding forum to foster collaboration between government and non-governmental organisations in Australia, Indonesia, Papua New Guinea and Timor-Leste in the pursuit of the sustainable use of the living resources of the Arafura and Timor Seas. It is open to, and encourages participation from, agencies and individuals within the littoral nations and from international organizations, who are willing to advance the purpose of the Forum in accordance with the Memorandum of Understanding signed in October 2003.

The purpose of the Forum is to assist in achieving the goals of sustainable development and poverty alleviation, specifically for the littoral nations and for the coastal and indigenous communities, who depend upon the Arafura and Timor Seas for their livelihood. As a United Nations World Summit on Sustainable Development Partnership (Type 2), the objective of ATSEF is to provide opportunities to improve information sharing arrangements between the littoral states of the Arafura and Timor Seas. It provides an informal mechanism to identify cooperative research agendas and arrangements to enhance the nations' capacity to sustainably manage the Arafura and Timor Seas.

The five priority foci directing ATSEF research are:

1. Preventing, deterring and eliminating IUU fishing in the Arafura and Timor Seas
2. Sustaining fish stocks, marine habitats and coastal and marine biodiversity
3. Understanding the marine, coastal, and catchment system dynamics of the seas
4. Assisting sustainable and/or alternative livelihoods for coastal, traditional and indigenous communities
5. Improving capacity for data information, management and sharing between the littoral nations of the seas

3.4 Indonesia-Australia Bilateral Cooperation

Agreement between the Government of Australia and the Government of the Republic of Indonesia Relating to Cooperation in Fisheries (1992 Fisheries Cooperation Agreement)

The 1992 Fisheries Cooperation Agreement facilitates information exchange on research, management and technological developments, complementary management of shared stocks, training and technical exchanges, aquaculture development, trade promotion and cooperation to

[2] This study can found at www.daff.gov.au/netreturns

deter illegal fishing. Cooperation takes place under the auspices of the **Working Group on Marine Affairs and Fisheries** (WGMAF). Established in 2001, the WGMAF is the primary bilateral forum to enhance collaboration primarily on fisheries issues relevant to the areas of the Arafura and Timor seas. The Working Group brings together the fisheries, environment and scientific research portfolios and agencies from both countries. The Department of Agriculture, Fisheries and Forestry (DAFF) takes the lead for Australia and the Ministry of Marine Affairs and Fisheries for Indonesia[3].

The Australia-Indonesia Fisheries Surveillance Forum coordinates cooperative activities between Australia and Indonesia that assist in the fight against IUU fishing in both Australian and Indonesian waters. The Fisheries Surveillance Forum was established in 2008 as a sub-working group under the WGMAF. The forum initiates information sharing, building surveillance capacity and the conduct of coordinated marine patrols between Australia and Indonesia. The Australian Customs and Border Protection Service takes the lead for Australia and the Ministry of Marine Affairs and Fisheries for Indonesia.

MOU Box Area

The **MOU Box** Area is an area of Australian water (approximately 50,000 km^2 in size) in the Timor Sea where Indonesian traditional fishers, using traditional fishing methods only, are permitted to operate. Officially it is known as the Australia-Indonesia Memorandum of Understanding regarding the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf – 1974.The MOU provides Australia with a tool to manage access to its waters while for Indonesia, it enables Indonesian traditional fishers to continue their customary practices and target species such as trepang, trochus, shark, abalone and sponges. Successive research reports on reef top species in the MOU Box indicate that stocks in the area are depleted.

3.5 Australia-Papua New Guinea

Torres Strait Treaty

The **Torres Strait Treaty** is an agreement between Australia and Papua New Guinea that defines the boundaries between the two countries and how the sea area may be used. It was signed in December 1978 after long discussions between Australia and Papua New Guinea and was developed to remove any remaining doubts about the boundaries between the two nations.

There are two main boundaries:

1. Seabed Jurisdiction: Australia has rights to all things on or below the seabed south of this line and Papua New Guinea has the same rights north of the line; and
2. Fisheries Jurisdiction Line where Australia has rights over swimming fish south of this line and Papua New Guinea has the same rights north of the line. The two countries have agreed under the Treaty to share these rights.

The **Protected Zone** is an area of the Torres Strait recognised by Australia and Papua New Guinea as needing special attention. The main reason for the Protected Zone is so that Torres Strait Islanders and the coastal people of Papua New Guinea can carry on their traditional way of life. People from both countries may move freely (without passports or visas) for traditional activities in the Protected Zone. The formation of the Protected Zone has also helped to preserve and protect the land, sea and air of the Torres Strait, including the native plant and animal life.

Part of the Treaty deals with commercial fisheries ensuring that commercial fishing in the Protected Zone is in harmony with traditional fishing, provides for commercial fishing by both Australia and Papua New Guinea and includes arrangements for the sharing of commercial catch. It allows both

[3] http://www.daff.gov.au/fisheries/international/cooperation/indonesia [accessed 6/01/2012]

countries to work together in licensing and policing as well as in the preservation, protection and management of fisheries.

4 NATIONAL LEGISLATION, POLICIES AND INSTITUTIONS

4.1 Indonesia

Existing Laws and Institutions

Indonesian legislation relating to fisheries management and environmental protection are complex and spread across national, provincial and district governments. Whilst the range of laws as a whole is quite comprehensive, regulation and enforcement of these laws continues to be a major challenge.

National laws and regulations issued regarding protection of marine environment, include the following:

- *Law No. 1 of 1973 on Indonesia Continental Shelf.*
- *Law No. 32 Year 2009 on Protection and Management of the Environment*
- *Law No. 17 0f 2008 on Admiralty*
- *Government Regulation No. 17 of 1974 on Inspection on Implementation of Oil and Gas off shore Exploration and Exploitation.*
- *Transportation Ministerial Decree No. 215 of 1987 on providing reception facility for waste from vessels.*
- *Transportation Ministerial Decree No. 86 of 1990 on Oil pollution prevention from vessel.*
- *Government Regulation No. 19 of 1999 on Marine Pollution and/or destructions Control.*
- *Environment Ministerial Decree No. 51 of 2004 on sea water standard quality.*

Laws affecting governance of fisheries include:

- *Law No. 45 of 2009 on Revision of Law No. 31 of 2004 on Fisheries*
- *Law No. 21 of 2009 on Ratification of Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*
- *Law No. 43 of 2008 on State's Territory*
- *Law No. 17 of 2008 on Admiralty*
- *Law No. 1 of 2008 on Ratification ILO Convention No. 185 on Revising the Seafarers' Identity Documents Convention, 1958*
- *Law No. 27 of 2007 on Management of the Coastal Area and Small Islands*
- *Law No. 16 of 2006 on Agriculture, Fisheries, and Forestry Counseling System*
- *Law No. 32 of 2004 on Regional Government*
- *Law No. 31 of 2004 on Fisheries*
- *Law No. 6 of 1996 on Indonesian's Water*
- *Law No. 17 of 1985 on Ratification of The United Nations Convention on the Law of the Sea of 1982*
- *Law No. 5 of 1983 on Indonesian's Exclusive Economic Zone*

Further, regulations relating to the protection of the coastal environment include:

- *Regulation of the Environment State Ministry No. 45 of 1996 on Sustainable Coastal Program.*
- *Regulation of the Environment State Ministry No. 4 of 2001 on the standard criterion for coral reef damage.*
- *Regulation of the Chairman of The Agency for Controlling Environment Impact No. 47 of 2001 on guidance to measure coral reef condition.*
- *Regulation of the Environment State Ministry No.200 of 2004 on standard criterion for damage and guidance to measure the status of sea grasses.*
- *Regulation of the Environment State Ministry No.201 of 2004 on standard criterion and guidance to measure the damage of mangrove forest.*

Within each of these pieces of legislation there are a multitude of subordinate laws and regulations in the forms of Government Regulations, Presidential Regulations, Presidential Decrees and Presidential Instructions. Below we attempt to summarise where administration of these laws and regulations sits within the government.

Environment

Implementation of environment management at the national level is undertaken by the Ministry of Environment, while at the local government (Province and District) level is by the *Local Agency for Environmental Impact Control (BAPEDALDA)*, or in some districts, the *District Environment Agencies (Badan Lingkungan Hidup Daerah)*. Laws and regulations concerning Coastal Zone and Small Island Management were recently introduced to manage, protect and conserve coastal and small island resources for the welfare of coastal communities (**Law No. 27/2007**). **Law No. 32/2009 Concerning Environmental Protection and Management** addresses issues such as marine pollution and impact of climate change on marine ecosystems. **Presidential Regulation No. 24/2008 concerning establishment of National Council on Climate Change** reflects further concern on the environment issue.

However, challenges with respect to marine and coastal biodiversity conservation and management have been identified, including:

- Better policies, budget, facilities and planning on marine and coastal resources development
- Improvement on socio-economic and institutional capacity development of the eastern part of Indonesia, which includes Arafura and Timor seas region
- Improvement on coordination mechanism among government agencies involving in regulating coastal & marine resources.

Fisheries

Monitoring, Control and Surveillance (MCS) and law enforcement have been developed in recent years but IUU fishing remains a serious concern. Trawling in Indonesian waters was banned in 1980 by **Presidential Decree No. 39 (1980) on Trawl Net Elimination**. The only area excluded from this ban is the Arafura Sea east of 130^{o} E, which includes the waters of the Kei, Tanimbar and Aru islands.

In 2009, the **Fisheries Act (Act No. 31/2004)** was amended (Act No. 45/2009) to address elimination of Illegal, Unreported, and Unregulated (IUU) Fishing. However, the vast area of Indonesian seas means that enforcement is still challenging. To support better management of marine and fisheries resources, the Ministry of Marine Affairs and Fisheries has issued Ministerial Decree No. 1/2009

concerning the Fisheries Management Area (FMA). Within this decree, the Arafura and Timor Seas belong to FMA-718 and FMA-573, respectively.

Forestry

Responsibility for management of mangrove forest remains at the Ministry of Forestry. Given the vast areas of mangrove in the Arafura and Timor region, the conservation of this ecosystem requires inter-sectoral and inter-governmental level coordination. The role of the Ministry of Forestry is also critical in conserving catchment areas directly linked to coastal ecosystems.

Mining

The Ministry of Energy and Mineral Resources are responsible for management of mining. One of the largest mining operations in Indonesia is located in Papua and is likely to produce long term impacts on the Arafura Sea ecosystem. This Ministry must therefore be recognised as an important stakeholder in coastal ecosystem management. New legislation (**Law No.4 of 2009 concerning Mineral and Coal Mining**) has replaced **Law no.11/1967 concerning Basic Provision of Mining**. The current law (Law no.4/2009) postulates that to manage and seek potential minerals and coal, independent, reliable, transparent, competitive, efficient and environmentally sound management is required to sustainably assure national development.

Offshore oil and gas

Information concerning the effects of offshore oil and gas mining in the Arafura and Timor Seas is still limited, even though several regulations concerning the protection of the environment from oil and gas activities have been issued.

Ports and shipping

The Arafura Sea is recognised as one of the Indonesian Sea Lanes (Alur Lintas Kepulauan Indonesia – ALKI), providing important international shipping corridors in eastern Indonesia. The Arafura Sea is also considered the most important fishing ground and therefore vessels operating in these waters are mostly fishing vessels. Government institutions responsible for regulating port and shipping in this area are the Ministry of Transport and the Ministry of Marine Affairs and Fisheries.

Climate change

The global climate change phenomenon has impacted the Indonesian region including the Arafura and Timor Seas. The National Council of Climate Change (Dewan Nasional Perubahan Iklim, DNPI) is responsible for coordination among government and non-government institutions in order to develop national mitigation and adaptation measures.

Local Wisdom and Customary Law

Indonesia embraces extensive local wisdom and community (non-state) law concerning fisheries and marine ecosystem based on customary law of the commons (*hak ulayat*). In Papua for example, the Asmat traditional deliberation council (*musyawarah*) empowers local fishermen and prohibits cutting down of mangroves. Another form of community law is management of turtle catchment at the Kei region. The government is also deliberating creating local regulation (for example, Local Regulation of 22 of 2009) and/or district (kampong) regulation that incorporates customary law in the formal (local) legislation.

There is also an interesting case in Papua, considering the existence of PT. Freeport Indonesia (PTFI), which is basically one of the largest mineral mining companies in Indonesia. Its existence has been challenged since it first conducted business in Papua, and as an evidence of community engagement, PTFI supports the management and governance of adat (customary) council in Papua. They support funding, resources, networks, and other access for the customary community to govern community problems within their region. The impacts of this support for customary law are not clear.

Communities in Maluku and Timor (*Nusa Tenggara Timur,* NTT) have a customary system known as *sasi*, which governs the use of terrestrial and marine resources through restricting access and limiting harvest periods (Harkes, 1999; Harkes, 2006). Other customary law systems include papodale (Rote), lalifule (Bolok), or papadah (Rote Ndao). In NTT, local regulations also incorporate issues such as coastal area development (Perda 27 of 2007 and Perda 4 of 2007), coral reef management and regional spatial planning for marine conservation areas.

Legal Enforcement and Current Challenges

Enforcement of fisheries management and environmental protection legislation in Indonesia is a difficult task. Large populations, spread across many islands, combined with limited resources for enforcement and community education, mean that ensuring compliance with legislation is a difficult task.

National regulations do not adequately address issues faced at a local level, and local governments lack capacity to formulate legislation. This is a result of both a lack of resources and uncertainties in the transfer of authority to local governments within the context of regional autonomy. As a result, many laws and policies determined at a national level fail to be translated into detailed, technical, implementable regulations at the local level. Information on changes to regulation tend to be disseminated slowly, meaning that those charged with enforcing legislation may face difficulties in fully understanding the law. Fishers and communities may also fail to acknowledge existing laws which are in conflict with traditional practices (difficulties in enforcing bans on turtle harvesting).

Lack of capacity of law enforcement agencies, due to insufficient funding, technology, and equipment, or inadequate rules supporting authorities lead to a perceived weakness in law enforcement. In many regions, corruption and collusion among government officials and major companies, which create oligarchy (popularly known as “mafia”) are the main obstacle to enforcing rules on IUU fishing. The number of investigators monitoring fisheries activities from the Ministry of Fisheries are also extremely limited, or non-existent in more remote areas such as the ATS region.

For larger scale commercial fisheries, often even if perpetrators of IUU fishing or other criminal activities are caught, sanctions imposed are generally not sufficient to provide an effective deterrent to prevent other potential perpetrators from conducting such illegal activities.

Consequently, there are several challenges faced by local government (district or/and provincial) in managing resources and the environment, among others:

1. Better coordination on planning and development of marine and coastal resources and environmental management among sectors
2. Improvement of budget, human resources and institutional capacity
3. Balancing of economic values and environment consideration
4. Improvement of development on policy, law and regulation concerning marine and coastal resources utilization.

4.2 Australia

A host of Commonwealth (federal) and state legislation exists in Australia in the areas of environmental protection and fisheries management. In Australia, each state and territory has their own jurisdiction with their own legislative, executive and judicial systems. The waters of the ATS which fall within Australia’s EEZ are governed by Australian Commonwealth laws as well as those of Queensland, Western Australia and the Northern Territory.

Australia’s fisheries differ from those of the other three ATS nations in that there are also a the large number of recreational fishers compared to those fishing for subsistence or commercial reasons and this sector is also governed by a range of legislation, generally at a state/territory level.

Existing Laws and Institutions

Commonwealth Law

There are three principal pieces of Commonwealth legislation pertaining to fisheries in Australia. These are:

- *Fisheries Management Act 1991*
- *Fisheries Administration Act 1991*
- *Torres Strait Fisheries Act 1984*

Each of these pieces of legislation is administered through various regulations some of which relate to particular fisheries based on a single species.

Of these Acts, the Torres Strait Fisheries Act applies only to the Torres Strait Protected Zone (TSPZ) and designated adjacent Torres Strait waters between the tip of Cape York and Papua New Guinea. This area is outside of the defined ATS region as defined by the ATSEA Programme (Stacey *et al.*, 2011).

Fisheries Management Act 1991

The Fisheries Management Act 1991 establishes the Australian Fishing Zone (AFZ) and underpins Australia's domestic compliance and enforcement powers which enable Australia to protect its valuable fishery resources. Under the *Fisheries Management Act 1991* and the *Fisheries Administration Act 1991*, the Australian Fisheries Management Authority (AFMA) has an obligation to sustainably manage Commonwealth fisheries in the Australian Fishing Zone. The Fisheries Management Act also sets the legislative basis for statutory fishing rights, licences and permits.

Australian fisheries are defined as those fisheries falling within the Australian Exclusive Economic Zone, which extends to 200 nautical miles from coastal baseline. To simplify jurisdiction, boundaries have been developed handing over management responsibility to the State, Northern Territory and/or Commonwealth Governments. Each State/ Northern Territory jurisdiction has responsibility for fisheries that lie within its internal waters (e.g. river, lake and estuarine fisheries) and, where applicable, adjacent fisheries within a three nautical mile boundary from the coastline. The Commonwealth has jurisdiction for fisheries that lie between 3 and 200 nautical miles of the coastline. When a particular fishery falls within two or more jurisdictions, an **Offshore Constitutional Settlement** (OCS) arrangement is generally developed and responsibility is passed to one jurisdiction.

Fisheries in OCS arrangements are defined in terms of species, fishing method and area. They underpin the major fishery management plans implemented under Commonwealth, state or Northern Territory laws. The OCS also forms the basis for ongoing cooperation between governments who share the management responsibilities. Alternatively, a Joint Authority may be formed whereby a fishery is co-managed through the legislation of one jurisdiction.

The Australian Government's **Harvest Strategy Policy** (DAFF, 2007) was developed to support implementation of the Fisheries Management Act, providing a framework that allows a more strategic, evidence based approach to the management of the key commercial stocks in Commonwealth fisheries. The objective of the Harvest Strategy Policy is *"…the sustainable and profitable utilisation of Australia's Commonwealth fisheries in perpetuity through the implementation of harvest strategies that maintain key commercial stocks at ecologically sustainable levels and within this context, maximise the economic returns to the Australian community".*

A harvest strategy sets out the management actions necessary to achieve defined biological and economic objectives in a given fishery. Harvest Strategies are required to be developed for all

Commonwealth fisheries, with the exception of those managed under joint authority arrangements with another Australian jurisdiction or under an international management body.

Other Commonwealth fisheries legislation includes:

- *Fishing Levy Act 1991*
- *Fisheries Levy Act 1984*
- *Fisheries Agreements (Payments) Act 1991*
- *Foreign Fishing Licenses Levy Act 1991*
- *Statutory Fishing Rights Charge Act 1991*
- *Fisheries Legislation (Consequential Provisions) Act 1991*
- *Fisheries (Validation of Plans of Management) Act 2004*
- *Fisheries Legislation Amendment (New Governance Arrangements for the Australian Fisheries Management Authority and other Matters) Act 2008*

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The ***Environment Protection and Biodiversity Conservation Act 1999*** **(EPBC Act)** is the Commonwealth's overarching piece of environmental legislation. The EPBC Act requires that actions in the Commonwealth marine environment that are likely to have a significant impact on the environment undergo environmental impact assessment and must be approved before they can proceed. This Act also includes a requirement for all Commonwealth fisheries, where product is exported, and fisheries interacting with listed threatened species, to undergo periodic assessment to determine the extent to which management arrangements will ensure the fishery is managed in an ecologically sustainable way.

Fisheries management arrangements also need to take into account the requirements under species recovery plans, wildlife conservation plans and threat abatement plans made under the EPBC Act.

The EPBC Act also provides the basis for the creation and management of marine protected areas. A number of marine protected areas already exist in the ATS, and a number of additional marine protected areas have recently been proposed in the context of marine bioregional planning.

Marine bioregional planning currently being developed under the EPBC Act will provide a foundation for ecosystem based management of the Commonwealth marine environment., Planning involves the identification of "conservation values", the assessment of current and emerging pressures on conservation values, and the identification of regional strategies to identify such pressures. The entire North bioregions and part of the Northwest fall within the Arafura and Timor Seas (Figure 1).

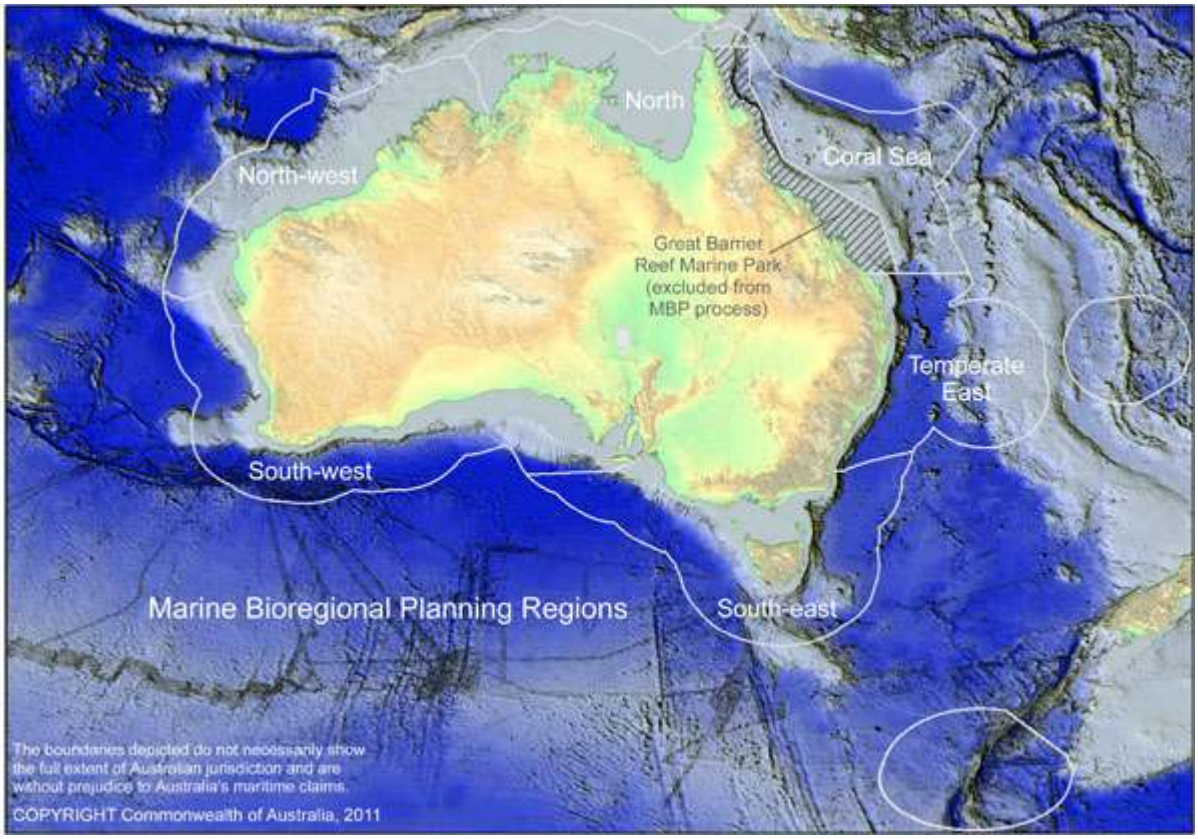

Figure 1: Australian Marine Bioregional zones (source OECD, 2004)

Additional Maritime Legislation

The **Protection of the Sea (Prevention of Pollution from Ships) Act 1983** is legislation which gives effect to MARPOL in Australia by prohibiting marine pollution by oil, noxious substances, sewage and other harmful substances. Other legislation relating to the seas of Australia includes the **Environment Protection (Sea Dumping) Act 1981,** which provides for '*the protection of the environment by regulating dumping into the sea, incineration at sea and artificial reef placements, and for related purposes*'.

Additionally, the **Sea Installations Act 1987** functions to ensure that sea installations installed in adjacent areas are operated with regard to the safety of the people using them and of the people, ships and aircraft near them and to ensure that such sea installations are operated in a manner that is consistent with the protection of the environment.

State Legislation

The Northern Territory, Queensland and Western Australia also have legislation specific to their jurisdictions. Some of the legislation pertinent to the ATS is described briefly below.

Western Australia

Fishing regulations in Western Australia are administered by the Department of Fisheries. The principal Act regulating the management of, and utilisation and conservation of all aquatic organisms (except reptiles, birds, mammals, amphibians) and their habitat in Western Australian is the **Fish Resources Management Act 1994 (FRMA).** Use of pearl oyster resources is regulated under the **Pearling Act 1990**.

Other Acts of the Western Australian Parliament relating to the management of the utilisation and conservation of fish and their habitat include the **Fisheries Adjustment Schemes Act 1987, Fishing**

Industry Training Promotion and Management Levy Act 1994 and **Fishing and Related Industries Compensation (Marine Reserves) Act 1997**.

Queensland

The **Fisheries Act (1994)** is the primary piece of legislation governing fisheries activities in Queensland along with Fisheries Regulations and other subordinate legislation. The main purposes of the Act are '*to provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to:*

(a) apply and balance the principles of ecologically sustainable development; and

(b) promote ecologically sustainable development.'

Queensland also has a **Marine Parks Act 2004,** the main purpose of which is to provide for conservation of the marine environment. This is achieved through a comprehensive and integrated strategy that involves, among other things, the declaration of marine parks; development of zoning and management plans; and allowing for public appreciation of the marine environment. All this should be done in cooperation with all relevant agencies and interests groups, including Aboriginal and Torres Strait Islander communities.

Other legislation that may impact on marine ecosystems in the ATS region includes:

- Environmental Protection Act 1994
- Maritime Safety Queensland Act 2002
- Transport Operations (Marine Pollution) Act 1995

Northern Territory

Fisheries in the Northern Territory are managed under the **NT Fisheries Act 1988**, Fisheries Regulations and other subordinate legislation. Various protected marine areas of the Territory also have specific legislation such as the **Cobourg Peninsula Aboriginal Land, Sanctuary and Marine Park Act.**

Other NT legislation that may impact on marine ecosystems in the ATS region includes:

- **Marine Act 1997** which regulates commercial fisheries operating in Northern Territory waters
- **Marine Pollution Act 1999** which seeks to protect the marine and coastal environment by *'minimizing intentional and negligent discharges of ship-sourced pollutants into coastal waters, and for related purposes*'

Each of the states and the Northern Territory also have specific regulations within their respective Fisheries Acts which allows for additional fishing rights for Aboriginal and Torres Strait Islander communities in recognition of the important cultural role fishing plays in some indigenous communities.

Legal Enforcement and Current Challenges

Legal enforcement is strong in Australia, as exemplified by the fisheries sector. Fisheries offences mostly entail breaches against the rules and regulations summarized above, unauthorized fishing ventures (i.e. fishing without a license or permit), or fishing during closed seasons. Penalties vary considerably for contraventions of state and territory fisheries laws. Western Australia and the Northern Territory employ a tiered penalty scheme based on offence history.

Low population levels and small fisheries mean that there are few problems associated with use of fishery resources. Some of the problems identified within the industry relate to resource sharing among commercial, traditional and recreational sectors, and also potential issues regarding interactions between industries using the same areas to extract resources, such as the fishing and oil and gas industries, or among different sectors, such as conservation and fisheries (J. Martin *pers. comm.)*.

4.3 Papua New Guinea

Existing Laws and Institutions

A number of key legislation are applicable to sea areas and are divided into two main groupings:

1. Legislation applicable to national issues; and
2. Legislation applicable to coastal issues, primarily dealing with customary rights.

NATIONAL ISSUES

The **National Seas Act, 1978** - describes and delineates the *internal waters; territorial sea (12nm); offshore sea (200nm) and archipelagic waters (interim)* to provide and assert rights of Papua New Guinea under international law. The legislation does not in detail specify, responsibilities, duties and obligations of PNG as against other States as required by UN Convention on law of the Sea. These gaps are being addressed through the proposed **Maritime Zones Bill** pending the completion and confirmation of the new archipelagic baseline of Papua New Guinea with a proper declaration of all maritime zones such as the internal waters; territorial sea; contiguous zone; exclusive economic zone; continental shelf and extended continental shelf.

The proposed Maritime Zones Bill will also provide rights and responsibilities of Papua New Guinea in all maritime zones in Papua New Guinea and provide for Marine Protected Areas and Marine Reserves to be established in PNG waters.

A key piece of legislation which will also be amended subsequent to the passing of the maritime zones Bill will be the *Interpretation Act*. This legislation will basically include references to internal or territorial sea to include a general term "*waters of Papua New Guinea*" which will apply to the EEZ for purposes of environment protection

a. Environment

Government departments responsible for environmental management are: the Department of Environment; National Maritime Safety Authority; National Fisheries Authority; PNG Ports Authority including Customs and the National Museum. The respective legislations of these organisations are summarised below.

- **National Environment Act** - provides for and gives effect to the National Goals and Directive Principles and regulates environmental impacts of development activities in order to promote sustainable development. The Department of Conservation is responsible for the Environment Act.
- **Environment (*Prescribed Activities*) Regulation** - further regulates the activities which pose serious harm to the environment. Prohibited fishing grounds under the Fisheries legislation are not included in the Environment Prescribed activities regulations so it is not clear if a ban on fishing could stop seabed mining.

Provincial Environmental Laws

Provincial Governments can enact provincial laws on parks, reserves, gardens, scenic and scientific centres whilst the local-level Governments can enact laws on local environment, hygiene and sanitation, and protection of traditional sites pursuant to the effect of the Organic law on Provincial Governments and Local level Governments Act. The protection of traditional sites is important for purposes of traditional taboo fishing grounds or sea areas taboo to local communities.

Department of Environment is further mandated to administer the National Parks Act; Fauna (Protection & Control) Act; Conservation Areas Act and the Crocodile Trade (Protection) Act.

b. Laws on Protection of the Environment from Shipping and Pollution

The National Maritime Safety Authority (NMSA) is responsible for regulating shipping, safety of ships, registration of ships and pollution from ships. The NMSA is created by the ***National Maritime Safety Authority Act*** but it derives its powers from the ***Merchant Shipping Act.*** The NMSA is also the regulator of all seafarer conditions of employment, qualifications of all seamen training at the PNG Maritime College and ensures all Papua New Guinea's international shipping and pollution obligations are met.

A number of pieces of legislation are discussed below which fall under the administration of the National Maritime Safety Authority.

The Merchant Shipping Act 1975

The legislation is mostly concerned with registration of ships, and safety of ships. It applies only in the territorial sea.

Prevention of Pollution of the Sea Act 1979

This is an Act to provide for the prevention and control of pollution of the sea by oil and other substances, to give effect in Papua New Guinea, as far as may be, to–

- the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962, 1969 and 1971; and
- the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and the Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil. 1973; and
- the International Convention on Civil Liability for Oil Pollution Damage, 1969 and the Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 1969 (1976); and
- the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 and the Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (1976) and for related purposes.

The main aim of this legislation is to prohibit discharge of oil from ships in the territorial sea and amendments have been suggested to replace this legislation by new Bills proposed by NMSA.

Dumping of Wastes at Sea Act 1979

This Act provides for the prevention of pollution of the sea by the dumping of waste and other matter which may create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea; and give effect in Papua New Guinea as far as may be, to the International Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, 1972,

The legislation is confined to the territorial sea and amendments have been suggested to replace this legislation by new Bills proposed by NMSA.

Risk Assessments for Oil Pollution

Risk Assessment for oil pollution in PNG recently conducted by National Maritime Safety Authority in close cooperation with PNG Ports Corporation Ltd. The risk assessment is being undertaken in response to increases in shipping activity, driven by expanding resource projects in PNG, and also the development of new offshore industries in PNG.

The risk assessment is looking at potential spills of oil and other pollutants into PNG waters from ships, and other sources, including land based oil storage facilities and offshore platforms.

The risk assessments will provide the basis for developing a new National Marine Pollution Contingency Plan (NATPLAN) for PNG, involving all stakeholders.

This is part of long term planning by the Government to address potential risk areas in PNG from oil spills in the country. Resources that are at risk from potential oil spills and other marine incidents include:

> Coastal villages, reefs, mangroves, sea grass, fisheries, ,marine wildlife, seabirds, marine turtles and marine mammals including dugongs, marine protected areas, recreational beaches, tourism and diving, cultural and historical sites include war wrecks, CBD and infrastructure.
>
> But extensive studies are required to understand the ecology and resources of port areas to come to definite proposals for regulations.

New Bills proposed by National Maritime Safety Authority (NMSA)

There are currently five Bills before the Government of PNG to enact dealing with various aspects of pollution out at sea mainly from ship related and sea installations.

- Marine Pollution Bill (Liability & Cost) Bill
- Marine Pollution (Preparedness and Response) Bill
- Marine Pollution (Ships & Installation) Bill
- Marine Pollution (Ballast Water) Bill
- Marine Pollution (Sea Dumping) Bill

These Bills will regulate various aspects of pollution at sea and also provide a compensation regime for those which will seek some form of redress from polluters. One of the objectives of the new pollution Bills will also require integrated training on various technical aspects of pollution. The proposed Bills will also have implications for LNG developments and seabed mining/gas ventures to be undertaken out at sea.

REGULATIONS under the National Maritime Safety Authority Act 2003 include Regulatory (Functions) Levy, Coastal Trade, Crewmen, Navigational Aids, Pilotage, Registration and Safety deal with specific technical aspects under the Merchant Shipping Act.

Other Legislations not covered here are Shipping Act 1951, Sea Carriage of Goods by Sea Act 1951, Overseas Trade (Shipping) Act 1982 and Seaman (Foreign) Act 1952; Marine Insurance Act; Maritime College Act and Minimum Age (Sea) Act.

LAWS DEALING WITH PORTS

Harbours Act 1963

The Act provides for the establishment of a Papua New Guinea Harbours Board, provides for ports and services within declared ports in the country.

Various by laws are in place under the Harbours Act such as **the Harbours Board (Inflammable liquid and dangerous goods) by-laws 1976** to regulate dangerous goods within port areas.

Another recent amendment includes the **Ports (Management and Safety) Regulation 2010** made under the Harbours Act essentially provides for the PNG Ports Corporation as an authority to control, among other things, port developments, port facilities, management and operations of ports, port security, berthing, loading and unloading of cargo, licensing of stevedoring and regulation of marine pilotage authority.

Port Charges Act 1957

The Act provides for the payment of port dues, wharfage, berth age, light dues, pilotage and storage charges within declared ports.

LAWS DEALING WITH NATIONAL CULTURAL PROPERTY

The laws are administered by the National Cultural Commission and the National Museum of PNG.

National Cultural Property (Preservation) Act 1965

The Act relates to the preservation and protection of objects of cultural or historical importance to Papua New Guinea. The current scope of the Act does not clearly apply to sea areas.

Under the proposed Maritime Zones Bill, there will be a provision dealing with national cultural property found anywhere in Papua New Guinea waters including on or under the seabed to the outer limit of the exclusive economic zone.

War Surplus Material Act 1952

This Act is designed to facilitate the collection of war surplus material and for other purposes.

The legislation defines *war surplus material* to mean any building, fitting, or structure etc, located in the country including its internal waters and its territorial sea and the underlying lands including items reasonably suspected of being acquired in the war.

The proposed Maritime Zones Bill will propose amendments to include a reference to Papua New Guinea waters and the seabed and subsoil of those waters. The term Papua New Guinea waters will also be defined in the Interpretation Act to include the EEZ.

c. Natural Resources

Oil and Gas Act 1998

The Act governs the exploration and production of petroleum (including oil and gas) in Papua New Guinea, including the offshore area, and the grant to traditional landowners and Provincial Governments and Local-level Governments of benefits arising from projects for the production of petroleum (including oil and gas), and the processing and transportation in Papua New Guinea of petroleum and petroleum products.

The application of the Environment Act applies to the oil and gas developments of large scale.

Oil and Gas Regulations of 2002 and 1999 made under the Act regulate technical onsite operations in out in gas fields.

The Maritime Zones Bill will amend definitions on *offshore areas* consistent with UNCLOS provisions.

Submarine Cables and Pipelines Protection Act (Adopted),

The Act relates to the protection of submarine cables and pipelines beneath the high seas, adopted by Section Sch. 2.6 (*adoption of pre-Independence laws*) of, and Part 1 of Schedule 5 to, the *Constitution*.

Mining Act 1992

The Act regulates minerals rights of the State and mining developments including the regulation of benefits to land owners and Provincial Governments.

Application of Environment Act to Mining

The Mining Act is further subject to the application of the Environment Act in terms of mining developments of large scale. However the current challenges seem to be in the development and application of the Environment Impact Assessment on developments pertaining to deep seabed mining including land based mining or tailing waste disposals operations which could impact the oceans.

The Maritime Zones Bill will amend the definition of land to include all the waters of PNG including the seabed of the whole EEZ and the continental shelf and the extended continental shelf.

A proposed new seabed mining and relevant policy is being proposed by the Department of Mineral Policy and Geohazards.

Fisheries (Management) Act 1998

The Act provides for promotion for the management and sustainable development of fisheries and for related purposes. The legislation is designed to encourage commercial exploitation of the fisheries resources. At present there is very little focus on Coastal or Community based fisheries.

The Fisheries Management Act provides most of the necessary arrangements to manage fisheries through designation of competent authority, which is the National Fisheries Authority, comprising the National Fisheries Board and the Authority, responsible for the management and development of the fisheries sector in accordance with the provisions of this Act under the overall policy direction of the Minister. The Fisheries (Management) Act does not apply in respect of the area to which the Fisheries (Torres Strait Protected Zone) Act 1984 applies.

Application of the Fisheries Legislation

Unless otherwise specified by or under this Act, the provisions of this Act do not apply to or in relation to the taking of fish–

- For personal consumption, and not for sale or trading or for manufacturing purposes; or
- For sport or pleasure; or
- By customary fishing; or
- By artisanal fishing.

The Fisheries (Management) Act does not apply in respect of the area to which the Fisheries (Torres Strait Protected Zone) Act 1984 applies.

Customary rights to fishing

The rights of the customary owners of fisheries resources and fishing rights are fully recognised and respected in all transactions affecting the resource or the area in which the right operates. The limitations of the fisheries laws will be discussed separately under coastal issues.

Objective of Fisheries Legislation

The legislation is applies to all fishing and fishing related activities under the legislation. Under the scheme of the legislation, all fisheries are governed by Fisheries Management Plans subject to a licensing regime for the different fisheries based on a total allowable catch for each fishery.

To ensure sustainable development of fisheries is maintained and observed throughout the administration of fisheries, the legislation provides management objectives and principles down in section 25 of the Act to guide the various fisheries authorities to have due regard to:

- promote the objective of optimum utilisation and long term sustainable development of living resources and the need to utilise living resources to achieve economic growth, human resource development and employment creation and a sound ecological balance;
- conserve the living resources for both present and future generations;
- ensure management measures are based on the best scientific evidence available, and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors including fishing patterns, the interdependence of stocks and generally recommended international minimum standards;
- apply a precautionary approach to the management and development of aquatic living resources;
- protect the ecosystem as a whole, including species which are not targeted for exploitation, and the general marine and aquatic environment;
- preserve biodiversity;
- minimise pollution;
- Implement any relevant obligations of Papua New Guinea under applicable rules of international law and international agreements.

The foregoing principles are reflected in all Fisheries Management Plans, License conditions and fishing access agreements to strike a balance between development and conservation management of the fisheries resources.

The Act further strengthens fisheries development by ensuring enforcement responsibilities are carried out effectively within the National Fisheries Authority to ensure the overall fisheries managed sustainably. Fisheries enforcement is undertaken by NFA through its Monitoring, Control & Surveillance Unit. There are three key MCS functions: National Surveillance, National Observer Programme and National Vessel Monitoring System Program.

Among other matters, the **Fisheries Management Act** provides that certain fishing and related activities could be subject to prohibition **under Section 30 of the** Fisheries (Management) Act. This complements concept of conservation or protected areas or protected fish species for purposes of replenishment and sustainability.

A Prohibition notice may cover the species of fish, the activities, the processing of fish or the specific areas of fisheries waters, ecosystems relevant to fisheries or such other activities as may be prescribed etc. Reliable scientific data needs to be documented for decision making. This is an area which needs improvement.

The **Environment (Prescribed Activities) Regulation under the Environment Act** is silent on the matters subject of prohibition notices under the Fisheries (Management) Act and to what extent seabed mining conflicts with such prohibition notices remains to be developed. Scientific data on other wider fisheries areas or marine ecosystems relevant for fisheries are sketchy to support arguments of potential damage to greater marine ecosystems which are declared prohibited areas.

Fisheries Scientific Research and documentation is not undertaken in a systematic way to enable National Fisheries Authority to make decisions on the status of various species for management purposes. Only recently efforts are now underway to collect data for coastal areas of concern and to develop management plans or arrangements to assist local communities. The Inshore Fish Aggregating Devise 2010 is an example.

Fisheries research is therefore undertaken more on a case by case basis depending on the circumstances when the National Fisheries Authority is approached or through agreement such as the Tuna Tagging Programme with SPC.

COASTAL ISSUES

- PNG's vast area makes it difficult to manage fisheries in totality.
- There is no clear National Strategy or Policy on Coastal Fisheries.
- Essentially there have been good efforts in the past to address coastal issues but no systemic options based on needs of communities to see them through.
- Coastal Fisheries are difficult to manage nationwide with high costs and are simply not viable on a large scale but could be reorganized on specific targeted case by case projects tailored to meet community needs.
- Past case studies could be reviewed and perhaps recommendations from many of these reports could be revisited to draw out the difficulties and impediments and readdressed them as lessons learnt identifying workable options tailored to suit a particular location or community's circumstances.

CURRENT EFFORTS BY NATIONAL FISHERIES AUTHORITY IN DEALING WITH COASTAL ISSUES

Certain coastal fisheries activities are being managed by National Fisheries Authority with trochus, trepang (beche-de-mer) and live fish managed through Management Plans and under license arrangements.

- *Aquaculture fisheries* have increased over the years under Management and license arrangements.
- Efforts are also underway addressing cooperative societies for local coastal communities.
- Many of the efforts are already addressed on case by case basis.

THE CURRENT LEGAL FRAMEWORK ON FISHERIES IN PAPUA NEW GUINEA

In view of the decentralized sharing of political powers and responsibilities in Papua New Guinea, an important legislation to address is the **Organic Law on Provincial Government and Local Level Governments Act.**

The Constitution of PNG was amended to allow the Organic Law to be enacted to allow three levels of Government to operate in PNG to enable service to be delivered to communities at the lower levels of the community.

- The Organic Law allows three separate Governments to coexist National, Provincial, & Local Level Governments.
- It enables Provincial & LLGs laws to be enacted and administered by Provincial Governments &LLGs respectively.
- In essence through the administration of the Organic Law, services can be delivered to the local communities in rural PNG.
- However OL has limitations on the exercise of powers

Law making capacity of the three Levels of Government to enact Fisheries laws

The principles of law making powers are provided in Section 40 of the Organic Law. The law making powers of the National Government are provided in **Section 41**. That basically reiterates that where a power is not specified in Section 42 or 44 remains with the National Government. It further provides that the National Government will make a law only if the matter is of national interest.

However the term "**national interest**" is not defined by the Organic law nor does it further distinguish between what is a "*national interest matter*" or a "*provincial interest matter*" and this is relevant if we are to consider what fisheries are allocated to provincial or coastal communities to regulate and what fisheries remain with the National Government as *national interest fisheries.*

Section 42 provides the law making power of the **Provincial legislatures** and provides a list of matters which Provincial Governments can legislate on. *Section 42(l); 2 and 3 provide that laws on fisheries and fishing can be enacted provided it is not large scale fishing or fisheries as declared by the Head of State acting on advice or further it is not inconsistent with the Fisheries (Management) Act.* But no guidance is given by the Organic law on what are large scale fisheries or fishing. In relation to coastal or community fishing these are matters which are not national interests therefore could arguably be made as a provincial interest matter. Again no guidance is given on what fisheries come under those headings to warrant relations at the provincial level.

Section 44 provides the law making powers of the **Local Level Governments**. As above, it is noted that there is nothing specific on *community fisheries* to be regulated. The LLGs are not allowed to regulate daily fishing consumption needs, historical fishing rights or for their marine tenure systems based on traditional knowledge and practice. This is a gap. The scheme of the laws is designed in a way to sustain oral traditions to be maintained for assertion of customary rights.

What is noted is the unclear provisions on fisheries for local consumption; (not for sale) that goes on daily in people's lives so this may have been an oversight by the drafters of the OL. But other laws would deal with customary fishing rights etc. as observed earlier and therefore not to be regulated by the Organic law. With these obvious gaps coastal communities cannot stand on their own and be heard with possible disastrous effects of resource developments which may impact on long term sustainable management of resources in their communities and fishing grounds.

Legal Enforcement and remaining challenges

Key challenges of Fisheries Management Authority include:

- Lack of systematic and continuous maritime surveillance whether by sea air or land.
- Maritime Border Security controls may be difficult to monitor incursions and illegal entry and smuggling as surveillance is conducted on irregularly.
- Remoteness of many coastal communities makes coastal fishing opportunities, market access and regulations difficult for planning purposes.
- Lack of basic services and infrastructure developments in remote communities makes fisheries opportunities difficult to initiate and implement.
- Resource Mapping of marine resources to enable decisions on allocation of licenses or permits or management plans
- Social mapping of coastal communities to enable government to make decisions in resource allocations

Limitation of Fisheries (Management) Act for coastal fisheries

Fisheries (Management) Act (FMA) as noted does not apply to regulation of customary fishing practices. Section 27 of the FMA further recognizes customary rights of fishing to where these rights exist. Much of customary fishing practices are left to communities themselves to apply based on the Customary Recognition Act, the Underlying Act, Land Disputes Settlement Act and the Village Courts Act as observed above.

Both OL and FMA do not provide for customary fishing, artisanal fishing and fishing for personal consumption or the general customary marine tenure systems. This is an obvious gap and limits the

Government to fit coastal issues into the legal framework in terms of power sharing between the different levels of Government.

OPTIONS FOR ADDRESSING COASTAL MATTERS:

- Apply Section 76(1) (p) of the FMA by way of Regulations to deal with Artisanal fisheries as an option; probably easier and does not go before Parliament for debate and enactment.
- Delegations under section 40 of OL alluded to earlier where a level of government can use to delegate its powers to another level of government provided consultations take place.
- Address all other legislation such as Customs Recognition Act, Land Dispute Settlement Act, Underlying Law Act and Village Courts Act to see how fisheries issues at the community levels can be merged or aligned with overall government objectives in ensuring a sustainable framework on fisheries governance at the community levels.
- Amendments to Fisheries (Management) Act to allow designated coastal areas to be declared and managed by the National Government on a case by case basis.

Recommendations as part of meeting challenges:

- An **Overall Resource Mapping Exercise** should be undertaken for the entire PNG waters to identify all marine resources and to be its wider impacts to be undertaken by the PNG Government. This will guide the Government to make sound decisions.
- Dialogue is created with key stakeholders to amend the Organic Law to the extent that **provincial and community fisheries** are permitted to be undertaken by other lower levels of Government.
- Documentation of custom is undertaken by the PNG Law Reform Commission and Village Courts to guide the assertion of customary rights to fishing grounds and other marine resources.

4.4 Timor-Leste

Existing Laws and Institutions

The Government of Republic Democratic of Timor-Leste has various laws and regulations which relate to the governance of the nation's marine resources.

Timor-Leste has enacted various laws related to fisheries and the marine environment:

1. Ministry of Agriculture and Fisheries Organic Law No.08/2008
2. Law No. 12 / 2004 on fishing-related offences
3. Government Decree Law No. 6/2004 on general bases of the legal regime for the management and regulation of fisheries and aquaculture
4. Government Decree Law No. 5 / 2004 on general regulation on fishing
5. Government Decree No. 2/2005 on the establishment of fisheries licence tariff, inspection and services related to fisheries activities
6. Six Ministerial Diplomas also specify fishing regulations:
   (i) DM No.01/03/GM/I/2005 Definition of fisheries zones
   (ii) DM No.02/04/GM/I/2005 Specifies aquatic species of high economic value
   (iii) DM No.03/05/GM/I/2005 Allowable percentage of by-catch
   (iv) DM No.04/115/GM/IV/2005 List of protected aquatic species

(v) DM No.05/116/GM/IV/2005 Minimum catch-size and weight
(vi) DM No. 06/42/GM/II/2005 Fines for infraction of fisheries law

Fisheries Decree Law No 6/2004

This is the primary law for the legal management and regulation of fisheries and aquaculture in Timor-Leste. The law establishes the ground rules for the exploitation and regulation of fisheries resources in national maritime waters and on the high seas (in regard to nationally registered vessels) as well as to all aquaculture related activities.

Government Decree No 5/2004, General Fisheries Regulations.

The General Fisheries Regulations expands on the provisions of Decree N^{o} 6/2004 for the management of Fisheries and Aquaculture in Timor-Leste, establishing technical rules, the procedures and the time-scale that will be applied in practice for Decree N^{o} 6 described above.

This Decree allows for the predictable and appropriate regulation of Timor-Leste's fishery resources by the government through defining processes for: issuing fishing licenses; collecting taxes for the Treasury; increasing the nutritional quality of aquatic products; promoting self-employment and improving conditions for the development of the sector and the national fishing industry generally (Crawford *et al.*, 2004).

Decree-Law No. 21/2008 - Implementation of Satellite System for Monitoring Fishing Vessels

This legislation establishes the mandatory installation on board of equipment for continuously monitoring certain types of fishing vessels with a view to monitoring national and foreign fishing vessels licensed to operate in Timor-Leste for the purpose of surveillance and control of fishing activities.

Continuous monitoring via satellite of certain types of fishing vessels is considered a key instrument to secure a better monitoring and control of fishing activities, as it allows for substantially improved fishing ground surveillance and illegal landing control.

Fisheries Quarantine Regulation (Draft March, 2007).

The above fisheries quarantine regulation was drafted in March**,** 2007 but as yet has not been made law, primarily because Timor-Leste lacks sufficient trained law makers, decision makers and policy makers.

Regulation number 2000/17, on the prohibition of logging operations and the export of wood from East Timor.

Pursuant to the authority given to him under the United Nations Security Council Resolution 1272 (1999) of 25 October 1999, taking into account United Nations Transitional Administration in East Timor (UNTAET) Regulation 1999/1 of 27 November 1999 on the Authority of the Transitional Administration in East Timor.

All laws which have effect in East Timor by virtue of Section 1 of (UNTAET) Regulation 1999/1 and which may provide greater protection of the natural environment of East Timor than the protections contained in this or any other Regulation shall remain in effect;

The Ministry of Agriculture and Fisheries (MAF) has the major role in managing the Arafura and Timor Seas and enacting these laws. According to Decree Law 6/2004 National Consultative Council shall have consultative functions on all matters relating to fisheries and aquaculture.[4]

[4]As stipulated in Decree Law 6 / 2004 Art. 120

Within the MAF, the main actor is National Directorate of Fisheries and Aquaculture (NDFA). NDFA covers 5 departments:

1. Department of Fisheries Resource Management and Research on Aquaculture
2. Department of Fisheries Inspection
3. Department of Fisheries Industry
4. Department of Aquaculture
5. Department of Planning and Finance

The main roles of the NDFA are to consolidate planning, policy and to coordinate projects and activities relating to fisheries and aquaculture.

The NDFA has also been involved in several regional and international forums and agreements including the Coral Triangle Initiative (CTI), PEMSEA, African Caribbean Pacific (ACP) and South Pacific Community (SPC). Timor-Leste is co-operating closely with other countries in the region to improve regional marine outcomes.

Other government agencies roles and responsibilities in regards to Fisheries:

1. **Ministry of Defence and Security** (State Secretary of Defence and State Secretary of Security) Navy and Police)
   - Surveillance and enforcement
   - Legal affairs (establish fishing zone, development of fisheries)
   - Legislation (assist with licensing mechanism)
   - need the confirmation
2. **Ministry of Economic and Development (State Secretariat of Environment, Department of** Environmental Impact Assessment)
   - Protection of biodiversity
   - Environment watch dog
3. **Ministry of Tourism, Commerce and Industry**

The key agency is the National Directorate of Tourism. According to the Constitutional Government Programme 2007-2012 (RDTL 2007b:8), the government is committed to develop a structured tourism sector which will act towards sustainable and responsible development of tourism, through the planning, coordination and harmonization of transversal policies, taking into account the need to render compatible preservation of the environment, natural resources management and land use planning. Some aspects of the Timor-Leste's natural assets identified as in need of development are:

- Sea life, particularly coral
- Coral reefs, under water caves
- The north coast for the burgeoning beach tourism

4. **Ministry of Economics and Development**

The National Directorate of Environment is part of the Ministry of Economic and Development of Timor-Leste. The Directorate is responsible for environmental management in Timor-Leste through authority delegated to it based on Decree Law 3/2005 which specifies that it will encourage environmental protection to support the Secretary of State for Regional Coordination.

5. Ministry of Finance

In order to promote the exploitation/utilization of marine resources and aquaculture processes, the Ministry of Finance has established a Marine and Aquaculture Development Fund. Refer to the organic law in the Ministry of Finance.[5]

Legal Enforcement and remaining challenges

IUU fishing occurs in Timor-Leste waters. The disadvantages of IUU fishing is not only leading to economic loss of fishing rent but also discourage foreign vessels from applying from fishing licenses since their interest cannot be protected without MCS system in Timor-Leste.

The general situation of the environment sector in Timor-Leste remains bleak and the capacity to overcome existing problems is not very promising both in short to medium term. The common challenges within the environmental sector are:

- General Environment
  - Incomplete environmental laws and regulation
  - Limited financial support
  - Lack of implementation of law and regulation
  - Lack of surveillance and law enforcement
  - Application of technology that is not environment friendly

- The environment management framework lacks several important elements, such as:
  - Proper legal framework for environment management including land and water rights
  - Environment and social impact assessment and regulatory framework for the mining concessions, logging, etc.
  - Environment management plans
  - Environment protection and conservation standards
  - Protected areas system and endangered species law
  - Forest management policy and law
  - Information and reporting system
  - Environment civil education.

- Relating to Climate Change, there are several problems identified:
  - Limited climate and other meteorological data and poor data collection tools and materials and lack of research programmes.
  - Limited human resources and expertise
  - Lack of capacity in monitoring and evaluation of existing projects

[5]Stipulated in Decree Law 6 – 2004 Art. 121

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