

LEGISLATING FOR AN ECOSYSTEM APPROACH TO FISHERIES

A review of trends and options in Africa



THE EAF-NANSEN PROJECT

FAO started the implementation of the project “Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries (EAF-Nansen GCP/INT/003/NOR)” in December 2006 with funding from the Norwegian Agency for Development Cooperation (Norad). The EAF-Nansen project is a follow-up to earlier projects/programmes in a partnership involving FAO, Norad and the Institute of Marine Research (IMR), Bergen, Norway on assessment and management of marine fishery resources in developing countries. The project works in partnership with governments and also Global Environment Facility (GEF)-supported Large Marine Ecosystem (LME) projects and other projects that have the potential to contribute to some components of the EAF-Nansen project.

The EAF-Nansen project offers an opportunity to coastal countries in sub-Saharan Africa, working in partnership with the project, to receive technical support from FAO for the development of national and regional frameworks for the implementation of Ecosystem Approach to Fisheries management and to acquire additional knowledge on their marine ecosystems for their use in planning and monitoring. The project contributes to building the capacity of national fisheries management administrations in ecological risk assessment methods to identify critical management issues and in the preparation, operationalization and tracking the progress of implementation of fisheries management plans consistent with the ecosystem approach to fisheries.

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ABSTRACT

Although the need for a shift towards an ecosystem approach to fisheries (EAF) has reached a point of general acceptance by those involved in fisheries management, there is still a need for guidance on how to apply the EAF in practice. The objective of this study has been to provide the countries participating in the Nansen Project with information on the practical adoption and application of the EAF from a legal perspective, in particular by providing guidance on how to implement the EAF in national legislation. The first part of the study reviews available international and regional instruments relevant to the EAF, and highlights the EAF-related principles and concepts that are contained in these instruments. The second part of the study describes how these EAF-related principles and concepts can be implemented in national legislation through identification of the legal and institutional mechanisms and management measures that can support such implementation. This is followed by an assessment of how, and to what extent, selected countries participating in the Nansen Project have legislated for EAF at the national level, focusing on both fisheries legislation and other legal frameworks relevant to the EAF. The study is concluded by a synthesis of some of the trends in national EAF implementation in the participating countries.

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1. INTRODUCTION TO THE ECOSYSTEM APPROACH TO FISHERIES

The fisheries sector is a source of employment and income for more than 43 million fishers and fish farmers in the world, with over 3.6 million of these living in Africa. The industry as a whole, including secondary activities, assures the livelihoods of about 520 million people worldwide, which is 7.9 percent of the world population.¹ While there has been a steady increase in the number of fishers over the past several years – the number has doubled in Africa since 1990² – the exploitation status of many of the world's fishery resources continues to deteriorate.³ As important stocks in both the Eastern Central Atlantic and Southeast Atlantic Oceans, as well as in the Western Indian Ocean, are fully exploited or overexploited,⁴ continued growth in the African fisheries sector is likely to worsen this negative status. Unless this trend of increased pressure on fisheries resources, depleted stocks and subsequent aquatic ecosystem degradation is reversed, African fishers are likely to suffer from an increase in poverty and a general lack of opportunities.

It is widely recognized that there is a need to improve the current approach to fisheries management in order to curb the negative effects caused by irresponsible management. The need for a shift towards an ecosystem approach to fisheries (EAF) has reached a point of general acceptance by those involved in fisheries management and is recognized as fundamental to the implementation of the Code of Conduct for Responsible Fisheries (the Code).⁵ FAO has pointed to the following issues as drivers behind the emergence of the EAF:⁶

- heightened awareness of the importance of interactions among fishery resources and between fishery resources and the ecosystems within which they exist;
- recognition of the wide range of societal objectives for, and values of, fishery resources and marine ecosystems within the context of sustainable development;
- poor performance of current management approaches as witnessed by the poor state of many the world's fisheries; and
- recent advances in science, which highlight knowledge and uncertainties about the functional value of ecosystems to humans (i.e. the goods and services they are capable of providing).

While recognizing the interdependence between human and ecosystem well-being, the EAF emphasizes the need to improve ecosystem health so as to preserve fisheries production for the present and future generations. By merging two management paradigms – ecosystem and fisheries management – the EAF offers a more holistic management approach and makes the concept of sustainable development operational. The purpose of the EAF is hence to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems.

¹ **FAO.** 2009a. *The State of the World Fisheries and Aquaculture 2008*. FAO Fisheries and Aquaculture Department. Rome, pages 23 and 26.

² **FAO.** 2009a, p. 23, table 5.

³ Globally, the proportion of underexploited or moderately exploited stocks has declined from 40 to 20 percent since the mid-1970s. The proportion of fully exploited stocks has stabilized at about 50 percent over the last 30 years, while overexploited or depleted stocks have remained steady at around 25 and 30 percent over the last 20 years. **FAO.** 2009a, pages 30-33.

⁴ **FAO.** 2008. *FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa*. FAO Fisheries and Aquaculture Report No. 882. Rome, p. 51; **FAO.** 2009, pages 33-34.

⁵ **FAO.** 2009b. *Fisheries Management: The Ecosystem Approach to Fisheries*. FAO Technical Guidelines for the Responsible Fisheries no. 4, supplement 2, add. 2. Rome, p. 1.

⁶ **FAO.** 2003a. *Fisheries management: The ecosystem approach to fisheries*. FAO Technical Guidelines for Responsible Fisheries no. 4, supplement 2. Rome, p. 13.

FAO has defined EAF as follows:

*“An ecosystem approach to fisheries (EAF) strives to balance diverse societal objectives, by taking account of the knowledge and uncertainties of biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.”*⁷

EAF *in strictu sensu* is not well covered by international legally binding instruments, but relevant EAF principles and concepts have been established or derived from several of these instruments, including the United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Fish Stocks Agreement (UNFSA) and the Convention on Biological Diversity (CBD). The United Nations Conference on Environment and Development (UNCED) Declaration, Agenda 21, the Reykjavik Declaration and the Code of Conduct for Responsible Fisheries are all voluntary instruments that reflect many EAF related principles. Some of these principles have been summed up as follows:⁸

- fisheries should be managed in a manner that limits their impact on the ecosystem to the greatest extent possible;
- ecological relationships between harvested, dependent and associated species should be maintained;
- management measures should be compatible across the entire distribution of the resource (across jurisdictions and management plans);
- the precautionary approach should be applied because the knowledge on ecosystems is incomplete; and
- governance should ensure both human and ecosystem well-being and equity.

At the regional level, there is an emerging trend of states committing themselves to EAF through membership in regional fisheries bodies (RFB) that explicitly require EAF implementation. Both the South Indian Ocean Fisheries Agreement and the Statutes of the Southwest Indian Ocean Fisheries Commission require the application of the EAF by the RFBs that are established under these instruments.

There is general agreement on the underlying principles of EAF and their policy implications. However, in order to implement EAF, it is necessary to translate these principles into operational objectives. This requires the setting of high-level policy goals at both the regional and national level and, more challenging, the translation of policy into action. A crucial step in this regard is the adoption of a strong institutional and legal framework that supports EAF implementation, which implies identifying and adopting legal and institutional mechanisms and management provisions that are conducive to EAF.

Set against this backdrop, this study seeks to provide fisheries managers with concrete guidance and knowledge on how to implement EAF in national legislation. It does this by first highlighting how EAF related principles have been reflected in the most significant international instruments of relevance to EAF (chapter 3). The most important regional instruments that bear on the implementation of EAF, including RFBs, are assessed in chapter 4. The manner in which EAF-related principles reflected in international and regional instruments may be implemented in national legislation is then discussed in chapter 5. Reviews of how selected countries have implemented EAF in their national legislation are addressed in chapters 6–19. Finally, a synthesis of some of the trends in national EAF implementation is offered in chapter 20.

⁷ FAO. 2003a, p.14.

⁸ FAO. 2003a, p.15.

2. INTERNATIONAL INSTRUMENTS RELEVANT TO EAF

2.1 Introduction

The principles and concepts of relevance to EAF are contained in, or derived from a number of international legally binding and non-binding instruments of relevance to fisheries management. For EAF implementation, it is therefore critical that national legislation complies with these instruments. For states that are party to the relevant conventions, this is a legal obligation, while non-parties should also have a strong interest in complying with these instruments due to the critical need for improved fisheries management and recovery of depleted fish stocks. Voluntary instruments should provide momentum for implementation at country level of principles and concepts that are not legally binding but which states have signed on to. This chapter will highlight how EAF related principles have been reflected in these international instruments. A table of ratifications by states of legally binding instruments related to EAF is annexed to this report.

2.2 International legally binding instruments

The 1982 United Nations Convention on the Law of the Sea (UNCLOS)⁹ provides a comprehensive framework for the conservation and utilization of living marine resources in both international waters and in waters under national jurisdiction. UNCLOS grants coastal states the sovereign rights to explore, exploit, conserve and manage the living marine resources located within their exclusive economic zone (EEZ).¹⁰ However, in exercising these rights, UNCLOS requires states to take a number of management measures, some of which reflect principles or conceptual objectives of EAF.¹¹

Several principles of relevance to EAF have been derived from UNCLOS. The duty to avoid over-fishing is reflected through the provision that requires States to ensure, through the adoption of proper conservation and management measures, “that the maintenance of the living resources [in the EEZ] is not endangered by over-exploitation.”¹² UNCLOS prescribes that this objective is to be met by taking measures that ensure the maximum acceptable fishing level, which corresponds to the maximum sustainable yield (MSY): “such measure shall also be designed to maintain and restore populations of harvested species at levels which can produce the maximum sustainable yield (...).”¹³ The consequence of this should be that the established MSY sets the upper limit for the total allowable catch (TAC) of living resources that states are required to determine in their EEZs.¹⁴

When adopting EEZ management and conservation measures, environmental and economic factors relevant to human well-being and species interaction should be taken into account, such as the needs of coastal fishing communities and developing states, fishing patterns and the interdependence of stocks.¹⁵ The latter is further elaborated in the requirement that states “take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened.”¹⁶ The reference to “restore” in both paragraph 2 and 3 of article 61 further reflects the obligation of states to ensure reversibility and rebuilding of stocks that have been driven to excessively low levels. States shall furthermore take “into account the best scientific evidence available” when adopting management measures.¹⁷

⁹ UNCLOS was adopted in 1982 and entered into force on 16 November 1994.

¹⁰ UNCLOS article 56.

¹¹ FAO. 2003b. *The Ecosystem Approach to Fisheries. Issues, terminology, principles, institutional foundations, implementation and outlook*. FAO Fisheries Technical Paper No. 443. Rome, p. 22; FAO. 2003, p. 83.

¹² UNCLOS article 61(2).

¹³ UNCLOS article 61(3).

¹⁴ UNCLOS article 61(1).

¹⁵ UNCLOS article 61(3).

¹⁶ UNCLOS article 61(4).

¹⁷ UNCLOS article 61(2).

In an EAF context, it is important that UNCLOS promotes international and regional cooperation in the conservation and management of living resources. Although qualified (“as appropriate”/“shall seek”), a duty is established for states to cooperate both with respect to management of the living resources in the EEZ, and with respect to transboundary and straddling stocks.¹⁸ Also of relevance to EAF is the fact that UNCLOS establishes requirements for states to take the necessary measures to prevent, reduce and control the pollution of the marine environment and the introduction of new and alien species.¹⁹

The 1995 United Nations Fish Stocks Agreement (UNFSA)²⁰ requires states to ensure that conservation and management measures established on the high seas are compatible with those adopted in the EEZ. By requiring coherent management measures for stocks straddling juridical boundaries, this process establishes the EAF principle of compatibility with respect to straddling and highly migratory fish stocks. States have a duty to cooperate with each other in order to achieve compatible measures.²¹

UNFSA refers to several principles and objectives of relevance to EAF which shall guide the duty to cooperate in managing straddling and highly migratory fish stocks. Management and conservation measures shall be adopted to ensure long-term sustainability of these stocks, and they shall be designed to maintain and rebuild these stocks at levels capable of producing MSY.²² UNFSA also stipulates that species interaction is to be taken into account when adopting such measures, and requires states to “assess the impacts of fishing, of other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent on the target stocks.”²³ UNFSA requires states to minimize the impact of fishing through minimizing pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species and impacts on associated or dependent species through, *inter alia*, the use of selective environmentally-friendly fishing gear.²⁴ Moreover, states shall take measures to prevent or eliminate over-fishing and excess fishing capacity, to collect and share data, promote and conduct scientific research, and ensure that effective monitoring, control, and surveillance (MCS) measures are in place.²⁵

UNFSA also requires the application of the precautionary approach in the management of straddling and highly migratory stocks, both inside and outside areas under national jurisdiction.²⁶ In implementing the precautionary approach, states shall, *inter alia*: improve decision making by obtaining and sharing the best scientific information available; take into account uncertainties relating to the size and productivity of the stocks and the impact of fishing activities on non-target, associated or dependent species; and develop data collection and research programmes to assess the impact of fishing on non-target, associated and dependent species and their environments. Moreover, states shall determine stock-specific reference points based on the precautionary approach and ensure that the reference points are not exceeded. Where the status of stocks is of concern, states shall subject those stocks to enhanced monitoring in order to review their status and the efficacy of management measures. For new or exploratory fisheries, states shall adopt cautious conservation and management measures, including catch and effort limits.²⁷

¹⁸ UNCLOS articles 61(2) and 63.

¹⁹ UNCLOS articles 194 and 196.

²⁰ The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The Agreement was adopted in 1995 and entered into force on 11 December 2001.

²¹ UNFSA article 7(2).

²² UNFSA article 5(b).

²³ UNFSA article 5(d) and (e).

²⁴ UNFSA article 5(f).

²⁵ UNFSA article 5(h)–(l).

²⁶ UNFSA articles 6 and 3.

²⁷ UNFSA article 6.

The 1993 FAO Compliance Agreement (Compliance Agreement)²⁸ forms an integral part of the Code of Conduct for Responsible Fisheries, and complements UNCLOS and UNFSA with respect to the management of high seas fishing. The Agreement does not incorporate any EAF related principles as such, but supports EAF implementation at the regional level by strengthening the application of international conservation and management measures by flag states. Under the Agreement, flag states must actively oversee the high seas fishing operations of their vessels by ensuring that their vessels fishing on the high sea are authorized to fish and that they do not engage in activities that undermine the effectiveness of international management measures. Most importantly, no high seas fishing authorization shall be issued unless the flag state is able to exercise its responsibilities, including preventing the vessel from undermining international management measures. Vessels engaging in de-flagging will lose their authorization to fish under the Agreement.²⁹ The Agreement moreover strives to increase the transparency of high seas fishing operations by requiring flag states to collect and exchange information on their high seas fishing vessels and their activities.³⁰

The 2009 Agreement on port state measures to prevent, deter and eliminate illegal, unreported and unregulated fishing (Port State Measures Agreement) was approved by the FAO Conference at its Thirty-sixth Session on 22 November 2009. The Agreement aims to prevent illegally caught fish from entering international markets through ports. Under the terms of the treaty, foreign vessels will provide advance notice and request permission for port entry, countries will conduct regular inspections in accordance with universal minimum standards, offending vessels will be denied use of port or certain port services and information sharing networks will be created. The Agreement will enter into force thirty days after the date of deposit of the twenty-fifth instrument of ratification, acceptance, approval or accession.

The 1992 Convention on Biological Diversity (CBD)³¹ provides a framework for the conservation and sustainable use of biological diversity, and applies to all living organisms and ecosystems within the jurisdiction of state parties. By prescribing that entire ecosystems are subject to conservation measures, CBD promotes a holistic approach to natural resource management in line with EAF. CBD furthermore applies to “processes and activities regardless of where their effects occur”, that are carried out under the jurisdiction or control of the state.³²

CBD includes several provisions that are conducive to the implementation of the EAF. Regarding governance, CBD commits states to develop or adapt strategies, plans and programmes for the conservation and use of biological diversity, and in doing so “integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.”³³ States shall also integrate considerations regarding the conservation and use of biological resources into national decision-making.³⁴

In terms of concrete management measures, CBD commits states, as much as possible and as appropriate, to establish “a system of protected areas or areas where special measures need to be taken to conserve biological diversity.” Protected areas are defined as “a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.”³⁵ Also in the context of *in-situ* conservation, under CBD, states are obliged to, *inter alia*: conserve biological diversity through the regulation and management of important biological resources; promote the protection of ecosystems and natural habitats; promote environmentally sound and sustainable

²⁸ The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas was adopted in November 1993 and entered into force on 24 April 2003.

²⁹ Compliance Agreement, article III.

³⁰ Compliance Agreement, articles III (7), V and VI.

³¹ CBD was adopted in Kenya on 22 May 1992, it was opened for signature in Rio de Janeiro, Brazil on 5 June 1992 and entered into force on 29 December 1993.

³² CBD article 4.

³³ CBD article 6.

³⁴ CBD article 10.

³⁵ CBD articles 8 and 2.

development in areas adjacent to protected areas; rehabilitate and restore degraded ecosystems and promote the recovery of threatened species; regulate the risk associated with the use and release of modified living organisms; prevent and control the introduction of alien species; provide compatibility between present uses and the conservation of biological diversity; and adopt legislation protecting threatened species and populations.³⁶ States are also required to identify and monitor components of biological diversity that are important for conservation and sustainable use.³⁷ Furthermore, CBD includes a provision requiring states to conduct an environmental impact assessment (EIA) for projects that are likely to adversely affect biological diversity. In this context, states also have an obligation to cooperate with each other about activities that are likely to impact the biological diversity of other states, and to notify these states in the event of imminent or grave danger to their biological diversity.³⁸ The Convention also includes a general requirement that states must cooperate with respect to matters of mutual interest and areas beyond their national jurisdiction.³⁹

Box 1: CBD – 12 principles supporting the application of the ecosystem approach and the Jakarta Mandate

The Conference of the Parties to CBD (COP) has recognized the ecosystem approach as a key strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way, and has called upon states to implement the ecosystem approach by applying the following 12 principles⁴⁰:

Principle 1: The objectives of management of land, water and living resources are a matter of societal choice.

Principle 2: Management should be decentralized to the lowest appropriate level.

Principle 3: Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.

Principle 4: Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should: (a) reduce those market distortions that adversely affect biological diversity; (b) align incentives to promote biodiversity conservation and sustainable use; (c) internalize costs and benefits in the given ecosystem to the extent feasible.

Principle 5: Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.

Principle 6: Ecosystems must be managed within the limits of their functioning.

Principle 7: The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

Principle 8: Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.

Principle 9: Management must recognize that change is inevitable.

Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.

Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.

Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

³⁶ CBD article 8.

³⁷ CBD article 7.

³⁸ CBD article 14.

³⁹ CBD article 5.

⁴⁰ Adopted in 2000 under the Conference of the Parties to CBD (COP) 5, Decision V/6.

The 1995 Jakarta Mandate on Marine and Coastal Biological Diversity⁴¹ promotes conservation and long-term sustainable use of aquatic biodiversity and the habitats that support them. This shall be conducted in a manner that respects both societal interests and the integrity of the ecosystems. To this end, the COP calls on parties to, *inter alia*, establish and/or strengthen institutional and legislative arrangements pertaining to the development of integrated marine and coastal ecosystem management, plans and strategies for marine and coastal areas, and the process of integrating these efforts within the relevant national development plans.

Under the **1971 Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)**⁴², each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance. Wetlands should be selected for the List “on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology. In the first instance wetlands of international importance to waterfowl at any season should be included.” The Convention defines wetlands as “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.” Contracting Parties shall promote wetlands and waterfowl conservation by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their protection. The Convention furthermore prescribes that Contracting Parties “consult with each other (...) especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties. They shall at the same time endeavour to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.”⁴³

The 2001 Agreement on the Conservation of Albatrosses and Petrels (ACAP)⁴⁴ seeks to “achieve and maintain a favourable conservation status of albatrosses and petrels.” For this purpose, Parties shall take conservation measures, which shall be implemented using the precautionary principle (article II). More specifically, they shall, *inter alia*, conserve and restore, as appropriate, habitats that are important for albatrosses and petrels; eliminate or control non-native species that are detrimental to albatrosses and petrels; take measures to prevent, remove, minimize or mitigate the adverse effects of activities that may influence the conservation status of albatrosses and petrels; and support the implementation of the FAO.

International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds). The Parties shall furthermore prohibit the deliberate taking of, or harmful interference with, albatrosses and petrels, their eggs, or their breeding sites (article III). In addition, Parties commit to develop and maintain coordinated and complementary working relationships with all relevant international, regional and sub-regional bodies, including those concerned with the conservation and management of seabirds and their habitats, and other marine living resources, particularly with the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and FAO, and especially in the context of the IPOA-Seabirds (article XI(1)). ACAP’s article 3.2.1 of Annex 2 is directly linked to fisheries in so far as it commits Parties to “take appropriate operational, management and other measures to reduce or eliminate the mortality of albatrosses and petrels resulting incidentally from fishing activities.”

⁴¹ Adopted in 1995 under COP 2, Decision II/10.

⁴² The Ramsar Convention was adopted in Ramsar, Iran on 2 February 1971 and entered into force in 1975. It was amended in 1982 and 1987.

⁴³ Ramsar Convention, articles 1, 2, 4 and 5.

⁴⁴ ACAP was concluded on 2 February 2001 in Cape Town, South Africa and came into force 1 February 2004. Of the countries participating in the EAF Nansen project, only South Africa is a party to ACAP.

2.3 International non-binding instruments

The 1995 FAO Code of Conduct for Responsible Fisheries (the Code) is widely recognized as the most complete operational reference for fisheries management, and provides principles for fisheries conservation, management and development. It contains a number of provisions that support the implementation of EAF relating to ecosystem and habitat protection; the role of environmental factors; the environmental impact of fisheries, other users, pollution, biodiversity and endangered species conservation; multi-species management; integrated coastal area management; fishing gear and methods and the precautionary approach. Recognizing the transboundary nature of ecosystems, it specifies that states should conserve and manage them in order to maintain their integrity.⁴⁵ Management measures should be based on the best scientific evidence available, taking into account environmental, economic and social factors,⁴⁶ although such measures should be taken even when the available scientific information is inadequate.⁴⁷ In implementing the precautionary approach, states should take into account uncertainties related to stock conditions, reference points, and the impact of fishing activities. Cautious measures should be adopted for new fisheries, including catch and effort limits.⁴⁸ Furthermore, the Code promotes the use of more selective and environmentally safe fishing gear and addresses the need for increased international collaboration on gear technology. It also calls for reducing discards, waste, dumping, and gear loss.⁴⁹ The Code encourages the use of marine protected areas (MPAs) for habitat protection and rehabilitation, and particular efforts should be made to protect such habitats from degradation, pollution and other environmental impacts.⁵⁰

The Code also reflects the pivotal role that policy, legal and institutional frameworks play in the management of responsible fisheries by calling on states to ensure that an effective legal and administrative framework is established for fisheries resource conservation and management.⁵¹ Chapter 10 directly links to EAF in as much as it promotes the integration of fisheries into coastal area management. States should ensure that such frameworks are adopted “to achieve the sustainable and integrated use of the resources, taking into account the fragility of coastal ecosystems and the finite nature of their natural resources and the needs of coastal communities.”⁵² Chapter 10 also deals with other issues that are instrumental for EAF, such as stakeholder participation in decision making processes, procedures for conflict resolution among different users of the coastal area, and regional cooperation. Significantly, states should “establish mechanisms for cooperation and coordination among national authorities involved in planning, development conservation and management of coastal areas.”⁵³

Technical guidelines have been prepared to supplement the Code, including guidelines making EAF operational.⁵⁴

The FAO International Plans of Action (IPOAs) are instruments elaborated within the framework of the Code, and provide a set of internationally agreed upon provisions to facilitate Code implementation. Four IPOAs have been adopted so far: The IPOA to prevent, deter and eliminate illegal, unreported and unregulated fishing (IPOA-IUU), which seeks to deal effectively with all forms of IUU fishing; the IPOA for the management of fishing capacity, which sets standards for bringing fishing capacity in line with sustainable fishing; the IPOA for the conservation and management of sharks; and the IPOA for reducing incidental catch of seabirds in longline fisheries. In the 2005 Rome

⁴⁵ The Code, articles 6.1, 6.4 and 6.6.

⁴⁶ The Code, article 6.4.

⁴⁷ The Code, article 6.5.

⁴⁸ The Code, article 7.5.

⁴⁹ The Code, articles 7.2.2, 8.5, 12.10.

⁵⁰ The Code, article 6.8.

⁵¹ The Code, article 7.7.1.

⁵² The Code, article 10.1.1.

⁵³ The Code, article 10.4.

⁵⁴ FAO. 2003a.

Ministerial Declaration on Illegal, Unreported and Unregulated Fishing, ministers expressed that necessary action had to be taken to fully implement these IPOAs.⁵⁵

The 1972 Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration)⁵⁶ addresses the environmental aspects of natural resource management and highlights some of the basic concepts of EAF, such as the need for ecosystem protection and nature conservation⁵⁷ and the prevention of pollution in the sea that is harmful to living resources and marine life.⁵⁸ It also stresses concepts such as economic and social development,⁵⁹ the need to adopt an integrated and coordinated approach to development planning,⁶⁰ the role of science and technology,⁶¹ and the need to encourage international collaboration and resource sharing.⁶² The Stockholm Declaration represented the first major international consensus on the need to promote environmental sustainability. It also laid the groundwork for the development of ecosystem management measures in all environmental sectors, including fisheries.

The 1992 United Nations Conference on Environment and Development Declaration (UNCED Declaration)⁶³ is a set of 27 principles that promote environmental protection and responsible development. The UNCED Declaration articulates the precautionary approach by stating that “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.”⁶⁴ It recognizes the sovereign rights of states to exploit their resources, as well as their responsibility to ensure that activities within their jurisdiction do not damage the environment of other states or areas beyond their national jurisdiction.⁶⁵ It includes the principle that human beings are at the centre of concerns about sustainable development in that they should be entitled to a healthy and productive life in harmony with nature.⁶⁶ It also acknowledges the need to integrate environmental protection into development,⁶⁷ and the duty for states to cooperate in the protection of the ecosystem.⁶⁸ Moreover, it includes duties related to public participation,⁶⁹ the polluter-pays principle,⁷⁰ and the duty to carry out EIAs.⁷¹ UNCED also adopted an action plan, **Agenda 21**, which calls for “new approaches to marine and coastal areas management and development [which are] integrated in content and are precautionary and anticipatory in ambit (...)”⁷² Chapter 17 of Agenda 21 includes a series of programmes for coastal zone management, environmental protection and management of marine living resources, including actions that should be taken by states with respect to management, data collection, information exchange, and international and regional cooperation. Provisions relate to, *inter alia*, the need to protect endangered species and habitats, prohibit destructive fishing practices and encourage the role of science in fisheries management.⁷³

⁵⁵ Adopted by the FAO Ministerial Meeting on Fisheries, Rome, 12 March 2005.

⁵⁶ The Stockholm Declaration was adopted in Stockholm, Sweden on 16 June 1972.

⁵⁷ Stockholm Declaration, principles 2 and 4.

⁵⁸ Stockholm Declaration, principle 7.

⁵⁹ Stockholm Declaration, principle 8.

⁶⁰ Stockholm Declaration, principle 13.

⁶¹ Stockholm Declaration, principle 20.

⁶² Stockholm Declaration, principle 24.

⁶³ The United National Conference on Environment and Development (UNCED) was held in Rio de Janeiro, Brazil, 3–14 June 1992. The UNCED Declaration is also known as the Rio Declaration on Environment and Development.

⁶⁴ UNCED Declaration, principle 15.

⁶⁵ UNCED Declaration, principle 2.

⁶⁶ UNCED Declaration, principle 1.

⁶⁷ UNCED Declaration, principle 4.

⁶⁸ UNCED Declaration, principle 7.

⁶⁹ UNCED Declaration, principle 10.

⁷⁰ UNCED Declaration, principle 16.

⁷¹ UNCED Declaration, principle 17.

⁷² Agenda 21, chapter 17, section 17.1.

⁷³ Agenda 21, chapter 17, programme D.

The 2001 Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem (the Reykjavik Declaration)⁷⁴ includes several concepts relevant to EAF. States endeavor to “advance the scientific basis for developing and implementing management strategies that incorporate ecosystem considerations,” which will “ensure sustainable yields while conserving stocks and maintaining the integrity of ecosystems and habitats on which they depend.”⁷⁵ To this end, states will “identify and describe the structure, components and functioning of relevant marine ecosystems, diet composition and food webs, species interactions and predator-prey relationships, the role of habitats and the biological, physical and oceanographic factors that affect ecosystem stability and resilience.”⁷⁶ The Declaration also addresses issues related to the environmental impacts of fisheries, including by-catch, discards, fishing gears and methods, as well as the environmental impact of non-fisheries activities.⁷⁷

The 2002 World Summit for Sustainable Development (WSSD) reviewed progress achieved in meeting the goals of UNCED. In addition to a political declaration, the summit also adopted a **Plan of Implementation**, which includes several commitments related to fisheries. It specifically encourages the application of the ecosystem approach by 2010,⁷⁸ the elimination of destructive fishing practices and the establishment of representative networks of MPAs by 2012.⁷⁹ In addition, it calls for the rebuilding of depleted fish stocks on an urgent basis no later than 2015.⁸⁰

EAF was prominently featured in two resolutions adopted in **2006** by the UN General Assembly, namely **the Sustainable Fisheries Resolution**⁸¹ and **the Oceans Resolution**.⁸² The Sustainable Fisheries Resolution is a consensus resolution calling for immediate action to sustainably manage fish stocks and protect deep sea ecosystems from harmful fishing practices. It calls upon states, directly or through Regional Fisheries Management Organizations (RFMOs), to widely apply the precautionary approach and the ecosystem approach to fish stock conservation, management and exploitation, including adopting and implementing measures that incorporate FAO Technical Guidelines for Responsible Fisheries by addressing by-catch, pollution, overfishing and habitats protection. Moreover, it encourages states to increase their reliance on scientific advice when adopting management measures, and to promote science for taking management measures that apply EAF and the precautionary approach.⁸³

The Oceans Resolution calls upon states to develop and facilitate the use of diverse approaches and tools for conserving and managing vulnerable marine ecosystems, including the development of a representative network of MPAs by 2012.⁸⁴ Furthermore, it calls upon states and international organizations to urgently take action to address destructive practices that have an adverse impact on marine biodiversity. The resolution also encourages states to cooperate and take all measures to address impacts on marine ecosystems in areas inside and outside of their national jurisdiction, taking into account the integrity of the ecosystems concerned.⁸⁵

The Protected Area Management Categories, adopted by the World Conservation Union (IUCN), are voluntary standards for the establishment of protected areas. The standards apply to both terrestrial

⁷⁴ The Reykjavik Declaration was adopted in Reykjavik, Iceland on 4 October 2001.

⁷⁵ Reykjavik Declaration, paragraph 5(a).

⁷⁶ Reykjavik Declaration, paragraph 5(b).

⁷⁷ Reykjavik Declaration, paragraphs 4 and 5(f).

⁷⁸ Plan of Implementation of the WSSD, article 29(d).

⁷⁹ Plan of Implementation of the WSSD, article 31(c).

⁸⁰ Plan of Implementation of the WSSD, article 30(a).

⁸¹ General Assembly Resolution A/RES/61/105, Sustainable fisheries, including through the 1995 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, and related instruments (Sustainable Fisheries Resolution).

⁸² General Assembly Resolution A/RES/61/222, Oceans and the Law of the Sea (Oceans Resolution).

⁸³ Sustainable Fisheries Resolution, paragraph I(5)–(7).

⁸⁴ Oceans Resolution, paragraph 97.

⁸⁵ Oceans Resolution, paragraph 119(d).

and marine protected areas, and are meant to encourage governments to develop systems for protected areas. The management aims associated with these systems should be tailored to local and national circumstances, and prescribe the modalities for the designation of such areas. A process of revising the Protected Area Management Categories was finalized in 2008, and the new IUCN definition of a protected area is as follows:⁸⁶

“A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.”

This definition supersedes⁸⁷ the IUCN definition of MPA that has been in use since 1999.⁸⁸ The new definition has lost its explicit reference to the marine environment, but aims to ensure a clearer demarcation between conservation-focused sites and those where the primary purpose is extractive uses, i.e. fisheries management areas. Relevant fishery protection zones are not *per se* precluded from this definition, but their establishment will have to serve conservation goals in order to meet the objectives of this definition.⁸⁹ There are seven different protected area categories, ranging from “Strict Nature Reserve” – managed mainly for science – to “Protected area with sustainable use of natural resources” – managed mainly for the sustainable use of natural resources and ecosystems.⁹⁰ The IUCN system for protected area categorization was endorsed at the 7th Conference of the Parties to CBD in 2004.⁹¹

2.4 Concluding remarks

The legally binding and voluntary instruments considered above reflect to varying degrees EAF principles; the coverage of these principles in the legally binding instruments is outlined in Table 1.⁹² None of the legally binding instruments are comprehensive EAF instruments that provide for the whole suite of EAF principles and concepts that should be implemented at the national level. UNCLOS is, however, the most comprehensive in terms of scope and subject-matter, and plays a significant normative role, not least because it enjoys close to universal participation in the region (see Appendix). UNCLOS does, however, incorporate relatively few key EAF principles (the duty to avoid over-fishing and to ensure reversibility and rebuilding of stocks, the requirement to consider species interaction) and, with the exception of the provisions on marine pollution, does not apply to territorial waters, which is where most small-scale fishing activities take place. UNFSA on the other hand, is the global fisheries instrument that refers to the most EAF-related principles, by imposing a duty on states to apply the precautionary approach and requiring them to ensure compatible management measures, maintain ecosystem integrity and minimize fisheries impact. UNFSA does, however, have limited applicability outside of the high seas; the precautionary approach and the principle of compatibility are the only EAF principles that are directly applicable in national waters. With respect to the Compliance Agreement, this instrument includes little guidance of direct relevance to EAF implementation at the national level and the number of parties is also relatively modest. With respect to port state measures, it remains to be seen whether the Port State Measures Agreement will provide the necessary tools for combating IUU fishing through enhanced port state controls. Although no states have ratified the Agreement so far, it is worth noting that seven African countries have already signed the Agreement.

⁸⁶ **Dudley, N. (Ed.)** *Guidelines for Applying Protected Area Management Categories*. 2008. IUCN, Gland, Switzerland, page 8. Available at: <http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf>

⁸⁷ **Dudley, N. (Ed.)**. 2008, page 56.

⁸⁸ Defined as “Any area of intertidal or subtidal terrain, together with its overlying waters and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment” in Kelleher, G. *Guidelines for Marine Protected Areas. No. 3*. 1999. IUCN. Gland, Switzerland.

⁸⁹ **Dudley, N. (Ed.)**. 2008, page 56.

⁹⁰ **Dudley, N. (Ed.)**. 2008.

⁹¹ **Dudley, N. (Ed.)**. 2008, page 4.

⁹² The categorization of the EAF principles extracted from these instruments is based on presentation of EAF principles made in Appendix 2 in **FAO**.2003.

In contrast to the fisheries instruments, CBD relies on a more holistic approach by providing for multi-use management and conservation of biological diversity as a whole, as opposed to solely addressing living marine resources. It also promotes sectoral integration and stakeholder participation. CBD furthermore covers a “gap” left by UNCLOS by extending its provisions related to biodiversity management and conservation to all areas under national jurisdiction, including the territorial sea and the EEZ. Within the context of fisheries management, CBD’s provisions related to *in-situ* conservation, introduction of alien species and EIAs are among the most important. The Ramsar Convention does also require states to take measures aimed at maintaining ecosystem integrity through the establishment of protected areas, although only in relation to wetlands and waterfowls conservation. Nearly all the countries participating in the Nansen project have ratified CBD and Ramsar (see Appendix).

One of the features that is common to all the binding instruments is the duty for states to cooperate with each other regarding the management of living marine resources and ecosystems extending over jurisdictions (UNCLOS, UNFSA, CBD, Ramsar Convention, ACAP), or with respect to living resources and ecosystems existing beyond national jurisdiction (UNCLOS, UNFSA, Compliance Agreement). Although only UNFSA stipulates the duty of states to ensure that management measures adopted in the EEZ and on the high seas are compatible, such cooperation can contribute to promoting the compatibility of management measures across geographical boundaries.

Of all the global instruments, the non-binding Code of Conduct for Responsible Fisheries primes as the most comprehensive guide for EAF implementation. It includes a comprehensive suite of EAF related principles and concepts, which can serve as a check list for EAF implementation – also with respect to the legal issues that need to be addressed. When states endeavour to revise national legislation in order to ensure compatibility with EAF principles, it is therefore important that the provisions of the legally binding instruments are complemented by the voluntary Code.

3. REGIONAL INSTRUMENTS AND BODIES RELEVANT TO EAF

3.1 Introduction

A plethora of RFBs covers the waters bordering the African continent, many of which have been established over the last ten years. Several other fisheries and environmental instruments – binding and voluntary – of relevance to EAF have also been adopted at the regional and sub-regional level. This section highlights the EAF related principles and concepts that are contained in these instruments. First, the conventions establishing RFMOs – RFBs that are required to adopt binding management measures – will be considered. Secondly, RFBs that only provide non-binding recommendations on fisheries management will be reviewed. Finally, this chapter will review other regional conventions and non-binding instruments of relevance to EAF. Not all of these instruments are specific to Africa, but they all have African countries among their members or parties. A table of ratifications by states of regional and sub-regional instruments related to EAF is annexed to this report.

3.2 Regional fisheries management organizations

The International Commission for the Conservation of Atlantic Tunas (ICCAT)⁹³ was established to facilitate cooperation in the management of tunas and tuna-like species in the Atlantic Ocean and adjacent seas.⁹⁴ ICCAT is required to issue binding recommendations designed to maintain the populations of tuna and tuna-like fishes that will permit the maximum sustainable catch.⁹⁵ The Commission is furthermore responsible for carrying out studies on tuna and tuna species populations,

⁹³ The International Convention for the Conservation of Atlantic Tunas (ICCAT Convention), which established the International Commission for the Conservation of Atlantic Tunas (ICCAT), was signed in Rio de Janeiro on 14 May 1966 and entered into force on 21 March 1969.

⁹⁴ ICCAT Convention, preamble and article I.

⁹⁵ ICCAT Convention, article VIII.

which shall include “research on the abundance, biometry and ecology of the fishes; the oceanography of their environment; and the effect of natural and human factors upon their abundance.”⁹⁶

The Indian Ocean Tuna Commission (IOTC)⁹⁷ was established to promote cooperation among its members with a view to ensuring, through appropriate management, the conservation and optimum utilization of tuna and tuna-like species in the Indian Ocean and encouraging sustainable development of fisheries based on such stocks.⁹⁸ In order to achieve these objectives, IOTC is tasked to review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics; to recommend and coordinate research in respect of tuna and tuna-like species; to adopt, on the basis of scientific evidence, binding conservation and management measures; and to review the economic and social aspects of the fisheries.⁹⁹

The Commission for the Conservation of Southern Bluefin Tuna (CCSBT)¹⁰⁰ was established “to ensure, through appropriate management, the conservation and optimum utilisation of southern bluefin tuna”¹⁰¹ throughout the species’ entire geographical range. The CCSBT is required to adopt binding regulatory measures, primarily related to the determination of set TACs and TAC allocations among the parties. CCSBT may also decide upon other measures if necessary.¹⁰² CCSBT shall furthermore collect and accumulate scientific information.¹⁰³ Under the CCSBT, a Scientific Committee is also established in order to carry out stock assessments and make recommendations to the Commission on southern bluefin tuna conservation and management.¹⁰⁴

The South-East Atlantic Fisheries Organisation (SEAFO)¹⁰⁵ was established to ensure the long-term conservation and sustainable use of fishery resources in areas of the high seas in the South-East Atlantic, excluding highly migratory species like tuna and sedentary species on the continental shelf.¹⁰⁶

Box 2: EAF related principles in the SEAFO Convention

In giving effect to the objective of ensuring the long-term conservation and sustainable use of the fishery resources within the Convention Area, the contracting parties of SEAFO shall be governed by the following general principles set out in article 3 of the SEAFO Convention, which mirror principles of EAF:

- (a) adopt measures, based on the best scientific evidence available, to ensure the long term conservation and sustainable use of the fishery resources to which this Convention applies;*
- (b) apply the precautionary approach in accordance with Article 7;*

⁹⁶ ICCAT Convention, article IV.

⁹⁷ The Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC Agreement) was established under Article XIV of the FAO Constitution and adopted by the FAO Council in 1993 and entered into force in March 1996.

⁹⁸ IOTC Agreement, article V(1).

⁹⁹ IOTC Agreement, article V(2).

¹⁰⁰ CCSBT was established pursuant to the Convention for the Conservation of Southern Bluefin Tuna (CCSBT Convention), which was signed in Canberra, Australia on 10 May 1993, and entered into force on 20 May 2004. None of the countries participating in the EAF Nansen project are members of CCSBT, but South Africa is a cooperating non-member.

¹⁰¹ CCSBT Convention, article 3.

¹⁰² CCSBT Convention, article 8(3) and (7).

¹⁰³ CCSBT Convention, article 8.

¹⁰⁴ CCSBT Convention, article 9.

¹⁰⁵ The Convention on the Conservation and Management of Fisheries Resources in the South-East Atlantic Ocean (SEAFO Convention) was signed on 20 April 2001 and entered into force on 13 April 2003, and establishes the South-East Atlantic Fisheries Commission (SEAFO Commission).

¹⁰⁶ SEAFO Convention, articles 1 and 2.

- (c) *apply the provisions of this Convention relating to fishery resources, taking due account of the impact of fishing operations on ecologically related species such as seabirds, cetaceans, seals and marine turtles;*
- (d) *adopt, where necessary, conservation and management measures for species belonging to the same ecosystem as, or associated with or dependent upon, the harvested fishery resources;*
- (e) *ensure that fishery practices and management measures take due account of the need to minimize harmful impacts on living marine resources as a whole; and*
- (f) *protect biodiversity in the marine environment.*

Article 7 of the SEAFO Convention prescribes a wide application of the precautionary approach:

- 1. The Commission shall apply the precautionary approach widely to conservation and management and exploitation of fishery resources in order to protect those resources and preserve the marine environment.*
- 2. The Commission 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.*
- 3. In implementing this article, the Commission shall take cognizance of best international practices regarding the application of the precautionary approach, including Annex II of the 1995 Agreement and the FAO Code of Conduct for Responsible Fisheries, 1995.*

The functions of the SEAFO Commission are to formulate and adopt conservation and management measures; determine TACs and/or fishing effort levels, taking into account total fishing mortality, including non-target species; keep under review the status of stocks, and gather, analyse and disseminate relevant information on stocks; promote and coordinate scientific research on fishery resources in the Convention Area and in adjacent waters under national jurisdiction; manage stocks under the precautionary approach; establish appropriate cooperative mechanisms for effective MCS, surveillance and enforcement; adopt measures for control and enforcement in the Convention Area; develop measures for the conduct of fishing for scientific research purposes; develop rules for the collection, verification, and use of data; and compile and disseminate accurate and complete statistical data. The Commission shall, in formulating its decisions, take full account of the biological unity and other biological characteristics of the stocks.¹⁰⁷ Binding management measures may include the following: (a) the quantity of any species which may be caught; (b) the areas and periods in which fishing may occur; (c) the size and sex of any species which may be taken; (d) the fishing gear and technology which may be used; (e) the level of fishing effort, including vessel numbers, types and sizes, which may be used; (f) the designation of regions and sub-regions; (g) other measures regulating fisheries with the objective of protecting any species; and (h) other measures the Commission considers necessary to meet the objective of this Convention.¹⁰⁸

The SEAFO Convention also establishes a number of contracting party obligations related to the collection and exchange of scientific and statistical data and other reporting duties, as well as specific requirements in their capacity as flag and port states. SEAFO shall also establish a system of observation, inspection, compliance and enforcement, which shall be comprised of control measures, including: fishing authorizations; an inspection programme at sea and in port, which includes boarding and inspection procedures; an observer programme; and procedures for following up on infringements.¹⁰⁹

The South Indian Ocean Fisheries Agreement (SIOFA Agreement)¹¹⁰ seeks to ensure the long-term conservation and sustainable use of fishery resources in areas of the high seas in the South Indian

¹⁰⁷ SEAFO Convention, article 6(3).

¹⁰⁸ SEAFO Convention, article 6(8).

¹⁰⁹ SEAFO Convention, articles 13–16.

¹¹⁰ The South Indian Ocean Fisheries Agreement (SIOFA Agreement) was signed on 12 July 2006, but has still not entered into force.

Ocean, excluding highly migratory species like tuna and sedentary species on the continental shelf.¹¹¹ The SIOFA Agreement provides for the application of several general principles that are highly relevant to the EAF. In addition to the explicit reference to the application of EAF when adopting management measures, it requires the application of the precautionary approach, the need to minimize the harmful effects of fishing activities, and requires marine biodiversity protection.¹¹² The Meeting of the Parties shall take a suite of management measures and decisions, including a review of stocks and the adoption of binding conservation and management measures “necessary for ensuring the long-term sustainability of the fishery resources, taking into account the need to protect marine biodiversity, based on the best scientific evidence available.”¹¹³ So far, only one country, the Seychelles, has ratified the Agreement, but it will enter into force after receipt of the fourth ratification instrument.

Box 3: EAF related principles in the SIOFA Agreement

Article 4 of the SIOFA Agreement provides for the application of several principles that are relevant to EAF:

In giving effect to the duty to cooperate in accordance with the 1982 Convention and international law, the Contracting Parties shall apply, in particular, the following principles:

- (a) measures shall be adopted on the basis of the best scientific evidence available to ensure the long-term conservation of fishery resources, taking into account the sustainable use of such resources and implementing an ecosystem approach to their management;*
- (b) measures shall be taken to ensure that the level of fishing activity is commensurate with the sustainable use of the fishery resources;*
- (c) the precautionary approach shall be applied in accordance with the Code of Conduct and the 1995 Agreement, whereby the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures;*
- (d) the fishery resources shall be managed so that they are maintained at levels that are capable of producing the maximum sustainable yield, and depleted stocks of fishery resources are rebuilt to the said levels;*
- (e) fishing practices and management measures shall take due account of the need to minimize the harmful impact that fishing activities may have on the marine environment;*
- (f) biodiversity in the marine environment shall be protected; and*
- (g) the special requirements of developing States bordering the Area that are Contracting Parties to this Agreement, and in particular the least-developed among them and small island developing States, shall be given full recognition.*

Article 6 of the SIOFA Agreement makes these principles operational by requiring the Meeting of the Parties to manage the fishery resources in a way that implements EAF considerations:

1. The Meeting of the Parties shall:

- (a) review the state of fishery resources, including their abundance and the level of their exploitation;*
- (b) promote and, as appropriate, co-ordinate research activities as required on the fishery resources and on straddling stocks occurring in waters under national jurisdiction adjacent to the Area, including discarded catch and the impact of fishing on the marine environment;*
- (c) evaluate the impact of fishing on the fishery resources and on the marine environment, taking into account the environmental and oceanographic characteristics of the Area, other human activities and environmental factors;*
- (d) formulate and adopt conservation and management measures necessary for ensuring the long-term sustainability of the fishery resources, taking into account the need to protect marine biodiversity, based on the best scientific evidence available;*

¹¹¹ SIOFA Agreement, articles 1–3.

¹¹² SIOFA Agreement, article 4.

¹¹³ SIOFA Agreement, articles 6 and 8.

- (e) adopt generally recommended international minimum standards for the responsible conduct of fishing operations;*
- (f) develop rules for the collection and verification of scientific and statistical data, as well as for the submission, publication, dissemination and use of such data;*
- (g) promote cooperation and coordination among Contracting Parties to ensure that conservation and management measures for straddling stocks occurring in waters under national jurisdiction adjacent to the Area and measures adopted by the Meeting of the Parties for the fishery resources are compatible;*
- (h) develop rules and procedures for the monitoring, control and surveillance of fishing activities in order to ensure compliance with conservation and management measures adopted by the Meeting of the Parties including, where appropriate, a system of verification incorporating vessel monitoring and observation, and rules concerning the boarding and inspection of vessels operating in the Area;*
- (i) develop and monitor measures to prevent, deter and eliminate illegal, unreported and unregulated fishing;*
- (j) in accordance with international law and any applicable instruments, draw the attention of any non-Contracting Parties to any activities which undermine the attainment of the objectives of this Agreement;*
- (k) establish the criteria for and rules governing participation in fishing; and*
- (l) carry out any other tasks and functions necessary to achieve the objectives of this Agreement.*

2. In determining criteria for participation in fishing, including allocation of total allowable catch or total level of fishing effort, the Contracting Parties shall take into account, inter alia, international principles such as those contained in the 1995 Agreement.(...)

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)¹¹⁴ was established to promote the conservation and rational use of all Antarctic marine living resources, including birds, in the area south of the 60th South latitude.¹¹⁵

Box 4: EAF related principles in the CCAMLR Convention

Article II(3) of the CCAMLR Convention – usually considered a precursor to the EAF¹¹⁶ – prescribes that all harvesting and associated activities carried out in the Convention Area shall be conducted in accordance with the following principles of conservation:

- (a) prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual increment;*
- (b) maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in sub-paragraph (a) above;*
- (c) prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.*

CCAMLR shall formulate and adopt binding conservation measures based on the best scientific evidence available. These measures shall include the following: catch quotas; protected species; size, age and sex of species which may be harvested; open and closed seasons for harvesting; the opening and closing of areas, regions or sub-regions for purposes of scientific study or conservation; regulation

¹¹⁴ CCAMLR was established under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR Convention), which was adopted on 5 May 1980 and entered into force on 7 April 1982.

¹¹⁵ CCAMLR Convention, articles I and II.

¹¹⁶ FAO. 2003a, p.75.

as to the effort employed and harvesting methods, including fishing gear, with a view, *inter alia*, to avoiding undue harvesting concentrations in any particular region or sub-region; and such other conservation measures, including those concerning the effects of harvesting and associated activities on other components of the marine ecosystem.¹¹⁷

With a view to ensuring compatibility of conservation measures, the Commission shall furthermore seek to cooperate on the conservation of stocks with Contracting Parties that exercise jurisdiction in marine areas adjacent to the Convention Area.¹¹⁸

CCAMLR shall also facilitate research on marine living resources and on the marine ecosystem and compile data on the status of and changes in the population of living marine resources, as well as factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations.¹¹⁹ In order to verify compliance with CCAMLR conservation measures, the CCAMLR Convention requires the establishment of a system of observation and inspection, which includes procedures for boarding and inspection by designated observers and inspectors. The latter has been implemented through the adoption of a scheme on scientific observation and a system of inspection.¹²⁰

The General Fisheries Commission for the Mediterranean (GFCM)¹²¹ was established to promote the “development, conservation, rational management and best utilization of living marine resources” in the Mediterranean, the Black Sea, and connecting waters. GFCM is authorized to maintain a review of the state of these resources, and to formulate and recommend binding management measures regulating fishing methods and fishing gear; prescribing the minimum size for individuals of specified species; establishing open and closed fishing seasons and areas; and regulating the amount of total catch and fishing effort and their allocation among members. Additionally, it shall review the economic and social aspects of the fishing industry and assemble and disseminate information regarding exploitable living marine resources and fisheries. In formulating and recommending management measures, the Commission shall apply the precautionary approach and take into consideration the best scientific evidence available.¹²²

3.3 Advisory regional fisheries bodies

The Convention on Fisheries Cooperation among African States Bordering the Atlantic Ocean (ATLAFCO), which establishes **the Ministerial Conference**,¹²³ applies to waters under the national jurisdiction of 22 countries along the Atlantic coast from Morocco to Namibia, and was established to, *inter alia*, (a) promote active and organized cooperation in the area of fisheries management and development in the region; (b) take up the challenge of food self-sufficiency through the rational utilization of fishery resources within the context of an integrated approach that embraces all the components of the fishing sector; (c) stimulate the national economic sectors through direct and

¹¹⁷ CCAMLR Convention, articles IX(1)(f) and (2).

¹¹⁸ CCAMLR Convention, article XI.

¹¹⁹ CCAMLR Convention, article IX(1).

¹²⁰ CCAMLR Convention, article XXIV. See the Text of the CCAMLR Scheme of International Scientific Observation and the Text of the CCAMLR System of Inspection, both adopted in 2004.

¹²¹ GFCM was established by the Agreement for the Establishment of the General Fisheries Commission for the Mediterranean (GFCM Agreement), which was drawn up under Article XIV of the FAO Constitution and approved by the FAO Conference at its Fifth Session in 1949, and entered into force on 20 February 1952. The GFCM Agreement was last time amended in 1997. Morocco is the only country participating in the Nansen EAF project that is a member of GFCM.

¹²² GFCM Agreement, article III.

¹²³ The first Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (ATLAFCO) was convened from 30 March to 1 April 1989. ATLAFCO was formally established under the Convention on Fisheries Cooperation among African States Bordering the Atlantic Ocean (Dakar Convention), signed in Dakar, Senegal on 5 July 1991 during the second Ministerial Conference. The Convention entered into force on 12 July 1995.

secondary effects resulting from fishery resources exploitation and (d) enhance, coordinate and harmonize efforts and capabilities for the purpose of conserving, exploiting, upgrading and marketing fishery resources, in particular with respect to shared fish stocks.¹²⁴

Contracting parties commit to ensure the conservation and rational management of their fishery resources and take concerted action for the assessment of shared fish stocks. In addition, parties shall take steps to adopt harmonized policies concerning the conservation, management and exploitation of fishery resources, with particular attention paid to the determination of catch quotas and, as appropriate, the adoption of joint fishing season regulations. Parties shall also exchange scientific information and collaborate with respect to MCS.¹²⁵

The Fishery Committee for the Eastern Central Atlantic (CECAF)¹²⁶ is comprised of 19 African countries bordering the Atlantic Ocean from Cape Spartel to the mouth of the Congo River, including high seas areas and EEZs. CECAF has the task of promoting the sustainable utilization of the living marine resources within its area of competence through the proper management and development of the fisheries and fishing operations. To this end, it shall have, *inter alia*, the following functions: to keep under review the state of living marine resources and stocks in the area; to promote and coordinate research on living marine resources; to promote the collection and dissemination of statistical, socio-economic, biological and environmental data and other marine fisheries information; to establish a scientific basis for conservation and management measures, and to make recommendations for the adoption and implementation of such measures; to provide advice on MCS and; to promote the utilization of the most appropriate fishing gear and techniques.¹²⁷

The Sub-Regional Fisheries Commission (SRFC)¹²⁸ was established with the goal of harmonizing the long term policies of the members regarding the preservation, conservation and exploitation of the fisheries resources for the benefit of the populations in the EEZs spanning the coastal states from Mauritania to Sierra Leone.¹²⁹ With a view to harmonizing sub-regional fisheries policies, several legal documents have been adopted by the SRFC member countries, including: the 1993 Convention regarding the determination of conditions of access to and exploitation of fisheries resources off the coasts of the SRFC member States; the 1993 Convention on Sub-Regional Cooperation in the Exercise of Maritime Hot Pursuit; and the 1993 Protocol regarding practical modalities for the coordination of surveillance activities between member States, as well as principles and norms regarding the status of observers and the marking of fishing vessels.¹³⁰

The SRFC has adopted a Strategic Action Plan for 2002–2010 (Action Plan) aimed at ensuring the sustainable use of fisheries resources in the region by promoting coordinated and harmonized regulatory policies for access and allocation of rights to fish, facilitating and encouraging long term collective fisheries management, and promoting the conservation and protection of fisheries resources and marine and coastal ecosystems.¹³¹ The Action Plan specifically references the need to implement the FAO Code of Conduct and to adopt the precautionary approach, as well as to apply a systematic approach to sustainable fisheries management. The actions to be undertaken under the Action Plan are related to five areas, namely fisheries management, research, MCS, fisheries information, and institutional and legal aspects.

¹²⁴ Dakar Convention, article 2.

¹²⁵ Dakar Convention, articles 3 and 4.

¹²⁶ The Fishery Committee for the Eastern Central Atlantic (CECAF) was established in 1967 under Article VI-2 of the FAO Constitution by Resolution 1/48 of the FAO Council.

¹²⁷ Revised Terms of Reference for CECAF, Appendix E to FAO Council Document CL124/REP, 2003.

¹²⁸ The Convention Establishing the Sub-Regional Fisheries Commission (SRFC Convention) was signed in Dakar, Senegal on 29 March 1985, entered into force in 1989 and was amended in 1993.

¹²⁹ SRFC Convention, article 2.

¹³⁰ Available at: www.csrpsp.org/realisations/realisations.html

¹³¹ Plan d'action stratégique de la CSRP (2002–2010). Available at: www.intfish.net/igifl/docs/docs/2002/srcf/strategic_plan.pdf

The Fishery Committee of the West Central Gulf of Guinea (FCWC)¹³² shall promote cooperation among the Contracting Parties with a view to ensuring the conservation and optimum utilization of all living marine resources in the marine waters under national jurisdiction of the parties.¹³³ To achieve these objectives, the Committee shall have the following functions: (a) provide a forum for discussions about any fishery-related matter; (b) improve the livelihoods of small-scale fishers and processors, including the devising of appropriate measures to deal with migrant fishers; (c) harmonize fisheries legislation and regulations among the Contracting Parties; (d) enhance cooperation in respect of relations with distant water fishing countries; (e) strengthen sub-regional cooperation in MCS and enforcement, including the progressive development of common procedures; (f) promote the development of fisheries research capabilities; (g) promote the development of standards for the collection, exchange and reporting of fisheries data; (h) develop and promote common policies and strategies, as appropriate, in the sub-region in order to enhance sub-regional standing in international meetings; and (i) promote sub-regional cooperation in the marketing and trading of fish and fish products. The Advisory Coordinating Committee is given the task of providing the Conference of Ministers with recommendations on these matters.¹³⁴

The main objectives of the **Regional Fisheries Committee for the Gulf of Guinea (COREP)**¹³⁵ are as follows: (i) harmonize fisheries policies in the state parties; (ii) promote an active cooperation with respect to development and management of fisheries in the state parties; (iii) determine a concerted attitude towards the activities of foreign fishing vessels and give priority to the needs of the fishing vessels originating from the state parties; (iv) promote the establishment of joint fishing enterprises that comprise nationals of the different state parties; (v) preserve and protect the aquatic ecosystem in both marine and inland waters; (vi) coordinate and monitor research programmes; (vi) carry out stock assessments; (vii) analyse and disseminate scientific and technical data; (vii) ensure a responsible development of fisheries and aquaculture, including harmonization of legislation, carrying out of EIAs with respect to ecosystem integrity, ensuring that fishing and aquaculture operations do not have harmful effects on local communities and their access to fisheries; and (viii) put in place an efficient legal and administrative framework for fisheries management and conservation at the local, national, and regional level. COREP's area of competence includes the EEZs of the Central African states bordering the Gulf of Guinea, as well as their inland waters (rivers, lakes and lagoons).¹³⁶ Among the tasks of COREP's scientific sub-committee are the following: formulate recommendations with respect to data collection, analysis and dissemination; facilitate information exchange; coordinate research programmes; carry out stock assessments; and propose conservation and management measures.¹³⁷

In 2008, COREP adopted a Strategic Plan for 2009–2015, which prioritizes activities related to, *inter alia*, stock assessments, evaluations of the economic potential of the aquatic resources, institutional strengthening at regional and national level, strengthening research and MCS capacities, and harmonizing conditions for access to aquatic resources.

¹³² The Fishery Committee of the West Central Gulf of Guinea (FCWC) was established in July 2006 at the Ministerial Meeting in Abidjan. The first Ministerial Conference approved the Convention for the establishment of the Fishery Committee for the West Central Gulf of Guinea (FCWC Convention) in Benin, November 2007.

¹³³ FCWC Convention, article 2.

¹³⁴ FCWC Convention, articles 5 and 10(b).

¹³⁵ COREP was established under the Convention Concerning the Regional Development of Fisheries in the Gulf of Guinea (COREP Convention), which was signed in 1984.

¹³⁶ See the revised text of the COREP Convention, articles 2 and 3. A revised convention was adopted by the Council of Ministers from 9–11 July 2008 in Brazzaville, Congo and signed by Congo, the Democratic Republic of Congo and Gabon during the Council of Ministers on 8 May 2009 in Pointe Noire, Congo. The revised convention will enter into force upon the ratification by two thirds of the current member states. The author obtained a hard copy of the revised convention from COREP secretariat in May 2009.

¹³⁷ Revised COREP Convention, article 11.

The Southwest Indian Ocean Fisheries Commission (SWIOFC)¹³⁸, which covers all living marine resources in the EEZs and in the high seas areas in the Southwest Indian Ocean, shall promote the sustainable utilization of the living marine resources and their proper management and development, and address common fisheries management and development problems faced by Commission members. To this end, the Commission shall, *inter alia*, do the following: contribute to improved governance through institutional arrangements that encourage cooperation among members; help fishery managers in the development and implementation of fishery management systems that take due account of environmental, social and economic concerns; keep under review the state of fishery resources in the area and the industries based on them; promote and coordinate research related to the living marine resources in the area; promote the collection, exchange and analysis of statistical, biological, environmental and socioeconomic data and other marine fishery information; provide a sound scientific basis for assisting members in making fisheries management decisions; provide advice on management measures to member governments and competent fisheries organizations; provide advice and promote co-operation on MCS; promote the utilization of the most appropriate fishing craft, gear and fishing techniques; and promote liaisons with other RFMOs, such as IOTC, SEAFO and CCAMLR.¹³⁹

Box 5: SWIOFC and the application of EAF

SWIOFC is the only advisory RFB to make a direct statutory reference to the application of EAF, as demonstrated in article 5:

The Commission shall have due regard for and promote the application of the provisions of the FAO Code of Conduct on Responsible Fisheries, including the precautionary approach and the ecosystem approach to fisheries management.

The Regional Commission for Fisheries (RECOFI)¹⁴⁰ was adopted to “promote the development, conservation, rational management and best utilization of living marine resources, as well as the sustainable development of aquaculture” in the Persian Gulf and the Gulf of Oman. To these ends, RECOFI shall, *inter alia*: keep under review the state of living marine resources; formulate and recommend measures for the conservation and rational management of living marine resources, including measures regulating fishing methods and fishing gear; prescribe the minimum size for species; establish open and closed fishing seasons and areas; regulate the amount of total catch and fishing effort, and their allocation among members; encourage and coordinate research and development activities; and assemble and publish information regarding exploitable living marine resources. When formulating and recommending measures, RECOFI shall apply the precautionary approach to conservation and management decisions, and take into account the best scientific evidence available and the need to promote the development and proper utilization of living marine resources.¹⁴¹

3.4 Other regional legally binding instruments

The 2001 Protocol on Fisheries of the Southern African Development Community (SADC Protocol)¹⁴² has as its objective the promotion of responsible and sustainable usage of the living aquatic resources and aquatic ecosystems in order to: a) promote and enhance food security and human

¹³⁸ SWIOFC was established in 2004 by Resolution 1/127 of the FAO Council under Article VI 1 of the FAO Constitution.

¹³⁹ SWIOFC Statutes, articles 1,2 and 4.

¹⁴⁰ The Agreement for the Establishment of the Regional Commission for Fisheries (RECOFI Agreement) was approved by the FAO Council in November 1999. The Commission is an Article XIV body under the FAO Constitution. The Agreement entered into force on 26 February 2001. Oman is the only country participating in the Nansen EAF project that is a member of RECOFI.

¹⁴¹ RECOFI Agreement, article III.

¹⁴² The SADC Protocol was signed on 14 August 2001 and entered into force on 8 August 2003.

health; b) safeguard the livelihood of fishing communities; c) generate economic opportunities for nationals in the Region; d) ensure that future generations benefit from these renewable resources; and e) alleviate poverty, with the ultimate objective being poverty eradication.¹⁴³

The SADC Protocol applies to living aquatic resources and aquatic ecosystems within the jurisdiction of state parties (including shared stocks), high seas resources of interest to state parties, and fishing and related activities by nationals inside and outside of the jurisdiction of state parties.¹⁴⁴ Under article 5, the SADC Protocol commits state parties to, *inter alia*, enact measures at the national and international levels to: harmonize laws, policies, plans and programs on fisheries aimed at promoting the Protocol; ensure that nationals act in a responsible manner in using living aquatic resources in areas inside and outside their national jurisdiction; and ensure that aquatic living resources in areas under their jurisdiction are not endangered from overexploitation, taking into account the best scientific evidence available. The Protocol also commits state parties to “endeavour to establish common positions and undertake coordinated and complementary actions” with regard to international fora, conventions, agreements and bodies relevant to the Protocol, including UNCLOS and the FAO Compliance Agreement.¹⁴⁵

Importantly, the Protocol includes provisions on shared resources. Disputes regarding the sharing of resources between state parties shall be referred to the Integrated Committee of Ministers. Parties shall furthermore cooperate in the exchange of information on the state and management of shared resources, take measures to prevent and eliminate overfishing and excess fishing capacity and effort, and introduce relevant legislation to that effect. Moreover, parties shall endeavour to ensure that all stakeholders participate in decision-making processes that affect the management of shared resources.¹⁴⁶ With respect to the harmonization of legislation, the Protocol prescribes that this shall be done in, *inter alia*, the following areas: the management of shared stocks, sanctions on illegal fishing, hot pursuit, extraditions and penalty levels.¹⁴⁷ Cooperation on law enforcement, access agreements, highseas fishing and protection of the aquatic environment are among the other issues that are provided for in the Protocol.

The 2003 African Convention on the Conservation of Nature and Natural Resources (Maputo Convention)¹⁴⁸ revised the **1968 African Convention on the Conservation of Nature and Natural Resources (Algiers Convention)**, which was Africa’s first regional convention on the environment. The objectives of the Maputo Convention are to enhance environmental protection; foster the conservation and sustainable use of natural resources, and harmonize and coordinate policies in this field. “Natural resources” refer to renewable resources, including fauna and flora, and non-renewable resources. In implementing the Convention, parties shall apply the precautionary principle.¹⁴⁹

The Maputo Convention’s Article IX deals with species and genetic diversity, and prescribes that parties shall “maintain and enhance species and genetic diversity” of plants and animals, including marine animals, and shall for that purpose “establish and implement policies for the conservation and sustainable use of such resources,” with particular attention given to socially, economically and ecologically valuable species and species that are threatened. Management of species and their habitats shall be science-based, and parties shall, *inter alia*, provide for *in situ* and *ex situ* conservation of these. Furthermore, they shall “manage and protect aquatic environments, whether in fresh, brackish or marine water, with a view to minimizing deleterious effects of any water and land use practice which might adversely affect aquatic habitats.” Parties shall undertake inventories of species with a view to, *inter alia*, identifying species that are threatened, and shall identify areas of critical importance for the

¹⁴³ SADC Protocol, article 3.

¹⁴⁴ SADC Protocol, article 2.

¹⁴⁵ SADC Protocol, article 6.

¹⁴⁶ SADC Protocol, article 7.

¹⁴⁷ SADC Protocol, article 8.

¹⁴⁸ The Maputo Convention was adopted in Maputo on 11 July 2003. Fifty three African States are signatories to the Convention. It will enter into force after 30 days of the 15th instrument of ratification.

¹⁴⁹ Maputo Convention, articles II, IV and V.

survival of these species. The introduction of alien species shall furthermore be strictly controlled. Importantly, parties are required to adopt legislation regulating all forms of taking, including fishing, under which “the conditions and procedures for issue of permits are appropriately regulated.” Taking shall also be “regulated with a view to ensuring that the use of any population is sustainable.” The latter includes adopting measures on closed seasons, prohibitions of exploitation, and prohibitions on the use of “all indiscriminate means of taking,” which includes using electrical devices, artificial light sources, explosives, nets (except as further specified), traps and poison.¹⁵⁰

Articles X and XII provide additional details on the measures that shall be taken in the context of species and habitat protection. Parties shall accord special protection to threatened species and to the habitats necessary for their survival, and shall adopt legislation for this purpose, taking into account the need to develop concerted protection measures throughout Africa. Furthermore, with a view to ensuring the long term conservation of biodiversity, conservation areas shall be established.

The Maputo Convention also promotes sectoral integration by requiring parties to ensure that “conservation and management of natural resources are treated as an integral part of national and/or local development plans” and that in the “formulation of all development plans, full consideration is given to ecological, as well as economic, cultural and social factors.” To this end, parties shall, *inter alia*, ensure that policies and activities that are likely to affect natural resources and ecosystems are subjected to adequate impact assessments and environmental monitoring.¹⁵¹

Significantly, article XVI of the Convention prescribes that parties shall adopt legal and regulatory measures to ensure, *inter alia*, public dissemination and access to environmental information, and “participation of the public in decision-making with a potentially significant environmental impact”. Once the Convention enters into force, it will serve as a solid framework for the management and conservation of natural resources in Africa.

The 1981 Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (the Abidjan Convention)¹⁵² and the 1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (the Nairobi Convention)¹⁵³ commit member states to “prevent, reduce and combat pollution of the Convention area and to ensure sound environmental management of natural resources, using for this purpose the best practicable means at their disposal, and in accordance with their capabilities.”¹⁵⁴ The Conventions require that state parties establish national laws and regulations to combat pollution, facilitate international cooperation and take measures “so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.”¹⁵⁵ The Conventions furthermore include specific provisions related to pollution from ships and land-based sources, on specially protected areas, and EIA. With respect to protected areas, the Abidjan Convention prescribes that parties shall “take all appropriate measures to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other marine life. To this end, the contracting parties shall endeavour to establish protected areas (...).”¹⁵⁶ As for EIAs, the Nairobi Convention requires parties to “assess, within its capabilities, the potential environmental effects of major projects which it has reasonable grounds to expect may cause substantial pollution of, or significant and harmful

¹⁵⁰ Maputo Convention, article IX and annex 3.

¹⁵¹ Maputo Convention, article XIV.

¹⁵² The Abidjan Convention was signed on 23 March 1981 in Abidjan and entered into force in August 1984.

¹⁵³ The Nairobi Convention was signed on 21 June 1985 in Nairobi and entered into force in May 1996.

¹⁵⁴ Abidjan Convention, article 4 and the Nairobi Convention article 4.

¹⁵⁵ Abidjan Convention, article 4 and the Nairobi Convention article 4.

¹⁵⁶ Abidjan Convention, article 11. A similar provision is found in article 10 of the Nairobi Convention.

changes to, the Convention area.”¹⁵⁷ Protocols on protected areas and marine pollution have been adopted under the Conventions.¹⁵⁸

The 1996 Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)¹⁵⁹ commits state parties, in a coordinated manner and within the limits of their jurisdiction, to “take measures to conserve migratory waterbirds, giving special attention to endangered species as well as to those with an unfavourable conservation status.” Parties shall apply the Action Plan, as appended to the Agreement, which specifies actions for species and habitat conservation, management of human activities, research and monitoring, education and information and implementation. AEWA covers waterbird species that are ecologically dependent on African and/or Eurasian wetlands.¹⁶⁰ The Action Plan for 2009–2012 urges parties to take action, at the national level and through RFMOs and other bodies, to minimize the impact of fisheries on migratory waterbirds, in areas both inside and outside their national jurisdiction, in order to decrease fish mortality. Appropriate measures shall especially address incidental killing and by-catch in fishing gear, including the use of gill nets, longlines and trawling. Actions should also be taken to minimize impacts resulting from unsustainable fishing, which causes the depletion of food resources for migratory waterbirds.¹⁶¹

The 1996 Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS)¹⁶² requires parties to prohibit any deliberate taking of cetaceans (which includes species of dolphins and whales) and to cooperate to create and maintain a network of specially protected areas to conserve these species.¹⁶³ The Conservation Plan, Annex 2 to the Agreement, requires that Parties apply conservation, research and management measures, including the adoption and enforcement of national legislation, assessment, and management of human-cetacean interactions and habitat protection. Parties shall adopt necessary legislative and administrative measures that provide full protection to cetaceans, including measures to minimize the impact of fishing on cetaceans, such as: refusing authorization for vessels that have on board or use driftnets; preventing fishing gear from being discarded, and; requiring the immediate release of cetaceans caught incidentally.

The 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)¹⁶⁴ prescribes measures that parties must take in order to prevent, abate, combat and eliminate pollution of the Mediterranean sea, including dumping and pollution from ships and pollution resulting from the exploration and exploitation of the sea bed, as well as from land-based sources. Parties have a general obligation to “protect and preserve biological diversity, rare or fragile ecosystems, as well as species of wild fauna and flora which are rare, depleted, threatened or endangered and their habitats.”¹⁶⁵ Under article 4, parties are required to take appropriate measures to implement the Mediterranean Action Plan (MAP). MAP Phase II, section 1.3.3 calls on parties to take action related to the management of the living marine resources. These

¹⁵⁷ Nairobi Convention, article 13. A similar provision is found in article 13 of the Abidjan Convention.

¹⁵⁸ The Protocol Concerning Co-operation in Combating Pollution in Cases of Emergency in the Western and Central African Region entered into force on 30 May 1996; the Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region entered into force on 30 May 1996; the Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region entered into force on 30 May 1996.

¹⁵⁹ AEWA was adopted on 15 August 1996, and entered into force on 1 November 1999. It constitutes an agreement under the 1979 Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

¹⁶⁰ AEWA, articles I–IV.

¹⁶¹ Annex 3 (Action Plan adopted by MOP4), sections 4.3.8 and 4.3.9.

¹⁶² ACCOBAMS was adopted on 24 November 1996, and entered into force on 1 June 2001. Of the countries participating in the EAF Nansen project, only Morocco is a party to ACCOBAMS. See articles I and II.

¹⁶³ ACCOBAMS, article II.

¹⁶⁴ The Barcelona Convention was adopted on 10 June 1995 and entered into force on 9 July 2004. This was an amended version of the Convention for the Protection of the Mediterranean Sea against Pollution, which entered into force on 12 February 1978. Morocco is the only country participating in the EAF Nansen project that is a party to the Convention.

¹⁶⁵ Barcelona Convention, article 10.

actions include: enhancing information and research on fishing activities; common resource management policies; establishing, through the GFCM, a legal framework for a cooperative approach to the protection and conservation of the living marine resources; ensuring the implementation of the Code, the FAO Compliance Agreement, and the decisions taken within the framework of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks; and promoting environmentally friendly aquaculture. MAP also contains section 1.4, which discusses integrated coastal zone management, pointing to the importance of “understanding the links between coastal resources, their use and the mutual impact of development and environment.”¹⁶⁶

3.5 Regional non-binding instruments

In the **2005 Abuja Declaration on Sustainable Fisheries and Aquaculture in Africa (Abuja Declaration)**,¹⁶⁷ African leaders resolved to, *inter alia*, examine ways to progressively replace open access regimes with limited access regimes and right-based fisheries; take steps to control fleet and fishing capacity; empower fishing communities and other stakeholders to effectively participate in policy-making, planning and implementation processes; conserve and rehabilitate aquatic environments and habitats essential to living aquatic resources and aquatic biodiversity; and take measures to prevent or mitigate aquaculture’s adverse impacts on the aquatic and coastal environment and communities. The Abuja Declaration endorsed the NEPAD Action Plan for the Development of African Fisheries and Aquaculture,¹⁶⁸ which addresses actions to be undertaken with respect to improved productivity, environmental sustainability, market development and trade, as well as food security and nutrition. For the marine fisheries sector, the Action Plan includes action points related to the adoption of fisheries management plans and policies; improvement of fisheries governance and participatory management; and improved management of the coastal and marine environment.

The **1999 Memorandum of Understanding Concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa (1999 MoU)**¹⁶⁹ and the **2001 Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (2001 MoU)**¹⁷⁰ were adopted under the auspices of the Bonn Convention, and specify a number of areas for cooperative action for the protection and conservation of marine turtles, which includes reviewing and revising national legislation aimed at enhancing the legal protection available for these animals. Under both MoUs, signatory states will implement Conservation Plans, with the Conservation and Management Plan under the 2001 MoU addressing actions to be undertaken to reduce marine turtle mortality, protect marine turtle habitats, conduct research, promote public awareness and participation, and encourage regional cooperation and implementation.

In the **1998 Cape Town Declaration on an African Process for the Development and Protection of the Coastal and Marine Environment (Cape Town Declaration)**, Africa’s leaders affirmed their commitment to strengthening cooperation through the relevant existing global and regional agreements, programmes and institutional mechanisms, in particular through the coordinating framework of the Abidjan and Nairobi Conventions, and to updating these two conventions. The Declaration also included a road map for a process that would strengthen this cooperation.¹⁷¹

¹⁶⁶ Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) was adopted in 1995. Available at www.unepmap.org/index.php?module=content2&catid=001001002

¹⁶⁷ The Abuja Declaration was adopted on 25 August 2005 at a summit titled “Fish for All” organized by NEPAD, in partnership with the Worldfish Centre and FAO. Available at www.fishforall.org/ffa-summit/English/Abuja%20Declaration.pdf

¹⁶⁸ Available at www.fishforall.org/ffa-summit/English/NEPAD_ActionPlan.pdf

¹⁶⁹ The 1999 MoU was adopted in Abidjan on 9 May 1999 and entered into force on 1 July 1999. Available at www.cms.int/species/africa_turtle/AFRICAturtle_mou.htm

¹⁷⁰ The 2001 MoU became effective on 1 September 2001 and was amended by consensus on 1 March 2009. Available at www.ioseaturtles.org/UserFiles/File/MoU_CMP_combo-Amended-2009.doc

¹⁷¹ View the Cape Town Declaration at: www.unep.ch/regionalseas/main/eaf/eafctd.html

3.6 Concluding remarks

The majority of the reviewed instruments – both those directly related to fisheries management and those dealing with environmental protection and conservation – reflects principles and concepts of relevance to EAF. This demonstrates that there is political will to move towards an ecosystem approach to natural resources management in Africa. The extent to which EAF-related principles are reflected in binding instruments is presented in Table 1, which also indicates the type of legal provision that needs to be put in place at the national level in order to implement these principles.

With respect to RFBs, several of the more recent agreements, such as those establishing SEAFO, SIOFA and SWIOFC, reference many of the EAF principles, with SIOFA and SWIOFC explicitly providing for the application of EAF. This testifies to an emerging trend among African states to commit to EAF implementation at the regional level. Given their EAF oriented mandates, SEAFO and SIOFA have the potential to play an important role in EAF implementation in the high seas areas in the South Eastern Atlantic and the South Indian Ocean. SWIOFC could play a similar role within areas of national jurisdiction in the Southwest Indian Ocean. The FCWC Convention, on the other hand, does not reference any EAF principles, which seems like a missed opportunity given its recent nature. While CCAMLR is considered the global pioneer on EAF implementation, the two important tuna RFMOs in the region, ICCAT and IOTC, also include, albeit to a lesser extent, EAF principles in their conventions.

With the exception of SWIOFC, most of the advisory RFBs include few or no EAF principles in their agreements, and revising their instruments to reflect these principles would be an important step in advancing the application of EAF in waters under national jurisdiction. The management of shared stocks within the EEZs could also benefit from being managed by bodies that have management powers, as opposed to just their current advisory role. The primary concern for many of the RFBs at this stage is, however, to make the institutional structure truly operational, so that they are able to carry out their required tasks. This is a prerequisite for enabling regional cooperation on fisheries management, and for EAF implementation at the regional level.

With respect to the other regional instruments, the Maputo Convention addresses many EAF-related principles and concepts, and generally applies these to natural resources conservation and management. Once the Convention enters into force, it can play a pivotal role in the implementation of the ecosystem approach for natural resources management in Africa; not least because of the institutional structures that are put in place to facilitate its effective implementation by its parties. In their respective subregions, the Nairobi and Abidjan Conventions compliment the Maputo Convention with its requirements related to protected areas and EIAs in the context of the marine and coastal environment. AEWA and ACCOBAMS address the detrimental effects of fishing on waterbirds and cetaceans, although the latter has only limited applicability in the Atlantic Ocean. The SADC Protocol, on the other hand, being a fisheries specific agreement, has the potential to play an important role, *inter alia*, on the harmonization of laws and policies related to fisheries in the subregion. The latter instrument, together with RFB agreements such as establishing ATLAFCO, SRFC, FCWC, COREP and SWIOFC, also reflect the principle of improved human well-being through their references to concepts like food security, improved fishing community livelihoods, and social and economic considerations. These concepts recognize that human satisfaction is central to sustainable development,¹⁷² but have to be carefully balanced against less anthropocentric concerns related to conservation and sustainable use in order to fully support EAF. By implementing these instruments, African countries will go a long way in allowing for EAF application both at national and regional levels.

¹⁷² FAO. 2003, p. 85.

4. LEGISLATING FOR EAF: IMPLEMENTATION IN NATIONAL LEGISLATION

4.1 Introduction

As reflected in the Code,¹⁷³ as well as in other international and regional instruments, institutional and legal frameworks play a crucial role in responsible fisheries management. This is also the case with EAF. EAF is not frequently an integral part of national fisheries legislation,¹⁷⁴ and its implementation will therefore also require a review of national laws and regulations in order to identify legal gaps and deficiencies hindering EAF implementation. Other sectors that interact with or impact fisheries will also need to be considered, which entails rather complex reviews of sector-specific legislation related to aquaculture, water, mining, oil, environmental protection, etc. However, EAF does build on fisheries management practices adopted under conventional fisheries management regimes, and the challenge is therefore to integrate EAF into the existing regime.

The aim of this chapter is to highlight how EAF related principles and concepts, as enshrined in international and regional instruments, can be implemented in national legislation through identification of the legal and institutional mechanisms and management measures that can support such implementation. Table 1 provides a presentation of EAF related principles that are reflected in international instruments and identifies in column 6 the legal provisions that are considered conducive for their implementation. A description of the legal provisions that would support EAF implementation is provided in section 5.2 through 5.5 of this chapter. Section 5.6 describes provisions that are conducive to EAF in other sector-specific legislation. Chapters 6–17 will consider how selected countries participating in the Nansen Project have legislated for EAF at national level. A synthesis of some of the trends in national EAF implementation follows in chapter 20. By implementing EAF in their national legislation, countries not only take the necessary steps to implement international and regional instruments that they have committed to act upon, but they also pave the way for more sound and holistic fisheries management at national and regional levels.

4.2 The fisheries legal and institutional framework and EAF

4.2.1 *Scope of law and institutional structure*

Fisheries law facilitates and supports fisheries management by implementing general fisheries policy, laying down management principles, and defining the functions, powers and responsibilities of authorities and institutions involved in fisheries management, including the delimitation of their jurisdiction.¹⁷⁵

The fisheries law must define its scope of application by clearly providing the geographic area and substantive issues that are regulated under the law. In order to implement EAF, an important step is to adopt a law that provides for the management of all marine resources and the ecosystem of which they are part, rather than only commercial fishing resources. This allows for a shift from target resource-orientated management to ecosystem management.

One of the key purposes of the fisheries law is to define the institutional structure for fisheries management and endow this structure with management and regulatory powers. This is also instrumental for EAF, as EAF implementation largely depends on a solid institutional structure that is vested with the powers to take the necessary management measures (see 5.3).

¹⁷³ See articles 7.1.1 and 10.1.1 of the Code.

¹⁷⁴ “Legislation” and “legal framework” is here used as encompassing national and provincial laws and regulations.

¹⁷⁵ FAO. 1997. *Fisheries management*. FAO Technical Guidelines for Responsible Fisheries No. 4. Fisheries and Aquaculture Department. Rome, pages 62–63.

4.2.2 Mechanisms for coordination, cooperation and integration

EAF depends on good institutional coordination between all the ministries and agencies involved in coastal zone management. This requires that the legislation clearly define the roles and responsibilities of all concerned authorities, including those in charge of fisheries management. EAF also requires institutional changes that can allow fisheries management to be considered in a broader multiple resource use context. Necessary institutional arrangements for cooperation and integration should therefore be provided for in the legislation in order to overcome impediments related to the division of responsibilities within government, which implies creating functional connections between fisheries management institutions and other institutions in charge of ecosystem management.¹⁷⁶ This could entail the establishment of advisory or decision-making bodies that comprise representatives from all concerned management bodies, allowing for a coordinated approach to management, based on information-sharing among sectors.

4.2.3 Mechanisms for stakeholder participation

When implementing EAF, involvement by stakeholder groups associated with the management process, like fishers, industry and other representatives from civil society, should be accommodated, for example through representation in the aforementioned advisory bodies.

Given that the number of objectives and stakeholders will increase when implementing EAF, the number of conflicts is also likely to rise. Therefore, the law should establish stakeholder representation in such bodies or other institutional arrangements designed to reduce potential conflicts or facilitate their resolution.¹⁷⁷

In order to better account for all the sectoral and community interests, decentralized management powers have been put forward as a requirement linked with broader stakeholder participation.¹⁷⁸ The establishment of co-management would be a mechanism with similar objectives. However, as EAF should be applied to ecological boundaries, and regional or local jurisdictional boundaries may not coincide with these boundaries, decentralizing decision-making to the lowest possible level would require not only coordination with other sectoral institutions, but also with fisheries management institutions higher up in the administrative hierarchy. Moreover, it would require that management measures are compatible across the resource range. Other types of involvement of stakeholders in the management process, like data collection, would be less constrained by these considerations.

Prescribing every citizen's right to information, participation and education on issues relevant to the management and protection of the aquatic environment is another way to facilitate stakeholder participation through legislation.

Box 6: Mechanisms for stakeholder participation – Gabon

Advisory bodies which are consulted in the development of fisheries management plans are established under the Gabonese Fisheries Code (2005):

Article 12: L'aménagement des pêches et de l'aquaculture consiste à organiser et à planifier, sur la base des informations fiables, les activités du secteur de la pêche et de l'aquaculture. A cette fin, l'administration des Pêches et de l'Aquaculture est tenue: d'élaborer des plans d'aménagement des pêcheries et de veiller au respect des normes techniques en ce qui concerne l'établissement d'une unité de production aquacole, après avis des experts et institutions scientifiques agréées et après consultation des principales catégories socio-professionnelles intéressées; (...)

¹⁷⁶ FAO. 2003a, p. 87.

¹⁷⁷ FAO. 2003a, p. 61.

¹⁷⁸ FAO. 2003a, p. 87.

Article 13 : En vue de procéder aux consultations prévues à l'article 12 ci-dessus, il est créé, dans les zones concernées et chaque fois que nécessaire, une commission consultative dont la composition, l'organisation et le fonctionnement sont fixés par voie réglementaire.

4.2.4 Objectives of the law

The stated purpose or objectives of a law define the principles or goals that shall guide its implementation. EAF entails that the fisheries law prescribes for employing principles or concepts, such as:¹⁷⁹

- application of EAF
- avoiding over-fishing
- ensuring reversibility and rebuilding
- minimizing fisheries impact
- considering species interactions
- ensuring compatibility
- applying the precautionary approach
- improving human well-being and equity
- maintaining ecosystem integrity
- allocating user rights
- promoting sectoral integration
- broadening stakeholder participation

These are not all specific to EAF, but each becomes more relevant under this approach. Although making these principles operational through the adoption of concrete management measures is essential for the actual implementation of EAF, the inclusion of EAF principles in the stated purpose of a law at the very least provides a clear signal to fisheries managers about how they should apply the law.

Box 7: Objectives of the law – South Africa

Article 2 of the South African Marine Living Resources Act from 1998 refers to many of the principles that are essential for the implementation of EAF:

The Minister and any organ of state shall in exercising any power under this Act, have regard to the following objectives and principles:

- (a) the need to achieve optimum utilization and ecologically sustainable development of marine living resources;*
- (b) the need to conserve marine living resources for both present and future generations;*
- (c) the need to apply precautionary approaches in respect of the management and development of marine living resources;*
- (d) the need to utilize marine living resources to achieve economic growth, human resource development, capacity building within fisheries and mariculture branches, employment creation and a sound ecological balance consistent with the development objectives of the national government;*
- (e) the need to protect the ecosystem as a whole, including species which are not targeted for exploitation;*
- (f) the need to preserve marine biodiversity;*
- (g) the need to minimise marine pollution;*
- (h) the need to achieve, to the extent practicable, a broad and accountable participation in the decision-making processes provided for in this Act;*
- (i) any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law; and*
- (j) the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry.*

¹⁷⁹ FAO. 2003a, p. 83–87. See also FAO. 2003b, p.21.

In many cases, EAF will require regional and international cooperation, e.g. with respect to the management of shared stock. As a result, the fisheries law could also include provisions to seek or promote such cooperation.

4.3 Fisheries management and EAF

The fisheries law should lay down the basic framework for the implementation and adoption of fisheries management measures, including provisions related to the adoption of fisheries management plans, effort and catch management, and technical measures (fishing methods and gear, spatial and temporal controls, etc.). Fisheries laws reflect varying degrees of detail on implementation with respect to such measures, depending on legal traditions (e.g. common or civil law) and whether the measures in question need frequent revision. Routine management measures, like closed seasons and size limits, should be provided for in subsidiary legislation (regulations) that can be easily changed, depending on fisheries management needs.¹⁸⁰

4.3.1 Fisheries management plans

Formulating a fisheries management plan is an important element of the management process and is therefore crucial for EAF implementation. A management plan provides details on how the fisheries are to be managed, and the legal framework should require such plans to be adopted and reviewed at regular intervals. The legislation will not always give details as to the contents of the management plan, but it should describe the social and institutional aspects of the fisheries, fishing activities, resources and the ecosystem, ecological issues and challenges, management objectives (reference points and performance measures), and management measures.¹⁸¹ The plan should furthermore prescribe input and output control measures, like limitations in fishing effort or the setting of TACs, and should specify how this is to be calculated based on commercial catch and effort statistics.

Box 8: Fishery management plan – Ghana

Part IV of the 2002 Fisheries Act provides for the development and adoption of fishery plans and consultations with stakeholders in this regard.

43. Content of fishery plan

Each fishery plan shall:

- (a) identify the fishery resource and its characteristics, including its economic and social value and interrelationship with other species in the ecosystem;*
- (b) assess the present state of exploitation of each resource and take into account relevant biological, social, and economic factors;*
- (c) determine the potential average annual yields from the resource;*
- (d) specify the measures to be taken to promote the development of the local fishing enterprises, both industrial and artisanal;*
- (e) determine the amount of the fishery resource to be made available to licensed foreign fishing vessels;*
- (f) specify the conservation measures to be enforced to protect the resources from over-exploitation;*
- (g) indicate the research necessary to enhance management of the fishery resource;*
- (h) specify the information and other data required to be given or reported for effective management and development of fisheries; and*
- (i) take into account relevant artisanal fishing methods or principles.*

44. Consultations and approval of fishery plan

(1) The Commission shall, during the preparation of each fishery plan, carry out such consultations as it considers appropriate with organizations, authorities and persons affected by the fishery plan.

¹⁸⁰ FAO. 1997, p. 63.

¹⁸¹ FAO. 2003a, p. 43–46.

(2) *In order to assess and recommend appropriate management, development and conservation measures for a fishery plan, the Director may reasonably require any person to furnish relevant data and information, including fishing time and effort, landing, processing, sales and related transactions.*

(3) *Each fishery plan or review of such a plan shall be submitted to the Minister who shall submit it to the Cabinet for approval; and the plan shall come into force at a time specified in the approval.*

(4) *The Minister shall publish in the Gazette and other mass media the effective date of implementation of an approved fishery plan.*

Fisheries management plans should be adopted in a participatory manner, and the mechanism for allowing this – e.g. through an advisory or decision making body– should be prescribed within the legislation.

Nevertheless, in order to fully implement the ecosystem approach, a more holistic coastal zone management regime is required, which would require the adoption of coastal zone plans for all activities that have an influence on the marine environment (see 5.6).

4.3.2 Effort and catch management

The linkage between excess fishing capacity and over-fishing is widely recognized. Control of exploitation by limiting fishing effort is therefore considered a prerequisite for responsible fisheries.¹⁸² Controlling fishing effort – and thereby reducing fishing capacity – would typically imply restricting the number of fishing units by limiting access to fisheries resources, restricting the amount of time fishing vessels may spend fishing, and restricting the type and size of vessels and gear that can be used.

Limiting access to fisheries resources through the establishment of a licensing regime or other access rights system is even more vital under EAF¹⁸³ given its emphasis on tackling the severe consequences suffered through open access regimes, such as stock depletion, shortened fishing seasons, and related negative social and economic effects. The fisheries law should provide for such access rights systems, including the terms for accessing such rights and the duration of the rights.

Catch management in the form of catch limitations aims to limit fishing mortality on target species, and is often complemented with bycatch controls. Catch controls usually involve the setting of TACs, which are subdivided into individual quotas.¹⁸⁴ Under a quota management system, the commitment of setting TACs, and the procedures for their further allocation, should be provided for in the fisheries law. TACs should be calculated on an annual basis, based on stock assessments using commercial catch and effort statistics, and on the results of fisheries surveys.¹⁸⁵ As scientific data about fish stocks are often inadequate, TACs are sometimes set too high, which results in the over-exploitation of the resources. To mitigate this issue, the law could prescribe for the application of the precautionary approach when setting the TACs. As an additional measure for avoiding over-fishing, the law could furthermore prescribe that the TACs should not exceed the MSY.

Effort and catch management measures should not only apply to fishing operations in national waters. In order to promote compliance with UNCLOS and international fisheries instruments it is also important to adopt measures to control high seas fishing.

¹⁸² FAO. 1997, p. 48.

¹⁸³ FAO. 2003a, p. 62.

¹⁸⁴ FAO. 1997, p. 50.

¹⁸⁵ FAO. 1997, p. 25.

Box 9: Gear licensing – Mauritius

Part IV of the Mauritanian Fisheries and Marine Resources Act from 2007 establishes effort control with respect to the use of fishing gear. Section 28 of the Act prescribes that no person shall use or possess gears as specified in section 29 without a gear licence. Section 30 limits the number of gear licences.

29. Application for and issue of licences

(1) A person who wishes to operate:

- (a) a bait gear;*
- (b) a canard net;*
- (c) a gill net;*
- (d) a large net;*
- (e) a basket trap;*
- (f) a shrimp net; or*
- (g) a pocket net,*

shall make a written application for a gear license to the Permanent Secretary.(...)

30. Limitation of number of licences

(1) Subject to subsection (2), the Permanent Secretary shall not at any time issue licenses for more than –

- (a) 10 large nets, 10 pocket nets, 10 canard nets, 5 gill nets and 100 shrimp nets for fishing in the lagoon of the island of Mauritius;*
- (b) 8 large nets, 8 pocket nets, 8 canard nets, 5 gill nets and 15 shrimp nets for fishing in the lagoon of the island of Rodrigues;*
- (c) 2 large nets for fishing in the lagoon of island of Agalega.(...).*

In order to implement the EAF relevant “user pays principle”,¹⁸⁶ the introduction of a fee or tax to be paid by the holder of a license should be considered.

4.3.3 Fishing gear and methods

Implementing EAF requires that fishing methods and gear are regulated in order to minimize the harmful impacts of fishing on the marine ecosystems. A primary concern in this regard is that fishing gear and methods in use should be designed to selectively harvest the target species, thereby minimizing incidental captures, and hence discards, of juveniles and unwanted bycatch. This would include regulations imposing minimum mesh sizes for fishing nets and trawls, restrictions on the use of gear that disturbs spawning areas (e.g. beach seines), and the obligatory use of techniques developed to reduce bycatch, such as bycatch reduction devices (BRDs), turtle-excluding devices (TEDs), sorting grids, square mesh and other devices which enable unwanted catch, including endangered species, to escape. Measures related to minimum size and weight of catch, including bycatch, seek to meet similar objectives and will also need to be provided for in legislation.

Other measures that should be adopted to reduce environmental impacts, include provisions that target ghost fishing, by requiring the use of biodegradable materials in nets and methods for quick recovery of lost nets; restrictions on gear that has an impact on the sea floor and bottom habitats, such as coral reefs (e.g. dredges, bottom trawls); restrictions on the use of fish aggregating devices (FADs) and light; the use of explosives, firearms and poison, as well as electricity fishing.

Measures that explicitly prohibit certain fishing methods and activities would typically be provided for in the fisheries law, while measures of a more technically elaborate nature related to mesh size and reduction of bycatch would often be provided for in subsidiary legislation.¹⁸⁷

¹⁸⁶ FAO. 2003b, p. 25.

Alternative cost-effective technologies and fishing practices that minimize the emission of exhaust gases, dangerous substances in the atmosphere, and pollution from oily waste, litter and fish waste should also be adopted.

Box 10: Fishing gear and methods – Madagascar

Article 10 of the Ordinance Regulating Fisheries and Aquaculture from 1993 prescribes a prohibition on the use of poison, explosives and electricity for fishing unless authorized by the Minister.

Art. 10 – Sans préjudice de la dispositions particulières fixées par la présente ordonnance ou en vertu de celle-ci et sauf autorisation expresse du Ministre chargé de la Pêche et de l’Aquaculture il est interdit pour exercer la pêche:

- (a) D’utiliser des substances toxiques destinées à étourdir, affaiblir ou tuer le poisson;*
- (b) De se servir d’explosifs;*
- (c) De faire usage des procédés électriques sur le poisson;*
- (d) D’utiliser tout dispositif permettant une immersion plus longue que celle autorisée par la seule respiration naturelle.*

4.3.4 Spatial and temporal controls

An important step in implementing the EAF is to provide measures for spatial and temporal controls in fisheries legislation. Fishing mortality can be modified by restricting fishing activities to certain times or seasons, or by restricting fishing in particular areas. As a means of rehabilitating stocks, such restrictions can play an important role in responsible fisheries management. Provisions banning fishing for endangered species seek to meet similar objectives and should also be addressed in the legislation. Although spatial and temporal controls are a form of effort management, it is treated separately because such controls allow managers to meet the wider conservation and management goals that are particularly relevant when applying EAF.

Closures may be used to reduce the mortality rates of target or non-target fish stocks, protect critical habitats or reduce disturbances to the benthos, which will, in turn facilitate spawning and the establishment of more stable and structured communities. Spatial and temporal closures can also target specific stocks or fisheries, or be established as MPAs ranging from “no take” areas to “multiple-use” areas. Under EAF, a more systematic approach to closures should be employed, where a range of habitats and species are protected on a scale that is relevant to the ecosystem concerned.¹⁸⁸

Box 11: Marine Protected Areas – South Africa

Section 43 of the South African Marine Living Resources Act (1998) provides for the establishment of MPAs:

(1) The Minister may, by notice published in the Gazette, declare an area to be a marine protected area –

- (a) for the protection of fauna and flora or particular species of fauna or flora and the physical features on which they depend;*
 - (b) to facilitate fishery management by protection spawning stock, allowing stock recovery, enhancing stock abundance in adjacent areas, and providing pristine communities for research; or*
 - (c) to diminish any conflict that may arise from competing uses in that area.*
- (2) No person shall in any marine protected area, without permission in terms of subsection (3) –*
- (a) fish or attempt to fish;*
 - (b) take or destroy any flora or fauna other than fish;*

¹⁸⁷ Kuemlangan, B. 2009 in Cochrane, K and Garcia, S. (Ed.) *A Fishery Manager’s Guidebook*. Rome, FAO and Wiley-Blackwell, pages 118–19.

¹⁸⁸ FAO. 2003a, p. 32.

- (c) dredge, extract sand or gravel, discharge or deposit waste or any other polluting matter, or in any way disturb, alter or destroy the natural environment;
 - (d) construct or erect any building or other structure on or over any land or water within such a marine protected area; or
 - (e) carry on any activity which may adversely impact on the ecosystem of that area.
- (3) The Minister may, after consultation with the Forum, give permission in writing that any activity prohibited in terms of this section may be undertaken, where such activity is required for the proper management of the marine protected area.

4.4 Monitoring, control and surveillance and EAF

IUU fishing is seriously undermining national and regional efforts to manage fisheries in a sustainable way, with rapid depletion of fish stocks as a consequence. Monitoring, control and surveillance (MCS) is considered a key factor in combating IUU fishing and is crucial for the implementation of conservation and management measures. MCS systems adopted under conventional fisheries management regimes will form the basis when implementing EAF. However, as EAF commonly addresses a wider range of ecosystem components and hence a larger number of issues, EAF may result in additional and broader tasks for the management agency. Generally speaking, an adequate MCS scheme would entail legislating for the following:

- Monitoring: the collection, measurement and analysis of data relevant to fishing activity, including catch, species composition, fishing effort, bycatch, area of operation etc.;
- Control:¹⁸⁹ the specification of terms and conditions under which resources can be harvested; and
- Surveillance: the regulation and supervision of fishing activities to ensure compliance with legislation and management measures (enforcement).¹⁹⁰

MCS measures conducive to EAF would include: procedures for the collection and recording of catch and effort information, including the keeping of log books; the establishment of observer schemes on fishing vessels to monitor and record information on catch and fishing methods, including bycatch and discards; and the establishment of a vessel monitoring system (VMS). In addition, procedures for ensuring compliance need to be put in place, including boarding and inspection of vessels at sea and in ports; granting authorized officers the power to arrest, detain and seize suspects and suspect goods and items, and the establishment of judicial processes and sanctions for penalizing violators.¹⁹¹ For an MCS system to be effective, it needs to be provided for in the fisheries law in a manner that clearly sets out the rights and duties of all concerned parties, and which provides the legal procedures for implementing and enforcing the rules. Although crucial for legislative implementation, procedures for arrest, detention and seizure, and judicial processes and sanctions, will not be discussed further in this study.

Box 12: Fisheries Observers – Senegal

Section 3 of the *Décret n° 98-498 du 10 juin 1998 fixant les modalités d'application du Code de la Pêche maritime* establishes an observer scheme that applies to all vessels fishing in Senegalese waters.

Art. 57. – Les observateurs sont des agents recrutés par le Ministère chargé de la Pêche maritime et ont pour fonction générale d'observer les activités de pêche à la lumière des obligations souscrites par le titulaire de la licence et relatives, notamment, aux engins, aux zones de pêche, à la quantité et à la nature des espèces capturées et de rendre compte aux autorités compétentes.(...)

¹⁸⁹ The control component has been discussed in section 5.3.2.

¹⁹⁰ Flewwelling, P.; Cullinan, C.; Balton, D.; Sautter, R.P.; Reynolds, J.E. 2002. *Recent trends in monitoring, control and surveillance systems for capture fisheries*. FAO Fisheries Technical Paper. No. 415. Rome, FAO, p. 7.

¹⁹¹ Flewwelling, P. et al. 2002, p. 15.

Art. 60. – Le commandant du navire de pêche doit, notamment, fournir à l'observateur: sur demande, les renseignements qu'il sollicite;

- la possibilité d'avoir accès aux appareils de navigation ou de surveillance;*
- l'autorisation de communiquer autant que nécessaire avec le service compétent du ministère chargé de la pêche maritime au moyen du matériel de communication se trouvant à bord;*
- la possibilité d'accéder à toutes les parties du navire où se déroulent les activités de pêche, de transformation et d'entreposage;*
- une assistance pour examiner les engins de pêche à bord du navire;*
- l'autorisation de filmer ou photographier les activités de pêche ainsi que les engins ou équipements de pêche;*
- la permission de procéder à des tests, observations et enregistrements, de prendre et de prélever tout échantillon en vue de déterminer l'étendue des activités du navire;*
- nourriture et logement lorsque l'observateur doit rester à bord du navire plus de quatre heures sans interruption.*

4.5 Miscellaneous measures

In addition to the issues dealt with in sections 5.1 through 5.4, legislation should address a series of other issues that are important in the context of EAF. Many of these issues are often provided for in fisheries law and regulations, and include provisions on aquaculture, EIA and environmental impact monitoring, restrictions related to introduction of alien species, requirements related to marine pollution, provisions on fisheries research and sport fishing. Some of these issues can also be dealt with in other legislation relevant to EAF (see 5.6).

Provisions on the establishment of a fisheries fund, into which fishing license fees and other resources are paid, could also be important in the context of EAF, given the role it can play in financing fisheries development and management.

Box 13: Shift towards EAF in national legislation – the case of Namibia

A comparison of some of the provisions of the old Sea Fisheries Act from 1992 with the similar provisions of the Marine Resources Act adopted in 2000, shows that substantial development has been achieved in order to allow for implementing EAF in Namibia.

Replacing a “marine fisheries law” with a “marine resources law” illustrates a shift from single species oriented management to ecosystem oriented management. This is seen in the preamble of the Marine Resources Act, which in its preamble states that the purpose of the act is:

“To provide for the conservation of the marine ecosystem and the responsible utilization, conservation, protection and promotion of marine resources on a sustainable basis; for that purpose to provide for the exercise of control over marine resources; and to provide for matters connected therewith.”

As a contrast, the legislative purpose of the old Sea Fisheries Act was:

“To provide for the conservation of the marine ecology and the orderly exploitation, conservation, protection and promotion of certain marine resources; for that purpose to provide for the exercise of control over sea fisheries; and to provide for matters connected therewith.”

The shift from single species management to EAF can also be traced in how the two laws provide for the establishments of marine reserves. On the one hand, section 29 of the old Sea Fisheries Act provides that a marine reserve can be declared for the purpose of “*protection of fish and aquatic plants or the regeneration of any depleted aquatic life.*” However, excluding seals and birds from the definition of fish means that a truly holistic approach to the marine ecosystem can *per se* not be taken when declaring a marine reserve. Under section 51 of the new Marine Resources Act, on the other hand, it is provided that the overall purpose of the establishment of marine reserves is the “*protection or regeneration of marine resources.*” This is a wider management objective as it encompasses all marine organisms as opposed to only fish and plants. However, the objective is not protection of the ecosystem as a whole, which would have been even more in line with EAF.

A shift towards EAF is furthermore visible through the way the two acts deal with stakeholder participation, or rather the lack of this. Under the old act, the decision to establish a marine reserve was taken by the Ministry alone, and no mechanism for consultation with other stakeholders was provided for. Section 51(2) of the new Marine Resources Act on the other hand, provides that the Minister shall determine the management objectives of the reserve only after having consulted with “interested persons”.

4.6 Other legislation relevant to EAF

Providing for environmental rights in a country’s constitution can be an important element of EAF implementation. All citizens’ right to live in a healthy and clean environment and the duty of the State to protect the environment are examples of such constitutional rights. When formulated as a state obligation, such rights may be given effect through the adoption of legislation that facilitates the fulfillment of such rights. This legislation can in turn contribute positively to the status of the marine environment and hence be conducive to EAF.

As demonstrated above, EAF implementation relies first and foremost on the existence of an appropriate legal framework for fisheries management. However, in order to fully apply EAF, it is important that legislation pertaining to aquaculture, environmental protection, oil, mining, forestry, wildlife, water etc. addresses issues that are conducive to EAF.

Importantly, such legislation should allow for cooperation and integration with other sectors of relevance to coastal management, and provide mechanisms for inter-ministerial/agency cooperation and integration. These mechanisms should ensure that the fisheries administration is represented in consultative bodies that give advice on the development of non-fisheries sector policies and management decisions that have an influence on fisheries management.

Non-fisheries legislation should also include mechanisms for stakeholder participation, which ensure that fishers, industry, NGOs and other stakeholders are consulted on non-fisheries sector draft policies, laws and other important management decisions that will impact the marine environment and aquatic resources.

The legislation should also provide for the adoption of an integrated coastal zone management plan for all activities that have an influence on the marine environment. This would be a higher-level plan that provides a framework for integrated management of the different sectors pertaining to the coastal zone, and which would facilitate co-existence between different users, including the fisheries, petroleum, mining and tourist sectors. A robust cross-sectoral management regime is even more important when dealing with factors like changes in industrial structure and the entry of new activities in the marine areas.¹⁹² The fisheries administration and other concerned stakeholders need to play an important role when drafting an integrated coastal zone management plan, but the authority in charge

¹⁹² **Report No. 8 to the Storting (2005–06).** 2006. *Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands.* Ministry of the Environment, Norway. Available at www.regjeringen.no/upload/MD/Vedlegg/STM200520060008EN_PDF.pdf

of preparing such a plan may be vested with a designated ministry in charge of coastal zone management.

Other issues that should be addressed in sector-specific legislation, unless they are already covered in the fisheries legislation, include marine pollution, EIA and environmental impact monitoring, introduction of alien species, and the establishment of MPAs that serve holistic biodiversity conservation goals.

5. EAF AND ANGOLAN LEGISLATION

5.1 The legal and institutional framework and EAF

5.1.1 Scope of law and institutional structure

The 2004 Aquatic Biological Resources Act¹⁹³ is the principle law for fisheries management in Angola, covering both marine and inland waters, and establishes measures for the protection of aquatic biological resources and ecosystems. The law also covers Angolan vessels that are fishing on the high seas or in third-country waters, as well as aquaculture activities.¹⁹⁴

The Ministry of Fisheries oversees the regulation, management and development of fisheries in Angola, and shall, *inter alia*, adopt fisheries management plans, promote stakeholder participation, and define measures on effort and catch management, fishing gear and methods, and spatial and temporal controls.¹⁹⁵

A decree-law from 2005¹⁹⁶ further details the mandate and organizational structure of the Ministry of Fisheries. The Ministry is comprised of, *inter alia*, four advisory bodies, four technical services, four centralized executive services, and five bodies related to research and development. Among the executive services are the National Directorate of Fisheries and Fisheries Resource Protection (*Direcção Nacional de Pescas e Protecção dos Recursos Pesqueiros*), which elaborates and executes the fisheries policy, and carries responsibilities related to, *inter alia*, the development of fisheries plans and the administration of licenses. The National Fisheries and Aquaculture Surveillance Service (*Serviço Nacional de Fiscalização Pesqueira e da Aquicultura*) is responsible for fisheries surveillance and enforcement in Angolan waters.

Among the bodies related to research and development are the Institute of Fisheries Research (*Instituto Nacional de Investigação Pesqueira - INIP*), which carries out research on marine life and related ecosystems in Angola,¹⁹⁷ and the Institute for the Development of Artisanal Fisheries and Aquaculture (*Instituto de Desenvolvimento da Pesca Artesanal e da Aquicultura - IPA*), which promotes the development of the artisanal sector.¹⁹⁸

5.1.2 Mechanisms for coordination, cooperation and integration

Under the Aquatic Biological Resources Act, the Council for Integrated Management of Aquatic Biological Resources (*Conselho de Gestão Integrada dos Recursos Biológicos Aquáticos*) is referred to as a body for “socio-economic consultation”, which shall be consulted on the development of fisheries management plans, the determinations of TACs and fishing effort, and the establishment of MPAs.¹⁹⁹ However, the composition and the precise mandate of the body has yet to be provided for in legislation. While the decree-law on the organizational structure of the Ministry of Fisheries prescribes

¹⁹³ *Lei dos Recursos Biológicos Aquáticos no.6-A* of 8 October 2004.

¹⁹⁴ Aquatic Biological Resources Act, article 4.

¹⁹⁵ Aquatic Biological Resources Act, article 10.

¹⁹⁶ *Decreto-Lei n.º 3/05* of 25 April 2005.

¹⁹⁷ *Decreto n.º 47/05* of 18 July 2005.

¹⁹⁸ *Decreto n.º 45/05* of 8 July 2005.

¹⁹⁹ Aquatic Biological Resources Act, articles 215, 15, 19, 27, 80-82, and 84.

that it shall be a mechanism for regular consultation on fisheries and aquaculture management, the Minister of Fisheries has not yet determined its composition and mandate.²⁰⁰

5.1.3 Mechanism for stakeholder participation

An Advisory Council (*Conselho Consultivo*) is also established and shall advise on issues that are submitted to it by the Minister of Fisheries. In addition to the Minister, the Vice-Minister, and bodies within or under the trusteeship of the Ministry (such as the directors of fisheries, INIP and IPA), the Council is comprised of representatives from provincial governments, as well as other stakeholders like national professional associations and public companies of relevance to the sector.²⁰¹

In order to facilitate citizen participation, the Aquatic Biological Resources Act prescribes every citizen's right to information, participation and education on issues relevant to the management and protection of the aquatic environment. These rights are phrased in a general manner, but nonetheless reflect the lawmaker's desire to foster an environment that is friendly to participation. These rights are coupled with a set of general duties, which include a ban on harming the environment, the duty to comply with laws and regulations, and the obligation to collaborate in enforcement.²⁰²

5.1.4 Objectives of the law

The Aquatic Biological Resources Act aims to guarantee the conservation and sustainable use of the aquatic biological resources in the waters under Angolan jurisdiction.²⁰³

The Act refers to several objectives and principles that guide its implementation and are conducive to EAF. Among these general principles are: sustainable development; responsible fisheries; conservation and the optimum utilization of marine resources; the precautionary approach; stakeholder participation; institutional coordination and policy compatibility; defending the interests of fishing communities; cooperation on management of shared resources; and the user-pays and polluter-pays principles.²⁰⁴

5.2 Fisheries management and EAF

5.2.1 Fisheries management plans

The Aquatic Biological Resources Act requires the Ministry to adopt management plans for fisheries every five years. In line with the EAF, the plans shall be based on science and coordinated with other relevant marine resource management plans. The plans shall, *inter alia*, determine the following: the principal fisheries and the objectives for fisheries management; the state of aquatic resources; definitions of fishing zones; principles for establishing TACs; policies for establishing fishing effort, fleet capacities and rehabilitation programmes; policies on information gathering; and measures for promoting scientific research and training.²⁰⁵ Prior to their adoption by the Council of Ministers, fisheries management plans must be evaluated by the Ministry's technical council and the Council for Integrated Management of Aquatic Biological Resources.²⁰⁶

5.2.2 Effort and catch management

The aquatic biological resources in Angolan waters, with the exception of aquaculture products, are the property of the State, who therefore determines the conditions for the exploration of these resources.²⁰⁷

²⁰⁰ *Decreto-Lei n.º 3/05*, article 8.

²⁰¹ *Decreto-Lei n.º 3/05*, article 6.

²⁰² Aquatic Biological Resources Act, article 68.

²⁰³ Aquatic Biological Resources Act, article 2.

²⁰⁴ Aquatic Biological Resources Act, article 6. See also articles 3, 8 and 9.

²⁰⁵ Aquatic Biological Resources Act, articles 11–14.

²⁰⁶ Aquatic Biological Resources Act, article 15.

²⁰⁷ Aquatic Biological Resources Act, article 6(2).

Fishing is subject to a licensing regime, and fishing rights may be granted to national or foreign individuals or companies. Artisanal fishing rights are reserved for Angolans, while the right to fish in territorial waters is reserved for Angolans or for persons or companies from one of the SADC countries. Foreigners may be granted the right to fish in the EEZ only if they operate jointly with Angolans. Fishing in the zone four nautical miles seaward from the baselines is reserved for artisanal and subsidiary fishing, as well as scientific and recreational fishing.²⁰⁸

Individuals or companies holding a commercial fishing right must pay a state tax, although subsidiary fishers are exempted from this requirement because subsidiary fishing is not subject to authorization.²⁰⁹ A fishing right is granted for a 20 year term.²¹⁰ The Ministry can launch tenders before granting commercial fishing rights. Fishing rights can only be transferred under certain circumstances and only after the authorization of the Ministry.²¹¹ A register as to all commercial fishing rights shall be maintained.²¹²

A fishing concession shall indicate, *inter alia*, the following: authorized type of fishing, species, fishing zone, fishing period and fishing gear.²¹³ A decree that details the conditions for issuing fishing concessions and licenses was adopted in 2005.²¹⁴

The Act also regulates the conditions for concluding access agreements with other states.²¹⁵

A separate section of the Act is dedicated to fishing on the high seas, an activity which requires a license granted in line with RFMO measures and recommendations. Quotas granted to these vessels shall be set in collaboration with RFMOs. The Ministry shall also keep a register of high seas fishing licenses.²¹⁶

Pursuant to the Act, the Ministry shall set TACs on an annual basis. However, the TACs can be reduced if new scientific data shows that the species in question are declining or when there are other environmentally justifiable reasons.²¹⁷ Based on the TACs, the Ministry shall set fishing quotas for industrial and semi-industrial fishing right holders.²¹⁸

When it is not possible to set a TAC, measures should be put in place to limit the fishing effort. These measures relate to the following: authorized species and minimum catch sizes; authorized fishing zones; the number of vessels authorized to fish in each fishing zone according to the fishery type; closed seasons; fishing gear and methods, and time restriction. These measures should be based on the policy set forth in the fisheries management plan. Such measures should also be adopted for artisanal fishing for which no TAC is set.²¹⁹

5.2.3 *Fishing gears and methods*

The Aquatic Biological Resources Act includes detailed provisions on the regulation of fishing gear and methods. With regards to mesh sizes, the Ministry shall stipulate permitted mesh sizes, and prohibit the manipulation of mesh sizes to alter their selectivity. In order to prevent ghost fishing, the Act also prohibits the abandonment of fishing gear in the sea. Additionally, the Ministry shall regulate the maximum length of time that fishing gear may be kept in the water. Vessels without an

²⁰⁸ Aquatic Biological Resources Act, articles 31–33.

²⁰⁹ Aquatic Biological Resources Act, article 42.

²¹⁰ Aquatic Biological Resources Act, articles 37–39.

²¹¹ Aquatic Biological Resources Act, article 44.

²¹² Aquatic Biological Resources Act, article 48.

²¹³ Aquatic Biological Resources Act, article 61.

²¹⁴ *Decreto n.º 14/05* of 3 May 2005

²¹⁵ Aquatic Biological Resources Act, articles 50–51.

²¹⁶ Aquatic Biological Resources Act, articles 117–119 and 121.

²¹⁷ Aquatic Biological Resources Act, articles 19 and 20.

²¹⁸ Aquatic Biological Resources Act, articles 21–24.

²¹⁹ Aquatic Biological Resources Act, articles 25–28.

authorization to fish, or which are sailing during closed seasons, shall keep their gear stowed while in Angolan waters. The Act furthermore prohibits the use of explosives and toxic substances for fishing, and electric fishing, as well as the use of light to attract the fish.²²⁰ Fishing with trawl shall be further regulated, but beach seines and trawling in bays, estuaries and ports and double trawling are prohibited under the Act. Fishing with drift net is also prohibited. Fishing with purse seines, gillnets, hocks and traps shall be further regulated by the Ministry.²²¹

A decree adopted in 1997 regulates the fishing of crustaceans by fishing vessels, and stipulates, *inter alia*, restrictions on mesh sizes, gear type and fishing methods.²²²

5.2.4 Spatial and temporal controls

On the basis of the best available information, the Government shall adopt necessary measures for the protection of aquatic species that are rare, on the verge of extinction, or should be protected for other reasons. The Ministry shall define the management regime for these species, including measures for *ex-situ* and *in-situ* protections.²²³

The Ministry shall also determine closed seasons, as well as regulations on the permitted size and weight of catch, and bycatch.²²⁴ Fishing for protected species, undersized fish and bycatch beyond the permitted level is prohibited.²²⁵ In line with the principle that management decisions should be science based, the Act provides that the Ministry shall seek scientific advice before adopting management measures. To this effect, the research institution shall prepare scientific reports on the state of the stocks, biological and habitat characteristics, etc.²²⁶

Restrictions on minimum sizes, closed seasons and bycatch for crustaceans are further stipulated in the 1997 decree. Fishing for shrimp shall take place only in the EEZ, while fishing for crab shall occur only in depths beyond 500 meters.²²⁷

A section of the Aquatic Biological Resources Act is dedicated to regulating the establishment and management of MPAs. The objectives behind their establishment may be: the preservation of aquatic species, ecosystems and habitats; protection of cultural values; recreation and tourism; and scientific research and environmental protections. To this effect, the following categories of MPAs may be established: integrated aquatic natural reserves; aquatic national parks; aquatic natural reserves; partial aquatic reserves; and partial reserves and natural monuments.

Of all the MPA options, an integrated aquatic natural reserve enjoys the highest level of protection. It is established on a long-term basis, and no fishing or other activities may disturb the flora and fauna or ecosystem within the reserve. Before the National Assembly establishes a reserve, the advice of the Council for Integrated Management of Aquatic Biological Resources and the research institute shall be sought. The Act does not prescribe that other stakeholders shall be consulted on the need for this kind of MPA, and only the Government has the right to propose the establishment of this type of reserve. A similar approach to stakeholder participation is also stipulated for the other MPA categories.²²⁸ However, the Act does prescribe, in line with the principle of compatibility of management measures, that the Government should collaborate bilaterally and multilaterally regarding the establishment of

²²⁰ Aquatic Biological Resources Act, articles 97–105.

²²¹ Aquatic Biological Resources Act, articles 107–116.

²²² *Decreto Executivo no. 10/97* of 21 May 1997.

²²³ Aquatic Biological Resources Act, articles 69–71.

²²⁴ Aquatic Biological Resources Act, articles 72–74.

²²⁵ Aquatic Biological Resources Act, article 75(1).

²²⁶ Aquatic Biological Resources Act, article 76.

²²⁷ *Decreto Executivo no. 10/97*.

²²⁸ Aquatic Biological Resources Act articles 78–82.

MPAs that affect shared resources and ecosystems.²²⁹ Reportedly, Angola has four marine protected areas, which cover a 31,100 km² area.²³⁰

Angolan waters are divided into three fishing zones (southern, central and northern), within which the Minister may restrict fishing.²³¹

5.3 Monitoring, control and surveillance and EAF

The Aquatic Biological Resources Act contains a comprehensive catalogue on MCS measures, including enforcement.

Chapter IV of the Act deals with scientific research and includes provisions related to research programmes, licenses and scientific observers. The State shall promote aquatic research, disseminate scientific information, and prepare a national aquatic research plan. In particular, stock assessments and a study of the ecological, economic, social and cultural impact fishing has on the ecosystem shall be carried out. Research fishing is subject to a license under the Act, and an Angolan researcher shall take part in all research projects.²³² Scientific observers may enter and remain onboard a fishing vessel in order to collect data related to catch (quantity and species), fishing gear, and visited fishing zones, as well as for the purpose of taking biological samples.²³³

Interestingly, the Act also provides for participatory MCS: fishery observers recruited from the coastal communities should monitor fishing activities taking place in the zones reserved for artisanal and subsidiary fisheries. Their function is to collect biological samples and catch data in the MPAs, to collect proof of the existence of industrial and semi-industrial fishing in the reserved zones, and to report any fisheries legislation infringements to the competent authorities.²³⁴

Important for the implementation of EAF, there are also requirements related to logbooks, reporting, VMS, notification of entry and exit of ports and fishing zones and landing of catch.²³⁵ Pursuant to a decree adopted in 2002, VMS is compulsory for all fishing vessels that are longer than 24 metres.²³⁶

Several sections of the Act are dedicated to provisions related to enforcement and sanctions, *inter alia*, with respect to boarding and inspection in port and at sea.²³⁷ A decree that details MCS and enforcement provisions related to the duties of fishery observers and inspectors has also been adopted.²³⁸

5.4 Miscellaneous measures

The Aquatic Biological Resources Act also includes provisions targeting pollution, and prohibits the introduction of prohibited and dangerous substances into the aquatic environment, as well as actions that can cause such pollution.²³⁹ The Act also gives teeth to the polluter pays principle by prescribing that a person causing such pollution is obliged to prevent, minimize and mitigate the effects of the pollution. In case of an accident, the polluter is obliged to report the matter to the authorities as soon as possible, and no later than 24 hours after the incident. The person responsible for the accident shall

²²⁹ Aquatic Biological Resources Act article 87.

²³⁰ MPA Global (2006) Marine Protected Areas in Angola. www.seaaroundus.org.

²³¹ Aquatic Biological Resources Act, articles 89–90.

²³² Aquatic Biological Resources Act, articles 128 and 130–133.

²³³ Aquatic Biological Resources Act, articles 138–139.

²³⁴ Aquatic Biological Resources Act, articles 151–152.

²³⁵ Aquatic Biological Resources Act, articles 145–149.

²³⁶ *Decreto Executivo no. 8/02* of 15 February 2002.

²³⁷ Aquatic Biological Resources Act Title V, chapters I and II.

²³⁸ *Decreto n.º 43/05* of 20 June 2005.

²³⁹ Aquatic Biological Resources Act, article 92.

do what is possible to stop the pollution, and is obliged to repair or compensate the state for the damages.²⁴⁰

The Act establishes a fund for financing activities and programs that aim at furthering the objectives of the Act, including those related to fisheries management, formation and research. The fund, which is managed jointly by the Minister of Fisheries and the Minister of Finance, is to be alimented by taxes and fines paid under the Act.²⁴¹

With respect to aquaculture management, the Act prescribes that development plans shall be elaborated and adopted in a participatory manner. Care shall be taken to ensure that these plans are compatible with fisheries management plans and plans related to land use, coastal zone and water use. Aquaculture can only be carried out subject to a license.²⁴²

The introduction of alien species and genetically modified organisms (GMOs) into the aquatic environment is prohibited without authorization.²⁴³

5.5 Other legislation relevant to EAF

The **1992 Constitution of the Republic of Angola**²⁴⁴ establishes national priorities for environmental protection and conservation. It provides that “the State shall promote the protection and conservation of natural resources guiding the exploitation and use thereof for the benefit of the community as a whole.”²⁴⁵ In addition, the Constitution provides that:

1. *All citizens shall have the right to live in a healthy and unpolluted environment.*
2. *The State shall take the requisite measures to protect the environment and national species of flora and fauna throughout the national territory and maintain ecological balance.*
3. *Acts that damage or directly or indirectly jeopardize conservation of the environment shall be punishable by law.*²⁴⁶

The **1998 Environment Framework Act**²⁴⁷ furthers the abovementioned principles established under the Constitution and defines key concepts for the protection, preservation and conservation of the environment, the promotion of quality of life and the use of natural resources. It also incorporates principles such as participation, the precautionary approach and sustainable development, includes provisions related to protected areas, pollution, and EIA, and articulates the rights and responsibilities of citizens with respect to environmental protection.

The Act outlines seven procedural steps for EIAs on proposed site projects. The EIA must include: references to the environmental and social impacts, a public consultation process, and measures to eliminate or mitigate negative environmental or social impact. It must also include a description of the systems planned for controlling and monitoring proposed activities.²⁴⁸ The Act also includes provisions for licensing site projects²⁴⁹ and for environmental auditing.²⁵⁰

²⁴⁰ Aquatic Biological Resources Act, articles 93–94.

²⁴¹ Aquatic Biological Resources Act, articles 219–20.

²⁴² Aquatic Biological Resources Act, articles 203–205.

²⁴³ Aquatic Biological Resources Act, article 75(1).

²⁴⁴ *Lei Constitucional da República de Angola 1992.*

²⁴⁵ Constitution of Angola, article 12(2).

²⁴⁶ Constitution of Angola, article 24.

²⁴⁷ *Lei de Bases do Ambiente, No. 5/98 of 19 June 1998.*

²⁴⁸ Environmental Framework Act, article 16.

²⁴⁹ Environmental Framework Act, article 17.

²⁵⁰ Environmental Framework Act, article 18.

A decree on EIA²⁵¹ was adopted to establish EIA requirements for public and private projects with a significant environmental and social impact. It provides further detail on the elements to be included in an EIA, the nature and extent of the required public participation, the EIA monitoring process, and mechanisms for compliance.²⁵²

The Ministry of Urban Affairs and Environment (*Ministério do Urbanismo e Ambiente*) was established in 2003 and is responsible for the implementation of the Environmental Framework Act and all associated regulations.²⁵³ An Advisory Council has also been established to provide advice related to the planning and coordination of the Ministry's activities. However, its mandate and composition still need to be defined by way of regulation.²⁵⁴ A multi-sectoral Technical Commission for the Environment (*Comissão Técnica Multi-sectorial do Ambiente*) has also been established, and is tasked to advise on environmental issues and the conservation of natural resources. As with the Advisory Council, its mandate and composition will need to be defined through regulation.²⁵⁵

The 2002 Water Act²⁵⁶ was adopted to clarify priorities for water resources use in Angola, particularly in relation to surface and underground water. Under the Act, the Ministry responsible for Water Affairs is designated as the primary agency for the preservation and conservation of water resources. The Act has provisions establishing water access rights and provisions for the integrated management of water resources, including institutional coordination and community participation. It also provides for the harmonization of water management policies with land use planning and environmental policies.

The 2004 Petroleum Activities Law²⁵⁷ subjects all petroleum operations to a licensing and concession regime, and provides that mining rights may only be granted with safeguards for the country's interests in the management and preservation of particularly aquatic natural living resources.²⁵⁸ Article 24 of the law deals with environmental protection, and states that right holders shall take the precautions that are necessary to protect the environment, including water, soil and subsoil, air, biodiversity, flora and fauna, and ecosystems. For this purpose, mining right holders shall submit plans required by applicable laws, specifying the measures that are to be taken, including environmental impact studies and audits. Under Article 75, the concessionaire shall take measures to decommission the facilities and proceed to rehabilitate the landscape when petroleum operations are abandoned. Moreover, a petroleum operation may be suspended if such operation may endanger the lives of persons or the preservation of the environment.²⁵⁹

The 1992 Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act²⁶⁰ delineates the internal waters and the contiguous zone and establishes an EEZ of 200 nautical miles and a territorial sea that extends up to twelve nautical miles from the low-water mark or straight baselines.²⁶¹ The remaining articles outline rights and obligations of the State of Angola with regard to the EEZ, particularly as to the Angolan government's right to explore, use, conserve and manage natural resources.

²⁵¹ *Decreto sobre Avaliação de Impacte Ambiental, No. 51/04* of 23 July 2004.

²⁵² Environmental Impact Assessment Decree articles 6, 10 and 16.

²⁵³ *Decreto-Lei n.º 4/03* of 9 May 2003.

²⁵⁴ *Decreto-Lei n.º 4/03*, article 7.

²⁵⁵ *Decreto-Lei n.º 4/03*, article 10.

²⁵⁶ *Lei de Águas, No. 6/02* of 21 June 2002.

²⁵⁷ Law No. 10/04 regulating petroleum operations in the surface and subsurface areas falling under Angolan jurisdiction of 12 November 2004.

²⁵⁸ The Petroleum Activities Law, articles 6 and 9.

²⁵⁹ The Petroleum Activities Law, article 76(6).

²⁶⁰ *Lei sobre Águas interiores, Mar Territorial e Zona Económica Exclusiva, No. 21/92* of 28 August 1992.

²⁶¹ *Lei sobre Águas interiores, Mar Territorial e Zona Económica Exclusiva, No. 21/92* of 28 August 1992.

5.6 Concluding remarks

By adopting the Aquatic Biological Resources Act, Angola has equipped itself with a comprehensive legal framework for the conservation and management of aquatic resources, which encompasses many of the key elements that are necessary for EAF implementation. It makes comprehensive provisions on management objectives and principles, fisheries management plans, effort and catch management, fishing gear and methods, and MCS.

Together with other legislation, the Act also constitutes a rather solid institutional framework, but the mechanisms for coordination and stakeholder participation could be strengthened in order to enhance EAF. Important in this regard is the need to define the precise mandate and composition of the Council for Integrated Management of Aquatic Biological Resources, and, when doing this, ensure that this body becomes a true mechanism for both inter-ministerial integration and stakeholder participation, by providing for broad participation from across the whole range of resource uses. The Advisory Council, on the other hand, being a body comprised primarily of fisheries administration and fisheries sector representatives, is a body that has the potential to play an important role with respect to participation by stakeholders from the fisheries sector.

A concrete example of where stakeholder participation needs to be improved is in the context of establishing MPAs. Under the Act, stakeholders, such as fishers and affected local communities, do not have to be consulted prior to the establishment of an MPA. Therefore, this group should be represented in the Council for Integrated Management of Aquatic Biological Resources in order to ensure that their voice is heard on issues that are likely to have dramatic consequences for their livelihood. The community observer scheme provided for in the Act is, on the other hand, an example of grassroots participations in fisheries management. Given its potential for achieving active local community participation in fisheries MCS, this constitutes an important step towards EAF.

In terms of the advisory bodies established to advise on environmental policy, their mandates and compositions will also need to be defined by regulation before they can play their intended role as mechanisms for integration and participation. With respect to the Petroleum Activities Law, it contains no mechanism requiring that other ministries or stakeholders are consulted before a license or concession is issued. Without such provisions, conflicts may arise between coastal zone users, including those in the fisheries sector.

6. EAF AND CAMEROONIAN LEGISLATION

6.1 The legal and institutional framework and EAF

6.1.1 Scope of law and institutional structure

The 1994 Law on Forestry, Wildlife and Fisheries²⁶² regulates fishing for fishery resources in marine, estuarine and fresh water environments in Cameroon.²⁶³ Title V of the Law regulates capture fisheries, while title II includes measures relating to biodiversity protection.

The Department of Fisheries and Aquaculture under the Ministry of Livestock, Fisheries and Animal Husbandry (MINEPIA)²⁶⁴ is responsible for fisheries management in Cameroon, and is endowed with management and regulatory powers under the Law. The Department is comprised of a subsection on artisanal and industrial fishing and a subsection on aquaculture and applied research. There are currently two development agencies under the authority of MINEPIA: the Development fund for marine fisheries and the Development mission for marine artisanal fisheries.²⁶⁵

²⁶² Loi no. 94/01 portant régime des forêts, de la faune et de la pêche.

²⁶³ Law on Forestry, Wildlife and Fisheries article 5.

²⁶⁴ *Ministère de l'élevage, des pêches et des industries animales.*

²⁶⁵ «Caisse de développement de la pêche maritime» (CDPM) and «la Mission de développement de la pêche artisanale maritime» (MIDEPECAM).

In 2005, a brigade for controlling fishing activities was established under the Department of Fisheries and Aquaculture of MINEPIA.

Other institutions involved in Cameroonian fisheries management include:

- the Department of Maritime Affairs and Navigation of the Ministry of Transportation, which is in charge of the registration of fishing vessels, as well as the management of fisheries patrol and navigation officers;
- the Fisheries and Oceanographic Research Station of the Institute of Agronomic Research for Development,²⁶⁶ which is operated through the Ministry of Scientific and Technical Research; and
- the navy, which is involved in coastal surveillance.

6.1.2 Mechanisms for coordination, cooperation and integration

The Law on Forestry, Wildlife and Fisheries does not include any provisions related to coordination, cooperation and integration among government agencies involved in coastal zone management.

6.1.3 Mechanism for stakeholder participation

The Law on Forestry, Wildlife and Fisheries does not include any mechanisms for stakeholder participation.

6.1.4 Objectives of the law

The Law on Forestry, Wildlife and Fisheries aims to ensure, within the framework of integrated management, the conservation and use of forestry, wildlife and fisheries resources and ecosystems in a sustainable and long-term manner.²⁶⁷

6.2 Fisheries management and EAF

6.2.1 Fisheries management plans

The Law on Forestry, Wildlife and Fisheries does not require the fisheries administration to adopt a fisheries management plan.

6.2.2 Effort and catch management

The Law on Forestry, Wildlife and Fisheries establishes a state property regime for fisheries in marine and inland waters, with the right to fish subjected to conditions provided in the Law and regulations.²⁶⁸ With the exception of traditional or subsistence fishing, the following categories of fishing require a license or permit: industrial, semi-industrial, commercial artisanal fishing, sport fishing and scientific fishing. The Law provides no nationality restrictions for license or permit holders, but industrial fishing licenses can only be granted to persons living in Cameroon or to companies that have their principal place of business in the country. Fishing for pella (Pella spp) and estuarine prawn (*Nematopalaemon hastatus*) is subject to special authorization.²⁶⁹ All permits and licenses are subject to the payment of a fee that is set by law. Fishing rights can only be transferred if this has been approved by the fisheries administration.²⁷⁰

Decree no. 95/413 provides details of application requirements for fishing licenses, permits and authorizations from the Minister responsible for fisheries.²⁷¹ Fishing licenses, permits and authorizations are granted for one fiscal year, but can be renewed upon application.²⁷² The Decree also

²⁶⁶ L'Institut de recherche agronomique pour le développement (IRAD).

²⁶⁷ Law on Forestry, Wildlife and Fisheries, article 1.

²⁶⁸ Law on Forestry, Wildlife and Fisheries article 115.

²⁶⁹ Law on Forestry, Wildlife and Fisheries articles 117-120.

²⁷⁰ Law on Forestry, Wildlife and Fisheries articles 121 and 123.

²⁷¹ Décret no. 95/413/PM fixant certaines modalités d'application du régime de la pêche, articles 1-21.

²⁷² Decree no. 95/413, articles 6 and 12.

establishes measures to control fleet capacity by stating that growth in the industrialized and semi-industrialized fleet is subject to authorization from the Minister, which shall take into consideration an assessment of marine resources.²⁷³ Decree no. 2001/546 provides for new definitions of fishing categories and requirements for fishing license applications.²⁷⁴

6.2.3 *Fishing gears and methods*

The Law on Forestry, Wildlife and Fisheries provides several restrictions on the use of fishing gears. First, it prohibits the use of *engins traînants* (trawls and seines) in the belt stretching three nautical miles from the baselines. Moreover, it prohibits the following: gear manipulation that reduces the selectiveness of fishing nets; the use of aqualungs or harpoons when fishing; fishing using fire arms, dynamite, explosives, poison, electricity, light, automatic traps and other means that can be harmful to aquatic species and habitats; and fishing with unregulated mesh size.²⁷⁵ The Minister shall further regulate the use of gear and mesh size.²⁷⁶

A 2001 regulation restricts the use of specific fishing methods and gear, such as beach seines, cages, hooks and nets, and introduces specific provisions related to mesh size for artisanal and industrial fishing.²⁷⁷

6.2.4 *Spatial and temporal controls*

The Law on Forestry, Wildlife and Fisheries provides for restrictions on fishing in certain areas, which shall be established by decree to protect marine habitats and traditional fishing, and to maintain acceptable production levels.²⁷⁸

In order to protect small scale fisheries, the Law prohibits the use of fishing vessels with a gross tonnage over 250 in territorial waters. In rivers, this limit is set to 10 gross tonnes.²⁷⁹

Decree no. 95/413 provides that the Minister responsible for fisheries may aim to protect marine species by adopting prohibitions on fishing in certain areas, and by maintaining a list of protected species.²⁸⁰ Moreover, it prohibits fishing for juvenile fish.²⁸¹

Other measures for species and habitat protection were adopted in a 2001 regulation, which prescribes that the Minister may identify sensitive fisheries areas, including fisheries nurseries, where fishing is prohibited.²⁸² It also provides for seasonal closures of fishing zones, as may be further determined by the Minister.²⁸³ The regulation furthermore prohibits the capture or transshipment of specified fish and shellfish species that have not reached the minimum size established under the regulation.²⁸⁴

6.3 *Monitoring, control and surveillance and EAF*

There are limited provisions for fisheries MCS under the Law, although it includes measures that give authorized officers a general right to inspect vessels, as well as provisions on fines and penalties for violations under the Law on Forestry, Wildlife and Fisheries.²⁸⁵

²⁷³ Decree no. 95/413, article 16.

²⁷⁴ *Décret no. 2001/546/PM du 30 juillet 2001 modifiant et complétant certaines dispositions du décret n° 95/413/PM du 20 juin 1995 fixant les modalités d'application du régime de la pêche* articles 2 and 5.

²⁷⁵ Law on Forestry, Wildlife and Fisheries, article 127.

²⁷⁶ Law on Forestry, Wildlife and Fisheries, article 130.

²⁷⁷ *Arrêté n° 0002/MINEPIA du 01 août 2001 portant modalités de protection des ressources halieutiques*, articles 6–11.

²⁷⁸ Law on Forestry, Wildlife and Fisheries, article 126.

²⁷⁹ Law on Forestry, Wildlife and Fisheries, article 129.

²⁸⁰ Decree no. 95/413, articles 22 and 24.

²⁸¹ Decree no. 95/413, article 37.

²⁸² Regulation no.002/2001, article 2.

²⁸³ Regulation no.002/2001, articles 3–5.

²⁸⁴ Regulation no.002/2001, articles 12–13.

²⁸⁵ Law on Forestry, Wildlife and Fisheries, Title VI.

Decree no. 95/413 provides that fishers are required to land the fish in places designated by the fisheries administration, which facilitates the gathering of catch statistics.²⁸⁶ In the provision dealing with applications for industrial fishing licenses, the Decree states that the applicant shall accept scientific observers on board, but no provisions have been adopted to put in place such an observer scheme.²⁸⁷ Chapter VI of the Decree also includes provisions related to administrative and penal sanctions, as well as the role of authorized officers in this regard.

Decree no. 2001/546 establishes a requirement for all fishing license, permit and authorization holders to keep a logbook. This logbook shall be submitted to the fisheries administration within 72 hours of entry into a Cameroonian fishing port.²⁸⁸

Reportedly, MINEPIA now requires industrial fishing vessels to fit a VMS onboard as a prerequisite for obtaining a fishing license.²⁸⁹

A 1968 regulation provides for the registration of non-motorized vessels, making such registration compulsory for specified vessel groups.²⁹⁰

6.4 Miscellaneous measures

The Law on Forestry, Wildlife and Fisheries does not stipulate any miscellaneous measures.

6.5 Other legislation relevant to EAF

The **1996 Law on Environmental Management**²⁹¹ is an overarching law for the management and protection of the environment, including the aquatic sector, in Cameroon. The President of the Republic is responsible for defining the national policy, which is to be implemented by the government, along with provincial and local authorities and NGOs. For this purpose, the government shall elaborate strategies and programmes for the conservation and sustainable use of the environment, following the priorities given by the Law, including the development of a National Environment Management Plan.²⁹² Such a plan has been adopted and constitutes the framework of the government's general policy on the protection and management of the environment and biological diversity.²⁹³

The Law also prescribes the establishment of an inter-ministerial environment committee and an advisory commission for environment and sustainable development.²⁹⁴ An advisory commission was established in 1994, comprising a broad representation from different ministries and civil society, while an inter-ministerial commission was established in 2001. Both bodies are tasked with assisting the government in elaborating and coordinating national environmental policies.²⁹⁵

The Law states that the management of the environment and natural resources shall, within the context of enacted laws and regulations, be guided by a suite of fundamental principles such as the

²⁸⁶ Decree no. 95/413, article 35.

²⁸⁷ Decree no. 95/413, article 5(2).

²⁸⁸ Decree no. 2001/546, article 36.

²⁸⁹ The author was informed about this by an officer from MINEPIA.

²⁹⁰ *Arrêté n° 9/MTPT réglementant l'immatriculation des pirogues et embarcations similaires non motorisés.*

²⁹¹ *Loi no. 96/12 du 5 Aout 1996 portant loi-cadre relative à la gestion de l'environnement.*

²⁹² Law on environmental management, articles 1–3 and 10.

²⁹³ CBD Strategy and Action Plan - Cameroon (Part IV, English version) www.cbd.int/doc/world/cm/cm-nbsap-01-p4-en.pdf

²⁹⁴ Law on environmental management, article 10.

²⁹⁵ *Décret n° 2001/718/PM du 03 Septembre 2001 portant organisation et fonctionnement du Comité interministériel de l'environnement; Décret n°94/259/PM du 31 mai 1994 portant création d'une Commission nationale consultative pour l'environnement et le développement durable; Décret N° 99/780/PM du 11 octobre 1999 modifiant et complétant les dispositions de l'article 3 alinéa (1) du décret n°94/259/PM du 31 mai 1994 portant création d'une Commission nationale consultative pour l'environnement et le développement durable.*

precautionary principle, the taking of preventive measures, the polluter pays principle and the principle of participation. The principle of participation includes a citizen's right to access information and a stakeholder's right to be consulted before decision making concerning the environment, as further elaborated in the Law under title IV. The subsidiary principle, which gives customary norms precedence in the absence of a written law or regulation, is also interesting.²⁹⁶ In addition to these principles, the Law also includes a chapter on EIA. Under the Law's provisions on EIA, the different activities that will be subjected to EIAs shall be enumerated by decrees.²⁹⁷

Of particular interest to EAF is the section of the Law that deals with coastal and marine water protection, which includes prohibitions on discharge, immersion and the burning into the marine waters of substances that threaten human health or marine resources, or that are harmful to fisheries and aquaculture. This section also prescribes other measures against marine pollution, including vessel pollution.²⁹⁸ The Law furthermore prescribes measures on the management of waste and chemical substances.²⁹⁹ A chapter is also dedicated to natural resource management and the conservation of biological diversity, where ecosystem considerations and sustainable development are guiding principles for management and protection. The establishment of natural reserves and national parks are referred to under other legislation, while the establishment of ecologically protected sites or scientific sites is allowed under the Law.³⁰⁰

The **Law on Mining (2001)** applies to mining activities in territorial waters, the EEZ and the continental shelf, and prescribes that an EIA must be carried out in connection with an application for a mining exploitation permit.³⁰¹ The Law does not establish any mechanisms for coordination or the participation of other ministries and stakeholders in decision making that affects other sectors, e.g. when granting permits.

The **Petroleum Code (1999)** prescribes that an EIA shall be carried out in connection with oil exploration and exploitation activities,³⁰² although this is only a requirement for larger projects or for projects affecting particularly sensitive areas.³⁰³ As in the Law on Mining, the Code does not include any mechanisms for coordination or participation of other ministries or stakeholders in decision making with sector-overriding implications, e.g. when processing applications for exploitation permits or for erecting offshore installations. However, pursuant to a 2000 Decree, an advisory protection committee is to be established, tasked with assisting the government in implementing legislation related to the environmental aspects of oil-drilling. The committee's composition and functions shall be provided for in a regulation.³⁰⁴ Under the same Decree, waste management plans have to be submitted to the Ministry of the Environment, but this ministry does not have a role in approving these plans.³⁰⁵

The **Water Law (1998)** includes a provision related to the protection of water, the granting of permits for water use, and water quality. Emissions and discharges of industrial, agricultural and other waste that are "likely to alter the quality of the territorial waters" are prohibited under the Law, unless permission is granted by the Minister in charge of water.³⁰⁶

²⁹⁶ Law on environmental management, article 9.

²⁹⁷ Law on environmental management, article 19.

²⁹⁸ Law on environmental management, title III, chapter II, section III.

²⁹⁹ Law on environmental management, title III, chapter IV, sections I-III.

³⁰⁰ Law on environmental management, articles 62-64, 66.

³⁰¹ *Loi n° 001 du 1 6 Avril 2001 portant code minier*, articles 1(2) and 46.

³⁰² *Loi n° 99/013 du 22 décembre 1999 portant code pétrolier*, article 83.

³⁰³ *Décret n° 2000/465 du 30 juin 2000 fixant les modalités d'application de la loi no 99/013 du 22 décembre 1999 portant code pétrolier* article 67.

³⁰⁴ Decree no. 2000/465, article 62.

³⁰⁵ Decree no. 2000/465, article 63.

³⁰⁶ *Loi n° 98/005 du 14 Avril 1998 portant régime de l'eau* article 4.

6.6 Concluding remarks

To a limited extent, Cameroon's legal framework for fisheries management supports the application of EAF. Although the Law on Forestry, Wildlife and Fisheries establishes a licensing regime for commercial fisheries, provides for restrictions on fishing in certain areas, and prohibits certain environmentally harmful fishing methods and gear, this law does not constitute a solid basis for implementing EAF. The current framework suffers from a lack of adequate MCS measures, including measures for boarding and inspection, and restrictions on landing and transshipment. There are no fisheries observer schemes or MPAs in place, and the existing provisions on species and habitat protection, including MPAs, are rudimentary.

Equally important is the fact that the current fisheries legislation does not prescribe the adoption of fisheries management plans, including measures for establishing TACs and quotas. It also fails to include mechanisms for inter-agency coordination or stakeholder participation in fisheries management. Although their mandates are restricted to dealing with environmental policies, the inter-ministerial committee and advisory commission established under the Law on Environmental Management has, nonetheless, the potential to facilitate inter-agency coordination and stakeholder representation with respect to issues of relevance to fisheries management. However, representation from the Department of Fisheries and Aquaculture, and other fisheries experts in these bodies, is important in order for these bodies to hear the perspectives of fisheries managers and other interested parties.

A new fisheries law that better addresses the concerns and issues raised above was drafted with FAO assistance in 2005 through the TCP/CMR/2907 “*Appui à la révision du cadre juridique des pêches et de l'aquaculture*” project. The eventual adoption of this draft law will better equip the national fisheries administration with the ability to implement the EAF in Cameroon.

7. EAF AND GABONESE LEGISLATION

7.1 The legal and institutional framework and EAF

7.1.1 Scope of law and institutional structure

The 2005 Code of Fisheries and Aquaculture in the Republic of Gabon (the Fisheries Code)³⁰⁷ is the principal legal framework for Gabonese fisheries and aquaculture.³⁰⁸ It applies to all Gabon fisheries and aquaculture, namely continental fisheries, marine fisheries, and aquaculture.³⁰⁹

EAF is an integrated part of The Fisheries Code's concept of sustainable fisheries management, as demonstrated in article 8:

La gestion durable des ressources halieutiques est la forme d'exploitation qui, tout en les prélevant, maintient leur diversité biologique, leur productivité, leur faculté de régénération et leur capacité à assurer, de manière pérenne et sans préjudice pour les écosystèmes établis, les fonctions économiques, écologiques, sociales, culturelles et scientifiques pertinentes.

Gabon's lead agency for fisheries and aquaculture is the *Director Générale des Pêches et de l'Aquaculture* (DGPA)³¹⁰ established under the Ministry of Forestry, Waters, Fisheries, and National

³⁰⁷ *Loi No.15 portant Code des pêches et de l'aquaculture en République Gabonaise*, entered into force on 19 August 2005.

³⁰⁸ Some provisions of Law No.1/82 are still applicable, namely those in respect of areas reserved for artisanal fishing and foreign artisanal fishers (art. 74 – also referred to under Decree 62/94); the introduction of new fishing techniques (art.75); government programs for the development of fisheries and aquaculture (art. 77), and the requirement for certificates of origin for the sale of fish products (art. 78 – are also referred to under Decree 62/94).

³⁰⁹ The Fisheries Code, article 3.

Parks. The DGPA is divided into four technical departments managing industrial fisheries, artisanal fisheries and aquaculture, as well as one department dealing with regulation, control and surveillance. Among other responsibilities, the DGPA establishes and supports research units with a view to establishing databases that will facilitate sector planning and management. DGPA furthermore has the responsibility to elaborate an annual report, although the Code does not specify to whom these reports shall be given, or for what purpose they shall be used.³¹¹

The DGPA shall periodically conduct socioeconomic surveys on the artisanal fisheries sector, which should include the mapping of the number of boats and fishers involved, the fishing gear used, catch statistics, as well as other relevant information.³¹² This type of information could prove useful for fisheries management purposes, and would therefore improve Gabon's ability to implement EAF.

7.1.2 Mechanisms for coordination, cooperation and integration

The Fisheries Code does not include any explicit mechanisms for inter-ministerial coordination, cooperation and integration.

7.1.3 Mechanisms for stakeholder participation

The Fisheries Code prescribes that institutional mechanisms allowing fishers to participate in fisheries management shall be established. More specifically, it requires the establishment of consultative commissions that shall be consulted prior to the adoption of fisheries management plans.³¹³

The Code also provides for stakeholder involvement in its procedures for designating marine protected areas (MPAs). Coastal populations have the right, similar to the fisheries authorities, to initiate the process of classifying (or declassifying) an area as an MPA. When identifying the perimeters of an MPA and mapping out the appearance of customary rights and other activities present in the area, the authorities shall cooperate with the local population. For this purpose, consultative commissions shall be established, whose composition, organization and duties shall be provided for in regulations.³¹⁴

7.1.4 Objectives of the law

The Fisheries Code aims to promote the sustainable management of fishery resources. The Code's explicit goals include promoting industrialization and furthering growth in the fisheries sector.³¹⁵

7.2 Fisheries management and EAF

7.2.1 Fisheries management plans

Under the Fisheries Code, the Minister of Fisheries and Aquaculture shall adopt management plans for the principal fisheries, which shall determine the following: the status of the fisheries and their management objectives, the fishing effort for each vessel group, a programme for the licensing of the main fisheries, permissible mesh sizes, the presentation and gathering of fisheries statistics and information, as well as fishing conservation and management measures.³¹⁶ Mirroring the idea that fisheries management should be based on science, the Code provides that Gabonese fisheries management shall be based on reliable information.

³¹⁰ *Décret No. 1260/PR/MTMMPTPN du 09/11/1995 portant création et fixant les attributions et l'organisation de la direction générale des pêches et de l'aquaculture.*

³¹¹ The Fisheries Code, article 12.

³¹² The Fisheries Code, article 16.

³¹³ The Fisheries Code, articles 10 and 13.

³¹⁴ The Fisheries Code, articles 65 and 66.

³¹⁵ The Fisheries Code, articles 8–10.

³¹⁶ The Fisheries Code, article 14.

7.2.2 Effort and catch management

Pursuant to the Fisheries Code, fisheries resources in Gabonese waters are owned by the state, and all fishing activities, with the exception of those activities carried out pursuant to customary rights, are subject to a licensing regime.³¹⁷

Chapter III of the Code delineate fishing activities permissions. Under this section authorization is required for commercial fishing, sport fishing, scientific fishing, aquarium fishing and artisanal fishing. Fishing licenses are issued by the Minister of Fisheries and Aquaculture upon technical advice from a designated commission. Obtaining a license for industrial fishing vessels is conditioned upon registering the vessel with the appropriate registry. Industrial and artisanal licenses are granted for one calendar year and are renewable.³¹⁸

License holders must comply with the specific requirements of their permissions, including the duration of the license; the type and characteristics of the fishing gear permitted for use; the interior areas where fishing is allowed; the permissible species; open and closed seasons and MCS requirements, including catch reporting.³¹⁹

Foreign fishing vessels are authorized under the terms laid out in Articles 30–32 of the Code, which provide for the authorization of foreign vessels for fishing purposes as long as there is a fishing agreement in place, or the vessel is chartered by a Gabonese person.

The Fisheries partnership agreement between the Gabonese Republic and the European Community, Council Regulation (EC) No. 450/2007, permits specific fishing licensing quotas to be allocated to Member States for purposes of fishing off the coast of Gabon.

7.2.3 Fishing gears and methods

The Fisheries Code contains a few provisions related to fishing gear and methods. These provisions are aimed at minimizing fishing's environmental impact. The Code prescribes that fisheries management plans shall include provisions about mesh size for all relevant fisheries, as well as other conservation measures.³²⁰

The Code provides that a license holder must comply with the gear-related specifications outlined in their license. In this manner a license may prescribe the kind of fishing gear that a license holder may use.³²¹

In line with what has become standard practice worldwide, the Code prescribes that fishing with explosives and toxic substances is prohibited. The Code also prohibits unauthorized fishing, the use of prohibited fishing gear and the use of nets with undersized mesh sizes. Non-compliance with authorized catch size and dimensions of fish is also sanctioned.³²²

The Code specifies that customary fishing, although not subject to a licensing regime, can be subject to restrictions, especially those related to catch size and fishing methods.³²³

Decree No. 62/94 adopted under the previous fisheries law (Law No. 1/82) continues to apply and includes further restrictions on fishing operations. It prohibits electric fishing, fishing with diving gear or by similar methods; fishing with unauthorized mesh sizes; fishing with monofilament nets and the manipulation of fishing net mesh. Furthermore, commercial artisanal fishers are prohibited from using

³¹⁷ The Fisheries Code, article 4.

³¹⁸ The Fisheries Code, articles 22 and 23.

³¹⁹ The Fisheries Code, article 24.

³²⁰ The Fisheries Code, article 14.

³²¹ The Fisheries Code, article 24.

³²² The Fisheries Code, article 98.

³²³ The Fisheries Code, article 42.

purse seines. The use of trawlers is banned throughout the zone three miles seaward from the baselines, as well as in rivers, lakes, lagoons, estuaries, and in areas designated for petrol exploitation. Attaching metal chains or other metal objects to bottom trawls is also prohibited due to these devices' ability to destroy the sea bottom.³²⁴

Pursuant to a 1986 regulation, the use of beach seines is prohibited in Gabon.³²⁵ A 1979 regulation also prohibits bottom trawling in Gabonese estuaries, as well in the lagoons of Fernan-Vaz and Banio.³²⁶

7.2.4 *Spatial and temporal controls*

The Fisheries Code provides for the establishment of fishing zones reserved for artisanal fisheries and spawning.³²⁷

Decree No. 62/94 establishes three different fishing zones in marine waters. The first zone (3 nautical miles seaward from the baselines) is reserved for Gabonese small scale fishers and joint venture companies involved in small scale fisheries. The use of trawl and monofilament nets is prohibited in this zone, and foreign fishers are only allowed into the zone to the extent they are fishing for a joint venture company. In the second zone, expanding from 3 to 6 nautical miles seawards, both small scale and industrial fishing is allowed. Both Gabonese and joint venture companies involved in industrial fishing are allowed in this zone, but only vessels flying the Gabonese flag and having a tonnage maximum of 450 tonnes may fish. The third zone, stretching from 6 to 200 nautical miles, is reserved for industrial fishing by vessels of all nationalities.³²⁸

The Code also dedicates the entirety of Title III to the protection of aquatic species and ecosystems. This section endows the fisheries authorities with broad powers, in particular for the establishment of MPAs.³²⁹ MPAs can be established as aquatic reserves, marine parks or sanctuaries. The “aquatic reserves” category carries the lowest level of protection, and is defined as areas where the fishery resources are subject to specific protection (*“protection particulière”*). Marine parks, on the other hand, are established for the purpose of protection, conservation and propagation of animal or vegetative species and the management of their habitats. Sanctuaries are areas that protect animal and vegetative species that are threatened with extinction. The Code provides rules for the management regime of marine parks, whereas hardly any such rules exist for aquatic reserves and sanctuaries.³³⁰ Thus far, several marine parks have been established in Gabon.³³¹

The Code bans fishing in prohibited zones, in particular in estuaries, bays and “*embouchures*,” but the law does not specify what it means by the term “prohibited zone.”³³²

Decree No. 62/94 prohibits all fishing in spawning areas and in river mouths, as well as fishing of spawning rock lobster, immature fish and protected species.³³³

³²⁴ *Décret no. 0062/PR/MEFPE du 10/01/1994 portant réglementation de la pêche en République Gabonaise* (Decree no. 62/94) article 43.

³²⁵ *Arrêté no. 0076/MEFCR/DGEF/DPMCM du 29/03/1986 interdisant certaines techniques de pêche en République Gabonaise*.

³²⁶ *Arrêté no. 0130 PM/MEF/DGEF du 17/07/1979 portant interdiction de la pêche au chalut de fond dans certaines zones*.

³²⁷ The Fisheries Code, article 10.

³²⁸ Decree no. 62/94, articles 12–14 and 20–23.

³²⁹ The Fisheries Code, article 49.

³³⁰ The Fisheries Code, articles 55–64.

³³¹ Decree no.608/MEFEPEPN of 30 August 2002, establishing the Akanda Marine Park, Decree no 613/MEFEPEPN of 30 August 2002, establishing the Loango Marine Park and Decree No.614/MEFEPEPN of 30 August 2002 establishing Mayumba Marine Park.

³³² The Fisheries Code, article 98.

³³³ Decree no. 62/94, article 43.

The Code also prohibits fry fishing when the fisher is exercising customary rights.³³⁴ While it may seem insufficient that such a strong conservation principle is only applied to customary fishing, the assumption is that such prohibitions are provided for in the licensing conditions imposed on non-customary fishers.

Gabon has also adopted a regulation providing for seasonal fishing closures.³³⁵

7.3 Monitoring, control and surveillance

The Fisheries Code includes a comprehensive section (Title IV) on MCS, and grants authorized officers the necessary powers needed for effective fisheries legislation enforcement. This includes chapters on surveillance and enforcement activities by authorized officers,³³⁶ violations,³³⁷ and punishments.³³⁸ The Fisheries Code also requires the establishment of an industrialized fishing vessel registry.³³⁹

Regarding the collection of catch data, the Code specifically prescribes that foreign fishing vessels are obliged to furnish the fisheries administration with data on their catch efforts.³⁴⁰

Additional reporting requirements for industrial and artisanal fishing vessels are enforced under Decree No. 62/94. These include the requirement that these vessels maintain log books, which should contain information, entered on a daily basis, regarding catch (species and weight), fishing effort, fishing routes, fishing grounds visited, as well as the time of departure from Gabonese waters and the catch status at the time of departure. The latter information is to be submitted by radio to the fisheries administration together with the position of the vessel. Once a month, the license holder shall submit a report to the fisheries administration with catch data, information on fishing zones visited and the fishing gear used.³⁴¹ Furthermore, under a 1970 regulation, fishing vessel owners are required to furnish information about their catch landings (quantities).³⁴²

In 2005, Gabon adopted a decree relative to fishing vessel monitoring,³⁴³ which provides that all vessels fishing in Gabonese waters are required to be fitted with a VMS on board. Information about the position of the vessel has to be sent to the fisheries administration, and tampering the VMS equipment and data falsification is subject to sanctions.

7.4 Miscellaneous

Gabon does not operate a specific fisheries fund. Instead, fisheries and aquaculture-related taxes, payments, duties, and charges levied under the Fisheries Code shall be collected and held by the treasury.³⁴⁴

³³⁴ The Fisheries Code, article 42.

³³⁵ *Regulation No.4/MEFEPPEPN/DGPA portant sur l'institution d'une période de fermeture de la pêche à l'etmalose dans le cadre de la protection et la conservation des ressources halieutiques* under the Council of Ministers Decision No.675 of 1 January 1999, establishing seasonal closures for certain species such as sardines and shrimps under Law no.1/82.

³³⁶ The Fisheries Code Titre IV, Chapitre I: *De la Surveillance*.

³³⁷ The Fisheries Code Titre IV, Chapitre II: *De la Constation des Infractions, de la Transaction et du Cautionnement*.

³³⁸ The Fisheries Code Titre IV, Chapitre III: *De la Répression des Infractions*.

³³⁹ The Fisheries Code, article 15.

³⁴⁰ The Fisheries Code, article 32.

³⁴¹ Decree no. 62/94, articles 48–50.

³⁴² *Décret n° 01179/MEF/SF du 07/12/70 rendant obligatoire la fourniture des statistiques des quantités de poissons débarqués par les navires de pêche*

³⁴³ *Décret no. 62/PR/MEFPE relatif au suivi des activités des navires de pêche* adopted on 24 February 2005.

³⁴⁴ The Fisheries Code, article 109.

As far as fisheries research is concerned, as noted above, the DGPA establishes and supports research units for the benefit of fisheries research and management. The Code also provides for licensed fishing for scientific purposes. In order to obtain this license, one must submit a license application, along with a detailed plan for the research project. To ensure that Gabonese researchers are associated with approved research projects, the Code prescribes that a license will only be granted if there are Gabonese experts involved in the research operations and data gathering. The Code furthermore prescribes that all the data and research results shall be submitted to the Ministry, thereby enabling the fisheries administration to use this information in their management efforts.³⁴⁵

Decree No. 62/94 provides that scientific fishing licenses shall indicate, *inter alia*, the operation's purpose, the place and time out of the fishing activities, and the permitted fishing techniques.³⁴⁶

As noted above under "Effort and catch management," sport fishing requires a license.

The Code also includes specific aquaculture-related provisions and all commercial aquaculture operations require an authorization.³⁴⁷ The Code furthermore provides for the establishment of an annual list of aquaculture activities, including structures and breeding areas, the species of fish being farmed, productions, geographic locations of farms, and any other relevant information related to aquaculture activities.³⁴⁸

The Fisheries and Aquaculture authorities shall be notified of any activities that could have an impact on fisheries and aquaculture interests, and, as appropriate, these activities shall be subjected to an EIA.³⁴⁹ In particular, the following activities are considered to be impacting fisheries and aquaculture interests: the use and reforestation of river banks or watercourses; tourist activities; forestry, mining and oil extraction; works related to dams, channels, and waterworks, as well as other installations having an impact on water courses, nurseries and spawning areas.³⁵⁰

For species on the verge of extinction, the Code endows the Fishery and Aquaculture administration with the ability to engage in ex-situ conservation, notably through the use of aquariums and gene banks.³⁵¹ The Code does not specifically address marine pollution or alien species introduction.

7.5 Other legislation relevant to EAF

The **1984 Law Establishing an Exclusive Economic Zone**³⁵² establishes Gabon's EEZ of 200 nautical miles, within which the Gabonese state has the sovereign right to explore, exploit, conserve and manage the natural, biological, and non-biological resources of the seabed, subsoil, and super-adjacent waters.

The **1993 Law on Environmental Protection**³⁵³ lays out general principles for national environmental protection policies. According to this law, these policies should include: 1) the preservation and sustainable use of natural resources; 2) protection against pollution and nuisances; 3) the improvement and protection of life; 4) the promotion of new income-generating activities related to the protection of the environment; and 5) harmonizing development with the natural environment. The Law itself contains 96 articles covering natural resources and management of seas, oceans, inland waters, soil and subsoil, air, wildlife, and protected areas; pollution factors and main

³⁴⁵ The Fisheries Code, articles 33–36.

³⁴⁶ Decree no. 62/94, articles 33 and 34.

³⁴⁷ The Fisheries Code, articles 38–40.

³⁴⁸ The Fisheries Code, article 17.

³⁴⁹ The Fisheries Code, article 50.

³⁵⁰ The Fisheries Code, article 52.

³⁵¹ The Fisheries Code, article 53.

³⁵² *Loi no. 9/84 du 12 juillet 1984 instituant une zone économique exclusive de 200 milles marines.*

³⁵³ *Loi no. 16/93 du 26 août 1993 relative à la protection et à l'amélioration de l'environnement.*

measures to be taken against these factors; common provisions on technical standards; and noise pollution and degradation. This Law is implemented by Decree No.s 539, 541, 542, 545, and 925.

Decree No. 539 regulates the use of EIAs by establishing an interdepartmental committee of EIA to assist the Ministry of the Environment in the administration and management of EIAs. Under the related Arrêté No. 2/PM/MEPNRT (2006), procedures for EIA approval are established.

Decree No. 541 regulates the disposal of waste so as to prevent and reduce pollution damage. These efforts include regulating the conditions of collection, collection treatment, and disposal of products, as well as waste transportation.

Decree No. 542 regulates the discharge of certain products, notably oils and lubricants, detergents, effluents from agricultural exploitation into superficies, subterranean, and marine waters.

Decree No. 545 regulates the recuperation of oil usages, in particular the procedures for the detention, collection and elimination of these oils.

Decree No. 925 on the creation, attributions, organization and functions of the National Commission on Sustainable Development, places the National Commission on sustainable development (CNDD) under the charge of the Minister of the Environment. The CNDD is intended to contribute to the elaboration of Gabon's sustainable development programming, which is presented to the Commission on sustainable development of the United Nations.

Decree No. 000519/PR/MEPNV (2008) for the creation and organization of the National Authority for the Mechanism of Proper Development in the Gabon Republic creates an international authority position on clean development mechanisms. The individual(s) in this role are placed under the authority of the Minister for the Environment and assist the Government in developing implementation and monitoring strategies and using clean development mechanisms for mitigating climate change.

The 2001 Forestry Code³⁵⁴ establishes the legal framework for forestry and water management in Gabon, and addresses, *inter alia*, management plans, protected areas, including sanctuaries for protected species, and lays down the conditions for the use of forestry resources and for hunting.

The 2000 Mining Code³⁵⁵ provides a framework for issuing authorizations and rights related to mining operations in the soil and sub-soils of Gabon. All requests for a mining concession or permits need to be accompanied by an exploitation plan, and no right will be granted without an EIA.³⁵⁶ A research permit is accompanied by an agreement (*convention*) which shall also spell out the holder's obligations with respect to environmental protection. On a general basis, it also prescribes the duty of the holder of an exploitation permit to protect the environment.³⁵⁷ Under Title 7 of the Code, the President can prohibit mining operation when public interest so requires.

The 1983 Law related to on Oil Exploitation³⁵⁸ addresses fees and taxes related to petroleum extraction and related operations in the territory of Gabon. The law makes reference to a licensing regime only implicitly and does not set out any conditions and terms related to the granting and use of research and extraction rights.

³⁵⁴ *Loi no. 016/01 portant Code Forestier en République Gabonaise.*

³⁵⁵ *Loi no. 05-2000 du 12 octobre 2000 portant Code minier* (The Mining Code).

³⁵⁶ The Mining Code, articles 71–73 and 77.

³⁵⁷ The Mining Code, articles 35 and 81.

³⁵⁸ *Loi no. 14/74 du 21 janvier 1975 portant Réglementation des activités de recherche et d'exploitation pétrolière sur le territoire de la République Gabonaise.*

7.6 Concluding remarks

Since the adoption of the Fisheries Code in 2005, Gabon has had a modern legal framework for fisheries management, which includes several elements that are crucial for ensuring EAF. In addition to conventional fisheries management mechanisms, like provisions limiting access to resources and MCS, the Code includes sections on research, the establishment of MPAs and mechanisms for stakeholder participation that are important for EAF. However, many of the provisions of the Code need to be implemented through regulations in order to become operational, and so far no regulations have been adopted to implement the new Code. This step is crucial for the advancement of EAF in Gabon: one example is the need for adopting regulations to make the Code's provisions on stakeholder participation operational. In this regard, two draft regulations have been developed with the assistance of FAO. One deals with the establishment of departmental and local level consultative commissions tasked to advise central and local authorities on fisheries management, while the other relates to participatory mechanisms for fisheries monitoring and control at local level.³⁵⁹ At the time of writing, the Ministry had not yet adopted these regulations, but it is believed that their eventual adoption will significantly advance stakeholder participation in Gabonese fisheries management something that would be conducive to EAF.

However, portions of the Code need strengthening and additional details, in particular the provisions pertaining to aquaculture which are currently rather rudimentary. To further enhance EAF, the Code should also provide for enhanced inter-ministerial coordination and cooperation, which is also a concern with respect to the other sector legislation that has been reviewed. Of particular importance for the fisheries sector is the lack of such bodies in the legislation related to important sectors such as oil and forestry. The Code could also stand to include additional requirements regarding specific catch quotas for the commercial fishing fleet. Regarding MPAs, the Code provides some detail regarding the management regime for marine parks, but should include additional guidance on aquatic reserves and sanctuaries.

8. EAF AND GHANAIAN LEGISLATION

8.1 The legal and institutional framework and EAF

8.1.1 Scope of law and institutional structure

The 2002 Fisheries Act (No. 625 of 2002) is the primary law for regulation and management of marine and inland fishery resources in Ghana and provides the legal framework for the development of the fishing industry and the sustainable exploitation of the fishery resources.³⁶⁰

Under the Fisheries Act, several management powers, as well as regulatory powers, are vested in the Ministry responsible for Fisheries.³⁶¹ The overall responsibility for the development of fisheries policy and the regulation and management of fishery resources rests, however, with the Fisheries Commission established under the Act.³⁶² The Commission, which is under the ministerial responsibility of the Ministry responsible for Fisheries, is under section 2 of the Act tasked “to regulate and manage the utilization of the fishery resources of Ghana and to co-ordinate the policies in relation to them.”

Specifically, the Commission shall, *inter alia*, perform the following duties, many of which are fundamental for the implementation of EAF: prepare and keep under continual review fishery plans; establish priorities for the utilization of fishery resources; ensure the proper conservation of fishery resources through the prevention of over-fishing; ensure the monitoring, control and surveillance of

³⁵⁹ Draft *Arrêté portant sur les mécanismes de cogestion dans la pêche artisanale* and draft *Arrêté portant sur le système participatif de suivi, contrôle et surveillance dans la pêche artisanale*. These regulations were drafted with the assistance of FAO in 2006.

³⁶⁰ Fisheries Act (2002), long title.

³⁶¹ Fisheries Act (2002), section 139.

³⁶² Fisheries Act (2002), section 1.

the fishery waters; promote sub-regional, regional and international cooperation in fisheries management; promote cooperation among local fishermen and advance development of artisanal fishing; carry out research and survey work for stock assessments; correlate fisheries with other water users and environmental protection; make recommendations to the Minister on grant of licenses for fishing and in collaboration with District Assemblies and fishing communities, and ensure the enforcement of the fishery legislation, including by-laws made by District Assemblies.³⁶³

8.1.2 Mechanisms for coordination, cooperation and integration

The composition of the Fisheries Commission is cross-sectoral and is composed of representatives from the ministries responsible for transport, defense and the environment, the Water Research Institute and Ghana Irrigation Development Authority.³⁶⁴

8.1.3 Mechanism for stakeholder participation

In addition to the representatives from the government bodies mentioned in section 9.1.2, the Fisheries Commission shall have even broader stakeholder participation and comprise representatives from Ghana Marine Fishing Officers Association; two representatives from the National Fisheries Association of Ghana (one representing artisanal and one industrial fishing); as well as one person knowledgeable of the fisheries industry or natural resource renewal management.

The Fisheries Act prescribes that the preparation of fishery plans shall be done in consultation with “organisations, authorities and persons affected by the fishery plan.” The Commission, which is responsible for preparing and implementing the plan, seems, however, quite free to determine the extent to which such consultations shall be carried out as they shall be carried out “as it considers appropriate”. Moreover, in order to assess and recommend appropriate management measures, the Director may require any person to furnish relevant data and information, including fishing time and effort, landing, processing, sales and related transactions.³⁶⁵

For the purpose of facilitating conflict management, a Fisheries Settlement Committee is established under the auspices of the Commission, charged to “to hear and settle complaints from persons aggrieved in respect of matters arising from or related to the fishing industry.” The members of the Fisheries Settlement Committee are to be appointed from the members of the Commission, to ensure the same cross-sectoral representation in the Committee as in the Commission.³⁶⁶

8.1.4 Objectives of the law

The Fisheries Act promotes the management and conservation of fishery resources through international and regional cooperation, in particular with respect to the management of shared stocks. The Act prescribes that:

The Minister may and shall on the advice of the Commission consult with foreign governments and in particular with governments of states sharing the same or interrelated fish stocks, with a view to:

- (a) ensuring the closest practicable harmonization or cooperation of their respective fisheries management and development plans and regulations;*
- (b) ensuring the harmonization of systems for the collection of statistics, the carrying out of surveys and procedures for assessing the state of the fisheries resource in the region;*
- (c) establishing on a bilateral, regional or subregional level reciprocal fishing rights with other states in the region, where reciprocal fishing rights are necessary to sustain the growth of industrial and artisanal fishing;*
- (d) providing for the formulation of subregional or regional fisheries management and development plans including monitoring, control and surveillance, for the allocation of fishing effort and catch for*

³⁶³ Fisheries Act (2002), section 2.

³⁶⁴ Fisheries Act (2002), section 2–4.

³⁶⁵ Fisheries Act (2002), section 44.

³⁶⁶ Fisheries Act (2002), section 10.

the formation or promotion of joint fishing, among states sharing the same stocks, and for taking subregional or regional joint conservation measures;

(e) providing for the establishment and operation of joint subregional or regional fisheries management plans.³⁶⁷

8.2 Fisheries management and EAF

8.2.1 Fisheries management plans

Under the Fisheries Act, the Fisheries Commission shall prepare and keep under continual review plans for the management and development of fisheries in Ghanaian waters.³⁶⁸ The Act stipulates that each fishery plan shall be based on several principles, and shall address several concerns that are conducive to the implementation of EAF. First, each plan shall be based on the best scientific information available, ensure the optimum utilization of fishery resources, avoid overexploitation, and be consistent with “good management principles”. A fishery plan may relate to a specific water area or specified fish species, and each plan shall, amongst others, identify the fishery resource and its characteristics, including its economic and social value and “interrelationships with other species in the ecosystem”; assess the present state of exploitation of each resource and, taking into account relevant biological, social and economic factors, determine the potential average yields of the resource. Also consistent with EAF, the plan shall specify the conservation measures to be enforced to protect resources from overexploitation; indicate the research necessary to enhance management of the fishery resources; and specify the information and other data required to be given or reported for effective management and development of fisheries.

The Act stipulates a participative process for the preparation of the fishery plans; the Fisheries Commission shall, during its preparation, carry out consultations with organizations, authorities and persons affected by the fishery plan, although only to the extent the Commission considers this appropriate.³⁶⁹ Coordination with, and participation of other concerned ministries and institutions is, however, ensured through the composition of the Commission itself.

8.2.2 Effort and catch management

Under the Fisheries Act, nobody shall use a local industrial fishing vessel for fishing in Ghanaian waters without a license, and license fees are compulsory.³⁷⁰ For the artisanal and semi-industrial fishing fleet, licensing requirements and fees are not mandatory; the Act prescribes that the Commission shall “take such action as it considers necessary to protect and promote artisanal and semi-industrial fishing,” including “the exemption for such period as it may recommend to the Minister of such fisheries activities as it may determine from any requirements concerning licensing and the payment of fees under this Act.”³⁷¹ This entails that the Commission can allow for open access to the fishery resources for these two fishing groups, something that is very likely to increase the capacity well beyond sustainable levels.

A way of promoting artisanal and semi-industrial fishing which enhances EAF and its social dimension, is, however, found in another of the enlisted measures, namely where the Commission can give priority to artisanal and semi-industrial fishing in the allocation of fishing licenses or quotas. Here access is given to less privileged groups of fishermen, without increasing the vessel capacity. Social concerns are moreover echoed in the provision empowering the Commission to establish reserved areas for artisanal and semi-industrial vessels.³⁷²

³⁶⁷ Fisheries Act (2002), section 45.

³⁶⁸ Fisheries Act (2002), section 2(2)(a).

³⁶⁹ Fisheries Act (2002), sections 42, 43 and 44.

³⁷⁰ Fisheries Act (2002), sections 46 and 71.

³⁷¹ Fisheries Act (2002), section 51(1)(c).

³⁷² Fisheries Act (2002), section 51(f) and (g).

The licenses for industrial and semi-industrial vessels shall specify what fish species, fishing gear or method, as well as other activities under the Fisheries Act the license is valid for. Additional conditions for granting licenses are to be prescribed by way of regulation. The duration of an industrial and semi-industrial license cannot exceed one year, but licenses can be renewed on an annual or quarterly basis.³⁷³

The issuing or renewing of a license can be denied, or the license can be suspended if mesh size requirements are not met; catch returns or landing reports are not submitted or logbooks are not maintained; the applicant or the operator of the vessel has a documented history of non-compliance with the fisheries legislation and is believed unlikely to comply with such laws; VMS requirements are not met, or the vessel in respect of which the license was issued has been used in contravention of the Fisheries Act, its regulations or the license conditions.³⁷⁴ An industrial or semi-industrial fishing license can be transferred upon the permission of the Minister.³⁷⁵

The Fisheries Act does not make the setting of TACs for fish stocks in Ghanaian waters mandatory, but prescribes that the Minister may, on the recommendation of the Commission, make regulations for TACs and a quota system.³⁷⁶

Foreign fishing vessels can be permitted to fish in Ghanaian waters under a foreign fishing license or “as may be otherwise authorized under any agreement between the Government of Ghana and the government of the country in which the fishing vessel is registered or otherwise belong.” As a main rule a foreign fishing license shall be issued only under an access agreement, however there are wide exceptions to this.³⁷⁷

An access agreement can be concluded with “any foreign government, foreign association or other legally constituted foreign body which has power and authority to enforce compliance with the terms of the access agreement.” These agreements shall provide for allowable allocations that do not exceed “a level consistent with the conservation and management of fishery resources,” for the protection of local fishermen and be consistent with the fishery plans. An access agreement shall also include provisions “establishing the responsibility of the foreign state to take measures to ensure compliance by its vessels with the terms and conditions of the access agreement and with all applicable laws,” as well as provisions related to licenses and fees and restrictions on transshipment.³⁷⁸

Under the Act, foreign vessels can also be authorized to carry out marine scientific research and trial fishing.³⁷⁹

8.2.3 Fishing gears and methods

The Fisheries Act does not include many provisions related to fishing gear and methods, but vests the Minister with regulatory powers to prescribe the types and size of gear or devices that may be used for fishing, including prohibited nets and fishing activities.³⁸⁰ No such regulations have, however, been adopted under the Act so far.³⁸¹

The Act does, however, provide that the use of towing gear for fishing in the Inshore Exclusive Zone, i.e. 30-metres zone (IEZ), or in such depth as may be prescribed by regulations, is prohibited.

³⁷³ Fisheries Act (2002), sections 72 and 74.

³⁷⁴ Fisheries Act (2002), section 76.

³⁷⁵ Fisheries Act (2002), section 75.

³⁷⁶ Fisheries Act (2002), section 139(1)(a).

³⁷⁷ Fisheries Act (2002), sections 61 and 63.

³⁷⁸ Fisheries Act (2002), section 64.

³⁷⁹ Fisheries Act (2002), section 65.

³⁸⁰ Fisheries Act (2002), section 85.

³⁸¹ The Fisheries Regulations from 1979 were the only regulation the author had at hand at the time of writing (found in FAOLEX), which regulated fishing gear and methods, namely the use of seine nets and set nets. It is uncertain whether it is still in force or whether there are other regulations in force.

Similarly, fishing with large semi-industrial and industrial vessels is prohibited in the 30-metres zone. A research vessel or “any other fishing vessel” can, however, be exempted from this restriction.³⁸²

Recognizing the detrimental effect driftnet fishing has on the marine ecosystem, the Act also states that no fishing vessel, whether registered in Ghana or outside Ghana, shall be used for or assist in any driftnet fishing activities in Ghanaian waters. The Act also prohibits fishing with explosives or poison.³⁸³ As a preventive measure, the Act prescribes that a person shall not have in his/her possession or control fishing gear which is prohibited for use in Ghanaian waters, unless the gear is located at least 2 km inland from a shoreline.³⁸⁴ Legal basis for another potentially preventive measure is found in a provision giving the Minister the powers to regulate the manufacture, import and sale of fishing nets.³⁸⁵

8.2.4 Spatial and temporal controls

Sub-Part VI of the Fisheries Act deals with the establishment of zones and the prohibition of fishing inside zones. The IEZ³⁸⁶ of Ghana shall be used exclusively by small semi-industrial vessels, canoes and recreational fishing vessels. Fishing by large semi-industrial, industrial vessels or the use of canoe support vessels is banned inside the IEZ. However, this prohibition is not absolute as the Commission “may at such periods as it considers appropriate permit large semi-industrial vessels to enter the IEZ for the capture of cephalopods.” Exemptions can also be given on the ban of use of canoe support vessel for research vessels and “any other fishing vessel.”³⁸⁷

Sub-Part VII of the Fisheries Act provides that the Commission may, by notice in the Gazette, declare closed seasons, including their duration, for fishing in specified areas of the coastal waters or of the riverine system.³⁸⁸

The Fisheries Act also includes provisions for the protection of species: in order to protect gravid lobsters, crustaceans and juvenile fish, the Fisheries Act bans the catching of any these. They shall be immediately returned to the sea if caught accidentally or as bycatch. A general ban on the fishing of marine mammals is also provided for, but a person can be given an authorization to undertake this kind of fishing “in a limited manner.”³⁸⁹

The Fisheries Act also allows for the declaration of marine reserves by the Minister – this can be done upon the advice of the Commission and after consultation with the Minister of Environment, the owners of the adjoining land and the relevant District Assembly. Any area of the fishery waters and the seabed can be declared a marine reserve.³⁹⁰ No such areas have been declared in Ghana so far.

Pollution of fishery waters is also prohibited under the Fisheries Act: Anyone who “introduces deleterious substances into the fishery waters which adversely affect the habitat and health of the fish or other living aquatic resource” commits an offence.³⁹¹

In order to ensure that activities that can have impact on the fishery resources are not carried out before an assessment is made of the consequences of this activity, the Fisheries Act provides for the carrying out of fisheries impact assessments. Any person, government department or other agency planning to conduct any activity other than fishing, which is likely to have a substantial impact on the

³⁸² Fisheries Act (2002), section 81.

³⁸³ Fisheries Act (2002), sections 87 and 88.

³⁸⁴ Fisheries Act (2002), section 135.

³⁸⁵ Fisheries Act (2002), section 139(1)(e).

³⁸⁶ Under the Schedule to the Fisheries Act, IEZ is defined as “The coastal waters between the coastline and the 30-metre isobath or the 6 nautical miles offshore limit whichever is farther.”

³⁸⁷ Fisheries Act (2002), section 81.

³⁸⁸ Fisheries Act (2002), section 84.

³⁸⁹ Fisheries Act (2002), sections 89 and 90.

³⁹⁰ Fisheries Act (2002), section 91.

³⁹¹ Fisheries Act (2002), section 92.

fishery resources shall inform the Commission of their plans prior to the commencement of the planned activity. The Commission may consequently “make or require reports and recommendations by those conducting the planned activity regarding the likely impact of the activity on the fishery resources (...) and possible means of preventing and minimizing adverse impacts.”³⁹²

8.3 Monitoring, control and surveillance and EAF

Under the Fisheries Act, all artisanal, semi-industrial and industrial fishing vessels shall be registered, and a register shall be maintained to that effect.³⁹³

Under Sub-Part IX of the Fisheries Act, an Enforcement Unit is established, which is responsible for MCS of all fishing operations within the fishery waters by whatever appropriate means, including through the running of a VMS system for foreign fishing vessels, as well as general enforcement of the Act. The Enforcement Unit shall also include personnel from the Secretariat of the Commission.³⁹⁴

Authorized officers are through the Act empowered to, *inter alia*, board vessels and other premises, conduct searches, examine records, logbooks, fish and fishing gear, VMS systems and interrogate and arrest persons or seize vessels, catch and fishing gear that are reasonably suspected of being involved in violations of the Fisheries Act.³⁹⁵

The Fisheries Act also provides for an observer scheme, and observers shall perform such functions as the Minister may determine, including collection of catch and effort data; taking reasonable samples of fish for scientific purposes, and reporting violations of the Fisheries Act and its regulations. All licensed fishing vessels shall permit an observer (or an authorized officer) to board and remain on the vessel “at such time and place as the Director may request.” They shall have full access to all parts of the vessel, fish onboard, records, logbooks, fishing gear and navigation equipment and radios. An observer (or an authorized officer) shall furthermore have access to “any place within Ghana where fish taken in the fishery waters is unloaded, processed, stored or transshipped.”³⁹⁶

Under the Act, no fishing vessel shall be used for transshipment of fish in the fishery waters of Ghana without the supervision of an authorized officer or under other approved arrangements, unless authorized in writing by the Commission. A separate provision targets tuna, providing that no transshipment or export of tuna in or from the fishery waters shall take place without a permit granted by the Minister on the recommendation of the Commission, and without first landing all the tuna in Ghana. The Act also prohibits Ghanaian fishing vessels licensed to fish in Ghanaian waters from landing, transshipping or discharging any fish outside Ghana, including the High Seas.³⁹⁷

8.4 Miscellaneous measures

The Fisheries Act includes provisions for the promotion of the artisanal and semi-industrial fisheries sectors, through empowering the Commission to take a number of measures, including on provision of extension and training services; the registration of artisanal fishing vessels and gear; promotion of the establishment and development of fishing, processing and marketing cooperative societies; the development of artisanal fishing landing facilities; and the promotion of joint venture arrangements and transfer of technology and experience.³⁹⁸

³⁹² Fisheries Act (2002), section 93.

³⁹³ Fisheries Act (2002), sections 47, 55 and 79.

³⁹⁴ Fisheries Act (2002), section 94.

³⁹⁵ Fisheries Act (2002), section 96.

³⁹⁶ Fisheries Act (2002), sections 100 and 101.

³⁹⁷ Fisheries Act (2002), section 132, 133 and 134.

³⁹⁸ Fisheries Act (2002), section 51.

A Fisheries Development Fund, which is managed by the Commission, is also established under the Act. The objectives of the Fund only partly enhance EAF: on the one hand they aim to promote and develop the fisheries industry and provide assistance to small-scale fishery cooperative enterprises, which might encourage an unsustainable increase in the fleet capacity. On the other hand, the objective of the Fund is to finance MCS operations and promote research and studies of the fishing industry, which will enhance EAF. The sources of the Fund are, *inter alia*, license fees, damages and costs granted by courts to the State in respect of any action under the Fisheries Act and sums of money received from compounded offences.³⁹⁹

8.5 Other legislation relevant to EAF

The **1994 Environmental Protection Agency Act** establishes the Agency, whose functions are, *inter alia*, to advise the Minister on the formulation of policy; to secure the control and prevention of discharge of waste into the environment and protect and improve the quality of the environment; to issue environmental permits and pollution abatement notices for controlling waste discharges and emissions; to prescribe standards relating to the pollution of air, water and land; to ensure compliance with EIA procedures; and to act in liaison with other government agencies to control pollution and protect the environment.⁴⁰⁰ Under article 12 of the Act, the Agency may require an EIA to be carried out when an undertaking “has or is likely to have adverse effect on the environment”. Where an activity poses a serious threat to the environment, article 13 provides that the Agency may require the responsible person “to take such steps as the Agency finds necessary to prevent or stop the activities.” Interestingly, environmental Protection Inspectors are authorized to ensure “compliance with this or any other law pertaining to the protection of the environment.”⁴⁰¹ The latter may create overlaps with the powers of the inspectors designated under the Fisheries Act.

The **1996 Water Resources Commission Act** establishes the Commission, which is responsible for the regulation and management of the utilization of water resources, including the granting of water rights, and for the coordination of any policy in relation to them.⁴⁰² Under article 24, the Act includes a prohibition against the pollution of water resources beyond the levels prescribed by the Environmental Protection Agency. Article 31 furthermore authorizes the Minister to declare protected catchment areas.

Under the **1953 Land Planning and Soil Conservation Ordinance**, the Minister may, for the purposes of preserving or reclaiming land and protecting water resources, declare any area within a designated area to be a planning area, and establish a planning committee for such area. These committees may be authorized to construct on the lands such works as are necessary for, *inter alia*, the protection of source, course and feeders of any river; the disposal and control of water and the utilization of swamp land. Regulations relating to the protection of banks of streams, rivers and dams, and the repair of artificial dams, reservoirs or other water conservation devices can be adopted under the ordinance.⁴⁰³

The **1986 Minerals and Mining Law** applies both on land and in the sea, and prescribes that mining operations only can be carried out if a mining right has been granted. The law does, to a very limited extent, address environmental issues, and does not condition the granting of a mining right on the carrying out of an EIA. Under article 72 of the law, the right holder shall “have due regard to the effect of the mineral operations on the environment and shall take such steps as may be necessary to prevent pollution of the environment.” The law does, however, not specify how this is to be done, neither prescribing environmental monitoring nor reporting. The law furthermore prescribes that regulations can be made, restricting prospecting operations in or near rivers, dams, lakes or streams, or preventing

³⁹⁹ Fisheries Act (2002), sections 37–38.

⁴⁰⁰ The Environmental Protection Agency Act (1994), Act 490, article 2.

⁴⁰¹ The Environmental Protection Agency Act, article 15.

⁴⁰² The Water Resources Commission Act (1996), article 2.

⁴⁰³ The Land Planning and Soil Conservation Ordinance, No. 32 of 1953, articles 3,4,7 and 11.

water pollution.⁴⁰⁴ No coordinating mechanism for consultations with other government agencies dealing with coastal management is provided for under the law.

Under the **2005 National Petroleum Authority Act**, the Authority is tasked to regulate, oversee and monitor activities in the petroleum downstream industry, *inter alia*, through granting licenses for commercial activities like import, export, shipment, transportation, processing and refining of petroleum products. The governing board of the Authority may request a clearance certificate or permit from the Environmental Protection Agency before a license is granted, but this is not a requirement.⁴⁰⁵

The **1964 Oil in Navigable Waters Act** implements the International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL 1954), which later was to be substituted by MARPOL. Under article 2 of the Act, prohibited sea areas can be designated outside the territorial sea for the purpose of protecting the coast and territorial waters of Ghana from pollution by oil.⁴⁰⁶

8.6 Concluding remarks

Ghana has, with its Fisheries Act from 2002, obtained a comprehensive and modern legal framework for fisheries management, and the above review shows that it deals with many elements that are crucial for putting into practice the EAF. However, in order for the Act to become an operational tool for fisheries management, regulations need to be adopted for its implementation. This is particularly important with respect to fishing gear and methods, which seem to be largely unregulated. The requirements related to the keeping of logbooks are also unregulated. Fisheries regulations were put before the last parliament in December 2008, but they did not meet the mandatory 21 days for consideration before parliament went into recess.

One of the most interesting features of the Fisheries Act in terms of EAF is the cross-sectoral nature of the Fisheries Commission, the body responsible for regulating and managing fisheries resources. The institutional link that has been created between the Fisheries Commission – which operates under the auspices of the Ministry responsible for Fisheries – and other relevant government agencies, research institutions and stakeholders from the industry, ensures that account is taken of other users of the marine ecosystem when fisheries management decisions are made. This again creates a basis for making management decisions that enhance EAF. By mandating the participation of a large number of stakeholders in the Commission, the Act goes a long way to ensure not only the EAF principle of institutional integration and coordination, but also the EAF principle of participation.

Although the Fisheries Commission is under the responsibility of the Minister, the distribution of responsibilities between the Commission and the Ministry responsible for Fisheries can get confused as both bodies have advisory and executive functions. It seems random when the Fisheries Commission only acts as an advisory body (e.g. issuing fishing licenses; preparing regulations on permitted gear types and sizes, and establishing marine reserves)⁴⁰⁷, and when it acts as an executive body (e.g. determining license fees; declaring closed seasons; granting permission to catch marine mammals; compounding offences and authorizing transshipment)⁴⁰⁸. This might create confusion about each body's roles and responsibilities with respect to fisheries management.

Regarding the other laws that have a bearing on coastal management, the overview shows that there is a lack of coordinating mechanisms that ensure that all pertinent government agencies are consulted before management decisions influencing the marine environment are made. This can create an impediment for implementing the EAF.

⁴⁰⁴ The Minerals and Mining Law, article 83 (l) and (m).

⁴⁰⁵ The National Petroleum Authority Act (2005) no. 691, articles 2, 11 and 14.

⁴⁰⁶ It was not possible for the author to obtain a copy of the 1994 Petroleum (Exploration and Production) Law, so no review of this law has been undertaken for this study.

⁴⁰⁷ Fisheries Act (2002), sections 70, 85, 91.

⁴⁰⁸ Fisheries Act (2002), sections 71, 84, 90, 116 and 132.

9. EAF AND KENYAN LEGISLATION

9.1 The legal and institutional framework and EAF

9.1.1 *Scope of law and institutional structure*

Kenya's main legal framework regulating the fisheries sector is the **1989 Fisheries Act, Chapter 378** (resided edition 1991). This act of parliament provides for the development, management, exploitation, utilization and conservation of fisheries and connected purposes. The Fisheries Act applies to fishing in Kenya's fishery waters (both inland and marine waters), and lays down measures addressing administration, registration of fishing vessels, licensing, offences and enforcement.

Kenya's principal statutory mandates for fisheries management and development are vested in the Director of Fisheries. The Fisheries Act provides that the Director of Fisheries shall, subject to the directions of the Minister for Fisheries, be responsible for the administration of the Act, and may, to this effect, adopt fisheries development and management measures.⁴⁰⁹ The Director may delegate any of the powers and functions conferred upon him by the Act to such authorized officers as he sees fit.⁴¹⁰

9.1.2 *Mechanisms for coordination, cooperation and integration*

Under Section 4 of the Fisheries Act, the Director of Fisheries shall carry out his mandate "in cooperation with other appropriate agencies and other departments of Government." The law does not, however, establish any mechanisms to facilitate such cooperation.

9.1.3 *Mechanism for stakeholder participation*

The Fisheries Act does not include any provisions relating to stakeholder participation. Regulations have, however, been enacted in order to increase stakeholder participation in fisheries management. The Fisheries (Beach Management Unit) Regulations (2007)⁴¹¹ introduces the concept of co-management through provisions that allow for the establishment of locally governed Beach Management Units (BMU) along the shores of inland and marine waters. Membership in a BMU is open to persons who depend for their livelihood on fisheries activities undertaken at the beach within the jurisdiction of the BMU. A BMU's area of jurisdiction is the fish landing station, assigned for the exclusive purpose of landing and selling of fish and fishery products. The mandate of a BMU is to ensure orderly, safe and effective use, management and operation of fish landing sites. BMUs can be authorized by the Ministry of Fisheries to have a designated co-management area to undertake fishing. BMU members also have specific responsibilities, including undertaking patrols. Formalized involvement of the resource-users in fisheries management can be an important measure for improved ecosystem governance.

9.1.4 *Objectives of the law*

Under the Fisheries Act, the Director of Fisheries shall, in cooperation with other appropriate agencies and government departments, "promote the development of traditional and industrial fisheries, fish culture, and related industries". This should be carried out through adopting key fisheries development measures aimed at providing extension and training services; conducting research and surveys; promoting cooperation among fishermen; promoting arrangements for the orderly marketing of fish; providing infrastructure facilities; and restocking waters with fish and supplying fish for stocking.⁴¹² Under section 5 of the Act, the Director of Fisheries is mandated to adopt fisheries management measures "necessary for the proper management of any fishery", including relating to spatial and temporal controls and fishing gears and methods.

⁴⁰⁹ Fisheries Act sections, 3(1), 4 and 5.

⁴¹⁰ Fisheries Act section, 3(2).

⁴¹¹ The information provided on these regulations is taken from secondary information sources, in particular information from the folder "Building capacity for coastal communities to manage marine resources in Kenya", found at <http://cmsdata.iucn.org/downloads/bmus2.pdf>

⁴¹² Fisheries Act, section 4.

9.2 Fisheries management and EAF

9.2.1 Fisheries management plans

The Fisheries Act does not require the Director of Fisheries to adopt fisheries management plans.

9.2.2 Effort and catch management

Section 6 of the Fisheries Act prescribes that the Director of Fisheries may adopt measures to limit fishing effort when “proper management of fisheries requires limitation of the number of persons or of vessels, nets or areas or other means employed in a fishery”. The Director of Fisheries may take such measures as he prefers, including refusing to issue or renew licenses; imposing special license and catch fees; and permitting preferential licensing in other fisheries. Although such effort limitations are an essential tool for EAF implementation, the Act gives rather limited guidance as to when such limitations should be put in place – when required by “proper management” is not a term that gives very precise guidance in this regard. The Act does not expressly provide for TACs or quotas.

Part IV of the Act lays down the licensing regime. Section 8 provides that no person other than persons fishing for their own consumption shall catch or assist in catching fish in Kenya fishery waters otherwise than under and in accordance with the terms and conditions of a valid license. The Act furthermore specifies that each license issued “shall be valid for such species of fish, type of fishing gear, method of fishing and area as may be specified in the license.” It is an offence under the Act to catch fish in contravention of the conditions imposed on a fishing licence.⁴¹³

The Fisheries Act includes licensing provisions for both local and foreign fishing vessels. Under Section 9 of the Act, a local fishing vessel is subject to licensing and conditions, including payment of a fee. Under Article 10 of the Act, a local fishing licence is valid for one year, ending 31 December of the year in which it was issued.

With respect to licensing of foreign fishing vessels, the Act prescribes that the Director may only issue a license, if he has determined “that there are fishery resources surplus to the Kenya fishing industry which may be harvested under the licence; and he has determined the quantity of the surplus that may be harvested” by the foreign vessel. A foreign fishing vessel is required to comply with any management measures that may be in force from time to time and is subject to the payment of prescribed fees, royalties or charges. A licence is valid for such time as the Director may specify.⁴¹⁴ Part II of the Fisheries (Foreign Fishing Craft) Regulations (1991) prescribes in more detail the licensing requirements that can be attached to foreign fishing vessels licenses, such as conditions related to species, size and quantity of fish that can be caught.⁴¹⁵

The Director may revoke or suspend local fishing vessel licences at any time if the licensee is convicted of any offence under this Act, or at the Director’s discretion if the revocation is believed to be necessary in order to properly manage the fisheries.⁴¹⁶ This power of revocation may also be exercised with respect to licensed foreign fishing vessels if the licensee fails to comply with the provisions of the Act, regulations or management measures, or other conditions of the licence, or if the Director believes revocation is necessary in order to properly manage the fisheries.⁴¹⁷

The Fisheries (General) Regulations (1991) establishes licensing requirements related to, *inter alia*, aquarium fishing, oyster collection, sport fishing, trout fishing and shell collection, as well as special licences for carrying out scientific research.⁴¹⁸

⁴¹³ Fisheries Act, section 8(5).

⁴¹⁴ Fisheries Act, sections 12 and 13.

⁴¹⁵ Fisheries (Foreign Fishing Craft) Regulations, section 10.

⁴¹⁶ Fisheries Act, section 10(2).

⁴¹⁷ Fisheries Act, section 13.

⁴¹⁸ Fisheries (General) Regulations, sections 9–28.

9.2.3 *Fishing gears and methods*

The Director of Fisheries may, under section 5 of the Act and with the approval of the Minister, by notice in the Gazette, adopt fisheries management measures, such as limitations on the methods or gear, including mesh size of nets, that may be used. Additionally, each fishing licence should specify the species of fish, type of fishing gear, method of fishing and area that the licence is valid for.

The Act also prescribes that the use of explosives, poisonous or noxious substances or electric shock device for the purpose of killing, stunning, or disabling fish is prohibited.⁴¹⁹

As regards trawl fishing, the Fisheries (General) Regulations (1991), prohibits this method within 5 nautical miles of the coast of Kenya. Moreover, seining nets whose mesh size is less than 50 mm when diagonally stretched shall be prohibited fishing gear in Kenya, except when fishing for *Rastrineobola (omena)*. When seining for the latter species, the mesh size needs to be at least 10 mm when diagonally stretched.⁴²⁰

9.2.4 *Spatial and temporal controls*

The Director of Fisheries may, under section 5 of the Act and with the approval of the Minister, by notice in the Gazette, impose management measures related to closed seasons for designated areas, species of fish or methods of fishing and prohibited fishing areas for all or designated species of fish or methods of fishing. The Fisheries (General) Regulations (1991) includes a series of such measures, and prescribes that it is prohibited to disturb any spawn or spawning fish in a breeding area. The maritime zones of Kenya are furthermore declared to be a marine mammals and turtles sanctuary, which means that no person shall kill, harass or take any marine mammal or turtle.⁴²¹ The latter is in line with the provision of the Fisheries Act that protects marine mammals by prescribing that no person shall, without the prior written authority of the Minister, fish for marine mammals.⁴²²

A series of measures have been adopted to protect specific species of fish. The use of any “mechanical apparatus” to remove oysters from natural or cultured oyster beds is banned. The same goes for gathering of coral, either alive or dead, from Kenya fishery waters.⁴²³ No person shall fish for anadromous or catadromous fish species in the river systems or within a 3 km radius of the river delta and estuary during the period designated by the Director by notice in the Gazette. With respect to berried crustaceans, the regulation states that no person shall fish for or have in his possession any lobster, crab or crayfish in berried state, unless authorized.⁴²⁴

The Fisheries (Prohibitions) Regulations (2003) prescribe under section 2 that the use of scuba diving gear or spear guns to fish for lobsters and sea-cucumber within the territorial waters of Kenya is prohibited, unless for experimental purposes. Fishing for, landing, processing, moving or trading in lobsters of a total weight of less than 250 grams is also prohibited under the regulations.

Under section 18 of the Fisheries (Foreign Fishing Craft) Regulations (1991), no person shall undertake fishing from a foreign fishing vessel within the territorial waters of Kenya.

9.3 **Monitoring, control and surveillance and EAF**

The Fisheries Act prescribes that no person shall use any vessel for fishing in Kenya’s fishery waters unless the vessel has a valid certificate of registration and is duly marked. To this end, the Director

⁴¹⁹ Fisheries Act, section 15.

⁴²⁰ Fisheries (General) Regulations, section 43.

⁴²¹ Fisheries (General) Regulations, sections 50 and 51.

⁴²² Fisheries Act, section 22.

⁴²³ Fisheries (General) Regulations, sections 45 and 46.

⁴²⁴ Fisheries (General) Regulations, sections 47 and 48.

shall maintain a register of all vessels registered. Criminal sanctions are foreseen for those who offend the registration requirement.⁴²⁵

A general requirement attached to all licences issued under the Act is that “the licensee shall comply with such directions as the Director may establish concerning the making of statistical returns and the collection of information.”⁴²⁶

Part V of the Act includes provisions granting enforcement powers to authorized officers, including powers to stop, board and inspect fishing vessel in Kenyan waters. Authorized officers may arrest and charge suspected offenders, and may seize any fish, fishing gear, vehicles or other articles connected with the alleged offence.⁴²⁷

Offences are created around registration and licence requirements, as well as prohibited methods of fishing, receiving fish in respect of which an offence has been committed and obstruction of officers, among others.⁴²⁸

The Fisheries (General) Regulations (1991) prescribes that fish has to be landed at designated fish landing stations and, at the request of a fisheries officer, weighed. Although ensuring fish product safety seems to be the main objective of this provision, it can also allow for strengthened MCS.⁴²⁹

The Fisheries (Foreign Fishing Craft) Regulations (1991) prescribes for several MCS measures to be attached to foreign vessels fishing licenses, such as the requirement to take on board authorized officers or observers, the duty to supply statistical and other information, and the duty to install VMS.⁴³⁰ The regulations moreover prescribe that, while in Kenyan waters, the master shall keep a log book, where he enters on a daily basis information relating to fishing methods, fishing effort, the area where fishing was undertaken, species of fish taken etc.⁴³¹ Other measures provided for include provisions on stowage of gear, transshipment, prior notification and port inspection.⁴³²

9.4 Miscellaneous measures

For “the purpose of promoting modern fishing methods,” the Minister may, under the Fisheries Act, prepare a scheme providing for financial assistance by way of loans to fishermen in respect of expenditure incurred in the acquisition of fishing vessels, gear, fishing nets and other equipment.⁴³³ In order to avoid creating “perverse incentives” for over-fishing, such a scheme should target those that already have fishing as a means of livelihood, and not new entrants.

With respect to research, section 4 of the Fisheries Act prescribes that the Director shall, in cooperation with other appropriate agencies and other departments of Government, take measures to promote the development of traditional and industrial fisheries, fish culture and related industries, *inter alia*, through “conducting research and surveys.” Research related to conservation and sustainable use of fisheries resources is interestingly not mentioned in this provision. Part V of the Fisheries (Foreign Fishing Craft) Regulations (1991) lists the conditions for carrying out fisheries scientific research by foreign states and competent international organizations.

Part X of the Fisheries (General) Regulations (1991) includes provisions for the prevention of pollution and protection and conservation of fishery waters. Kenyan fishery waters are declared a

⁴²⁵ Fisheries Act, section 7.

⁴²⁶ Fisheries Act, section 8(4).

⁴²⁷ Fisheries Act, section 18.

⁴²⁸ Fisheries Act Part IV and sections 15, 16, 17.

⁴²⁹ Fisheries (General) Regulations, section 42.

⁴³⁰ Fisheries (Foreign Fishing Craft) Regulations, section 10.

⁴³¹ Fisheries (Foreign Fishing Craft) Regulations, section 31.

⁴³² Fisheries (Foreign Fishing Craft) Regulations, sections 19–25.

⁴³³ Fisheries Act, section 24.

“pollution prevention zone” and measures to protect the aquatic environment and ecology of these waters include the ban on discharge of abandoned fishing gear, pollutants etc. in the fishery waters, and restrictions on fish stocking.⁴³⁴

Importation of live fish into Kenya is subject to a licence. Any person importing live fish shall, on arrival of the fish in Kenya, present the fish to a fisheries officer at the port of entry for inspection. Where on arrival fish is confirmed diseased, the fisheries officer shall refuse such fish entry into the country and order the destruction of the same.⁴³⁵ With respect to fish stocking, the regulations state that no person shall place any species of fish in any body of water without authority issued in writing by the Director, except where the fish is indigenous or a fish farmer is stocking his pond with fish obtained from another fish farmer with whom he shares the same water catchment area.⁴³⁶ These provisions form the regulatory basis for aquaculture development in Kenya, meaning that the planning and operational phase of this activity is, to a large extent, unregulated in Kenya.

9.5 Other legislation relevant to EAF

The 2010 Constitution of Kenya⁴³⁷ recognizes under section 42 every person’s right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures. These rights are detailed in article 69, which provides that:

69. (1) *The State shall:*

- (a) *ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;*
- (b) *work to achieve and maintain a tree cover of at least 10 percent of the land area of Kenya;*
- (c) *protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;*
- (d) *encourage public participation in the management, protection and conservation of the environment;*
- (e) *protect genetic resources and biological diversity;*
- (f) *establish systems of environmental impact assessment, environmental audit and monitoring of the environment;*
- (g) *eliminate processes and activities that are likely to endanger the environment; and*
- (h) *utilize the environment and natural resources for the benefit of the people of Kenya.*

(2) *Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.*

The Constitution furthermore recognizes every person’s right to have obligations relating to the environment fulfilled. Article 70 provides that a person may apply to a court for redress if he or she alleges that a right to a clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened. On application, the court may make any order, or give any directions, to prevent, stop or discontinue any act or omission that is harmful to the environment; to compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or to provide compensation for any victim of a violation of the right to a clean and healthy environment.

Interestingly, article 162(2) prescribes that the Parliament shall establish courts with the status of the High Court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land.

⁴³⁴ Fisheries (General) Regulations, sections 59, 60 and 62.

⁴³⁵ Fisheries (General) Regulations, sections 26 and 57.

⁴³⁶ Fisheries (General) Regulations, section 62.

⁴³⁷ The 2010 Constitution of Kenya was promulgated on 27 August 2010.

The 1999 Environmental Management and Coordination Act (EMCA) establishes a legal and institutional framework for the management of the environment and for coordination with connected matters. Part II of the Act proclaims every person's rights to a clean and healthy environment, as well every person's duty to safeguard and enhance the environment. The Act does, however, not say much further about the actual content of this right, but further guidance on this matter can be sought in the Constitution.

In terms of institutional framework, the Act establishes the National Environment Council, which consists of representatives from both the public and private sectors, who shall, *inter alia*, be responsible for policy formulation and for promoting cooperation among public departments, local authorities, the private sector and NGOs.⁴³⁸

The Act furthermore establishes the National Environmental Management Authority (NEMA), a corporate body tasked to be the "principal instrument of Government in the implementation of all policies relating to the environment." NEMA is empowered to "coordinate the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations into development policies, plans, programmes and projects with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable yield basis for the improvement of the quality of human life in Kenya." NEMA shall furthermore take stock of natural resources in Kenya, carry out surveys, advise the government on legislative measures, undertake and coordinate research, among others. NEMA shall be managed by a Board, with representatives from the Ministry and seven members that are not public officers.⁴³⁹ Provincial and district environmental committees can also be established under the Act.⁴⁴⁰ A trust fund is established under the Act, the object of which is to facilitate research "intended to further the requirements of environmental management, capacity building, environmental awards, environmental publications, scholarships and grants."⁴⁴¹

Every five years, a National Environmental Action Plan shall be prepared by the cross-sectoral National Environmental Action Plan Committee. The Action Plan, which is binding on all persons and all government agencies and organs, is adopted by the National Assembly, and shall, among other things: contain an analysis of the natural resources of Kenya and an analytical profile of the various uses and value of the natural resources; recommend appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational processes; recommend methods for building national awareness; set out operational guidelines for the planning and management of the environment and natural resources; identify actual or likely problems that may affect the natural resources and the broader environment context in which they exist; and identify and recommend policy and legislative approaches for preventing, controlling or mitigating adverse impacts on the environment.⁴⁴² Action plans shall also be prepared at provincial and district levels.⁴⁴³

Measures for the protection and conservation of the environment are provided for in Part V of the Act and include, *inter alia*, provisions regarding protection of rivers, lakes and wetlands and conservation of biological resources.⁴⁴⁴

The Ministry may also declare any area of sea, lake or river "to be a protected natural environment for the purpose of promoting and preserving specific ecological processes, natural environment systems,

⁴³⁸ EMCA, sections 1–6.

⁴³⁹ EMCA, sections 7, 9 and 10.

⁴⁴⁰ EMCA, section 29.

⁴⁴¹ EMCA, section 24.

⁴⁴² EMCA, sections 37–38.

⁴⁴³ EMCA, sections 39–40.

⁴⁴⁴ EMCA, sections 42 and 51.

natural beauty or species of indigenous wildlife or the preservation of biological diversity in general.” This shall be done in consultation with the “relevant lead agencies”.⁴⁴⁵

An area can furthermore be declared a protected coastal zone. As soon as practicable upon the commencement of the Act, the Authority shall, in consultation with the relevant lead agencies, prepare a survey of the coastal zone and an integrated national coastal zone management plan. EMCA criminalizes the release into the coastal zone of any polluting or hazardous substances contrary to the provisions of the Act. The Minister shall, in consultation with the relevant lead agencies, issue appropriate regulations to prevent, reduce and control pollution or other form of environmental damage in the coastal zone.⁴⁴⁶ The latter has been done through the adoption, in 2003, of the Environmental (Prevention of Pollution in Coastal Zone and Other Segments of the Environment) Regulation.

Part VI of the Act deals with EIAs, and requires proponents of projects as specified in the second schedule of the Act, to undertake EIAs at their own expense. These projects include those related to water resources, mining, agriculture, processing and waste disposal. The Environmental (Impact Assessment and Audit) Regulations (2003) provides detailed subsidiary legislation to guide the implementation and enforcement of EIA requirements in Kenya. A regime of environmental audit and monitoring is set out in Part VII of the Act, while Part VIII on Environmental Quality Standards establishes the Standard and Enforcement Review Committee, which, among other things, shall recommend to NEMA minimum water quality standards, including for fisheries and wildlife. This Part also regulates effluents discharge, emissions and waste licences, among other things.⁴⁴⁷ Part XII of the Act establishes the National Environment Tribunal, while Part XIII lays down environmental offences.

The 1990 Coast Development Authority Act provides for the establishment of the cross-sectoral Coast Development Authority, which is tasked to plan and coordinate the implementation of development projects in the whole of the Coast Province (the Area) and the EEZ. The functions of the Authority shall be, *inter alia*: to develop an up-to-date long range development plan for the Area; to coordinate the various studies of schemes within the Area so that human, water, animal, land and other resources are utilized to the best advantage; to coordinate the present abstraction and use of natural resources, especially water, within the Area and to set up effective monitoring of abstraction and usage; to identify, collect, collate and correlate all such data related to the use of water and other resources and also economic and related activities within the Area as may be necessary for the efficient forward planning of the Area; to maintain a liaison between the Government, the private sector and other interested agencies in the matter of the development of the Area; to examine the hydrological effects and the subsequent ecological changes on the development programmes and evaluate how they affect the economic activities of the persons dependent on river environment; to implement development projects and programmes whose primary objective is to promote socio-economic development; to plan and liaise with the relevant authorities as necessary in the exploration and development of the extensive fishing and marine activities in Kenya, especially in the EEZ.⁴⁴⁸

The 2002 Water Act provides a legal framework for the management, conservation, use and control of water resources, including the acquisition of rights to use water and the management of water supply and sewerage services. The term “water resource” includes watercourses and estuaries. The Water Resources Management Authority is established under the Act, and is given the power to, *inter alia*, develop principles for the allocation of water, monitor the national water management strategy, monitor and reassess the national water resources management strategy, regulate and protect water resources quality from adverse impacts and liaise with other bodies for the better regulation and management of water resources.⁴⁴⁹ Under the Act, the Minister shall formulate a national water

⁴⁴⁵ EMCA, section 54.

⁴⁴⁶ EMCA, section 55.

⁴⁴⁷ EMCA, sections 71, 75, 81 and 88.

⁴⁴⁸ Coast Development Authority Act, Section 8.

⁴⁴⁹ The Water Act, section 8.

resources management strategy, which shall prescribe “the principles, objectives, procedures and institutional arrangements for the management, protection, use, development, conservation and control of water resources.” The Act does not prescribe that other interested sectors or stakeholders be involved in the development of the strategy, but provides that all public bodies shall take into account and give effect to the strategy when exercising any statutory power or performing any statutory function.⁴⁵⁰

The 2005 Forests Act lays down the institutional and legal framework for forest management in Kenya. It includes provisions on declaration of nature reserves, protection of trees, and management plans. The Act provides that all indigenous forests, including mangrove forests, which are important spawning areas for fish, shall be managed on a sustainable basis for the purpose of “habitat for wildlife in terrestrial forests and fisheries in mangrove forests.”⁴⁵¹ The Kenya Forest Service, which is established under Part II of the Act, shall, *inter alia*, formulate policies, protect forests, draw or assist in drawing up management plans for all indigenous forests, and enforce the provisions of the Act. The Service is managed by the Board, which comprises representatives from the ministries responsible for forestry, water, finance and local authorities, as well as directors of the wildlife service and NEMA, among others.⁴⁵²

The 1976 Wildlife (Conservation and Management) Act includes provisions related to the declaration of areas of land to be national parks, national reserves and local sanctuaries. It does not provide for the declaration of MPAs, but mangrove forests can be declared protected areas under the Act.

The 1968 Petroleum (Exploration and Production) Act (revised edition 1986) regulates the negotiation and conclusion by the Government of petroleum agreements relating to the exploration for and production of petroleum. Article 9 of the Act states that there shall be implied in every petroleum agreement an obligation on the contractor to “adopt measures necessary for the conservation of petroleum and other resources and the protection of the environment and human life.”

The 1989 Maritime Zones Act delineates the breadth of the territorial waters (12 nautical miles); establishes an EEZ of 200 nautical miles, which comprises the areas of the sea, seabed and subsoil. The Act states that Kenya shall, within the EEZ, exercise sovereign rights with respect to the exploration, exploitation, conservation and management of the natural resources of the zone.⁴⁵³

9.6 Concluding Remarks

Kenya’s Fisheries Act contains several provisions of relevance to responsible fisheries management, such as those related to effort and catch management, fishing gear and methods and spatial and temporal controls. The Act is, however, still lacking when it comes to several issues of importance to EAF, such as MCS. Requirements related to collection, recording and supply of catch data, and provisions on fisheries observers and VMS, are absent for national vessels. Port state control measures are also poorly addressed in the legislation.

As to catch control, there are no provisions related to setting of TAC or quotas for local fishing vessels. In addition, while the provisions concerning loaning schemes to fishermen are laudable, these need to be managed so as not to increase fishing capacity beyond sustainable levels. The Fisheries Act should also provide for the establishment of a Fisheries Fund, into which appropriations for such loans, fishing licence fees and other resources could be paid, which in turn could then be used to improve fisheries management. Overall, the Fisheries Act is to a large extent geared towards

⁴⁵⁰ The Water Act, section 11.

⁴⁵¹ The Forest Act, section 40 (1)(h).

⁴⁵² The Forest Act, sections 3–6.

⁴⁵³ Maritime Zones Act, sections 3 and 4.

developing and modernizing the sector rather than dealing with sustainable use and conservation. These subjects should be given more attention in a future Fisheries Act revision.

The Fisheries Act does not include any institutional mechanisms for coordination or integration. EMCA and the Coast Development Authority Act do, however, establish structures such as NEMA and the Coast Development Authority, which are both mandated to coordinate activities related to environmental management and abstraction and use of natural resources, both of relevance to fisheries.

The main environmental legislation in Kenya is EMCA, a rather comprehensive piece of legislation that institutionalizes integrated coastal zone management as a tool for the protection and preservation of coastal and marine environments, including through the adoption of an integrated national coastal zone management plan. The development of such plans will be an important step in implementing EAF in Kenya. Crucial in this regard would also be the extent to which NEMA manages to promote the integration of environmental considerations into development policies and plans relating to the environment.

Last but not least, mention should be made of the new Constitution and its provision guaranteeing every Kenyan's right to a clean and healthy environment. This is a right that the State has a duty to realize through, *inter alia*, ensuring sustainable exploitation, management and conservation of the natural resources and through granting people the right to redress in case of alleged violations of these rights. These provisions have the potential of playing a pivotal role in the future development of environmental legislation, something that could prove beneficial also for the realization of EAF in Kenya.

10. EAF AND LIBERIAN LEGISLATION

10.1 The legal and institutional framework and EAF

10.1.1 Scope of law and institutional structure

The 1976 Laws of Marine Fisheries (Liberian Code of Laws, Title 24, Natural Resources Law) is the principal piece of legislation regulating fisheries in Liberian waters. Despite its name, it applies to fisheries operations in both marine and inland waters.

Liberia's lead agency for fisheries is the Bureau of National Fisheries, established under the Ministry of Agriculture.

10.1.2 Mechanisms for coordination, cooperation and integration

The Liberian fisheries legislation does not contain any mechanisms for coordination, cooperation and integration between the fisheries administration and other government agencies involved in coastal zone management.

10.1.3 Mechanism for stakeholder participation

There are no mechanisms for stakeholder participation provided for in Liberian fisheries legislation.

10.1.4 Objectives of the law

The fisheries legislation does not state any overall objective for fisheries management in Liberia.

10.2 Fisheries management and EAF

10.2.1 Fisheries management plans

The fisheries legislation does not require the adoption of fisheries management plans as management tools.

10.2.2 Effort and catch management

Under § 90 of the Laws of Marine Fisheries, it is unlawful for trawlers to operate in the marine waters of Liberia unless the owner or captain has obtained a licence from the Bureau of Internal Revenues. The law states that such a licence may be obtained only on presentation of a certificate from the Bureau of Fisheries stating that the applicant is qualified to receive such licence and on payment of the indicated fees. Sport fishermen are also required to obtain a licence under this provision. Licences must be renewed annually.

The Revised Fisheries Rules and Regulations from 1973, which remained in force after the adoption of the new legislation in 1976, requires, in addition, “any person, company or cooperation desiring to fish” in Liberian waters to obtain a licence. The application shall be directed to the Bureau of Fisheries, and may be obtained “upon recommendation of the Minister of Agriculture to the Minister of Finance.” Under the regulations, no fishing company or corporation “without controlling Liberian interest” shall be granted a licence for commercial fishing in Liberian waters.⁴⁵⁴

All fishing vessels and gears used for fishing shall furthermore be registered in the Bureau of Fisheries. An application for registration shall indicate the type of fishing to be engaged in, and the type of gear and the size and number of vessels to be used.⁴⁵⁵ When a type of gear is considered sufficient in any of the fishing zones of Liberia, the Bureau of Fisheries may refuse to issue further approval for that type of gear for that area.⁴⁵⁶

10.2.3 Fishing gears and methods

Under § 94 of the Laws of Marine Fisheries, the use of dynamite as a means of killing fish is prohibited, except when authorized for scientific research or “by special permit”. The law furthermore requires all persons importing dynamite to file a declaration in the office of the Collector of Custom after the arrival of the dynamite.

The law furthermore states that it is unlawful to “put into any of the creeks, swamps, rivers, streams or other waters of the Republic any poisonous barks, leaves, shrubs, roots, or other poisonous substances for the purpose of destroying or catching fish.”⁴⁵⁷ With respect to nets and seines, the law prescribes that no trawl-nets with cod ends smaller than three inches and beach seines with cod ends smaller than 2.5 inches (with the exception of the wings) shall be used.⁴⁵⁸

Berried crabs and lobsters that are caught, shall be released in order “to ensure the propagation of the species”.⁴⁵⁹

The Revised Fisheries Rules and Regulations furthermore specifies that “any type of fishing gear found harmful to the fishery resources of Liberia may be prohibited from further operation.”⁴⁶⁰

10.2.4 Spatial and temporal controls

Under § 99 of the Laws of Marine Fisheries, the Ministry of Agriculture is authorized to divide the fisheries areas of Liberia into zones, including for a particular type of fishing or for experimental purposes. The Ministry shall also “take all action necessary and consistent with the objectives of this subchapter to protect and preserve the species form extermination.” The Ministry may furthermore close any area or zone found to be breeding ground for shrimps or any marine fish, in order to save the eggs and juveniles.

⁴⁵⁴ The 1973 Revised Fisheries Rules and Regulations: provisions “Requirement for fishing” and “Prohibited”.

⁴⁵⁵ The 1976 Laws of Marine Fisheries § 91.

⁴⁵⁶ The 1973 Revised Fisheries Rules and Regulations: provision “Prohibited”.

⁴⁵⁷ The 1976 Laws of Marine Fisheries § 95.

⁴⁵⁸ The 1976 Laws of Marine Fisheries § 96.

⁴⁵⁹ The 1976 Laws of Marine Fisheries § 97.

⁴⁶⁰ The 1973 Revised Fisheries Rules and Regulations: provision “Prohibited”.

10.3 Monitoring, control and surveillance and EAF

Under § 100 of the Laws of Marine Fisheries, all licensed fishermen are required to submit a report to the Ministry of Agriculture through the Bureau of Fisheries on or before the 28th day of each month, showing:

- a. The area or zone in which the fish is caught
- b. Tonnage of total catch
- c. Type of gear used
- d. Approximate value of the total catch
- e. Species of fish caught

With respect to fisheries observers, the Revised Fisheries Rules and Regulations specify that the Bureau of Fisheries may place any of its personnel on any fishing vessel operating in Liberia for the purpose of collecting samples and other data for the records of the Bureau of Fisheries.⁴⁶¹

The regulations furthermore specify that all fish caught in the territorial waters, are to be landed within the country.⁴⁶² Although the purpose behind this may not be MCS-related, this kind of provision can surely play a role in MCS.

The fisheries legislation does not include any provisions on procedures for ensuring compliance, such as provisions related to boarding and inspection by authorized officers. The legislation addresses sanctions and penalties only to a limited extent, and the penalties are far from being dissuasive.

10.4 Miscellaneous measures

Regarding marine pollution, the legislation states that no person shall allow sawdust, mill waste or other material that is harmful to fish to enter streams and waterways.⁴⁶³

10.5 Other legislation relevant to EAF

The 2002 Environment Protection and Management Law establishes a legal framework for the sustainable development, management and protection of the environment by the Environmental Protection Agency (Agency) in partnership with related ministries. The law establishes a set of environmental principles that shall guide its implementation, including the principle of sustainable development, the precautionary principle, the polluter pays principle, the principle of public participation and the “principle of international cooperation in the management of environmental resources shared by two or more states.” Moreover, the law shall be administered so as to meet a series of objectives, including to “ensure the sustainable or wise use of the natural resources in pursuance of social and economic development without undermining the ecosystem’s renewal and re-supply process.”⁴⁶⁴

Part III of the law includes detailed provisions regarding the procedures for carrying out environmental impact assessment, audit and monitoring. Under the law, an EIA licence or permit shall be required prior to the commencement of certain projects and activities, including fisheries related activities, such as “medium to large scale fisheries, artificial fisheries, introduction of new species in water bodies.”⁴⁶⁵ The law lays down mechanisms that are meant to facilitate the involvement of line ministries and stakeholders during the whole EIA process, and provides for public review, public consultation, public hearings and cooperation with line ministries at all stages. In addition to the EIA,

⁴⁶¹ The 1973 Revised Fisheries Rules and Regulations: provision “Prohibited”.

⁴⁶² The 1973 Revised Fisheries Rules and Regulations: provision “Requirement for fishing”.

⁴⁶³ The 1976 Laws of Marine Fisheries § 95.

⁴⁶⁴ Environment Protection and Management Law, section 4.

⁴⁶⁵ Environment Protection and Management Law, section 6.

the developer or project proponent must provide an environmental mitigation plan.⁴⁶⁶ In addition to reviewing the EIAs and approving projects, the Agency shall monitor mitigation measures and carry out environmental audits – both in consultation with the relevant line ministry.⁴⁶⁷ The Agency shall furthermore make available to the public all documents submitted to the Agency under part III of the Act and shall duly consider all public comments.⁴⁶⁸

Under Part IV of the law, the Agency shall establish criteria and procedures for the measurement and establishment of environmental quality standards, including water quality standard for fisheries and coastal waters that support the marine ecosystem. This shall be done in consultation with the relevant line ministry. Among other actions aimed at safeguarding water quality, the Agency shall prepare guidelines for the preservation of fishing areas, aquatic areas, water resources and reservoirs and other areas where water may need special protection.⁴⁶⁹ Part V of the law details the rules related to pollution control and licensing, including on effluent discharge licences. The law furthermore bans the discharge of poison or other waste into the waters of Liberia in contravention of established water pollution standards.⁴⁷⁰

Under Part VI of the law, the Agency may prepare guidelines or standards relating to the management of rivers, lakes and wetlands, which shall include: the conservation of any vegetation growing in and around a river, lake or wetland; contingency plans for any discharge that is likely to pollute these water bodies; control measures that are to be taken in harvesting minerals; control measures that are to be taken in harvesting aquatic living and non-living resources to ensure optimum sustainable yield; as well as promotion of environmentally friendly tourism. In this regard, the law prescribes that every County Environment Committee shall identify the rivers, lakes and wetlands within its jurisdiction “which have value to the local communities or which are at risk from environmental degradation and take all appropriate measures to minimize the risk or recommend to the Agency the need for the protection of those areas.”⁴⁷¹ The Agency may, in consultation with the line ministry, declare rivers, lakes and wetlands as “protected areas” and impose any restrictions necessary for the protection of these water bodies from environmental degradation. The law also lays down a series of actions that are prohibited in rivers, lakes and wetlands, including introduction of plants, animals and micro organisms, whether alien or not, into the water bodies. Notwithstanding these provisions, the Agency may authorize “sustainable use of rivers, lakes and wetlands where such use is not likely to cause adverse effects on the riverbanks, lakeshore or wetlands.”⁴⁷²

Under section 79 of the law, the Agency may, in consultation with the relevant line ministry, declare by published notice, any area of river, lake, wetland or coastal zone as a “protected natural environment” “for the purpose of promoting and preserving specific ecological processes, natural environmental systems, natural beauty or places of indigenous wildlife or the preservation of biological diversity in general”. Protection of wild animals and birds which are threatened or rare, as well as their habitats, is provided for under section 80. Sub-section 6 prescribes that the Agency shall prescribe conservation measures to “ensure that communities and persons and wildlife co-exist in the wildlife management area and for wildlife to be protected.”

Protection of the coastal zone and marine environment is given special attention in section 82. Under this section, a coastal zone can be declared a protected area by the legislature, together with any restrictions considered necessary for the protection of the coastal zone from environmental degradation. The Agency shall, in consultation with the relevant ministries and “maritime organizations,” prepare a survey of the coastal zone every three years and prepare an integrated

⁴⁶⁶ Environment Protection and Management Law, section 15.

⁴⁶⁷ Environment Protection and Management Law, sections 24–25.

⁴⁶⁸ Environment Protection and Management Law, section 33.

⁴⁶⁹ Environment Protection and Management Law, section 35.

⁴⁷⁰ Environment Protection and Management Law, section 61.

⁴⁷¹ Environment Protection and Management Law, section 74.

⁴⁷² Environment Protection and Management Law, section 75.

national coastal zone management plan based on the report of said survey. As to the content of the survey, the law specifies the following:

4) The report of the survey of the coastal zone shall contain:

- a) An inventory of all ports, harbors, structures, roads, excavations, out falls, reception facilities, dumping sites and other works located in the coastal zone;*
- b) A schedule of registration of flag state vessels and their compliance measures for prevention of pollution from ships;*
- c) An inventory of the state of the coral reefs, mangroves and marshes found within the coastal zone;*
- d) An inventory of all areas within the coastal zone of scenic value or of value for recreational and cultural purposes;*
- e) An inventory of areas within the coastal zone of special value for research in respect of fisheries, erosion, littorals movement and such other similar subjects;*
- f) An inventory of marine fisheries, turtles and whales, their harvesting and licensing;*
- g) An estimate of the quantities of minerals, sand, coral sea shells and other substances being removed from the coastal zone;*
- h) An estimate of the impacts of erosion on the coastal zone;*
- i) An estimate of the extent, nature, cause and sources of coastal pollution and degradation;*
- j) An estimate of freshwater resources available in the coastal zone; and*
- k) Any other relevant data or information that may be deemed appropriate.*

As to marine pollution, the law prescribes as follows:

6) The Agency shall furthermore, in consultation with the Line Ministry and maritime organization issue appropriate regulations to prevent, reduce and control pollution or other form of environmental damage and protect the marine environment from:

- a) Land based sources including rivers, estuaries, pipelines and outfall structures;*
- b) Vessels, aircraft's and other engines used in the coastal zone;*
- c) Installations and devices used in the exploration or exploitation of the natural resources of the seabed and subsoil of the exclusive economic zone; and*
- d) Sources in connection with seabed activities and from artificial islands installations and other structures in the exclusive economic zone.*

Under the law, the following actions are prohibited in the coastal zone:

7) Pursuant to subsection (4) no person shall in relation to the coastal zone:

- a) use, erect, construct, place, alter, extend, remove or demolish any structure in, on, under, or over the sea bed;*
- b) excavate, drill, tunnel or disturb the coastal zone and the sea bed or otherwise;*
- c) introduce or plant any part of a plant, plant specimen or organism whether alien or indigenous, dead or alive in the coastal zone;*
- d) introduce any animal or micro-organism whether alien or indigenous, dead or alive in a coastal zone;*
- e) deposit any substance in or under its bed, which is likely to have adverse environmental effects on the coastal zone; and*
- f) divert or drain any lagoon.*

Part VII of the law contains measures for the protection of biological diversity, including measures for *in-situ* conservation. Part VIII addresses environmental restoration orders, Part IX, inspection, analysis and records, while Part X addresses international obligations. Notably, section 98 prescribes that the Agency shall enter into consultation with other state agencies in the region with a view to developing action plans for the cooperation and harmonization of the management of shared natural resources. Finally, Part XI contains provisions related to information, access, education and public awareness, while Part XII addresses offences.

The institutional framework for environmental management in Liberia is provided for in the **2002 Environment Protection Agency Act**. The act establishes the Environmental Protection Agency and details the functions and powers of this autonomous body in charge of managing the environment. In giving effect to this role, it shall “coordinate, monitor, supervise and consult with relevant stakeholders on all activities in the protection of the environment and sustainable use of natural resources.”⁴⁷³ Among its functions is to coordinate, integrate, harmonize and monitor the implementation of environmental policy and decisions of the Policy Council; propose environmental policies; and collect, analyze and prepare basic scientific data pertaining to environmental protection and conservation matters.⁴⁷⁴ The act furthermore established the cross-sectoral National Environmental Policy Council, which is the ultimate policy-making body on the environment and which shall consist of members appointed by the President from line ministries and representatives from other organizations.⁴⁷⁵ In addition to policy formulation, the Policy Council shall, *inter alia*, set priorities for national goals for the protection of the environment and promote cooperation among line ministries, local authorities, the private sector and NGOs.⁴⁷⁶ The Policy Council shall meet once a year or “as often as it may deem necessary.”⁴⁷⁷ The act furthermore provides for the designation of environmental inspectors and sets out their powers and duties.⁴⁷⁸

The act also includes provisions related to environmental planning at both national and county levels, as well as provisions on enforcement and control. A national environmental action plan shall be prepared every five years, in consultation with line ministries and County Environmental Committees.⁴⁷⁹

The Environmental Administrative Court and the Environmental Court of Appeals were established under sections 33 and 34 of the act, the former “before which complaints relating to the environment may initiate and appeals on Agency decisions be heard.” The right to a clean and healthy environment is set out in section 32 of the law, a right that is coupled with the duty to take all appropriate measures to protect and enhance the environment through the Agency, the judicial process, the Environmental Court and any appropriate organizations. The procedures for petitioning the Agency and bringing action before the court are set out under section 5 of the Environment Protection and Management Law. The National Environmental Fund is established under the act, which shall be alimanted by, *inter alia*, all fees charged by the Agency under the act; fines and compensations by court rulings; and fees on permits issued by the Agency. The objective of the fund is broad: the protection, enhancement and management of the environment and natural resources of Liberia.⁴⁸⁰

The 1988 Wildlife and National Parks Act provides for the conservation and development of wildlife by controlling hunting and preserving habitats.

The 2006 National Forestry Reform Law provides for the protection of wetlands, which includes “swamps, marshes, bogs and similar areas.” More specifically, the law provides that the Forestry Development Authority shall identify and protect wetlands, and require every holder of a forest resources licence to identify and protect wetlands where that holder is conducting operations.⁴⁸¹

The 1968 Act to Establish and Delimit the Territorial Sea and Contiguous Zone of the Republic of Liberia declares that the contiguous zone to the territorial sea extends to a distance of 12 nautical miles.

⁴⁷³ Environment Protection Agency Act, section 5.

⁴⁷⁴ Environment Protection Agency Act, section 6.

⁴⁷⁵ Environment Protection Agency Act, section 7.

⁴⁷⁶ Environment Protection Agency Act, section 8.

⁴⁷⁷ Environment Protection Agency Act, section 10.

⁴⁷⁸ Environment Protection Agency Act, sections 20 and 21.

⁴⁷⁹ Environment Protection Agency Act, section 30.

⁴⁸⁰ Environment Protection Agency Act sections 45 and 46.

⁴⁸¹ National Forestry Reform Law, section 8.3, litra b.

The **1977 Act to Approve the Executive Order Issued by the President of Liberia**, declares a *territorial sea* of Liberia of 200 nautical miles measured from the base line of the Republic.

10.6 Concluding remarks

The current fisheries law in Liberia was adopted nearly 35 years ago, and has not been updated since. It constitutes a weak legal framework for fisheries management in general, and a total overhaul of the legislation is necessary before the country will be able to address some of the key issues that are imperative not only for EAF implementation, but also for conventional fisheries management. The law does include a few measures on licensing, fishing gear and methods, zoning and MCS, but these are piecemeal provisions that seem to be the result of casuistic law making.

The environmental legislation on the other hand, provides a solid institutional and legal framework for environmental management, and addresses many issues of concern to fisheries management and EAF. Of particular interest in this context are the provisions related to EIAs for fisheries related activities, water quality standard for fisheries and coastal waters, MPAs, integrated national coastal zone management surveys and plans, marine pollution and *in-situ* protection of biological diversity. These provisions provide Liberia with several tools that are important for EAF implementation, but the environmental legislation can only complement a solid fisheries legal framework, not substitute it. The fisheries legislation in Liberia is, however, currently under review, and it is to be hoped that the deficiencies in the current legislation can be remedied in a not too distant future.

11. EAF AND MALAGASY LEGISLATION

11.1 The legal and institutional framework and EAF

11.1.1 *Scope of law and institutional structure*

The main legal framework for marine and inland fisheries and aquaculture management in Madagascar is the **1993 Ordinance Regulating Fisheries and Aquaculture (Fisheries Ordinance)**.⁴⁸²

The Ministry of Agriculture, Livestock and Fisheries is the overall authority in charge of fisheries and aquaculture development and management in Madagascar, and has the overall objective of reducing poverty in rural areas, ensuring food security and optimizing marine resource utilization. The Departments of Fisheries and Aquaculture under the Ministry execute management responsibilities within their remit.⁴⁸³

11.1.2 *Mechanisms for coordination, cooperation and integration*

An Inter-Ministerial Commission on Fishing and Aquaculture is established under article 5 of the Fisheries Ordinance, thereby providing a mechanism for integrated and coordinated management. Its duties include offering advice on the issuing of fishing licences, but its mandate shall be further defined by regulations.⁴⁸⁴

11.1.3 *Mechanism for stakeholder participation*

Article 5 of the Fisheries Ordinance provides that advisory councils for fisheries and aquaculture, comprised of representatives from ministries, local government and from the industry, shall be established in each Faritany (local community). The councils shall advise on any matter referred to them by the Department of Fisheries and Aquaculture or the Inter-Ministerial Commission. The terms of operation and participation of the councils are to be determined by regulation.

⁴⁸² Ordinance no. 93-022 portant réglementation de la pêche et de l'aquaculture (1993).

⁴⁸³ Décret n° 2003-076 fixant les attributions du Ministre de l'agriculture, de l'élevage et de la pêche ainsi que l'organisation générale de son ministère (2003), articles 1 and 2.

⁴⁸⁴ Décret no. 94-112 portant organisation générale des activités de pêche maritime, titre III.

An inter-ministerial regulation establishes the *Comité du contrôle des activités de pêche*, which is made up of representatives from the ministries responsible for fisheries, internal affairs, national police, armed forces, customs and commerce, and is responsible for carrying out fishing operations surveillance.⁴⁸⁵ The regulation does not, however, go into much detail with respect to the specific surveillance tasks to be carried out by the committee.

11.1.4 Objectives of the law

The Fisheries Ordinance does not state any overall objectives for fisheries management in Madagascar.

11.2 Fisheries management and EAF

11.2.1 Fisheries management plans

Pursuant to article 6 of the Fisheries Ordinance, the Minister in charge of fisheries and aquaculture is responsible for preparing and updating fisheries management and conservation plans. More specifically, the plans shall review the state of exploitation of the main fisheries and define the objectives and priorities for fisheries management and conservation of stocks, as well as research programmes and measures on fishing effort (fishing authorizations), gear, zones, periods, and species.

11.2.2 Effort and catch management

Article 12 of Fisheries Ordinance establishes that all fishing activities in Malagasy waters require a licence issued by the Ministry, and that licences are subject to the payment of a fee. Malagasy nationals are to be prioritized with respect to fishing rights in national waters, but access by foreign vessels can be authorized under a fishing access agreement or if the vessel has been otherwise granted a licence.⁴⁸⁶

Decree No. 94–112, which is the main regulation for marine fisheries, details the authorization regime for industrial and small-scale fishing vessels, including foreign vessels. Under the decree, all industrial and small-scale national vessels are required to obtain a license in order to fish in Malagasy waters.⁴⁸⁷ Fishing licences are valid for a maximum of 12 months, and are renewable.⁴⁸⁸ The Minister may, upon the advice of the Inter-Ministerial Commission on Fishing and Aquaculture, prescribe licence conditions with respect to type and method of fishing, fishing gear; any authorized fishing-related activities; designated fishing zone and the type and quantity of target species and bycatch.⁴⁸⁹ A licence can be transferred to another vessel belonging to the same company with the authorization of the Minister.⁴⁹⁰ A licence may be denied, suspended or revoked, *inter alia*, if an applicant was found guilty of violating the fisheries legislation during the 12 months prior to the application.⁴⁹¹

With respect to foreign vessels, the Minister shall determine the number of foreign vessels that may fish in the waters under the jurisdiction of Madagascar, including the duration of the licences, the species that may be caught, and the appropriate quotas for authorized species.⁴⁹² Under article 24, the decree details the issues that need to be addressed in foreign fishing access agreements, including number and characteristics of vessels; authorized fishing zones; types of fishing; species of catch; and fees, furnishing of catch statistics, marking of vessels and flag state responsibilities. As a general clause, the Decree states that any access agreement must be compatible with the management and developing plans prepared in accordance with Ordinance No. 93-022. The Decree also includes a list

⁴⁸⁵ Arrêté interministériel No. 567/96 instituant le comité de contrôle des activités de pêche et d'aquaculture (1996).

⁴⁸⁶ Fisheries Ordinance, article 13.

⁴⁸⁷ Decree No. 94-112, article 8.

⁴⁸⁸ Decree No. 94-112, article 14.

⁴⁸⁹ Decree No. 94-112, article 16(3).

⁴⁹⁰ Decree No. 94-112, article 17.

⁴⁹¹ Decree No. 94-112, article 15(2)(c).

⁴⁹² Decree No. 94-112, article 22.

of optional issues that may be addressed in the access agreements, such as the offloading of catch in Malagasy ports, training of nationals and the presence of inspectors and observers onboard (article 24).

Licences issued for foreign fishing vessels are only valid for one vessel and *may* include information about, *inter alia*, the authorized fishing zones, duration of the licence, the species which may be fished, minimum size and weight of species, bycatch, the quantity of catch, fishing methods and gear, landing of fish and boarding of observers. The Minister may suspend or cancel a licence if the vessel violates a provision of the fisheries legislation or if it is deemed necessary for the rational management of the stocks concerned.⁴⁹³

Under Article 31 of the Decree, subsistence and recreational fishing shall be free at all times, subject to the provisions of the legislation in place, and shall not entail the collection of any fees. Subsistence fishing is described as fishing being conducted by foot or from a non-motorized pirogue *monoxyle* (which has been constructed from one piece of wood), and which does not result in the sale of the products.⁴⁹⁴

A decree on shrimp trawling was adopted in 2000, prescribing the number and conditions for the issuing of shrimp licences to artisanal and industrial fleets. Under the decree, licences are non-transferable, are issued for 20 years, are renewable, and are subject to the payment of a yearly fee. Industrial licences give the right to fish in a specified zone. The decree does not include any measures for output control of catches.⁴⁹⁵

11.2.3 Fishing gears and methods

There are few measures regarding fishing gear and methods in Malagasy legislation. Article 10 of the Fisheries Ordinance prescribes that the use toxic substances, explosives and electric devices for fishing, is prohibited. However, exceptions to this can be prescribed by way of regulation or authorization from the Minister.

Decree No. 94-112 prescribes that conditions regarding fishing gear and methods *may* be attached to the fishing licence.⁴⁹⁶ The main fishing categories (traditional, artisanal, industrial and recreational) are moreover defined in terms of vessel type and horsepower (hp), something that restricts the fishing effort of the fleet. Traditional fishing entails fishing by foot or from a motorized pirogue; artisanal fishing entails fishing with a boat with 50 hp or less; while industrial fishing entails fishing with a boat with a motor of more than 50 hp. For shrimp fishing, the maximum allowable force is 500 hp.⁴⁹⁷ Recreational fishing may also be carried out with a motorized vessel, as long as the activity does not result in the sale of the catch.⁴⁹⁸

Foreign vessels that are granted passage through Malagasy waters are required to stow away their fishing gear.⁴⁹⁹

With respect to deep-sea fishing, a regulation from 2002 prohibits the use of fishing nets (trawl) with a mesh-size of less than 70 mm.⁵⁰⁰

11.2.4 Spatial and temporal controls

Under article 8 of the Fisheries Ordinance, marine parks and natural reserves where fishing is prohibited or restricted can be established in areas where the fauna and flora is of particular interest.

⁴⁹³ Decree No. 94-112, articles 26, 27 and 30.

⁴⁹⁴ Decree No. 94-112, article 4.

⁴⁹⁵ Décret N° 2000 – 415 portant définition du système d’octroi des licences de pêche crevettière, articles 9–15.

⁴⁹⁶ Decree No. 94–112, article 16(3).

⁴⁹⁷ Decree No. 94–112, article 5.

⁴⁹⁸ Decree No. 94–112, article 6.

⁴⁹⁹ Decree No. 94–112, article 21.

⁵⁰⁰ Arrêté No. 1612/2002 complétant l’arrêté No. 11098/98 23 octobre 1999 fixant les mesurés relatives à la pêche en eau profonde (2002).

MPAs can be established on the initiative of the Minister in charge of fisheries and aquaculture in collaboration with other concerned ministries.

Moreover, the Ordinance prohibits the hunting and capture of marine mammals and endangered species, unless the Minister has granted a special authorization.⁵⁰¹

The authorization and licensing system in Decree No. 94-112 provides some measures for spatial and temporal controls on fishing that can be carried out at the discretion of the Minister after consultation with the Inter-Ministerial Commission on Fishing and Aquaculture. Under article 16(2), general measures relating to closures, minimum catch size and fish gear can be adopted, while article 16(3) prescribes that license conditions may specify the area within which fishing or related activities are authorized, as well as the species and quantities of allowable catch and restrictions on bycatch.

Under article 10 of the decree, only national Malagasy may fish for coastal shellfish and demersal fish.

Two regulations on closures have also been adopted, one prohibiting shrimp trawling in a designated area from 15 December to 15 February,⁵⁰² and one prohibiting all fishing activities in the region of Ihorombe from 15 November to 15 December.⁵⁰³ Regulations have also been adopted on the minimum size for sea cucumbers.⁵⁰⁴

11.3 Monitoring, control and surveillance and EAF

Titles VI and VII of Fisheries Ordinance include basic surveillance and enforcement powers, including boarding and inspection of fishing vessels by authorized officers, and sanctions.

With respect to foreign fishing access agreements, article 24(1) of Decree No. 94–112 prescribes that these agreements shall provide for requirements related to, *inter alia*, the regular supply of catch statistics, marking of fishing vessels and flag state responsibilities. The agreements may moreover provide for the presence of Malagasy inspectors or observers on board the vessels during all or part of the time they are present in Malagasy waters, as well as during the landing of catches.⁵⁰⁵

Under Article 28 of the Decree, the captain of a foreign fishing vessel shall keep a logbook, updated daily, with specified details like the fishing zone, meteorological conditions, fishing gear used, the total catch by species, the total bycatch and all other information as required by Malagasy authorities. The logbook shall be transmitted to the authorities on a monthly basis. Moreover, there is a requirement under article 29 for the marking of foreign fishing vessels.

With respect to shrimp trawling, installation of VMS is compulsory for all trawlers, including research vessels from 2001.⁵⁰⁶

11.4 Miscellaneous measures

Under Article 32 of Decree No 94-112, scientific or experimental fishing is subject to prior authorization by the Minister on the advice of the Minister for Scientific Research. An authorization is valid for 12 months.

⁵⁰¹ Fisheries Ordinance, article 9.

⁵⁰² Arrêté No. 0287/80 réglementant la période de fermeture de la pêche au chalut (1980).

⁵⁰³ Arrêté N° 6535/2002 du Secrétariat d'Etat chargé de la pêche et des ressources halieutiques (2002).

⁵⁰⁴ Arrêté No. 0525 portant réglementation de la pêche aux holothuries (1975).

⁵⁰⁵ Decree No. 94-112, article 24(3).

⁵⁰⁶ Décret N° 2000 – 415 portant définition du système d'octroi des licences de pêche crevettière, article 8.

11.5 Other legislation relevant to EAF

The 1985 Ordinance establishing the maritime zones of Madagascar establishes Madagascar's internal waters, territorial sea, contiguous zone, continental shelf and EEZ.⁵⁰⁷

The 2001 Law on Responsible and Sustainable Shrimp Aquaculture⁵⁰⁸ prescribes procedures for obtaining an authorization for establishing an aquaculture facility, disease prevention measures and measures for the protection of the environment. Authorization will only be granted once an EIA has been carried out and an "environmental permit" obtained.⁵⁰⁹ The law specifically prescribes that the construction of ponds must not in any case destroy more than 10 percent of the mangroves where the pond is located.⁵¹⁰ In case of cessation of aquaculture activities, the permit holder is obliged to rehabilitate the area where the aquaculture operations have taken place.⁵¹¹

The 1996 Law on Local Management of Renewable Natural Resources, including aquatic resources,⁵¹² provides for the transfer of management responsibilities to local communities on the terms and conditions to be further specified in a contract between the local communities and the authorities. (articles 5 and 6). The contract grants the community, for a specified time, the right to manage the access, conservation, exploitation and development of the resources for which management powers have been transferred (article 43).

The 1990 Law on the Malagasy Environmental Charter⁵¹³ includes the national environment policy and action plan for Madagascar, as well as the institutional framework, including mechanisms for stakeholder participation and interagency cooperation.⁵¹⁴ Under article 10 of the law, an EIA needs to be carried out for investment projects that are likely to undermine the environment or that require authorization. Moreover, the law provides for compensation for environmental damage (article 11). Under the Decree on compatibility of investments with the environment,⁵¹⁵ which covers both private and state development projects, an EIA is required for the introduction of alien species or GMOs, the establishment of national or regional MPAs, and for projects related to recreational fishing. These projects also require that an environmental permit is obtained and that a management plan is prepared by the investor. The Decree furthermore subjects the establishment of communal or private MPAs, and the reintroduction of species, to the development of a *Programme d'Engagement Environnemental*, which requires the investor to take mitigating measures (and rehabilitation measures as appropriate) against the impacts on the environment of his/her activities. Before increasing the fishing effort, the investor will in addition need to ensure that a stock assessment is carried out.

The 2001 Protected Areas Code⁵¹⁶ provides for the establishment of protected areas, including MPAs. The overall objective of the establishment of protected areas is to serve goals related to conservation, research, education and recreation. Pursuant to a 2005 Decree, protected areas may be established as natural parks, natural monuments, protected landscape areas, and natural resources reserves. The latter category is managed primarily by the principle of sustainable use of natural ecosystems, especially for scientific, recreational, subsistence and economic purposes. The protection

⁵⁰⁷ Ordonnance No. 85-013 fixant les limites des zones maritimes (mer territoriale, plateau continental et zone économique exclusive) de la République Démocratique de Madagascar (1985).

⁵⁰⁸ Loi no. 2001-020 portant développement d'une aquaculture de crevettes responsable et durable (2001).

⁵⁰⁹ Loi, article 23.

⁵¹⁰ Loi, article 17.

⁵¹¹ Loi, article 18.

⁵¹² Loi n° 96-025 relative à la gestion locale des ressources naturelles renouvelables (1996).

⁵¹³ Loi n° 90-033 relative à la Charte de l'environnement malagasy (1990).

⁵¹⁴ Loi n° 97-012 modifiant et complétant certaines dispositions de la loi n° 90-033 relative à la Charte de l'environnement malagasy (1997).

⁵¹⁵ Décret n° 99-954 relatif à la mise en compatibilité des investissements avec l'environnement (1999), articles 4 and 5.

⁵¹⁶ Loi n° 2001-005 portant Code de gestion des aires protégées (2001), articles 1, 2 and 11.

and long-term maintenance of biodiversity and other natural values of the areas are key objectives for this category.⁵¹⁷

The Code establishes a management body in charge of coordinating and facilitating the activities related to the protected areas, under the auspices of the Ministry of Environment, Forestry and Tourism (article 13). Under article 14 of the Code, the criteria for establishing a protected area is that the area in question is a sensitive area, is an location of a particular quality that is representative of Malagasy biodiversity and ecosystems. Alternatively, it must have a specific cultural value that it is necessary to conserve. The Code furthermore puts in place procedures for the establishment and management of protected areas, and the Ministry of Environment, Forestry and Tourism is responsible for ensuring that all relevant ministries, provinces and regional authorities are involved in the process (article 15). Interestingly, everybody has the right to propose the establishment of a protected area (article 16), although the council of government is the one to decide whether a protected area shall actually be established (article 18). The state can entrust the management of a protected area to a national autonomous body (article 28). All activities in a protected area in the national protected areas network, including research, are banned unless provided for in the Code (article 40). Several protected areas have been established under the Code, but most seem to be related to forests.

Among its objectives, **the 1998 Water Code**⁵¹⁸ shall provide for the management, conservation and use of water resources. Under articles 10 and 11, authorization is required for the extraction of groundwater and water from lakes, rivers, etc. Article 12 prescribes that measures must be taken to prevent or stop pollution of water resources, and that a polluter is liable to pay compensation in the case of non-observance of this provision. With respect to waste, the law prescribes that waste that has harmful effects on the environment shall be eliminated or handled by the producer of the waste (article 15). The law furthermore prescribes that a public hearing and an EIA shall be carried out with respect to operations that are likely to affect the environment and disturb the aquatic ecosystem (article 23). The law also prohibits the discharging of substances into drainage basins that are likely to create a degradation of the water resources (article 24).

The 1999 Mining Code⁵¹⁹ covers mining activities on the continental shelf, and provides for the allocation of permits for the exploration and exploitation of minerals by the Ministry in charge of mining, based on a first come, first served basis. Under the Code, prospecting is explicitly prohibited in protected areas (article 20). Before an exploration or exploitation permit is granted, the approval of the environmental authorities must be obtained (articles 33 and 37). With respect to EIA, this is a prerequisite for exploitation permits, while for exploration permits it can be requested at the discretion of the Ministry. However, these latter requests must include a plan on environmental commitments. With the exception of the environmental authorities, the Code does not require any coordination or consultation with other ministries before a permit may be granted. All permit holders are obliged to take the necessary protective measures to minimize and repair any damage that may result from their mining-related activities, and are liable for any environmental degradation due to their activities (article 99). Mining activities have to be carried out in accordance with the plan on environmental commitment and the EIA (article 100).

11.6 Concluding remarks

The current legal framework for fisheries management in Madagascar is rather rudimentary, and provides only basic provisions on licensing, fishing methods and gears, enforcement and sanctions. Basic monitoring provisions related to the keeping of logbooks and the furnishing of catch data are absent with regard to nationals' fishing activities, and there are no defined management objectives in the Fisheries Ordinance. Aquaculture, with the exception of shrimp aquaculture, is largely

⁵¹⁷ Décret n° 2005- 848 appliquant les articles 2, alinéa 2, 4, 17, 20 et 28 de la loi n° 2001/005 portant Code de gestion des Aires protégées, articles 2 and 9.

⁵¹⁸ Loi n° 98-029 portant Code de l'eau (1998).

⁵¹⁹ Loi n° 99-022 portant code minier (1999) articles 41 and 42.

unregulated. While the Fisheries Ordinance provides for the adoption of management plans, it does not specify that TACs should be determined. It includes mechanisms for coordination and stakeholder participation through the establishment of the Inter-Ministerial Commission on Fishing and Aquaculture and the provisions for establishing local advisory councils, but it remains unknown whether these bodies are fully functional or operational. With respect to MPAs, the Protected Areas Code provides a comprehensive legal framework and puts procedures in place for involving relevant ministries in the establishment process.

With a view to remedying the weaknesses of the current legal regime for fisheries, a new fisheries law has recently been drafted in Madagascar, and is reportedly in the process of being adopted.⁵²⁰ The draft law is particularly designed to address recent developments in international fisheries law, with special attention paid to the challenges related to combating IUU fishing. It also includes provisions on port state measures, strengthened enforcement powers, an increased number of penal provisions and more dissuasive sanctions. Additionally, it requires that the Minister consult with other states in the region with a view to harmonizing and ensuring compatibility of management measures for shared, straddling and highly migratory stocks. The draft law also stipulates the setting of TACs or optimum fishing effort as part of the fisheries management plans.

In order to further strengthen the implementation of EAF in Madagascar, the draft law would benefit from the inclusion of some EAF-related objectives. It should also provide for the establishment of a fisheries management fund, and should address marine pollution fishing zones, sports fishing, the furnishing of catch data by fishermen and the conditions for boarding of observers, as well as the contents and terms for concluding foreign fishing access agreements. The draft law should also give more direct attention to fisheries research.

Finally, the provisions establishing the Inter-Ministerial Commission on Fishing and Aquaculture and the local advisory councils have not been retained in the draft law. It is recommended that these are retained in the law as these bodies play an important role in enhancing interagency coordination, cooperation, and grassroots participation in fisheries management.

12. EAF AND MAURITIAN LEGISLATION

12.1 The legal and institutional framework and EAF

12.1.1 Scope of law and institutional structure

Mauritius's main fisheries legislation is the **2007 Fisheries and Marine Resources Act** (No. 27 of 2007). It amends and consolidates the Mauritius law relating to the management, conservation and protection of fisheries and marine resources and the protection of marine ecosystems. The Act provides for the management, conservation and protection of fisheries and marine resources and marine ecosystems, as well as aquaculture management.

The Minister of Agro Industry, Food Production and Security is responsible for marine resources development and management in Mauritius. The Minister is vested with regulatory powers under the Act, and together with the Permanent Secretary of the Ministry executes management powers. The Fisheries Division comprises three services: Fisheries Development and Protection, Fisheries Planning and Management and Marine Science.⁵²¹

12.1.2 Mechanisms for coordination, cooperation and integration

There is no such mechanism established in the Fisheries and Marine Resources Act.

⁵²⁰ The comments on the draft fisheries law in this report are based on a version (Projet de loi sur la pêche à Madagascar) that was circulated to FAO for comments in March 2009.

⁵²¹ See organizational chart at: www.gov.mu/portal/site/moa/menuitem.c0dc7aeb29a01da8adbea610a0208a0c/

12.1.3 Mechanism for stakeholder participation

Under section 3 of the Fisheries and Marine Resources Act, the Minister may set up such Consultative Committees as he sees fit for “discussions and advice on matters of general policy relating to fisheries and marine resources”, as well as for “inquiring into matters relating to fisheries and marine resources.” A Consultative Committee shall consist of the Minister, who shall be the chairperson, plus such other persons as the Minister may appoint.

At any meeting, the chairperson of the Consultative Committee may co-opt any person who, in his opinion, may assist the Committee on the subject currently under deliberation. However, no member of any Consultative Committee, other than the representative of a ministry, shall be deemed to hold a public office by virtue only of his appointment as a member.

12.1.4 Objectives of the law

The Fisheries and Marine Resources Act does not state any overall objective for fisheries and marine resources management in Mauritius.

12.2 Fisheries management and EAF

12.2.1 Fisheries management plans

The Fisheries and Marine Resources Act does not require the adoption of fisheries management plans.

12.2.2 Effort and catch management

Part VI of the Act aims at controlling fishing effort through a licensing system that regulates the number of fishing gear and vessels that are in use in Mauritian waters and the high seas. Under the Act, no person shall, without a licence issued by the Permanent Secretary, use or possess bait gear, canard nets, gill nets, large nets, basket traps, shrimp nets, or pocket nets. However, no licence shall be required for basket traps with meshes of a size that allows a cylinder measuring not less than 4 cm in diameter to pass through. A licence is not required by those who hold a vessel licence (see below). A gear licence is subject to such terms and conditions as the Permanent Secretary thinks fit. No licence shall be granted for concurrent use of fill nets, large nets and shrimp nets. The Permanent Secretary may issue the license upon receipt of the prescribed fee.⁵²²

The Act includes a limitation of the number of gear licences that can be issued; the Permanent Secretary shall not at any time license the use of more than 10 large nets, 10 pocket nets, 10 canard nets, 5 gill nets and 100 shrimp nets in the lagoon on the island of Mauritius; 8 large nets, 8 pocket nets, 8 canard nets and 15 shrimp nets in the lagoon on the island of Rodrigues; and 2 large nets for fishing in the lagoon on the island of Agalega.⁵²³ A gear license is not transferable.⁵²⁴

With respect to vessel licences, the Act states that no Mauritian fishing vessel shall be used for fishing either within Mauritian waters or on the high seas, unless they have been issued with a licence. However, the Minister may exempt any fishing boat less than 12 m in length from licensing requirements. The Minister shall not issue a license under this section unless the vessel is registered under the Merchant Shipping Act or under this Act, and importantly, the vessel “has no history of non-compliance with international fishery conservation and management measures” unless there has been a change in ownership and the new owner can prove that the previous owner has no legal, beneficial or financial interest in the vessel. In addition, the applicant must satisfy such other requirements as determined by the Minister.⁵²⁵

The terms and conditions that the Minister may attach to a vessel licence may include the following: the type and method of fishing or related activity authorized; the areas within which such fishing or

⁵²² Fisheries and Marine Resources Act (2007), sections 28 and 29.

⁵²³ Fisheries and Marine Resources Act (2007), section 30(1).

⁵²⁴ Fisheries and Marine Resources Act (2007), section 31.

⁵²⁵ Fisheries and Marine Resources Act (2007), section 36.

related activity is authorized; the species and amount of fish authorized to be taken, including any restriction on bycatch; closed periods; reporting obligations; and the carrying on board of communications, position fixing and other equipment.⁵²⁶

A licence is valid for such period as may be specified in the licence, but shall not exceed one year. Upon application for renewal, the Minister may attach fresh conditions to the licence, or may vary its conditions. A licence is not transferable.⁵²⁷

As another means to control fishing effort, the Act prescribes that no person shall import into Mauritius or construct a fishing vessel, without the approval of the Permanent Secretary. Likewise, no person shall manufacture, import, sell or supply any gear without a licence (with some exceptions). There are some exceptions to the latter rule, but all gear that is subject to a licence is also subject to these control measures.⁵²⁸ No person shall modify the size of a fishing vessel registered under the Act without the Permanent Secretary's written approval.⁵²⁹

With respect to foreign fishing, the Act stipulates that no foreign vessels shall be allowed in Mauritian waters without a licence. A licence shall however be refused if the foreign vessel has a history of non-compliance with international fishery conservation and management measures or if it does not comply with the requirements of an RFMO of which Mauritius is a party. Similar terms and conditions as those stipulated for national fishing vessels can be attached to the licence.⁵³⁰

A foreign fishing licence shall not be issued under the Act unless there is: an agreement between the Government of Mauritius and the state in which the vessel is registered; an economic integrated organization to which a member state of the organization in which the fishing vessel is registered has delegated the power to negotiate fishing agreements or; a fishing association of which the owner or charterer of the vessel is a member. However, in lieu of such an agreement, the Minister may issue a licence if the applicant provides financial or other guarantees.⁵³¹

12.2.3 Fishing gears and methods

The Act outlines prohibited fishing methods, which include fishing with a gunny bag, canvas or cloth, creeper, leaf or herb; lime and poisonous substances; any explosive; any drift net; and using or keeping on board any device that may be used to transform a gear. Moreover, it is prohibited to possess or control any of these articles for the purposes of fishing. Landing, selling or possessing fish that has been caught by these gears and methods or any other illegal method is illegal. It is also prohibited to fish with or possess a spear gun except with the approval of the Permanent Secretary. Underwater fishing is expressly forbidden without the written authorization of the Permanent Secretary.⁵³²

The Act furthermore prohibits the use of fish aggregating devices or fishing with the aid of artificial light unless this has been authorized. Moreover, using a net in a pass, or placing any object in a pass that is likely to cause obstruction to navigation, is prohibited.⁵³³

With respect to gear authorized to be used under a licence (see 13.2.2), the Act prescribes that no licensee shall dispose of any licensed gear without the Permanent Secretary's written approval. Additionally, no licensee shall replace any licensed gear unless the net has become unserviceable, has been surrendered to the Permanent Secretary or the latter approves its replacement.⁵³⁴

⁵²⁶ Fisheries and Marine Resources Act (2007), section 37.

⁵²⁷ Fisheries and Marine Resources Act (2007), section 38.

⁵²⁸ Fisheries and Marine Resources Act (2007), sections 26 and 27.

⁵²⁹ Fisheries and Marine Resources Act (2007), section 46(1).

⁵³⁰ Fisheries and Marine Resources Act (2007), sections 34 and 37.

⁵³¹ Fisheries and Marine Resources Act (2007), section 35.

⁵³² Fisheries and Marine Resources Act (2007), sections 12 and 13.

⁵³³ Fisheries and Marine Resources Act (2007), sections 15, 18 and 19.

⁵³⁴ Fisheries and Marine Resources Act (2007), section 33.

12.2.4 Spatial and temporal controls

Under Section 4 of the Fisheries and Marine Resources Act, the Minister is empowered to issue regulations declaring any area of the maritime zones, including the seabed; any land associated with the maritime zones; or any wetland, an MPA. A MPA may be designated as a Fishing Reserve, a Marine Park, or a Marine Reserve. The Minister may, by regulation, prescribe measures for the protection, conservation and management of marine protected areas and artificial reefs.⁵³⁵ MPA Regulations, which were adopted in 2001 and amended in 2007,⁵³⁶ subject most human activities in MPAs to a permit. Some activities are banned completely; in marine reserves for example, there is a general prohibition on extractive uses, search, excavation and drilling operations. In addition to permits for constructions, emissions and access to MPAs for example, the Regulations prohibit the use of nets in fishing reserves. There are also provisions on zoning, and more specific provisions for certain MPAs.

The Act also provides for closed seasons. As such, no person shall fish with, or have in his possession at sea a large net, a pocket net or a gill net between 1 October and the last day of February; a canard net from 1 May to 31 July and from 1 October to the last day of February. Moreover, subject to the above, no person shall fish with or have in his possession at sea, river, lake or dam, a large net or canard net between 1800 hours and 0600 hours, or a gill net between 0600 hours and 1800 hours. It is also prohibited to fish oysters or have in one's possession fresh oysters from 1 October to the last day of March. However, when the weather conditions prevent fishing outside the closed seasons, the Minister may authorize fishing for a period of a maximum of ten days during the closed season.⁵³⁷

In an effort to further the protection of certain species, the Act prohibits fishing for undersized fish, crab or lobster in the berried state, marine turtles, turtle eggs and marine mammals. A permit can, however, be granted for scientific or reproductive reasons or for stocking or bait use.⁵³⁸

Under Section 17 of the Act, landing and sale of marine turtles and eggs, marine mammals, undersized fish and crabs and lobsters in the berried state is prohibited unless authorized for scientific or conservation purposes. There is an absolute ban on landing or selling of any fish when there is reasonable cause to believe that this fish "has been taken in contravention of any international fishery conservation and management measure to which Mauritius is a party."

Several regulations have been adopted to enhance species protection. Regulations from 2006 further specify the species and size of fish that are considered "undersized".⁵³⁹ There are also regulations in place that prohibit the fishing of sea cucumbers that are less than 15 cm long, and that imposes a closure on all sea cucumber fishing from 1 January to 31 March each year. Corals and sea-shells also enjoy special protection; removal of any coral from any maritime zone of Mauritius is prohibited unless a permit has been granted. Sea-shells can only be removed if they are listed in the schedule to the regulations or if the taker holds a permit.⁵⁴⁰

Section 69 of the Fisheries and Marine Resources Act provides for the protection of the aquatic ecosystem. This section indicates that no person shall place throw or discharge any poisonous substances into the maritime zones or into a river, lake or other water body or wetland. Cutting, taking, removing or damaging mangrove plants, or constructing any structure within the territorial sea or internal waters, is not permitted without the Permanent Secretary's written authorization.

⁵³⁵ Fisheries and Marine Resources Act (2007), section 74(1)(h).

⁵³⁶ Fisheries and Marine Resources (Marine Protected Areas) Regulations (2001), as amended by the Fisheries and Marine Resources (Marine Protected Areas) (Amendment) Regulations (2007).

⁵³⁷ Fisheries and Marine Resources Act (2007), section 14.

⁵³⁸ Fisheries and Marine Resources Act (2007), section 16.

⁵³⁹ Fisheries and Marine Resources (Undersized Fish) Regulations (2006).

⁵⁴⁰ Fisheries and Marine Resources (Fishing of Sea Cucumbers) Regulations 2008; Fisheries and Marine Resources (Prohibition of Removal of Coral and Sea-shell) Regulations 2006.

12.3 Monitoring, control and surveillance

The Fisheries and Marine Resources Act provides several MCS provisions. The Permanent Secretary shall keep a record of both fishing vessels under 12 m and of licensed vessels, foreign or Mauritian. With respect to licensed vessels, the Act requires the record to include detailed information, including details related to the name of the vessel; the port and country of registration; previous registration; international radio call sign; length, net registered tonnage; and fishing method and gears. Interestingly, the record also requires the name and nationality of any natural or legal person with beneficial ownership of the vessel and particulars of any previous offences committed by the use of the fishing vessel.

Mauritian fishing vessels need to be registered with the Permanent Secretary⁵⁴¹ or pursuant to the Merchant Shipping Act. The Permanent Secretary shall assign an identification mark to all vessels registered under the Act. No fishing vessel shall be allowed into the maritime zones of the country unless the vessel is marked in accordance with FAO's standard specifications for marking of vessels or as specified by the flag state.⁵⁴²

Under Section 41 of the Act, reporting obligations are spelled out, including requirements for maintaining a fishing logbook. The master or owner of a vessel shall submit such logbooks along with any other catch data to the Permanent Secretary as required by the relevant agreement or licence.

VMS regulations have also been adopted, whereby the Ministry requires all licensed vessels to be equipped with a VMS, which prohibits the use of a vessel for fishing or any related activity unless "the appropriate operational communication equipment duly approved by the Permanent Secretary" has been installed. The regulation also specifies requirements with regard to data security and frequency of data transmissions. The regulation also requires the set up of a Fisheries Monitoring Centre in charge of receiving and transmitting data.⁵⁴³

All fish shall be landed at designated fish landing stations, and, shall also be weighed, if requested, by a fishery control officer. As a measure to enhance traceability, the Act also requires the person landing the fish to provide such other particulars on the catch as may be required. There are also rules on the sale and origin of fish that will improve traceability; a person found in possession of fish shall, when required by an officer, furnish the officer with particulars of the origin or source of the fish.⁵⁴⁴

The Act also includes provisions related to transshipment and landing. Transshipment is prohibited except in a port or other approved place. However, transshipment can take place elsewhere if it is deemed "necessary" or it is done in accordance with management measures agreed upon by Mauritius. Mauritian vessels shall land catch in Port Louis harbour or a fish landing station and shall give notice two days prior to landing.⁵⁴⁵ Mauritian vessels will also need to inform the National Coast Guard of the expected time of arrival, while foreign vessels will need to give notice before entry into the marine waters or port.⁵⁴⁶

For the purpose of implementing international management measures, the Act specifies that foreign vessels shall only land or transship in a port or offshore terminal upon obtaining a permit from the Permanent Secretary. For this purpose, a fishery control officer may board and inspect the vessel. Significantly, where the officer has reason to believe that the vessel was involved in "any fishing activity in contravention of any international fishery conservation and management measure" he may

⁵⁴¹ Fisheries and Marine Resources Act (2007), section 42 and indirectly.

⁵⁴² Fisheries and Marine Resources Act (2007), section 40.

⁵⁴³ Fisheries and Marine Resources (Vessel Monitoring System) Regulations (2005).

⁵⁴⁴ Fisheries and Marine Resources Act (2007), sections 20 and 21.

⁵⁴⁵ Fisheries and Marine Resources Act (2007), sections 39, 47 and 51.

⁵⁴⁶ Fisheries and Marine Resources Act (2007), section 81.

prohibit the vessel from landing or transshipping; notify the flag state and provide the flag state with such information, including evidentiary material relating to that contravention.⁵⁴⁷

The Act also includes other enforcement measures and Part VIII includes provisions on: warrants to enter and search, power to search and seize, power to arrest and detain, seizure of fish, and pursuit beyond maritime zones. Finally, there are numerous offenses created and penalties prescribed under Part IX of the Act.

12.4 Miscellaneous

Section 23 of the Act requires importation of live fish intended for release, aquaculture or ornamental purposes, as well as the actual release of such fish, to be authorized by the Permanent Secretary. The release of fish is not approved unless the fish has been subject to quarantine measures, an EIA has been conducted and the Permanent Secretary is satisfied that “the release of such fish shall not be detrimental to the environment.”

Aquaculture farming is provided for in Part III of the Act, which establishes an authorization system for fish farms. No fish farming can take place without an authorization, and when processing an application, the Permanent Secretary may require the applicant to furnish a clearance from the Department of Environment and other authorities. A person who wishes to object to an application, can do so within 21 days. In case of a disease outbreak, the operation is obliged to inform the Permanent Secretary within 24 hours, whereupon measures to control the disease and prevent it from spreading can be decided by the Permanent Secretary.

No fisheries management fund is established under the Fisheries and Marine Resources Act, but there is a fund for the management of MPAs. In addition to money appropriated by the National Assembly, the fund shall consist of grants or donations; any money that may lawfully accrue to it; and any money that is payable under the Act, including all fees, rent and other charges arising from the authorized use of an MPA. The fund is to be managed by the Permanent Secretary.⁵⁴⁸

12.5 Other legislation relevant to EAF

The 2005 Maritime Zones Act⁵⁴⁹ (Act No. 2 of 2005) prescribes the legal status of, and delimitates the territorial sea (12 nautical miles); contiguous zone (24 nautical miles); EEZ (200 nautical miles) and the continental shelf. It also includes provisions on marine scientific research.

The 1986 Merchant Shipping Act⁵⁵⁰ provides for the registration, safety, survey and certification of Mauritian ships, including fishing vessels that are not registered under the Fisheries and Marine Resources Act. It also regulates various other issues, including navigation of Mauritian ships, carriage and disposal of dangerous goods, as well as provisions on wrecks and salvage.

The 2002 Environment Protection Act⁵⁵¹ establishes a legal and institutional framework for the protection and management of the natural environment, for planning and coordination of environmental management, as well as implementation of government policies and enforcement provisions. More specifically, the Act includes rules with respect to EIA, spill and environmental emergency and national environmental standards. Of particular interest in the context of EAF is Part VII of the Act, which establishes an Integrated Coastal Zone Management (ICZM) Committee with broad participation from different ministries (environment, local government, fisheries, housing and lands, shipping, tourism, water resources), district and local authorities, the national coast guard and

⁵⁴⁷ Fisheries and Marine Resources Act (2007), section 57.

⁵⁴⁸ Fisheries and Marine Resources Act (2007), section 5.

⁵⁴⁹ Act No. 2 of 2005.

⁵⁵⁰ Act No. 28 of 1986 – 15 January 1991 (as amended in 2005).

⁵⁵¹ Act No. 19 of 2002, as amended by Act No. 6 of 2008, Environment Protection (Amendment) Act.

several other concerned authorities, as well as representatives from NGOs. The ICZM Committee has a broad mandate and is tasked to (a) develop an integrated management plan; (b) coordinate regional and international projects; (c) monitor coastal water quality and coastal resources, including wetlands; (d) conduct and recommend studies on beach erosion and propose measures for its control; (e) make recommendations for the upgrading of recreational facilities; (f) coordinate the management of islets and outer islands; (g) make recommendations on guidelines for coastal constructions; (h) propose oil spill contingency planning and sensitivity mapping; and (i) generally, make recommendations to the Minister on the management and protection of the coastal zone.

The Act furthermore establishes the National Environment Commission under Part II of the Act, which is tasked to: set national objectives and goals, and determine policies and priorities for the protection of the environment; review progress made by public departments on any aspect of environmental management projects and programmes; ensure coordination and cooperation between public departments, local authorities, and other government organizations engaged in environmental protection programmes; make recommendations and issue directions to public departments as is deemed fit; and monitor and review the activities of public departments concerned with the protection and management of the environment. The Commission comprises the Prime Minister, the Ministers responsible for a wide range of subject areas, including agriculture, housing and lands, economic development, environment, fisheries, health, industry, shipping and tourism, as well as participants from the University of Mauritius and a trade union⁵⁵². Finally, the Act establishes the Department of Environment (Section 8), a National Network for Sustainable Development (Section 10), an EIA Committee (Section 22) and the Environment Appeal Tribunal (Part VIII). The National Environment Fund (Part IX) and an Environment Protection Fee (Part X) are also provided for by the Act.

Numerous regulations have been adopted under the Act, including regulations on standards for effluent discharge into the ocean and on storage and disposal of used oil.⁵⁵³

The 1993 Wildlife and National Parks Act⁵⁵⁴ is the basic law dealing with conservation and management of wildlife (except fish within the meaning of the fisheries legislation) and national parks in Mauritius. Under Part IV, the President may by proclamation establish national parks and protected areas, including land covered by sea. The Act also includes measures on fauna and flora protection, including protected wildlife, trade in wildlife, hunting licences, hunting gear and methods, and the introduction of animals with the exception of fish. Section 4 of the Act also restricts the catch and sale of camarons and shrimps and prescribes restrictions with respect to fishing methods and gear used to catch these species.

The Act also provides for the institutional arrangements for wildlife conservation and management, and establishes the National Parks and Conservation Service, the Wild life and National Parks Advisory Council and the National Parks and Conservation Fund under Parts II, III and VI of the Act. The Advisory Council, which is tasked to advise the Minister in charge of agriculture and fisheries on any matter related to wildlife and national parks, is comprised of various stakeholder representatives, including representatives from the Fisheries Division, the Forestry Service, the ministries of environment, tourism, science and local government, and members of the public with wide knowledge of the natural resources of Mauritius.

The Act is implemented by the Wildlife and National Parks Regulations 1998, which under section 19 prescribes that no person shall fish or be in possession of fishing gear or take or disturb any animal, shell, plan or any other marine organism in a marine reserve without permission.

⁵⁵² Environment Protection (Amendment) Act (2008) section 35.

⁵⁵³ Environmental Protection (Standards for effluent discharge into the ocean) Regulations (2003); Environment Protection (Collection, Storage, Treatment, Use and Disposal of Used Oil) Regulations (2006).

⁵⁵⁴ Act No. 13 of 1993 – 1 March 1994.

The 2000 Waste Water Management Authority Act⁵⁵⁵ provides for the establishment of the Waste Water Management Authority, which, *inter alia*, shall be responsible for public sewers and waste water systems, and prescribes restrictions with respect to, *inter alia*, the disposal of waste water and effluents.

The 1971 Central Water Authority Act establishes the Central Water Authority, which is in charge of the control, development and conservation of water resources. Discharge of polluted water into any water body is prohibited pursuant to the Act.⁵⁵⁶

The **1999 Guidelines for Coastal Water Quality**⁵⁵⁷ set out water quality requirements for coastal waters: Category A are waters classified for the conservation of the coral community and conservation of natural areas such as mangroves, wildlife habitats, marine spawning and nursing and feeding grounds. Category B prescribes water quality standards for recreation purposes; Category C for aquaculture and shellfish culture, while Category D prescribes such standards for industrial and remaining coastal areas.

12.6 Concluding remarks

Mauritius's Fisheries and Marine Resources Act of 2007 contains detailed provisions concerning important issues relevant to EAF. Compared to all other fishery legislations in the countries covered by this study, this is clearly the most updated, and perhaps the most detailed law when it comes to key aspects of EAF. The Act is particularly strong with respect to measures related to effort management, fishing gear and methods, as well as spatial and temporal controls.

While the Act incorporates important MCS provisions, it needs to add more direct provisions for fisheries observers. Furthermore, although the Act prescribes that the Minister may make regulations on schemes for setting and allocating quotas, it is arguable that the subject of catch management has not been given adequate attention in the Act. Important here would be the requirement to set TACs for main species. The Act could also include provisions on allocation of quotas, specifying that further allocation to vessel and gear groups should be based on considerations that enhance both ecosystem and human well-being.

The Act does not include direct provisions on management plans and does not include any management objectives that guide its implementation. It is furthermore not very detailed with respect to aquaculture; however the provisions regulating the release of imported live fish contributes to protecting ecosystems from the uncontrolled introduction of alien species, which is an important step towards EAF management. It is worth noting, however, that the control of release only applies to imported species.

While the provisions concerning the MPA fund are laudable, it would also be desirable for the Act to provide for the establishment of a Fisheries fund, into which appropriations from various sources, including fishing licence fees, should be paid to improve Mauritius' fisheries development and management.

The Act could also benefit from enhanced focus on stakeholder participation. As the Minister is both the chairperson and appointing authority of the Consultative Committees, he holds rather excessive powers over this body, which may stifle effective participation.

Of other legislation of relevance to EAF, the Environment Protection Act is worth highlighting and in particular the provisions on integrated coastal zone management, which play a key role for EAF implementation in Mauritius. Both the mandate and the composition of the ICZM Committee are

⁵⁵⁵ Act No. 39 of 2000, as amended by Act No. 26 of 2004, Waste Water Management Authority (Amendment) Act.

⁵⁵⁶ Act No. 20 of 1971 – 19 July 1971, as amended, section 4, 46A.

⁵⁵⁷ General Notice No. 620 of 1999.

conducive to EAF. Its broad participation will enable both coordination and stakeholder participation, while the preparation of an integrated management plan will be an important tool for more holistic management of the coastal zone, including fisheries.

13. EAF AND MOROCCAN LEGISLATION

13.1 The fisheries legal and institutional framework and EAF

13.1.1 Scope of law and institutional structure

The 1973 Maritime Fisheries Law (Fisheries Law)⁵⁵⁸ is the primary law regulating marine fisheries in Moroccan waters. Since its adoption over 35 years ago, it has been amended several times and several decrees and regulations have been adopted to implement it.

The Ministry of Agriculture and Marine Fisheries (the Ministry) is responsible for Morocco's overall marine fisheries management and development. The National Fisheries Bureau (*L'Office National des Pêches*) is responsible for the development of small-scale and coastal fisheries, including promotional and modernization programmes for the small-scale and coastal fleet, as well as the organization of fishery products marketing.⁵⁵⁹

The National Institute for Fisheries Research (*Institut national de recherche halieutique*) (INRH) was established in 1996 under the auspices of the Ministry,⁵⁶⁰ and undertakes continuous assessments of national fisheries resources, prepares socioeconomic and environmental studies on the fisheries sector, evaluates the potential for coastal aquaculture development, and considers the application of new fishing technologies in Morocco.

13.1.2 Mechanisms for coordination, cooperation and integration

The Board of Directors (*conseil d'administration*) of the National Fisheries Bureau meets at least twice per year, and approves the Bureau's budgets and working programmes. The Board is headed by the prime minister and is comprised of representatives from several ministries, including those responsible for fisheries, finance, agriculture, industry, public health, tourism and the environment.⁵⁶¹ A Steering Committee (*comité de direction*) for the Bureau is furthermore established, made up of representatives from several ministries, as well as directors of the Ministry. The Committee is headed by the minister in charge of marine fisheries.⁵⁶²

13.1.3 Mechanism for stakeholder participation

The Board of Directors of the National Fisheries Bureau assembles a wide range of stakeholders, with representatives from the port authorities, INHR, ship owners, post-harvest industry, aquaculture

⁵⁵⁸ Dahir portant Loi no. 1-73-255 du 27 chaoual 1393 (23 novembre 1973) formant règlement sur la pêche maritime tel que modifié et complété (Fisheries Law).

⁵⁵⁹ Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir portant loi no. 1-75-030 du 17 décembre 1976 modifiant le Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir no. 1-96-99 du 29 juillet 1996 portant promulgation de la Loi no. 49-95 modifiant et complétant le Dahir no. 1-69-43 du 21 février 1969 relatif à l'Office National des Pêches, article 1.

⁵⁶⁰ Dahir no. 1-96-98 du 29 juillet 1996 portant promulgation de la loi no. 48-95 portant création de l'Institut national de recherche halieutique; Décret no. 2-95-835 du 14 octobre pris pour l'application de la loi no. 48-95 portant création de l'Institut national de recherche halieutique.

⁵⁶¹ Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir portant loi no. 1-75-030 du 17 décembre 1976 modifiant le Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir no. 1-96-99 du 29 juillet 1996 portant promulgation de la Loi no. 49-95 modifiant et complétant le Dahir no. 1-69-43 du 21 février 1969 relatif à l'Office National des Pêches, article 1; Décret no. 2-95-838 du 14 octobre 1996 fixant la composition des organes d'administration et de gestion de l'Office national des pêches, article 1.

⁵⁶² Décret no. 2-95-838 du 14 octobre 1996 fixant la composition des organes d'administration et de gestion de l'Office national des pêches, article 2.

industry and fishermen supplementing the above-mentioned ministries.⁵⁶³ The president of the Steering Committee can invite any other person to attend its deliberations, but these persons will have no right to vote.⁵⁶⁴

13.1.4 Objectives of the law

The Fisheries Law does not include a statement of purpose for the management of the fisheries resources.

13.2 Fisheries management and EAF

13.2.1 Fisheries management plans

The Fisheries Law does not prescribe measures for adopting fisheries management plans. However, a general fisheries management plan,⁵⁶⁵ a plan for the management of octopus fisheries (see 6.2.2), and a plan for small pelagic fisheries⁵⁶⁶ have been adopted. The general plan's objectives include the protection and sustainable harvest of marine resources. The plan gives a description of the different fisheries and the status of exploitation of commercial stocks (cephalopods, including octopus, and demersal, small and big pelagics), and the measures that should be put in place to remedy the general state of over-exploitation, including the setting of TACs. The plan provides that a commission, *la commission de veille biologique*, is to be established and will have responsibilities related to its implementation.

13.2.2 Effort and catch management

Under Moroccan legislation, the Moroccan state has sovereign rights to explore and exploit the biological resources in the EEZ and the adjacent zone. Fishing in the EEZ is reserved for vessels flying a Moroccan flag or for vessels that are chartered by Moroccan companies.⁵⁶⁷ Chartering of a foreign fishing vessel requires an authorization.⁵⁶⁸ Access may also be granted to foreign vessels within the framework of an access agreement, such as the EU Fisheries Partnership Agreement.⁵⁶⁹

Under the Fisheries Law, fishing in the sea for mollusks, crustaceans and urchins, with the exception of lobster and crawfish, may be carried out freely during the day and at night, although restrictions can be adopted, in particular for mussels and oysters. Fishing for marine finfish may also be carried out freely, as long as it is conducted within the confines of limitations set by the Law and restrictions set for the use of drift nets.⁵⁷⁰

Fishing in the EEZ requires a fishing licence, which is issued for one year upon the payment of a tax.⁵⁷¹ Fishing on a regular basis with nets, but without using a vessel (*pêche à pied*), requires a declaration to the authorities, upon which a free fishing license will be granted. Sub-marine fishing requires a special authorization.⁵⁷²

⁵⁶³ Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir portant loi no. 1-75-030 du 17 décembre 1976 modifiant le Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches; Dahir no. 1-96-99 du 29 juillet 1996 portant promulgation de la Loi no. 49-95 modifiant et complétant le Dahir no. 1-69-45 du 21 février 1969 relatif à l'Office National des Pêches, article 1.

⁵⁶⁴ Décret no. 2-95-838 du 14 octobre 1996 fixant la composition des organes d'administration et de gestion de l'Office national des pêches, article 2.

⁵⁶⁵ Fisheries management plan: http://www.mpm.gov.ma/ressources/plan_amenagement/amenagement.htm

⁵⁶⁶ The author was informed about this plan orally by staff in the Moroccan fisheries administration.

⁵⁶⁷ Dahir n° 1-81-179 portant promulgation de la loi n° 1-81 instituant une zone économique exclusive de 200 milles marins au large des côtes marocaines, articles 2 and 3.

⁵⁶⁸ Fisheries Law article 3.

⁵⁶⁹ Fisheries Partnership Agreement between the European Communities and the Kingdom of Morocco (2006).

⁵⁷⁰ Fisheries Law, articles 8, 9.

⁵⁷¹ Fisheries Law, article 2.

⁵⁷² Fisheries Law, articles 4 and 5.

A decree from 1992 regulates the licensing requirements for fishing in the Moroccan EEZ. A fishing licence is valid for a specific vessel and for the specified zone and species. The licence can also indicate the permitted level of bycatch. A licence is valid for one year and is non-transferable.⁵⁷³ A separate decree has been adopted, with respect to small pelagic fisheries, which provides that fishing licences for these type of fisheries should stipulate the number and type of engines that can be used, the species that are authorized to be fished under the license, the fishing quota permitted, and the port of landing.⁵⁷⁴

There are no provisions in the Fisheries Law requiring the setting of TACs or individual or collective fishing quotas, but management plans have set TACs for some commercial species. Since 2001, the management plan for the octopus fisheries⁵⁷⁵ has established individual vessel quotas for seagoing vessels, based on a percentage of the established TAC. Moreover, it limits the number of participating vessels, and establishes fishing zones for the different vessel types, as well as mesh size and minimum size of catch. The number of participating coastal fleet vessels is limited to 100, while the number of small scale vessels is limited to 2 500 vessels. There are reportedly 277 seagoing vessels (freezer trawlers) in operation. The plan also calls for the eradication of all irregular small scale vessels. The TAC is distributed among the vessel groups as follows: 63 percent for the seagoing fleet, 11 percent for the coastal fleet and 26 percent for the small scale fleet.

With respect to small pelagic fisheries, the Minister should prescribe TACs, vessel capacity (global tonnage and number of vessels), fishing periods and prohibited areas, number and types of fishing gear, bycatch, modalities for quota allocation, and the ports of landing. This should be done for the Atlantic and Mediterranean EEZs, respectively.⁵⁷⁶

Moroccan legislation contains no provisions regulating national vessels that are fishing outside waters under the national jurisdiction.

13.2.3 Fishing gears and methods

The Fisheries Law includes several provisions on the use of specified gear, and restricts the use of fixed nets (*filets fixes*), floating nets (*filets flottants*) and drift nets (*filets trainants*).⁵⁷⁷ The use of drift nets within three nautical miles from the coastline is prohibited.⁵⁷⁸ Regulations have been adopted for the use of drift nets in octopus fisheries,⁵⁷⁹ and on the mesh size of such nets.⁵⁸⁰

Under the Fisheries Law, the use of toxic substances, fire arms and explosives for fishing is prohibited, as is the release of toxic substances into the marine environment. It is also prohibited to make dams of fishing nets, branches and other means in order to catch fish.⁵⁸¹

⁵⁷³ Décret no. 2-92-1026 du 4 rejev 1413 (29 décembre 1992) fixant des conditions et les modalités de délivrance et de renouvellement de la licence de pêche dans la zone économique exclusive, article 2.

⁵⁷⁴ Décret n° 2-07-230 du 5 kaada 1429 (4 novembre 2008) fixant les conditions et modalités de pêche des petits pélagiques, article 5.

⁵⁷⁵ Octopus management plan: http://www.mpm.gov.ma/ressources/plan_aménagement/peche_poulpe.htm

⁵⁷⁶ Décret n° 2-07-230 du 5 kaada 1429 (4 novembre 2008) fixant les conditions et modalités de pêche des petits pélagiques article 4.

⁵⁷⁷ Fisheries Law, article 3.

⁵⁷⁸ Fisheries Law, article 15.

⁵⁷⁹ Arrêté du Ministre de la pêche maritime n° 370-01 fixant les conditions d'utilisation des filets traînants dans la pêche des céphalopodes.

⁵⁸⁰ Arrêté du Ministre des pêches maritimes, des affaires administratives et des relations avec le parlement n° 369-98 fixant les conditions de maillages des filets traînants pouvant être utilisés pour la pêche des céphalopodes. (5 March 1998).

⁵⁸¹ Fisheries Law, articles 17–21.

13.2.4 Spatial and temporal controls – species and habitat protection

The Fisheries Law provides that regulations may call for fishing restrictions in designated areas for the purpose of species protection. The opinion of the marine fisheries institute will have to be sought in this regard. It is illegal to transport, trade or export fish caught in prohibited areas.⁵⁸²

The Fisheries Law prohibits all fishing of berried female lobster and crawfish, and imposes a general ban on the fishing of all lobster and crawfish from October through January of the following year.⁵⁸³ The Law also establishes requirements for minimum catch size for several species, like oysters, mussels and urchins. Undersized catch shall immediately be released into the sea.⁵⁸⁴

Several regulations have been adopted to impose temporal prohibitions on the fishing of specific species in specific areas, such as the 2008 adoption of a 10-year prohibition on the fishing of marine gastropods;⁵⁸⁵ a yearly prohibition on the fishing of sea urchins from 1 May to 31 December;⁵⁸⁶ a prohibition, for a period of ten years commencing 15 December 2005, on harvesting red coral in a specific zone situated 14 nautical miles from the base lines;⁵⁸⁷ and a 2008 prohibition on fishing for sardines, anchovies, mackerel, sable fish and sardinella in the EEZ's Atlantic zone between the 24° and 25° parallels for a period of three years.⁵⁸⁸ A regulation banning the hunting of seals and other marine mammals for a period of ten years was also adopted in November 1999.⁵⁸⁹ All of these provisions state that the measures were adopted after obtaining the advice of the INRH and consulting with fisheries industry representatives. Restrictions on the harvesting of red coral in the Nador Laguna were imposed after the release of the GFCM's 2004 Nador Laguna study.⁵⁹⁰

13.3 Monitoring, control and surveillance and EAF

The Fisheries Law outlines some basic MCS measures, including enforcement powers (e.g. to board and inspect fishing vessels), which are granted to officers authorized under title IX of the Law. Penalties and fines for violations of the Law are provided for in title VIII.

The holder of an EEZ fishing licence is required to furnish all relevant information about their fishing activities at least once a year, or at the request of the Ministry. The Ministry shall publish a list of information requirements annually.⁵⁹¹ Holders of a small pelagic fishing licence are required to keep a log book, in which they must enter the dates and the quantities of the species that they catch. Furthermore, the amount of fish that has been landed will have to be declared in port. In case of

⁵⁸² Fisheries Law, article 6, second paragraph and article 6-1 (complété par le dahir no. 1-04-du 1^{er} rabii I 1425 (21 avril 2004) portant promulgation de la loi no. 39-03).

⁵⁸³ Fisheries Law, article 7.

⁵⁸⁴ Fisheries Law, articles 23 and 24.

⁵⁸⁵ Arrêté du Ministre de l'agriculture et de la pêche maritime n° 572-08 du 10 mars 2008 relatif à l'interdiction temporaire de pêche du gastéropode marin de l'espèce *cymbium marmoratum* dans les eaux maritimes marocaines.

⁵⁸⁶ Arrêté du Ministre de l'agriculture et de la pêche maritime n° 842-08 du 21 avril 2008 relatif à l'interdiction temporaire de pêche et de ramassage de l'échinoderme de l'espèce *paracentrotus lividus* (oursin de mer) dans les eaux maritimes marocaines.

⁵⁸⁷ Arrêté du Ministre de l'agriculture, du développement rural et des pêches maritimes n° 1954-05 relatif à l'interdiction temporaire de pêche du corail rouge dans certaines zones maritimes de la Méditerranée.

⁵⁸⁸ Arrêté n° 1985-08 du 28 chaoual 1429 (28 octobre 2008) relatif à l'interdiction temporaire de certaines espèces pélagiques.

⁵⁸⁹ Arrêté n°1430-99 du 24 septembre 1999 relatif à l'interdiction temporaire de pêche des phoques moines et autres mammifères marins.

⁵⁹⁰ See General Fisheries Commission for the Mediterranean 2006 Studies and Reviews No.77 Inventory of Artisanal Fisheries in the Western and Central Mediterranean <ftp://ftp.fao.org/docrep/fao/009/a0824e/a0824e00.pdf>

⁵⁹¹ Décret no. 2-92-1026 du 4 rejab 1413 (29 décembre 1992) fixant des conditions et les modalités de délivrance et de renouvellement de la licence de pêche dans la zone économique exclusive, article 2.

infringements related to landing and log book requirements and fishing quotas (over-fishing), the licence will be suspended immediately.⁵⁹²

Since 1999, fishing vessels are required to be equipped with a satellite-based VMS.⁵⁹³ The Fisheries Law provides that the fisheries administration shall determine the type of vessels that need to be fitted with a VMS, as well as further rules on the installation and use of VMS. However, no such regulations have been adopted thus far. Under the EU Fisheries Partnership Agreement, community vessels are obliged to communicate the vessel's position, speed and heading via VMS during their fishing trips in Moroccan waters.⁵⁹⁴

13.4 Miscellaneous measures

A decree adopted in 2008 prescribes that an authorization for establishing a mariculture operation can only be granted if an EIA has been carried out. An authorization will only be granted after consulting with INRH and taking into account fisheries activities that are already being carried out in the area in question. No authorization will be granted if the EIA, in the opinion of INRH, shows a risk of marine waters contamination or if the aquaculture operation endangers marine aquatic life, harms their reproduction, or disrupts their habitats.⁵⁹⁵

13.5 Other legislation relevant to EAF

A 200 nautical mile EEZ has been established along the Moroccan coast, which in principle applies to both Atlantic and Mediterranean waters.⁵⁹⁶ A territorial sea measuring 12 nautical miles has also been established.⁵⁹⁷

In 2003, two important new laws were passed that integrate EAF in the broader context of environmental protection: **the Environmental Protection Law** and **the Environmental Impact Assessment Law**. The 2003 Environmental Protection Law⁵⁹⁸ provides a modern framework for environmental planning, and includes provisions for the conservation of biodiversity, marine and coastal resources; the establishment of protected areas, including MPAs; measures against pollution and enforcement mechanisms for liability; as well as compensation provisions for environmental damage. It also provides for the adoption of management plans, including requirements for EIA, emergency plans and quality standards. Of particular interest is a provision stating that regulatory measures should be adopted to ensure an integrated and sustainable management of the coastal ecosystem and to prevent the degradation of coastal resources.⁵⁹⁹ The Ministry of Energy, Mining, Water and Environment is in charge of the implementation of environmental laws and policies, but at present, no such regulations have been adopted in relation to this law. The Environmental Impact Assessment Law⁶⁰⁰ establishes an annex, which contains a list of projects that requires EIA, including activities related to mining, quarries, oil refineries, chemical industries and aquaculture. The Law furthermore sets out the objective and content of an EIA, and provides that all EIAs are subject to a

⁵⁹² Décret n° 2-07-230 du 5 kaada 1429 (4 novembre 2008), articles 6–8.

⁵⁹³ Fisheries Law, article 45 bis.

⁵⁹⁴ Annex to the Fisheries Partnership Agreement between the European Communities and the Kingdom of Morocco (2006), chapter IV.

⁵⁹⁵ Décret no. 2-08-562 du 13 hija 1429 (12 décembre 2008) fixant les conditions et les modalités de délivrance et de renouvellement des autorisations d'établissement de pêche maritime, articles 3–5.

⁵⁹⁶ Dahir portant Loi no. 1-81 instituant une zone économique exclusive de deux cent milles au large des côtes marocaines.

⁵⁹⁷ Dahir portant Loi no. 1-73-211 fixant la limite des eaux territoriales et la zone de pêche exclusive marocaine (1973).

⁵⁹⁸ Dahir n° 1-03-59 portant promulgation de la loi n° 11-03 relative à la protection et à la mise en valeur de l'environnement.

⁵⁹⁹ Dahir n° 1-03-59 article 35.

⁶⁰⁰ Dahir n° 1-03-60 portant promulgation de la loi n° 12-03 relative aux études d'impact sur l'environnement.

public hearing. In 2008, a decree specifying the mandate and functions of the national EIA committee and local EIA committees established under the Law was also adopted.⁶⁰¹

The 1995 Water Law⁶⁰² provides for the management, protection and use of all freshwater resources. The law contains a chapter that addresses various measures related to water pollution, including restrictions on the discharge of effluents. The Ministry of Energy, Mining, Water and Environment is in charge of implementing the law.

The same ministry is also in charge of implementing **the 2002 Law on Exploitation of Quarries**.⁶⁰³ Under the law, management plans for mining activities, including sea-bed mining, shall be made for designated areas, and shall be in compliance with fisheries and other legislation. Authorization must be obtained before mining exploitations can take place, and activities taking place within an area subject to a management plan must comply with the plan. The authorization shall, *inter alia*, specify the measures that have to be taken to protect aquatic species and their habitats. An authorization shall be refused if there is no management plan in place and the activities will harm, *inter alia*, marine fisheries and aquaculture, the environment and the equilibrium of the ecosystem.⁶⁰⁴

The 1991 Law on Exploration and Exploitation of Hydrocarbon Fields⁶⁰⁵ is the legal framework for Moroccan oil and gas management. It provides for the granting of authorizations for reconnaissance, exploration and exploitation of these resources in all areas, including the sea-bed. An exploration authorization is subject to the conclusion of a petroleum agreement with the state. This type of agreement shall include the conditions for carrying out exploratory activities, including provisions on “respect of the environment.” The Law specifies that the granting of an authorization under the Law shall not be done in contravention of legislation governing marine resources and the environment.⁶⁰⁶

13.6 Concluding remarks

EAF implementation in Morocco would require a thorough revision of the current legal framework pertaining to fisheries. The Fisheries Law is over 35 years old, which in part explains its somewhat outdated and piecemeal nature. One of its most notable weaknesses is that it provides for an open-access regime in the territorial waters, including for commercial fishing. The management perspective in the Fisheries Law – that harvesting of marine living resources can be carried out freely unless restrictions appear in the law – should be reversed in order to better support EAF, in particular for commercially exploited species. Another weakness of the law is that it does not regulate high seas fishing by Moroccan vessels.

Although the legislation includes some technical measures on minimum catch sizes, gear restrictions and fishing methods, it lacks several basic management provisions. The Fisheries Law does not require the adoption of fisheries management plans, and omits any reference to catch management measures. MSC measures should also include a general requirement that all commercial fishers must keep a logbook, provisions on observer schemes, and enforced port state control.

⁶⁰¹ Décret 2-04- 563 du 4 novembre 2008 relatif aux attributions et au fonctionnement du comité national et des comités locaux des études d'impact.

⁶⁰² Dahir n° 1-95-154 portant promulgation de la loi n° 10-95 sur l'eau.

⁶⁰³ Dahir n° 1-02-130 du 13 juin 2002 portant promulgation de la loi n° 08-01 relative à l'exploitation des carrières.

⁶⁰⁴ Dahir n° 1-02-130, articles 5, 13 and 15.

⁶⁰⁵ Loi no. 21-90 du 22 mai 1991 relative à la recherche et à l'exploitation des gisements d'hydrocarbures (avec modifications apportés par la loi no. 27-99 modifiant et complétant la loi no. 21-90.

⁶⁰⁶ Law no. 21-90, articles 32 and 38.

The Fisheries Law does include a mechanism for coordination between the different ministries in charge of coastal management and for stakeholder participation. However, the sector laws that have been reviewed provide no such coordination mechanism.

A draft code on marine fisheries has been in development for some time now, but it has still not been submitted to Parliament. One of the code's novelties is the requirement to adopt fisheries management plans. These plans will be developed in a participatory manner, and their objectives include the preservation of biodiversity of aquatic ecosystems, the management and conservation of both target and dependent species, and the maintenance of the quality, diversity and availability of the aquatic resources. Measures related to the definition of fishing capacity and effort, prohibited fishing methods and closures should also be included.⁶⁰⁷ Once the draft code is adopted, Morocco will hopefully have a comprehensive and modern legal framework that will go a long way in implementing EAF in the country.

14. EAF IN MOZAMBIKAN LEGISLATION

14.1 The fisheries legal and institutional framework and EAF

14.1.1 Scope of law and institutional structure

The 1990 Fisheries Act⁶⁰⁸ is the main law for marine and inland fisheries management and development in Mozambique. The Act applies to all fishing operations in waters under Mozambican jurisdiction, as well as all Mozambican vessels engaged on the high seas or in the national waters of third party states.⁶⁰⁹

Part II of the Act lays down the general principles and framework for fisheries management and administration, and names the Council of Ministers as the principle authority in charge of overall fisheries management, development and policy.⁶¹⁰ Under the Act, the Fisheries State Secretariat is designated as the principle executive arm of government in charge of, *inter alia*, issuing fishing licences, adopting measures to prevent and resolve conflicts between fishers, adopting fisheries conservation measures, and enforcement activities. The Fisheries State Secretariat is also in charge of defining aquaculture management and development policies.⁶¹¹

However, a ministerial decree from 2000 establishes that the Ministry of Fisheries is the authority in charge of the abovementioned duties, and another ministerial decree from 2001 further details the Ministry's organizational structure.⁶¹² *Direcção Nacional de Administração Pesqueira*, *Direcção Nacional de Economia Pesqueira* and *Departamento de Inspeção de Pescado* are among the key executive bodies under the Ministry. Other statutory bodies include the *Instituto Nacional de Investigação Pesqueira (IIP)* and the *Instituto Nacional de Desenvolvimento da Pesca de Pequena Escala*, which are responsible for small scale fisheries research and development, respectively.

14.1.2 Mechanisms for coordination, cooperation and integration

The Fisheries Act prescribes that the Council of Ministers shall establish local administrative fishery bodies and mechanisms for cooperation with other local administrative bodies in the implementation of the law⁶¹³.

⁶⁰⁷ The author has not been able to obtain a version of the draft marine fisheries code, but was informed about its contents by staff in the Moroccan fisheries administration.

⁶⁰⁸ *Lei no. 3/90 aprova a Lei das Pescas*.

⁶⁰⁹ The Fisheries Act (1990), article 2.

⁶¹⁰ The Fisheries Act (1990), articles 5 and 6.

⁶¹¹ The Fisheries Act (1990), articles 11, 12, 18, 35 and 40.

⁶¹² *Decreto presidencial n° 6/2000 Define os objectivos, atribuições e competências do Ministério das Pescas. Br n°13, suplemento and Diploma Ministerial no. 47/2001 Regulamento Interno do Ministério das Pescas*.

⁶¹³ The Fisheries Act (1990), article 6(2).

Three advisory bodies have also been established with the primary purpose of facilitating intra-ministerial coordination. These bodies are the Advisory Council (*Conselho Consultivo*), the Coordinating Council (*Conselho Coordenador*) and the Technical Scientific Council (*Conselho Técnico-Científico*).⁶¹⁴ All of the statutory members of these councils are from the fisheries administration, but others may also be allowed entry.

14.1.3 Mechanism for stakeholder participation

Through Decree no. 43/2003, the Act provides for several bodies aimed at enhancing stakeholder participation.

The Fishery Administration Commission (*Comissão de Administração Pesqueira - CAP*) has been established to advise the Ministry of Fisheries on the conservation of fisheries resources and fisheries management, in particular in relation to fisheries development plans. CAP also advises on the setting of TACs and fishing quotas, the number of fishing vessels to be licensed, closed seasons, and other management and conservation measures. In addition to directors of fisheries, IIP and other statutory bodies under the Ministry of Fisheries, CAP is made up of representatives from associations of industrial and semi-industrial vessel owners and small-scale fishers. CAP assembles once every three months.⁶¹⁵

A Fisheries Co-management Committee (*Comité de Co-gestão de Pesca – CCG*) has also been established as a forum for co-management at the local, district and provincial levels. Besides representatives from the local fisheries administration and the CCP (see below), the body shall include vessel owners, representatives from fisheries research and the education system, local maritime authorities, and fish processors and traders. No regulation has so far been adopted to further specify its composition and mandate, as well as its functional relationship with CAP and the Ministry of Fisheries.⁶¹⁶

Decree no. 43/2003 also provides for establishing Community Fisheries Councils (*Conselho Comunitário de Pesca*) at local level. Upon requests from stakeholders, the Ministry may establish such councils with the intention of facilitating co-management, compliance with management measures, and conflict resolution.⁶¹⁷

14.1.4 Objectives of the law

The Fisheries Act's general fisheries management objective is the optimum and rational utilization of fisheries resources in Mozambique.⁶¹⁸ A second objective is the promotion of small-scale fisheries.⁶¹⁹

Furthermore, the Act requires that the Council of Ministers promote the negotiation and conclusion of fisheries cooperation agreements, particularly at regional level, with a view to harmonizing management measures, promoting the collection and exchange of fisheries statistics, adopting coordinated measures on fisheries surveillance of foreign vessels, and harmonizing conditions for foreign fishers gaining access to Mozambican waters, with respect to shared stocks in particular⁶²⁰.

⁶¹⁴ *Diploma Ministerial no. 47/2001*, articles 28–30.

⁶¹⁵ *Decreto no. 43/2003 Regulamento Geral de Pesca Marítima*, articles 16 and 17.

⁶¹⁶ *Decreto no. 43/2003*, article 18.

⁶¹⁷ *Decreto no. 43/2003*, article 19.

⁶¹⁸ The Fisheries Act (1990), article 5.

⁶¹⁹ The Fisheries Act (1990), article 9.

⁶²⁰ The Fisheries Act (1990), article 7.

14.2 Fisheries management and EAF

14.2.1 Fisheries management plans

Under the Fisheries Act, the Council of Ministers is in charge of developing fisheries development plans and measures for their implementation. The plans should be developed in a way that ensures the participation of civil society organizations that are related to the fisheries sector⁶²¹.

Decree no. 43/2003 specifies that the Ministry of Fisheries is in charge of developing these plans, which shall include the following information: identifications of fisheries and fishing zones; an assessment of the state of exploitation; identify management and development objectives; management measures and policy; requirements regarding statistics; and the framework governing licensing, TACs, quotas, fishing effort, and the composition and structure of the fishing fleet. With respect to participation, it is specified that the opinion of social, economic, professional and scientific organizations should be heard during this developmental process.⁶²²

14.2.2 Effort and catch management

The Fisheries Act states that fisheries resources in waters under Mozambican jurisdiction are within the public domain.⁶²³

A licensing system, as provided under Title II, Chapter II of the Act, is the main mechanism for regulating access to fisheries resources. With the exception of subsistence fishing, all fishing and related activities require a fishing licence.⁶²⁴ Among the conditions attached to a licence are specifications related to fishing gear and method, fishing zones, and the permissible type and quantity of species, including bycatch. A licence is valid for one year, but can be renewed.⁶²⁵ Fishing licences are not transferable unless otherwise provided, and are subject to the payment of a tax.⁶²⁶ Further conditions and terms for fishing licences, including high seas fishing licences, are prescribed in Chapter VII of Decree no. 43/2003.

The Act also includes other controls on fishing effort and prescribes that the construction, importation, modification and transfer of vessels that are or will be used for fishing are subject to authorization. This authorization is distinct from and without prejudice to the fishing permit.⁶²⁷ Sections V and VII of Chapter IV of Decree no. 43/2003 further specifies the rules regarding the acquisition, construction and modification of fishing vessels.

Licences for foreign fishing in Mozambican waters can either be granted within the framework of an access agreement or under a contract concluded with a foreign company. Only in exceptional cases shall a licence be granted for a foreign vessel operating outside the framework of an access agreement. Contracts with foreign companies shall specify the number of vessels that are authorized to operate, and the permitted fishing zone, methods and the allocated volume.⁶²⁸ Foreign fishing vessels are not allowed to fish in the territorial waters (i.e. 12 nautical miles from the baseline), but the Secretariat of State for Fisheries may grant special permits for specific operations or for scientific fishing. Foreign fishing licences are valid for one year.⁶²⁹

The Act does not provide any catch management measures, but it prescribes that measures on authorized catch levels (person or vessel), as well as schemes for limiting access and fishing effort can

⁶²¹ The Fisheries Act (1990), article 8.

⁶²² *Decreto no. 43/2003*, articles 6–7.

⁶²³ The Fisheries Act (1990), article 4.

⁶²⁴ The Fisheries Act (1990), article 16.

⁶²⁵ The Fisheries Act (1990), articles 20 and 21.

⁶²⁶ The Fisheries Act (1990), articles 17 and 19.

⁶²⁷ The Fisheries Act (1990), article 29.

⁶²⁸ The Fisheries Act (1990), articles 32 and 33.

⁶²⁹ The Fisheries Act (1990), article 34.

be adopted.⁶³⁰ Decree no. 43/2003 further specifies the catch and effort control measures that should be adopted, including the setting of TACs and quotas, and the criteria for granting the quotas. The Ministry, upon IIP and CAP's advice, determines TACs when they are deemed necessary. Significantly, the decree also prescribes that the precautionary approach shall be employed when granting quotas for species where no TAC has been established.⁶³¹

14.2.3 Fishing gears and methods

The Fisheries Act includes few provisions related to fishing gear and methods, and merely prescribes that measures regarding size and weight of species, mesh size, fishing gear and prohibited fishing methods can be adopted.⁶³²

Decree no. 43/2003 includes a series of provisions related to fishing gear and methods. It specifies that fishing in Mozambican waters can be carried out with driftnets, seine nets, gillnets, hooks, traps and "ganchorra," as well as other gear as specified in a fishing licence.⁶³³ Detailed regulations regarding the use of these gear and gear specifications, including minimum mesh sizes, have been set out in separate sections of Chapter III. The Decree further specifies rules regarding the stowage of gear, abandoned gear and other requirements. Fishing with artificial light (100 Kw) is permitted.⁶³⁴ Chapter VI includes regulations on minimum species size and weight and the compulsory use of TEDs by motorized trawlers. Mesh sizes for industrial and semi-industrial trawl vessels have also been adopted by way of regulation.⁶³⁵

14.2.4 Spatial and temporal controls

The Fisheries Act does not include many provisions for the spatial and temporal controls of fishing, but notes that measures regarding closed seasons and areas can be adopted.⁶³⁶ Chapter VI of Decree No. 43/2003 includes a section on MPAs, of which there are three categories: Marine Parks (no-take areas), Marine Reserves (industrial fishing is prohibited) and Marine Protected Areas (temporary closures). Marine Parks and Marine Reserves are established by the Council of Ministers, based on the advice of the Minister of Fisheries, while the Minister may alone establish Marine Protected Areas.

Other measures have also been adopted for spatial control of fishing, including an order prescribing that industrial and semi-industrial trawl vessels fishing in the province of Nampula may only fish beyond the 3 nautical miles belt from the coastline and in depths extending 10 m.⁶³⁷ Regulations also prohibit the fishing and trading of corals and ornamental fish.⁶³⁸

14.3 Monitoring, control and surveillance and EAF

Title V of the Fisheries Act deals with surveillance, offences and penalties. The Act provides for the authorization of responsible surveillance and enforcement officers, and lays out their powers, which include the right to board and inspect vessels in port and at sea.⁶³⁹ Moreover, the Act requires fishing vessels to furnish data on catch and landings and to communicate their positions and catch as further prescribed.⁶⁴⁰

More detailed MCS provisions are found in Chapter VIII of Decree No. 43/2003, which prescribes detailed requirements related to logbooks, other catch data requirements, and VMS. It requires all

⁶³⁰ The Fisheries Act (1990), article 35.

⁶³¹ *Decreto no. 43/2003*, articles 11–13.

⁶³² The Fisheries Act (1990), article 35.

⁶³³ *Decreto no. 43/2003*, article 20.

⁶³⁴ *Decreto no. 43/2003*, articles 25–27.

⁶³⁵ *Despacho* for the implementation of the Fisheries Act, dated 20 June 1999.

⁶³⁶ The Fisheries Act (1990), article 35.

⁶³⁷ *Despacho* for the implementation of the Fisheries Act, dated 20 June 1999.

⁶³⁸ *Despacho* for the implementation of the Fisheries Act, dated 29 May 2002.

⁶³⁹ The Fisheries Act (1990), article 42.

⁶⁴⁰ The Fisheries Act (1990), articles 24 and 27.

industrial and semi-industrial vessels to keep a logbook, and VMS is compulsory for all industrial and semi-industrial vessels fishing in Mozambican waters, as well as Mozambican vessels of the same kind fishing on the high seas or in the waters of another state.⁶⁴¹ Chapter IX of the Decree further details, among other things, the terms and conditions for fishing vessel inspections, enforcement of officers' powers, and fishing vessel masters' duty to facilitate vessel inspections.

Decree no. 43/2003 also includes detailed provisions on port state controls over foreign vessels in Mozambican ports. Such vessels are required to provide notification of landing 48 hours prior to landing, and must have landing authorization and submit to a port inspection before they may land. Landing is specifically prohibited in the case of IUU fishing.⁶⁴²

Marking fishing gear, as well as industrial and semi-industrial fishing vessels operating in Mozambican waters have also been regulated.⁶⁴³

14.4 Miscellaneous measures

The Fisheries Act provides for a fisheries promotion fund, which was established by way of decree. The decree prescribes the fund's receipts and gives further details on the fund's objectives, which are related to the development of the sector.⁶⁴⁴

Scientific fishing requires authorization under the Fisheries Act.⁶⁴⁵

Chapter VI of Decree no. 43/2003 includes measures on species protection and artificial reefs. The Minister shall, upon the advice of CAP, create a list of protected species.

Aquaculture has been regulated in the Fisheries Act, in a rudimentary manner but it has been further addressed in subsidiary legislation.⁶⁴⁶ The general aquaculture decree includes provisions related to aquaculture development plans, requirements with respect to aquaculture facilities and production, import of aquatic species, licensing, waste water, GMOs and aquatic animal health.

14.5 Other legislation relevant to EAF

The Constitution of Mozambique⁶⁴⁷ confers on every citizen both the right to live in a balanced environment and the duty to defend this right. With a view to protecting this right, the State shall adopt policies that aim to, *inter alia*, prevent and control pollution, integrate environmental considerations in sectoral policies, and guarantee the rational use of natural resources.

The 1997 Environmental Act⁶⁴⁸ defines the legal regime for the use and management of the environment and its elements. It refers to several principles that form the basis of environmental management, including the rational utilization and management of environmental elements, recognition of traditional or indigenous knowledge, the precautionary approach, and international cooperation and participation.⁶⁴⁹

The Act states that the Government shall prepare and implement the National Programme for Environmental Management, which shall be implemented with broad stakeholder participation.⁶⁵⁰

⁶⁴¹ *Decreto no. 43/2003*, articles 138 and 146.

⁶⁴² *Decreto no. 43/2003*, articles 98–100.

⁶⁴³ The Fisheries Act(1990), article 23; *Decreto no. 43/2003* articles 69–73.

⁶⁴⁴ The Fisheries Act (1990), article 10; *Decreto no. 22/88 Estatuto do Fundo de Fomento Pesqueiro*.

⁶⁴⁵ The Fisheries Act (1990), article 22.

⁶⁴⁶ The Fisheries Act (1990), article 12; *Decreto no. 35/2001 Regulamento Geral da Aquacultura*.

⁶⁴⁷ Constitution of Mozambique, articles 90 and 117.

⁶⁴⁸ *Lei no 20/97*.

⁶⁴⁹ Environmental Act (1997), articles 2 and 4.

⁶⁵⁰ Environmental Act (1997), articles 4(5) and 5.

The Act establishes the National Council for Sustainable Development⁶⁵¹ as a means to guarantee coordination and integration of the environmental management principles and activities. This advisory body is tasked to, *inter alia*, pronounce itself upon sectoral policies and legislation related to the management of natural resources and has the duty to serve as a forum for the resolution of institutional differences related to the utilization and management of natural resources. The Council's composition and operations are regulated by decree, and it is comprised of several ministers, including the Minister of Fisheries.⁶⁵²

The Act furthermore prescribes that services shall be established at local level, and shall be responsible for the implementation of the law. These services shall guarantee the coordination and decentralized implementation of environmental activities in order to benefit from local initiatives and knowledge.⁶⁵³ Furthermore, the Government has the duty to foster an environment within which civil society and local communities may participate in the preparation of policies and legislation, although this duty is not further specified.⁶⁵⁴

Various measures against environmental pollution and damage are included in the Act. The releasing of any toxic or polluting substance into the soil, subsoil, water or atmosphere must be within established limits, and environmental quality standards shall be established.⁶⁵⁵

Measures for environmental protection, including protection of biodiversity, are also included in the Act. All activities that threaten conservation, reproduction, quality and quantity of biological resources, especially those threatened with extinction, are prohibited. In this regard, the Government shall ensure that appropriate steps are taken to maintain and regenerate animal species, recuperate damaged habitats, create new habitats, and control activities and the use of substances that are likely to harm animal species and their habitats.⁶⁵⁶

Moreover, the Government shall establish environmental protection zones to protect and preserve environmental resources, and maintain and improve ecosystems that have a recognized ecological and socioeconomic value. Such environmental protection zones may be national, regional, local or international, and may cover land areas, lakes, rivers and sea waters. Measures shall be adopted to define the role of local communities in the management of these zones, as well as to detail permitted and prohibited activities within the protected zones and adjacent areas.⁶⁵⁷

Measures related to preventing environmental damage are also included in the Act. An environmental licence is required for activities that, by virtue of their nature, location or size, are likely to have a significant environmental impact. The issuance of an environmental licence is based on an EIA.⁶⁵⁸ A catalogue of citizen's rights and duties is provided for in chapter VI of the Act. Several regulations have been adopted to implement the Act, including EIA in particular.⁶⁵⁹ An Environmental Fund for promoting sustainable development was created in 2000.⁶⁶⁰

The 1999 Forest and Wildlife Act⁶⁶¹ seeks to establish principles and standards for the protection, conservation and sustainable use of forestry and wildlife resources, including mangroves and aquatic

⁶⁵¹ Environmental Act (1997), articles 5 and 6.

⁶⁵² *Decreto no. 40/2000*.

⁶⁵³ Environmental Act (1997), article 7.

⁶⁵⁴ Environmental Act (1997), article 8.

⁶⁵⁵ Environmental Act (1997), articles 9 and 10.

⁶⁵⁶ Environmental Act (1997), articles 12.

⁶⁵⁷ Environmental Act (1997), articles 13.

⁶⁵⁸ Environmental Act (1997), articles 15–18.

⁶⁵⁹ *Decreto no. 45/2004 Regulamento sobre o Processo de Avaliação do Impacto Ambiental*.

⁶⁶⁰ *Decreto no. 39/2000 Estatuto Organico do Fundo do Ambiente*.

⁶⁶¹ *Lei no. 10/99*.

mammals.⁶⁶² Protected areas, for the conservation of biodiversity and fragile animal or plant ecosystems, can be established under the Act. It is within the powers of the Ministerial Council to create or modify these areas, or declare them null and void. National reserves can be established for the protection of rare or threatened plant and animal species, or for fragile ecosystems such as wetlands, dunes, mangroves and coral reefs, as well as the conservation of the flora and fauna present in the same ecosystems.⁶⁶³

The Act also includes details of regimes for the sustainable exploitation of forest and wildlife resources, which include instituting permits for forest exploitation and hunting, and provisions on repopulating forest and wildlife resources.⁶⁶⁴

The Act creates the Local Resources Management Councils, which is made up of representatives from the local community, the private sector, associations, and local state authorities. These councils aim to protect, conserve and promote the sustainable use of forest and wildlife resources.⁶⁶⁵

The 2002 Mining Act⁶⁶⁶ lays down a regime for licensing and concessions for mining activities, including operations carried out in the territorial waters, EEZ and continental shelf. Chapter V deals with the environmental aspects of such activities. It classifies them into three levels, depending on the type of operations, and prescribes environmental standards for each different level.

The 2001 Oil Act⁶⁶⁷ institutes a system for issuing contracts in relation to recognition, search and production of oil, as well as for pipelines. However, the Maritime Act regulates oil operations in internal waters, as well as the territorial sea, EEZ and continental shelf.⁶⁶⁸

The 1996 Maritime Act⁶⁶⁹ defines Mozambique's territorial sea (12 nautical miles), contiguous zone (24 nautical miles), the EEZ, and continental shelf. It prescribes the exclusive rights of the State to exploit and use the natural resources on the continental shelf and requires foreigners to obtain authorization prior to installing cables and ducts on the continental shelf. The Act states that the State shall establish other measures, including conditions, for continental shelf exploration.⁶⁷⁰

14.6 Concluding remarks

Mozambique's legal framework on fisheries includes many of the measures and mechanisms that are considered important in the context of EAF, especially in relation to fisheries management plans, effort and catch management, fishing gear and methods, spatial and temporal controls and MCS. Unfortunately, the current Fisheries Act lacks details on most of these matters, and its rudimentary nature means that many key issues are primarily addressed via subsidiary legislation. In particular, monitoring and enforcement measures, given their prescriptive nature, should be laid down in the Fisheries law. Mozambican EAF implementation would therefore benefit from the adoption of a new Fisheries law, which should, in addition to providing a framework for adopting appropriate management measures, include a comprehensive catalogue of MCS measures. In addition, the current framework also lacks a body for inter-ministerial coordination and cooperation with respect to fisheries management, which should therefore be provided for in a future Fisheries law.

However, the current legal framework does have several positive aspects, in particular the fact that it establishes many statutory bodies in order to enhance participation, and provides for this in legislation.

⁶⁶² Forest and Wildlife Act (1999), articles 1 and 2.

⁶⁶³ Forest and Wildlife Act (1999), articles 10 and 12.

⁶⁶⁴ Forest and Wildlife Act (1999), chapters II–IV.

⁶⁶⁵ Forest and Wildlife Act (1999), article 31.

⁶⁶⁶ *Lei no. 14/2002* of 26 June 2002.

⁶⁶⁷ *Lei no. 3/2001*.

⁶⁶⁸ Oil Act (2001), article 21.

⁶⁶⁹ *Lei no. 4/96* of 4 January 1996.

⁶⁷⁰ Maritime Act (1996), articles 16 and 17.

This is a necessary first step towards stakeholder involvement, but making such bodies operational remains a challenging task that continues to require human and financial capacity at all levels.

Protected areas are another issue that have benefited from extensive regulation in Mozambique, and MPAs may now be established by virtue of the fisheries legislation, the Environmental Act, or the Forest and Wildlife Act. However, coordination between the different ministries in charge of these three laws is crucial in order to ensure that there is an overarching plan for establishing protected areas in Mozambique. With respect to the Environmental Act, the National Council for Sustainable Development is a body that could play such a coordinating role. However, the legislation lacks reference to stakeholder involvement in the context of establishing a protected area, despite the fact that these types of decisions can greatly impact the lives of people living in the designated zones.

15. EAF IN NAMIBIAN LEGISLATION

15.1 The fisheries legal and institutional framework and EAF

15.1.1 Scope of law and institutional structure

The Marine Resources Act (No. 27 of 2000) aims to provide for the conservation of the entire marine ecosystem and for the responsible use of all marine resources in Namibian waters (the internal waters, the territorial sea, the contiguous zone and the EEZ). Under the Act, the Minister may “from time to time determine the general policy with regard to the conservation and utilization of marine resources in order to realize the greatest benefit for all Namibians both present and future.”⁶⁷¹

The Ministry of Fisheries and Marine Resources (MFMR), as the authority responsible for marine resources conservation and management under the Marine Resources Act, shall determine the policy for the sector.

The Marine Resources Act establishes a Fisheries Observer Agency (the Agency), whose function is to provide and train fisheries observers.⁶⁷² A Board shall guide the Agency’s activities and prepare annual plans and strategic plans that set the Agency’s annual and long-term objectives.⁶⁷³

15.1.2 Mechanisms for coordination, cooperation and integration

The Marine Resources Act does not establish any specific body designated for inter-ministerial coordination. However, it does provide a mechanism for consultation with relevant authorities in the case of the establishment of marine reserves.⁶⁷⁴

15.1.3 Mechanisms for stakeholder participation

In order to ensure stakeholder involvement in decision-making, the Marine Resources Advisory Council (the Advisory Council) was established. The Advisory Council shall advise the Minister on any matters that the Minister refers to them, or on any matter determined under the Act. In addition to staff members from the Ministry, the Advisory Council shall be comprised of persons knowledgeable in matters relating to marine resources or any other expertise of relevance, and persons who represent the fishing industry or employees in the fishing industry. The Advisory Council’s advice shall be requested, *inter alia*, when the Minister determines TACs and fees for harvesting marine resources, as well as for matters related to the allocation of the Marine Research Fund, as established under the Act.⁶⁷⁵

⁶⁷¹ Marine Resources Act, section 2.

⁶⁷² Marine Resources Act, sections 8 and 9.

⁶⁷³ Marine Resources Act, section 12.

⁶⁷⁴ Marine Resources Act, section 51.

⁶⁷⁵ Marine Resources Act, sections 24, 25, 38(2), 44(1), 45(4).

The current legal framework also provides for the delegation of the Minister's powers to local authorities, with the exception of regulatory powers,⁶⁷⁶ which are open for local decision-making with regard to the issuing of fishing rights and vessel licences.

15.1.4 Objectives of the law

The objective of the Marine Resources Act is set out in the preamble of the Act as follows:

“To provide for the conservation of the marine ecosystem and the responsible utilization, conservation, protection and promotion of marine resources on a sustainable basis; for that purpose to provide for the exercise of control over marine resources; and to provide for matters connected therewith.”

15.2 Fisheries management and EAF

15.2.1 Fisheries management plans

The Marine Resources Act does not require the adoption by the Minister of fisheries management plans.

15.2.2 Effort and catch management

Pursuant to the Marine Resources Act, the Minister may, from time to time, set a TAC to limit the quantity of any marine resource that may be harvested in a given period. This shall be set on the basis of the best scientific evidence available and after having requested the advice of the Advisory Council.⁶⁷⁷

The Marine Resources Act prohibits the harvesting of any marine resources for commercial purposes in Namibian waters, except under a right, an exploratory right, or a fisheries agreement.⁶⁷⁸ The Minister may request, as he finds necessary for the purpose of the Act, that an applicant for an exploratory right carry out an EIA.⁶⁷⁹

If the fish species for which a right is allocated is subject to a quota, the holder of an (exploratory) fishing right must apply for such a quota.⁶⁸⁰ A holder of right or an exploratory right must apply for a fishing vessel licence if he wishes to use a fishing vessel for commercial purposes inside or outside Namibian waters.⁶⁸¹ Quotas, rights and licences cannot be transferred, except with the Minister's approval.⁶⁸²

Fishing by Namibian vessels on the high seas requires a licence under the Act.⁶⁸³

Foreign fishing in the Namibian EEZ by SADC countries is also regulated by the Act. Persons from an SADC country that are party to a fisheries agreement with Namibia are entitled to apply for a quota and licensee under the Act, and shall be subject to such quantitative or other limits as specified.⁶⁸⁴

15.2.3 Fishing gears and methods

Under the Marine Resources Act, nobody may use explosives, poison or noxious substances to kill or disable any marine animal. The Act also prohibits the use of a driftnet (gillnet or other net) with a total length exceeding 2.5 km. Firearms shall only be used for such purposes as are prescribed.⁶⁸⁵

⁶⁷⁶ Marine Resources Act, section 63.

⁶⁷⁷ Marine Resources Act, section 38.

⁶⁷⁸ Marine Resources Act, section 32(1).

⁶⁷⁹ Marine Resources Act, section 34(3).

⁶⁸⁰ Marine Resources Act, sections 32(2) and 39.

⁶⁸¹ Marine Resources Act, section 40.

⁶⁸² Marine Resources Act, section 42.

⁶⁸³ Marine Resources Act, section 32(4)–(5).

⁶⁸⁴ Marine Resources Act, section 35.

⁶⁸⁵ Marine Resources Act, sections 47(1) and (2).

The Minister may also prescribe other measures for the conservation of marine resources, the control of harvesting of such resources, and the protection of the marine environment, including permissible methods and gear.⁶⁸⁶

The Regulation relating to the exploitation of marine resources (the Regulation) includes detailed measures on the use of gear. All gear that is used for fishing operations must be authorized, and all unauthorized gear must be declared and stowed away at all times. The Regulation includes detailed provisions related to trawling, restricting the use of beam trawl nets, bottom trawl and midwater trawl. Furthermore, it includes specifications on mesh size, mesh openings, and attachments to trawl nets.⁶⁸⁷

The Regulation also addresses ghost fishing, stating that it is prohibited to leave any fishing gear or any other non-biodegradable object in the sea or on shore without authorization. Moreover, discharging waste generated on a fishing vessel into the sea is not permitted, unless it is biodegradable household waste and fish offal.⁶⁸⁸

The Regulation also includes provisions on protected species, and prohibits and restricts the harvesting of certain listed species. It also includes a list of marine resources that may not be discarded.⁶⁸⁹

15.2.4 Spatial and temporal controls

Pursuant to the Marine Resource Act, the Minister may prescribe the place and time when harvesting operations may be conducted.⁶⁹⁰

Furthermore, the Minister may, for the purpose of protecting or regenerating marine resources, declare an area to be a marine reserve. Coordination with concerned authorities is ensured because declaring a marine reserve requires the consent of the Minister under whose authority the particular area of state land falls, and a consultation with the competent land authorities, subject to the jurisdiction of a traditional authority. The Minister shall, after consultation with the interested persons, establish objectives for the management of the reserve and may specify the activities that may be conducted inside the reserve.⁶⁹¹

15.3 Monitoring, control and surveillance and EAF

The Marine Resources Act empowers fisheries inspectors with inspection and enforcement powers, including boarding and inspection of fishing vessels.⁶⁹²

The Act furthermore includes an elaborate observer scheme, enabling fisheries observers to observe the harvesting, handling, and processing of marine resources and related operations. They shall also record data concerning such operations, collect and record biological and other information related to activities governed by the Act, collect samples of harvested marine resources, and report to the Agency any observations or information obtained.⁶⁹³

Under the Act, all persons harvesting marine resources under a right, exploratory right, or fisheries agreement may be required to carry a fisheries observer aboard a fishing vessel or to admit him to any land or premises used for harvesting.⁶⁹⁴ Pursuant to the Regulation, such vessels must, while in Namibian waters, allow a fisheries observer, as well as fisheries inspectors, to board and remain on

⁶⁸⁶ Marine Resources Act, section 47 (3).

⁶⁸⁷ Regulation no. 241 of 2001 relating to the exploitation of marine resources sections 12–17.

⁶⁸⁸ Regulation relating to the exploitation of marine resources, sections 23 and 24.

⁶⁸⁹ Regulation relating to the exploitation of marine resources, sections 18–20.

⁶⁹⁰ Marine Resources Act, section 47 (3).

⁶⁹¹ Marine Resources Act, section 51.

⁶⁹² Marine Resources Act, section 5.

⁶⁹³ Marine Resources Act, section 7.

⁶⁹⁴ Marine Resources Act, section 7.

board the vessel. The master of the vessel must allow the observer full access to all equipment, including navigation and communication equipment, records and documents, and any marine resources on board. Furthermore, the observer must be allowed to conduct tests, make observations and records, and take samples.⁶⁹⁵

Every person holding a right, exploratory right, quota, licence, or other authorization under the Act must keep records as prescribed by the Minister.⁶⁹⁶ For all holders of a fishing licence, the Regulation requires they maintain a logbook, in a form to be determined by the Minister.⁶⁹⁷

The Act provides that no fishing vessel shall transship or land any marine resources unless it is authorized to do so.⁶⁹⁸ The Regulation details further conditions for this, including the specification that 48 hours notice must be given prior to landing. As regards transshipment, this may not be carried out anywhere besides a port, and must be done under the supervision of a fisheries inspector.⁶⁹⁹ Reportedly, all fish must be landed under inspection at either Walvis Bay or Lüderitz. The introduction of a satellite VMS is allegedly being investigated.

15.4 Miscellaneous

A Marine Resources Fund and a Fisheries Observer Fund are established under the Marine Resources Act. The former shall be used on research, development, training and education relating to marine resources, while the latter shall be used to finance the activities of the Agency. They shall be alimented by, inter alia, money collected in respect of levies imposed in relation to harvesting of marine resources.⁷⁰⁰

15.5 Other legislation relevant to EAF

The 1990 Constitution of the Republic of Namibia recognizes the link between the welfare of people and a sustainable use of living natural resources, and states that the State has a responsibility to actively promote policies to this effect:

*“The state shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at (...) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for all Namibians, both present and future;”*⁷⁰¹

The Constitution also provides for the appointment of an independent *ombudsman*, whose mission includes the protection of the environment and natural resources through independent and impartial investigations:

*“The functions of the Ombudsman shall be defined and prescribed by an Act of Parliament and shall include the following: ... the duty to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”*⁷⁰²

The Environmental Management Act (No. 7 of 2007) gives effect to Article 95(l) of the Namibian Constitution by establishing general principles for the management of the environment and the use of natural resources. It encourages coordinated and participatory management of environmental issues

⁶⁹⁵ Regulation relating to the exploitation of marine resources, section 33.

⁶⁹⁶ Marine Resources Act, section 48(1).

⁶⁹⁷ Regulation relating to the exploitation of marine resources, section 25.

⁶⁹⁸ Marine Resources Act, section 50.

⁶⁹⁹ Regulation relating to the exploitation of marine resources, section 36.

⁷⁰⁰ Marine Resources Act, sections 44–46.

⁷⁰¹ Constitution of the Republic of Namibia, section 95(l).

⁷⁰² Constitution of the Republic of Namibia, section 91(c).

relating to sustainable development through the establishment of the Sustainable Development Advisory Council, which is tasked to promote cooperation and coordination between organs of state, NGOs, community based organizations, the private sector and funding agencies. More specifically, the Council shall advise the Minister on the development of environmental policies, conservation of biological diversity, access to genetic resources and on the amendment of legislation. The Council shall be composed of four persons who represent the State and four representatives from civil society.⁷⁰³ Environmental plans aimed at coordinating environmental policies and decisions of various organs of state that exercise functions that may affect the environment shall furthermore be adopted.⁷⁰⁴ The Act furthermore prescribes that an environmental clearance certificate may be required in respect of certain activities as further specified by notice, including water use and disposal and resource removal, including natural living resources. An EIA may also be required in these cases.⁷⁰⁵

The Act Establishing the Territorial Sea and Exclusive Economic Zone of Namibia (No. 3 of 1990), amended by Act No. 30 of 1991, determines Namibia's territorial sea, internal waters, contiguous zone, EEZ and continental shelf, in conformity with international law. The Act establishes the EEZ to be 200 nautical miles and declares the territorial sea to be 12 nautical miles from the baseline (the low water mark). It establishes Namibia's internal waters as waters landward of its low water line or any other baseline. The contiguous zone is established as the sea beyond the territorial sea perimeter, but not beyond a distance of 24 nautical miles.

The Aquaculture Act (No. 18 of 2002) regulates and controls aquaculture activities in Namibia, and is consequently of great importance for EAF implementation. The Act requires the Minister to formulate a general aquaculture policy that "promotes sustainable aquaculture; the management, protection and conservation of marine and inland aquatic ecosystems and the promotion and operation of aquaculture." The policy shall be based on the best scientific information available, and shall take into account relevant economic, social and environmental factors. Furthermore, these policies, as required under the Act, shall be formulated in consultation with the Aquaculture Advisory Council. This requirement is in place in order to make sure the Minister is advised on matters pertaining to the Act, and this Council is made up of Ministry staff, representatives from regional and local authorities, and other stakeholders.⁷⁰⁶

Before the Minister declares an aquaculture development zone, he must consult with the Aquaculture Advisory Council, as well as any ministry having jurisdiction in the proposed zone. Additionally, an EIA must be undertaken.⁷⁰⁷ When considering an application for an aquaculture licence, the Minister must, with the concurrence of the Minister responsible for the environment, and in accordance with legislation or policies dealing with environmental assessment, determine whether the applicant is required to undertake an EIA. Before a licence can be granted, the Minister must be satisfied that the applicant has obtained authorizations for water and land use, as well as environmental clearance for the EIA (if required).⁷⁰⁸

The Water Resources Management Act (No. 284 of 2004) provides for the management, development, protection, conservation, and use of water resources, including the sea. Under the Act, a permit is needed for discharging effluent, including from a sewer, into a water resource.⁷⁰⁹ When handling an application for a discharge permit, the Minister responsible for water shall consider, *inter alia*, whether the discharge is consistent with the National Water Master Plan, and its impact on existing water uses and the environment. Furthermore, discharges are subject to measures aimed at

⁷⁰³ The Environmental Management Act, sections 6–8.

⁷⁰⁴ The Environmental Management Act, section 23.

⁷⁰⁵ The Environmental Management Act, Part VII.

⁷⁰⁶ The Aquaculture Act, sections 2–4.

⁷⁰⁷ The Aquaculture Act, section 33.

⁷⁰⁸ The Aquaculture Act, sections 12 and 13.

⁷⁰⁹ Water Resources Management Act, sections 56 and 58.

protecting the water resource into which the discharge is released. The Minister may also prescribe minimum standards for effluent quality, after consulting competent authorities.⁷¹⁰

The Minister may, pursuant to the Act, declare an area a water management area “for the purpose of protecting any water resource, riverine habitat, watershed, wetland, environment or ecosystem at risk of depletion, contamination, extinction or disturbance from any source, including aquatic and terrestrial weeds.” The boundaries of a water management area must be determined in a manner that considers competing uses of the area. The Minister may prescribe several limitations that must be observed within a water management area, including limits on the use of pesticides and chemicals, the discharge of effluents, and mining and dredging.⁷¹¹ The Act also establishes a Water Tribunal, which may “hear and decide matters relating to water resources anywhere in Namibia,” and process appeals on any matter decided by the Minister under the Act.⁷¹²

The Petroleum (Exploration and Production) Act (1991) prescribes that the Minister of Mines and Energy may, when considering an application for a reconnaissance, exploration or production licence, require the applicant to carry out an EIA to be further specified by notice to the applicant. When considering an application, the Minister “shall take into account the need to conserve and protect the natural resources in or on the blocks to which the application relates and in or on adjoining and neighbouring land.”⁷¹³ The holders of exploration and operation licences must abide by a suite of measures aimed at protecting the environment.⁷¹⁴

To a very limited extent, the Act also includes mechanisms for coordination with, or the participation of, other ministries or stakeholders in decision making. However, no consultation is mentioned for the handling of license applications. Nevertheless, advice from the Ministers responsible for the environment, fisheries and finance shall be sought in relation to the clearing of exploration areas and when approving decommission plans.⁷¹⁵

Through the establishment of the Ancillary Rights Commission, licence holders have been strongly favoured in disputes regarding their right to access land or obtain construction permits (buildings and pipe lines), permits for water use, and water and waste disposal, as well as the right “to do anything else necessary in order to exercise any right conferred upon him or her by said licence.” When there is a conflict between the license holder and the owner or person competent to grant such rights, or obtaining the right is impossible, the Commission may grant these rights to the licence holder “when it is satisfied that it is in the public interest and reasonably necessary for the holder of the license to obtain such a right in order to carry out operations authorized by such licenses.” The Commission consists of a chairman and two members appointed by the President at his discretion.⁷¹⁶

A regulation was adopted in 1999, which includes provisions on sub-sea operations, emergency preparedness and security zones. Of particular interest, the Minister of Mines and Energy is granted the power to, in consultation with the Minister of Fisheries and Marine Resources, prohibit fishing or sub-sea operations at any cable on or in the seabed or sub-sea pipeline, or within a specified distance from such areas.⁷¹⁷ It is questionable whether this provision is consistent with the Marine Resources Act, which states, in section 3, that “[t]he Management, protection and utilization of marine resources in Namibia and Namibian waters shall be subject to this Act,” which, by definition, encompasses all living marine resources.

⁷¹⁰ Water Resources Management Act, sections 61, 63 and 64.

⁷¹¹ Water Resources Management Act, sections 72 and 73.

⁷¹² Water Resources Management Act, sections 118-120.

⁷¹³ Petroleum (Exploration and Production) Act, section 12.

⁷¹⁴ Petroleum (Exploration and Production) Act, sections 38 and 53.

⁷¹⁵ Petroleum Laws Amendment Act 1998, sections 1, 4 and 7.

⁷¹⁶ Petroleum (Exploration and Production) Act, sections 55(1), 56 and 57(4).

⁷¹⁷ Petroleum (Exploration and Production) Act 1991: Regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources, in, at or in the vicinity of exploration and production areas, section 65.

The Minerals Act (No. 33 of 1992) prescribes that an application for a mining licence shall include an EIA, which provides a more specific estimate of the proposed operation's environmental effects, and the proposed steps to be taken in order to prevent or minimize any such effects, as well as the manner in which the applicant intends to prevent pollution, deal with waste, safeguard the mineral resources, reclaim and rehabilitate land, and minimize the effect of such operations on land adjoining the mining area.⁷¹⁸ After having been granted a licence by the Minister of Mines and Energy, another EIA must be carried out before any prospecting or mining operations may commence. If the EIA indicates that pollution is likely to occur, an environmental management plan has to be developed, indicating the proposed steps to be taken in order to prevent or minimize any environmental pollution.⁷¹⁹

When granting mineral licenses, the Act does not require consultation or coordination with other ministries or stakeholders, even when reviewing the submitted EIAs. However, an advisory body, the Minerals Board of Namibia, is established, and is charged with advising the Minister on: the policy to be followed in relation to the mining operations, the exercise of control over minerals, the amendment or application of the Act, and other issues for which the Minister requests the Board's advice. The Board's members shall be appointed by the Minister and shall, in addition to Ministry staff, be comprised of different stakeholders from industry and trade unions. With the concurrence of the Minister, other ministries, including the Ministry of Fisheries and Marine Resources, can be represented on the Board. However, these representatives are only permitted to assist in the exercise of the Board's functions and do not have the right to vote.⁷²⁰

The Act furthermore states that holders of mineral licences shall not exercise their rights in manner that interferes with, *inter alia*, fishing or marine navigation, without the prior permission of the Minister of Mines and Energy.⁷²¹ In reference to the fact that the Marine Resources Act is the sector act that regulates Namibia's living marine resources, it is questionable whether providing the Minister of Mines and Energy with the power to interfere with fishing rights is consistent with the Marine Resources Act.

Similar to the Petroleum (Exploration and Production) Act, the Minerals Act provides for the establishment of an Ancillary Rights Commission, which has the power to grant rights (access land, erect accessory works, use water, dispose of waste water and "to do anything else in order to exercise any right conferred upon him or her by such licence or mining claim") to licence holders who are prevented from carrying out such operations due to a conflict with the owner of the land or other problems linked to accessing these rights. These rights can be granted when the Commission, which consists of a chairman and two members appointed by the President at his discretion, is satisfied that it is "reasonably necessary" for the holder to obtain such a right.⁷²²

Under **the 1975 Nature Conservation Ordinance**, any area can be declared a game park or a nature reserve "for the propagation, protection, study and preservation therein of wild animal life, fisheries, wild plant life and objects of geological, ethnological, archaeological, historical and other scientific interest and for the benefit and enjoyment of the inhabitants of the territory and other persons."⁷²³

15.6 Concluding remarks

The Marine Resources Act is a good basis for implementing EAF, in particular with respect to effort and catch management, fishing gear and methods, spatial and temporal controls and MCS. However, one of the Act's weaknesses is that it does not require the Minister to prepare management plans

⁷¹⁸ Minerals Act, section 91(f).

⁷¹⁹ Minerals Act, section 50(f).

⁷²⁰ Minerals Act, sections 10 and 11.

⁷²¹ Minerals Act, section 52.

⁷²² Minerals Act, sections 108–110.

⁷²³ Nature Conservation Ordinance, section 14.

aimed at ensuring the long-term viability of the fisheries, spelling out management objectives and measures. There is also room for improvement with respect to inter-ministerial coordination and cooperation; one of the greatest challenges to Namibian EAF implementation can be the lack of mechanisms for such coordination and cooperation between ministries in charge of sectors related to marine environment usage. This is valid not only for the Marine Resources Act, but for all the sector legislation reviewed above, including in the legislation on natural resources like oil and minerals. One exception to this is the Sustainable Development Advisory Council established under the Environmental Management Act, which is tasked to promote cooperation and coordination not only between organs of state, but also between NGOs, community based organizations, the private sector and funding agencies.

An important strength of the Namibian legislation is the comprehensive nature of the legislation applying to coastal and marine resources management. Noteworthy is the Aquaculture Act from 2002, which is one of the few modern aquaculture laws in Africa.

16. EAF AND SENEGALESE LEGISLATION

16.1 The fisheries legal and institutional framework and EAF

16.1.1 Scope of law and institutional structure

The 1998 Marine Fisheries Code⁷²⁴ establishes the legal framework for fisheries management in waters under Senegalese jurisdiction.

The Ministry of Maritime Economy, Maritime Transport, Fisheries and Fish Farming (*le Ministère de l'Economie Maritime, des Transports Maritimes, de la Pêche et de la Pisciculture*) is the ministry responsible for the management and development of marine and inland fisheries, as well as aquaculture in Senegal. Within the Ministry, the *Direction des Pêches Maritimes* is in charge of both artisanal and industrial marine fisheries management; the *Direction de la Pêche Continentale* is responsible for inland fisheries management; the *Direction de la Protection et de la Surveillance des Pêches* is in charge of MCS and enforcement; safety at sea for small-scale fishers and marine pollution; the *Direction de la Gestion et de l'Exploitation des Fonds Marins* is in charge of sea bed management, while the *Direction de la Marine Marchande* oversees marine safety and marine pollution. As a specialized unit under the Ministry, the *Cellule d'Eude et de Planification* is in charge of preparing studies, formulating policies and monitoring their implementation.⁷²⁵ There are also decentralized structures at regional and departmental levels.

16.1.2 Mechanisms for coordination, cooperation and integration

The Marine Fisheries Code establishes the National Advisory Council for Marine Fisheries (*Conseil National Consultatif des Pêches Maritimes (CNCPM)*),⁷²⁶ which comprises representatives from the fisheries administration, research units, port authorities, the ministries of defence, finance, environment and decentralization, as well as persons representing ship-owners, artisanal fishers, fish sellers, the aquaculture sector, and sport fishers. Its functions are, *inter alia*, to advise on draft fisheries management plans and make propositions on the implementation of the Marine Fisheries Code.⁷²⁷

⁷²⁴ Loi n° 98-32 portant Code de la pêche maritime.

⁷²⁵ Décret n° 2005/569 portant organisation du Ministère de l'économie maritime; Décret no. 2008-1026 portant répartition des services de l'Etat et du contrôle des établissements publics, des sociétés nationales et des sociétés à participation publique entre la présidence de la république, la primature et les ministères.

⁷²⁶ Marine Fisheries Code, article 11.

⁷²⁷ Décret n° 98-498 fixant les modalités d'application du Code de la pêche maritime, 1998 (Decree 98-498), articles 2–6 and Arrêté no. 07226 (1999) portant règlement intérieur du Conseil National Administratif des Pêches Maritimes.

16.1.3 Mechanism for stakeholder participation

The Code also provides for the establishment of advisory bodies for artisanal fisheries in the regions (*Conseils Locaux de Peche Artisanale*).⁷²⁸ The Ministry may establish such councils in the regions and may also designate its members. These councils shall include individual artisanal fishers, artisanal fishers associations, fishmongers, fish processors, fish farmers, elected representatives, notables and representatives of the local administration. They advise the Minister on all artisanal fishing related matters within their region and ensure that artisanal fishers are informed about conservation and management measures. The councils shall organize the artisanal fishers with a view to reducing and resolving conflicts between different fishery communities and between different gear groups. They shall also mobilize artisanal fishers to take part in fisheries MCS.⁷²⁹

16.1.4 Objectives of the law

The Marine Fisheries Code describes the general objectives for fisheries management in Senegal as the protection, conservation and sustainable use of the marine resources, and the preservation of the marine ecosystem. The State shall apply the precautionary approach in fisheries management.⁷³⁰

The State shall furthermore promote the development of the artisanal fisheries sector, by facilitating the participation by fishers in fisheries management and creating favourable conditions for the sector.⁷³¹

The Code furthermore includes a provision that commits Senegal to participate in sub-regional, regional and international cooperation on fisheries management, particularly with respect to shared stocks, harmonization of management measures, conditions for access to resources and MCS.⁷³²

16.2 Fisheries management and EAF

16.2.1 Fisheries management plans

Under the Marine Fisheries Code, the Ministry is responsible for overseeing the development of annual or multi-year fisheries management plans which must be reviewed and adjusted on a regular basis. Plans must identify the technological, geographical, social and economic characteristics of each fishery, and define management goals and measures to obtain these. More specifically, the plans shall determine TACs and fishing efforts, specify appropriate management measures, define a policy for licensing, fishing permit requirements and a policy for the structure of the fishing fleet.⁷³³

16.2.2 Effort and catch management

Under the Marine Fisheries Code a licence must be obtained for carrying out industrial fishing in Senegal waters. The licence, which is limited in time, is granted for a specified vessel, for a specific fishery and gears.⁷³⁴

In addition to requirements prescribed in regulations, the Ministry can subject a licence to the following conditions: type and use of fishing gear; the periods and zones in which fishing is permitted; the species and quantities of fish permitted to be fished; restrictions on bycatch, as well as the boarding of scientists.⁷³⁵

There are four types of industrial fishing licences, namely coastal demersal fishing licences, deep-water demersal fishing licences, coastal pelagic fishing licences, and deepwater pelagic fishing

⁷²⁸ Marine Fisheries Code, article 12.

⁷²⁹ Decree 98-498, articles 7-9.

⁷³⁰ Marine Fisheries Code, article 3.

⁷³¹ Marine Fisheries Code, article 13.

⁷³² Marine Fisheries Code, article 14.

⁷³³ Marine Fisheries Code, article 10 (a)-(g).

⁷³⁴ Marine Fisheries Code, article 22.

⁷³⁵ Marine Fisheries Code, article 29.

licences.⁷³⁶ Licences are issued for a period from six months to one year and there are provisions for fees to be determined according to the fishing category of the licence.⁷³⁷ Licences must be kept on board vessels at all times.⁷³⁸ A licence is not transferable and the Minister may suspend or withdraw a license for breach of any provision of the Code.⁷³⁹

As regards commercial artisanal fishing, the Code provides that this can be carried out upon the deposit of a notice to the relevant authorities.⁷⁴⁰ A regulation adopted in 2005 requires that artisanal fishers obtain a permit before they can fish.⁷⁴¹ This ends the open access regime for artisanal fishing provided for in the Code in principle. Permits are valid for one year and are subject to certain conditions, including the registration of the *pirogue* and the payment of a tax.

With the exception of artisanal fishers,⁷⁴² foreign fishing is only authorized under access agreements between Senegal and the flag state or by vessels chartered by Senegalese citizens.⁷⁴³ Currently there are access agreements in place with Cape Verde,⁷⁴⁴ Gambia,⁷⁴⁵ Guinea-Bissau,⁷⁴⁶ and the Ivory Coast.⁷⁴⁷ The country has not signed a new economic partnership agreement with the European Union since the old one expired in 2006.

16.2.3 Fishing gears and methods

The Marine Fisheries Code prohibits the use of explosives, poisons and other noxious substances in fishing operations.⁷⁴⁸

The legal mesh size for nets and trawls have been determined by way of a decree for industrial fishing. It specifies that it is prohibited to alter the meshes so that they become less selective, or to destroy them in any other way. The decree also prohibits use of straight gill nets and twin trawls, and the use of diverting gill nets for tuna. Trawlers exceeding 400 gauge tonnage for shrimp trawling are banned.⁷⁴⁹

Decree no. 98-498 prescribes the legal mesh size for different types of nets used for artisanal fishing. The use of monofilament and multifilament nylon nets is prohibited.⁷⁵⁰

Fishing of marine mammals, marine turtles and sea birds is prohibited under the Code.⁷⁵¹ Minimum sizes for 10 different species of fish, as well as for species of crustaceans, shrimp and molluscs, have been provided for in regulations.⁷⁵² The decree also prescribes bycatch restrictions for coastal demersal vessels licensed to trawl for shrimp or fish (céphalopodiers).⁷⁵³

⁷³⁶ Decree no.98-498, article 20.

⁷³⁷ Decree no.98-498, articles 3 and 19.

⁷³⁸ Marine Fisheries Code, article 24.

⁷³⁹ Marine Fisheries Code, articles 25 and 26.

⁷⁴⁰ Marine Fisheries Code, article 33.

⁷⁴¹ *Arrêté no. 005916 du 25 octobre 2005 portant instauration d'un permis de pêche artisanale* article 2.

⁷⁴² *Arrêté modifiant l'arrêté no. 005916 du 25 octobre 2005 portant instauration d'un permis de pêche artisanale* article 3.

⁷⁴³ Marine Fisheries Code, article 16.

⁷⁴⁴ Agreement between the Government of Cape Verde and the Republic of Senegal on fisheries sector, 1985, article 2.

⁷⁴⁵ Protocol of Implementation of the Senegalo-Gambian Agreement in the Field of Maritime Fisheries, 1994, sections 1.3 and 1.4.

⁷⁴⁶ *Protocole d'application de la Convention en matière de pêche maritime* (1995), articles 5 & 6.

⁷⁴⁷ Agreement between the Government of the Ivory Coast and the Government of Senegal in the field of marine fisheries, 1977, article 2.

⁷⁴⁸ Marine Fisheries Code, article 34.

⁷⁴⁹ Decree no. 98-498, articles 32-35 and 45.

⁷⁵⁰ Decree no. 98-498, articles 28, 29.

⁷⁵¹ Marine Fisheries Code, article 35.

⁷⁵² Decree no. 98-498, article 37.

⁷⁵³ Decree no. 98-498, article 50.

16.2.4 *Spatial and temporal controls*

The Marine Fisheries Code states that regulations can be made on closures of fishing zones and zones where fishing is prohibited or limited.⁷⁵⁴

Under Decree no. 98-498, fishing zones for vessels licensed for coastal demersal fishing, deep-water demersal fishing, coastal pelagic fishing and deepwater pelagic fishing have been adopted. Prohibited fishing areas have also been provided for. For instance, there is a ban on coastal pelagic trawling in specific areas, while fishing with live bait is allowed in all Senegalese waters beyond the low-water line except some specified areas.⁷⁵⁵ The Ministry can furthermore, by way of regulation, provide for the temporary closure of fishing zones.⁷⁵⁶

A separate decree from 2004 established five MPAs in Senegalese waters, whose management objectives are to be determined further by regulation.⁷⁵⁷ A decree establishing the marine national park of the Iles de la Madeleine has also been adopted.⁷⁵⁸

16.3 **Monitoring, control and surveillance and EAF**

The Marine Fisheries Code includes several measures to facilitate MCS and enforcement. Title VI of the Code prescribes for authorized officers to board and inspect vessels in port and at sea.

With respect to monitoring, there is an obligation for both artisanal and industrial fishing vessels to furnish catch data related to weight and amount of fish caught, the species that were caught, transhipped or transported, the dates the fish was caught and the zones in which the fish was caught or transhipped, the characteristics of the vessel, as well as the gear and methods used for fishing. It is, however, not specified to whom the data should be furnished.⁷⁵⁹

A fisheries observer scheme is also provided for in the Code. The observer can stay on board for up to 80 days and the master shall facilitate his tasks related to data collection and taking of samples by giving him the necessary information and access to gear and areas of the vessel where fisheries activities are taking place. The duty to take aboard observers applies to all fishing vessels fishing in Senegal waters.⁷⁶⁰

A fishing vessel register shall be adopted under the Code and registration in the register is a condition for obtaining a licence. The information contained in the register can be used in the context of sub-regional cooperation.⁷⁶¹ Licensed fishing vessels also need to abide by rules regarding marking of vessels.⁷⁶²

A regulation providing for the registration and marking of artisanal fishing vessels has also been adopted, and it is prohibited to use a vessel for fishing that has not been registered and marked.⁷⁶³

The Code prescribes that measures regarding transshipment shall be prescribed in regulations, but so far this has not been done.⁷⁶⁴

⁷⁵⁴ Marine Fisheries Code, article 21(f).

⁷⁵⁵ Decree no. 98-498, article 3.

⁷⁵⁶ Decree no. 98-498, article 41.

⁷⁵⁷ *Décret portant création d'aires marines protégées du 4 novembre 2004*, article 2.

⁷⁵⁸ *Décret n° 76-033 portant création du parc national des Iles de la Madeleine*.

⁷⁵⁹ Decree no. 98-498, article 53.

⁷⁶⁰ Decree no. 98-498 articles 57-60; *Arrêté ministériel n° 1008 du 16 février 1999 fixant les modalités d'embarquement des observateurs à bord des navires sénégalais*.

⁷⁶¹ Marine Fisheries Code, article 20.

⁷⁶² Decree no.98-498, articles 54–56.

⁷⁶³ *Arrêté fixant les modalités d'immatriculation et de marquage des embarcations de pêche artisanale (1999)*, articles 5, 8 and 14.

⁷⁶⁴ Marine Fisheries Code, article 32.

A decree from 2002⁷⁶⁵ provides for the establishment of a VMS system in Senegal, which subjects certain categories of fishing vessels to VMS.

16.4 Miscellaneous measures

The Marine Fisheries Code prescribes that research fishing can be authorized by the Minister on certain conditions; Senegalese researchers must be allowed on board and the collected information and data must be transmitted to the fisheries administration.⁷⁶⁶

Fish farming is also regulated in the Code, although in a very rudimentary fashion; it only prescribes that authorization from the Minister is required to operate a fish farm.⁷⁶⁷

16.5 Other legislation relevant to EAF

The 2001 Environmental Code⁷⁶⁸ establishes the legal framework for environment protection and conservation in Senegal. Chapter I of Title III of the Code deals specifically with the protection of the aquatic environment, including marine waters, against pollution. Under article 59, special protection zones can be established jointly by the Minister of the Environment and the Minister of Fisheries, among others. The Minister of the Environment, in collaboration with affected ministries, shall make a list of the substances that can be authorized to be discharged into the aquatic environment. Discharges, into marine waters, of substances that are likely to endanger public health or living marine resources are, however, prohibited under the Code.⁷⁶⁹

The Code subjects all industrial or other activities that represent a serious danger to the natural environment to an exploitation authorization, which is to be granted by the Minister. An application for such an authorization can be subject to public hearing.⁷⁷⁰

Provisions dealing with treatment of waste, chemical substances, EIA and emergency planning are also provided for in the Act. With respect to EIA, article 48 prescribes that all activities and policies that are likely to endanger the environment shall be subject to an EIA.

The 1981 Water Code⁷⁷¹ is the main law for management of fresh water resources and brackish water bodies, including estuaries and deltas. The law establishes a permit regime for water use and extraction, and includes rules for water quality standards, as well as measures against the pollution of water sources for the purpose of, *inter alia*, protecting biological life in the receptor environment, including fish. For this purpose, a permit is required for any emission or discharge into the water table or water course that is likely to have a harmful effect. Similarly, a permit is required for discharging water or substances likely to alter the groundwater or superficial water sources.⁷⁷²

The 1998 Petroleum Code⁷⁷³ establishes an authorization regime for petroleum operations and authorizes the Minister to establish zones where petroleum operations are prohibited. An EIA needs to be carried out in conjunction with both an exploration permit and an exploitation concession.⁷⁷⁴ Article 51 states on a general basis that petroleum operations must be carried out in a way that protects the environment, and that necessary measures have to be taken by the rights holder to prevent and combat environmental pollution, to treat waste and preserve flora and fauna.

⁷⁶⁵ Decree n° 2002-763 of 29 July 2002. The author did not dispose of a copy of this decree.

⁷⁶⁶ Marine Fisheries Code, article 31.

⁷⁶⁷ Marine Fisheries Code, article 40.

⁷⁶⁸ *Loi no. 2001-01 portant Code de l'environnement* article 5.

⁷⁶⁹ The Environmental Code, articles 61 and 64.

⁷⁷⁰ The Environmental Code, articles 13 and 16.

⁷⁷¹ *Loi n° 81-13 portant Code de l'eau*.

⁷⁷² Law no. 81-13, articles 47-49 and 59.

⁷⁷³ *Loi no. 98-05 du 8 janvier 1998 portant Code pétrolier*, article 5.

⁷⁷⁴ The Petroleum Code, articles 9, 17(k) and 28.

The 2003 Mining Code⁷⁷⁵ subjects mining operations on both land and in the marine areas of Senegal to a licensing and concession regime. Chapter V of the Code deals with environmental protection and provides that all applicants for an exploitation permit or mining concession must carry out an EIA in line with the Environmental Code.⁷⁷⁶ Right holders are on a general basis required to protect or preserve the environment, but there are no rules included on how this duty should be fulfilled.⁷⁷⁷

The 1985 Act on delimitation of the territorial sea, the EEZ and the continental shelf⁷⁷⁸ delimits these maritime zones and subjects them to Senegalese jurisdiction.

16.6 Concluding remarks

The fisheries legal framework includes some basic provisions that are important for EAF implementation, including those related to fishing effort, spatial and temporal control and MCS. Notable are the access limitations that were introduced for artisanal fishers in 2005. Although this puts an end to the open access regime for artisanal fishers, only a statutory clause can prevent this essential access limitation from being lifted by way of regulation. A provision that clearly subjects artisanal fishers to a licensing regime is therefore required in the Marine Fisheries Code.

Other areas of the legislation also need strengthening before Senegal can fully apply EAF. The measures on fishing gear and methods, and bycatch restrictions are quite rudimentary. There are few regulations in place, and details are left to be determined in individual licences. Although important management measures can be provided for in this way, there is a need for more detailed regulations in order to ensure coherent management.

The MCS measures should be strengthened, particularly in relation to port state control – at present there are no such measures in place. Another omission in the Code is that it does not apply to high seas fishing. The Code could also be strengthened by requiring quotas to be determined for individual industrial vessels. Quotas can be attached to the licence, together with other licensing conditions, but they are not compulsory under the Code.

An important feature of the Marine Fisheries Code is that it provides for the establishment of *Conseils Locaux de Pêche Artisanal*. Establishing such advisory bodies at local level is crucial for enhanced stakeholder participation in fisheries management and consequently an important element of EAF implementation.

The Code also prescribes for inter-ministerial cooperation and integration through the establishment of the National Advisory Council for Marine Fisheries. However, no such bodies have been established in the other legislation sector that was reviewed, something that impedes the cross-sectoral integration that is essential to EAF implementation. The Environmental Code, for example, prescribes that the Code shall be implemented by the Ministry of the Environment in close collaboration with all other ministries that manage the environment, either directly or indirectly. However, the Code does not formalize this obligation by establishing a coordinating or cooperating mechanism that comprises the relevant ministries.

Similarly, neither the Petroleum Code nor the Mining Code includes any mechanism that requires the responsible Minister to consult other government agencies in charge of coastal management before granting permits and concessions.

⁷⁷⁵ *Loi no. 2003-36 du 24 novembre 2003 portant Code minier.*

⁷⁷⁶ The Mining Code, article 83.

⁷⁷⁷ The Mining Code, articles 29, 40 and 51.

⁷⁷⁸ *Loi n° 85-14 portant délimitation de la mer territoriale, de la zone contiguë et du plateau continental.*

17. EAF IN SEYCHELLOIS LEGISLATION

17.1 The fisheries legal and institutional framework and EAF

17.1.1 *Scope of law and institutional structure*

The 1987 Seychelles Fisheries Act⁷⁷⁹ is the legal framework for fisheries development and management in the Seychelles.

The main institutional mandates for Seychellois fisheries management fall on the Minister responsible for fisheries and the Seychelles Fishing Authority (SFA). The latter, established under the Seychelles Fishing Authority (Establishment) Act, is tasked to, *inter alia*, promote and develop the fishing industry and the fishery resources in Seychelles, and to develop and keep under review fisheries management and development plans.⁷⁸⁰

The Minister provides policy guidance and oversight, particularly for the SFA. He approves each fisheries management development plan and prescribes measures for the proper conduct and management of fisheries.⁷⁸¹ It is the SFA's responsibility to collect and analyse statistical data, while it is within the Minister's power to enter into arrangements or agreements with other states in the Indian Ocean or other organizations. These responsibilities and powers serve as a mechanism for an increasingly coordinated and integrated approach to Seychelles fisheries management.

17.1.2 *Mechanisms for coordination, cooperation and integration*

There are no mechanisms for inter-ministerial coordination and cooperation in the Act. However, "when practical," the SFA must consult with fisheries management authorities of other states bordering the Indian Ocean, particularly those sharing the same or related stocks aiming to ensure the harmonization of their respective fisheries management and development plans.⁷⁸²

17.1.3 *Mechanisms for stakeholder participation*

The SFA is required to "consult with the local fishermen and other persons affected" by a fisheries management and development plan.⁷⁸³

17.1.4 *Objectives of the law*

The Fisheries Act does not state any overall objective for fisheries and marine resources management in Seychelles.

17.2 Fisheries management and EAF

17.2.1 *Fisheries management plans*

The Act provides that SFA shall prepare and keep under review plans for the management and development of fisheries, which shall be submitted to the Minister for approval. The plans shall indicate the current state of fisheries, the objectives to be achieved and the management, development and licensing measures to be applied, including the amount of fishing, if any, to be allocated to foreign fishing vessels.⁷⁸⁴

17.2.2 *Effort and catch management*

The licensing and authorizations system ensures that only those who have applied and been approved are allocated fishing rights and access to Seychelles fisheries. Licences are required for local fishing vessels, foreign vessel fishing, and pleasure crafts, among others.

⁷⁷⁹ Fisheries Act (Chapter 82) (31 March 1987), revised edition 1991.

⁷⁸⁰ Seychelles Fishing Authority (Establishment) Act (1984), section 6.

⁷⁸¹ Fisheries Act (1991), section 4(1).

⁷⁸² Fisheries Act (1991), section 3(4).

⁷⁸³ Fisheries Act (1991), section 3(2).

⁷⁸⁴ Fisheries Act, section 3.

No local or foreign fishing vessels may fish, except in accordance with a licence issued under the licensing law or with formal government authorization to carry out scientific research.⁷⁸⁵ With respect to local fishing vessels, the Minister has the power to exempt any category of local vessel from the licensing requirements, subject to such conditions as the Minister may prescribe.⁷⁸⁶

Under Section 12, fishing activities are subject to any conditions prescribed or endorsed on the licence. Such conditions include those relating to the type and method of fishing or related activity authorized, the areas within which such fishing or related activity is authorized, and the target species and amount of fish or other aquatic organisms authorized to be taken, including any restriction on bycatch. However, where it is necessary for proper fisheries management, the authority granting the licence may attach any special conditions to the licence, as long as the licensee is notified of such variations. Under Section 14, a licence granted under the Act shall be “valid for such period as specified but not exceeding five years.”

As mentioned, foreign fishing vessels are barred from entering Seychelles waters without a licence, granted under the relevant licensing law, or an authorization. A foreign fishing vessel is only granted a licence if Seychelles has signed a fishing agreement with the Government of the vessel’s flag state or with an inter-government organization to which the flag state has delegated power to negotiate fishing agreements. However, the Minister may permit an exception if he determines that an agreement under Section 6 in respect of the vessel is not practical and the applicant provides sufficient financial and other guarantees for the fulfillment of all obligations under the Act.⁷⁸⁷ The Act provides that the total fishing rights allocated by such agreements “shall not exceed the total resources or amount of fishing vessels by the applicable fisheries management and development plan,”⁷⁸⁸ something that constrains the Minister’s powers to negotiate fisheries agreements by required adherence to relevant fisheries management and development plans.

The Fisheries Act furthermore specifies that no Seychelles vessel shall be used for fishing outside Seychelles waters without an authorization. The SFA may authorize, in writing, any Seychelles vessel (except for vessels that the Seychelles may not authorize for outside fishing, per requirements of international agreements), subject to such conditions as the written authorization may specify and subject to payment of the prescribed fees.⁷⁸⁹

17.2.3 Fishing gears and methods

The Fisheries Act also includes provisions concerning fishing gear and methods. Under Section 4(1), the Minister has the power to make regulations concerning, *inter alia*, gear specifications (including the mesh size of nets), prohibited fishing methods and gear, species, sizes and other characteristics of fish and other aquatic organisms that are permitted to be caught. The regulations may also prohibit the possession, purchase, sale, import or export of any gear or fish or other aquatic organism. The Fisheries Regulations (1991) provides for many of these issues, as highlighted below.

Fishing vessel licenses issued under the Act include particular conditions concerning fishing gear and methods. Under Section 12, the Minister’s prescribed licensing-related operating and management requirements and conditions include those relating to “the type and method of fishing or related activity authorized.”

Under Section 8, provisions are made for the stowage of any foreign fishing vessel’s unlicensed fishing gear, and such stowage will be maintained for the entire time that the vessel is in Seychelles waters.

⁷⁸⁵ Fisheries Act, sections 7(1) and 9(1).

⁷⁸⁶ Fisheries Act, section 9(3).

⁷⁸⁷ Fisheries Act, section 7.

⁷⁸⁸ Fisheries Act, section 6(2).

⁷⁸⁹ Fisheries (Amendment) Act 2001, section 17A.

The Fisheries Regulations prohibit the use of nets exceeding 50 m in length in the Seychelles' territorial waters, except pursuant to a valid licence issued under the licensing law⁷⁹⁰ or in accordance with section 7 or 9 of the Fisheries Act.⁷⁹¹ Licensed nets must be marked by an authorized officer for identification, and several offences have been created to enforce this identification mark requirement.

The Fisheries Regulations also prohibit demersal trawling in Seychelles waters, and no person shall place any net in any reef pass or channel in such a way as to obstruct the passage of fish.⁷⁹² Moreover, all fishing nets shall be mounted with lead ropes to minimize damage to coral, while fishing for mackerel sharks with nets has also been prohibited.⁷⁹³ The use of pots or basket traps with a diameter of less than 40 mm is also prohibited, as is the use of spear guns for fishing.⁷⁹⁴

Under Section 23 of the Fisheries Regulations, interference with gear is prohibited. The section states that no person shall remove, damage or disturb any fish or other aquatic organism from any net trap, line, fish aggregating device or other fishing gear found in Seychelles waters, except for the purpose of restoring lost gear to its rightful owner.

A regulation adopted in 2006 prescribes that shark finning only can take place when an authorization has been issued by SFA.⁷⁹⁵

17.2.4 Spatial and temporal controls

The Fisheries Act addresses spatial controls under Section 12, which provides licensing requirements and conditions as prescribed by the Minister. These provisions include conditions relating to the areas which permit fishing or related activities, and parameters concerning target species and the amount of fish or other aquatic organisms authorized to be caught, including any restrictions on bycatch.

Under Section 4(1) of the Act, the Minister may prescribe closed seasons and closed areas. The Fisheries Regulations further elaborate on spatial and temporal controls and provide specific protection for certain species and habitats, such as green turtles, hawksbill turtles and homards.⁷⁹⁶ The Regulations also establish protected areas and ban net fishing in these areas.⁷⁹⁷ Additionally, sea cucumbers, female crustacean and certain other crustaceans are protected.⁷⁹⁸

The First Schedule of the Fisheries Act defines zones where fishing by foreign vessels is prohibited, while the Second Schedule defines several protected areas for shells, which, under the Third Schedule, includes marine mollusks such as oysters, mother of pearl, octopus and squid.

17.3 Monitoring, control and surveillance and EAF

The Fisheries Act includes various provisions that account for MCS activities. The SFA is required, under Section 5, to collect and analyse statistical and other information on fisheries, and persons engaged in fishing or related activities are obliged to supply information regarding such activities in such form as the SFA may require.⁷⁹⁹ However, the Act provides that this information is protected inasmuch as it may only be used or disclosed for “the purposes of the Act.”⁸⁰⁰

⁷⁹⁰ The Licensing Act, Cap 131.

⁷⁹¹ The Fisheries Regulations (1987, as amended in 1998 and 2007), section 10(1).

⁷⁹² The Fisheries Regulations, sections 14 and 16.

⁷⁹³ The Fisheries Regulations, sections 16B and 16C.

⁷⁹⁴ The Fisheries Regulations, section 17 and 18.

⁷⁹⁵ Fisheries (Shark Finning) Regulations (2006).

⁷⁹⁶ The Fisheries Regulations, sections 12, 13 and 19.

⁷⁹⁷ The Fisheries Regulations, section 15.

⁷⁹⁸ The Fisheries Regulations, sections 16A, 19A, 20, 21.

⁷⁹⁹ Fisheries Act, section 5(1) and (2).

⁸⁰⁰ Fisheries Act, section 5(3).

Part III of the Act is entitled “Enforcement” and includes some basic MCS provisions. Under Part III, an authorized officer may, without a warrant, stop, board and search any fishing vessel found within Seychelles waters. The officer may require the production of any nets, fishing gear, or fish which he wishes to examine. The officer may also require that the vessel master produce any licence logbook or documents required under the act, which will then be examined and copied by the officer. These powers conferred upon authorized officers may also be executed on the high seas vis-à-vis any Seychelles or other fishing vessel flying the flag of a state which is party to an agreement with Seychelles which provides for such stopping, boarding and searching. Any fishing vessel master who is ordered to stop by an authorized officer shall take all necessary measures to facilitate the boarding of the vessel.⁸⁰¹

The Fisheries Act also confers the Minister with the power to enter into agreements with other states in the Indian Ocean providing for joint or harmonized surveillance and enforcement measures in respect of foreign fishing vessels.⁸⁰² The Minister can also enter into such agreements to facilitate the exchange of fisheries information and the harmonization of information collection systems.⁸⁰³

Additionally, fisheries agreements must include provisions establishing the responsibility of the other states, organizations or associations, to ensure that its vessels will comply with the agreement and with laws relating to fishing in Seychelles waters.⁸⁰⁴

17.4 Miscellaneous

In terms of provisions addressing scientific research, Section 17(1) provides that the Minister “may in writing authorize any person or vessel to fish for the purpose of scientific research, subject to such conditions as he may prescribe or specify.” Such authorization may exempt any person or vessel from any provisions of the Fisheries Act.

With regards to aquaculture, the SFA may, in writing, grant any person the exclusive right to propagate, raise and take fish and other aquatic organisms within any Seychelles water areas. The SFA may allocate particular areas of Seychelles waters for aquaculture activities. However, the SFA must first publish a notice in the Gazette which informs objecting persons about the permission to be granted and provides them with an opportunity to object to the aquaculture activity. A licence shall not be granted without the prior approval of the Town and Country Planning Authority.⁸⁰⁵

The Fisheries Act does not contain provisions covering related issues, such as EIA and marine pollution.

17.5 Other legislation relevant to EAF

The 1994 Environment Protection Act (EPA) provides for the protection, preservation and improvement of the environment, and for the control of hazards to human beings, as well as other living creatures, plants and property. With a view to preventing and controlling environmental pollution, the Minister may: prescribe standards for, *inter alia*, quality of water and soil, effluent limitations and pesticide residues; provide for the regulation of fishing areas, aquatic areas, drinking water sources and reservoirs, recreational and other areas where water may need special protection; and classify all waters in the Seychelles based on their best usage. Under the Act, no one may, without an authorization, discharge any effluent or throw, deposit, or place any polluting or hazardous substance or waste or any obstructing matter into in any watercourse or in territorial waters.

⁸⁰¹ The Fisheries Act (as amended in 2001), sections 19(1) and (2) and (2)A.

⁸⁰² The Fisheries Act, section 22.

⁸⁰³ The Fisheries Act, section 5(4).

⁸⁰⁴ The Fisheries Act, section 6(3).

⁸⁰⁵ The Fisheries Act, section 18.

Integrated Coastal Zone Management Plans, based on a survey carried out for a specified coastal zone, can also be prepared under the Act. No person is allowed to release or cause to be released into a declared coastal zone any polluting or hazardous substances.⁸⁰⁶

Part IV of the EPA requires that an EIA is carried out and that environmental authorization is obtained prior to the commencement or execution of any prescribed project or activity within a protected or ecologically-sensitive area. The Environment Protection (Impact Assessment) Regulations list the categories of projects or activities that require an EIA and environmental authorization. Schedule 1 of the EIA Regulations lists the prescribed projects and activities which necessitate an authorization. These include the following: mining, agricultural production, forestry, fish and associated farming products, chemical industries, industry (construction), food and agro-industries, energy production and distribution, water reservoirs and distribution, sewage and wastewater treatment systems, solid waste management systems, the hotel industry, transport; land reclamation, and housing development.

The 1969 National Parks and Nature Conservancy Act (Chapter 141) provides for the establishment of the Seychelles Environment Commission and the designation of protected areas. Section 10 prescribes that any form of fishing and introduction of alien species is forbidden in an area designated as Strict Natural Reserve.

The 1996 Environment Protection (Marine Parks Authority) Order establishes the Marine Parks Authority, which is responsible for the protection and management of the marine parks and which carries out the functions of the Seychelles Environment Commission. The Marine Parks Authority also manages and directs environmentally-conscious development on St. Anne's Island, and shall, at the request of the Minister, manage and direct development on any other island, and may also advise the Minister on any regulations required in order to improve these functions.⁸⁰⁷ The Authority is managed by a Board consisting of representatives from the ministries responsible for environment, land, marine resources and tourism, as well as other persons who have experience and have demonstrated interest in national parks. The Chairperson of the Board is always the representative of the Ministry of Environment.⁸⁰⁸

The Wild Animals and Birds Protection Act (Chapter 247, revised edition 1991) prescribes for the adoption by the Minister of regulations for the protection of wild animals and birds. Pursuant to this Act, regulations banning the catching of turtles found in the territorial waters of Seychelles have been adopted.⁸⁰⁹

17.6 Concluding remarks

The Fisheries Act of the Seychelles contains several provisions of importance to EAF. The Act provides for the adoption of management plans, and includes several basic provisions concerning effort management, fishing gear and methods, spatial and temporal controls. It does not, however, define any objectives for fisheries management and includes few mechanisms related to inter-ministerial coordination and stakeholder participation. With respect to aquaculture the Act is rather rudimentary, and it does not include direct provisions on EIA, introduction of species and marine pollution. Fortunately such environmental provisions are found in other legislation, particularly in the Environmental Protection Act. However, with the notable exception of the Environmental Protection Act, the legislation regarding other sectors reviewed above seems to a large extent to be obsolete and incomprehensive.

Neither the Fisheries Act nor the Regulations have any direct provisions on TACs, although Section 6 of the Fisheries Act references "total fishing rights" and "total resources or amount of fishing," as

⁸⁰⁶ EPA section 11.

⁸⁰⁷ The Environment Protection (Marine Parks Authority) Order, section 4.

⁸⁰⁸ The Environment Protection (Marine Parks Authority) Order, section 5.

⁸⁰⁹ Wild Animals (Turtles) Protection Regulation (11 July 1984).

prescribed in relevant fisheries management and development plans. In the absence of TAC provisions it is arguable that the Act has not given this subject enough attention.

Similarly, the Act should provide for the establishment of a Fisheries Fund, into which fishing licence fees and other resources should be paid to improve fisheries development and management.

The Act also has some shortcomings with respect to MCS, especially regarding measures addressing fishing vessel registries, fisheries observers, VMS, catch reporting and logbooks. Provisions on port state control, with the exception of some provisions targeting sharks, is another omission in the legal framework. A positive aspect, however, is the emphasis the Act places on regional cooperation, joint or harmonized surveillance and enforcement measures in respect of foreign fishing vessels.

18. EAF AND SIERRA LEONEAN LEGISLATION

18.1 The legal and institutional framework and EAF

18.1.1 Scope of law and institutional structure

The 1994 Fisheries (Management and development) Decree (the Decree) is the main piece of legislation for fisheries management, planning and development in Sierra Leone. The Decree applies to all fishing operations carried out in the country's "fishery waters"⁸¹⁰, including foreign fishing.

Section 3 of the Decree vests the Government with exclusive management and control over fish, fisheries and other aquatic resources in the fishery waters. The Government may manage directly or through the Secretary of State, the Director of Fisheries and Marine Resources (the Director) or any other authorized officer.

The Ministry of Fisheries and Marine Resources (MFMR) is the ministry in charge of fisheries management in Sierra Leone. Under the Decree, the Ministry (Department) of Fisheries and Marine Resources is established as the branch in charge of fisheries management, planning, development and research, and is headed by the Secretary of State and assisted by a Director of Fisheries.⁸¹¹

Under section 10 of the Decree, a Scientific and Technical Committee shall be established, which shall advise the Director on the biological, social economic and technical aspects of fish and fisheries, with a view to providing the basis for fisheries management decisions, including the setting of TACs.

18.1.2 Mechanisms for coordination, cooperation and integration

The Decree does not establish any mechanism for coordination and cooperation with other ministries engaged in coastal zone management, but provides, under section 9, that the Director shall, as he deems appropriate, consult with relevant government officials and representatives for the fisheries sector in formulating policy recommendations for the Secretary of State.

Consultation shall also take place with other government ministries or departments, as well as with local authorities, during the preparation of fishery management plans.⁸¹²

18.1.3 Mechanism for stakeholder participation

Under the Decree, the Director may establish such other committees as deemed appropriate at local or national levels, "which may be composed of fishermen or other persons actively involved in the fisheries of Sierra Leone to advise him on matters relating to the development and management of such fisheries and the welfare of fishermen."⁸¹³ The Decree does not give much detail as to what the

⁸¹⁰ Under section 105 of the 1994 Fisheries (Management and development) Decree, the fishery waters include the EEZ, the territorial sea and the internal waters.

⁸¹¹ The 1994 Fisheries (Management and development) Decree, sections 4–6.

⁸¹² The 1994 Fisheries (Management and development) Decree, section 11(6).

⁸¹³ The 1994 Fisheries (Management and development) Decree, section 10(7).

mandate of these committees should be, but it requires the Director to consult with any committee that is established under the Decree during the preparation of fishery management plans. Consultations shall also be carried out with local fishermen and other persons affected by the plan.⁸¹⁴

18.1.4 Objectives of the law

The stated objectives and purposes for management and development of fisheries in Sierra Leone, are laid down in section 12 of the Decree, all of which are supportive of EAF:

(12) The Director shall take into account the following objectives and purposes in the preparation of fisheries management and development plans and otherwise in management decisions:

- (a) establish priorities for the utilization of the fisheries resources which will provide the greatest overall benefits to the country;*
- (b) ensure the proper conservation of the fishery resources through the prevention of over-fishing and the taking of a precautionary approach toward harvesting when data about the fishery resource are lacking;*
- (c) base management practices on sound management principles and the best scientific information available, to be gained through national and international research programmes;*
- (d) minimize, to the extent practicable, fishing gear conflicts among users;*
- (e) develop the Sierra Leone fisheries sector, and in so doing give preference to the needs of local fisheries over those of foreign fisheries.*

The Decree also emphasises the importance of international cooperation, and states that the Secretary of State should consult with foreign governments, and particularly with those sharing the same or interrelated stocks, with a view to:

- (a) ensuring the closest practicable harmonization or coordination of their respective fisheries management and development plans and regulations;*
- (b) ensuring harmonization in the collection of statistics, the carrying out of surveys and procedures for assessing the state of the fisheries resources in the region;*
- (c) providing, as appropriate, for the formulation of regional fisheries management and development plans, for the allocation of fishing effort and catch among States sharing the same stocks, and for taking regional or joint conservation measures;*
- (d) establishing, on a bilateral or regional level, as appropriate, arrangements regarding fishing rights with other States in accordance with the provisions of the relevant fisheries management and development plan.*⁸¹⁵

18.2 Fisheries management and EAF

18.2.1 Fisheries management plans

The Decree requires the Director to prepare, keep under review and be responsible for the management and development of designated fisheries, which are fisheries that are “important to the national interest” and “require management and development measures for effective conservation and optimum utilization.” For these and other fisheries as may be practicable, management plans are to be developed.⁸¹⁶ With respect to the content of the fishery plans, the Decree specifies that it shall include the following elements, many of which are important with respect to EAF implementation:⁸¹⁷

(5) Each fishery plan shall:

- (a) identify the fishery resource and its characteristics, including its economic and social value and interrelationship with other species in the ecosystem;*

⁸¹⁴ The 1994 Fisheries (Management and development) Decree, section 11(6).

⁸¹⁵ The 1994 Fisheries (Management and development) Decree, section 14.

⁸¹⁶ The 1994 Fisheries (Management and development) Decree, section 11(4).

⁸¹⁷ The 1994 Fisheries (Management and development) Decree, section 11(5).

- (b) assess the present state of exploitation of the fishery resource and potential average annual yields;*
- (c) specify the objectives to be achieved in the management and development of the fishery;*
- (d) taking into account the best information on all relevant biological, social, economic and other applicable factors, determine the maximum sustainable yield;*
- (e) taking into account advice of any committee established and performing its functions under this Decree and information described in the preceding paragraphs, determine a total allowable catch for each fishery and such other conservation and management measures as may be appropriate;*
- (f) where there is insufficient information and advice to set a total allowable catch, identify a plan for determining such information and take appropriate conservation and management measures, taking into account the advice of any committee established and performing its functions under section 10 and applying precautionary principles;*
- (g) specify the measures, if any, to be taken to promote the development of local fisheries;*
- (h) determine the amount of the fishery resource, if any, to be made available to licensed foreign fishing vessel;*
- (i) specify the conservation and management measures to be enforced to protect the fishery resource from over-exploitation;*
- (j) specify the research necessary to enhance management of the fishery;*
- (k) specify the information and other data required to be given or reported for effective management and development; and*
- (l) take into account any relevant traditional fishing methods or principles.*

Many of these elements require scientific input, which is to be provided by the Scientific and Technical Committee that is established under the Act, and whose advice shall be incorporated into both fisheries management plans and other management decisions.⁸¹⁸

Involvement of neighbouring states in fisheries planning, is provided for under section 11(7), which requires the Director to consult, wherever practicable, with the appropriate fisheries management authorities of other states in the region, and in particular with those sharing the same or interrelated stocks, with a view to ensuring the harmonization of their respective fishery management and development plans.

18.2.2 Effort and catch management

The fisheries management plans shall determine TACs for each fishery, unless there is insufficient information and advice to do so.⁸¹⁹

Part IV of the Decree provides for the licensing of local fishing vessels, as well as the use of fixed fishing gear and beach seine. Under section 15, no local fishing vessel, fixed fishing gear or seine shall be used for fishing in the fishery waters except under the authority of a valid local fishing licence, unless otherwise provided for in the Decree. Pursuant to section 13, the Secretary of State may exempt, indefinitely or for such period of time as he may specify, artisanal or semi-industrial fisheries⁸²⁰ from any requirement concerning licensing and the payment of fees. He may furthermore give priority to artisanal or semi-industrial fisheries in the allocation of fishing licences or quotas, and may establish reserved areas for artisanal or semi-industrial fishing. Artisanal vessels are exempt from licensing requirement under Part III of the 1995 Fisheries Regulations, which do, however, require such vessels to be registered. As to industrial vessels, a licence is required under Part V, which does not make any distinction between semi-industrial and industrial fishing vessels.

With respect to foreign fishing, the Decree prescribes that no foreign fishing vessel shall be used for fishing or related activities in the fishery waters except in accordance with a valid licence, an

⁸¹⁸ The 1994 Fisheries (Management and development) Decree, section 10(6).

⁸¹⁹ The 1994 Fisheries (Management and development) Decree, section 11(5) (e) and (f).

⁸²⁰ Semi-industrial vessels are defined as “a fishing vessel of length less than sixty feet and powered by an inboard engine.”

applicable access agreement or as otherwise authorized.⁸²¹ As to access agreements, the Decree provides that fishery allocations under such agreements shall not exceed a level consistent with the conservation and management of fishery resources and the protection of fishing by Sierra Leone citizens, and shall be consistent with any fisheries management plan.⁸²² Marine scientific research and test fishing may be authorized for foreign fishing vessels without an access agreement.⁸²³ The Decree also includes provisions related to the cancellation and suspension of foreign fishing licences and fees for such licences.⁸²⁴ Foreign fishing vessels shall be operated in such a way that the activities of local and traditional fishermen and fishing vessels are not disrupted or in any other way adversely affected.⁸²⁵

Part VIII of the Decree details the requirements with respect to applications for licences, conditions for licences, fees, and validity and transferability of licences. The validity of a licence shall not exceed one year, and not extend beyond the period of validity of an access agreement in the case of foreign fishing. A licence shall only be valid for the species of fish and the type of fishing gear or method of fishing or such other activity as may be specified in the licence.⁸²⁶ A register of licences is to be established pursuant to section 60 of the Decree.

Part VII of the Decree includes measures seeking to control fishing capacity by putting controls on the building and importation of fishing vessels in Sierra Leone. Under section 50, no person may build an industrial fishing vessel unless he or she has been granted a licence to do so by the Secretary of State. Under section 51, prior approval is required before an industrial fishing vessel can be imported into the country.

18.2.3 Fishing gears and methods

Part VI of the Decree contains a series of conservation measures, of which several are related to fishing gears and methods. The Decree prohibits the use of bottom trawl by semi-industrial or industrial vessels of 50 gross registered tonnage or more in coastal waters less than 15 m deep. The Director may, however, exempt research or any other fishing vessel from this provision.⁸²⁷

As to fishing nets, the Director may specify in writing the nature and type of fishing nets to be manufactured or imported into Sierra Leone. The import and use of any fishing net or netting, the mesh of which is less than 25 mm in stretched diagonal length is, however, strictly prohibited.⁸²⁸ The Decree details further restrictions regarding minimum mesh size of trawl nets, seine nets, gill nets, as well other nets used in industrial fishing.⁸²⁹ As to prohibited fishing methods, the Decree bans driftnet fishing activities in the fishery waters, as well as the use of explosives, poison or other noxious substances.⁸³⁰

The 1995 Fisheries Regulations include a series of measures related to gear stowage, fixed gear and fish aggregating devices (FAD) in Part IX. Under section 29, permission will have to be obtained before FADs can be placed in the fishery waters. Under section 30, a FAD can be declared a designated FAD, which can imply the exclusion of other fishers from fishing within a radius of one nautical mile from the designated FAD.

⁸²¹ The 1994 Fisheries (Management and development) Decree, section 21(1)(b), 22(1).

⁸²² The 1994 Fisheries (Management and development) Decree, section 23(2).

⁸²³ The 1994 Fisheries (Management and development) Decree, section 25.

⁸²⁴ The 1994 Fisheries (Management and development) Decree, sections 28–29.

⁸²⁵ The 1994 Fisheries (Management and development) Decree, section 21(5).

⁸²⁶ The 1994 Fisheries (Management and development) Decree, section 56.

⁸²⁷ The 1994 Fisheries (Management and development) Decree, section 30(4)–(5).

⁸²⁸ The 1994 Fisheries (Management and development) Decree, section 33.

⁸²⁹ The 1994 Fisheries (Management and development) Decree, sections 34–39.

⁸³⁰ The 1994 Fisheries (Management and development) Decree, sections 43–44.

18.2.4 Spatial and temporal controls

Part VI of the Decree includes several spatial and temporal control measures. Firstly, it prescribes that no semi-industrial or industrial vessels are allowed to fish inside the Inshore Exclusion Zone (IEZ), which is reserved exclusively for artisanal and recreational fishing. Canoes operating with a canoe support vessel are also excluded from fishing in the IEZ.⁸³¹ The Director may moreover declare closed seasons for fishing in specified areas of coastal waters or the riverine system.⁸³² Measures to protect lobsters and other crustaceans are provided for under section 41, which bans the taking of gravid and young specimen of these species. Fishing for marine mammals is furthermore banned.⁸³³

18.3 Monitoring, control and surveillance and EAF

MCS and enforcement is dealt with under Part IX of the Decree. A Fisheries MCS and enforcement unit is to be established pursuant to section 61, together with an MCS and Enforcement Unit Fund into which all fines and penalties imposed under this Decree or other fisheries laws shall be deposited. Section 63 details the powers of authorized officers, which includes the powers to stop, board and search any fishing vessel in the fishery waters without a warrant or other process. Under section 67, the Director may designate persons to act as inspectors and observers to carry out scientific and monitoring functions, including collection of catch and effort data, taking of samples and reporting violations.

As to transshipment, the Decree specifies that no motorized fishing vessel shall be used for transshipment in the fishery waters without the supervision of an authorized officer or such other arrangement as may be approved in advance by the Director.⁸³⁴ The 1995 Fisheries Regulations describe further measures related to transshipment in Part VI, including measures related to prior notification of transshipment, licensing requirements for transshipment, authorized ports and inspection of transshipment. Other MCS measures, such as notification of entry into the fishery waters, are provided for under Part VIII.

With respect to collection and recording of catch and effort data, the Decree states that the Director may require any person to furnish all relevant data and information, including fishing time and effort, landing, process, sales and other related transactions, “in order to assess and recommend appropriate management, development and conservation measures for any fishery.”⁸³⁵ The 1995 Fisheries Regulations include provisions related to the keeping of log books and transmission of log book data under section 11, as well as provisions on the keeping of radio logs under Part VIII.

18.4 Miscellaneous measures

Section 47 of the Decree addresses marine pollution, stating that any person who introduces deleterious substances into the fishery waters which adversely affect the habitat or health of the fish or other living aquatic resources, is guilty of an offence.

The issue of EIA is also addressed in the Decree. Any person, government department or agency planning to conduct any activity that is likely to have a substantial impact on the fishery resources or other aquatic resources of Sierra Leone, may be required by the Director to make an EIA, which also addresses possible means of preventing or minimizing adverse impacts.⁸³⁶

⁸³¹ The 1994 Fisheries (Management and development) Decree, section 30.

⁸³² The 1994 Fisheries (Management and development) Decree, section 32(1).

⁸³³ The 1994 Fisheries (Management and development) Decree, section 45.

⁸³⁴ The 1994 Fisheries (Management and development) Decree, section 101.

⁸³⁵ The 1994 Fisheries (Management and development) Decree, section 11(3).

⁸³⁶ The 1994 Fisheries (Management and development) Decree, section 48.

18.5 Other legislation relevant to EAF

The 2008 Environment Protection Agency Act lays down the legal and institutional framework for environmental management in Sierra Leone. It establishes the Environment Protection Agency (the Agency) and the Board of Directors, and sets out their functions and powers. The Board of Directors is the governing body of the Agency, with representatives from a number of ministries, including the ministries of environment, local government, mineral resources, marine resources, agriculture and forestry and tourism. In addition to being in control of, and supervising, the Agency, the Board shall provide policy guidance and advice to ensure the implementation of the functions of the Agency.⁸³⁷ Being included among the permanent members of the Board, ensures that MFMR have a stake in the institution that controls, supervises and gives policy guidance to the Agency, something that facilitates coordination between fisheries and environmental policies.

As to the Agency, it has multiple functions, several of which are important in order to increase coordination among agencies concerned with environmental and coastal zone management. In addition to giving advice to the Minister in charge of the environment on policy formulation, the Agency shall, *inter alia*: coordinate the activities of bodies concerned with technical and practical aspects of the environment, including for the purpose of controlling the generation and treatment of industrial waste; issue environmental permits and control waste discharge and emissions; prescribe standards and guidelines on air, soil and water quality; ensure compliance with EIA procedures; promote studies and research; promote effective planning in the management of the environment; coordinate with ministries and local councils and other agencies on matters relating to environmental protection and management; and collect and make available environmental data and information.⁸³⁸

Part IV of the Act lays down the procedures related to EIA. Under this part, a licence is required for projects set out in the First Schedule, which includes activities that involve substantial changes in renewable sources use; substantial changes in farming and fisheries practices; extractive industries; and waste management and disposal. Among the factors that determine whether a project requires an EIA, are the following (Second Schedule): the environmental impact on the community; whether the project is likely to have substantial impact on the ecosystem of the locality; whether the project will endanger any species of flora or fauna or their habitats; and the extent of the degradation of the quality of the environment. EIAs shall be made available for public comments and inspection under section 27. The cross-sectoral Board will decide whether or not an EIA is approved and hence whether a licence can be issued for the project.

Part V of the Act prescribes control measures related to ozone depleting substances, including restrictions on import, while Part VI deals with miscellaneous measures, including measures on enforcement and compliance.

The 1994 Maritime Zones (Establishment) Decree establishes the maritime zones of Sierra Leone, namely the territorial sea of 12 nautical miles under section 2, a contiguous zone under section 7 and an EEZ of 200 nautical miles under section 8.

The 1998 Forestry Act provides a legal framework for the management, utilization and preservation of the forest resources in Sierra Leone. The Act defines “tree” as “any wooden vegetation”, which means that mangroves fall under the scope of the Act. Part VI of the Act provides for the establishment, by notice, of protected areas for the purpose of the conservation of soil, water, flora and fauna. Pursuant to section 21(4), such a notice is, however, only valid for five years. A species of tree can be declared a protected tree under section 22.

The 1972 Wildlife Conservation Act includes provisions allowing for the establishment of natural reserves, national parks and other protected areas, with corresponding restrictions related to hunting,

⁸³⁷ The 2008 Environment Protection Agency Act, sections 2, 3 and 5.

⁸³⁸ The 2008 Environment Protection Agency Act, section 12.

fishing and other human activity in these areas. Such protected areas can, however, only be established on areas of land, which makes this instrument less relevant in an EAF context.

The 2009 Mines and Minerals Act provides the legal framework for the management of mines and mineral rights, and includes provisions related to, *inter alia*, the establishment of the cross-sectoral Minerals Advisory Board (the Board), the acquisition of mineral rights and licensing. “Mineral” includes solid, liquid and gaseous substances “in or under the water”, but excludes oil and petroleum. The Board, which includes one representative from the Environmental Protection Agency, but none from the fisheries sector, is tasked to, *inter alia*, advise and make recommendations to the Minister on matters of the environment as they relate to mining; advise the Minister on granting of applications, and certify mineral rights applications.⁸³⁹

Part XV on environmental protection, states that the Minister shall require an EIA licence, as prescribed pursuant to the environmental legislation, as a condition for granting a large-scale or small-scale mining licence. Under section 133, additional requirements with respect to the EIA are described. This part also includes provisions related to the submission of environmental management programmes, reports by licence holders and the rehabilitation of damaged areas.

The 2001 Petroleum Exploration and Production Act provides for the terms and conditions of petroleum exploration and production in Sierra Leone, including on the sea-bed and in the subsoil below the seabed. Part III determines the conditions for the exploration of petroleum rights through the conclusion of a petroleum agreement with the Petroleum Resources Unit, a body that is located in the Office of the President.

The Act does not make any reference to EIAs as a requirement in relation to the application for a petroleum agreement, but this would nonetheless be required under the First Schedule of the 2008 Environment Protection Agency Act. As to environmental standards to be met during the exploration phase, the Act under section 9 merely refers to “best practices in petroleum operations,” stating that operations undertaken under a petroleum agreement shall be carried out in accordance with the best international practices in relating to the exploration, development or production of petroleum. The Act also includes provisions related to liability for environmental damage and the duty to restore an affected area after the termination of petroleum operations.⁸⁴⁰

18.6 Concluding remarks

Sierra Leone’s Fisheries (Management and Development) Decree includes several provisions that are crucial for EAF implementation at national level. Basic measures on management plans, licensing requirements, spatial controls, fishing gear and methods, as well as MCS, are examples of EAF-related measures that are provided for in the current legislation.

An important weakness in the fisheries legislation is, however, that the Decree allows for an open access regime for artisanal and semi-industrial fisheries, through provisions allowing the Secretary of State to exempt these groups from any requirement concerning licensing and the payment of fees. The detrimental effects of open access regimes are well known, with over-capacity in the fleet and stock depletion as typical consequences. An important step towards EAF would therefore be to make licensing requirements mandatory by law for all vessel groups, in particular the semi-industrial fleet. The fisheries legislation in Sierra Leone is currently under revision, and as a measure to enhance EAF, the Decree should therefore be amended so that these vessels no longer can be exempted from licensing requirements by way of regulation.

A mechanism for coordination between the MFMR and other ministries with a stake in fisheries and coastal zone management, with a cross-sectoral membership similar to the Board of Directors

⁸³⁹ The 2009 Mines and Minerals Act, section 12.

⁸⁴⁰ The 2001 Petroleum Exploration and Production Act, section 54 and 62.

established under the Environment Protection Agency Act, is also missing in the Decree. An amendment in the Decree to allow for the establishment of such a mechanism would also be conducive to EAF implementation in Sierra Leone.

As part of the current revision of the fisheries legislation, draft regulations have been prepared. Among the proposals that have been made, and which would further enhance EAF in Sierra Leone, are provisions on, *inter alia*, MPAs, ghost fishing, protection of species, and strengthened MCS measures, including on port state control, collection and recording of catch data and VMS. The improvements these regulations represent will, together with a revised Decree, equip Sierra Leone with a modern and up-to-date fisheries legal framework that provides a solid basis for EAF implementation.

This overview shows, however, that apart from the Environment Protection Agency Act, there is currently little other sector legislation to support EAF in Sierra Leone. The implementation of EAF in the country would benefit from a strengthened ecosystem approach also in other sectors that have implications for the fisheries sector, such as the petroleum sector.

19. EAF IN SOUTH AFRICAN LEGISLATION

19.1 The fisheries legal and institutional framework and EAF

19.1.1 Scope of law and institutional structure

The 1998 Marine Living Resources Act (No. 18 of 1998) (MLRA), read with the regulations promulgated under the Act,⁸⁴¹ is the primary legislation for management of the marine living resources in South Africa. It covers both fishing operations in the waters under national jurisdiction and high seas fishing by nationals.

The Minister of the Department of Environment Affairs and Tourism (the Department) is, under the MLRA, the authority responsible for the management and development of fisheries and marine resources in South Africa. The MLRA is implemented by a branch of the Department, namely the Marine and Coastal Management (MCM) in Cape Town, headed by the Deputy-Director General.

There are four Chief Directorates within MCM:

- Office of the Chief Financial Officer (which controls the finances of the Marine Living Resources Fund (MLRF));
- Research, Antarctica and Islands, responsible for, among others, fisheries-related research;
- Marine Resource Management (responsible for regulation of fishing activities);
- Monitoring, Control and Surveillance (responsible for enforcement of the MLRA); and
- Integrated Coastal Management (responsible for coastal conservation, non-consumptive marine activities and coastal socio-economic development).

MCM and the MLRF also receive administrative support which includes Human Resources, IT, Communications and Legal Services.

19.1.2 Mechanisms for coordination, cooperation and integration

A Consultative Advisory Forum for Living Marine Resources (CAF) is established under MLRA, which shall advise the Minister on the management and development of the fishing industry, including the setting of TACs; legal issues; the establishment of operational management procedures, including management plans; research priorities, as well as the allocation of the MLRF.⁸⁴² In line with the principle of participation, CAF is prescribed to be “broadly representative and multidisciplinary,” but

⁸⁴¹ The Marine Living Resource Regulations, published under GNR. 1111 of 2 September 1998, as amended (MLRA Regulations).

⁸⁴² MLRA (1998), sections 5 and 6.

the MLRA does not give any detailed directions as to who the Minister should appoint as members of CAF.⁸⁴³

19.1.3 Mechanism for stakeholder participation

The MLRA also includes other mechanisms for enhanced involvement by stakeholders, although only as a commitment to allow some groups the right to be heard by CAF. The Minister may grant this status to any industrial body or interest group in the fishing industry which he deems representative.⁸⁴⁴

19.1.4 Objectives of the law

The stated purpose of the MLRA reflects EAF by emphasizing the dual goal of conservation and sustainable use of marine ecosystems and living marine resources:

“to provide for the conservation of the marine ecosystem, the long term sustainable utilization of marine living resources and the orderly access to exploitation, utilization and protection of certain marine living resources; and for these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa; and to provide for matters connected therewith.”⁸⁴⁵

In the provision spelling out the objectives and principles underpinning the MLRA, other principles of EAF are included, like the application of the precautionary approach, the reference to the need to protect the “ecosystem as a whole” and stakeholder participation in decision-making processes:

“2. The Minister and any organ of state shall, in exercising any power under this Act, have regard to the following objectives and principles:

- (a) the need to achieve optimum utilization and ecologically sustainable development of marine living resources;*
- (b) the need to conserve marine living resources for both present and future generations;*
- (c) the need to apply precautionary approaches in respect of the management and development of marine living resources;*
- (d) the need to utilize marine living resources to achieve economic growth, human resource development, capacity building within fisheries and mariculture branches, employment creation and a sound ecological balance consistent with the development objectives of the national government;*
- (e) the need to protect the ecosystem as a whole, including species which are not targeted for exploitation;*
- (f) the need to preserve marine biodiversity;*
- (g) the need to minimize marine pollution;*
- (h) the need to achieve to the extent practicable a broad and accountable participation in the decision-making processes provided for in this Act;*
- (i) any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law; and*
- (j) the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry.”⁸⁴⁶*

19.2 Fisheries management and EAF

19.2.1 Fisheries management plans

MLRA allows for the establishment of fisheries management areas for the management of specific species, for which plans for the conservation, management and development of the fisheries may be

⁸⁴³ MLRA (1998), section 7.

⁸⁴⁴ MLRA (1998), section 8.

⁸⁴⁵ MLRA (1998), preamble.

⁸⁴⁶ MLRA (1998), section 2.

approved by the Minister. During the preparation of such plans, the Minister shall consult with CAF.⁸⁴⁷

19.2.2 Effort and catch management

Under the MLRA, local fishing is prohibited unless a commercial or subsistence fishing right, or recreational permit has been granted. Only South Africans can acquire or hold a local fishing right, and the right shall be valid for no more than 15 years.⁸⁴⁸ Prior to granting a right, the Minister may require an EIA to be submitted by the applicant. The Minister may subject a fishing right to the use of a particular type of vessel or gear, or area of fishing.⁸⁴⁹ A local fishing right cannot be exercised without a permit with a maximal validity of one year.⁸⁵⁰ A permit is also required for recreational fishing.⁸⁵¹ A right of access cannot be exercised unless a local fishing vessel license has been obtained.⁸⁵² Granting of rights, permits and licences are subject to the payment of a fee.⁸⁵³ A right, license or permit can, whenever the Minister is of the opinion that it is in the interests of the promotion, protection or utilization on a sustainable basis of a particular marine living resource, revoke, suspend, cancel or reduce the right, licence or permit.⁸⁵⁴ A right, licence or permit may also be revoked, suspended cancelled or reduced as a punitive measure for contravention of the MLRA.⁸⁵⁵

The MLRA reflects the transformation in South African fisheries since the first democratic elections in 1994, whereby the needs of historically disadvantaged people, both workers in the fishing industry and poor coastal communities have been prioritized. Equity is hence an important principle of the MLRA, mirrored in the objective of the Act that states that the Minister shall have regard to “the need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry” when exercising powers under the Act.⁸⁵⁶ In order to achieve this objective, the Minister shall, when granting local fishing rights, have particular regard to the need to permit new entrants, “particularly those from historically disadvantaged sectors of society.”⁸⁵⁷ In order to facilitate the achievement of fair and equitable access to local fishing rights, a body called the Fisheries Transformation Council, who shall lease rights, according to criteria determined by the Minister, to persons from historically disadvantaged sectors of society and to small and medium size enterprises. Members of the Council shall be broadly representative and multidisciplinary, but shall not include anyone with a direct interest in commercial fishing or mariculture.⁸⁵⁸

The promotion of equality is further enhanced in the provision of MLRA allowing the Minister to establish subsistence fishing areas for the purpose of achieving the objectives of section 6(2) of the Constitution, whereby legislative measures “designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination” can be taken. The Minister may also declare whole coastal communities as subsistence fishing communities, and may furthermore prohibit any other fishing activity or the exercise of other rights in that area.⁸⁵⁹

Under MLRA, the Minister for Environmental Affairs and Tourism shall determine TACs and the total applied fishing effort, which in turn shall be allocated between the subsistence, recreational, local commercial and foreign fishing groups.⁸⁶⁰ The Act does not prescribe that the setting of TACs should

⁸⁴⁷ MLRA (1998), section 15.

⁸⁴⁸ MLRA (1998), section 18.

⁸⁴⁹ MLRA (1998), section 18.

⁸⁵⁰ MLRA (1998), section 13.

⁸⁵¹ MLRA (1998), section 20.

⁸⁵² MLRA (1998), section 22.

⁸⁵³ MLRA (1998), section 25.

⁸⁵⁴ MLRA (1998), section 28(4).

⁸⁵⁵ MLRA (1998), section 28 (1)–(3).

⁸⁵⁶ MLRA (1998), section 2(j).

⁸⁵⁷ MLRA (1998), section 18(5).

⁸⁵⁸ MLRA (1998), sections 29–34.

⁸⁵⁹ MLRA (1998), section 19.

⁸⁶⁰ MLRA (1998), section 14.

be science-based. As one of the principles underpinning the Act, the precautionary approach should in any case be applied when the TACs and the applied fishing effort are set. Without specifying the terms for this further, the MLRA allows the Minister, after consultation with the Forum, to reduce TACs and applied fishing efforts for any fishing group, as well as the rights granted in respect of these groups.⁸⁶¹

Foreign fishing is not permitted in South African waters unless a foreign fishing vessel licence has been obtained. In principle, an access agreement needs to be in place to allow for foreign fishing, but exemptions can be granted if sufficient financial or other guarantees from the applicant are provided. An access agreement shall not “exceed the total resources of the total mass of fish allowed to the appropriate category of foreign fishing vessels in terms of any applicable determination of the TAC or applicable fishery plan.” Furthermore, it shall include a provision establishing the responsibility of the foreign state to take necessary measures to ensure compliance by its vessel with the terms and conditions of the agreement and with South African legislation.⁸⁶²

Flag state responsibilities are also provided for in the Act. First, no person shall undertake fishing on the high seas without a fishing permit.⁸⁶³ The Act also includes provisions facilitating international cooperation and information exchange, including the exchange of evidentiary material, for the purpose of implementing international conservation and management measures.⁸⁶⁴ It also makes it an offence to contravene an international conservation and management measure inside or outside South African waters.⁸⁶⁵

19.2.3 Fishing gears and methods

MLRA includes detailed provisions for restricting or prohibiting the use of fishing methods and gear that are harmful to the ecosystem. Under the Act, the use or possession of explosives, fire-arms, poison or other noxious substances for fishing purposes is prohibited. The use or possession of any under-sized nets or traps or any other illegal gear is also prohibited. Unless permitted by the Minister, no vessel or person shall be used or engage in driftnet fishing, and no person on board a fishing vessel shall be in the possession of a driftnet. As a response to the fact that the use of fish aggregating devices (FADs) might alter the exploitation of fish, in particular juveniles, the MLRA requires a permit to be obtained before a FAD is placed.⁸⁶⁶ The MLRA Regulations regulate the use of fishing gear, and specify, among other things, mesh size, bag limits and size limits for gear like trawl and purse-seine fishing nets, beach seine nets, driftnets and gillnets, as well as gear restrictions for line fishing, tuna pole fishing, hake line fishing and other fisheries. The Regulations also include provisions targeting derelict fishing gear and other marine debris.⁸⁶⁷

19.2.4 Spatial and temporal controls

Social concerns are reflected in the Act through its provision on the establishment of priority fishing areas – these can be established when the Minister is of the opinion that special measures are necessary to ensure that authorized fishing within an area is not impeded or interfered with.⁸⁶⁸ The MLRA furthermore allows for the taking of emergency measures where stocks of fish or aquatic life are endangered. To this end, the Minister may suspend or restrict fishing activities in the relevant fishery.⁸⁶⁹ The wild abalone fishery was closed under this section of the Act in 2008.⁸⁷⁰

MLRA allows for three types of MPAs to be declared by the Minister, the first of which is specifically tailored to protect the ecosystem as a whole:

⁸⁶¹ MLRA (1998), section 24.

⁸⁶² MLRA (1998), section 38–39.

⁸⁶³ MLRA (1998), sections 40 and 41.

⁸⁶⁴ MLRA (1998), section 42.

⁸⁶⁵ MLRA (1998), section 58(2).

⁸⁶⁶ MLRA (1998), sections 44, 45, 47, 48.

⁸⁶⁷ MLRA Regulations Chapters 4 and 5; regulations 86 and 87.

⁸⁶⁸ MLRA (1998), section 17.

⁸⁶⁹ MLRA (1998), section 16.

⁸⁷⁰ MLRA Regulations for the protection of wild abalone (*haliotis*), dated 1 February 2008.

*“a) for the protection of fauna and flora or a particular species of fauna or flora and the physical features on which they depend;
b) to facilitate fisheries management by protecting spawning stock, allowing stock recovery, enhancing stock abundance in adjacent areas, and providing pristine communities for research; or
c) to diminish any conflict that may arise from competing uses in that area.”*⁸⁷¹

MPAs are in principle no-take areas: fishing, taking or destroying of fauna or flora, dredging and extracting sand and gravel is prohibited, unless permission is granted by the Minister to undertake such activities. Such permission can, however, only be granted “where such activity is required for the proper management of the marine protected area.” On the same terms, permission can be given to discharge or deposit waste or other polluting matter, or in any way disturb, alter or destroy the natural environment, construct buildings or structures, or carry on activities that may adversely impact on the ecosystem.⁸⁷² Twenty MPAs have been established under the MLRA so far.⁸⁷³

The MLRA Regulations prescribe closed seasons and areas for certain gear types and species, as well as other measures on species protection, like minimum size of species.⁸⁷⁴

19.3 Monitoring, control and surveillance and EAF

MLRA is enforced by fishery control officers who are given wide powers of entry, search, seizure, monitoring and enforcement.⁸⁷⁵ An observer scheme is also established under the Act. Observers shall be permitted onboard a fishing vessel so that they can exercise their functions⁸⁷⁶ as further determined by section 82 of the MLRA Regulations. However, observers are reportedly used for research purposes rather than compliance.

Chapter 8 of the MLRA Regulations include a suite of MCS related measures. It prescribes that all licensed foreign vessels shall be equipped with a VMS, and includes provisions related to marking of fishing vessels, use of logbooks by commercial vessels, inspection procedures for fishery control officers and provisions on offloading and transshipment.

19.4 Miscellaneous measures

A Marine Living Resources Fund (MLRF), a statutory public entity which resides under MCM, receives income from penalties, fees and other sources. Fisheries administration is partially funded through the MLRF.⁸⁷⁷

Under the Act, the Minister may permit any scientific investigation or practical experiment.⁸⁷⁸

Mariculture is also regulated under the Act, which states that this activity can only take place if a right has been granted. The Minister may require an EIA to be submitted by the applicant.⁸⁷⁹ Chapter 6 of the MLRA Regulations include a whole chapter related to, *inter alia*, applications and conditions, EIA, introduction of species, GMOs and aquatic animal health.

⁸⁷¹ MLRA (1998), section 43(1).

⁸⁷² MLRA (1998), section 43 (2).

⁸⁷³ Declaration of Areas as Marine Protected Areas (Notice No. R 1429 of 2000); Notice declaring the Pondoland Marine Protected Area under section 43 (Notice 694 of 2004) and Notice declaring the Bird Island Group Marine Protected Area under section 43 (Notice 696 of 2004).

⁸⁷⁴ MLRS Regulations, regulations 9–10, Chapters 4 and 5.

⁸⁷⁵ MLRA (1998), section 51.

⁸⁷⁶ MLRA (1998), section 50.

⁸⁷⁷ MLRA (1998), sections 10 and 11.

⁸⁷⁸ MLRA (1998), section 83.

⁸⁷⁹ MLRA (1998), section 18.

19.5 Other legislation relevant to EAF

The **1996 Constitution of the Republic of South Africa (Act No. 108)** contains provisions to enshrine the following environmental rights and ecosystem considerations:

“everyone has the right:

- (a) to an environment that is not harmful to their health or well-being; and*
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that*
 - (i) prevent pollution and ecological degradation;*
 - (ii) promote conservation; and*
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”⁸⁸⁰*

The Constitution emphasizes the need for co-operative governance.⁸⁸¹ Both the national and provincial spheres of government are competent to address a range of issues relevant to coastal and fisheries management including: the environment, nature conservation, agriculture, disaster management, pollution control, regional planning and development, tourism and urban and rural development.⁸⁸²

The 1998 National Environmental Management Act (No. 107 of 1998) (NEMA) is South Africa’s overarching environmental statute. One of the key principles of the Act is that all development must be socially, economically and environmentally sustainable and that environmental management must place people and their needs at the foreground of its concerns, and serve their physical, psychological, cultural and social interests equitably. NEMA emphasizes many important elements of the ecosystem approach, like equitable access to environmental resources, the polluter pays principle, intergovernmental coordination and harmonization of policies, stakeholder participation and transparency in decision-making.⁸⁸³

Regarding marine ecosystems it states that:

“Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.”⁸⁸⁴

NEMA aims to improve the integration and coordination of environmental decision-making by setting out the following principle for environmental management:

“Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.”⁸⁸⁵

To that effect, NEMA establishes a Committee for Environmental Coordination, with broad representation from relevant organs of state. It also puts in place procedures for cooperative governance in preparation of environmental management plans and procedures for fair decision making and conflict management between organs of state. Moreover, the Act outlines the objectives of Integrated Environmental Management (IEM), providing a framework for the integration of

⁸⁸⁰ The Constitution, section 24.

⁸⁸¹ The Constitution section, 41.

⁸⁸² The Constitution, schedule 4.

⁸⁸³ NEMA (1998), section 2.

⁸⁸⁴ NEMA (1998), section 2(4)(r).

⁸⁸⁵ NEMA (1998), section 2(4)(b).

environmental issues into the planning, design, decision-making and implementation of plans and development proposals.⁸⁸⁶

NEMA also creates a framework for facilitating the role of civil society in environmental governance by establishing a National Environmental Advisory Forum.⁸⁸⁷

The 2003 National Environmental Management: Protected Areas Act (No. 57 of 2003) establishes various categories of protected areas, and describes how these should be established and managed. The Act applies throughout South Africa and within the EEZ and the continental shelf, and shall be interpreted and applied with both NEMA and the Biodiversity Act.⁸⁸⁸ The Act includes a section for compulsory consultation before declaring protected areas, and establishes mechanisms for co-management of protected areas.⁸⁸⁹ The Act was amended in 2004 to recognize MPAs under the Marine Living Resources Act as a separate category of protected areas.⁸⁹⁰ However the primary piece of legislation for declaration and management of MPAs is the MLRA and most of the provisions of the Protected Areas Act do not apply to MPAs other than to provide for integrated management with adjacent terrestrial protected areas.

The 2004 National Environmental Management: Biodiversity Act (No. 10 of 2004) applies to all of South Africa's territorial waters, EEZ and continental shelf⁸⁹¹ and is intended to give effect to the Convention on Biodiversity and other international agreements affecting biodiversity that have been ratified by South Africa, and to provide for cooperative governance in biodiversity management and conservation.⁸⁹²

Among other matters, the Act establishes a South African National Biodiversity Institute;⁸⁹³ a national planning and monitoring framework for biodiversity, including the development of a National biodiversity framework, bioregional and biodiversity plans, including mechanisms for coordination and alignment with other spatial and development plans.⁸⁹⁴ It also provides for the designation and protection of various categories of threatened or protected ecosystems and species, including marine species.⁸⁹⁵ It includes measures to prevent and combat the spread of alien and invasive species⁸⁹⁶ and regulations on bio-prospecting and benefit sharing.⁸⁹⁷

The 2008 National Environmental Management: Integrated Coastal Management Act (No. 62 of 2008) (ICM Act) establishes a legal framework for integrated coastal management (ICM) in South Africa in order to promote the conservation of the coastal environment, and maintain the natural attributes of coastal landscapes and seascapes.

The Act provides for the establishment or designation of several bodies tasked to promote ICM and implement the Act. The Act requires that a National Coastal Committee be established, which shall coordinate the implantation of the Act within the government and between the government and other parties concerned with coastal management. The Minister of Environmental Affairs and Tourism appoints the members of the Committee and shall determine its powers. The Committee must have a broad composition though, and the Minister must ensure that it includes (i) persons with expertise in fields relevant to coastal management and coastal ecosystems; (ii) a representative from each

⁸⁸⁶ NEMA (1998), chapter 2, part 2, chapter 3, 4 and 5.

⁸⁸⁷ NEMA (1998), chapter 2, part 1.

⁸⁸⁸ Protected Areas Act (2003), sections 4–6.

⁸⁸⁹ Protected Areas Act (2003), chapter 3, part 5 and section 42.

⁸⁹⁰ The National Environmental Management: Protected Areas Amendment Act, No. 31, 2004.

⁸⁹¹ Biodiversity Act (2004), section 4.

⁸⁹² Biodiversity Act (2004), sections 2 and 5.

⁸⁹³ Biodiversity Act (2004), chapter 2.

⁸⁹⁴ Biodiversity Act (2004), chapter 3.

⁸⁹⁵ Biodiversity Act (2004), chapter 4.

⁸⁹⁶ Biodiversity Act (2004), chapter 5.

⁸⁹⁷ Biodiversity Act (2004), chapter 6.

Provincial Coastal Committee; (iii) one or more members representing municipalities in the coastal zone; (iv) representatives of national government departments concerned with the coastal environment, including representatives of the departments responsible for agriculture, minerals and energy, transport, public works, provincial and local government, land affairs, water affairs and forestry and trade and industry; and (v) one or more members representing the management authorities of coastal protected areas.⁸⁹⁸

At provincial level, a lead agency for coastal management shall be designated and Provincial Coastal Committees shall be established. The latter shall, *inter alia*, advise on matters concerning coastal management in the province and assist in developing the provincial coastal management programme. The Committee shall have a broad participation from both local government and civil society. At municipal level, Municipal Coastal Committees shall be established, with a similar advisory role.⁸⁹⁹

The Act prescribes that the Minister must adopt a coastal management programme for managing the coastal zone, which shall be reviewed every four years. The first programme must be adopted within four years, and the programmes must include the following components:⁹⁰⁰

- (a) *A national vision for coastal management in the Republic, including the sustainable use of coastal resources;*
- (b) *national coastal management objectives;*
- (c) *priorities and strategies to achieve those objectives;*
- (d) *performance indicators to measure progress with the achievement of those objectives;*
- (e) *norms and standards for the management of:*
 - (i) *the coastal zone generally;*
 - (ii) *the specific components of the coastal zone; and*
- (f) *a framework for co-operative governance to implement measures concerning coastal management that:*
 - (i) *identifies the responsibilities of different organs of state, including their responsibilities in relation to marginalised or previously disadvantaged communities that are dependent on coastal resources for their livelihood; and*
 - (ii) *facilitates coordinated and integrated coastal management.*

In a similar vein, coastal management programmes shall be adopted at provincial and municipal levels. The Act specifically provides for alignment and consistency between the coastal management programmes and other management plans.⁹⁰¹

Before exercising power under the Act, including in relation to the development of a coastal management programme, the Minister or other body exercising power is obliged, on a general basis, to consult with other ministries and local government and invite the public to make comments.⁹⁰²

Coastal planning schemes can be established to (a) define areas (within the coastal zone or coastal management area) which may (i) be used exclusively or mainly for specified purposes or activities; or (ii) not be used for specified purposes or activities; and (b) prohibit or restrict activities or uses of areas that do not comply with the rules of the scheme.⁹⁰³

The Act furthermore includes measures for the protection of the environment, including measures regarding environmental authorizations, coastal leases and concessions; marine and coastal pollution control, in relation to discharge of effluent and dumping at sea, among others.

⁸⁹⁸ ICM Act (2008), sections 35 and 36.

⁸⁹⁹ ICM Act (2008), sections 38–40.

⁹⁰⁰ ICM Act (2008), sections 44–45.

⁹⁰¹ ICM Act (2008), sections 51–52.

⁹⁰² ICM Act (2008), section 53.

⁹⁰³ ICM Act (2008), section 56.

The 1998 National Water Act (No. 36 of 1998) identifies sustainability and equity as central guiding principles for the protection, use, development, conservation, management and control of water resources. Although the definition of the terms “water resource” do not explicitly exclude the sea, it is clear from the context that the term is not intended to include the sea, although it does include estuaries.⁹⁰⁴ The Act provides a series of measures intended to ensure the comprehensive protection of all water resources, including the classification of water resources and quality objectives,⁹⁰⁵ the establishment of basic human needs reserves and ecological reserves,⁹⁰⁶ and prevention and remedying effects of pollution.⁹⁰⁷

The Department of Water Affairs and Forestry (DWAF), has the overall responsibility for water resource management.⁹⁰⁸ DWAF is required to establish a National Water Strategy to be reviewed every five years upon public consultation, which shall, *inter alia*, establish water management areas, consider long-term projected needs, determine the inter-relationship of institutions involved in water management and promote integrated management of catchments.⁹⁰⁹

The Act moreover provides regulations and conditions for granting authorizations and licences for the use of water resources and the discharge of wastewater into water resources.⁹¹⁰

One important legislative gap in South Africa is the regulation of sea outfall and disposal of effluents. This is currently not sufficiently covered within the National Water Act, but is addressed in the soon-to-be promulgated National Environmental Management: Integrated Coastal Management Bill B40 of 2007, which was passed by Parliament towards the end of 2008.

The 2002 Mineral and Petroleum Resources Development Act (No. 28 of 2002) requires an EIA to be carried out, and an environmental management programme to be submitted in connection with an application for a mining or petroleum production right.⁹¹¹ Hydrocarbon and diamond mining are activities that affect the coastline and offshore activities, and thus have an impact on fishing and coastal management zones.

The 1994 Maritime Zones Act (No. 15 of 1994) delimitates the borders of internal waters, territorial waters, EEZ and the continental shelf of South Africa.

19.6 Concluding remarks

In recent years, South Africa has taken important steps towards the implementation of the EAF through the adoption of the Marine Living Resources Act and, most recently, the National Environmental Management: Integrated Coastal Management Act. The latter establishes an elaborate institutional structure with cross-sectoral coordination and stakeholder consultation embedded in its mandates, and it is hoped that this framework will enhance the implementation of the ecosystem approach in South Africa.

The Marine Living Resources Act and its implementing regulations provide a rather comprehensive legal framework for fisheries management, and include many of the elements that are important for EAF. The adoption of several laws on environmental protection and management compliments the general impression that important steps have been taken to implement EAF in the country. There is, however, room for improvements that will further enhance the EAF in South African legislation, and

⁹⁰⁴ National Water Act (1998), section 1(1): “water resource” includes a watercourse, surface water, or estuary.

⁹⁰⁵ National Water Act (2008), chapter 3, parts 1 and 2.

⁹⁰⁶ National Water Act (2008), chapter 3, part 3.

⁹⁰⁷ National Water Act (2008), section 19.

⁹⁰⁸ National Water Act (2008), section 3.

⁹⁰⁹ National Water Act (2008), sections 5 and 6.

⁹¹⁰ National Water Act (2008), chapter 4.

⁹¹¹ Mineral and Petroleum Resources Development Act (2002), sections 22, 39 and 83.

the review of the fisheries legislation that is currently taking place is an opportunity to strengthen EAF implementation. One of the issues that should be considered in this regard is how CAF can be improved so that it can better fulfill its mandate as a coordinating and consultative body. Reportedly, CAF has not been operating during the last three years, something that represents a setback for a consultative process that would be conducive to EAF. The Department does, however, constantly engage stakeholders through Management and Scientific working groups in each fishing sector, which are broadly representative and interact regularly. TACs, operational management procedures and related matters are discussed in working groups, and due to the frequency and level of engagement these can be more interactive than a formal body such as the CAF.

A sector which can greatly affect fisheries, but which is currently addressed in the MLRA in a piecemeal fashion, is marine aquaculture. This sector requires a more comprehensive and specific legal framework, and the current legal review is therefore an opportunity to better regulate this activity. The review of the MLRA is still in its initial stages and a first draft is being prepared for perusal by the Department. The current proposal includes a specific reference to EAF in section 2 of the MLRA and integrates the concept into other provisions of the Act.

20. EAF AND TANZANIAN LEGISLATION

20.1 The legal and institutional framework and EAF

20.1.1 Scope of law and institutional structure

The 2003 Fisheries Act (No. 22 of 2003) provides for the sustainable development, protection, conservation, regulation and control of fishing, as well as aquaculture development, fish products quality and other matters. The Act applies to mainland Tanzania.

Under section 3 of the Act, the Minister responsible for fisheries is in charge of policy formulation and ensuring the implementation of the Act. These powers are today vested in the Ministry of Livestock Development and Fisheries (MIFUGO). Section 4 of the Act stipulates the appointment of a Director of Fisheries, who shall be the Government's adviser in all matters related to fisheries management. The Director shall appoint officers to ensure efficient, effective and economical management and supervision of fisheries in accordance with the Act's provisions.⁹¹² The Director is also the competent authority in all matters pertaining to fish and fish products.⁹¹³

The Deep Sea Fishing Authority is established under the **1998 Deep Sea Fishing Authority Act**, which has the following functions: to promote, regulate and control fishing in the EEZ of the United Republic. These functions include regulating the licensing of vessels, implementing policies, formulating programmes for scientific research and fisheries guidelines, negotiating contracts, agreements or cooperation with other states or international organizations, safeguarding EEZ environment, and implementing regional and international agreements. An executive committee and a technical advisory committee are established under the Act.⁹¹⁴

20.1.2 Mechanisms for coordination, cooperation and integration

Section 9 of the Fisheries Act provides that the Director of Fisheries shall promote, encourage and support initiatives leading to the development and sustainable use of fish and aquatic resources "in co-operation with other appropriate agencies and divisions or departments of Government." The provision gives further details as to the kind of measures that should be adopted in such a cooperative manner.

The Director shall ensure that all the local government authorities, associations of local authorities, and other fisheries management authorities are consulted and kept informed of management of

⁹¹² Fisheries Act, section 5.

⁹¹³ Fisheries Act, section 25.

⁹¹⁴ Deep Sea Fishing Authority Act, sections 4–5, Deep Sea Fishing Authority (Amendment) Act (2007) sections 4–5.

fisheries under the Act and any other related written laws. If there is a conflict between the local authority management plan and other local authorities applicable to a water body, the Director and other relevant officers and members of local authorities shall consult and use their best endeavours to reconcile such variances.⁹¹⁵

20.1.3 Mechanism for stakeholder participation

Under section 7 of the Fisheries Act, the Director of Fisheries must disseminate information and written guidance by order or notice to the public, as appropriate, regarding the implementation of the Act.

Co-management has been provided for in section 18 of the Act, which empowers fisheries stakeholders to form community-based groups known as beach management units (BMUs) through entering into management agreements with the Director.

The Fisheries Act Regulations (2005) lay down the procedures for the establishment of legally empowered BMUs in fresh water bodies and marine coastlines. These procedures are further detailed in the National Guidelines for BMUs from 2005. The Regulations prescribe that the agreement establishing a BMU shall define the jurisdictional area (fish landing station) of the BMU. Moreover, it provides that every person engaging in fisheries activities, including fish processors, traders, gear repairers and suppliers and boat builders within the BMU area, shall be registered as members of said BMU.⁹¹⁶ As explained in the BMU Guidelines, “the only legal right of access to exploit fisheries resources at gazetted and designated landing sites is through joining a BMU.”⁹¹⁷

The multiple functions of BMUs are provided for in the Regulations:⁹¹⁸

(4) The functions of the BMU shall include, but are not limited to:

- (a) develop a BMU fisheries management and landing station development plan in consonance with higher level fisheries management plans;*
- (b) develop annual and quarterly work plans and budgets to implement the management and development plans;*
- (c) collaborate in the collection of fisheries catch, effort and value information;*
- (d) engage in monitoring, control and surveillance in such a way as to reduce the incidence of illegal gears, fishing and fish trading practices within the BMU area;*
- (e) ensure hygienic, healthy and safe conditions at the landing stations within the BMU area, in accordance with standards set by the Government;*
- (f) conflict resolution;*
- participate in selection processes for the issue of fishing vessels licence and fishing permits within the BMU jurisdictional area to ensure equitable access to resources by BMU members;*
- (g) ensure fisheries licences and permits fees are paid by BMU members in a timely manner; and*
- (h) arbitrate to settle fisheries disputes amongst BMU members, between BMUs and between the BMU and other institutions.*

The tenure of members of every BMU shall be three years, but they may be eligible for re-appointment.⁹¹⁹

There are several other provisions in the legal framework that require stakeholder involvement before a decision is made by the Director or the Minister. An example from the Fisheries Act is that the Minister may only decide to conserve a critical habitat or endangered species after consultation with

⁹¹⁵ Fisheries Act, section 8.

⁹¹⁶ Fisheries Act Regulations, section 104.

⁹¹⁷ National Guidelines for Beach Management Units, Ministry of Natural Resources and Tourism, October 2005, available at: www.lvfo.org/downloads/Tanzania_BMU_Guidelines.pdf

⁹¹⁸ Fisheries Act Regulations, section 104 (4).

⁹¹⁹ Fisheries Act Regulations, section 104 (5).

“such competent persons within the public and private sectors knowledgeable on environment issues.”⁹²⁰ With regard to the duration of the prawn fishing season or any other fisheries, this shall be determined by the Director in consultation with “appropriate stakeholders.”⁹²¹

20.1.4 Objectives of the law

Section 9 of the Fisheries Act spells out the overarching policy goal for fisheries management in Tanzania, which is to “promote, encourage and support all initiatives leading to the development and sustainable use of the fish stock and aquatic resources.” This shall be done by the Director of Fisheries, in cooperation with other appropriate agencies or government departments. Although some of the measures that are to be adopted to fulfill this objective are geared towards increasing fishing capacity and effort by facilitating increased investment and development, there are some that tend to be more conducive to EAF, such as measures:

- promoting sound utilization of the ecological capacity of water-based areas as a means of generating income and food;
- encouraging the involvement of stakeholders in the planning, development and management of fishery resources;
- improving fisheries statistical data collection and processing;
- pursuing the introduction and continuation of integrated fisheries programmes regarding effective management of the coastal zone to meet the ecological and socioeconomic needs of the present and future generations.

The Act also prescribes for strengthened regional and international collaboration on sustainable utilization, management and conservation of resources in shared bodies of water. The Director of Fisheries shall promote this by adopting measures that are aimed at reaching the following objectives, which are all at the heart of EAF:

- supporting responsible fishery practices within the country;
- cooperating in the promotion of suitable fisheries practices;
- ensuring responsible choice of species, sites and management of fisheries which could affect trans-boundary aquatic ecosystems;
- consulting with neighbouring states before introducing non-indigenous species into trans-boundary aquatic ecosystems;
- establishing databases and information networks to collect and disseminate data related to fisheries activities to facilitate cooperation on planning for fisheries development at national, sub-regional, regional and global levels;
- monitoring the impact of inputs used in fisheries: and
- discouraging the pollution of the aquatic environment.⁹²²

20.2 Fisheries management and EAF

20.2.1 Fisheries management plans

The Fisheries Act does not require the development and adoption of national fisheries management plans. The Fisheries Act Regulations do, however, prescribe that the BMUs shall develop BMU fisheries management and landing station development plans, and that these shall be made in consonance with “higher level fisheries management plans”.⁹²³

20.2.2 Effort and catch management

The Fisheries Act provides for licensing requirements both in its substantive sections and in related regulations. Under the Act, no person shall engage in fishing, unless he applies for and is granted by the Director of Fisheries or any authorized officer a licence permitting him to engage in said activity. However, no licence or permit or permission shall be required for fishing by means of the following

⁹²⁰ Fisheries Act, section 23(1).

⁹²¹ Fisheries Act Regulations, section 17(3).

⁹²² Fisheries Act, section 9 (1) k.

⁹²³ Fisheries Act Regulations, section 104 (4)(a).

methods: fishing for prawns using cloth, fishing with rod and line or hand line from the beach without a vessel, and fishing with small cast nets.⁹²⁴

The Minister may restrict fish establishment owners from carrying out fishing in specified water bodies.⁹²⁵

No foreign fishing vessel shall be licensed to fish in the territorial waters. Licences may, however, be granted to foreigners for purposes of “scientific research, complementary’s educational and food supply with the consent in writing from the Minister”.⁹²⁶

Under section 17 of the Act, the Director of Fisheries may adopt various measures to control fishing capacity, such as measures restricting the number, size and age of fishing vessels in any fishery; monitoring fishing fleet capacity to avoid excessive fishing pressure; and establishing a mechanism to reduce excessive fishing capacity to levels commensurate with the sustainable use of fisheries resources.

The Fisheries Act and Regulations lay down detailed provisions related to licensing officers, application procedures, classes of fishing licences, issuance and register of licences, power to refuse, issue or suspend a licence, duration of a licence and fees etc. With respect to cancellation or revocation of licences, the Director has the following powers:

15. The Director may cancel or revoke a licence or permit issued or granted, as the case may be, under these Regulations on either of the following grounds:

- (a) that the holder has been convicted of an offence against the Act or any Regulations made there under or has violated or failed to comply with any of the conditions or restrictions attached to or imposed on the licence or permit;*
- (b) that the holder has been convicted of an offence involving dishonesty or fraud; or*
- (c) that the level of exploitation of any fishery is detrimental to the resource.*

The Director may also control fishing effort through imposing conditions on a licence related to closed seasons and fishing time; the number of fishers; the number, size and type of fishing vessels to be engaged; the type and size of fishing gear or pieces of equipment, appliance or instrument to be deployed for any purpose in relation to fishing.⁹²⁷

Section 9(2) of the Fisheries Act requires that fisheries resources are managed in a way that makes them capable of producing MSY, which should be the upper limit of what can be harvested and thus allocated to fishers. The sub-section includes a whole suite of EAF-relevant factors that shall guide the adoption of fisheries management measures aimed at achieving MSY:

(2) The Director shall, based on the best scientific evidence available, adopt such appropriate measures to maintain or restore stocks at levels capable of producing maximum sustainable yield pursuant to relevant environmental and economic factors including:

- (a) avoidance of excessive fishing capacity and over-exploitation of the stocks in order to maintain an economically available fishery;*
- (b) promotion of responsible fisheries and the economic conditions under which fishing industries operate;*
- (c) taking into account the interest of local fishers such as those engaged in artisanal fisheries;*
- (d) conservation and protection of biodiversity of aquatic habitats, ecosystems and endangered species;*
- (e) restoration and recovery of depleted stocks;*

⁹²⁴ The Fisheries Act, section 22 (1) and (2).

⁹²⁵ The Fisheries Act, section 22(4).

⁹²⁶ The Fisheries Act, sections 19 and 20 (1).

⁹²⁷ Fisheries Act Regulations, section 17(2).

(f) *assessment of adverse environmental impacts and remedial measures on the resource; and*
 (g) *minimization of pollution, waste, discards, catch by lost or abandoned gear, catch of non target fish or species and impacts on associated or dependent species through the development and use of selective, environmentally safe and cost effective fishing gear and techniques.*

The Act does not stipulate the setting of TACs or individual quotas.

Under the Fisheries Act Regulations, the Director shall in collaboration with relevant research institutions and other stakeholders, carry out stock assessment as a strategy of effective management of the resource.⁹²⁸

20.2.3 Fishing gears and methods

Under section 17 of the Fisheries Act, the Director of Fisheries may adopt various measures to improve the management of fisheries, such as measures prohibiting the use of certain types of fishing vessels and gears and ensuring traditional practices that are consistent with responsible fisheries as well as the needs and interests of indigenous people.

The Director may attach multiple conditions to the licence, including those related to fishing methods and disposal of fish, use of fishing gear, fishing zones and minimum length or size of any species of fish.⁹²⁹

Section 43 of the Act prohibits the use of explosives to kill fish or to destroy aquatic flora. Upon conviction, a person shall be liable to imprisonment for a term of not less than five years and not exceeding ten years. Under section 44, any person found in possession of poison within the vicinity of any water body containing fish, commits an offence, and upon conviction shall be liable to imprisonment for a term of not less than seven years. Possession of electric devices for the purpose of killing fish or to simplify fishing is also prohibited.⁹³⁰

20.2.4 Spatial and temporal controls

Section 17 of the Fisheries Act provides that the Minister shall, by notice published in the Gazette, adopt measures that are necessary for the proper management of fisheries, including imposing closed seasons for designated areas, prohibiting fishing in designated areas, limiting the amount, size, age and other characteristics, and monitoring species composition of fish that may be caught.

More specifically, the Minister may, upon the Director's recommendation, restrict or prohibit fishing of any fish species or any kind of fish by placing a notification in the Gazette.⁹³¹ The Minister may also declare, upon consultation with concerned persons in the private and public sectors, the conservation of any critical habitat or endangered species.⁹³²

Under the Fisheries Regulations, the Director is empowered, after consultations with relevant stakeholders, to declare a spawning area, where it is prohibited to disturb the spawn or spawning fish. Also for the purpose of protecting spawn, the use of beach seine nets or trawl nets is subject to restrictions, and the possession or use of beach seine nets in any lake, dam, river, estuary or reservoir is prohibited. Fishing in marine waters using beach seine nets with mesh size of less than 3 inches at the wings and 1.5 inches at the cod end, is furthermore prohibited.⁹³³

Where a vessel has caught a live endangered species, the species shall be returned in the water immediately.⁹³⁴

⁹²⁸ Fisheries Act Regulations, section 23.

⁹²⁹ Fisheries Act Regulations, section 17.

⁹³⁰ Fisheries Act Regulations, section 40.

⁹³¹ The Fisheries Act section, 22(5).

⁹³² Fisheries Act, section 23(1).

⁹³³ Fisheries Act Regulations, section 42.

⁹³⁴ Fisheries Act Regulations, section 24(2).

20.3 Monitoring, control and surveillance and EAF

The Fisheries Act provides for a central registry of fishing vessels, of which the Director of Fisheries is designated Registrar.⁹³⁵ The Director shall appoint vessel registration and licensing officers, as well as enforcement officers and fish inspectors “to ensure efficient, effective and economical management and supervision of fisheries.”⁹³⁶

Section 17 of the Fisheries Act provides that the Minister shall adopt measures that are necessary for the proper management of fisheries, including measures related to:

- landing and transshipment of fish;
- MCS and enforcement to ensure compliance with conservation and management measures, including those adopted by regional or sub-regional organizations or arrangements;
- joint surveillance and enforcement in collaboration with other related agencies and fisher communities;
- formation of community management units and authorized associations for the purpose of protecting and conserving fishery resources.

Some of these measures are, however, yet to be adopted.

Under the Act, the Minister shall, after consultation with the Minister responsible for Home Affairs, establish a Surveillance Unit. This Surveillance Unit’s functions include general enforcement of the Act’s provisions, as well as the protection of fish and fish environments, fishery products and aquatic flora against unlawful dealers. The officers of the units shall have powers to stop, board and inspect fishing vessels.⁹³⁷ Authorized officers furthermore have powers to prosecute, search and seize.⁹³⁸ Offences and resulting penalty requirements are dealt with in Part IX, which includes specific penalties for obstructing an officer, possessing or using explosives, using poison, and using a foreign fishing vessel without a licence.

The Fisheries Act Regulations provide for the establishment and maintenance by the Director of a VMS system for the industrial sea fishery. Every commercial fishing vessel conducting fishing in sea waters shall be fitted with VMS gadgets to enable surveillance centres to track movement of the vessel. A designated MCS operations room shall coordinate all the functions of the VMS. While at sea, a fishing vessel shall at all times have all its VMS gadgets switched on. Every captain of any commercial fishing vessel shall abide by all instructions given by the relevant MCS operations room.⁹³⁹

With respect to data collection and reporting, the Regulations prescribe that every member of a BMU shall every day fill in a standard tally book, fish weight, value and price of fish and submit the data to an authorized officer in their locality. Every District Fisheries Officer shall subsequently be required to submit monthly fishery statistics to the Director by the fifth day of the following month.⁹⁴⁰

With respect to industrial fisheries, the Regulations prescribe that monthly production returns of prawn trawlers shall be submitted by the fifth day of the following month. Deep sea fishing operators shall submit their production data on a daily basis. Every fisher shall make his daily catch data available to the authorized officer.⁹⁴¹

⁹³⁵ Fisheries Act, section 5(3)–(4).

⁹³⁶ Fisheries Act, section 5(5).

⁹³⁷ Fisheries Act, sections 31–33.

⁹³⁸ Fisheries Act, sections 34 and 35.

⁹³⁹ Fisheries Act Regulations, section 53.

⁹⁴⁰ Fisheries Act Regulations, section 22(5)–(6).

⁹⁴¹ Fisheries Act Regulations, section 102.

20.4 Miscellaneous measures

Part VII of the Fisheries Act establishes the Fishery Development Fund, the resources of which shall consist of, *inter alia*, sums appropriated by the Parliament and grants and donations. The Fund's purpose and objectives include promoting awareness of the importance of protection, development and sustainable use of fisheries resources through public education and training; promoting and assisting in the development of community management units and assisting groups wishing to form fisheries conservation and protection organizations; promoting and developing fisheries research and promoting fisheries data collection.⁹⁴² These are all issues that support EAF management.

Concerning EIAs, the Act prescribes under section 52 that anyone undertaking any development activities under this Act must first conduct an EIA in accordance with legislation in place. Section 53 concerns research priority areas and facilitation.

The Act also contains specific provisions addressing aquaculture development (Part IV). Of particular interest in the context of EAF is section 11, which lays down a series of objectives for aquaculture development aimed at ensuring that this activity does not impair other activities:

11. (1) The Director shall in collaboration with local authorities and other relevant bodies ensure that-

(a) aquaculture development is ecologically sustainable and allows rational use of the resource shared by aquaculture and other activities;

(b) the livelihood, culture and traditions of local communities and their access to fishing ground are not affected by aquaculture development; and

(c) local community has access to fishing grounds.

(2) Any person or group of persons who deprive a local community the access to fishing grounds without good cause, commits an offence.

The Act also includes provisions on registration of aquaculture farms, genetic and species diversity controls, the use of genetic resources, monitoring and control measures for handling diseased fish, and protections for transboundary ecosystems. With respect to the latter issue, the provision prescribes that the Director shall initiate dialogue with riparian states to ensure that governments and fish farmers protect transboundary aquatic ecosystems from escapees of cultured species into shared water bodies and effluents that might affect transboundary aquatic ecosystems.⁹⁴³

With respect to pollution, the Regulations prescribe that no person shall cause or willingly permit to flow or pass into water any solid, liquid or gaseous matter, or cause water pollution in any lake, river, dam, estuary or seawater.⁹⁴⁴

20.5 Other legislation relevant to EAF

The objective of the **2004 Environmental Management Act**, which applies to mainland Tanzania, is to provide for and promote the enhancement, protection, conservation and management of the environment. For this purpose, the Act provides the legal and institutional framework necessary for “coordinating harmonious and conflicting activities with a view to integrating such activities into an overall sustainable environmental management system by providing key technical support to Sector Ministries.”⁹⁴⁵

The Act outlines principles of management, provisions related to impact and risk assessments, prevention and control of pollution, waste management, environmental quality standards, public

⁹⁴² Fisheries Act, section 29.

⁹⁴³ Fisheries Act, section 16.

⁹⁴⁴ Fisheries Act Regulations, section 41.

⁹⁴⁵ Environmental Management Act, section 7(1)–(2).

publication, compliance and enforcement. Part II of the Act lays down a suite of general environmental principles, including the right to a clean, safe and healthy environment for every person living in Tanzania, and the right to bring an action against a person for environmental harm.⁹⁴⁶ Every person living in Tanzania has furthermore a duty to safeguard and protect the environment.⁹⁴⁷ The Act also defines environmental management principles which shall be observed by persons exercising powers under the Act, including prevention of adverse effects, the precautionary principle, the polluter pays principle, the public participation principle, access to environmental information, and access to justice.⁹⁴⁸ Importantly, these principles shall be taken into account when public officers are implementing other laws and policies that are likely to affect the management of natural resources. Persons exercising powers under this Act or any other written law shall also have regard for the National Environmental Policy.⁹⁴⁹

Several key administrative and institutional arrangements are established under Part III of the Act, including the National Environmental Advisory Committee (NEAC),⁹⁵⁰ a body composed of directors of government agencies that are relevant to the management of the environment, as well as representatives from academia and civil society. The NEAC advises the Minister responsible for the Environment, whose powers are laid down in the Act.⁹⁵¹ The National Environment Management Council (NEMC) is established to undertake enforcement and monitoring of EIAs.⁹⁵²

All Ministries are required to have an environmental section that ensures compliance with the Act's requirements.⁹⁵³ The Regional Secretariat is responsible for coordinating all advice on environmental management in their respective regions and serves as the liaison to the Director of the Environment and the Director General on the implementation and enforcement of the Act.⁹⁵⁴ The Act also provides for the designation of environment management officers at local level.⁹⁵⁵ This guarantees a coordinated and integrated approach to environmental management in Tanzania.

Part IV of the Act deals with environmental planning, and requires the adoption of Environmental Action Plans at both national and local levels. Additionally, each sector Ministry shall prepare a Sector Environmental Action Plan.⁹⁵⁶

Under Part V, the Minister may declare wetlands to be protected, and make regulations for the promotion of integrated coastal zone environmental management.⁹⁵⁷ The Act also includes provisions on the conservation of biological diversity, including *in situ* conservation.⁹⁵⁸ Part VI deals with EIA and other assessments. Under the third schedule, EIAs are to be carried out in relation to, *inter alia*, dams, rivers and water resources, mining and forestry related activities. Part VII includes rules on Strategic Environmental Assessments, which are to be carried out in relation to the preparation of bills that are likely to have effect on the management of the environment. Provisions on pollution prevention and control are dealt with in Part VIII, while waste management is addressed in Part IX. Environmental quality standards (Part X), environmental information, education and research (Part XIII) and public participation in environmental decision making (Part XIV) are among the other EAF relevant issues that are covered by the Act. An Environmental Appeals Tribunal (Part XVII) and a National Environmental Trust Fund (Part XVIII) are also established under the Act.

⁹⁴⁶ Environmental Management Act, sections 4 and 5.

⁹⁴⁷ Environmental Management Act, section 6.

⁹⁴⁸ Environmental Management Act, section 7.

⁹⁴⁹ Environmental Management Act, sections 8–9.

⁹⁵⁰ Environmental Management Act, section 11.

⁹⁵¹ Environmental Management Act, section 13.

⁹⁵² Environmental Management Act, sections 16–18.

⁹⁵³ Environmental Management Act, section 30.

⁹⁵⁴ Environmental Management Act, section 34.

⁹⁵⁵ Environmental Management Act, section 36.

⁹⁵⁶ Environmental Management Act, sections 42–44.

⁹⁵⁷ Environmental Management Act, sections 56 and 59.

⁹⁵⁸ Environmental Management Act, sections 66–68.

The Environment Impact Assessment and Audit Regulations (2005), adopted under the Act, provide details on the EIA audit and other assessments.

The 1994 Marine Parks and Reserves Act provides for the establishment of the Park and Marine Reserve Unit as a unit within the Division of Fisheries, whose functions include the establishment, management and monitoring of marine parks and reserves. Under Part IV of the Act, a Marine Parks and Reserves Revolving Fund is established. The role of village councils, which are supposed to participate in the development of regulations, zoning and management plans for marine parks, is provided for under Part V. Before declaring an area within the territorial waters or EEZ a marine park reserve, the relevant local government authorities need to be consulted.⁹⁵⁹ The purpose for designation shall be, *inter alia*, to protect, conserve and restore the species and genetic diversity of living and non-living marine resources and the ecosystem processes of marine and coastal areas.⁹⁶⁰ Part VII of the Act requires general management plans to be adopted for each marine park. Regulations prohibiting, restricting and controlling entry to the marine parks can be adopted under Part VIII. Part X lays down restrictions on certain activities in marine parks and reserves, including fishing and sport fishing.

The Marine Parks and Reserves (Declaration) Regulations (1999) declare several areas described in the schedule as marine reserves, and prohibit fishing in these areas.

Under **the 2002 Forest Act**, an EIA is required to be carried out by the proposer of any development in “sensitive forest areas,” which includes mangrove areas. The kind of development project that is subject to this provision includes commercial logging, the construction of dams and aquaculture development.⁹⁶¹

The 2009 Water Resources Management Act lays down the legal and institutional framework for management and development of water resources in Mainland Tanzania, including estuary water. Under section 20 of the Act, the National Water Board is established as an advisory board to the Minister on matters related to “multi-sectoral coordination in integrated water resources planning and management as well as resolution of national and international water conflicts.” Part V of the Act provides for the development of integrated water resource management plans, while Part VI deals with classification of water resources and resource quality objectives. Water abstraction and use, including water use permits, are provided for in Part VII. A person who wishes to discharge effluents from any commercial, industrial or agricultural source or from any sewerage works into surface water or underground strata shall apply to the Basin Water Board for a Discharge permit.⁹⁶²

The 1989 Territorial Sea and Exclusive Economic Zone Act provides for the establishment of a territorial sea of 12 miles and an EEZ of 200 nautical miles off Tanzania. Section 10 of the Act prescribes that no exploitation of resources in the EEZ shall take place without an agreement with the Government of the United Republic. This provision shall, however, not apply to fishing by a citizen of the United Republic in or from a vessel registered in the United Republic.

20.6 Concluding remarks

Tanzania’s Fisheries Act is relatively new and includes many issues of importance to EAF. The Act limits access to fisheries through its provisions on licensing, and contains important MCS provisions related to the registration of licensed fishing vessels, the establishment of a surveillance unit, as well as enforcement powers. It is also commendable that Tanzania has established a VMS system for the industrial sea fishery. Provisions on fisheries observers and measures on port state control, are, however, not provided for. Provisions on TACs and quotas for local fishing vessels are also lacking.

⁹⁵⁹ Marine Parks and Reserves Act, section 8.

⁹⁶⁰ Marine Parks and Reserves Act, section 10.

⁹⁶¹ Forest Act, section 18.

⁹⁶² Water Resources Management Act, section 63.

As to spatial and temporal controls, there seems to be a lack of regulations on e.g. closed seasons. The establishment of MPAs is, however, well catered for in the Marine Parks and Reserves Act, although no such areas seem to have been established since 1999.

Importantly, the Fisheries Act institutionalizes co-management through the provisions on BMUs, which have key functions related to, *inter alia*, MCS, conflict resolution and fishing effort control. Successful implementation of these provisions will take EAF implementation in Tanzania many steps forward at local level. It is furthermore commendable that the Fisheries Act provides for the establishment of a Fisheries Development Fund, with the money going towards improving the development and management of Tanzania's fisheries.

Aquaculture development is also addressed in the Fisheries Act, although the success of these provisions to a large extent will depend on the adoption of subsidiary legislation and the extent to which local authorities are able to monitor and control aquaculture activities.

With respect to other legislation, mention has to be made of the Environment Management Act, which puts in place administrative and institutional arrangements designed to mainstream environmental considerations into natural resource management, and to ensure coordination among ministries and agencies in charge of natural resources management. Of particular interest in the context of EAF is also the Act's requirement that environmental principles, such as the precautionary principle, the polluter pays principle, and the principles of public participation and access to environmental information, are taken into regard in fisheries management. Giving these principles effect in fisheries management would be an important step to enhance EAF in Tanzania.

21. SYNTHESIS – LEGISLATING FOR EAF AT NATIONAL LEVEL

21.1 Introduction

The capacity of the national legal framework to support the EAF depends on the extent to which the legislation includes legal and institutional mechanisms and management provisions that implement the EAF related principles and concepts that are reflected in international and regional instruments. Part 1 of this study has demonstrated that these principles and concepts are to a varying degree covered in international and regional instruments. The non-binding Code of Conduct for Responsible Fisheries primes as the most comprehensive guide for EAF implementation among all the global instruments. It includes a comprehensive suite of EAF related principles and concepts, which can serve as a check list with respect to the legal issues that need to be addressed in order to legislate for the EAF. Other global instruments, such as UNCLOS and CBD, incorporate fewer key EAF principles, but can still play an important role for EAF implementation within their area of competence. At regional level, there is a trend to include references to EAF principles in the statutes of recent RFBs, while older ones lack such references. Among the regional instruments, the Maputo Convention have the potential to play a pivotal role in the implementation of the ecosystem approach for natural resources management in Africa once it enters into force.

The review of legislation from selected African countries demonstrates different levels of EAF implementation. As a general observation, and not surprisingly, countries that have adopted new fisheries laws in recent years have a better basis for EAF implementation than those that have more dated legislation in place. Influenced by the Code and other international instruments, the modern laws incorporate more holistic management objectives and EAF related principles. They also tend to contain more elaborate institutional mechanisms and management provisions that are conducive to EAF. Below follows a synthesis of some of the trends in national EAF implementation, both in the fisheries legal framework and in other legislation relevant to EAF.

21.2 The fisheries legal and institutional framework and EAF

21.2.1 Scope of law and institutional structure

All the countries have a basic legal and institutional framework for fisheries management in place. Most laws apply to both fishing within national waters and fishing by national vessels on the high seas, although there are examples of laws that do not apply to high-seas fishing.

An important tendency in newer laws is that they aim to manage all marine living resources and the ecosystems they are part of, and not only the target species, which is the case with more dated laws. This is certainly an important starting point for EAF application.

21.2.2 Mechanisms for coordination, cooperation and integration

Several of the reviewed fisheries laws include mechanisms for inter-ministerial and inter-agency coordination and cooperation. This includes the establishment of advisory bodies that advise the Minister responsible for fisheries on fisheries management in general, and specific provisions requiring the consent or advice of another Minister on a specific issue, for example in relation to the establishment of MPAs. The function and composition of such advisory bodies varies significantly from one law to the other. Some bodies comprise only representatives from other ministries, government agencies and research institutions, while others allow for broader stakeholder participation. The extent to which the mandate of these bodies is specified in the law varies, but several countries have adopted quite elaborate regulations on both their functions and mandate. Other countries seem not to have such regulations in place yet, which may leave these bodies non-operative.

21.2.3 Mechanism for stakeholder participation

Many laws establish advisory bodies to enable stakeholder participation, but again, the nature of these bodies varies greatly from one country to the other. Some laws specify the mandate of these bodies, but leave it to the discretion of the Minister to decide their composition, while others again give directions as to who the Minister shall appoint as members. Members from civil society would typically include fishers' associations, vessel owners, industry representatives and NGOs.

A few laws also prescribe every citizen's right to information, participation and education on issues relevant to the management and protection of the aquatic environment.

21.2.4 Objectives of the law

None of the countries make an explicit reference to the application of EAF in their fisheries laws. The more dated laws tend to include none or few management principles to guide the implementation of the law, (e.g. Morocco, Madagascar, Seychelles, Mozambique, Cameroon) while most modern laws make explicit reference to several principles and management objectives that are relevant for EAF. A notable exception to this is the Mauritius' Fisheries and Marine Resources Act from 2007, which does not state any overall objective for fisheries management in Mauritius.

Principles and management objectives that are referred to in laws include the application of the precautionary approach, preservation of marine biodiversity and protection of the marine ecosystem, stakeholder participation, institutional coordination and policy compatibility and strengthened international and regional cooperation, including management of shared resources. Several laws, including more dated ones, include references to overarching objectives such as responsible fisheries and the conservation and sustainable use of the marine resources.

21.3 Fisheries management and EAF

21.3.1 Fisheries management plans

The majority of the reviewed laws provide for the adoption of fisheries management plans, but exceptions are found in both modern and more dated legislation. Many laws give quite detailed instructions as to the contents of the plan, which in addition to the state of aquatic resources, would typically have to define effort and catch control measures such as TAC, fishing zones, conservation measures and rehabilitation programmes, policies on data gathering and measures for promoting

scientific research and formation. The laws normally indicate how frequent plans shall be adopted or the duration of the plans, and some also indicate that stakeholders need to be consulted in the development process.

Some laws also state that the plans should be based on the best scientific information available, be coordinated with other relevant plans or be adopted in line with management principles such as optimum utilization and avoiding over-exploitation.

21.3.2 Effort and catch management

All the reviewed fisheries laws include some effort management controls for fishing in national waters, most typically through a licensing system. In all examples, industrial fishing requires a licence, while subsistence fisheries are exempted in several of the countries. Other effort controls aimed at restricting the number of vessels or gears in use are also quite frequently used. However, some laws, like the ones for Morocco and Senegal, still provide for an open access regime for certain species, areas or for small-scale fishers. Catch management measures are to a lesser extent explicitly provided for in the legislation, although some explicitly require the determination of TACs and individual catch quotas. The lack of specific provisions in legislation might in some cases however be offset through conditions attached to licences.

Several laws promote compliance with the flag and coastal state responsibilities provided for in UNCLOS and international fisheries instruments by regulating high sea fishing and promoting international and regional cooperation on fisheries management. Licensing of high seas fishing is the most common measure found in the laws, while others promote international and regional cooperation through provisions on information exchange and compatibility with RFMO measures. However, some countries, such as Mozambique and Morocco, omit high seas fishing from the ambit of their fisheries laws, something that weakens their ability to comply with relevant international obligations.

21.3.3 Fishing gear and methods

All countries have included measures related to fishing gear and methods in their legislation. A common feature in the laws reviewed is that they prohibit notorious practices such as fishing with dynamite or electricity and the use of poison, although there are examples of laws that omit this kind of restriction. Other laws explicitly prohibit the use of certain gear such as bottom trawls. The extent to which more technical gear specifications, for example related to mesh size, have been adopted varies greatly though, and some countries seem to have quite rudimentary regulatory frameworks in place. Provisions on minimum size and weight of catch, as well as restrictions on bycatch, appear frequently in the reviewed legislation.

21.3.4 Spatial and temporal controls

Provisions on spatial and temporal controls have been adopted by all countries. Typical provisions include closed seasons and areas aimed at rehabilitation of stocks or protecting endangered species. Other measures prohibit the use of certain gear and vessel types such as trawlers in certain marine areas.

Most of the reviewed legislation provides for the establishment of MPAs that serve more holistic ecosystem conservation goals. However, the extent to which the legislation provides guidance for the identification, declaration and implementation of MPAs varies to a great extent. Without clear provisions on management objectives and applicable management measures provided for in legislation, the goals that the MPA establishment is meant to serve are not likely to be achieved and its success as a tool for EAF implementation may fail.

21.4 Monitoring, control and surveillance

All countries have adopted provisions related to boarding and inspection of fishing vessels in port and at sea. Beyond this basic MCS measure, the extent to which the reviewed legislation covers MCS

varies significantly. Provisions on collection and recording of catch and effort information are in most cases provided for, while provisions on observer schemes, VMS and port state control is less frequent.

21.5 Miscellaneous

Most fisheries laws reviewed include provisions on scientific and sport fishing, while provisions on environmental pollution are less frequent. With respect to aquaculture, this is an issue that in many cases is covered in a rudimentary manner; with respect to conditions for aquaculture establishments and operations. Issues like EIA, environmental impact monitoring and introduction of alien species are frequently not addressed in the legislation.

21.6 Other legislation relevant to EAF

Several countries are vested with a constitution that includes environmental rights, such as the right to live in a healthy and clean environment and duty of the state to protect the environment. The constitutions of countries such as Namibia and Mozambique require the state to adopt policies related to issues such as pollution control, rational use of natural resources, maintenance of ecosystems and biological diversity. Importantly, the Namibian Constitution prescribes for the appointment of an ombudsman who shall carry out independent investigations related to complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources and the degradation and destruction of ecosystems.

All countries have a number of laws related to other sectors that have a bearing on coastal management and which are relevant to EAF. Most countries have laws related to environmental protection, water use, and oil and mineral exploitation. The legal and institutional mechanism and management measures that are contained in these laws and are particularly important in the context of EAF, include bodies for inter-ministerial coordination and stakeholder participation, provisions on EIA, introduction of species, marine pollution and establishment of MPAs. The review shows that these mechanisms and measures are present to varying degrees in sector specific legislation, and that most countries only have some of these provisions in their legislation. Frequently omitted are provisions on coordination and stakeholder involvement, as well as provisions on EIA and environmental impact monitoring in the context of oil and mineral exploitation.

Table 1 – EAF Principles reflected in international and regional binding instruments

EAF Principle	International legally binding instruments	Regional instruments			Type of legal provisions required for implementation in national legislation
		RFBs		Other	
		RFMOs	Advisory bodies		
Implementation of the ecosystem approach		SIOFA Agreement art. 4(a)	SWIOFC Statutes art. 5		Management objectives Fisheries management plans
Avoiding over-fishing/ ensuring reversibility and rebuilding	UNCLOS art. 61(2)-(3) UNFSA art. 5(h)	CCAMLR Convention art. II(3) SIOFA Agreement art. 4(d) ICCAT Convention art. VIII		Maputo Convention art. IX(3) SADC Protocol art. 6-7	Effort and catch management Spatial and temporal controls Fishing gear and methods
Minimizing fisheries impact	UNFSA art. 5(f) CBD art. 10(b) ACAP, Annex 2	SEAFO Convention art.3(c) and (e) SIOFA Agreement art. 4(e)		Maputo Convention art. IX(3) AEWA, Annex 3 ACCOBAMS, Annex 2	Fishing gear and methods Spatial and temporal controls
Considering species interaction	UNCLOS art. 61(4) UNFSA art. 5(b)	SEAFO Convention art.3(d); CCAMLR Convention art. II(3)			Fisheries management plans
Ensuring compatibility of management measures	UNFSA art. 7	CCAMLR Convention art. XI			Mechanisms for coordination, cooperation and integration
Applying the precautionary approach/principle	UNFSA art. 6	SEAFO Convention art. 7 SIOFA Agreement art. 4(c) GFCM Agreement art. III	RECOFI Agreement art. III SWIOFC Statutes art. 5	Maputo Convention art. IV	Management objectives Fisheries management plans
Improving human well-being		IOTC Agreement art. V	SWIOFC Statues art. 4 FCWC Convention art. 5(b) SRFC Convention art. 2 COREP Convention art. 3 Dakar Convention art. 2 SWIOFC Statutes art. 4(b)	SADC Protocol art. 3	Mechanisms for stakeholder participation

Maintaining ecosystem integrity/biodiversity	UNFSA art. 5(g) CBD art. 8 and 14 RAMSAR art. 4	SEAFO Convention art. 3(f) SIOFA Agreement art. 4(f)	COREP Convention art. 2	Nairobi Convention art.10 Abidjan Convention art. 11 Maputo Convention art. IX	Spatial and temporal controls Miscellaneous (Introduction of alien species)
Allocating user rights				Maputo Convention art. IX(3)	Effort and catch management
Promoting sectoral integration	CBD art. 6(b) and 10(a)			Maputo Convention art. XIV	Mechanisms for coordination, cooperation and integration
Broadening stakeholder participation	CBD art. 10(e)			Maputo Convention art. XVI SADC Protocol 7	Mechanisms for stakeholder participation

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APPENDIX – Ratifications of international instruments of relevance to EAF

Unless stated otherwise, date listed is date of ratification/accession/adherence/entry into force; S = Signatory Only; CP = Contracting Party

Global instruments of relevance to EAF

COUNTRIES	The UN Law of the Sea Convention 1982 (in force on 16.11.1994)	UN Fish Stocks Agreement 1995 (in force on 11.12.2001)	FAO Compliance Agreement 1993 (in force on 24.04.2003)	Convention on Biological Diversity 1992 (in force as of 1993)	Ramsar Convention on Wetlands 1971 (in force as of 1975)	Agreement on Port State Measures to combat IUU Fishing 2009 (not yet in force)
Angola	05.12.1990		07.03.2006	01.04.1998		(S. 22.11.2009)
Benin	16.10.1997		04.01.1999	30.06.1994	24.05.2000	(S. 28.09.2010)
Cameroon	19.11.1985			19.10.1994	20.07.2006	
Cape Verde	10.08.1987		27.01.2006	29.03.1995	18.11.2005	
Comoros	21.06.1994			29.09.1994	09.06.1995	
Congo	09.07.2008			01.08.1996	18.10.1998	
Côte d'Ivoire	26.03.1984	(S. 24.01.1996)		29.11.1994	27.06.1996	
Dem. Rep. of Congo	17.02.1989			03.12.1994	18.05.1996	
Equatorial Guinea	21.07.1997			06.12.1994	02.10.2003	
Gabon	11.03.1998	(S. 07.10.1996)		14.03.1997	30.04.1987	(S. 26.04.2010)
Gambia	22.05.1984			10.06.1994	16.01.1997	
Ghana	07.06.1983		12.05.2003	29.08.1994	22.06.1988	(S. 28.10.2010)
Guinea	06.09.1985	16.09.2005		07.05.1993	18.03.1993	
Guinea-Bissau	25.08.1986	(S. 04.12.1995)		27.10.1995	14.05.1990	
Kenya	02.03.1989	13.07.2004		26.07.1994	05.10.1990	(S. 19.11.2010)
Liberia	25.09.2008	16.09.2005		08.11.2000	02.11.2003	
Madagascar	22.08.2001		26.10.1994	04.03.1996	25.01.1999	
Mauritania	17.07.1996	(S. 21.12.1995)		16.08.1996	22.02.1983	
Mauritius	04.11.1994	25.03.1997	27.03.2003	04.09.1992	30.09.2001	
Mozambique	13.03.1997	13.12.2008	09.01.2009	25.08.1995	03.12.2004	(S. 04.11.2010)
Namibia	18.04.1983	08.04.1998	07.08.1998	16.05.1997	23.12.1995	
Nigeria	14.08.1986	02.11.2009		29.08.1994	02.02.2001	
Sao Tome & Principe	03.11.1987			29.09.1999	21.12.2006	
Senegal	25.10.1984	30.01.1997		17.10.1994	11.11.1977	

Seychelles	16.09.1991	20.03.1998	07.04.2000	22.09.1992	22.03.2005	
Sierra Leone	12.12.1994			12.12.1994	13.04.2000	(S. 23.11.2009)
Somalia	24.07.1989					
South Africa	23.12.1997	14.08.2003		02.11.1995	21.12.1975	
Tanzania	30.09.1985		17.02.1999	08.03.1996	13.08.2000	
Togo	16.04.1985			04.10.1995	04.11.1995	
Morocco	31.05.2007	(S. 04.12.1995)	30.01.2003	21.08.1995	20.10.1980	
Oman	17.08.1989	14.05.2008	01.07.2008	08.02.1995		

Regional instruments of relevance to EAF

COUNTRIES	SADC Protocol on fisheries (entry into force on 8 August 2003)	Nairobi Convention (entry into force in May 1996)	Abidjan Convention (entry into force 05.08.1984)	AEWA (entry into force on 1 November 1999)	ACCOBAMS (entry into force on 1 June 2001)	Maputo Convention (not yet in force)	Barcelona Convention (entry into force on 9 July 2004)
Angola	01.04.2003		S.				
Benin			17.10.1997	01.01.2000		(S. 11.02.2004)	
Cameroon			01.03.1983				
Cape Verde			S.				
Comoros		26.09.1994				02.04.2004	
Congo			19.12.1987	01.11.1999		(S. 27.02.2004)	
Côte d'Ivoire			15.01.1982			(S. 27.02.2004)	
Dem. Rep. of Congo	(S. 14.08.2001)		S.			(S. 29.06.2008)	
Equatorial Guinea			S.	01.12.1999		(S. 30.01.2005)	
Gabon			13.12.1988				
Gambia			06.12.1984	01.11.1999		(S. 24.11.2003)	
Ghana			20.07.1989	01.10.2005		13.06.2007	
Guinea			04.03.1982	01.11.1999		(S. 16.12.2003)	
Guinea-Bissau			S.	01.11.2006		(S. 08.03.2005)	
Kenya		11.09.1990		01.06.2001		(S. 17.12.2003)	
Liberia			22.03.2005			(S. 16.12.2003)	
Madagascar		26.06.1990		01.01.2007		(S. 28.02.2004)	
Mauritania			S.				

Mauritius	04.01.2003	03.07.2000		01.01.2001			
Mozambique	29.08.2002	04.03.1999				(S. 04.02.2004)	
Namibia	21.06.2002		S.			(S. 09.02.2003)	
Nigeria			06.06.1984	01.07.2004		(S. 06.12.2003)	
Sao Tome & Principe			S.				
Senegal			10.05.1983	01.11.1999		(S. 16.01.2004)	
Seychelles	(S. 14.08.2001)	20.06.1990					
Sierra Leone			07.06.2005			(S. 09.12.2003)	
Somalia		01.03.1988				(S. 23.02.2006)	
South Africa	24.07.2003	16.05.2003	16.05.2002	01.01.2000			
Tanzania	16.03.2003	01.03.1996		01.11.1999		(S. 05.11.2003)	
Togo			16.11.1983	01.11.1999		(S. 30.12.2003)	
Morocco				(S. 19.11.1997)	13.05.1999		15.01.1980
Oman							

Regional fishery bodies (advisory) – member states

COUNTRIES	ATLAFCO	CECAF	SRFC	FCWC	COREP	SWIOFC	RECOFI
Angola	07.03.2006				<i>observer</i>		
Benin	12.07.1999	CP		CP			
Cameroon	(S. 11.12.1992)	CP			CP		
Cape Verde	08.08.2001	CP	29.03.1985				
Comoros						CP	
Congo	(S. 08.01.1992)	CP			CP		
Côte d'Ivoire	17.03.1995	CP		CP			
Dem. Rep. of Congo	22.09.2004	CP			CP		
Equatorial Guinea	17.03.1995	CP			<i>observer</i>		
Gabon	15.03.1995	CP			CP		
Gambia	(S. 04.12.1992)	CP	29.03.1985				
Ghana		CP		CP			
Guinea	05.08.1993	CP	1987				
Guinea-Bissau	12.07.1995	CP	29.03.1985				

Kenya						CP	
Liberia		CP		CP			
Madagascar						CP	
Mauritania	(S. 09.10.1992)	CP	29.03.1985				
Mauritius						CP	
Mozambique						CP	
Namibia							
Nigeria	05.11.1999	CP		CP			
Sao Tome & Principe		CP			CP		
Senegal	06.04.1994	CP	29.03.1985				
Seychelles						CP	
Sierra Leone	17.11.1993	CP	<i>“associated country”</i>				
Somalia						CP	
South Africa							
Tanzania						CP	
Togo	(S. 05.07.1991)	CP		CP			
Morocco	14.05.1999	CP					
Oman							19.12.2001

Regional fisheries management organizations – member states

COUNTRIES	SEAFO	CCAMLR	IOTC	ICCAT	SIOFA (<i>not entered into force</i>)	GFCM	CCSBT
Angola	07.03.2006			29.07.1976			
Benin							
Cameroon							
Cape Verde				11.10.1979			
Comoros			14.08.2001		(S. 07.07.2006)		
Congo							
Côte d’Ivoire				06.12.1972			
Dem. Rep. of Congo							
Equatorial Guinea				13.05.1987			

Gabon				19.09.1977			
Gambia							
Ghana				17.04.1968			
Guinea			31.01.2005	05.06.1991			
Guinea-Bissau							
Kenya			29.09.2004		(S. 07.07.2006)		
Liberia							
Madagascar			10.01.1996		(S. 04.10.2006)		
Mauritania				04.12.2008			
Mauritius		<i>party to the convention only</i>	27.12.1994		(S. 05.07.2006)		
Mozambique					(S. 07.07.2006)		
Namibia	26.02.2002	09.1981		10.11.1999			
Nigeria				02.08.2007			
Sao Tome & Principe				15.09.1983			
Senegal				21.12.2004			
Seychelles			26.07.1995		05.11.2007		
Sierra Leone			01.07.2008	13.10.2008			
Somalia							
South Africa	18.06.2008	09.1981	<i>observer</i>	07.10.1967			<i>Cooperating Non- Member 24.08.2006</i>
Tanzania			18.04.2007				
Togo							
Morocco				26.9.1969		17.09.1956	
Oman			05.04.2000				

