LME LEARN

GEF LME:LEARN

LARGE MARINE ECOSYSTEMS

GOVERNANCE TOOLKIT

DISCLAIMER

ACKNOWLEDGEMENTS

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List of Acronyms

ABNJ	Areas Beyond National Jurisdiction
BC	Barcelona Convention
BCC	Benguela Current Commission
BCLME	Benguela Current Large Marine Ecosystem
BOBLME	Bay of Bengal Large Marine Ecosystem
CBD	Convention on Biological Diversity
CBO	Community-Based Organization
CCO	Colombian Ocean Commission
CCRF	Code of Conduct for Responsible Fisheries
CERMES	Centre for Resource Management and Environmental Studies
CITES	Convention on International Trade in Endangered Species
CLME+	Caribbean Large Marine Ecosystem +
CMSP	Coastal and Marine Spatial Planning
CoP	Conference of Parties
DPSIR	Driver-Pressure-State-Impact-Response
EAFM	Ecosystem Approach to Fisheries Management
EAS	East Asian Seas
EBM	Ecosystem-Based Management
EEZ	Exclusive Economic Zone
ESPOO	Espoo Convention
FAO	Food and Agriculture Oganisation
GBRMP	Great Barrier Reef Marine Park
GEF	Global Environment Facility
GFCM	General Fisheries Commission for the Mediterranean
HCLME	Humboldt Current Large Marine Ecosystem
HELCOM	Helsinki Commission
HNS	Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances
HOPE	Healthy Oceans, People and Economies
ICES	International Council for the Exploration of the Sea
ICM	Integrated Coastal Management
ICZM	Integrated Coastal Zone Management
ILEC	International Lake Ecosystems Committee
IMBeR	Integrated Marine Biosphere Research
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IODE	IOC International Oceanographic Data and Information Exchange NAP
IUU	Illegal, unregulated and unreported fishing
IW	International Waters
LMO	Living Modified Organism
LME	Large Marine Ecosystem
LOSC	Law of the Sea Convention
MAP	Mediterranean Action Plan
MARPOL	International Convention for the Prevention of Pollution from Ships
MDG	UN Millennium Development Goal
MEDPAN	Mediterranean Protected Area Network
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MSFD	Marine Strategy FrameworkDirective
MSP	Marine Spatial Planning
NAP	National Action Plan
NBS	North Brazil Shelf
NGO	Non Governmental Organisation
NIC	National Intersectoral Coordination
NOAA	National Athmospheric and Oceanic Administration
OECS	Organisation of Eastern Caribbean States
OGC	Ocean Governance Committee
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
PAP/RAC	Priority Actions Programme / Regional Activity Centre
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PICES	North Pacific Marine Science Organization

PR	Puerto Rico
RAMPAO	Regional Western Africa Protected Areas Network
RFB	Regional Fishery Body
SAP	Strategic Action Programme
SDG	Sustainable Development Goal
SDS-SEA	Sustainable Development Strategy for the Seas of East Asia
SEAFDEC	Southeast Asian Fisheries Development Center
SOC	State of the Coasts
SOLAS	Safety of Life at Sea
TDA	Transboundary Diagnostic Analysis
TE	Terminal Evaluation
TWAP	Transboundary Waters Assessment Programme

UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Science and Culture Organisation
USAID	United States Agency for International Development
USVI	United States Virgin Islands
VASAB	Vision and Strategies Around the Baltic Sea
WAS	World Agriculture Society
	WCPA

1. Introduction

The Large Marine Ecosystems Governance Toolkit (in further text : Governance Toolkit) provides an introduction into governance concepts relevant for Large Marine Ecosystem (LME) practitioners. The Governance Toolkit aims to offer the GEF LME: LEARN project leads and partners a practical resource on governance approaches and lessons learned from GEF LME: LEARN projects and other initiatives. It aims to promote an integrated, collaborative approach to ocean and coastal management and is part of a larger LME Toolkit series that provides information and tools on other critical issues for LME management.

The GEF LME:LEARN Governance Working Group has contributed to the development of this toolkit through physical meetings and by correspondence throughout 2017.

1.1 Benefits of LMEs to SDGs

As a regional framework and a science-informed process, the LME approach can be an engine for achieving the 2030 Agenda for Sustainable Development, especially Sustainable Development Goal 14 – *Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development*. Find more information about how GEF programming through the LME Approach is already contributing to achieving the ten SDG 14 targets, and how country-endorsed SAPs under implementation can contribute to achieving the targets at ⊕ https://www.iwlearn.net/documents/23964

2. Good Governance – Reflecting norms, principles and values

Good governance is the extent to which governance arrangements and processes reflect internationally accepted norms, principles, and values.

2.1 Governance definition

There are numerous definitions of "governance" in relation to marine resource and LME management. In the context of this toolkit, governance is defined as:

"The public and private interactions undertaken to address challenges and create opportunities within society. Governance thus includes the development and application of the principles, rules, norms, and enabling institutions that guide public and private interactions." (Armitage et al, 2008)

Governance and management are related and often confused. It is important to understand the distinction between these two terms. While governance is the strategic task of setting goals, directions, limitations, and frameworks, and determines the 'what', management is the part of governance visible through allocation of resources and overseeing day-to-day operations, and it determines the 'how'. Governance involves all ocean management decisions based on shared information, on consultation with stakeholders, and on participatory planning processes and different regional scales. It is also based within a setting of national and international institutional arrangements.

2.1.1 Tool: LME Governance Framework

An LME Governance Framework was developed in the Caribbean to help managers and stakeholders better understand and assess transboundary governance arrangements and address weaknesses. It is based on linked policy cycles operating at multiple levels: local, national, regional and global; (Figure 2.1.) and emphasizes the governance structure, processes, and interactions needed for good governance.

The Framework draws upon concepts such as scale, nesting of institutions, how institutions fit (or don't) within ecosystems, interplay of organizations, adaptive capacity, resilience and network governance. The Framework also recognizes that day-to-day management, planning and policy processes may take place at different geographical scales and organizational levels, requiring both horizontal and vertical linkages to be effective.
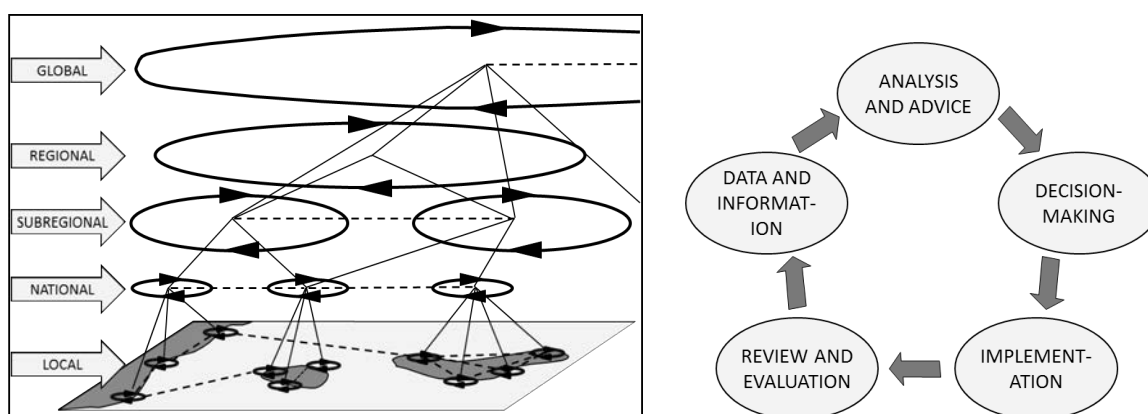
Figure 2.1 The graphical representation of the LME Governance Framework showing (left) the need for process at multiple levels, lateral and vertical linkages among them, and (right) the stages of the policy process that are required for effective governance at each level (Fanning et al, 2007)

2.1.2 Tool: Evaluating Principles of Good Governance

This tool can be used to evaluate stakeholder perceptions of the extent to which key principles are reflected in the governance arrangements and processes for a particular issue.

Groups of stakeholders can be surveyed by asking them to score the statements (on a scale of 1-4) associated with key principles according to the extent to which the statement is considered to apply (Table 2.1).

Table 2.1: Principles assessed and statements used to evaluate them (Source : Mahon and Phillips, 2012)

PRINCIPLE	STATEMENT
Accountability	The persons/agencies responsible for the governance processes can be held responsible for their action/inaction
Adaptability	The process has ways of learning from its experiences and changing what it does
Appropriateness	Under normal conditions, this process seems like the right one for what it is trying to achieve
Capability	The human and financial resources needed for the process meet its responsibility are available.
Effectiveness	This process should succeed in leading to sustainable use of ecosystem resources and/or control harmful practices
Efficiency	This process makes good use of the money, time and human resources available and does not waste them.
Equity	Benefits and burdens that arise from this process are shared fairly, but not necessarily equally, among stakeholders
Inclusiveness	All those who will be affected by this process also have a say in how it works and are not excluded for any reason.
Integration	This process is well connected and coordinated with other related processes.
Legitimacy	The majority of people affected by this process see it as correct and support it, including the authority of leaders
Representativeness	The people involved in this process are accepted by all as being able to speak on behalf of the groups they represent
Responsiveness	When circumstances change this process can respond to the changes in what most think is a reasonable period of time
Transparency	The way that this process works and its outcomes are clearly known to stakeholders through information sharing

Fishers   **Fisheries Technical**   **Fisheries heads**
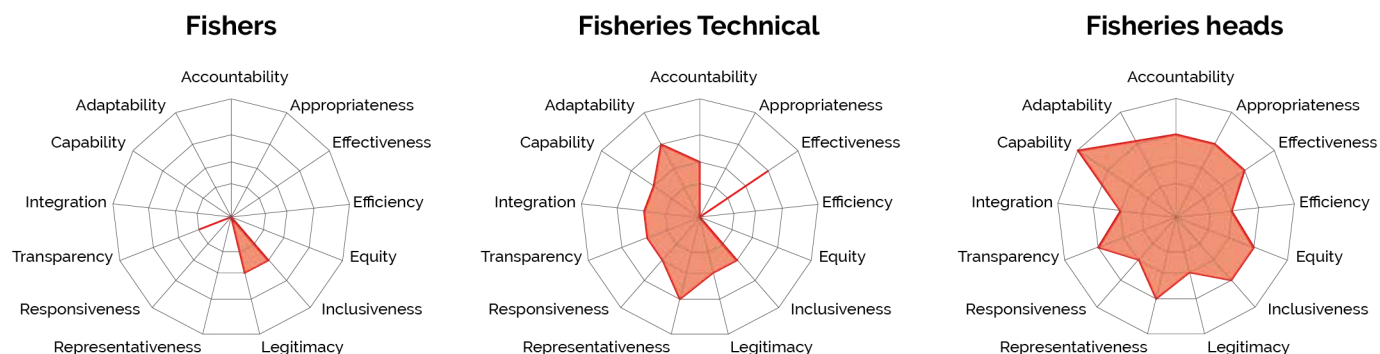
Figure 2.2. Desirable principles of governance processes as expressed by stakeholders in the North Brazil Shelf LME (Source : Mahon and Phillips, 2012)

In the Guianas Brazil Shelf (North Brazil Shelf LME), three stakeholders categories (fishers, fisheries scientists, fisheries department heads) assessed the extent to which desired principles are represented in the governance process of transboundary shrimp and groundfish fisheries in the LME (Figure 2.2), based on agreement with presence of principles (1 =disagree strongly, 2 = disagree, 3 = agree, 4= agree strongly) (Mahon and Phillips, 2012).

⊖ A Handbook on Governance and Socioeconomics of Large Marine Ecosystems
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⊖ Assessing governance performance in transboundary water systems
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2.2 Values and Ethics

A fundamental requirement for LME governance is ensuring that ethical principles are reflected in institutions and daily practice. This includes preventing, identifying and holding individuals accountable for conflicts of interest, fraud, waste, and abuse. Ethical considerations must be transparent and systematic to avoid subjective bias. Formalized ethical frameworks and practical ethics assessment tools, such as the ethical matrix, can support ocean policy by enhancing trust, making values and policy trade-offs explicit, and allowing for multi-level governance (local, national, regional, and global) comparison and mutual learning (see Tool below, adapted from Kaiser, 2005). A version of the matrix is shown below (Table 2.2). It can be adapted to address a range of different issues in marine resource management. Each cell specifies the main criterion that would be met if a particular principle (e.g. justice) were respected for a particular interest group (e.g. marine resource-dependent communities).

Table 2.2 : Ethical matrix for marine resource-dependent communities

INTEREST	WELL BEING (HEALTH AND WELFARE)	AUTONOMY (FREEDOM AND CHOICE)	JUSTICE (FAIRNESS)
Marine Resource-Dependent Communities	Income, working conditions and job security	Freedom of action	Availability of marine resources for food, livelihoods and trade
Citizens (across LME)	Well-being; Social and economic health	Democratic, informed choice	Access to ecosystem services provided by marine resources
The Living Environment	Conservation and sustainability	Maintenance of Biodiversity	Respect for sustainability

Diverse and conflicting values of different ocean stakeholders must be expressed, balanced and (ideally) reconciled through open and transparent stakeholder engagement processes if effective engagement in decision-making is to be achieved.

⊖ FAO Ethical issues in Fisheries
· ·

⊖ Corruption index
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2.3 Stakeholder engagement

Stakeholder engagement includes a variety of practices to ensure involvement of the public and specific interest groups in public decisions and implementation. It is an essential component of good LME governance by promoting the principles of transparency, inclusivity, accountability, and fairness. It is expected to contribute to effective governance as policies and practices developed with stakeholder input are more likely to be adopted and fulfil their goals.

Stakeholder engagement is a process. A ladder of engagement (Figure 2.3) is a framework designed to build engagement. The process works by getting stakeholders to contribute through increasingly important actions that contribute to the realization of the stated goal (Figure 2.4).

Advocating

Action

Learning

Awareness
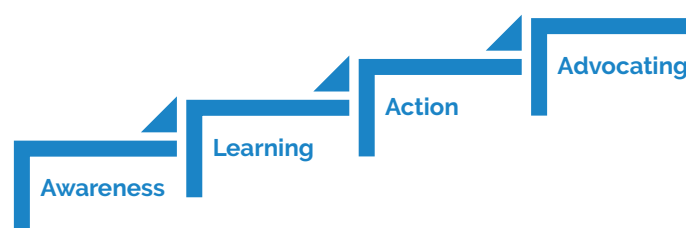
Figure 2.3: The ladder of engagement.

Understanding and Engaging Stakeholders	Getting started with Stakeholders	Participatory Problem Solving	Stakeholders as Advisors	Co-Management Approaches
• Stakeholder characterization • Interacting with stakeholders	• Working with stakeholders • Building trust • Identifying common ground	• Problem identification • Creative problem sovling • Finding common solutions	• Using advisory bodies	• Cooperative management approaches
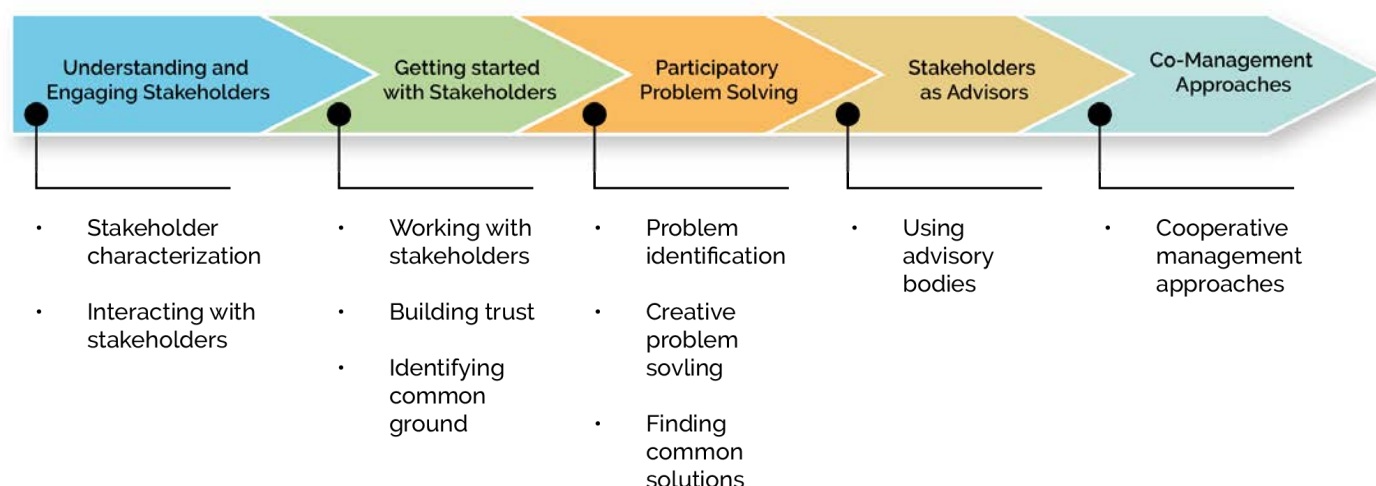
Figure 2.4: Stakeholder Engagement

2.3.1 Tool: Facilitating Collaborative Public Decisions

Collaborative decision-making has been developed as a way to reconcile conflicting interests and deal with complex technical information that can otherwise lead to impasse. Transboundary approaches require collaborative approaches to be accepted. Collaborative approaches bring together affected people and organizations to work through the scientific and values-based dimensions of a decision, in order to build understanding, generate creative solutions and foster buy-in. At times, these approaches have produced durable agreements that solve underlying problems so the same decisions do not have to be revisited. Using examples from the California Marine Life Protection Act process to develop regional MPA networks, the facilitating collaborative public decisions tool can help you understand real-world public decision making processes. Using multimedia examples, the tool enables you to explore strategies for facilitating the different stages of collaborative decision making.

→ http://seas.umich.edu/ecomgt/mlpavideo/

2.3.2 Example: Caribbean Fisherfolk

The Strengthening Caribbean Fisherfolk to Participate in Governance project, aimed to improve the contribution of the small-scale fisheries sector to food security in the Caribbean, through building the capacity of regional and national fisherfolk organisation networks to participate in governance. The project focused on identifying capacity gaps and solutions to help develop the skills needed for effective leadership and governance in the fisheries sector. This example demonstrates how effective stakeholder engagement can strengthen sustainability in a regional sector.

→ http://www.canari.org/strengthening-caribbean-fisherfolk-to-participate-in-governance

2.4 Sustainable financing

Global Environment Facility (GEF) funding, which has supported ocean governance arrangements at regional and global scales is limited in time and by the financial resources available. Transboundary Diagnostic Analysis (TDA) process should include resource valuation, also looking at goods and services the ecosystems provide. While these exercises may be supported with regional funding for research and/or development, the Strategic Action Programme (SAP) process needs feasible plans for the long-term financing of critical activities, based either on taxation or direct user charges (read more about TDA/SAP methodology on the website of the International Waters Learning Exchange and Resource Network). International resource management needs to be agreed upon, including funds for monitoring, assessment, enforcement, and administration of management programmes. Such financial plans help to determine the funding requirements and to identify income sources for each of the needs. Usually, funding arrangements, especially those long-term ones safeguarding flows in a sustainable fashion, require considerable amounts of time and effort to establish.

The guidelines of the World Commission on Protected Areas (Emerton et al., 2006) provide an excellent set of principles and procedures for developing plans for sustainable financing. Although the WCPA focuses on financing planning for protected area management, the guidelines can be readily adapted to LME programs. The guidelines prescribe three operational principles, adapted to LMEs:

- Develop financial plans within the full context of LME management plans and its legal framework;

- Adopt a business approach to financing LME programs, including identifying specific consumers (beneficiaries) of LME resources and management programs, and determine methods for capturing appropriate remuneration from those consumers; and

- Link public revenue streams to public goods, and link private revenue streams to local public, and private goods.

These guidelines may encourage program managers to investigate a wide range of financing options, to diversify their portfolios of revenue sources, and explain how to identify and classify benefits from environmental and natural resources, and how to link the consumers/beneficiaries with each form of the benefits.

2.4.1 Economic methods

An array of economic methods can inform governance at any scale, including applications for LMEs. Economic methods can provide information to improve decision making; communicate the value of marine resources and benefits of management; and enable comparison of all impacts (costs and benefits) in decision making. A Toolkit on **Environmental Economics for Marine Ecosystem Management (2018)** has been specifically developed for LME practitioners. It provides an introduction to economic concepts relevant to LME management, as well as non-technical explanations of environmental economic methods, including applications, strengths and weaknesses of methods; links to additional available resources. It also provides illustrative applications in an LME context.

Guidelines for Management Planning of Protected Areas

Sustainable Financing of Protected Areas a global review of challenges and options

3. Policy and Legal Frameworks

3.1 International legal framework and institutions

Ocean governance is the public and private interactions undertaken to address challenges and create opportunities within society. Governance thus includes the development and application of the principles, rules, norms, and enabling institutions that guide public and private interactions. Institutional arrangements within LMEs are the formal and informal measures and cooperative mechanisms that influence collective and individual action at all scales from regional to local.

The 1982 Law of the Sea Convention (LOSC) provides the international legal framework for the balance of coastal State and flag State jurisdiction of nations over activities at sea. The LOSC recognizes the coastal States jurisdictional rights, authority, and responsibilities over certain maritime zones (e.g., EEZ), including how their authority is balanced in regard to the rights of other nations (vessels and persons) within the maritime zones.

The maritime zones of coastal States (Figure 3.1) include the 12 nm territorial sea, the 24 nm contiguous zone extends, and the 200 nm Exclusive Economic Zone (EEZ). The continental shelf is land and subsoil under the EEZ. The normal baseline for measuring or delimiting these zones is from the low water coastal tide line as depicted on official charts. The continental shelf of a nation may extend beyond 200 nm and there are specific rules about its delimitation. Coastal States have jurisdiction and authority over foreign nation's right to lay cable and pipelines on the coastal States continental shelf, and authority for the protection, conservation, development and use of marine resources.

The areas beyond the 200 nm EEZ and the extended continental shelf are called the "areas beyond national jurisdiction" (ABNJ; note that coastal countries have rights and exclusive jurisdiction over the seabed in the extended continental shelf, but do not have exclusive jurisdiction over the water column in that zone.) The UN is currently considering governance mechanisms for managing biodiversity in areas beyond national jurisdiction. As a science-based ecosystem approach, LME projects may be able to provide science and management expertise to assist in the management of ABNJ.
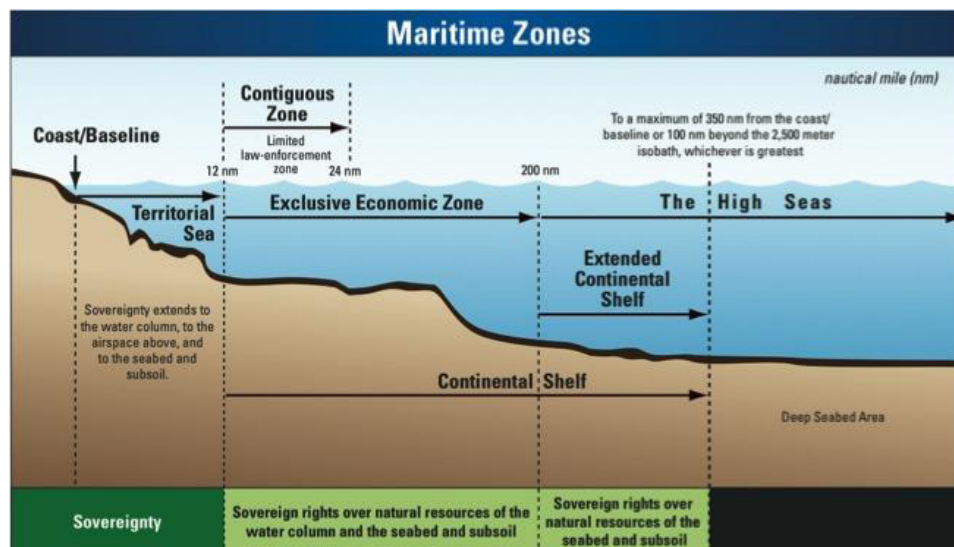
Figure 3.1 : Maritime zones (Source: ⊕ http://continentalshelf.gov/media/ECSposterDec2010.pdf)

Intergovernmental programmes and organizations are an important aspect of governance as they represent consensus among member states. International treaties/conventions come into force when lawful representatives of several states go through a ratification process, providing the programmes/organizations with international legal personality.

The LME concept provides knowledge and tools for enabling the ecosystem-based management of human activities. This collaborative approach to management aims at advancing transnational ocean governance consistent with international law and institutions.

The following specific themes are covered by major international legal frameworks that exist and are actively involved in ocean governance on a global or regional scale:

- LOSC recognized rights and responsibilities of nations (coastal States and flag States) with respect to their use and management of activities in the ocean;

- Maritime safety / shipping regulations / marine pollution: The International Maritime Organization (IMO). The IMO's primary purpose is to develop and maintain a comprehensive regulatory framework for shipping and its remit today includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping;

- Environmental protection / management: UN Environment Regional Seas Programme. More than 140 countries have joined 18 Regional Seas Conventions and Action Plans for the sustainable management and use of the marine and coastal environment. In most cases, the Action Plan is underpinned by a strong legal framework in the form of a regional Convention and associated Protocols on specific problems (E.g. the Convention on Migratory Species, Polar Bear Convention, etc.);

- Biological diversity: The Convention on Biological Diversity (CBD). The Convention's main goal is conservation of biological diversity. The agreement covers all ecosystems, species, and genetic resources. It links traditional conservation efforts to the economic goal of using biological resources sustainably. Importantly, the Convention is legally binding and nations that join it are obliged to implement its provisions therefore regional programmes like LMEs need to take these provisions into consideration;

- Fisheries/aquaculture: Regional Fisheries / Aquaculture Management / Advisory Organizations / Regional Sea Organizations - international organisations formed by countries with fishing / aquaculture interests in an area. These bodies, where existing for a specific sea basin, are considered to be key components of a working system for global ocean management. Cooperation between LMEs and Regional Management / Advisory bodies is stimulated and encouraged by the FAO. While most of the LME mechanisms being driven primarily by environmental concerns, RFBs and national fisheries authorities have not always been actively involved in LME discussions and decisions, despite fisheries often being the main issue at stake.

These international legal organizations are supported by international science organizations / programs that provide evidence and formulate recommendations for policy making.

International Science Organizations / Programs: e.g. IOC of UNESCO / IMBER / ICES / PICES / WAS. These entities publish scientific results, are sponsors of scientific meetings, and develop marine assessments and in some cases holistic ecosystem overviews. These are state of ecosystem reports (integrated ecosystem assessments) comprising quantitative evaluations and synthesis of information on physical, chemical, ecological, and human processes. They provide scientific understanding to deliver advice on societal trade-offs between different policy options therefore are a valuable source of evidence-based advice for regional programmes like the LMEs. Similarly, the Large Marine Ecosystems perform TDAs for SAPs within their territorial boundaries. Another common activity is data collection (mostly by national institutes and projects): international organizations harmonize data collection activities mechanisms and management e.g. the ICES Data Centre or IODE for IOC-UNESCO.

International science organizations also provide knowledge to the LME/regional managerial authorities that support:

- banning harmful fisheries subsidies;

- fighting illegal, unregulated and unreported (IUU) fishing;

- fighting marine debris;

- promoting maritime spatial planning at macro-regional and global levels; and

- promoting educational and technological development.

The above mentioned components of maritime governance at various regional scales provide tools and solutions for developing sustainable approaches to ocean management. Input provided by existing organizations contributes to the challenge of linking and coordinating national, regional and global targets and goals. Together with regional developments at LME level, these need to be aligned with goals, targets, and indicators approved at global level (e.g. SDG targets, the Aichi Targets).

Cooperation within international organizations also provides coordination services and a forum to share experiences / lessons learned / best practices across methodologies to help countries realize global targets and evaluate progress through indicators. This can also help to operationalize goals on a national level, as countries oftentimes have their own nation-specific targets.

Transboundary Waters Assessment Programme (TWAP) conducted indicator-based assessments for transboundarywater systems including Large Marine Ecosystems (LMEs) and Open Oceans. These included assessment of governance arrangements and overall architecture for transboundary systems. The TWAP LME

report describes which agreements pertain to which LMEs. The annex includes a governance analysis for each of 50 transboundary LMEs, showing how they relate spatially and in terms of engagement to regional agreements that cover all or any part of the LME.

⊙ Transboundary Waters Assessment Programme (TWAP) Assessment of Governance Arrangements for the Ocean: Volume 1- Large Marine Ecosystems,

3.1.1 Examples of international agreements guiding ocean governance

The TWAP found over 140 global/regional agreements relevant for transboundary LMEs. The Table 3.1 provides a short list of examples of international agreements guiding ocean governance.

Table 3.1: Examples of international agreements

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
HARD LAW	
Law of the Sea Convention (LOSC)	The 1982 Law of the Sea Convention (LOSC) provides the international legal framework for the balance of coastal State and flag State jurisdiction of nations over activities at sea. ⊙ http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm
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 (1995).	The Agreement contains general principles of stock management and obliges Coastal States to utilize the principles by adopting measures to ensure the long term sustainability of straddling fish stocks and highly migratory fish stocks and promoting the objective of their optimum utilisation. It incorporates the precautionary approach and the ecosystem approach to the conservation, management, and exploitation of fish stocks in waters under national jurisdiction and in the high seas. ⊙ http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972 - The London Convention) London Protocol	One of the first global conventions to protect the marine environment from human activities and has been in force since 1975. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. Currently, 87 States are Parties to this Convention. In 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol entered into force on 24 March 2006 and there are currently 48 Parties to the Protocol. ⊙ http://www.imo.org/en/OurWork/Environment/LCLP/Pages/default.aspx
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969)	Affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the threat thereof, following upon a maritime casualty. The coastal State is, however, empowered to take only such action as is necessary, and after due consultations with appropriate interests including, in particular, the flag State or States of the ship or ships involved, the owners of the ships or cargoes in question and, where circumstances permit, independent experts appointed for this purpose ⊙ http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-relating-to-intervention-on-the-high-seas-in-cases-of-oil-pollution-casualties.aspx
International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 relating thereto (1973; MARPOL 73/78)	The main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes; includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations; Special Areas with strict controls on operational discharges are included in most Annexes ⊙ http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
International Convention on Oil Pollution Preparedness, Response and Cooperation (1990 - OPRC)	Global framework for international co-operation in combating major incidents or threats of marine pollution; parties are required to establish measures for dealing with pollution incidents, either nationally or in co-operation with other countries; ships are required to carry a shipboard oil pollution emergency plan; parties must require offshore units to have oil pollution emergency plans to respond promptly and effectively to oil pollution incidents; incidents of pollution must be reported to coastal authorities; establishment of stockpiles for oil spill combating equipment, the holding of oil spill combating exercises and the development of detailed plans for dealing with pollution incidents; parties are required to help others in the event of a pollution emergency, with promise of reimbursement for any assistance provided → http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-on-oil-pollution-preparedness,-response-and-co-operation-(oprc).aspx
Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances (2000 - HNS Protocol):	Aims to establish national systems for preparedness and response and to provide a global framework for international co-operation in combating major incidents or threats of marine pollution; ensures that ships carrying hazardous and noxious substances are covered by preparedness and response regimes similar to those already in existence for oil incidents → http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/Protocol-on-Preparedness,-Response-and-Co-operation-to-pollution-Incidents-by-Hazardous-and-Noxious-Substances-(OPRC-HNS-Pr.aspx
International Convention for the Regulation of Whaling (1946)	The founding document for the International Whaling Commission; sets out goals for catch limits of commercial and aboriginal subsistence whaling → https://iwc.int/convention

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar)	Considers the fundamental ecological functions of wetlands as regulators of water régimes and as habitats supporting a characteristic flora and fauna, especially waterfowl; addresses the fact that wetlands constitute a resource of great economic, cultural, scientific and recreational value, the loss would be irreparable; works to stem the progressive encroachment on and loss of wetlands now and in the future; waterfowl in their seasonal migrations should be regarded as an international resource; conservation of wetlands and their flora and fauna can be ensured by combining far-sighted national policies with co-ordinated international action; → http://portal.unesco.org/en/ev.php-URL_ID=15398&URL_DO=DO_TOPIC&URL_SECTION=201.html
Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora:	Recognizes that wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth and must be protected for their aesthetic, scientific, cultural, recreational and economic points of view; States are and should be the best protectors of their own wild fauna and flora; international cooperation is required to protect certain species of wild fauna and flora from over-exploitation of international trade → https://cites.org/eng/disc/E-Text.pdf

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
Convention on Biological Diversity (CBD)	An international, legally-binding treaty with three main goals designed to encourage action and a sustainable future: conservation of biodiversity, sustainable use of biodiversity, and fair and equitable sharing of the benefits arising from the use of genetic resources → http://www.un.org/en/events/biodiversityday/convention.shtml **Cartegena Protocol on Biosafety** (1997): an international agreement that aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, also taking into account risks to human health → http://bch.cbd.int/protocol CBD Strategic Plan for Biodiversity (2011-2020) Aichi Biodiversity Targets (2010): provides an overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system and all other partners engaged in biodiversity management and policy development → https://www.cbd.int/sp/ **Marine Protected Areas** comprise 10% of coastal marine environment (Target 11): By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes → https://www.cbd.int/sp/targets/
Safety of Life at Sea (1974 - SOLAS)	The first treaty to address safety and navigation → http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx

TITLE OF AGREEMENT	SUMMARY DESCRIPTION
SOFT LAW	
Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration) of 1972	In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population. ⊙ http://www.un-documents.net/unchedec.htm
United Nations Conference on Environment and Development (1992 - Earth Summit)	Sought to help Governments rethink economic development and find ways to halt the destruction of irreplaceable natural resources and pollution of the planet; Governments recognized the need to redirect international and national plans and policies to ensure that all economic decisions fully took into account any environmental impact; examined the relationship between human rights, population, social development, women and human settlements — and the need for environmentally sustainable development. ⊙ https://sustainabledevelopment.un.org/milestones/unced
Rio Declaration	Defines the rights of the people to be involved in the development of their economies, and the responsibilities of human beings to safeguard the common environment. The declaration builds upon the basic ideas concerning the attitudes of individuals and nations towards the environment and development, first identified at the United Nations Conference on the Human Environment (1972) ⊙ http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm
United Nations Food and Agriculture Organisation's (FAO) Code of Conduct for Responsible Fisheries (CCRF)	This code helps individual States develop their own policies and governance to develop responsible fisheries management, and to provide guidance on the formulation and implementation of international agreements. ⊙ http://www.fao.org/docrep/005/v9878e/v9878e00.htm

3.1.2 Practical recommendations:

Based on the above, the following practical recommenadtions for LME context could be proposed :

- Identifying need for measures to address issues in a particular LME from a particular source is important and part of the TDA (e.g., consider Special Area Recognition under authority from IMO in regard to pollution from international shipping);

- Bypassing existing regional ocean governance mechanisms in place should be avoided;

- Collaborative ways to better support, monitor and align reporting on progress in ocean governance should be pursued;

- Formal, structured information exchange channels should be utilized; and

- Dialogue at different levels is important and communication between LME structures and other organizations should be well coordinated (also in order to manage potential conflicts between organizations on the remits of their mandates).

3.2 Science needs for LMEs

The required science and information needed for LME projects will vary greatly for each LME. Some LMEs are the subject of extensive research endeavors prior to GEF initiatives. In these cases, substantial pre-existing information may be capitalized and gaps identified in the development of the TDA. Other LMEs are not as data rich and partnerships for scientific research may be established as part of the GEF-funded LME project. Scientific collaboration can also contribute to a common framework for decision-making, and can establish partnerships that can serve as a foundation for LME management actions. Common challenges can include the need to develop common research strategies, priorities and monitoring protocols, as well as overcoming reluctance to share scientific data across institutions.

3.2.1 The Ecosystem Approach and Ecosystem Based Management

The concept of ecosystem approach refers to a management regime that aims to maintain the health of the ecosystem alongside appropriate human uses of the environment, for the benefit of current and future generations. Through analyses of trade-offs, an ecosystem approach is expected to contribute to achieving long-term sustainability for the use of marine resources across sectors. An ecosystem approach serves multiple objectives, involves strong stakeholder participation, and focuses on human behaviour as the central management dimension.

Management of LMEs is by definition taking an ecosystem approach to management as its basis. Good, efficient, transparent, and participatory governance approaches support an ecosystem approach by accounting for all stakeholder interests and finding ways to resolve conflicts. Marine/Maritime Spatial Planning (MSP) is an important

tool of the EBM approach (see section 3.5). The TDA and SAP processes are also tools developed specifically for LMEs. They facilitate the development of governance and management actions from an ecosystem based approach (see section 3.3). Well-developed governance approaches can help identify common goals among stakeholders, providing a framework for cooperation that can strengthen governance.

⊕ Taking Steps toward Marine and Coastal Ecosystem-Based Management - An Introductory Guide

3.2.2 The Ecosystem Approach to Fisheries Management

An Ecosystem Approach to Fisheries Management (EAFM) is a practical participatory process to sustainably achieve and maximize diverse societal benefits of fisheries by balancing ecological well-being and human well-being through good and effective governance (Figure 3.2).

Conventional fisheries management focusing on single-stock management of fisheries resources does not account for the complexity inherent in ecosystems, including their human components. Ecosystem approaches aim to support decision-making, making explicit the implications for decisions made. For example, within a given ecosystem or foodweb if you harvest a certain level of predator x, what are then the implications for prey y? On the human component, there is a focus on mediation and facilitation, and improved conflict resolution, e.g. among different fisheries sub-sectors and sectors impacting on fisheries.

The ecosystem approach requires dedicated strategic interventions that promote understanding and develop capacity at community, mid-level management, and policy levels. Particular effort is required to foster, promote, and maintain interaction between the different agencies responsible for coastal and marine resource management – in particular the environment and fisheries agencies.

The need to apply an Ecosystem Approach is globally accepted since the Rio Conference in 1992, several following earth summits, and endorsed in international decision-making through various UN General Assembly Resolutions. However, it is not yet widely applied due to various reasons, among them a still persistent lack of awareness and understanding, as well as clear guidelines on how to operationalize.
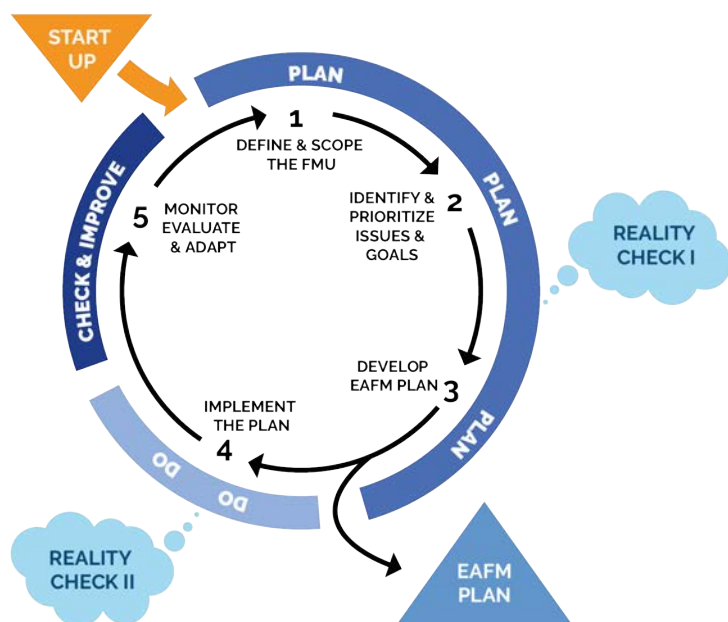

Figure 3.2: Five steps of EAFM

3.2.3 Example: EAFM Capacity development and training in the Bay of Bengal LME (BOBLME)

The BOBLME Project, together with international and regional partners (e.g. NOAA and SEAFDEC), and with financial support from the GEF, Norway, Sweden and USAID, developed a comprehensive training course supporting capacity development for implementation of an ecosystem approach to fisheries management. These materials are available online, and are also in line with EAFnet, which has been developed by FAO to facilitate access to information and resources that are available at FAO on the application of the Ecosystem Approach to Fisheries (EAF), including an Ecosystem Approach to Fisheries toolbox.

The BOBLME project has trained hundreds of middle managers and fisheries officers through 25-30 EAFM training courses across Asia. In addition, at least 57 EAFM trainers have attended Training-of-Trainers courses acquiring the skills to train their peers in the EAFM Course. This growing EAFM cadre has the capacity to plan and implement local coastal management plans using EAFM principles. Some of this training is held in local languages, as translations into Bahasa Indonesia, Thai, and Myanmar languages have been developed.

However, due to the selection criteria of training course participants and the time required to attend the courses, most senior fisheries officers, involved in planning and policy making in the countries where EAFM is being established, have not been sensitized to the issue, nor introduced to the concepts involved. Therefore, recognizing the need for solid policy support for EAFM, and based on materials already developed by NOAA, a series of information materials was designed for Leaders, Executives and Decision Makers (EAFM-LEAD) with an emphasis on linking policy to action and facilitating policy-level support for widespread capacity development.

It is difficult to assess or even claim any cause-and-effect relationship, but in the past few years several governments of Bay of Bengal countries have included EAFM in their national policy planning and fisheries legislation. The most recent addition is India, where EAFM has become a principal concept in the 2017 National Policy on Marine Fisheries. The Marine Fisheries Management Plan of Thailand, the National Policy for Marine Fisheries Management 2015 – 2019 and the Fisheries Act B.E. 2558 (2015) recognize the significance of EAFM in managing the fisheries. Both Indonesia and Malaysia, as well as the Philippines, all participating countries in the Coral Triangle Initiative, have adopted EAFM and its guiding principles, and more of the regional countries are expected to follow.

If these processes are considered as taking place in parallel, they underline the need for further awareness raising and capacity development, which is addressed by this EAFM training course. The implementation of a growing number of local EAFM plans to manage fisheries is expected to lead to more sustainable use of these resources.

➲ Ecosystem Approach to Fisheries Management toolkit,

➲ Ecosystem Approach to Fisheries toolbox,

➲ Essential EAFM Trainer Resource Guide,

3.2.4 Example: Cooperation agreement that promotes an Ecosystem Approach in the Mediterranean Sea

In Europe, the protection of the marine environment is based on an Ecosystem Approach and is codified in the Marine Strategy Framework Directive that uses 11 descriptors of Good Environmental Status. ➔ http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

IIn the Mediterranean Sea LME, the respective Regional Sea Convention (UN Environment/MAP-Barcelona Convention) and Regional Fisheries Management Organization (General Fisheries Commission for the Mediterranean of the FAO - GFCM) have both adopted their own strategy to accelerate progress towards the implementation of an Ecosystem Approach and in support of SDG 14. A Memorandum of Understanding (MoU) signed in 2012 between the GFCM and UN Environment/MAP is an example of formalized cooperation between a UN Environment Regional Sea Convention and an FAO Regional Fisheries Management Organization. This cooperative agreement presents an opportunity to promote synergies and addresses existing challenges that hamper the sustainable conservation and development of the Mediterranean Sea through concerted cooperative actions. Joint action addressing marine environment and fisheries has the potential to pave the way for broader and more integrated cooperation, encompassing other uses of the Mediterranean Sea, such as shipping, via the involvement of other competent organizations.

The MoU between UN Environment/MAP-Barcelona Convention and GFCM addresses the following five areas of cooperation:

1. Promotion of ecosystem-based approaches for the conservation of marine and coastal environment and ecosystems, and the sustainable use of marine living and other natural resources;

2. Mitigation of the impact of fisheries and aquaculture on the marine habitats and species by the use of best available techniques in fisheries and the development of sustainable aquaculture;

3. Identification, protection and management of marine areas of particular importance in the Mediterranean (hot spots of biodiversity, areas with sensitive habitats, essential fish habitats, areas of importance for fisheries and/or for the conservation of endangered species, coastal wetlands); and

4. Integrated maritime policy with a special emphasis on marine and coastal spatial planning, and integrated coastal zone management, and other integrated zoning approaches, with a view to mitigate cumulative risks due to reduced access and availability of space affected by multiple and increasing conflictive uses; and

5. Legal, institutional and policy related cooperation.

3.3 Transboundary Diagnostic Analysis/Strategic Action Programme

The development of a science-based Transboundary Diagnostic Analysis (TDA) and a negotiated Strategic Action Programme (SAP) are two core activities required for all the GEF International Waters Large Marine Ecosystem, freshwater and groundwater projects.

A TDA is a multisectoral analysis that provides the factual basis and scientific justification for the Strategic Action Programme, which is usually a negotiated programme of action addressing policy, legal, and institutional reforms that address the underlying causes of issues of concern identified in the TDA. National Action Plans (NAPs) may be developed and adopted by countries as a mechanism to institute reforms at a national level, thereby contributing to the multinational goals of the SAP.

TDAs and SAPs may be developed in different ways. Some TDAs are more science-based than others, while some are relying on desktop studies or are based on novel research. In some regions of the world, national reports have been developed first, to inform the regional TDA, while in other areas, the TDA has been formulated as a regional study and later validated through national process. In LME regions, TDAs often make use of five modules of spatial and temporal indicators of ecosystem health (i) productivity, (ii) fish and fisheries, (iii) pollution and ecosystem health, (iv) socioeconomics and (v) governance.

There is no single standard approach to the TDA/SAP process; each water body ecosystem and management regime is unique, and the process is flexible enough to allow the TDA and SAP to be developed in the most appropriate way.

The following are some of the key underlying principles incorporated into the TDA/SAP approach:

- Full stakeholder participation

- Joint fact-finding

- Transparency

- The ecosystem approach

- Adaptive management

- Regular updates to the TDA process

- Action that takes into account social and economic root causes of the problem

- Accountability

- Inter-sectoral policy building

- Stepwise consensus building

- Subsidiarity

- Incremental costs

- Donor partnerships

- Government commitment

›› The LME Strategic Approach Toolkit describes the strategic approach to designing an LME project, incorporating an updated 5-module ecosystem approach, and the TDA/SAP process, as well as complementary tools such as ICM, MSP, the Ecosystem Based Approach to Fisheries across multiple scales, the development of MPA networks and fisheries refugia as well as climate change concerns.

⊛ International Waters Managers' Insights Regarding the Global Environment Facility (GEF) International Waters Program Study: Transboundary Analyses, Demonstrations, Sustainability and Lessons Learned

⊛ GEF IW:LEARN TDA/SAP methodology, Vols 1,2,3

3.3.1 Example: Benguela Current Commission

The The Bengulea Current LME (BCLME) Program has three participating countries: South Africa, Namibia, and Angola. The SAP, developed through the BCLME Program for the sustainable management of the region, specifies that to implement the actions agreed upon in the document, existing regional mechanisms for cooperation must be strengthened; thus, the document establishes the BCLME Program as an international body in terms of the United Nations Convention on the Law of the Sea (UNCLOS). The SAP also established the Interim Benguela Current Commission, which, in 2013, became the permanent Benguela Current Commission (BCC) with the signing of the Benguela Current Convention. The objective of the Convention is to "promote a coordinated regional approach to the long-term conservation, protection, rehabilitation, enhancement and sustainable use of the Benguela Current Large Marine Ecosystem, to provide economic, environmental and societal benefits." The Convention also establishes General Principles for the parties to adhere to, including a cooperation, collaboration and sovereign equality principle.

The Convention establishes a Ministerial Conference made up of the Ministers authorized by each Party to attend, a Secretariat, and a Commission - the BCC. The BCC includes permanent Committees to the Commission, including an Ecosystem Advisory Committee, a Finance and Administration Committee, and a Compliance Committee. The BCC also establishes the Small Pelagic Working Group as another permanent regional structure. These Committees are made up of experts appointed by each party. Each Party to the agreement may also appoint national coordinators. The Convention specifies its relationship with other international instruments, stating that it shall not alter the rights and obligations of the parties arising from other agreements.

⊛ Benguela Current Commission publications

⊛ Benguela Current Convention

3.4 Integrated Coastal Zone Management

Integrated Coastal Zone Management (ICZM) is a process for the on-going management of the coast, including both marine and terrestrial parts of the coastal zone, using an approach that integrates all aspects, including the various sectors of management, stakeholders, and the geographical/political boundaries, in an attempt to achieve sustainability. The Mediterranean ICZM Protocol, signed in 2008, defines ICZM as a "dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts." ICZM aims to balance and reconcile, through science-based, economic, legal and regulatory tools, the numerous and often competing interests of coastal natural resource users (mineral extraction on the shelf, fisheries, marine transport, industrial and agricultural development of the coastal zone, resorts, reserves, etc.).

3.4.1 Example: Humboldt Current Large Marine Ecosystem

The Humboldt Current Large Marine Ecosystem (HCLME) is a significant biologically diverse area supporting one of the world's most productive fisheries (18-20% of the global fish catch). It is under threat from pollution, habitat degradation, and overfishing. In order to build long-term resilience, representatives from Peru, Chile and other project contributors are working on a coordinated framework that provides for improved governance and the sustainable use of living marine resources and services.

This framework includes planning and policy instruments for ecosystem-based management (EBM) to provide the framework for Chile and Peru to take into account multi-disciplinary, inter-sectoral considerations and the complexities and interrelationships of HCLME subsystems and trophic linkages when defining the plans and programs for managing living marine resources. This involves capacity building pilot projects identifying tools, mechanisms and improved managerial, technical and enforcement capacities for institutional implementation including integrated coastal zone management and marine spatial planning that involves the establishment of marine protected areas.

The HCLME project has reached a milestone of success with the expansion of Coastal Marine Spatial Planning to three regional pilot projects in Peru in the plan of work for the next 5 year phase of the Humboldt Current LME.

3.4.2 Example: Mediterranean Large Marine Ecosystem

The Mediterranean coastal zone is an area of intense activity, an area of interchange within and among physical, biological, social, cultural and economic processes. Changes at any point in any part of the systems can generate chain reactions far from their point of origin. The sustainable use of resources can be seriously affected by anthropogenic or natural events or processes, such as population pressure, development projects, oil and chemical spills, climate change, natural disasters, which combined can cause significant cumulative impacts. Planning and management of the terrestrial and marine areas off the coastal zone remain rigidly divided between policies, administrations, and institutions.

In such a setting, the ICZM process provides an efficient coordination of the wide range of sectoral policies and institutions in charge of their implementation, thus enhancing the coastal zone management systems, increasing environmental protection and allowing for timely addressing of the emerging coastal challenges.

However, the practice of ICZM is often localized, relatively short-term, and project-based. It is still largely seen as an environmental activity, and has yet to fully involve those institutions and actors responsible for the social and economic pillars of sustainability.

Acknowledging these shortcomings and aware of the need to further improve coastal management, the Contracting Parties to the Barcelona Convention (twenty-one Mediterranean States and the EU) adopted the Protocol on Integrated Coastal Zone Management in the Mediterranean as the seventh protocol to the Barcelona Convention. The signing of this first international legally-binding instrument on ICZM in the world came after a six-year process of consultation, negotiation and dedicated work of all the Contracting Parties. Its entry into force in 2011 represents a crucial milestone in the history of the Mediterranean Action Plan (MAP).

The implementation of the ICZM Protocol implies the transposition of ICZM principles, objectives and actions into national policy frameworks and instruments, the enhancement of the governance mechanisms, the engagement of stakeholders and development of partnerships, as well as capacity building and awareness raising. Furthermore, the effective implementation of the ICZM Protocol calls for complementary and coordinated actions at various administrative levels and among various sectors.

In order to facilitate the implementation of the ICZM Protocol provisions, the Contracting Parties entrusted the Priority Actions Programme / Regional Activity Centre (PAP/RAC - the Regional Activity Centre of UNEP/MAP dealing with coastal zones) with the role of the main coordinator and provider of the technical support.

On the occasion of the Barcelona Convention CoP 17 (Paris, 2012) the Contracting Parties adopted the Action Plan for the implementation of the ICZM Protocol in 2012-2019 with the aim to speed up its implementation through country-based planning and regional coordination.

⊛ Adoption of the Action Plan for the implementation of the ICZM Protocol for the Mediterranean (2012-2019)

⊛ The Coastal Management Center Protocol

⊛ Protocol on Integrated Coastal Zone Management in the Mediterranean

3.5 Marine/Maritime Spatial Planning

Marine Spatial Planning (MSP) has become an important planning process for dealing with the increasing uses of the world's oceans and the need to protect and conserve marine biodiversity. MSP activities have been initiated in North America, in some parts of the Pacific, and, in particular, in European sea-basins as well as many other parts of the world. It provides an operational framework for the implementation of an ecosystem based management approach to spatial and temporal uses of the marine environment. The European context provides an important example of how MSP has been tackled in a transboundary context.

Environmental planning activities and regulations are increasingly being considered farther offshore in conjunction with historical efforts in ICZM. The EU Maritime Spatial Planning Framework Directive (MSPFD) coupled with the European Marine Strategy Framework Directive (MSFD), both being instruments of the European Maritime Policy, also provides the policy basis for an ecosystem approach to the management of human activities.

In the European approach there is a strong link between MSP as planning instrument and related marine policies as well as sectoral policies (covering environmental policies as well as policies referring to specific maritime economic sectors). As defined by UNESCO-IOC, MSP is described as:

> «a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process.» (Ehler and Douvere, 2009)

In MSP, management of human activities in the marine environment requires that the spatial and temporal management measures enable human activities while protecting significant elements of the environment which include ecosystem services that are valued by people. Such management measures are not only based on the environmental concerns. They also include sector specific operational and safety requirements stipulated in legislation, policy and/or standard operating procedures. Environmental concerns or constraints include the protection of ecosystem services and conservation of marine areas where requirements may be stipulated in legislation, policy and community engagement.

Therefore, MSP is primarily an exercise that brings together complex sector and environmental policy frameworks with future development objectives. In addition to engagement activities with stakeholders, maritime spatial planning also requires substantial policy analysis in collaboration between the competent authority for MSP with other competent authorities, all working within a particular governance structure and underpinned by scientific advisory processes.

The competent authority for MSP will be different across scales. Competent authority at national level is often delegated to a national ministry of environment, spatial   planning, agricultural, transport, or maritime issues. At the local level, relevant sector organizations will need to engage. At transboundary scales cooperation between relevant sector specific organizations may be required. At sea-basin level Regional Seas Conventions may provide guidance and advice on MSP. MSP at the high seas level may be non-binding but can still be effective by the inclusion of specific international conventions, inter-governmental organizations, Regional Fisheries Management Organizations, etc.

3.5.1 Tool: MSP Frameworks

There are many different approaches to developing marine spatial plans. The IOC-UNESCO guide (Ehler and Douvere, 2009) has been particularly influential, as it provides a standard methodology or step-by-step guide to MSP. This guide builds on number of good practices extracted from planning efforts worldwide. The guide lays 10 steps for MSP implementation. MSP does not lead to a one-time plan, as its steps are not linear but rather part of the continuing, iterative process that learns and adapts over time. In the EU context, BALANCE Project has proposed cyclical approach to MSP development (Ekebom, 2008).
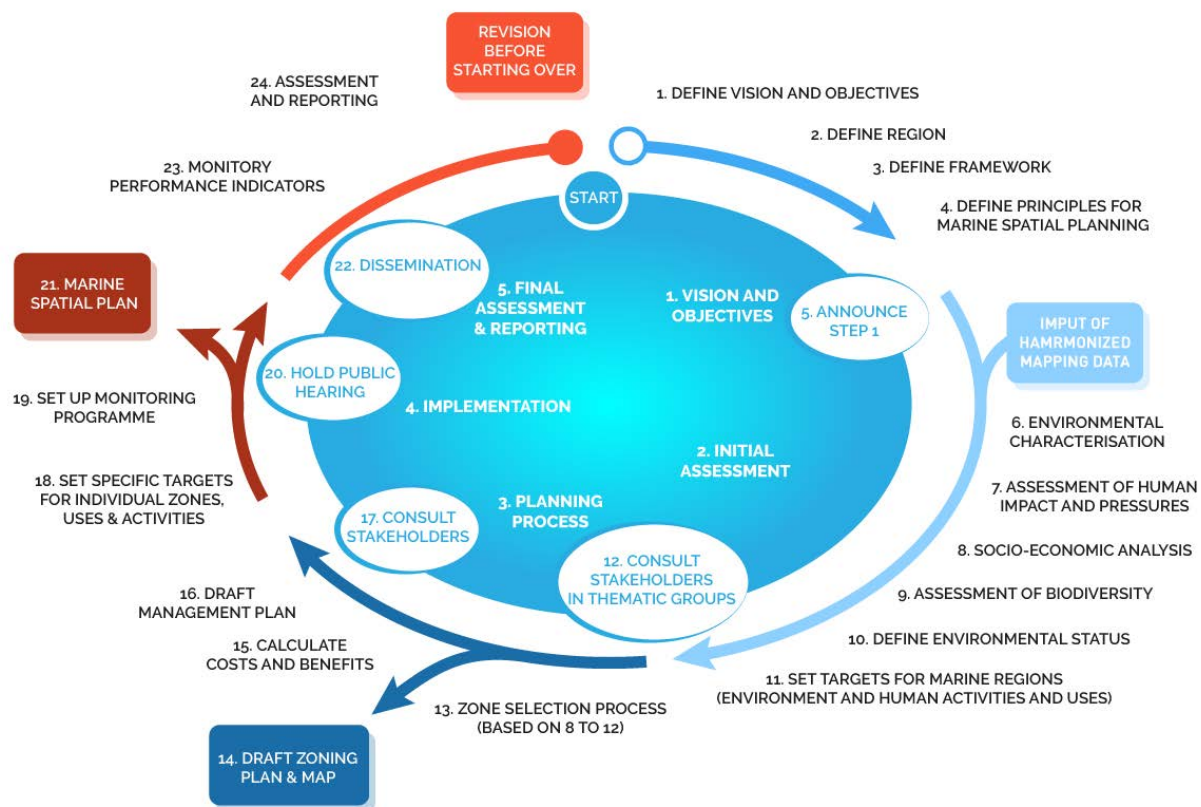
Figure 3.3 Planning cycle as developed by the BALANCE project (Ekebom, 2008)

Work by Gold et al. (2011), representing the consensus of an international working group, identifies a series of good practices for MSP process implementation. This study discusses steps in detail starting from initial conditions such as drivers, authority, efficiency, and financing, but also planning practices itself including stakeholder participation, data management, and plan development, and finally, implementation, monitoring and evaluation. Similarly, European Commission MSP Framework Directive recommends that MSP should cover the full cycle of problem and opportunity identification, information collection, planning, decision-making, implementation, revision or updating, and the monitoring of implementation, and should have due regard to land-sea interactions and best available knowledge. This full cycle approach to MSP is provided to Member States as general guidance on how to develop, implement, and monitor their MSP processes. However, no single approach fits all and "the form that maritime spatial planning takes varies considerably between, and even within, nations, but a number of characteristics are universal" (Jay, 2010).

In reality, the launch of an official national MSP process creates a substantial set of challenges, many of which somewhat coincide with the 'steps' defined in the IOC-UNESCO guidelines (Figure 3.4):

- Step 1 legislative and organisational structures and responsibilities need to be clarified;

- Step 3 processes for horizontal and vertical coordination across government (multi-sector / multi-level / multi-jurisdictional / land-sea), including the incorporation of departmental policy priorities, need to be established;

- Step 4 processes and formats for engaging with non-governmental stakeholders and communities need to be developed;

- Step 5 a common understanding of the ecosystem approach needs to be established;

- Step 5 an inventory of relevant data and their sources has to be drawn; processes and tools for collecting and analysing the data for MSP purposes have to be developed;

- Step 3 policy priorities for marine/maritime sectors have to be understood and MSP objectives have to be agreed; and

- Step 2 financing, resources and expertise have to be secured at a time where both individual as well as institutional capacities on MSP are lacking

These challenges are even more apparent when it comes to cross-border cooperation between countries within a given region. In particular, the EU MSP Directive calls upon Member States to ensure transboundary cooperation between those sharing a sea space and to promote cooperation with third countries. Within the Baltic Sea region, the HELCOM-VASAB MSP working group has adopted 'Guidelines on transboundary consultations, public participation and co-operation'. These are, however, not legally binding. Thus apart from the general obligations under UNCLOS, the Regional Sea Conventions and the ESPOO Convention, there is still so far no agreed framework on how to pursue cross-border consultation and cooperation with regard to MSP. Almost everywhere around the globe, bi- and multi-lateral mechanisms for sharing data, engaging with stakeholders and discussing priority policies across borders need to be established. Critically, these need to take into account that 1) countries have diverse planning cultures and governance structures, 2) different conditions and priorities, 3) are at varying stages of the MSP process (if it has at all started), and that 4) consultation for the coordination of specific marine spatial plans requires a different process to that needed for more general cooperation about MSP processes.
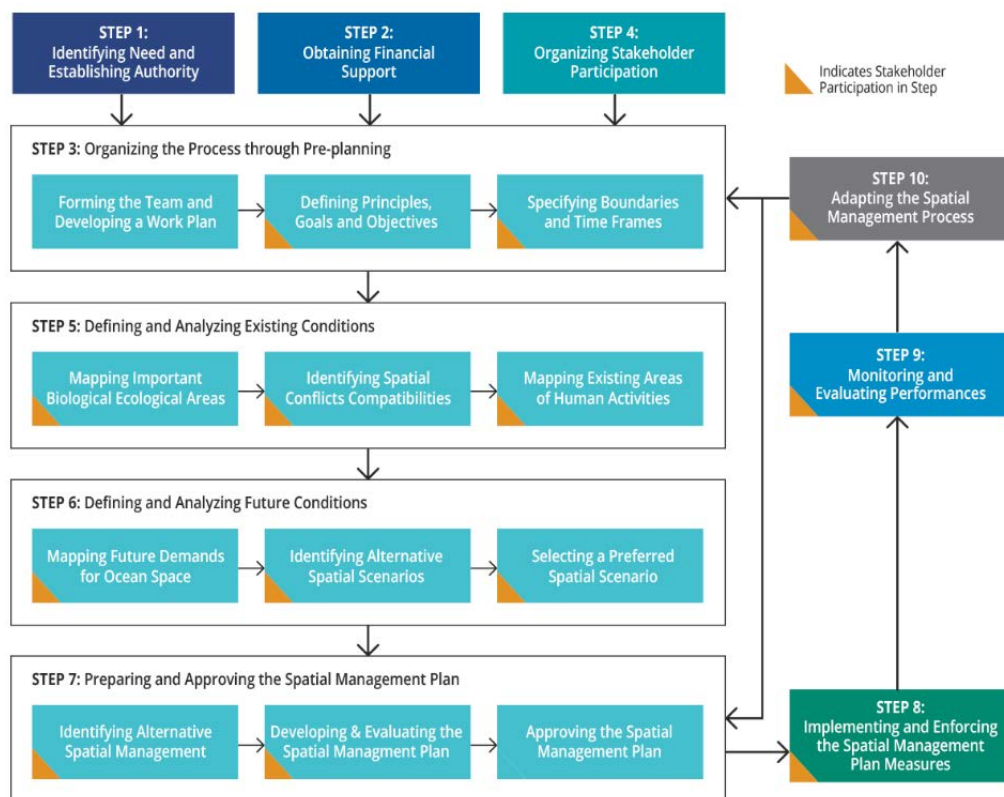

Figure 3.4 Step-by-step approach for MSP as outlined by IOC-UNESCO (Ehler and Douvere, 2009)

A specific ≫ **Marine Spatial Planning Toolkit** has been developed to provide an overview and practical tools to support MSP in LMEs. It focuses particularly on MSP across management boundaries.

3.5.2 Example: Marine Spatial Planning- Great Barrier Reef Marine Park

One of the pioneer examples of MSP is the Great Barrier Reef Marine Park (GBRMP), Australia and was established by the Great Barrier Reef Marine Park Act of 1975. The total area of GBRMP is 344,400 km². The GBRMP is one of the largest, richest, and most diverse marine ecosystems of the world. The reef spans a length of 2300 kilometres along two-thirds of the east coast of Queensland and represents about 10 percent of the world's coral reef areas.

The GBRMP brings billions of dollars into the Australian economy each year, and supports more than 50 000 jobs. The catchment area adjacent to the Reef comprises 22% of the Queensland's land area.

There are more than 70 traditional owner groups along the Reef coast and their custodianship extends to marine resources and the sea and islands. Due to its natural as well as historical significance the Park has been included in World Heritage list since 1981.

A comprehensive and adaptable spatial panning system exists to manage and protect the GBRMP. Spatial Planning is one of the cornerstones of the GBRMP's management strategy to maintain the biological diversity and ecological systems that create the marine park and to manage the impacts of increasing recreation and expanding tourist industry and to manage the impacts of risks of pollution and shipping. Zoning in the GBRMP is a legislative instrument in its own right as well as being the key to its planning.

The adoption of the *Great Barrier Reef Marine Park Act* 1975 (hereinafter the *Marine Park Act)* is a significant milestone in that it provides a strong legislative basis for the protection and management of marine and coastal resources in the Reef region. In addition, various complementary plans and policy guidelines have been adopted subsequently to provide better protection of the ecosystem in the Region.

The *Marine Park Act* provides a special regime of conservation and multiple use of the Reef which 'includes spatial management of a large marine ecosystem through zoning with powers to deny, or impose limiting conditions on, use of or entry to all part of marine commons with in the Marine Park'.
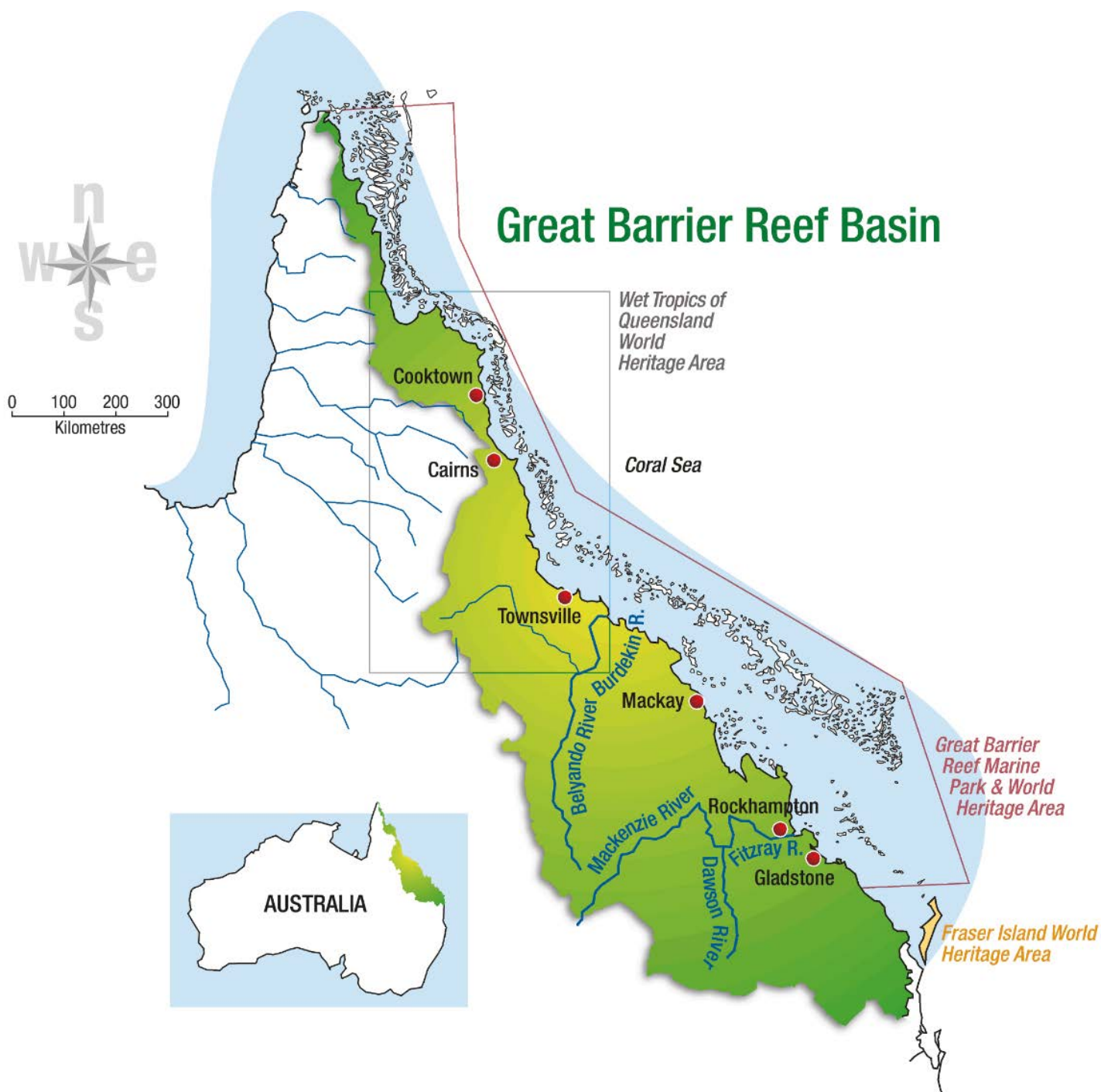
Figure 3.5: Boundaries of the Great Barrier Reef Basin

4. Regional Ocean Governance

4.1 Scale of governance in LMEs

Governance in LMEs occurs at a variety of scales including the local, national, regional and global level. For "good" ocean governance, coordination is needed between all levels of implementation. Policies and institutions at different spatial scales may sometimes conflict or require alignment. Cultural differences may also need to be addressed at the different spatial scales. For example, indigenous peoples often have different rights and management roles in different countries. Some countries have delegated management or co-management of protected areas to indigenous people, while others provide a more limited role, such as consultation or public comment.

Local

LME governance at the local scale acknowledges the need for community-based management, and the important role indigenous and local communities play in the co-creation of sustainable environmental policy making. Stakeholders have the knowledge and experience to contribute meaningfully to the management of ocean resources within an LME through the TDA process.

National

National level ocean governance occurs within one state and requires coordination between different actors including: the different ministries of the government (as the division of functions and responsibilities for ocean sectors may be among multiple ministries) and stakeholder groups, such as industry or environmental groups. Within national governments, National Intersectoral Committees, as a requirement of GEF IW Projects, can contribute to this coordination.

Regional

At the regional (supra-national) scale, the scope of LME management becomes more complex. The focus is on cooperation among LME countries for management of transboundary issues. The UN Environment Regional Seas Programmes are an example of a platform for cooperation on specific environmental issues for countries sharing seas. The TDA/SAP process provides opportunities for regional level cooperation at the scale of LMEs. The

Coral Triangle Initiative is an example of a regional strategy that builds on national-scale implementation of coral conservation actions. Another example are the regional marine protected area networks (e.g. MEDPAN, NAMPAN, RAMPAO and CAMPAN) that link implementation at the site level to institutions and policies at the regional scale.

Global

The United Nations and its agencies are an important forum for ocean governance. The sustainable development goals, UN agency related global conventions, and other governance mechanisms provide important high-level frameworks for guiding the development of environmental policy at national and regional level. There are also several global conventions with independent secretariats that drive global and regional agendas. At the global level NGOs play an important role in agenda setting as well.

4.1.1 National Scale: National Intersectoral Coordination Mechanisms (NICs)

National Intersectoral Coordination Mechanisms are bodies that serve to coordinate policies and actions across multiple sectors to advance effective resource management in LMEs. These bodies can be legally or administratively established. Within a range of possible arrangements an effective NIC would:

- Involve stakeholders comprehensively; state actors - government agencies, parastatal bodies, non-state actors - NGOs, CBOs and academia, and private sector - from small to large enterprises;

- Promote an enabling environment that ensures opportunity and support for stakeholder participation and encourages change agents such as individual leaders and champions;

- Have a clear mandate that is at least administrative (politically endorsed) but preferably legal (for legitimacy and accountability) to ensure internal communication among stakeholders and a system for documentation of activities to promote transparency and responsiveness;

- Have an institutionalised mechanism for regular review, evaluation, learning and adaptation (for efficiency, effectiveness and responsiveness);

- Serve to integrate sectors and actors involved in marine affairs at the national level;

- Function as a two-way linkage between national and regional government processes;

- Address other functions specific to their scope and mandate, including using marine ecosystem-based approaches, social-ecological system frameworks, risk analysis and resilience or vulnerability concepts.

Some potential NICs may not be well matched to the needs of the LME. Issues of mismatches of scale and scope have impacts on NICs in several ways (See section 4.1.5). Despite the mismatches, NICs have the potential to expand and improve.

⊙ Report on the Survey of National Intersectoral Coordination Mechanisms

4.1.2 Example: National Intersectoral Coordination Mechanism (NIC) in the South China Sea LME

National intersectoral coordination contributed to project success despite international tensions in the South China Sea LME, providing a model for how NICs can be approached.

The South China Sea LME Project (mainly 2002-2008) was an early LME Project. Given the political tensions among countries in the region particular care was taken with setting up the arrangements for project implementation. There was the need to promote cooperation on environmental issues facing the South China Sea while ensuring that the treatment of these issues had no political implications for the countries, in particular for China's claim to most of the area.

National Component Committees, technical working groups, and inter-ministry committees were created to ensure representation and coordination between national coordinators, stakeholders, and government officials.

The relations between the national committees and the regional ones are illustrated in Figure 4.1.. The two-tiered structure was designed to provide separation between technical and policy discussions within the Project. The arrangement was determined by the Terminal Evaluation (TE) to have worked well. It was evident that participants in the various committees were clear on their roles vis-à-vis the other committees.
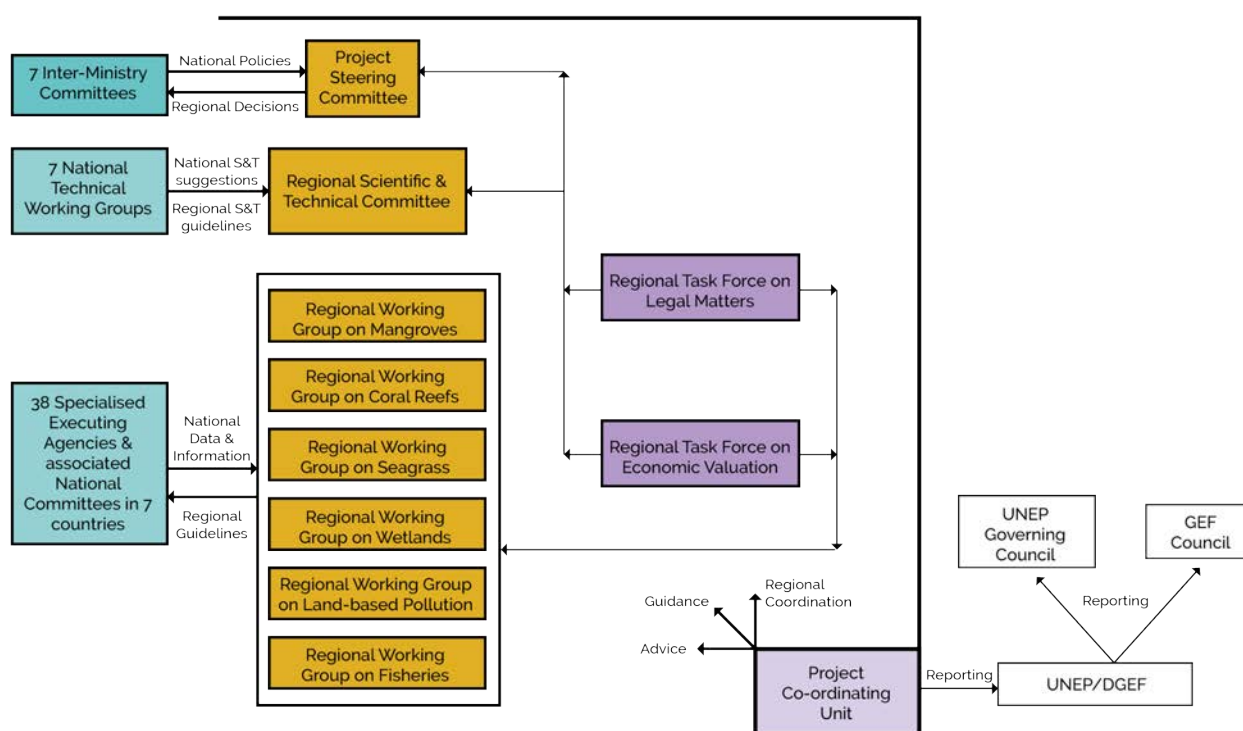
Figure 4.1. Arrangements for the South China Sea Projects showing the relations between national and regional committees (Source: Pernetta and Jiang, 2013)

➲ Environmental cooperation in the South China Sea: Factors, actors and mechanism.

➲ The South China Sea Project: a multilateral marine and coastal area management Initiative.

➲ Managing multi-lateral, intergovernmental projects and programmes: the case of the UNEP/GEF South China Sea project

4.1.3 Example: Connecting National and Regional Level Governance – National Implementation Committees in the Caribbean+ LME

Effective transboundary governance requires that national and regional levels be linked by transparent, accountable processes, such as that developed in the Caribbean+ LME (Figure 4.2). A survey across all CLME+ countries was conducted to determine the extent to which current practices followed the concepts in the model process. Countries rarely undertook the full process, with Stages 3 and 8 often omitted, with irregular feedback to stakeholders. *Ad hoc* informal committees met infrequently. Multi-stakeholder arrangements were recognized as important, but seldom implemented. Selecting an inappropriate representative was common and led to ineffective representation, together with inadequate representation of civil society /private sector. Weak NGOs and Community –Based Organizations (CBO) made communication challenging.

Regional National Local
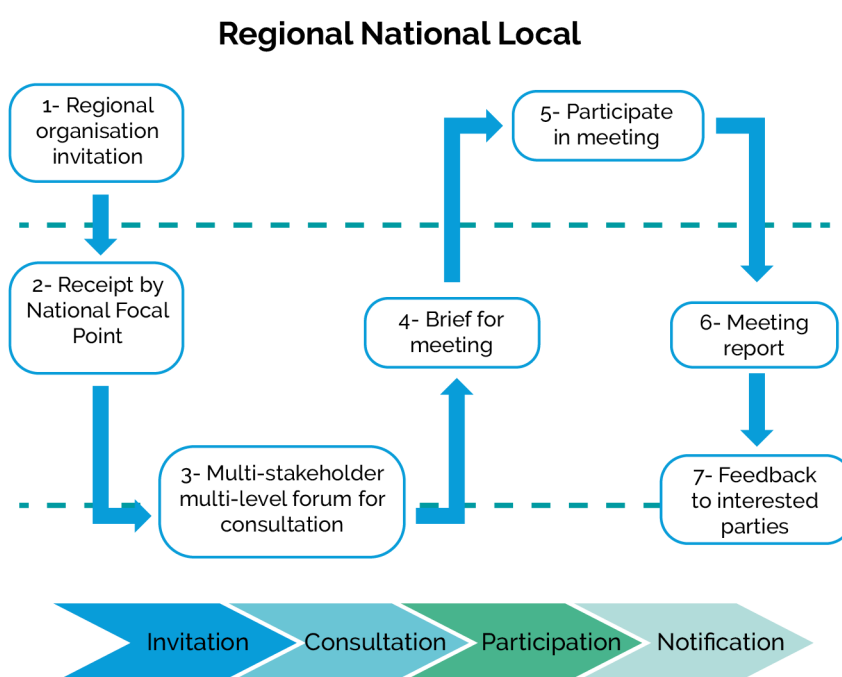
Figure 4.2 Model transboundary governance

Lessons learned in this example were:

- Structured processes are important for achieving effective multilevel governance and institutionalizing these processes ;

- Sectoral/fragmented approaches to regional processes are common, but reduce effectiveness ; and

- Informal relationships and social networks are key for communication.

⊙ Ocean governance in the Wider Caribbean Region: Communication and coordination mechanisms by which states interact with regional organisations and projects.

4.1.4 Tool: Analyzing Gaps in Institutions at the Regional Scale

This tool provides guidance to planners and managers in examining the extent to which the existing suite of governance arrangements in an LME or region covers the issues and geographical areas in need of governance with complete policy processes. Steps in the process are as follows :

- Identify the organizations involved in governance of coastal and marine issues in the region ;

- Review the scope of each organisation in terms of issues (e.g. various fisheries, types of pollution and habitat degradation), and geographical areas covered is reviewed using the establishing agreements, by-laws and information provided through their websites. In addition the review examines which stages of the policy cycle (Figure 1) the organisations have a mandate to engage in;

- Develop matrices to summarize findings and reveal gaps and overlaps in processes and mandates; and

- Facilitate a discussion among regional organisations of their respective roles in regional ocean governance and what can be done to fill gaps or minimize overlaps.

This analysis can also be carried out on the basis of the actual work of the organisations to provide a comparison of their mandated and actual activities. The application of this approach in the Wider Caribbean Region can be found in Mahon et al. (2013). See **figure 2.1.**

This process was applied in the Wider Caribbean Region, and revealed a number of gaps and overlaps in terms of both mandate and geographical coverage. These were considered in developing the Regional Ocean Governance Framework and CLME+ SAP

➔ CLME+ Strategic Action Programme (SAP)

➔ Governance arrangements for marine ecosystems of the Wider Caribbean Region

➔ Assessing and facilitating emerging regional ocean governance arrangements in the Wider Caribbean Region

4.1.5 Example: HOPE: Healthy Oceans, People and Economies—Ocean and Coastal Governance in the Seas of East Asia

The East Asian Seas (EAS) is a region covering 14 countries and 6 LMEs: the East China Sea, Yellow Sea, South China Sea, Gulf of Thailand, Sulu-Celebes Sea and the Indonesian Seas. To address the alarming degradation of their seas, coasts and estuaries, the collective response of these countries' governments was the crafting and adoption in 2003 of a regional marine strategy known as the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA). The countries were able to accomplish this by utilizing the platforms of the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).

PEMSEA is an international organization specializing in integrated coastal and ocean governance and acts as a regional mechanism in active collaboration and partnerships with its 11 country and 21 non-country partners: a Partnership Model. This was a different track from that taken by most other regions, which were able to forge legally binding conventions and agreements. The collaborative networks or partnerships established by PEMSEA at the local, sub-regional, and regional levels brought about consensus among the partners of the shared vision, mission, objectives and action programs in the implementation of SDS-SEA.

The region's SDS-SEA has been contributing to achieving the goals of key international agreements and action plans, including Chapter 17 of Agenda 21, The UN Millennium Development Goals (MDGs). With the recent adoption of the UN Sustainable Development Goals (SDGs) in 2015, the SDS-SEA had been re-framed to implement HOPE: Healthy Oceans, People and Economies

At the local level, the principal vehicle used by PEMSEA for addressing the sustainable development objectives and targets identified in SDS-SEA is Integrated Coastal Management (ICM). From 1994 to 2014, PEMSEA established ICM sites in 26 locations, demonstrating the value of ICM and building capacity for expansion to other locations. Building on the experience gained at these sites, PEMSEA's partner countries began expanding in 2015 to 31 additional sites around the region, in collaboration with local governments (see Figure 4.3). PEMSEA developed the State of the Coasts (SOC) reporting system to operationalize monitoring and evaluation (M&E), which was tested in several of its ICM sites. The SOC evaluates 35 core indicators covering the governance elements and sustainable development aspects of each local government. The SOC is developed through a stage-wise, multi-sectoral and consultative process.

1993: **<1% of the region's coastline**
2 ICM sites (2 countries)
Total coasline: 286 km
Total population: 2.9 million
Watershed area: 3,026 km2
Focus: marine pollustion prevention and management

Covering a total of 7 million km2 of sea area, drained by 8.6 million km2 of major river basins (mekong, yangtze, Yellow and Red)

Geographic Scaling up of region's coastline under ICM (1993 to 2016): 17% (2017 to 2021): 25%

2016: **<17% of the region's coastline**
>40 ICM sites (12 countries)
Total coasline: 31,000 km
Total population: 146.8 million
Watershed area: 331,546 km2
Focus: coastal ocean governance, habbitat restoration and management/MPAs, climate change adaptation/distaster risk reduction, sustainable ficheries, alternative livelihoods, integrated river basin and coastal area manangement
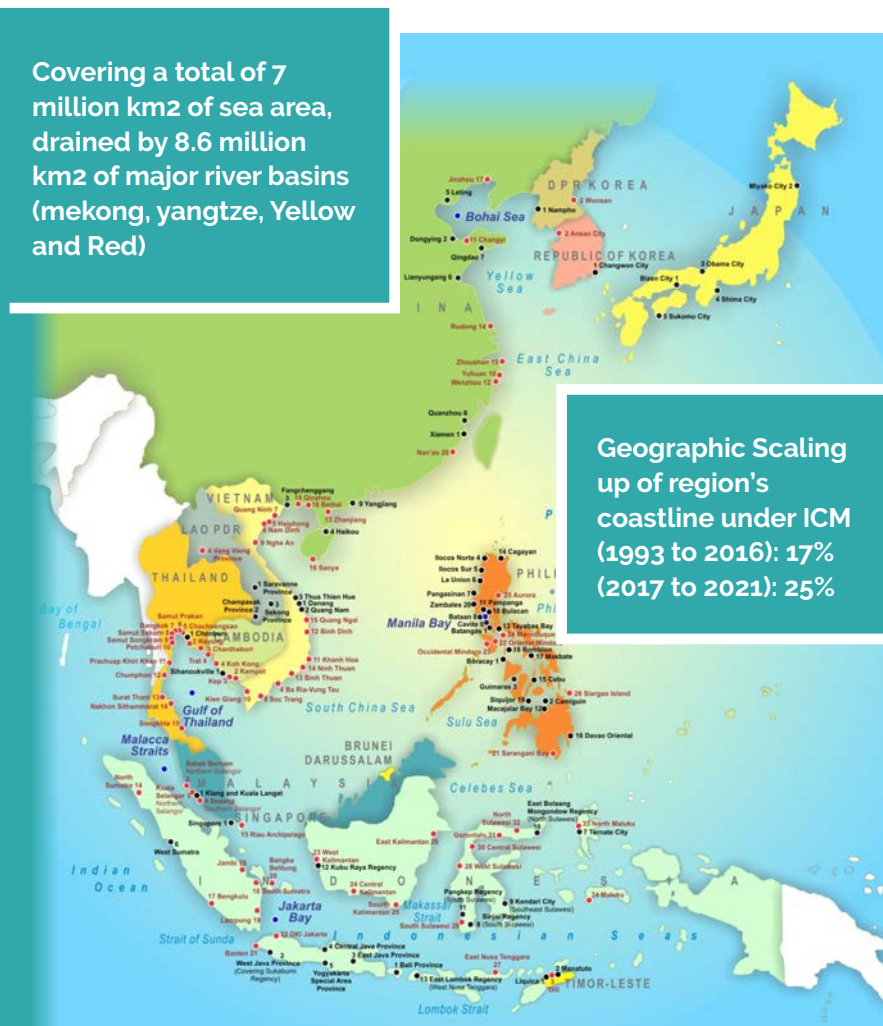
Figure 4.3: ICM replication and scaling up in the EAS region

5. Effective Governance – Achieving Our Goals

5.1 Effective governance

While good governance is the "what" of what we aim to achieve, effective governance is the "how" of accomplishing this, including implementation, compliance and enforcement. Compliance and enforcement are key components of effective LME governance. However, these actions are usually taken at the national scale, and benefit from trans-boundary cooperation to address large LME scales. This can be accomplished through measures such as joint management agreements that include provisions on cooperative compliance and enforcement. New "big data" tools, such as monitoring global fishing via satellite, offers new opportunities for collaborative enforcement.

⊙ Global Fishing Watch

5.1.1 Examples: Compliance through communication

5.1.1.1 London Protocol

The 1996 London Protocol (1996 Protocol to the Convention On the Prevention of Marine Pollution By Dumping of Wastes and Other Matter, 1972) has a set of Compliance Procedures and Mechanisms, pursuant to Article 11, which includes the establishment of a subsidiary body - the Compliance Group - that meets in parallel to the Meeting of Contracting Parties and provides advice to the Parties on compliance matters. The Compliance Group was established in order to assess and promote compliance with the London Protocol, with a view to allowing for the full and open exchange of information, in a constructive manner. For further information see:
⊙ http://www.imo.org/en/ourwork/environment/lclp/compliance/pages/default.aspx

5.1.1.2 Barcelona Convention

IIn order to support and assist Contracting Parties to meet their obligations under the Barcelona Convention (BC) and its related Protocols, the Compliance Committee of the Barcelona Convention, as a subsidiary body, has been established with the aim to facilitate, promote, monitor and secure compliance with the BC legal framework. The Committee considers cases submitted by a Contracting Party, regarding its effective or potential situation of non-compliance with obligations, or regarding a situation of non-compliance on the part of another Party. The Compliance Committee must report its findings to the Contracting Parties, but it may not apply sanctions. Instead, it may take steps to facilitate compliance, such as giving advice, requesting an action plan to bring the Party into compliance or making recommendations to meetings of the Contracting Parties on cases of noncompliance. For further information see ⊕ Compliance Procedures and Mechanisms under the Barcelona Convention and its Protocols

5.2 Assessing governance

The comparative analysis of governance assessment among International Water (IW) categories is most easily approached using a common framework for discussing governance assessment. This framework facilitates the development of appropriate indicators for its various parts. There are several frameworks that can be drawn upon, for example, the Institutional Analysis Framework, Interactive Governance Approach, the International Lake Ecosystems Committee (ILEC) six pillars approach, Governance Framework, the TWAP Open Oceans/LME modified DPSIR, and the expanded GEF IW indicator framework developed for the Caribbean Large Marine Ecosystem Project. These frameworks range from highly conceptual to operational. They are not mutually exclusive or independent and have many common elements.

In the case of Transboundary Waters Assessment Programme (TWAP) there is the need to have a practical framework that can be used to operationalize governance assessment. Some desirable characteristics of such a framework include:

- Easy to understand, so that it is clear what the selected indicators cover and what they do not;

- Comprehensive, so that the indicators cover all the aspect of governance that should be addressed;

- Well-grounded in governance thinking and concepts; and

- Connected with actions that can be taken to improve governance.

For the comparative analysis of governance assessment in the TWAP, the GEF IW indicator framework was considered to be the most appropriate. It appears to meet the criteria listed above.

(Adapted from the Transboundary Waters Assessment Programme (TWAP) Crosscutting Governance Working Group Report).

5.2.1 Tool: The GEF Transboundary waters assessment framework

The assessment of governance arrangements and their effectiveness is complex and can be facilitated by a framework of appropriate indicators. The GEF IW indicator framework provides thematic assessment approach appropriate for monitoring interventions and may lead to proposals for corrective measures.

To facilitate evaluation, one perspective is to break what governance is expected to achieve into three components:

- "Outputs", which are the arrangements that are put in place to achieve governance;The second is 'outcomes' which represents changes in the behaviour of people that are the target of the arrangement.

- "Outcomes", which represent changes in the behaviour of people that are the target of the arrangement; and

- "Impacts", which represent changes in the state of the system that is the target of the arrangement.

Other assessment frameworks allow for considerations to be made regarding both interventions and the assumptions underlying those actions with focus on the entire management cycle and ensuring that mechanisms are in place within the governance architecture to allow for adaptation, should the desired outcomes not be achieved.

For example, four orders of outcomes can be considered (Olsen, 2003):

1	Enabling conditions
2	Changes in behaviour
3	Improvements in the system
4	Sustainability achieved

Similarly, considers four categories of indicators needed to assess governance of coastal and ocean systems could also be considered:

1	Inputs;
2	Processes;
3	Outputs; and
4	Outcomes.

Coverage across different components of the management cycle is needed in order to, identify which elements of management to adapt. These components can be assessed separately with appropriate indicators. They should also be assessed in sequence, as it is likely that there will be time lags in changes in them. This perspective is consistent with the formulation of the GEF IW programme approach to evaluation of its projects and interventions, which has been based on the following categories of indicators: (1) process indicators (2) stress reduction indicators and (3) environmental status indicators (4) governance architecture (5) stakeholder engagement, (6) social justice and (7)

human well-being. The latter three are in tandem with those for environment (Figure 5.1). Governance architecture, is included because assessment of the indicators will be dependent upon the institutional structure in place to facilitate decision- making, planning, and implementation.

The view that an appropriate governance structure is a necessary but insufficient condition for successfully achieving improved human well-being, led Mahon et al. (2013) to call for the assessment of governance architecture to precede the assessment of governance process. This distinction is considered to be particularly important in the case of multilevel nesting typical of international environmental governance systems. Governance architecture is "...the entire interlocking web of widely shared principles institutions and practices that shape decisions by stakeholders at all levels in this field". (Biermann and Pattberg, 2012).
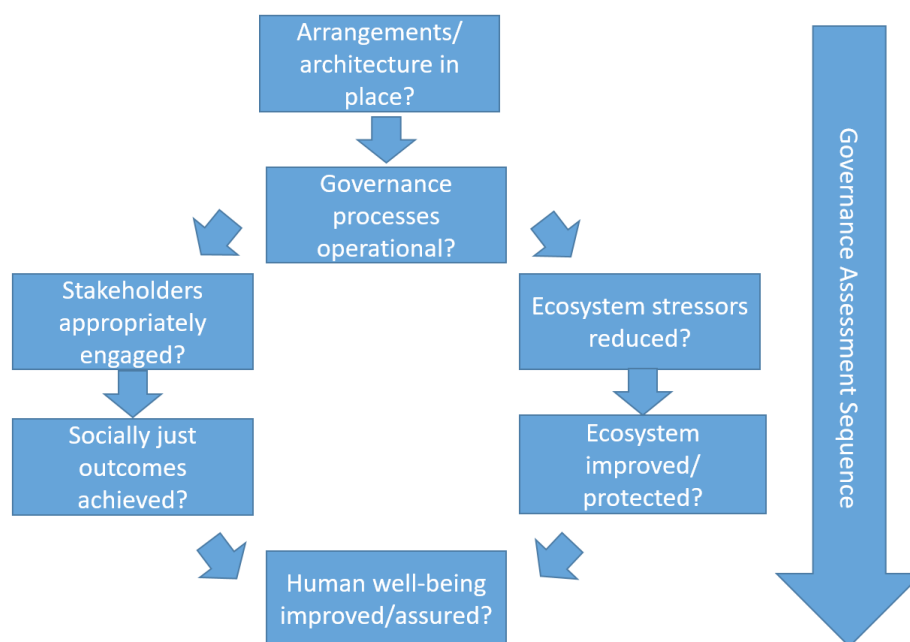

Figure 5.1: The GEF IW indicator framework (adapted from Mahon 2013).

The GEF IW indicator framework provides for the full set of indicators needed for a comprehensive governance assessment (Figure 5.1). The seven indicator categories cover the two major aspects of such an assessment:

- a) Determining if governance arrangements and processes have been set up in a way that is consistent with accepted institutional norms and practices (architecture, process, engagement) - namely whether 'good governance' is in place;

- b) Determining if the governance practices have achieved what they were established to do (ecosystem pressure, ecosystem state, social justice, human well-being) – namely whether there has been 'effective governance'.

Ultimately, 'good governance' characteristics might be expected to produce better governance results. However, the state of governance research is such that it is not possible to be definitive about the relationship between 'good governance' characteristics and governance effectiveness. Nonetheless, 'good governance' characteristics are often cited as being desirable attributes of governance architecture and processes in their own right (Lemos and Agrawal 2006, Lockwood et al. 2010).

The indicators categories shown in Figure 5.1 form an assessment sequence. The indicators in the earlier (upper) categories will be verifiable sooner after implementation than the later (lower) ones. Ecosystems may take decades to respond to reduced pressures; and changes in human well-being is only likely to occur after ecosystem and social justice outcomes have occurred. A further complication is that as one moves down the sequence it will be more difficult to demonstrate cause and effect between interventions, outcomes and impacts. It will often be clear that a process outcome (plan or regulation) has led to a pressure reduction. However, tracking the effects of a pressure reduction on system state or of system state on well-being may be more difficult due to confounding factors that are external to the intervention that is being assessed.

5.2.2 Using the indicator framework

An indicator shows if there has been some changes in a selected attribute of the system being monitored. The indicator should have directionality so that it shows whether the attribute is improving or deteriorating. Ideally, an indicator should have target or threshold values which are to be aimed for or to be avoided. However, when the state of an attribute is clearly undesirable, identifying the direction of change needed for improvement may be enough to guide governance action until targets can be determined. Even when the same indicators are used in different IW systems, the target levels must be situation specific and may differ among instances.

Indicators can be used as a monitoring tool to provide the feedback necessary to measure progress toward stated management goals and objectives. In contrast, indicators used for evaluation provide insight into the effectiveness of the stated goals and objectives. These assessments are essential to adaptive learning within complex coastal systems as the findings may reveal information leading to a rerouting, rereading and reinterpretation of the stated goals and objectives.

In order to ensure that there is comprehensive assessment of both good governance and effective governance within a transboundary water system, indicators should be developed and monitored in each of the seven categories (Figure 5.1) for each issue identified as being of concern in that system. Adequate coverage of an indicator category may require more than one indicator. Consequently, in developing a governance assessment or monitoring programme, it may be necessary to consider subcategories of the indicator for each category.

⊜ Governance of Protected Areas: From understanding to action

⊜ How is your MPA doing?

5.3 Communicating with policy-makers

Policy-makers are the people whose decisions and opinions have the ability to directly influence law, and binding regulations. These may include: elected officials, parliamentarians, ministers, parliamentary committees, civil servants, scientific or political advisers and members of regional assemblies and local authorities.

There is a considerable body of research literature on the use of science in decision-making. Frequently, disconnect between suppliers and users of technical information is identified. There are many reasons for this, but the primary one is that the suppliers of information do not invest enough time (oftentimes they are not motivated to) in understanding the demand and engaging with the processes that transforms this information to decision-makers. Moreover, technical programs and projects often develop a considerable amount of information and scientific knowledge that is not adequately used in developing policy and making decisions.

When presenting evidence and messages aimed at influencing policy it is important to consider:

1	Policy-makers ability to interpret evidence. (Do they have the necessary data analysis skills?)
2	Organizational and structural barriers to uptake of evidence. (Is the timeframe for decision making aligned with the delivery of the evidence or project outcome); and
3	Policy-makers may be influenced by quantitative vs. qualitative evidence in unexpected ways. (Will the hard data or anecdotal evidence be more compelling?).

There are numerous avenues available to influence policy with the best available scientific information. These range from getting the ear of the Minister or his technical adviser at a cocktail party, or in the corridors of a meeting or conference, to taking the information through a well-structured and established science policy process. From a good governance perspective, the latter mechanism is preferable. If well structured, it should provide for transparency, inclusivity, accountability, and adaptiveness (among other desirable characteristics). Economic information is particularly important to decision-makers (see information on the ➤➤ **Economic Toolkit in Section 2.4.1**

A complete policy process would involve the capacity to:

1	generate or access data and information;
2	analyse data, information and advice;
3	take decisions;
4	implement what has been decided upon and
5	review the effectiveness of what was implemented as a basis for future advice.

Ideally, decisions taken will be binding. In LME or transboundary context, the decision-making part of the policy process must be well connected with the countries comprising the LME. In order to achieve decision-making that is binding upon the countries, it is desirable that the policy processes be linked with or embedded within regional intergovernmental organisations that have full membership of the countries within the LME. The regions will also often have indigenous multipurpose organisations, usually oriented towards economic integration, which Regional Sea/LME projects could engage with to acquire support, consult and legitimize processes and decisions.

➔ British Ecological Society top 10 tips for engaging with policy-makers
....

➔ Example of a publication tailored for policy-makers: Large Marine Ecosystems status and trends summary for policy-makers
....

5.4 Tool: Soft Law – policy drivers

Soft law (written soft rules) and informal governance (unwritten rules), while non-binding, can be of greater influence on human behaviour than formal governance mechanisms. Decision-making at an individual and community level commonly reflect local values and perceptions that can shape attitudes and actions. When these actions build social capital then group behaviour can become powerful in determining locally agreed rules, for example, compliance with marine protected area regulations. Social capital can simply be described as social relations that collectively produce benefits greater than the sum of the parts. In coastal communities, especially those that are remote or isolated from the main population or are located far from those enforcing regulations, social norms will play a major role in determining likelihood of rule-breaking or compliance with both formal (e.g., fishing restrictions in marine protected areas) and informal (agreed shared benefits from access to marine resources) governance mechanisms on a day-to-day basis. Thus when considering the relationship between governance effectiveness and marine management efficacy, understanding the role of informal governance and soft law is critical to choosing measures more likely to be supported.

The role of soft law in linking marine regulatory commitments with what is enforceable locally has not been given the attention needed. While most marine policy describes itself as "science-based," social science is frequently not incorporated into policy and legislation. To illustrate, ICES (International Council for the Exploration of the Sea, advice for fisheries policy is based on annual fish stock assessments, based on ecosystem and fisheries data, stock distribution, assessment model, forecast method and reference points.

ICES, like many organisations and governments worldwide are increasingly recognizing the value of using interdisciplinary teams and methods to consider the human dimension in marine governance. Therefore, more effort is being placed on the integration of social and economic sciences into marine policy making. Socio-political considerations should cover the whole range of stakeholders and their type of involvement in the establishment and operation of managing marine resources. Specialized training is needed on interdisciplinary science methods for marine policy advice. A lack of understanding about linkages between decision-making by different actors and stakeholders and between different levels at which decisions are made (local industry, national jurisdiction authority and international conventions/treaties) can lead to fragmented and weak governance systems (Krause and Stead, 2017).

One way to visualize these linkages is to create a governance framework to facilitate decision-making. Governance frameworks that integrate social, economic and environmental information (e.g., see Krause et al., 2015) can help define responsibilities and duties, so that different demands and practices of the involved parties can be considered. To illustrate, the United Nations Food and Agriculture Organisation's (FAO) Code of Conduct for Responsible Fisheries (CCRF) – developed in 1991 and adopted in 1995 - is an example of a voluntary framework. It was developed to help focus national and international efforts in establishing principles and standards applicable to the sustainable exploitation of aquatic living resources in harmony with the environment. The principles of the FAO Code, include the nutritional, economic, social, environmental and cultural importance of fisheries and interests of those associated with this sector. It also considers the biological characteristics of resources and their environment with impacts on consumers and other users. Although the Code is voluntary, parts of it are based on relevant rules of international law, including the UN's Convention on the Law of the Sea. This code helps individual States develop their own policies and governance to develop responsible fisheries management, and to provide guidance on the formulation and implementation of international agreements. The FAO Code of Conduct for Responsible Fisheries inspired other sectors such as the European Aquaculture Sector to establish its own common framework to promote self-regulation, another type of soft law. Complimentary guidelines to the CCRF is the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries.

Recognising that policy drivers will change over time and inform marine management actions for the future, complexity in decision-making is likely to increase where there are demands from multiple users of the same coastal and ocean space. Ideally, expected changes to the social, economic and marine ecosystems should be considered in advance of policy formulation and management developments so that governance systems can be tailored to the context-specific needs of different locations.

→ The FAO Code of Conduct for Responsible Fisheries

→ Guidelines for Securing Sustainable Small-Scale Fisheries

→ European Aquaculture Sector – FEAP Code of Conduct

5.5 Marine Protected Areas

Marine Protected Areas (MPA), Marine Spatial Planning (MSP) and Integrated Coastal Zone Management (ICZM) are ocean governance tools or practices that can be applied at a range of spatial scales from local to regional. They are also connected. ICZM focuses on the land/sea interface of the coastal zone, addressing such issues as watershed management, coastal access, coastal industries, land use planning, and coastal habitat conservation and management. MSP takes a similarly comprehensive look at spatial planning in the ocean environment. Both ICZM and MSP may identify the need for MPAs as tools to protect important habitats, features or species.

MPAs refer to areas in the coastal and marine environment that have been designated for long-term protection. There are many types of MPAs, ranging from marine reserves, which prohibit all extractive uses (e.g. fishing, mining, oil and gas production) to multiple use MPAs that allow a wide range of uses that are compatible with long-term conservation. The Convention on Biological Diversity and the UN Sustainable Development Goal 14 both call for countries to conserve 10% of marine and coastal waters in representative, effective MPA networks. MPA networks can multiply the conservation benefits by sizing and spacing individual MPAs to allow for the export (or "spillover") of marine larvae and juvenile fish outside MPA boundaries, serving as "stepping stones" of similar protected habitats as species ranges may shift with climate change, and serving as "insurance policies" in case of catastrophic impacts to a single MPA, such as an oil spill or ship grounding.

Effective governance of an MPA is necessary to achieve biodiversity conservation objectives and social economic development.

5.5.1 Tool: Enabling effective and equitable Marine Protected Areas: guidance on combining governance approaches.

This introductory guide provides insightful and evidence-based advice on how to approach the governance of marine protected areas (MPAs) to promote conservation, sustainable use and the sharing of marine resources. It includes practical guidance on how to effectively approach marine protected area governance as well as tackling the difficulty in translating and implementing decisions made at the international level to a local context. Effective governance in MPAs is important to achieve conservation and ecosystem services goals.

⊙ Enabling effective and equitable Marine Protected Areas: guidance on combining governance approaches
   UN Environment/Blue Solutions (forthcoming publication – link to be inserted)

5.5.2 Example: Capacity shortfalls hinder the performance of marine protected areas

Marine Protected Areas (MPAs) have become an important tool to protect marine biodiversity. A recent global study examined MPA performance and how MPA management influences ecological outcomes and found that MPA management processes remain very weak. Only 51 percent of MPAs said that local stakeholders had direct involvement in decision-making, and a mere 9 percent of MPAs reported adequate staff to carry out critical management activities (Figure 5.2).

Although 71 percent MPAs had positive impacts on fish populations these ecological impacts were highly variable. Of the ten management indicators, staff and budget capacity were the most important factors in explaining the variation in fish population impacts in 62 MPAs where both management and ecological data were present (Figure 5.3). The strong correlation between capacity and other key management activities (e.g. enforcement, monitoring), indicate that capacity shortfalls are likely to be limiting the potential of many MPAs around the globe from achieving their conservation and management objectives.

While the global community focuses on expanding the current MPA network, these results emphasize the importance of meeting capacity needs in current and future MPAs to ensure the effective conservation of marine ecosystems.

⊙ Capacity shortfalls hinder the performance of marine protected areas globally

5.6 Example: Identifying Good Practices in National Intersectoral Coordination Mechanisms (NICs) in the Caribbean and North Brazil Shelf (CLME+) LMEs

The National Intersectoral Coordination Mechanisms (NICs) across the CLME+ region (CLME and NBS LMEs) provide an example of best practice. The Inter-ministerial Commission of Sea Resource (CIRM; with a secretariat and four working groups), the Caribbean Fishery Management Council (CFMC; responsible for the creation of Fishery Management Plans for fishery resources in the US Caribbean EEZ of PR and the USVI), the Colombian Ocean Commission (CCO) (evolved from its naval focus on oceanography to a broader focus on sustainable development of oceans) and the OECS Ocean Governance Committees (OGC) are devoted to sustainable ocean governance in the region. In addition to member states participation of a large number of NGOs, civil society and private actors are involved in ocean and coastal zone governance in a very inclusive, participatory, consultative and coordinating way in the region. This example illustrates that adaptation, as well as coordination of a diverse array of initiatives and developmental directions and sufficient institutional arrangements are important to achieve a good regional marine environmental future from short to medium-term projects.
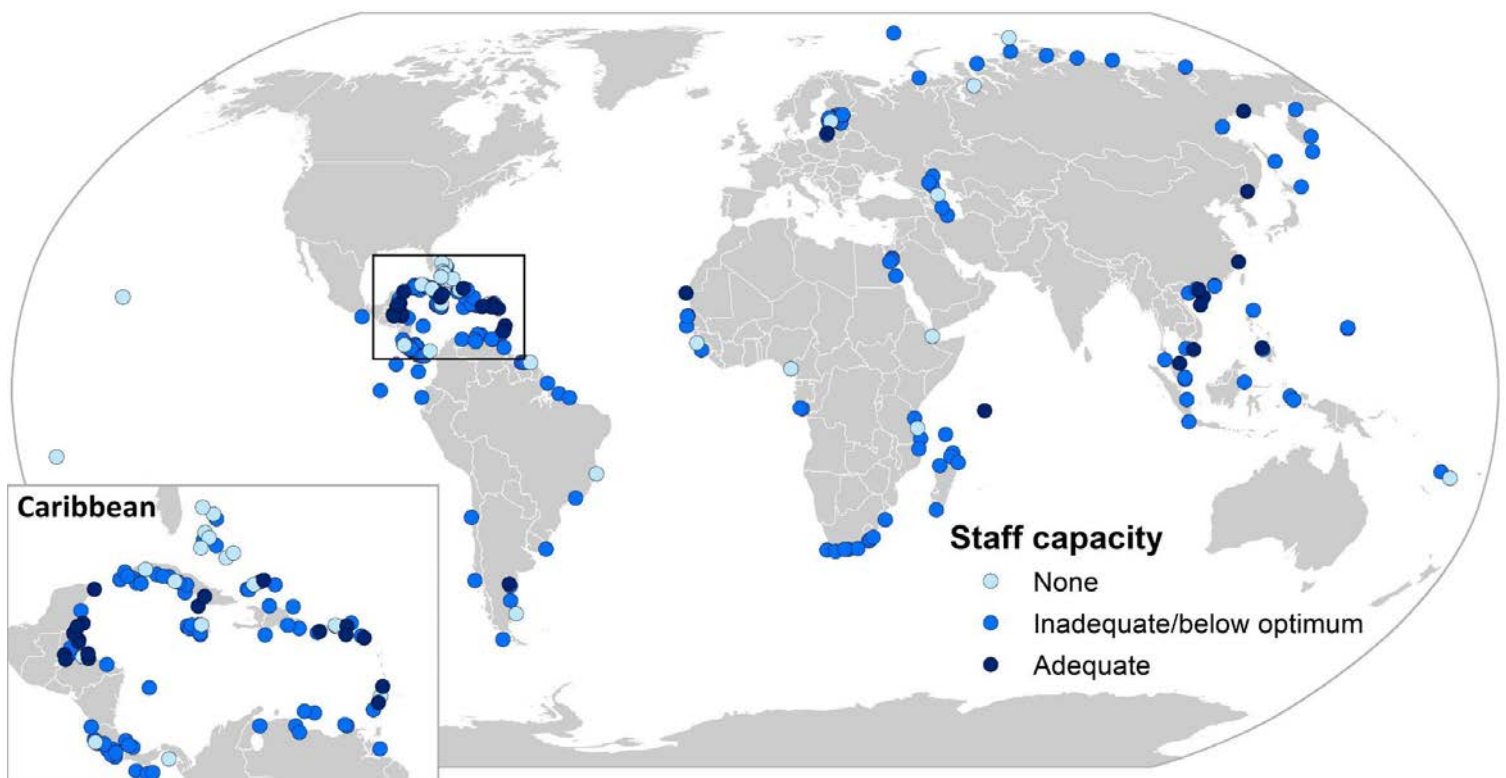

Figure 5.2 Only 9% of MPAs reported having adequate staff capacity to carry out critical management activities. Map from Gill et al (2017).
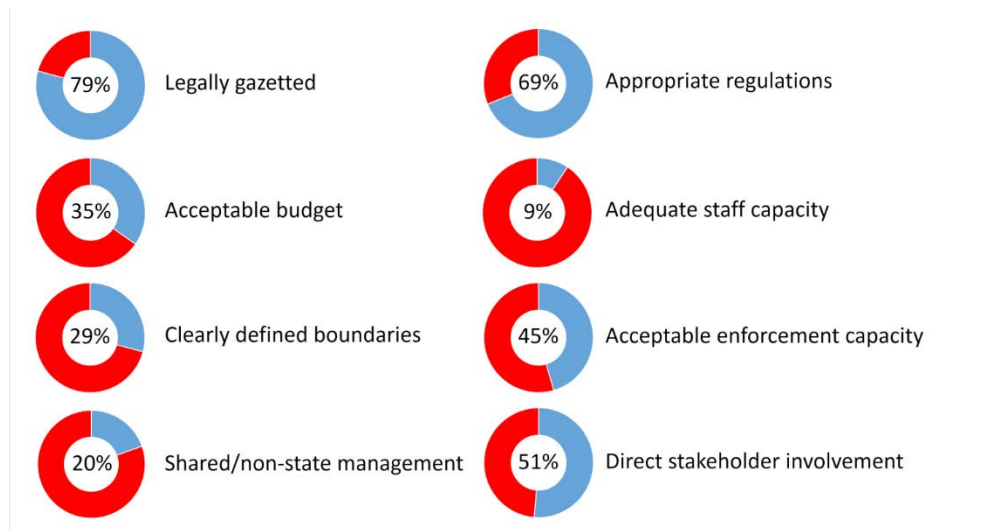
Figure 5.3 Percent of MPAs exceeding (blue) or falling below (red) threshold values for indicators of effective and equitable management processes.

→ Report on the Survey of National Intersectoral Coordination Mechanisms.

Glossary

TERM	DEFINITION	SOURCE
COASTAL AND MARINE SPATIAL PLANNING (CMSP)	A science-based tool that regions can use to address specific ocean management challenges and advance their goals for economic development and conservation. Governments can use marine planning to coordinate activities among all coastal and ocean interests and provide the opportunity to share information. This process is designed to decrease user conflict, improve planning and regulatory efficiencies, decrease associated costs and delays, engage affected communities and stakeholders, and preserve critical ecosystem functions and services.	NOAA
ECOSYSTEM APPROACH	The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.	https://www.cbd.int/ ecosystem/description. shtml
GOVERNANCE	A public and private interactions undertaken to address challenges and create opportunities within society. Governance thus includes the development and application of the principles, rules, norms, and enabling institutions that guide public and private interactions.	B Armitage D.R., Plummer, R., Berkes, F. , Arthur, R. I., Charles, A. T, Davidson-Hunt, I. J., Diduck, I. P., Doubleday, N. C., Johnson, D. S., Marschke, M., McConney, P., Pink-erton, E. W. and Wollenberg, E. K.. 2008. Adaptive co-management for social–ecological complexity. Front Ecol Environ; 6, doi:10.1890/070089
INFORMAL GOVERNANCE	Governance practices and arrangements practiced but not codified in text	

TERM	DEFINITION	SOURCE
INTEGRATED COASTAL MANAGEMENT	A constantly realized decision-making process with a view of sustainable use, development and protection of seaside terrestrial and coastal marine areas and their resources.	➔ http://www.unesco.org/csi/act/russia/legalpro5.htm
LARGE MARINE ECOSYSTEMS	Relatively large areas of ocean space of approximately 200,000 km² or greater, adjacent to the continents in coastal waters where primary productivity is generally higher than in open ocean areas. There are 66 defined LMEs globally, and to date, the GEF has supported sustainable governance of 23 LMEs in which multiple countries collaborate on strategic, long-term ocean governance of transboundary resources.	
MARITIME SPATIAL PLANNING	A public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process	➔ http://www.unesco-ioc-marinesp.be
SOFT LAW	Co-operation based on instruments that are not legally binding, or whose binding force is somewhat "weaker" than that of traditional law, such as codes of conduct, guidelines, roadmaps, peer reviews.	➔ http://www.oecd.org/gov/regulatory-policy/irc10.htm

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GEF LME:LEARN

GEF LME:LEARN is a program to improve global ecosystem-based governance of Large Marine Ecosystems and their coasts by generating knowledge, building capacity, harnessing public and private partners and supporting south-to-south learning and north-to-south learning. A key element of this improved governance is main-streaming cooperation between LME, MPA, and ICM projects in overlapping areas, both for GEF projects and for non-GEF projects. This Full-scale project plans to achieve a multiplier effect using demonstrations of learning tools and toolboxes, to aid practitioners and other key stakeholders, in conducting and learning from GEF projects.

PROJECT COMPONENTS

1	Global and regional network of partners to enhance ecosystem-based management and to provide support for the GEF LME/ICM/MPA projects to address their needs and incorporate climate variability and change considerations.
2	Synthesis and incorporation of knowledge into policymaking; capture of best LME governance practices; and development of new methods and tools to enhance the management effectiveness of LMEs and to incorporate ICM, MPAs and climate variability and change, including the five LME Approach modules.
3	Capacity and partnership building through twinning and learning exchanges, workshops, and training among LMEs and similar initiatives.
4	Communication, dissemination and outreach of GEF LME/ICM/MPA project achievements and lessons learned.

PARTNERS

GLOBAL ENVIRONMENT FACILITY

Through its strategic investments, the GEF works with partners to tackle the planet's biggest environmental issues. The GEF is the funding agency for LME:LEARN and the portfolio of projects we provide services to.

UNITED NATIONS DEVELOPMENT PROGRAM

UNDP works to eradicate poverty and reduce inequalities through the sustainable development of nations. UNDP works in cooperation with other UN agencies, the GEF, international financial institutions, regional organizations, NGOs, the private sector and others to improve water and ocean management and sustain livelihoods at local, national, regional and global scales through effective water and ocean governance. UNDP is the implementing agency for the GEF LME:LEARN project. .

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF THE UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION

IOC-UNESCO promotes international cooperation and coordinates programmes in marine research, services, observation systems, hazard mitigation, and capacity development in order to understand and effectively manage the resources of the ocean and coastal areas. IOC-UNESCO is the project executor and contributes capacity building, technical knowledge, data and information exchange, project management, and project sustainability.

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

IUCN provides public, private and non-governmental organizations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together. IUCN is responsible for development of the Environmental Economics toolkit and the LME Hub on the GEF LME:LEARN website.

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA

ICES is a global organization that develops science and advice to support the sustainable us of the oceans. ICES is responsible for the Governance Working group, delivery of the Governance Toolkit, organization of training courses and dissemination of best practices.

CONSERVATION INTERNATIONAL

CI is a nonprofit environmental organization with a goal to protect nature as a source of food, fresh water, livelihoods and a stable climate. CI is responsible for the development of the toolkits on Stakeholder Participation and LME Assessment, as well as developing a guide on planning and implementing comprehensive marine management capacity development.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (U.S)

NOAA is an agency of the U.S. Department of Commerce that enriches life through science. NOAA has a diverse range of diverse skills and expertise that it shares as part of their continued science and technical support of LME projects and other related capacity building activities for ecosystem-based approaches in the management of coastal and marine resources.

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