THE STRATEGIC ACTION PROGRAMME FOR THE SUSTAINABLE MANAGEMENT OF THE SHARED LIVING MARINE RESOURCES OF THE CARIBBEAN LARGE MARINE ECOSYSTEM AND ADJACENT REGIONS

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ACRONYMS AND ABBREVIATIONS

BPOA	Barbados Programme of Action
CARICOM	Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CBO	Community-Based Organisation
CCA	Causal Chain Analysis (CLME Project)
CCAD*	Central American Commission for Environment and Development
CDT	CLME SAP Core Development Team
CEHI	Caribbean Environmental Health Institute
CEP	Caribbean Environment Programme (UNEP)
CERMES	Centre for Resource Management and Environmental Studies
CFMC	Caribbean Fisheries Management Council
CITES	Convention on the International Trade of Endangered Species
CLME	Caribbean Large Marine Ecosystem
CLME+	Caribbean and North Brazil Shelf Large Marine Ecosystems (CLME Project)
CRFM	Caribbean Regional Fisheries Mechanism
CSC	Caribbean Sea Commission
CSME	Caribbean Single Market Economy
DSS	Decision Support system
EAF	Ecosystem Approach to Fisheries
EBM	Ecosystem-based Management
EcoQO	Ecosystem Quality Objective (CLME SAP)
EEZ	Exclusive Economic Zone
FAO	Food and Agricultural Organization of the United Nations
FEST	CLME SAP Formulation and Endorsement Support Team
GDP	Gross Domestic Product
GEF	Global Environment Facility
IBAMA**	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renovaveis
ICCAT	International Commission for the Conservation of the Atlantic Tuna
IGO	Inter-Governmental Organization
IMO	International Maritime Organization

IMS	Information Management System (CLME Project)
IOC	Intergovernmental Oceanographic Commission of UNESCO
IOCARIBE	IOC UNESCO Sub-commission for the Caribbean Sea and Adjacent Regions
IUU	Illegal, Unreported and Unregulated fishing
IW	International Waters (GEF)
LBS	Land Based Sources of Pollution
LME	Large Marine Ecosystem
LMR	Living Marine Resources (CLME Project)
MARPOL	International Convention for the Prevention of Pollution from Ships
M&E	Monitoring and Evaluation
MCS	Monitoring, Control and Surveillance
MPA	Marine Protected Area
MSY	Maximum Sustainable Yield
NAP	National Action Plan
NBSLME	North Brazil Shelf Large Marine Ecosystem
NFPs	CLME National Focal Points
NGO	Non-Governmental Organization
NIC	National Inter- sectoral Committee (CLME Project)
OLDEPESCA*	Latin American Organization for Fisheries Development
OECS	Organization of Eastern Caribbean States
OSPESCA*	Central America Fisheries and Aquaculture Organization
PCU	Project Coordination Unit (CLME Project)
Ramsar	Convention on Wetlands, signed in Ramsar, Iran, in 1971
REMP	Regional Environmental Monitoring Programme (CLME Project)
RFMO	Regional Fisheries Management Organisation
RGF	Regional Governance Framework (CLME Project)
SAP	Strategic Action Programme (CLME Project)
SBO	Societal Benefits Objective (CLME SAP)
SD	Strategic Direction (CLME SAP)
SGP	Small Grants Programme (GEF)
SICA*	Central American Integration System
SIDS	Small Island Developing States
sLMR	shared Living Marine Resources (CLME Project)

SPAW	Specially Protected Areas and Wildlife Protocol (Cartagena Convention)
TDA	Transboundary Diagnostic Analysis (CLME Project)
TWAP	GEF Transboundary Waters Assessment Programme
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WECAFC	Western Central Atlantic Fisheries Commission
WSSD	World Summit on Sustainable Development

* Spanish acronym ** Portuguese acronym

Figure 1 Geographic area covered by the CLME Project: the Caribbean and North Brazil Shelf LMEs

CONCEPTS RELEVANT TO THE CLME$^+$ SAP

- Globally, "**Large Marine Ecosystems"** or "**LMEs**" produce about 80% of the annual marine fisheries catch. LMEs are relatively large areas of coastal waters and ocean space adjacent to the continents or surrounding islands. Their boundaries are based on ecological criteria and processes; as such, they constitute a recommended geographic base unit for implementing the ecosystem approach to natural (marine) resources management. Within these larger LME's, further differentiation can still be made between different ecosystem types.
- The **"Caribbean Sea LME"** (3.3 million km^2) is bounded to the south and west by the North Brazil Shelf LME and the coasts of northern South America and Central America, to the north by the southeastern limits of the Gulf of Mexico LME and of the USA, and to the east by the Antilles chain of islands. The Caribbean Sea is an ecosystem with overall moderate productivity rates that show considerable variability over space and time. The Sea supports a broad array of commercial and subsistence fisheries and constitutes a sub-area of a distinct and globally important biogeographical area of coral reef development with high levels of endemism.
- The "**North Brazil Shelf LME"** (1.1 million km^2) extends from its southernmost limit near the Paraiba River estuary in Brazil, along the wide continental shelf off the Atlantic Coast of South America up to its northern boundary with the Caribbean Sea. High volumes of water and nutrients from terrestrial river basins in South America - including the Amazon- are transported by the North Brazil Current through this LME into the Caribbean Sea. The highly productive North Brazil Shelf supports important fisheries, and has moderate levels of biodiversity characterized by an important degree of endemism.
- **"CLME$^+$"** is the acronym used in this SAP to refer to the area covered by the CLME Project. It corresponds to the combined areas of the Caribbean and North Brazil Shelf LMEs, hence the use of the superscript "+". However, unlike the Cartagena Convention, it does not include the area of the Gulf of Mexico LME.
- The **"ecosystem approach"** has been defined as *"Ecosystem and natural habitats management (…) to meet human requirements to use natural resources, whilst maintaining the biological richness and ecological processes necessary to sustain the composition, structure and function of the habitats or ecosystems concerned."* It is also defined as *"a strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way*". It recognizes that *"the ecosystem is a functional unit at any spatial scale*" and that *"humans with their varied cultural and social needs are an integral part of many ecosystems***".**
- **"Societal benefits":** the marine ecosystems in the region provide a wide variety of goods and services to human society. These include the provision of protein and income through fisheries and tourism. Ecosystem types such as corals, mangroves and sea grass beds act as coastal defense and/or as sinks for the carbon emitted by human activities into the atmosphere.
- Interactive **"Governance"** emphasizes solving societal problems and creating societal opportunities through interactions among civil, public and private actors. The institutional, legal, economic and other practical arrangements made to enable and control this process are referred to in this document as "**governance arrangements**".
- "**Caribbean Sea Initiative**": the UN Resolution "*Towards the sustainable development of the Caribbean Sea for present and future generations*" recognizes the Caribbean Sea as an area of unique biodiversity and a highly fragile ecosystem that requires relevant regional and international development partners to work together to develop and implement regional initiatives to promote the sustainable conservation and management of coastal and marine resources.
- "**Cartagena Convention**": the *Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (WCR)* is a comprehensive agreement that provides a legal framework for cooperative regional and national actions. It is supplemented by 3 Protocols (oil spills, specially protected areas and wildlife, and land-based sources of pollution)
- The "**wider Caribbean Region**" is the region to which the Cartagena Convention applies. It corresponds to the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30 deg north latitude and within 200 nautical miles of the Atlantic coasts of the States referred to in article 25 of the Convention.

FOREWORD

With the support of the *Global Environment Facility (GEF)* and the GEF Implementing and Executing Agencies:

the United Nations Development Programme (UNDP)

the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC of UNESCO)

and the United Nations Office for Project Services (UNOPS)

the Countries and Regional Organizations and other stakeholders participating in the CLME Project[1] have committed to jointly elaborate a **Strategic Action Programme (SAP) for the "*Sustainable Management of the shared Living Marine Resources of the Caribbean Large Marine Ecosystem and Adjacent Regions*"**, further referred to in this document as the "**CLME$^+$ SAP**".

The CLME$^+$ SAP builds on the Transboundary Diagnostic Analyses (TDAs) conducted under the CLME Project as well as on the additional knowledge, insights and experiences acquired through a series of CLME Case Studies and Pilot Projects executed by the following regional and global partner organizations:

- The Caribbean Regional Fisheries Mechanism (CRFM)
- The Centre for Resource Management and Environmental Studies of the University of the West Indies (CERMES/UWI)
- The Food and Agriculture Organization of the United Nations (FAO)
- The UNESCO IOC Subcommission for the Caribbean sea and Adjacent Regions - IOCARIBE
- The Organization of the Fisheries and Aquaculture Sector of the Central-American Isthmus (OSPESCA)
- The Caribbean Environment Programme of the United Nations Environment Programme (UNEP CEP)

[1] CLME Project, GEF ID 1032/ UNDP PIMS ID 2193 (2009-2013) – http://www.clmeproject.org

1. INTRODUCTION

1.1. THE GLOBAL AND REGIONAL SIGNIFICANCE OF THE MARINE ENVIRONMENT OF THE CLME+

The natural environment of the CLME+ and its significance for society

The CLME Project or "*Sustainable Management of the shared Living Marine Resources of the Caribbean Large Marine Ecosystem and Adjacent Regions*" covers two of the World's 64 Large Marine Ecosystems or LMEs: the Caribbean LME (CLME) and the North Brazil Shelf LME (NBSLME).

Together, the CLME and NBSLME – *jointly referred to in this document as CLME+* - cover a total marine area of approximately 4.4 million km^2. This vast extent of marine ecosystems provides substantial support to livelihoods and socio-economic development in this region of the world and far beyond, and is key to many regionally and globally important ecological processes. The CLME+ and in particular the area of the Caribbean Sea is characterized by exceptionally high and globally significant levels of biodiversity[2].

Fisheries and tourism are two important drivers of the region's economy and are heavily dependent on the CLME+s ecosystems and their associated living marine resources.

Fishing is a significant provider of livelihoods and income in the area. In the Caribbean alone, it is estimated that more than 200,000 people are directly employed as fishers, either full-time or part-time. An additional 100,000 are working in processing and marketing of fish, and a large number of associated jobs further exist in net-making, boat-building, and other supporting industries. The fisheries sector brings approximately US$ 1.2 billion annually in export earnings into the Caribbean, with the USA being the principal destination of the exports. However, the true regional importance of fishing is not fully reflected in these figures: in many of the region's countries, a very large share of the population has access to the sea. As a consequence, fish provide a vital resource for poor communities in ways which often do not appear on the national accounts. Anything which damages the productivity of the marine food chain is therefore a significant threat both to the health and overall wellbeing of these societies as a whole.

Relative to its size, the island population of the Caribbean is more dependent on income from tourism than that of any other part of the world: in 2004, more than 2.4 million people were employed either directly or indirectly in travel and tourism, with the sector contributing US$ 28.4 billion to the Gross Domestic Product (GDP), and US$ 19 billion of exported services and merchandise. Twenty-five million tourists choose to holiday in the Caribbean each year, largely attracted by the region's climate and richness in natural features, in particular those related to its marine environment. Dependence on tourism, therefore, also implies dependence on the capacity of the marine ecosystems to continue providing the services, goods and conditions which make the region such a popular vacation destination.

Besides the importance of the marine ecosystems for fisheries, biodiversity and tourism, the CLME+ is also of particular importance for shipping, and holds significant potential as a major producer of hydrocarbons (oil and gas). The Panama Canal, a critical hub for maritime traffic, handles about 5% of total world trade and is expected to double its present transit volume by 2014 once the expansion of the

[2] Around 12,000 marine species have been reported for the Caribbean.

Canal to support larger vessels has been completed. Further, the Caribbean is also the world's premier cruise tourism destination commanding over 60% of the world cruise market. Venezuela is one of the largest oil producers in the western hemisphere, ranking as the world's sixth largest net oil exporter in 2006. With the advancement of technology, sea-bed exploration has grown exponentially in this region over the last few years, and the number of countries now producing oil and gas for export has increased.

The marine environment in the CLME[+] constitutes a fundamental and integral part of the economic, recreational, cultural and spiritual reality of the region and its peoples. However, the marine environment's capacity to provide critical goods and services that support the region's livelihoods, sustained socio-economic development and well-being has become increasingly impacted by a multitude of both marine and land-based activities, climate change and sea-level rise.

A particular geopolitical context

The CLME[+] is one of the most geopolitically diverse and complex sets of LMEs in the world. Twenty-seven independent States and more than ten dependent territories border or are located within the marine area covered by the Caribbean and North Brazil Shelf LMEs. These culturally diverse countries and territories range from among the largest (e.g. Brazil, USA) to among the smallest (e.g. Barbados, St. Kitts and Nevis), and from the most developed to the least developed in the world (Table 1). Both the marine resources as well as the problems affecting these resources are shared to a very large extent by the many territories that make up this region. At the same time, highly variable progress exists across the region with regard to ocean and living marine resources governance, and capacities for shared living marine resources management vary considerably at national, sub-regional and regional levels.

Table 1 CLME+ countries and territories

Independent Continental States	Independent Island States	Overseas dependent territories, associated states, departments and island with a special status[3]
Belize[4]	Antigua & Barbuda[4]	Anguilla (U.K.)[4]
Brazil	Bahamas[4]	Aruba, Curaçao, St. Maarten[4,5]
Colombia	Barbados[4]	British Virgin Islands (U.K.)[4]
Costa Rica	Cuba[4]	Cayman Islands (U.K.)
Guatemala	Dominica[4]	French Guiana (France)
Guyana[3]	Dominican Republic[4]	Guadeloupe (France)[4]
Honduras	Grenada[4]	Montserrat (U.K.)[4]
Panama	Haiti[4]	Martinique (France)[4]
Mexico	Jamaica[4]	Puerto Rico (U.S.A.)[4]
Nicaragua	St. Kitts & Nevis[4]	Bonaire, St. Eustatius, Saba[4,6]
Suriname	St. Lucia[4]	St. Barthélemy (France)[4]
Venezuela	St. Vincent & the Grenadines[4]	St. Martin (France)
USA	Trinidad & Tobago[4]	Turks and Caicos (U.K.)[4]
		U.S. Virgin Islands (U.S.A.)[4]

[3] As of 10 October 2010 Holland, Aruba, Curaçao and St. Maarten are partners in the Kingdom of the Netherlands. The islands of Bonaire, Saba, and St. Eustatius have become "special municipalities" of Holland.

[4] Low-lying coastal and/or Small Island Developing States (SIDS)

[5] Kingdom of the Netherlands

[6] special municipalities of Holland

1.2. THREE KEY ECOSYSTEM TYPES

Three main types of marine ecosystems in the CLME+ are known to support the region's most important fisheries and biodiversity. With the Project's focus on *"shared living marine resources",* and with the adoption of the "*ecosystem approach"* as one of its' guiding principles, together with the LME concept these three ecosystem types have provided an important reference frame for the project's activities.

The three "fishery" ecosystem types are:

Reefs and associated ecosystems

Caribbean reefs constitute 12% of the total reef area in the world. Besides their contributions to coastal protection, their role as a carbon sink, their biodiversity and associated amenity value for tourism, coral reefs and associated ecosystems in the CLME+ are of great relevance for fisheries.[7] Among the many species being fished, Caribbean spiny lobster and queen conch produce the highest revenue. Reef slopes further support important fisheries for species such as grouper and snapper. Associated systems such as mangrove forests and sea grass beds provide important nursery grounds. Combined with the multiple uses, functions and benefits derived from this ecosystem type, the high levels of ecological interaction between the associated systems call for an integrated, ecosystem-based management approach. Presence of coral reefs is limited in the North Brazil Shelf LME; however this LME has important mangrove resources.

The pelagic ecosystem

A wide array of species - from small coastal pelagic fishes to large coastal and oceanic species including tunas, sharks, turtles and marine mammals - spend their full life cycle or part thereof in the pelagic ecosystem. Through fisheries and tourism, this ecosystem type and its associated living resources represent a substantial and very valuable source of food, employment, income, recreation and foreign exchange in many of the CLME+ countries. With the overfishing and decline of reef and inshore fisheries, the pelagic resources have become one of the focuses of fisheries enhancement and expansion programmes in the region. Commercially targeted species include flyingfish, yellowfin and skipjack tuna, billfishes and dolphinfish. Recreational fisheries (game fishing) have also increased in importance in the region and are of significant economic value. Important interactions occur among species in this ecosystem and between the three ecosystem types, making the application of an ecosystem approach to fisheries essential for achieving sustainability. The pelagic ecosystem in the CLME+ supports important shipping services and also contributes to global climate regulation.

The continental shelf ecosystem

Within the CLME+ region, the continental shelf[8] is particularly pronounced in the Guianas–Brazil sub-region where it supports major shrimp and groundfish fisheries, including species of major commercial value such as red snapper and seabob shrimp. Other countries within the wider CLME+ region with

[7] Analyses carried out by the Reefs at Risk Project indicate that Caribbean coral reefs provide goods and services with an annual net economic value in 2000 estimated at between US$3.1 billion and US$4.6 billion from fisheries, dive tourism, and shoreline protection services.

[8] The continental shelf extends from the coast down to the "shelf break", i.e. a point where seabed slope increases rapidly, and which is typically located at a remarkably uniform depth of roughly 140 m.

important shrimp and groundfish fisheries include: Panama, Nicaragua, Belize and Jamaica. The many activities that take place on or adjacent to the continental shelf, together with the existence of important ecological linkages between species (both target and non-target species) and between the different ecosystem and habitat types[9] associated with or connected to the continental shelf also demand that an ecosystem approach towards management is applied. The transboundary nature of the continental shelf ecosystem is much more pronounced in the area of the NBSLME (Guianas-Brazil sub-region) than it is in the CLME.

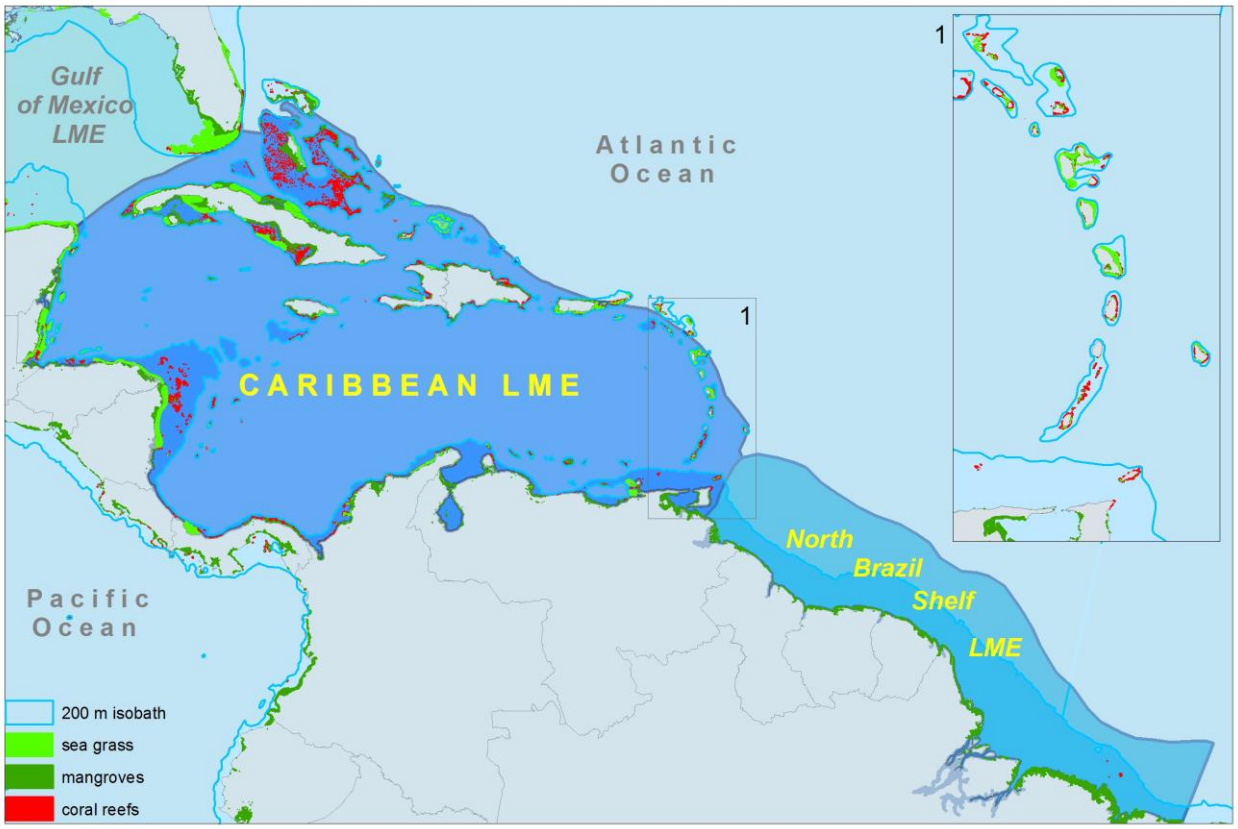

Figure 2 Approximate distribution of the 3 key ecosystem types in the CLME[10]

1.3. THREE CROSS-CUTTING KEY TRANSBOUNDARY PROBLEMS

Three cross-cutting and inter-linked priority transboundary issues have been identified as causing severe negative impacts on the volume and quality of regional and global societal benefits obtained from the CLME[+] and its 3 key fishery ecosystem types. These issues are:

Unsustainable fisheries

Most of the fisheries across the three ecosystem types in the CLME[+] are recognized to be fully or over-exploited. The problem of the unsustainability of fisheries and fishery practices in the region originates

[9] Strong linkages exist with both the pelagic and reef ecosystem types, in the latter case e.g. through the (local) presence of coastal wetlands, mangroves and coral reefs within the area of the continental shelf.

[10] The 200 m isobath is used to show a rough approximation of the extension of the continental shelf areas, and has to be considered as indicative only.

from a multitude of causes including the over-harvesting of target stocks and the direct and indirect impacts of activities on species, size groups or life stages that are not directly targeted by the fishery (e.g. "bycatch", use of destructive or "harmful" practices or gear that leads to habitat degradation or destruction, etc.).

The specific nature and direct causes of the problem and the required on-the-ground management solutions may vary depending on the ecosystem type, the species being fished, the type of fishery[11] and/or the gear being used. Notwithstanding this, common root causes are often identifiable and will typically relate to weak governance, awareness and control. In this context, Illegal, Unreported and Unregulated (IUU) fishing constitutes an important aspect of the unsustainability issue in the CLME$^+$. It is accentuated by an inadequate institutional framework and limited financial and human capacity to monitor and enforce the existing regulations, combined with a lack of awareness and/or access to viable legal alternatives.

Habitat degradation and modification of the community structure of ecosystems

Habitat degradation is a severe problem across the CLME$^+$, with marine and coastal habitats being physically, chemically and biologically impacted by marine and land-based causes. Such causes may be associated with activities and factors such as tourism, agriculture, fisheries, shipping and climate variability and change.

Coastal habitats within the reef and continental shelf ecosystems of the CLME$^+$ are particularly subject to impacts from coastal development, destructive fishing methods, mining, and marine and land-based sources of pollution (e.g. industrial and wastewater discharges, agrochemicals, and storm runoff). Deep sea habitats are most likely also affected, but evidence on the level of impacts within the CLME$^+$ is not available at present. Both overfishing and invasive species (e.g. lionfish) can alter the community composition of ecosystems, which can lead to further degradation of associated habitats (e.g. the increasing abundance of algae species on reefs due to the overfishing of herbivorous fishes in combination with excessive nutrient loads).

The combined problem of habitat degradation and community modification severely impacts the tourism potential of the region, affects the sustainability of fisheries and increases the threats to coasts from climate variability and change.

Pollution

Although pollution in the CLME$^+$ affects all three ecosystem types, its impacts are typically more evident along the coastal zone. Pollution problems in the CLME$^+$ can be linked to a diversity of both land-based and marine sources and activities: e.g. tourism, households, industry, agriculture, forestry, mining, shipping and exploration for oil and gas. Generally, it will be possible to establish a direct link between the (often more localized) problems of marine pollution near the coasts and the human activities occurring in these areas. The volume of maritime transport in the region makes that also this activity constitutes an important (potential) source of pollution, through e.g. the discharge of garbage and waste, and the possibility of accidents including oil spills. A complex issue is the problem of land-based sources of pollution, which may be located at considerable distances from the sea. Such sources may still impact vast expanses of marine environment, as increased sediment, nutrient and contaminant loads are being discharged into both LMEs by the rivers from the region's major drainage basins (e.g. the Amazon, Orinoco and Magdalena).

[11] e.g. small-scale, industrial, recreational

Impacts from pollution range from biological, physical and chemical impacts that affect water quality, the abundance and quality of products from fisheries and the health of marine habitats, to visual impacts that can severely affect the amenity value of the region. All these impacts have a negative effect on tourism, fisheries, public health and biodiversity.

1.4. ROOT CAUSES OF THE THREE KEY PROBLEMS

Under the Transboundary Diagnostic Analyses (TDA)[12] conducted by the CLME Project, Causal Chains[13] were developed to link the transboundary issues described under Section 1.3 to their *direct*, *intermediate* and *root* causes.

The CLME project recognizes the particular importance of tackling the root causes of transboundary problems: while local actions that address direct causes may yield specific, local-scale results in the short term, such solutions will often not be sustainable or cost-effective if at a wider regional level the root causes of the problems are not eradicated or controlled[14]. Addressing root causes at the ecosystem scale[15] will therefore be necessary in order to achieve region-wide or even globally relevant and sustainable impacts and results.

The following Table highlights the main root causes of the problems that are common to the 3 ecosystem types described under Section 1.2. The outcomes of the TDA's thus provided fundamental guidance for the development of the CLME$^+$'s Strategic Action Programme or "SAP", as the identified root causes constituted a basis for the formulation of the **Strategic Directions**, **Strategies** and **priority Actions** for the CLME$^+$ SAP.

Table 2 Common root causes identified through the CLME TDA's

1. **Weak governance** (including legal & institutional frameworks, inadequate environmental quality standards and legislation)
2. Limited **human and financial resources**
3. Inadequate (access to) **data and information** (inadequate knowledge)
4. Inadequate **public awareness & participation**
5. Inadequate consideration of **value of ecosystem goods & services**
6. **Population and cultural pressures**
7. **Trade and external dependency** (high dependence on fish for income and export earnings)

[12] http://www.clmeproject.org/clmetdas2.html

[13] http://www.clmeproject.org/clmetdas3.html

[14] e.g. field campaigns to reduce illegal fishing implemented by a single country may not be cost-effective and may not yield the desired results if regional and/or local root causes such as *insufficiently harmonized legal frameworks* and the *lack of alternative livelihoods* remain unresolved.

[15] e.g. *of the fishery ecosystem or LME*

In addition to the 3 identified key issues (*unsustainable fisheries*, *habitat degradation* and *pollution*), regional stakeholders also expressed concerns regarding the potential impacts of **climate variability and change** in the CLME+. The CLME SAP therefore explicitly recognizes that adaptation to climate variability and change needs to be mainstreamed into the specific activities that will be developed and implemented under its different Strategies and Actions. Two criteria that need to be given particular consideration in this context are: (a) how will the proposed Actions and activities contribute to increasing the **resilience** of the region and its people to climate variability and change, and (b) how **robust** are the proposed solutions in a context of climatic uncertainty[16].

1.5. REVERSING THE TREND: THE NEED FOR A COORDINATED, INTEGRATIVE AND ECOSYSTEM-BASED APPROACH

Geopolitical fragmentation of the CLME+ region lies at the basis of the highly transboundary nature of not only marine ecosystems and living resources, but also of the identified priority problems. With the people and economies of the CLME+ being so critically dependent on the goods and services provided by these threatened ecosystems, further expansion and enhancement of the levels of cooperation among CLME+ countries, organizations and sectors with a stake in the marine environment will be crucial if the substantial benefits derived from these ecosystems are to be maintained, increased or restored.

In many parts of the CLME+ - both at local, national and sub-regional levels - considerable efforts are already being undertaken to deal with the priority problems described under Section 1.3. However, cost-effectiveness and sustained success of these actions are frequently jeopardized by a lack of resources, inadequate governance, sound knowledge and information, and by insufficient levels of coordination and harmonization across the wider ecosystem.

The need to implement an ecosystem approach[17] and the critical importance of addressing root causes have been pointed out before. Increasing recognition indeed exists within the region that steps must be taken towards the implementation of an integrative and well-coordinated, ecosystem-based governance model for the management of marine resources. Ultimately, such an integrated *regional governance framework* should involve all sectors with a stake in the marine environment (e.g. fisheries, tourism, shipping, oil and gas, etc.). However, the complexity of the region and the existing constraints in terms of financial, technical and human capacity, make it necessary that step-wise progress is projected and achieved.

The CLME+ Project has been innovative in this sense as it has adopted the concept of fishery ecosystem types to steer the development of both its Transboundary Diagnostic Analyses (TDAs) and its Strategic Action Programme (SAP). With the project's specific thematic focus, and with the Caribbean and North Brazil Shelf LMEs as the overarching geographic scope for its SAP, the CLME Project is uniquely positioned among all projects and initiatives in the region to initiate such a step-wise, region-wide process.

The strategies and timeline of the CLME+ SAP provide a roadmap that will help the countries of the region in their efforts to gradually expand capacities and knowledge, and strengthen the frameworks and arrangements for region-wide cooperation, coordination and decision-making. In line with the current project's scope, efforts under CLME+ SAP implementation will primarily contribute to creating the enabling conditions for improved and sustainable *shared living marine resources* governance and

[16] See Annex 1
[17] See Annex 1

management in the CLME[+][18] during the next decade. During this period, gradual expansion of the scope of the framework can then be further planned, as additional awareness is being built and stakeholders – including the private sector- become increasingly involved.

Although many of the CLME[+] SAP's actions will focus on tackling the root causes of transboundary problems listed in Table 2, the SAP does recognize that bringing about structural change will not always yield immediate benefits and results[19]. Therefore, there will be a need to combine and complement such actions for structural change and increased capacity with high-priority investments[20] that will address some of the more critical direct causes, through specific on-the-ground actions.

1.6. A NETWORK OF ORGANIZATIONS AND GOVERNANCE ARRANGEMENTS

CLME[+] SAP implementation will put a substantial focus on strengthening and expanding the regional, sub-regional and national-level cooperative governance arrangements for shared living marine resources management. Such can be done through the incremental development of a network of inter-linked and complementary organizations and arrangements that can address the key issues described under Section 1.3, i.e. a *regional governance framework (RGF)* [21].

In the CLME[+] region, considerable resources have already been invested in a myriad of regional and sub-regional organizations. For this reason, organizations that already successfully exercise leadership should be further strengthened, largely within their original geographical or thematic area of responsibility. The strengthening of existing organizations and *arrangements, and of the coordination, coherence and integration among these organizations and arrangements,* is to be combined with reforms and/or the establishment or inclusion of complementary arrangements or organizations (as applicable). In this way, the remaining gaps in the governance framework can be gradually filled.

Being cognizant of the short- and long-term needs of the region and its people, special attention is to be given in the context of the gradual development and implementation of the *regional governance framework*[21] to the geopolitical complexity of the region, and to the existing limitations in terms of available human and financial resources. The development of the *framework* must be matched by the national and (sub-)regional capacity to implement agreed actions, and by the means available to countries and organizations to effectively participate in the regional processes.

Criteria such as political acceptance, inclusiveness, cost-effectiveness and sustainability of the specific solutions being identified or proposed, as well as the overall costs and benefits of strengthening the governance framework as a whole, will therefore be key in the definition and planning of actions. Synergies among actions and arrangements will need to be maximized, overlaps will need to be identified and gradually eliminated, and the principle of subsidiary management - *in which responsibility lies at the scale level closest to the issue to be managed* - will need to be optimally applied.

[18] Such action would be coordinated primarily through the Ministries responsible for Environment and Fisheries, in collaboration with other relevant sectors and (sub-)regional organizations.

[19] In terms of improved socio-economic and environmental conditions

[20] A possible example are investments to deal with Illegal, Unregulated and Unreported fishing (IUU) and lack of alternative livelihoods

[21] Under such nested and multi-level governance framework, inter-linked arrangements are to be established to make it possible to address the key issues (problems that affect the marine environment and associated resources) in an integrated way. Such RGF approach to governance allows stakeholders to clearly identify their roles, and calls for the application of the principle of subsidiarity. A technical report including a proposal for a regional governance framework (RGF) and an overview of key regional organizations with a stake in shared living marine resources management has been prepared for the CLME Project by the Centre for Resource Management and Environmental Studies (CERMES). The report is available through: http://www.clmeproject.org/gframework2.html

1.7. DEVELOPMENT OF A STRATEGIC ACTION PROGRAMME FOR THE CLME+

The CLME+ Strategic Action Programme (SAP) identifies the directions, strategies and actions that need to be taken in order to enable and enhance the sustainable provision of goods and services from marine ecosystems at regional, sub-regional, national and local levels. To facilitate this, the CLME+ SAP development process - and the CLME Project as a whole - has encouraged widespread consultation and participation by partners and stakeholders at all levels in the region. The SAP development process (

Figure **3**) was initiated by posing the question "How do the people of the CLME+ want the future of the marine environment in the region to be?" The answers to this question led to the articulation of a long-term "Vision" for the region. Based on this "Vision" statement, Ecosystem Quality and Societal Benefits Objectives (EcoQOs and SBOs) were defined.

Next, incorporating the findings from the CLME TDAs, Case Studies and Pilot Projects, the *Directions*[22] that the *Strategies* of the CLME+ SAP should take were identified. CLME+-level and fishery ecosystem-specific *Strategies* and associated *Actions* were then proposed. During each step, particular attention was given to priority problems and their associated root causes described under Sections 1.3 and 1.4.

Chapter 2 documents the development of each of these concepts and constitutes the core of the CLME+ SAP.

[22] e.g. which root causes will be addressed by the CLME SAP Strategies? Around which concepts and principles should the SAP Strategies and Actions be structured and organized?

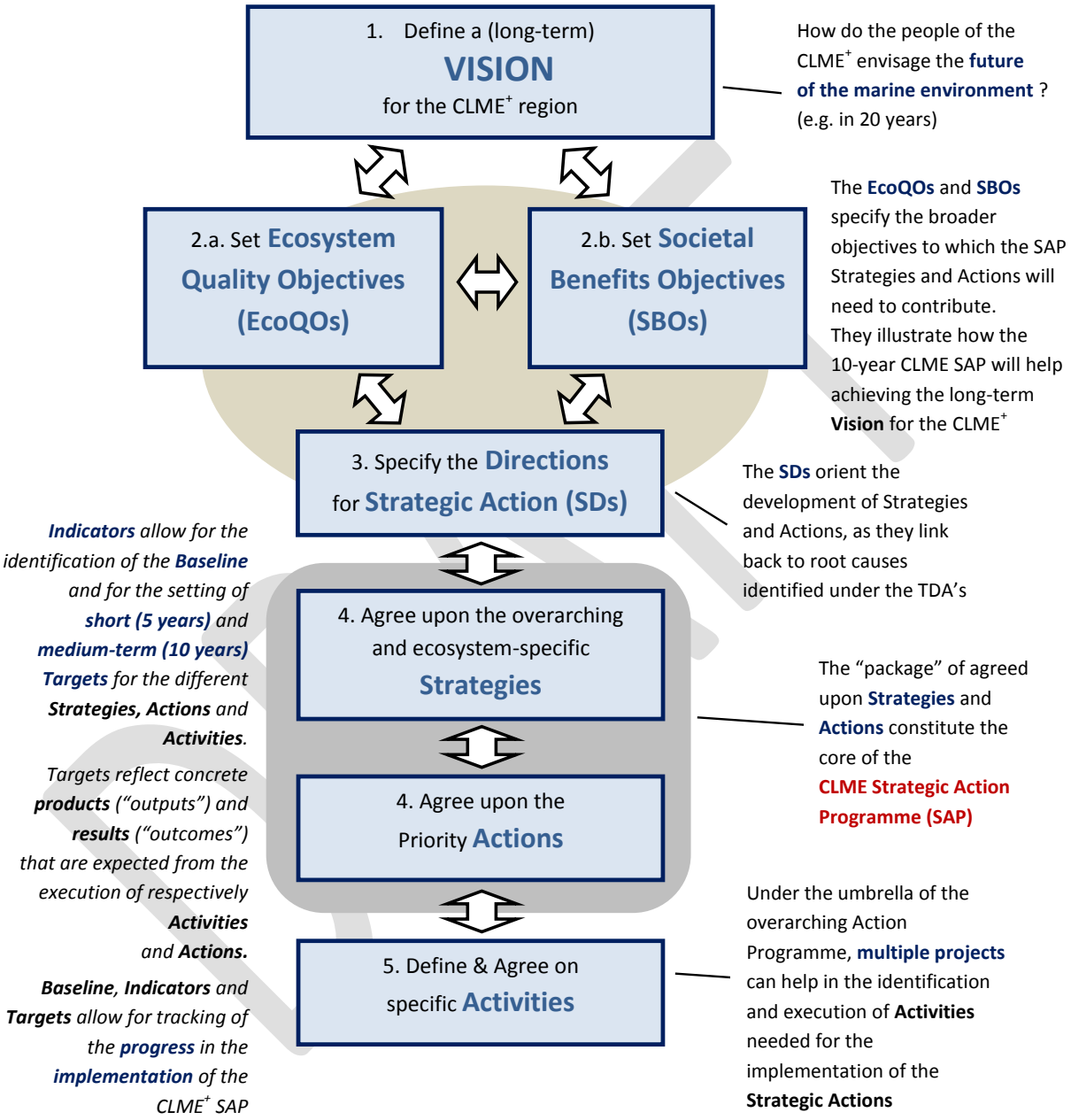

Figure 3 Stepwise approach to the development and implementation of the CLME+ SAP

2. THE CLME+ STRATEGIC ACTION PROGRAMME (SAP)

2.1. LONG TERM VISION FOR THE CLME+ AND FOCUS OF THE 10-YEAR SAP

Through the Strategic Action Programme, the States and territories in the CLME+ region are adopting the following long-term vision on the marine environment:

> Vision statement for the Caribbean and North Brazil Shelf LMEs:
>
> ***"a healthy marine environment in the CLME+***
> ***that provides benefits and livelihoods***
> ***for the well-being of the people of the region"***

CLME+ countries recognize that establishing sustainable, cost-effective and functional mechanisms for integrated governance and management of the marine environment within the next 20 years will be essential for the restoration and maintenance of the health of the marine environment and of the associated societal benefits. However, it has been recognized that a step-wise approach will be required. The CLME+ SAP will therefore contribute to the achievement of this long-term vision, by proposing specific short-term (*0-5 years*) and medium-term actions (*6-10 years*).

The **10-year CLME+ SAP** will thus provide a common roadmap that will guide countries and stakeholders, sub-regional and regional organizations, multi-lateral and bilateral donors towards achieving the more fully articulated vision of: "*healthy marine ecosystems that are adequately valued and protected through robust, integrative and inclusive governance arrangements at regional, sub-regional, national and local levels, which in turn effectively enable adaptive management that maximizes, in a sustainable manner, the provision of goods and services in support of enhanced livelihoods and human well-being".*

Through the SAP, the countries of the CLME+ Region commit to the implementation of a comprehensive package of coordinated Strategies and Actions that are **focused on governance and management of shared Living Marine Resources**. Once the countries have endorsed the SAP, specific activities will be defined to materialize the described Strategies and Actions.

The key principles of good management described in ANNEX 1 are considered to be fully applicable to the CLME+ SAP and will be applied throughout SAP implementation.

2.2. CLME+ SAP OBJECTIVES AND STRATEGIC DIRECTIONS

Long-Term Objectives for the CLME+

The CLME+ SAP adopts as the broad, long-term Ecosystem Quality Objective (EcoQO) for the marine environment of the Wider Caribbean Region:

- "**Healthy Reef, Continental Shelf and Pelagic Ecosystems**"

Achieving this EcoQO will allow the Region to ensure the following Societal Benefits (SBO):

- "**The provision of goods and services by the marine ecosystems of the CLME+ are such that they optimize the systems' contributions to societal well-being and to the region's development needs**" *(including the preservation of aesthetic, cultural, traditional, health and scientific values of the ecosystems)*

Ecosystem-Specific Objectives and Societal Benefits

More specific Ecosystem Quality Objectives (EcoQOs) are adopted for the three key ecosystems that support the most important fisheries and biodiversity in the CLME+.

The EcoQO for the pelagic ecosystem is formulated as:

- **"Conservation, protection, and/or restoration of the fish stocks and biodiversity of the pelagic ecosystem"**

The priority transboundary issues that are most relevant to this EcoQO are: *unsustainable fisheries, habitat degradation and modification of ecosystem communities,* and to a lesser extent *pollution.*

The following two specific, interlinked EcoQOs are applicable to both the Continental Shelf and Reef and associated Ecosystems:

- "**Restoration and maintenance of the fish stocks at a sustainable level and adoption of responsible fishing operations and fisheries management practices**"

The identified priority transboundary issues most relevant to this EcoQO are: *unsustainable fisheries* and *habitat degradation and modification of ecosystem communities.*

- "**Safeguarding the habitats and community structure of the ecosystems from harmful impacts - including those caused by fisheries and pollution- that would diminish the contributions of these systems for enhancing livelihoods and human wellbeing**"

The identified priority transboundary issues that are most relevant to this EcoQO are: *habitat degradation and community modification and pollution, and unsustainable fisheries practices.*

All three EcoQOs are linked to, and essential for the achievement of the following associated Societal Benefits Objective:

- "**Contributions to human well-being, socio-economic development, food security and enhanced livelihoods from goods and services provided by the ecosystems are optimized**"

Strategic Directions

In order to achieve the EcoQOs and associated SBO, two Strategic Directions (SDs) have been defined.

The two Strategic Directions reflect the common but differentiated responsibilities of the different societal sectors that hold a stake in the management of the shared Living Marine Resources of the CLME$^+$, towards achieving the EcoQOs and SBOs:

SD1. Establishment and implementation of coordinated and cost-effective fisheries governance and inter-sectoral management arrangements that are broadly supported, based on adequate consultation, use the best scientific evidence available, and are equipped to implement the precautionary and ecosystem approaches to fisheries

Organisations mandated to work on sustainable fisheries management will have main responsibility over the implementation of specific strategies and interventions under this Strategic Direction, but will, under the adoption of the Ecosystem Approach to Fisheries, consult on and coordinate the implementation of associated strategies with all relevant sectors, particularly those with a mandate to work on advancing the protection of the marine environment.

SD2. Establishment and implementation of coordinated and cost-effective governance and inter-sectoral planning and management arrangements that are broadly supported, based on adequate consultation, use the best scientific evidence available and safeguard the health of the marine environment in the CLME$^+$

Organisations mandated to work on advancing the protection of the marine environment will have main responsibility over the implementation of specific strategies and interventions under this Strategic Direction, but will, in the context of ecosystem-based, integrative and inclusive governance and management, consult and coordinate the implementation of strategies with all relevant sectors, in particular the Fisheries Sector.

2.3. CLME$^+$ SAP STRATEGIES & ACTIONS

Regional-level Strategies for Shared Living Marine Resources Governance

At the regional level, the three overarching Strategies to strengthen and operationalise a regional governance framework for shared Living Marine Resources Management are:

S1. ***Enhance the regional governance arrangements for the protection of the marine environment***
(Proposed Lead Organization: UNEP CEP)

S2. ***Enhance the regional governance arrangements for sustainable fisheries***
(Proposal: phased approach with WECAFC, CRFM, OSPESCA and OECS as the Interim Lead Organizations)

S3. ***Establish and operationalise a regional policy coordination mechanism for governance of the marine environment, with initial focus on shared living marine resources***
(Proposal: phased approach with the Regional Fisheries Bodies and Regional Environmental Bodies establishing an Interim Coordination Mechanism in the short-term)

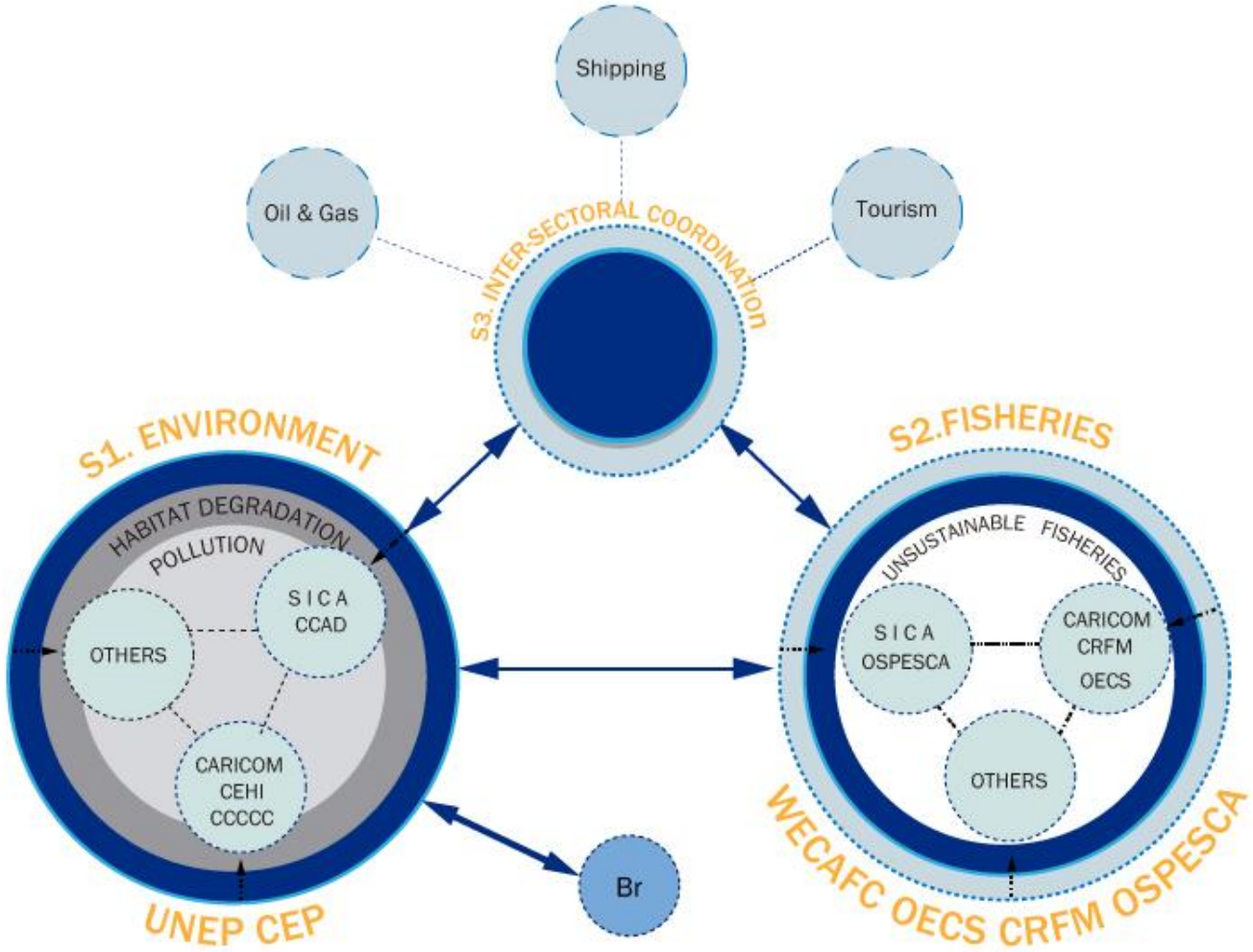

Figure 4 Initial focus of the CLME$^+$ SAP on shared living marine resources governance (illustrated through the 3 regional-level strategies S1, S2 and S3) and the option to expand the framework in the long-term to integrate other sectors using and/or affecting the marine environment
(interactive graphics are available at: http://www.clmeproject.org/sap/css/index2.html)

Ecosystem type-based Strategies for Shared Living Marine Resources Governance

Three additional strategies are developed to strengthen and operationalise shared living marine resources governance and management at the level of the 3 key ecosystem types identified under Section 1.2. A total of 4 sub-strategies were added; these sub-strategies are directly oriented towards implementing the ecosystem approach for the following key fisheries in the CLME$^+$ region: Caribbean spiny lobster, queen conch, flyingfish and large pelagics[23].

S4. Enhance the governance arrangements for ecosystem-based management of reefs and associated ecosystems (e.g. seagrass beds, mangroves, reef slopes and coastal lagoons)

S5. Enhance the governance arrangements for implementing an ecosystem approach for pelagic fisheries

S6. Establish governance arrangements for ecosystem-based management of the Guianas-Brazil continental shelf

Figure 5 illustrates how the three key transboundary issues affect both the overall CLME$^+$ as well as each one of the 3 ecosystem types. It further shows how together the 6 CLME$^+$ SAP Strategies allow to deal with these 3 issues both at the broader regional level as well as at the level of each ecosystem.

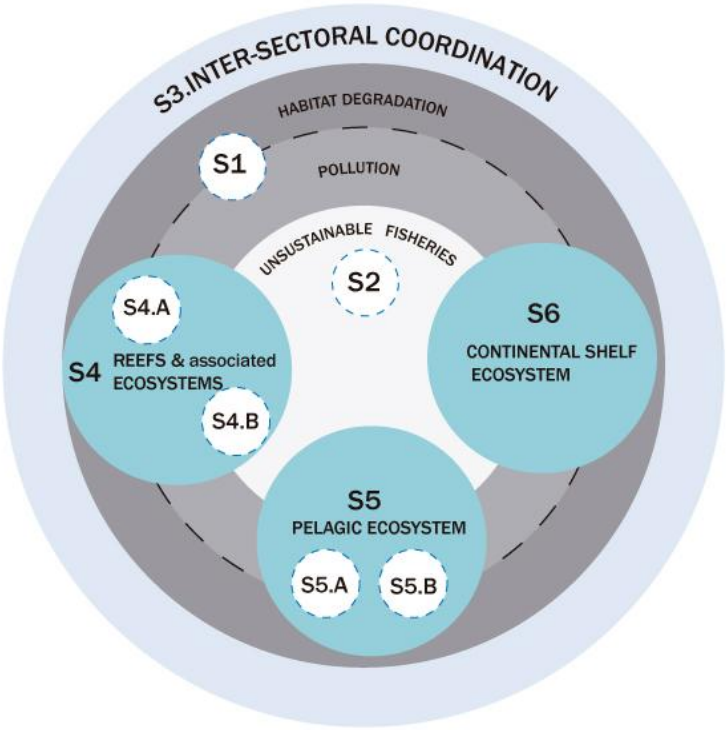

Figure 5 The 3 regional-level strategies (S1-S3), together with the 3 ecosystem type-based strategies (S4-S6) and their corresponding fisheries-based sub-strategies (S4A, S4B, S5A, S5B)

[23] Other fisheries are directly dealt with under Strategies 4-6.

Strategic Actions for the protection of the marine environment

Strategy 1: Enhance the regional governance arrangements for the protection of the marine environment

This is a strategy which proposes short-term (*initial 5 years after SAP endorsement*) and medium-term actions (*between 6-10 years from SAP endorsement*).

Proposed Lead Organization: *UNEP CEP*

❖ Actions :

1.1. [*Short*][24] Establish and operationalise a formal agreement with Brazil for coordinated action towards the protection of the marine environment

1.2. *[**Short**, Medium]*[25] Establish and strengthen regional institutional coordination and cooperation arrangements for the protection of the marine environment

1.3. *[**Short,** Medium]* Evaluate the expansion and strengthening of the mandate of organizations to effectively address issues relating to habitat degradation and pollution to ensure sustainable management of shared living marine resources

1.4. *[**Short,** Medium]* Enhance the capacity of the regional, sub-regional and national governance arrangements for the involvement of civil society in the implementation of the EBM/EAF approach (IGOs, NGOs, CBOs, private sector…)

1.5. *[Short, Medium]*[26] Enhance the capacity within and among arrangements to mainstream lessons learned and findings from monitoring, science and research in regional, sub-regional and national decision-making and policy development

1.6. *[Short, Medium]* Enhance the capacity within and among arrangements to undertake and mainstream valuation of ecosystem goods and services in regional, sub-regional and national decision-making and policy development

1.7. *[Medium]* Increase the capacity of (sub-)regional organizations and countries for integrating the management of terrestrial drainage basins with the management of the marine recipient basins (CLME and NBSLME)

1.8. *[Medium]* Strengthen the capacity of the regional and sub-regional arrangements to support countries in becoming parties to relevant international and regional agreements and complying with their global and regional commitments towards the conservation of the marine environment (including the support to update and harmonize national legislation and regulations)

1.9. *[Medium]*[27] Enhance the data and information collection and management capacity of the regional, sub-regional and national governance arrangements for the protection of the marine environment, including through the establishment of public-private partnerships

[24] In the case of Action 1.1., only the word "Short" is included between the square brackets - indicating that this Action is expected to be finalised within the initial five-years of SAP implementation.

[25] In the case of Action 1.2., the bold letters used for "Short" indicate that most of the effort will take place during the first 5 years of SAP implementation; however, the word "Medium" is also included in order to indicate that actions will extend beyond the initial 5 years: it is expected that full implementation of the action will only be finalised in the medium-term.

[26] Certain components of this activity will be initiated and finalized within the first five years, whilst other components are expected to only start in the medium-term, and become finalized within ten years

[27] When the square brackets only contain the word "Medium", it indicates that although considerable work will commence in the first 5 years, it is expected that it will take 10 years for the action to finalize.

1.10. *[Medium]* Enhance the capacity of the regional, sub-regional and national governance arrangements for the monitoring, assessment and reporting on the state of the marine environment

Strategic Actions for sustainable fisheries

Strategy 2: Enhance the regional governance arrangements for sustainable fisheries

This is a strategy with short-term (*initial 5 years after SAP endorsement*) and medium-term interventions (*between 6-10 years from SAP endorsement*).

Proposed Lead Organizations: *the Regional Fisheries Bodies WECAFC, CRFM, OSPESCA*

❖ Actions :

2.1. *[Short]* Establish an interim fisheries coordination arrangement for sustainable fisheries development led by Regional Fisheries Bodies (FAO-WECAFC, CRFM, & OSPESCA) and OECS.
2.2. *[Short]* Review, and reform WECAFC as needed to clarify and strengthen its mandate and the relationships with Regional Fisheries Bodies such as CRFM, OSPESCA and ICCAT
2.3. ***[Short, Medium****]* Evaluate the needs and the options, agree on the mandate & operationalise[28] a Regional Fisheries Management Organisation (RFMO) or alternative arrangement for the management of shared living marine resources
2.4. *[**Short,** Medium]* Enhance the capacity of the regional, sub-regional and national governance arrangements for the broader involvement of society in the implementation of the EBM/EAF approach (IGOs, NGOs, CBOs, private sector...)
2.5. *[**Short,** Medium]* Enhance the capacity of the regional, sub-regional and national fisheries institutions to develop and implement harmonized management and conservation measures, with special focus on Illegal, Unreported and Unregulated Fishing (IUU) and Monitoring, Control & Surveillance (MCS)
2.6. *[**Short,** Medium]* Coordinate the development and implementation of fisheries-specific initiatives for IUU and MCS (establishing synergies and achieving economies of scale)
2.7. *[**Short,** Medium]* Coordinate the development and implementation of regional, sub-regional and national initiatives for sustainable small scale fisheries (including capacity building and pilot initiatives)
2.8. *[**Short,** Medium]* Coordinate the development and implementation of regional, sub-regional and national initiatives to improve welfares and livelihoods (including alternative livelihoods, capacity building and pilot initiatives)
2.9. *[**Short,** Medium]* Coordinate the development and implementation of regional, sub-regional and national initiatives to enhance safety and reduce risk factors (including at sea) for fishers, with particular focus on risk management
2.10. *[Short, Medium]* Enhance the capacity to manage knowledge and to mainstream findings from monitoring, science & research in regional, sub-regional and national decision-making and policy development for sustainable fisheries
2.11. *[Short, Medium]* Enhance the capacity to undertake and mainstream valuation of ecosystem goods and services in regional, sub-regional and national decision-making and policy development for sustainable fisheries

[28] As applicable

2.12. *[Medium]* Strengthen the capacity of the regional and sub-regional arrangements to support countries in becoming parties to relevant international and regional agreements and complying with their global and regional commitments towards the sustainable use and conservation of the marine environment and associated living resources (including the support to update and harmonize national legislation and regulations)
2.13. *[Medium]* Enhance the data and information collection and management capacity of the regional, sub-regional and national fisheries governance arrangements, including through the establishment of public-private partnerships
2.14. *[Medium]* Enhance the capacity of the regional, sub-regional and national fisheries governance arrangements for the monitoring, assessment & reporting on the state of fisheries.

Strategic Actions for regional inter-sectoral coordination

Strategy 3: Establish and operationalise a regional policy coordination mechanism for ocean governance with initial focus on shared living marine resources

This CLME$^+$ SAP Strategy with short-term (5 years) and medium-term (6-10 years) actions focuses on living marine resources; in order to achieve fully integrative governance of the marine environment in the CLME$^+$ within the next 20 years, these actions will need to be complemented (in the long-term) by other Strategies to involve additional key sectors such as shipping, tourism, and oil and gas.

Proposed Lead Organizations: *Interim coordination mechanism*

❖ Actions :

3.1. *[Short]* Agree upon and establish an interim coordination mechanism amongst the regional sub-arrangements for sustainable fisheries and protection of the marine environment
3.2. *[Short]* Evaluate the Caribbean Sea Commission (CSC) and alternatives and propose a permanent policy coordination mechanism with a clear mandate which is financially sustainable, geographically inclusive and politically acceptable and which takes into account the principle of subsidiarity (this may include the identification of appropriate reforms)
3.3. *[Short, Medium]* Adopt and operationalise the permanent regional policy coordination mechanism for shared Living Marine Resources (sLMR) governance
3.4. *[Short, Medium]* Develop and adopt regional policy for data and information harmonization and sharing
3.5. *[Medium]* Coordinate and develop integrated and sectoral research strategies in support of the implementation of broader ocean governance in the region, with a short and medium term focus on sLMR management
3.6. *[Medium]* Coordinate and develop integrated and sectoral sustainable financing strategies for the cost-effective implementation of broader ocean governance in the region, with a short and medium term focus on sLMR management
3.7. *[Medium]* Facilitate the preparation of data and information products and the uptake of monitoring and research outputs by (sub)regional and national science-policy interfaces

Strategic Actions for the governance of Reefs and Associated Ecosystems

The **overall SAP Strategy for Reefs and Associated Ecosystems** in the CLME$^+$ is formulated as follows:

Strategy 4: Enhance the governance arrangements for ecosystem-based management of reefs and associated ecosystems (e.g. seagrass beds, mangroves, reef slopes and coastal lagoons)

Proposed Lead Organizations: *UNEP-CEP, WECAFC, OSPESCA and CRFM*

❖ Actions :

4.1. *[Short]* Strengthen the formal cooperation between OSPESCA and CCAD for implementing the EBM/EAF approach

4.2. *[Short]* Enhance the cooperation between environmental, fisheries and other relevant agencies within CARICOM for implementing the EBM/EAF approach

4.3. *[**Short,** Medium]* Strengthen and harmonize(sub-)regional and/or fisheries-specific initiatives to combat IUU fishing by combining compliance measures (Monitoring Control and Surveillance plus awareness building among consumers & producers) with the provision of alternative livelihoods

4.4. *[**Short,** Medium]* Coordinate and enhance (sub-)regional and national efforts for the conservation of the biodiversity of reef and associated habitats, including through the strengthening of networks of marine protected areas (MPAs) and initiatives for sustainable reef fisheries[29]

4.5. *[**Short,** Medium]* Develop and implement initiatives for sustainable livelihoods by building capacity for diversification, fostering and facilitating viable alternatives and/or improved incomes, and creating added value (e.g. through marketing and sales)

4.6. *[**Short,** Medium]* Enhance the institutional structure and capacity of (sub-)regional and national arrangements for implementing management and conservation measures for reef ecosystem

4.7. *[**Short,** Medium]* Strengthen the capacity of Regional Fisheries Bodies to engage and build capacity among member States to implement the EBM/EAF approach, through National Action Plans (NAPs), data/information management and analysis, and operationalisation of national inter-sectoral coordination and consultation mechanisms that include science-policy interfaces

4.8. *[Medium]* Operationalise and strengthen interlinked Decision Support Systems (DSSs) for the protection of reefs and associated ecosystems and for the sustainable management of associated living marine resources

[29] Including such habitats on the Guianas-Brazil continental shelf

Sub-Strategy 4A: Enhance the governance arrangements for implementing an ecosystems approach for spiny lobster fisheries

Proposed Lead Organizations: *WECAFC, UNEP-CEP, OSPESCA, CRFM*

❖ Actions :

4A.1. *[Short]* Strengthen and coordinate arrangements between the WECAFC, OSPESCA, UNEP-SPAW and CRFM to harmonize the spiny lobster fishery governance and management throughout the CLME$^+$ region

4A.2. *[Short]* Evaluate and expand, as applicable, the geographic scope of the governance arrangement operated by OSPESCA taking into consideration both the perspectives of species range (ecosystem approach) and of common markets

4A.3. *[Medium]* Strengthen and achieve full implementation of policy cycles under the existing sub-regional governance arrangements for the management of the spiny lobster fisheries, including linkages with organizations working on the environmental protection of reefs and associated ecosystems

4A.4. *[Medium]* Operationalise and strengthen a DSS for the spiny lobster fisheries (including linkages to the DSS for the protection and sustainable management of reefs and associated living marine resources)

Sub-Strategy 4B: Enhance the governance arrangements for implementing an ecosystem approach for the queen conch fisheries

Proposed Lead Organizations: *WECAFC, UNEP-CEP, OSPESCA, CRFM, CFMC, CITES*

❖ Actions :

4B.1. *[Short]* Strengthen and coordinate the arrangements for the management and conservation of queen conch between all relevant organizations such as CFMC, WECAFC, CRFM, UNEP SPAW, OSPESCA and CITES

4B.2. *[Short]* Develop and adopt a regional framework and management and conservation plan for the queen conch with regional-level harmonized regulations (including trade issues)

4B.3. *[Short, Medium]* Develop, adopt and implement the sub-regional agreements for the management of the queen conch resource

4B.4. *[Medium]* Strengthen, and achieve full implementation of policy cycles under the existing sub-regional governance arrangements for the management of queen conch fisheries, including linkages with organizations working on the environmental protection of reefs and associated ecosystems (EAF)

4B.5. *[Medium]* Operationalise and strengthen a DSS for the queen conch fisheries (including linkages to the DSS for the protection and sustainable management of reefs and associated living marine resources)

Strategic Actions for the governance of the Pelagic Fishery Ecosystem

The overall SAP Strategy for the Pelagic Fishery Ecosystem in the CLME$^+$ is formulated as follows:

Strategy 5: Enhance the governance arrangements for implementing an ecosystem approach for pelagic fisheries

Proposed Lead Organizations: *WECAFC, CRFM and OSPESCA*

❖ Actions :

5.1. *[Short]* Establish linkages between the sub-regional governance arrangements for the different types of pelagic fisheries in order to more fully implement the ecosystem approach (e.g.: prey–predator relationships)

5.2. ***[Short,*** *Medium]* Strengthen and harmonise, as feasible, (sub-)regional and/or fisheries-specific initiatives to combat IUU by combining compliance measures (Monitoring Control and Surveillance plus awareness building among consumers and producers) with the provision of alternative livelihoods

5.3. ***[Short,*** *Medium]* Develop and implement initiatives for sustainable livelihoods by building capacity for diversification, fostering and facilitating viable alternatives and/or improved incomes, and creating added value (e.g. through marketing and sales)

5.4. ***[Short,*** *Medium]* Enhance the capacity of regional, sub-regional and national arrangements for the effective implementation of management measures

5.5. ***[Short,*** *Medium]* Strengthen the capacity of Regional Fisheries Bodies to engage and build capacity among member States to implement the EBM/EAF approach, through National Action Plans (NAPs), data/information management and analysis, and operationalisation of national inter-sectoral coordination and consultation mechanisms that include science-policy interfaces

5.6. *[Medium]* Operationalise and further enhance an integrated, sub-regional decision-support system (DSS) for the pelagic fisheries (linking large pelagics and flyingfish fisheries, and with additional linkages to DSSs for ecosystem/environmental protection, as relevant)

Sub-strategy 5A: Enhance the governance arrangements for implementing an ecosystem approach for flyingfish fisheries

Proposed Lead Organization: *CRFM*

❖ Actions :

5A.1. *[Short]* Strengthen the WECAFC and CRFM sub-regional arrangements for the assessment and management of the flyingfish fisheries including the establishment of a decision-making capacity for management

5A.2. *[Short]* Establish and operationalise a formal agreement between the CRFM and France on the management of the flyingfish fisheries

5A.3. ***[Short,*** *Medium]* Operationalise and strengthen an integrated, sub-regional decision support system (DSS) for the flyingfish fisheries (in coordination with the large pelagics arrangements)

5A.4. ***[Short,*** *Medium]* Strengthen the WECAFC and CRFM capacity to develop, adopt and implement management and conservation measures for the flyingfish fisheries (full policy cycle implementation)

5A.5. ***[Short,*** *Medium]* Implement the CRFM/WECAFC Sub-Regional Management Plan for Flyingfish fisheries in the Eastern Caribbean

5A.6. ***[Short,*** *Medium]* Develop and implement education and awareness building initiatives to improve understanding and enhanced stakeholder commitment and participation in planning and decision-making in the flyingfish fisheries

Sub-strategy 5B: Enhance the governance arrangements for implementing an ecosystem approach for large pelagics fisheries

Proposed Lead Organizations: *WECAFC, CRFM, OSPESCA*

❖ Actions :

5B.1. *[Short]* Establish key agreements and operationalise arrangements among organizations with a stake in large pelagics fisheries in order to implement EAF

5B.2. ***[Short,*** *Medium]* Strengthen the capacity of the (sub-)regional organizations and enhance the full implementation of the large pelagics fisheries policy cycle

5B.3. *[Medium]* Strengthen the region´s position in the ICCAT decision making process through enhanced intra-regional coordination and cooperation

5B.4. *[Medium]* Operationalise and strengthen an integrated, sub-regional decision-support system (DSS) for the large pelagic fisheries (in coordination with the flyingfish arrangements)

Strategic Actions for the governance of the Continental Shelf Ecosystem

The overall CLME+ SAP Strategy for the Guianas-Brazil continental shelf is formulated as follows:

Strategy 6: Establish governance arrangements for implementing ecosystem-based management of the Guianas-Brazil continental shelf

Proposed Lead Organizations: WECAFC, UNEP-CEP, CRFM

❖ Actions :

6.1. *[**Short,** Medium]* Strengthen the WECAFC-CRFM sub-regional arrangement for the management of the shrimp and groundfish fisheries, and establish a decision-making capacity for policy formulation and management

6.2. [Short, Medium] Explore and establish a sub-regional arrangement to address both marine and land-based sources of pollution within the context of the expanded framework for the protection of the marine environment built under Strategy 1 *(Action 1.1)*

6.3. [Short, Medium] Explore and establish a sub-regional arrangement to address the issue of coastal habitat degradation and destruction within the context of the expanded framework for the protection of the marine environment built under Strategy 1 *(Action 1.1)*

6.4. *[Short, Medium]* Explore and establish a sub-regional arrangement to address the issue of insecurity for fishers (person and property); e.g. cases of armed robbery and assault

6.5. *[Short, **Medium**]*[30] Explore and establish the most appropriate mechanism for integrating the four sub-regional arrangements

6.6. *[Medium]* Operationalise and further enhance an interlinked, sub-regional decision-support systems (DSS) for sustainable fisheries and environmental protection in the Guianas-Brazil continental shelf

6.7. *[Medium]* Enhance the capacity of sub-regional and national arrangements for implementing management and conservation measures

6.8. *[Medium]* Strengthen the capacity of Regional Fisheries Bodies to cooperate with and build capacity among member States to implement the EBM/EAF approach, through National Action Plans (NAPs), data/information management and analysis and operationalisation of national intersectoral coordination and consultation mechanisms (incl. science-policy interfaces)

6.9. *[Medium]* Strengthen and harmonize(sub-)regional initiatives to combat IUU by combining compliance measures (Monitoring Control and Surveillance plus awareness building among consumers and producers)

6.10. *[Medium]* Develop and implement initiatives for sustainably enhancing livelihoods by identifying and building capacity for diversification, viable alternatives and/or improved incomes, and creating added value for current catches

6.11. *[Short, **Medium**]* Develop and implement sub-regional EAF management plans for shared fishery resources along the Guianas-Brazil Shelf

[30] Although efforts will be made to begin work on this action in the first five years, most of the effort will take place during the second 5years with the expectation that the action will become completed in the medium-term.

3. TOWARDS THE IMPLEMENTATION OF THE CLME+ SAP

3.1. A PROGRAMMATIC APPROACH TO SAP IMPLEMENTATION

The CLME+ SAP provides a roadmap towards improved governance of the marine ecosystems in the CLME+. The focus of the SAP for the next decade will be on shared living marine resources governance and management. It will initially bring together the organizations and people working towards sustainable fisheries and those working towards the protection of the marine environment. Building upon these initial results the scope will be expanded to integrate other key economic sectors such as tourism, shipping and oil and gas.

The CLME+ SAP has been developed as an "umbrella" Programme for Strategic Actions in the CLME+. By enhancing the cooperation and coordination across the region and among organizations, countries, sectors and people, it will establish the enabling conditions for substantial synergies among the many projects and initiatives that are taking place or being planned for this region.

SAP implementation should be programmatic and gradual. Once it has been widely endorsed in the region, the SAP will be used to guide the development and integration of regional, sub-regional and national projects and initiatives, as well as NAPs that can be embedded in and fit under this "Programmatic approach to SAP implementation".

Different projects – possibly financed by a variety of sources and donors - can address different parts of the SAP. Full implementation of the many actions outlined in this document is not expected to be executed through a single project. Instead, existing or planned efforts that deal with particular aspects of the CLME+ SAP should be integrated and complemented by a number of well-coordinated new projects. For these new projects, (co-)financing by the donor community[31] and CLME+ countries and stakeholders should be sought and secured.

The CLME+ SAP can thus guide both countries and donors towards those actions where investments are most needed. At the same time, the integration of the multiple (donor) efforts under a single Strategic Action Programme is expected to substantially increase the rate of return on such investments, whether these occur at the regional, sub-regional, national or even local/grassroots level[32].

In order for this approach to be successful, increased levels of complementarity and coordination among the different efforts that take place in and around the region must be achieved. SAP-related initiatives will also need to be coordinated and/or integrated with other regional, sub-regional and national programmes and actions that address other sectors falling under the broader umbrella of integrated ocean governance (such as shipping, tourism, etc.), or which focus on geographic areas adjacent to, and influenced by or influencing the CLME+[33]

The operationalization of key components of the Regional Governance Framework for shared living marine resources and the strengthening of associated key regional and sub-regional organizations and arrangements will be a high-priority task. It is expected that, with sufficient co-financing commitments by the countries and organizations of the region, it will be possible to advance several of these key components of the CLME+ SAP through renewed financial support from the GEF.

[31] Given the magnitude, complexity and global relevance of the transboundary issues in the CLME+ region, especially during the first five years –and probably during the full 10 initial years of SAP implementation, substantial donor support will need to be sought.

[32] Grassroots initiatives, financed e.g. through the GEF Small Grants Programme (SGP), will substantially benefit from the enhanced broader governance framework in which they will become embedded.

[33] Linkages and synergies will be established in this context, e.g., between the CLME SAP and other GEF-funded projects such as the Gulf of Mexico LME and Amazon Basin Projects, and GEF-IWEco.

3.2. FROM REGIONAL TO NATIONAL-LEVEL ACTIONS

It is further anticipated that during SAP implementation the regional and sub-regional organizations with key roles[34] will work with their member countries on translating specific Activities, Actions and/or Strategies, into compatible National Action Plans or NAPs. Instead of having a single organization assisting each country in conducting a full "CLME SAP-to-NAP" conversion exercise, the subsidiarity principle will be applied: with the regional SAP providing the broad reference framework for short- and medium-term actions, (sub-)regional organizations can identify and start collaborating with their member countries on those SAP activities which fall under their particular mandate, and for which conditions are favorable to achieving fast progress. SAP activities relevant to the mandates of these (sub) regional organizations will thus be mainstreamed in their work plans. In this approach, implementation of actions at the national level need not wait until all the CLME$^+$ strategies and actions have been formulated into a single, overarching NAP. Early examples are: the ongoing development of NAPs for the Protection of the Marine Environment from Land-based Activities undertaken by countries with the support from UNEP-GPA and UNEP-CEP; the development of National Plans of Action (NPOAs) to combat IUU fishing under the Code of Conduct for Responsible Fisheries; and the Joint CRFM-OSPESCA Plan of Action signed in 2012 (see Annex 3).

3.3. FINANCIAL MECHANISM FOR THE IMPLEMENTATION OF THE SAP

Underpinned by the Resolution of the General Assembly of the United Nations: "*Towards the sustainable development of the Caribbean Sea for present and future generations*"[35] ("Caribbean Sea Initiative"), a call is being made through the CLME$^+$ SAP for international and region-wide support for the implementation of the SAP.

Financial requirements for implementation of the SAP will be determined as the specific activities under the different Strategic Actions are being defined. At that stage potential sources of funding will be identified for the implementation of the CLME$^+$ SAP, which are expected to include:

- GEF co-financing support for the overall coordination and for the execution of high-priority Strategies and Actions of the CLME$^+$ SAP
- Potential contributions from multi-lateral institutions and bi-lateral partners
- Commitments and financial contributions from the CLME$^+$ countries and regional stakeholders (including, as feasible, the private sector)

It should be noted that financial commitments from the participating countries will be critical to the long-term sustainability and continuation of the efforts undertaken. Such commitments will highlight the importance of fisheries and the protection of the marine environment in the regional political agenda. A sustainable financing mechanism for recurring costs of the Regional Governance Framework will need to be identified.

[34] See Chapter 2

[34] UN Resolution *A/C.2/67/L.41* recognizes that the Caribbean Sea is an area of unique biodiversity and a highly fragile ecosystem that requires relevant regional and international development partners to work together to develop and implement regional initiatives to promote the sustainable conservation and management of coastal and marine resources.

4. MONITORING AND EVALUATION (M&E) OF SAP IMPLEMENTATION

4.1. MEASURING PROGRESS AND RESULTS: INDICATOR TYPES

The development and execution of a Monitoring and Evaluation (M&E) Plan is an essential component of the CLME$^+$ Strategic Action Programme.

The M&E Plan for CLME$^+$ SAP implementation will be composed of two elements: (a) frequent monitoring of the progress obtained with regard to the progress in the implementation of the Programme's Strategies, Actions and Activities; and (b) periodic evaluation of the Programme's performance in terms of outputs produced and outcomes achieved, as well as in terms of the cost-effectiveness of the actions. Both Monitoring and Evaluation will facilitate the adoption of an adaptive management approach to SAP implementation.

To ensure that progress in SAP implementation can be effectively monitored and evaluated, it is essential that early on in the SAP development and implementation phase, a full baseline is being established for all indicators that will be used to measure progress in the implementation of the SAP. This baseline will be the rubric against the future implementation of the SAP.

The following three types of M&E indicators for SAP implementation are typically used under GEF-cofunded projects[36]:

- ***Process Indicators***
- ***Stress Reduction Indicators***
- ***Environmental Status Indicators***

The CLME$^+$ SAP M&E Plan will complement such indicator set with the following additional indicator types:

- ***Socio-economic Indicators*** *(including indicators of social justice and human well being)*
- ***Indicators*** *related to* ***architecture and performance of governance*** *arrangements and networks*[37]

Environmental and socio-economic status indicators will track progress towards achieving the CLME$^+$ SAP Ecosystem Quality Objectives (EcoQOs) and Societal Benefits Objectives (SBOs), respectively. Stress reduction indicators will typically reflect how direct causes of environmental or ecosystem stress (e.g. direct causes of reduced fish stocks such as illegal or over-fishing, or of physical damage to coral reefs such as harmful fishing practices) have been reduced or eliminated. However, as strategic actions under the SAP will often be directed towards addressing the root causes of the environmental and associated societal problems (see Section 1.4), it will become necessary to include process indicators in the M&E indicator set: frequently, it will take considerable amounts of time before structural changes become reflected in measurable reductions of stress at the level of the CLME$^+$, or in measurable changes in

[36] For more detailec information on the 3 key GEF indicators for monitoring and evaluation of progress and results in International Waters projects, please refer to: http://iwlearn.net/publications/misc/duda_indicator.pdf/view

[37] For more detailed information on the governance indicators, reference is made to: Mahon, R., L. Fanning, R. and P. McConney. 2012. Governance assessment methodology for CLME pilot projects and case studies. Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus, Barbados, CERMES Technical Report No 53 (English): 20p. (available from: www.clmeproject.org)

environmental and socio-economic conditions. In the mean time, process indicators will be reflective of the progress being made towards implementing actions and activities required for such purposes.

A hypothetical example of process, stress reduction and socio-economic and environmental indicators for a selected action of the CLME$^+$ SAP is given in Table 3.

Table 3 Example of possible M&E framework for Strategy 4, Action 3

CLME SAP Action	Indicator Type	Baseline	Timeline	
			Short-term	Medium Term
(Strategy 4, Action 3) Strengthen and harmonize, as feasible, (sub-)regional and/or fisheries-specific[38] initiatives to combat IUU by combining compliance measures (Monitoring Control and Surveillance plus awareness building among consumers & producers) with the provision of alternative livelihoods	Process	number of viable legal alternatives to reef fisheries in coastal communities = **X**	number of viable legal alternatives to reef fisheries in coastal communities = **Y**	number of viable legal alternatives to reef fisheries in coastal communities = **Z**
	Stress Reduction	• Registered incidences of IUU = **Y** • Total fishing effort for overfished species = **Y**	• Registered incidences of IUU reduced by **X** % • Total fishing effort for overfished species reduced by **X** %	• Registered incidences of IUU reduced by **Z** % • Total annual catch not higher than Maximum Sustainable Yield (MSY)
	Socio-Economic Status	Number of households affected by exclusion from the fishery and exposed to reduced income and well-being = **X**	Proportion of households affected by exclusion from the fishery benefiting from alternative livelihoods versus those experiencing reduced income and well-being = **Y**	Proportion of households affected by exclusion from the fishery benefiting from alternative livelihoods versus those experiencing reduced income and well-being = **Z**
	Ecosystem Status	Fish stock status: overfished	Overfishing level reduced by **X** %	Fish stock optimally exploited

4.2. REGIONAL ENVIRONMENTAL MONITORING PROGRAMME (REMP)

The development of a prototype "Regional Environment Monitoring Programme" (REMP) has been promoted under the CLME$^+$ Project through the execution of related pilot activities by IOC of UNESCO. The Regional Environmental Monitoring Programme is to be further advanced in the context of the implementation of the CLME$^+$ SAP and its M&E procedures. It is to be based on the principles and indicators described under Section 4.1, and aligned with the Strategies and Actions detailed under Section 2.3. This way, it will allow for the monitoring and evaluation of progress in the implementation of the priority actions outlined in this document against a baseline.

[38] With application of subsidiarity principle

ANNEXES

ANNEX 1 – KEY MANAGEMENT PRINCIPLES

KEY MANAGEMENT PRINCIPLES

The CLME$^+$ States express a common desire for the sustainable management of their shared living marine resources and biodiversity, and recognize their role and responsibility in conserving the global value and associated regional benefits of these resources. The States will consider and take into account, where appropriate, the following principles and values when further developing and implementing the CLME$^+$ SAP, recognizing that these principles may be already adopted in some States and should be further promoted.

An **ecosystem-based approach** to fisheries management shall be applied, which maintains key characteristics of ecosystems in a way that sustains species and ecological processes while supporting human use for economic or social purposes.

The principle of **sustainable development** shall be applied such that there is a prudent and rational utilization of living resources and the preservation of the rights of future generations to a viable environment.

The principle of **adaptive management** shall be applied such that there is a systematic, rigorous approach for deliberately learning from management actions with the intent to improve subsequent management policy or practice.

The principles of **good governance** shall be applied, including participation, the rule of law transparency, accountability, responsiveness, consensus building, equity, effectiveness and efficiency.

The principle of **subsidiarity** shall be applied.

Risk management shall be applied:

The **precautionary approach** shall be applied, such that measures shall be taken when there are reasonable grounds for concern that any activity may increase the potential hazards to human health, harm living resources or ecosystems, damage amenities, or interfere with other legitimate uses of the CLME$^+$, even when there is no conclusive evidence of a causal relationship between the activity and the effects; and by virtue of which, greater caution is required when information, including scientific information, is uncertain, unreliable or inadequate.

The principle of **anticipatory action** shall be applied, such that contingency planning, environmental impact assessment and strategic impact assessment (involving the assessment of the environmental and social consequences of governmental policies, programmes and plans) shall be undertaken in the future development in the region.

The principle of **preventative action** shall be applied, such that timely action shall be taken to alert the responsible and relevant authorities of likely impacts and to address the actual or potential causes of adverse impacts on the environment, before they occur.

The following criteria shall be mainstreamed in the development of all relevant policies, programmes, sectoral plans and actions: (i) solutions must **increase the resilience of societies and ecosystems to climate variability and change; and (ii)** solutions must be **robust** in the context of the **uncertainty associated to climate variability and change**

The principles of **public participation** and transparency shall be applied, such that all stakeholders, including communities, individuals and concerned organizations shall be given the opportunity to participate, at the appropriate level, in decision-making and management processes that affect the marine environment of the CLME$^+$. This includes providing access to information concerning the environment that is held by public authorities, together with effective access to judicial and administrative proceedings to enable all stakeholders to exercise their rights effectively. Public authorities shall widely disseminate information on the work proposed and undertaken to monitor, protect and improve the state of CLME$^+$.

ANNEX 2 – SAP STRATEGIES & ACTIONS, WITH TYPOLOGY AND TIMELINE

See separate document

ANNEX 3 –BELIZE DECLARATION

See separate document

ANNEX 4 – CRFM-OSPESCA JOINT ACTION PLAN

See separate document

ANNEX 5 – MEMORANDUM OF UNDERSTANDING OSPESCA-CCAD (in Spanish)

See separate document