THE CARIBBEAN LARGE MARINE ECOSYSTEM (CLME) GOVERNANCE FRAMEWORK AND THE STRUCTURE OF THE CLME PROJECT

CLME Project Implementation Unit

Centre for Resource Management and Environmental Studies (CERMES)
University of the West Indies
Cave Hill Campus, Barbados

Contents

1   Introduction

This paper has been prepared to provide stakeholders and potential partners with an overview of how the CLME Project is developing. It aims to inform them so that they can best determine how to interact with the project to enhance its effectiveness and to benefit from it by making best use of what it offers for achieving their own aims.

In Section 2, it offers an LME governance framework that will provide the basis for the development and implementation of the CLME Project. In Section 3, an overview of the proposed CLME Project structure is given. Finally, in Section 4, it outlines how stakeholders and potential partners throughout the Wider Caribbean Region can expect to take part in or relate to the CLME Project.

The CLME Project has a focus on improved governance for sustainability. Governance of living marine resources currently emphasizes ecosystem-based management (EBM) at scales that are appropriate to the biophysical processes of the oceans. Sixty-four large marine ecosystems (LMEs) have been defined on a biophysical basis and proposed as ecologically-rational units in which EBM can be applied in the marine environment.

LMEs produce about 90% of the world's total marine fish catch, but most of them have been overexploited, with declining catches and major shifts in biodiversity. They are also where most of the world's land-based and ocean-based pollution and habitat alteration take place. This places an estimated US$10.6 trillion per year of renewable goods and services at risk.

A five module approach to LMEs has been developed to facilitate LME level EBM. Three of the modules are natural science based (productivity; fish and fisheries; and pollution and ecosystem health), another is focused on assessing the socio-economic benefits to be gained from the sustainable management of the ecosystem goods and services and the fifth on assessing the governance mechanisms needed to support EBM.

The LME approach has led to a suite of projects that are being implemented throughout the world to promote integrated marine ecosystem governance of LMEs. One of these is for the Caribbean Sea and adjacent regions (CLME Project).

2   A large marine ecosystem governance framework

In light of the diverse, complex and dynamic situation prevailing within the Caribbean LME, the LME 5-module approach was examined as a potential framework for addressing living marine resource (LMR) governance.

The modular approach with its suites of indicators was considered insufficient for the Caribbean LME in two important ways. First, it has an orientation towards science-dominated top-down governance. We note that though important for guiding sound decision-making, knowledge-based assessments of biophysical and socioeconomic LME components will be under-utilized, or even unusable, if there are no governance mechanisms in place to facilitate their uptake. Second, whereas the modules can provide a framework for application of indicators for assessment and monitoring, they do not provide a comprehensive framework within which interventions can be developed and implemented in a coordinated way that can be communicated to all actors so that they can see where they fit into the framework.

Rather than being one of the five modules to be undertaken in LME management, governance is seen as overarching. This perspective also provides the opportunity to separate the 'governing system' from the 'system to be governed. This overarching perspective is what the proposed framework attempts to provide as it interprets effective governance to be determined by a set of

nested and laterally-linked institutions and actors that are both governmental and non-governmental.

Further elaboration is provided below to give an adequate basis for interventions to enhance governance appropriate to networks of actors within the Caribbean LME. The framework may also be applicable outside the Caribbean. The following is extracted from a paper that has been submitted to Marine Policy[i] and is available should details and references be desired.

2.1 A policy-cycle, multi-scaled governance framework

The proposed framework provides for the processes and linkages at the multiple geographic and organizational scales that prevail in the Caribbean. In addition, the framework also accounts for the range of policy-relevant activities practiced by a diversity of stakeholders who are influenced by, and who exert influence on, decision-making at multiple levels. It provides all actors with the opportunity to see how their actions can affect the sustainable management of the shared living marine resources of the Caribbean LME. It also provides guidance on the identification of critical areas and timing for interventions and for assessing the success of such interventions.

The framework comprises two well-known components of LME governance: the process by which decisions are made in any governance regime, i.e. the policy cycle, and the multi-scale nature inherent in LMEs, be it jurisdictional, spatial, temporal or ecological. It is based on standard principles and values for governance: transparency, accountability, equity, sustainability and participation. The proposed framework is not so much an original construct as it is an identification of an existing weakly structured, self-organized framework and the provision of ideas on how to strengthen and enable it by focusing on properties that would be essential for LME level EBM.

2.1.1 The policy cycle component

The foundation for the proposed framework is a generic policy cycle (Figure 1); an iterative process that should lead to incremental improvement in management. The different stages in the cycle – data and information, synthesis and provision of advice, decision making, implementation and review and evaluation – all require different inputs and actors, although there is overlap.

The 'data and information' stage is where much of the science and technical input takes place. This information ought to be interdisciplinary and may range from highly technical, science-based to local/traditional knowledge provided by stakeholders either informally or formally. We consider this to be the primary area where the LME technical modules of productivity, fish and fisheries, pollution and socioeconomics make their contribution to the governance process.

Figure 1. A generic policy cycle used for the proposed LME governance framework.

The 'analysis and provision of advice' stage is likely to be closely related to the 'data and information' stage in terms of actors involved and also draws on technical expertise. Its purpose is to provide specific policy and management options and recommendations to decision-makers
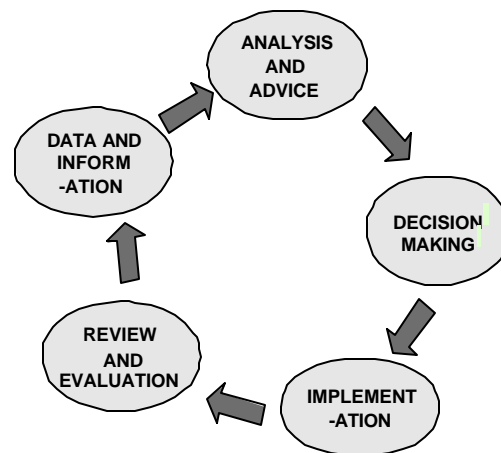
in the next stage. In these stages of the cycle, the four LME technical modules contribute to governance while the governance process itself determines the consequences of the analysis and advice being provided and the decisions reached.

The 'implementation' stage may be the least directly connected to the previous stages and will involve the full range of tools and activities that are familiar to natural resource managers for achieving compliance, either voluntary or enforced, as appropriate to the particular situation. These include legislation, monitoring, control and surveillance (MCS), incentives and capacity building. The 'review and evaluation' stage completes the cycle and mainly feeds back into 'data and information' needs, but can also provide direct inputs across the cycle into 'analysis and advice' if policy changes are called for.

Clearly, this is a simplified depiction of the cycle, of which there are many variations. The various stages often overlap in function as actors play roles in more than one stage. There may also be cross links that bypass various stages for some parts of the process. We do not perceive these variations as compromising the cycle. What we consider to be important is that the cycle be complete and iterative. This leads us to our first proposition: '*Any interruption at any stage of the policy cycle will result in dysfunctional governance of the target resources or ecosystems*'.

2.1.2   *The multi-scale multi-level component*

For effective governance of LMEs, the policy cycle described above must be operational at several scales and levels, e.g. local, national, regional (LME region) and international, in which jurisdictional and geographical scales are correlated (Figure 2). Discussions of scale in natural resource management often focus on the degree of match between institutional scale and the scale of the resource that it is to be managed. In the proposed framework, our attention is primarily on jurisdictional scale and the relationships between levels while acknowledging the importance of the fit of these to the systems to be governed as a matter to be taken up during implementation. The multi-scale framework facilitates application of the subsidiarity principle by allowing for implementation of governance at the scale that is closest to the problem to be addressed.

The policy cycle described in the previous section may occur in a wide variety of forms determined by several factors that will be explored later. At this point we wish to emphasize that cycles at different jurisdictional levels have different roles in the proposed framework, each of which is necessary but not sufficient for LME level EBM. Consequently, linkages between jurisdictional levels are essential (Figure 2). These are bidirectional linkages that may or may not include control. When the linkages are predominantly controlling from
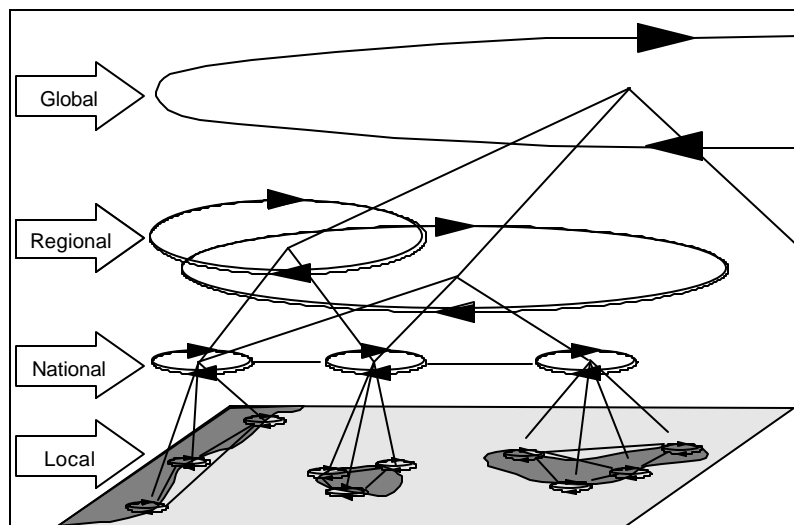

Figure 2. The multi-scale component of the proposed governance framework with vertical and horizontal linkages among the different policy cycles. The multi-level linkages do not necessarily imply a controlling function.

3

upper to lower levels, the system is a conventional top-down hierarchy. Another situation is where the linkages are predominantly for communication and cooperation. This is essentially a network structure where the linkages facilitate self-organization. Network linkages are also typically diverse and dynamic. They may simply be for sharing of data and information which can either be offered or sought. Alternatively, they may be used to share ideas and concepts including principles and values. Even further, they can be used for joint decision-making.

Different kinds of interactions are likely in each direction. For example, there is likely to be a downward flow of information on analysis, rationale and decisions from each level to the level below. However, flows in the other direction are equally important. They can provide information on what is desired and feasible. These flows can lead to cross-scale relationships that are mutually sustaining in the long term, being neither exploitative from above nor parasitic from below. We see these upward and downward linkages in the multi-scale system are an integral component of a functioning LME governance framework. This leads us to the second proposition: *'Vertical linkages between functional policy cycles are necessary for effective LME governance.'*

2.1.3   Diversity in policy cycles and linkages

The proposed policy-cycle based, multi-scaled LME governance framework recognizes that there will be a diversity of policy cycle types and linkage types, and provides for this diversity to be accommodated within a single framework. The diversity of individual and organizational policy cycle actors from multiple jurisdictional levels is illustrated in Figure 3. The nature of a policy cycle may vary according to factors that determine characteristics including: the sociocultural/political context; purpose; jurisdictional scale; capacity; and complexity.
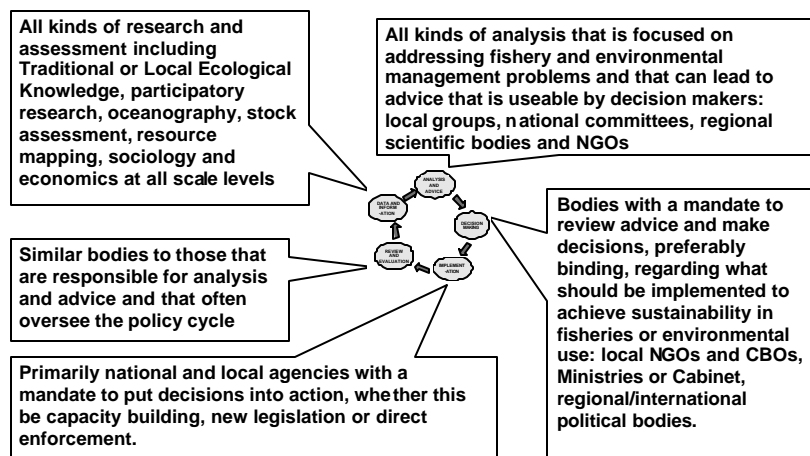

All kinds of research and assessment including Traditional or Local Ecological Knowledge, participatory research, oceanography, stock assessment, resource mapping, sociology and economics at all scale levels

All kinds of analysis that is focused on addressing fishery and environmental management problems and that can lead to advice that is useable by decision makers: local groups, national committees, regional scientific bodies and NGOs

Similar bodies to those that are responsible for analysis and advice and that often oversee the policy cycle

Bodies with a mandate to review advice and make decisions, preferably binding, regarding what should be implemented to achieve sustainability in fisheries or environmental use: local NGOs and CBOs, Ministries or Cabinet, regional/international political bodies.

Primarily national and local agencies with a mandate to put decisions into action, whether this be capacity building, new legislation or direct enforcement.

Figure 3. The diversity of stakeholders that may be involved in the policy cycle depending on cycle stage and scale level.

Sociocultural and political context: The sociocultural and political context of the community, country or region in which the policy cycle occurs will determine many of its characteristics. Whereas the establishment of common principles and values for natural resource and environmental management can be pursued throughout an LME at upper jurisdictional levels, the way in which these are approached nationally and locally must fit cultural norms if governance is to be effective.

Purpose: Policy cycle arrangements related to living marine resource governance may be in place for a variety of purposes: to address fisheries sustainability, biodiversity conservation, marine recreational use, rural livelihoods, or any combination of these as well as other purposes. These arrangements can be species-specific, fisheries specific, area-specific, focus on protected areas, or topic-specific, such as mangrove restoration. Cycles at lower levels are most likely to be resource and location specific, whereas those at higher levels are most likely to be oriented

towards harmonization of lower level cycles. An effective national level cycle is critical to ensure the effective functioning of LME-level governance since it serves as the interface between local and regional/international levels.

Jurisdictional scale: At the local level, policy cycle arrangements may be under the auspices of community-based organizations which may either already exist for other purposes such as village councils, or which may have a specific purpose, such as fisherfolk organizations or conservation groups. At the national level, a given policy cycle will be undertaken most often in the government domain and will be carried out by the government department that is responsible for implementing particular legislation. Parastatal bodies may also have responsibility for policy cycles, e.g. a National Parks Commission. At the regional and international levels, undertaking policy cycles will primarily be the responsibility of intergovernmental organizations.

Capacity: The capacity of the implementing organization or organizations can determine the nature of a mature policy cycle arrangement. In situations of limited human resources, as often occurs in developing countries or small island developing states (SIDS), the arrangement that is in place to address a particular management need may differ from that which is in place to address the same need in large or developed countries. In human resource limited systems, the emphasis may be less on technical, science-based approaches and more on consensual, people-based ones.

Complexity: The implications of complexity in determining governance arrangements for natural resource management are becoming increasingly clear. Policy cycles that address highly complex systems may need to operate differently from those that address simpler ones. At the extreme of complexity, the cycle may function primarily in a learning and adaptation mode with implementation pertaining largely to enabling self-organization and building resilience.

A diversity of communication linkages can take place among the policy cycle components of the LME governance framework. Whereas in conventional hierarchical systems only vertical linkages are needed, complex systems require a richer diversity of linkages in order to be adaptive and resilient. Many valuable linkages may be horizontal, in which policy cycles at the same level learn from each other without being linked through the level above, although it may be the role of each level to promote horizontal linkages at lower levels. This leads us to our third proposition: '*Horizontal linkages between functional policy cycles are often necessary for effective LME governance.*'

Linkages can take place at any point in a policy cycle and will differ accordingly. Technical linkages amongst scientists and technologists in the data and information stages will differ substantially from linkages amongst actors in the implementation stages – trainers and enforcers. There may be imbalances also. Technical linkages may be strong among the actors in the data and information stages through the literature, internet and technical conferences, yet weak at other stages. It appears likely that when linkages, especially vertical ones, are absent between cycles at the 'analysis and advice' and 'decision making' stages, integration of governance at higher levels is ineffective. We therefore offer a fourth proposition that '*Linkages between functional policy cycles specific to the 'analysis and advice' and 'decision-making' stages of the cycle are essential for effective LME governance.*'

2.1.4   *How the framework facilitates intervention*

The goal of interventions aimed at promoting effective governance of living marine resources in the Caribbean LME would be to have fully-functional policy cycles at all appropriate levels with the appropriate vertical and lateral linkages. The policy-cycle, multi-scale, multi-level approach provides an avenue for change agents at all levels to make a valuable input within the context of

an overall LME governance framework. Different agents will have different focal levels. Many non-governmental organizations (NGOs) and community-based organizations (CBOs) will focus at the local level to build effective policy cycles and to enhance linkages with other similar agencies. Multi and bilateral donor agencies will usually focus at the national and regional levels through intergovernmental organizations.

Interventions can be specifically targeted at establishing policy cycles or completing them by identifying the weak stages and developing projects to strengthen them. Empirical evidence within the Caribbean LME has led us to propose that linkages between policy cycles at the analysis and decision-making stages are critical for effective LME governance and yet we have found that these stages are often the weakest in marine resource management. Efforts can focus on establishing or enhancing mechanisms for analysis and provision of advice on a regular and timely basis and on ensuring it is considered by decision-makers in appropriate fora.

Interventions can also be specifically targeted at building or enhancing linkages. The nature of interventions will vary with the nature of the links themselves. Where the links are primarily communication and cooperation based, interventions will be largely aimed at enabling self-organization and adaptation through building the capacity needed for the various interactions that should take place in developing learning systems.

While there can be emphasis on specific links, the structure of the entire system is also likely to be an important focus. The proposed framework is essentially of nested networks in which the policy cycles can be seen as nodes. However, each cycle is itself a sub-network in which the stages can be seen as nodes. Drilling deeper still, one reaches the point where individual actors functioning within the cycles can serve as nodes. It is at this level that many cross linkages may occur as these actors have roles in several cycles at various levels. Some nodes can be readily identified as network hubs. It is becoming increasingly clear that network structure, characterized by the distribution of links per node and the presence or absence of nodes with large numbers of links, can significantly affect network resilience and power relationships.

Finally, the framework also provides a context within which to assess the status of governance arrangements. At any level for any resource system, one can ask whether the conditions of the four propositions are being met. Within the Caribbean LME Project, pilot projects are being designed to test the applicability of the framework and the significance of the propositions to effectively govern shared living marine resources. Using an EBM approach to address priority areas of concern, the pilots will examine weaknesses in existing policy cycles at multiple scale levels to identify and implement targeted and timely interventions.

2.2   Summarizing the framework

The proposed LME governance framework comprises complete policy cycles at multiple jurisdictional levels that are networked through both vertical and lateral linkages. The framework accommodates the diversity of policy cycles arrangements and linkage types that are likely to be required for comprehensive governance and is sufficiently flexible to incorporate the diversity of EBM approaches that currently exist.

The goal of interventions would be to establish and enhance cycles and linkages that are context specific and appropriate to purpose, capacity and complexity. This long-term goal can be approached incrementally by targeted interventions that focus on specific subcomponents of the framework.

The majority of countries of the Caribbean LME are either small island developing states (SIDs) or developing countries with an overwhelming lack of capacity at the national level.

Nonetheless, countries are generally dependent on their limited natural resource endowments, especially coastal and marine resources, for their economic well-being. As such, hierarchical authority may not be needed and is unlikely to be feasible in the Caribbean. A great deal may be accomplished by a mechanism that focuses on networking and linkages among lower level policy cycles. The inherent inclusiveness of the governance framework provides for such decentralization of authority and encourages co-management arrangements.

3   The CLME Project Structure

The overall goal of the CLME project is the sustainable management of the shared living marine resources of the Caribbean LME and adjacent areas through an integrated management approach that will meet the WSSD target for sustainable fisheries. Adjacent areas refer specifically to the Guianas Brazil region as the Gulf of Mexico has its own LME project.

The specific outcomes of the project are:

1. To identify, analyze and agree upon major issues, root causes and actions required to achieve sustainable ecosystem management of the shared living marine resources in the Caribbean Sea LME;
2. To improve the shared knowledge base for sustainable use and ecosystem-based management of transboundary living marine resources;
3. To implement legal, policy and institutional reforms to achieve sustainable transboundary living marine resource ecosystem management; and,
4. To develop an institutional and procedural approach to LME level monitoring, evaluation and reporting.

In order to achieve this, the following three major CLME Project components are being developed during the current 18-month (April 2006 – September 2007) PDF-B phase for implementation in the subsequent four-year initial period of the full-sized project. This is being done within the LME governance framework described above.

1. *TDA/SAP Development* (Outcome 1)

    Completion of a Transboundary Diagnostic Analysis (TDA) and formulation of a Strategic Action Programme (SAP) for the Caribbean LME shared living marine resources.

    The TDA will fully characterize the nature, scope, and root causes of transboundary living marine resource issues in Caribbean LME while the SAP will describe agreed necessary legal, policy and institutional reforms at national and regional levels and means of achieving these.

2. *Demonstration Pilots* (Outcome 2 and 3)

    Design and implementation of four pilot projects to test the applicability of the governance framework to sustainably manage a number of identified shared living marine resources within the CLME Project area.

    Using an ecosystem-based management approach to address priority areas of concern, the pilots will examine weaknesses in existing policy cycles at multiple scale levels to identify and implement targeted and timely interventions. Specifically, improved arrangements and

processes for use of information in decision-making and its uptake at the decision making levels are key outcomes of these projects.

The pilots have been selected to reflect the range of diversity of living marine resource management within the CLME Project area and to cover the spectrum of complexity within the CLME Project area. In all cases, transferability of knowledge obtained from the pilots will be shared with countries throughout the CLME Project area and beyond.

The following pilots have been identified:
- Flyingfish - The pilot will be used to demonstrate the applicability of the governance framework in a relatively simple fishery with a small number of stakeholder groups. It will focus on the subset of countries for which management of this resource is of primary concern. The Eastern Caribbean Flyingfish Project and the WECAFC ad hoc Flyingfish Working Group have provided a good foundation on which to base this pilot. A thorough assessment of the range of stakeholders affecting the management of flyingfish, their vertical and horizontal linkages and the functionality of their policy cycles will be conducted. Specific interventions based on addressing weaknesses identified from the assessment will be determined in conjunction with the key players. These are most likely to be at the 'analysis and advice', 'decision-making' and 'implementation' policy cycle stages. Key partner involvement, drawn from stakeholders at the local, national and regional levels from the private sector, resource users, NGOs, governments, donors, regional and international organizations will be essential for the successful design and implementation of the pilot. Promoters for this pilot will need to be determined and take a lead in advancing both its design and implementation.

- Shrimp and groundfish – The pilot will be used to demonstrate the applicability of the framework in an increasingly complex fishery with the subset of CLME Project countries sharing the Guianas-Brazil Shelf. It will also serve to assess the importance of a previously-existing working group in this fishery (the FAO-WECAFC working group on Shrimp and groundfish) to facilitate successful EBM of these linked transboundary resources while also identifying additional interventions as needed. Although the geographic area for this pilot will be the Guianas-Brazil Shelf, lessons obtained from this pilot will be relevant to other countries within the CLME Project area. The FAO WECAFC Guianas Brazil *Ad Hoc* Working Group and the CRFM are key promoters and partners in this pilot.

- Lobster – Given the significance of lobster to most of the countries within the CLME Project area, this pilot will be used to demonstrate the importance of building capability to engage in fully-functional policy cycles. Given the complexity associated with these resources of concern, the pilot will examine the significance of lateral linkages between resource users and vertical linkages with a suite of stakeholders, including those from the tourism sector and international traders. The pilot will be demonstrated within the Central/South America subregion and key potential promoters will include FMOs such as OSPECA, OLDEPESCA and their member countries and fisherfolk organizations at multiple levels.

- Reef fisheries and biodiversity – The pilot on reef fisheries and biodiversity within the CLME will be use to test the applicability of the governance framework in this highly complex and linked suite of issues. These systems provide a wide range of

goods and services related to rural livelihoods and poverty reduction, food security, tourism and adaptation to climate change. Examples of how to sustainably manage reef systems are limited both within the region and globally. However, it is of critical importance within the CLME Project area as the viability of these resources is under threat from both national and transboundary influences. As the most complex set of issues will be tackled in this pilot, the suite of partners will be the most diverse with conservation NGOs at multiple levels playing a key role. Demonstration sites to test the applicability of the framework will be selected throughout the CLME Project area in such a way as to facilitate the development of both lateral and vertical linkages. Selection will be based on a number of criteria including existing concerned constituency, tractability of the problems, and spatial coverage within the CLME.

3. *Governance Framework Implementation* (Outcomes 3 and 4)

This component will focus on the further development of the LME governance framework and its implementation at regional and subregional levels including adopting an institutional and procedural approach to LME level monitoring, evaluation and reporting. It will promote the arrangements needed to link the pilot projects with the overall framework.

The activities undertaken in this component of the project will address the institutional, legal and policy reforms needed for EBM of shared LMR within the CLME Project area.

- Institutional issues will include strengthening linkages between advisory and decision-making bodies to ensure a Caribbean-wide ecosystem-based approach to living marine resource ecosystem management. This includes the operationalization of arrangements to implement and monitor the Precautionary Principle and Code of Conduct for Responsible Fisheries.
- Legal issues will include encouraging increased ratification and implementation of relevant international agreements (UNCLOS, UN Fish Stocks Agreement, FAO Compliance Agreement, etc.) by Caribbean countries and supporting national policy and legal frameworks reformed and harmonized regionally and internationally.
- Policy issues will include developing and promoting the regional arrangements and capacity to participate in international FMOs responsible for resources of interest to Caribbean countries, particularly ICCAT and to carry out complementary processes for regional large pelagics

In this project component, the use of the framework at the regional level will be demonstrated by focusing on the large pelagic resources of the Caribbean LME and also by identifying the institutional arrangement that will be responsible for assembling and reporting on agreed indicators for monitoring and evaluation of the status of the Caribbean LME shared living marine resources, e.g. through a tripartite technical mechanism comprising FAO/WECAFC, IOC/IOCARIBE and UNEP/CEP and an appropriate decision-making body or bodies..

4. The Partnership Approach

Given the many countries and territories involved and the broad spectrum of partnership involvement that will be essential to the project's success, a concerted effort is required to

ensure key stakeholders are engaged in the development and implementation of the CLME Project. In addition, GEF funding in support of the project is dependent of significant co-financing from project partners, both cash and in-kind contributions.

To solicit the interest and support of the diversity of stakeholders illustrated in Figure 3 above, it is essential that each potential partner can readily identify where in the governance framework they fit. More specifically, given the requirement for partnership financial support, key stakeholders should be able to identify which of the project components they see as having a synergistic relationship with their own goals and objectives.

Currently, the project is anticipated to receive US $7.8 million in GEF funding, with at least matching funds needed from project partners. The following breakdown of funds from The GEF is currently being used to guide the development of the various components of the full-sized project over a 4-year time period:

- Project Coordination - $1.20 million
- Finalization of the TDA/SAP - $1.40 million
- Pilots
    - Lobster - $1.10 million
    - Shrimp and Groundfish - $ 0.75 million
    - Flyingfish - $0.45 million
    - Reef fisheries and biodiversity - $1.45 million
- Regional Governance, including large pelagics – $1.45 million

Efforts by the CLME Project Unit to engage stakeholders throughout the Caribbean LME and to solicit co-financing contributions, in-kind and/or cash, from potential key partners at the international, regional, national and local levels is a critical next step in the project development. The following diagrams illustrate the Project approach to identifying potential partners for each of the project components at each stage in the policy cycle and at each jurisdictional level. Figures such as the one shown below will be used to assemble and display the fullest possible range of partners for each CLME Project component (Figure 4). Anyone with an interest in pursuing partnership with the CLME Project can contact Dr. Lucia Fanning: clmeproject@gmail.com or 246-417-4565.

Fanning, L., R. Mahon, P. McConney, J. Angulo, F. Burrows, B. Chakalall, D. Gil, M. Haughton, S. Heileman, S. Martinez, L. Ostine, Adrian Oviedo, S. Parsons, T. Phillips, C. Santizo, B. Simmons, C. Toro. A large marine ecosystem governance framework. Submitted to Marine Policy (full MS available on request)

Local

ANALYSIS
AND
ADVICE

DATA AND
INFORM
-ATION

DECISION
MAKING

REVIEW
AND
EVALUATION

IMPLEMENT
-ATION

National

ANALYSIS
AND
ADVICE

DATA AND
INFORM
-ATION

DECISION
MAKING

REVIEW
AND
EVALUATION

IMPLEMENT
-ATION

Regional

ANALYSIS
AND
ADVICE

DATA AND
INFORM
-ATION

DECISION
MAKING

REVIEW
AND
EVALUATION

IMPLEMENT
-ATION

International

ANALYSIS
AND
ADVICE

DATA AND
INFORM
-ATION

DECISION
MAKING
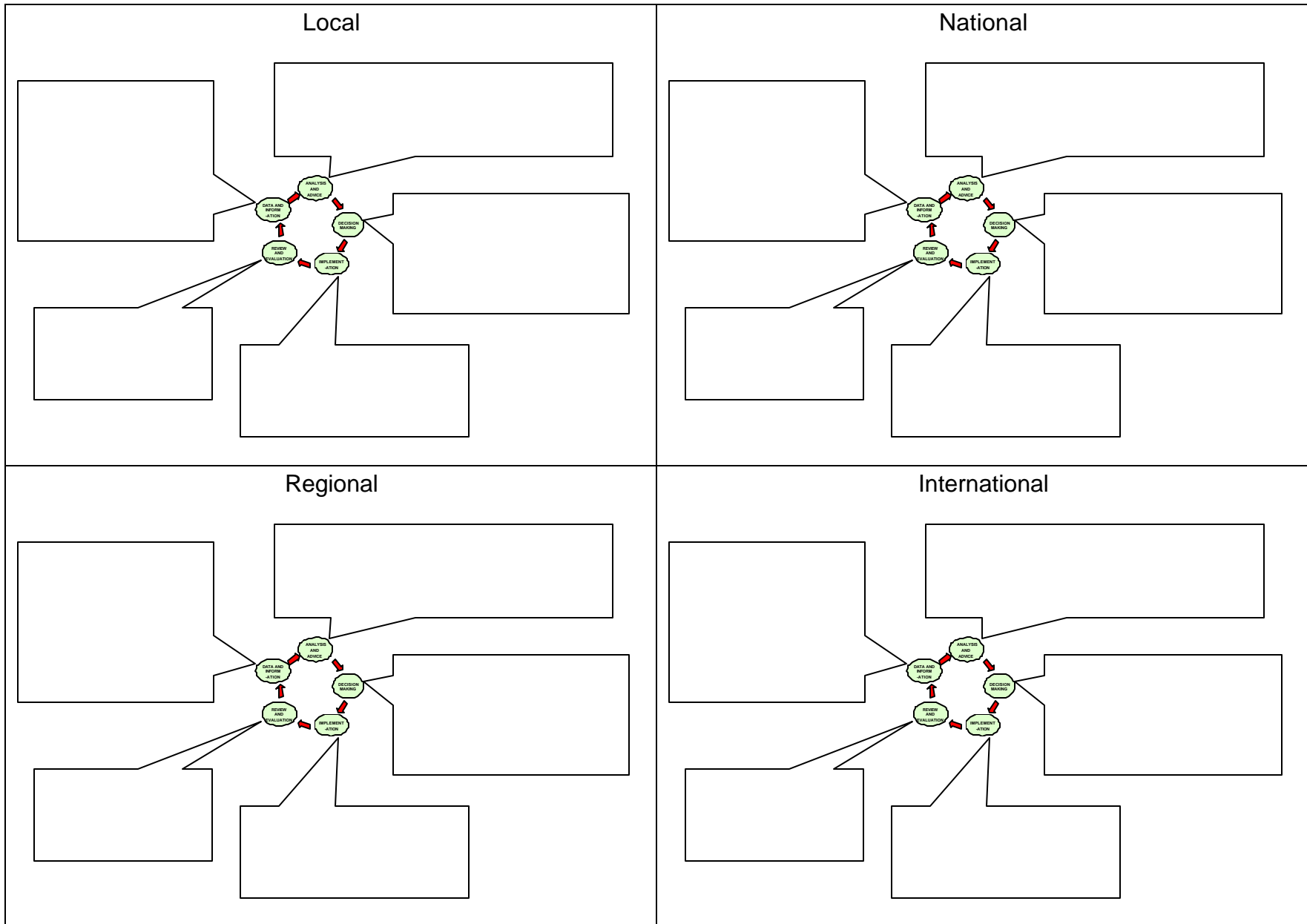
REVIEW
AND
EVALUATION

IMPLEMENT
-ATION

Figure 4. Partnering arrangements for the TDA/SAP component of the Caribbean Large Marine Ecosystem Project