

CLME+ Strategic Action Programme (SAP) Experience Note

The ocean governance research and science agenda: supporting collaboration and engagement in the Wider Caribbean Region (WCR)



Photo Credit: Gulf and Caribbean Fisheries Institute (GCFI).

Abstract: The various projects, programmes and initiatives under the CLME+ have brought together stakeholders from across the region and internationally to collaborate and engage in ocean governance research and science agenda-setting in the Wider Caribbean Region (WCR). The science research agenda was developed primarily to mitigate deleterious effects resulting from poor governance; and manage the unforeseen impacts on the marine ecosystems in the CLME+ region. To achieve this goal, the main focus is on developing mechanisms that integrate scientific information into the regional governance framework (RGF). There are several lessons that can be learned and best practices utilised from all the useful research that has been and continues to be done in the CLME+ region. This experience note highlights some of lessons learned and best practices observed from collaborative and engaging activities at the nexus of the region's science-policy interface.

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Centre for Resource Management and Environmental Studies
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Learning from best practices in CLME+ SAP implementation

The ocean governance research and science agenda: supporting collaboration and engagement in the Wider Caribbean Region (WCR)

Experience of the GEF - sponsored

*GEF/UNDP: Catalysing Implementation of the Strategic Action Programme for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems
GEFID: 5542; 2015-2020*

PROJECT DESCRIPTION

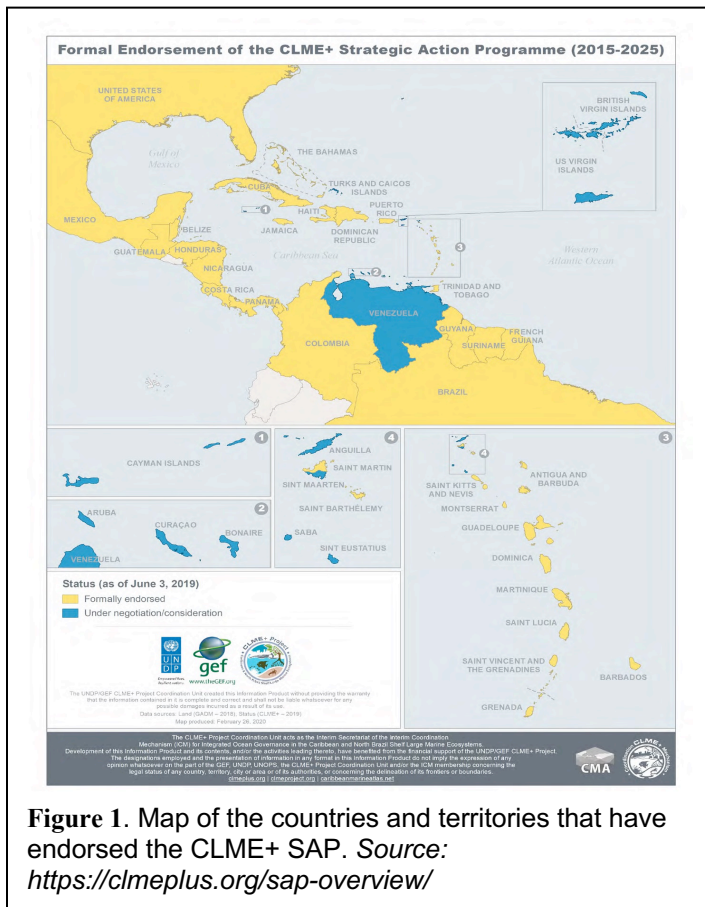


Figure 1. Map of the countries and territories that have endorsed the CLME+ SAP. *Source:* <https://clmeplus.org/sap-overview/>

The Large Marine Ecosystem (LME) has been the primary concept used to promote the implementation of an ecosystem-based management (EBM) approach to large-scale, integrated ocean governance. This EBM approach is strongly supported at the international level by agencies such as the World Bank and the Global Environment Facility's (GEF) International Waters (IW). It is within this context of EBM that the Caribbean and North Brazil Shelf Large Marine Ecosystem (CLME+) project was born.

The CLME+ is amongst the most geopolitically diverse regions, globally; comprising 26 countries and 18 overseas territories. Many marine resources are shared between and across countries in the CLME+ region, as such, a broad understanding of the function and components within LMEs is required. Stakeholders need to use collaborative and coordinated approaches to avoid and manage threats in order to achieve goals of sustainable ocean use and development.

The CLME+ Strategic Action Programme – CLME+ SAP (2015-2025) is a 10-year strategy for the sustainable management of shared Living Marine Resources in the CLME+ region. The CLME+ SAP, which has been endorsed by 25 countries and 8

overseas territories (Figure 1), uses an integrated, ecosystem-based approach. The goal is to resolve the key transboundary issues (i.e. unsustainable fisheries, habitat degradation and marine pollution, as identified by Transboundary Diagnostic Analysis (TDA) studies) in a progressively holistic and collaborative way. Priority actions of the CLME+ SAP focus on the improvement of the transboundary governance and management of shared living marine resources.

The various projects, programmes and initiatives under the CLME+ have brought together stakeholders from across the region and internationally to collaborate and engage in ocean governance research and science in the Wider Caribbean Region (WCR). This research agenda experience note highlights some of lessons learned and best practices observed from the collaborative and engaging activities of the Gulf and Caribbean Fisheries Institute (GCFI) at the nexus of the region's science-policy interface.

THE EXPERIENCE

Issue

The marine biodiversity of the CLME+ region is closely linked to anthropogenic activities and is rapidly changing as a result of both natural and man-made stressors. Impacts from overfishing, pollution (terrestrial and marine; point source and non-point source), maritime traffic and marine invasive species have placed the region's ecosystems at risk. These issues are transboundary in nature, affecting marine environments throughout the CLME+ region and are further exacerbated by the overarching impacts of climate change. Despite these stressors, the region's marine ecosystems are still expected to contribute to and profitably sustain livelihoods and economies (e.g. fisheries and tourism).

Stakeholders within the WCR are challenged with developing effective marine resource policies. The issues are expansive and become quite difficult to address, especially at the national level due to limited capacities (e.g. scientific and financial). Existing governance frameworks for addressing issues are specifically challenged because of the complications created by the transboundary nature of the distribution and connectivity of the living marine resources within the region. There is no one-size-fits-all approach for governance of transboundary resources. Furthermore, the region has a diverse political structure. It is therefore not surprising that with the existence of such a dynamic and complex social-ecological system (SES) as the CLME+ region, ocean governance has been recognized as a weak link.

The lack of clear and substantive science amongst local and regional governmental authorities impedes successful implementation of sustainable, region-wide policies and agreements. Promoting concepts such as the blue economy and achieving the ocean sustainable development goal (SDG14) requires clear integrated regional approaches.

Addressing the Issue

A comprehensive and collaborative approach to EBM is needed within the CLME+. Visions of clean, healthy, productive and sustainable oceans thriving with biodiversity relies on bridging the gap between science and policy. Recognising that humans are integral to ecosystems, and that their role shapes how ecosystems function, is critical to developing effective management strategies.

The multiple marine resource-users within the WCR generate competing and conflicting interests. Collective action and cooperation by the numerous stakeholders are needed for the effective management of the region's resources. Conjointly, the science has to be able to respond to policy needs; interaction(s) between policy-makers and science providers is imperative.

The CLME+ UNDP/GEF-funded project integrates research priorities into its framework and provides a coherent approach towards the integrated governance of the marine environment. This approach promotes the engagement of scientists, policy-makers and the public in having a shared understanding of important resource principles and values for informed decision-making. More specifically, the CLME+ SAP was developed to address the sustainable management of the living marine resources within the region, using EBM.

The following sections summarise some of the major collaborative efforts that resulted from the interface between information providers and information users (i.e. regional stakeholders).

RESULTS AND LEARNING

The Research Agenda

The report of the Gulf and Caribbean Fisheries Institute (GCFI) describes the research priorities of the CLME+ at the nexus of science and policy. These are associated with the three research agendas as identified in section O2.6 of the CLME+ Project Document:

- Expand the knowledge base required for the implementation of EBM and an ecosystem approach to fisheries (EAF) for key fisheries such as: Flyingfish, Spiny Lobster and shrimp and groundfish in the CLME+ region;
- Expand knowledge in support of habitat protection and restoration in the CLME+ region; and
- Expand the knowledge base required for the efficient and cost-effective reduction of pollution from Land-Based Sources and Activities (LBS) in the CLME+.

Table 1 highlights the priorities that were identified as well as the lessons learned in trying to address the complexities of the CLME+ region

Table 1. The priorities and lessons learned in addressing the CLME+ regional complexity

Priorities	Lessons learned
Capacity-building	<ul style="list-style-type: none"> • Capacity-building programmes should be well-crafted; there should be a focus on technical and governance skills, which are critical to policy-makers. • Capacity-building programmes need to equip stakeholders with the adequate competences to face new and emerging needs from across multiple sectors. • Marine and ocean research must be seen as multi-disciplinary in order to respond to new approaches that address policy goals.
Communications	<ul style="list-style-type: none"> • Effective and efficient communication relies on how well national and regional networks are constructed and how they convey information; this is a defining factor for effective management. • Relevant and timely information is essential to decision-makers; the value of the information would otherwise be compromised, resulting in poor decisions being made.
Integration	<ul style="list-style-type: none"> • Effective regional policies hinge on having cross-disciplinary frameworks and interactions. • Promoting integration improves knowledge transfer across sectors, agencies, programmes and institutions.
Synergies	<ul style="list-style-type: none"> • In developing research strategies there needs to be synergy between the various related topics within the multiple goals; reducing redundancy and promoting effectiveness. • Adaptive approaches must be developed simultaneously to ensure strong linkages between social and ecological conditions and institutional arrangements.

Policy Research

In recognising these priorities, the main goal surrounding ocean governance research and science throughout the WCR is for policy-guided research. There is a need for access to opportunities that would improve the uptake of science by resource managers. Critical to this uptake process is knowing the actors (i.e. research providers and research users). The science-policy interface can be found in multiple settings

in the WCR. This interface includes regional sectoral as well as multipurpose economic integration Intergovernmental Organisations (IGOs); universities and colleges; marine institutes and laboratories; technology institutes; national agencies; non-governmental organisations (all levels) and the private sector.

The science-policy interface is most effective within a well-defined process such as a policy cycle (Figure 2). A good example of a more conventional science advisory process of an IGO arrangement is for the International Commission for the Conservation of Atlantic Tunas (ICCAT), shown in Figure 2.

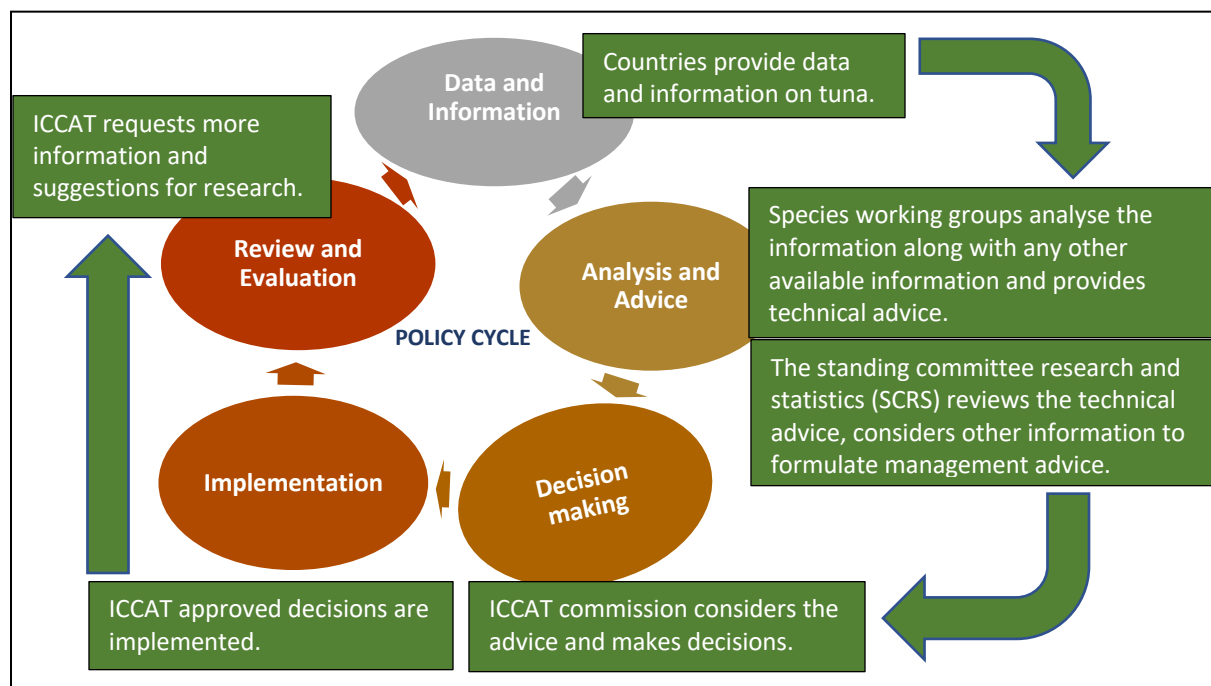


Figure 2. An example of the five stages of the policy process/cycle as conducted by ICCAT. This process is well known and understood by all stakeholders and includes government, scientists, academia, managers, NGOs, IGOs, industry and the ICCAT secretariat who facilitates the process.

Regional IGOs that play a critical role in the regional governance framework (RGF) for living marine resources (LMR) in the WCR include the Caribbean Community (CARICOM), the Organisation of Eastern Caribbean States (OECS), the Central American Integration System (SICA), and the Association of Caribbean States (ACS). These IGOs have broad mandates. Other key sectoral IGOs¹ also interact and collaborate within the science-policy interface.

Most IGOs host technical meetings where the outputs are usually recommendations that may either be taken to a decision-making level (if there is one associated with the IGO) or adopted at the national level. Technical advice is most impactful at the highest decision-making level; for international agencies (e.g. UN Environment CEP, FAO, WECAFC) that level is a technical intergovernmental forum and for regional multipurpose bodies (e.g. CARICOM, OECS, SICA, ACS) it is their ministerial councils/committees. Coordination and monitoring the flow of information and associated outcomes is critical to: 1) the uptake

¹ The Caribbean Environment Programme (UN Environment CEP) and the arrangements for its three protocols (Oil Spills, Land-Based Sources of Pollution (LBS) and Specially Protected Areas and Wildlife (SPAW); The Western Central Atlantic Fishery Commission (WECAFC) of FAO; The Organisation of the Fisheries and Aquaculture Sector of the Central American Isthmus (OSPESCA) of SICA; The Central American Commission on Environment and Development (CCAD) of SICA; The Caribbean Regional Fisheries Mechanism (CRFM), of CARICOM; The Caribbean Regional Public Health Agency (CARPHA), of CARICOM; Memorandum of Understanding on Port State Control in the Caribbean Region (Caribbean MOU PSC); and the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC).

of information; 2) fostering and maintaining collaboration amongst the various stakeholder groups; and 3) continued communication.

The RGF is a multi-level, multi-stakeholder framework where the national level is most critical to the implementation of plans, policies, enabling legislation, regulations, monitoring and enforcement needed to address transboundary issues. For this reason, GEF – IW projects require participating countries to establish national intersectoral coordinating mechanisms (NICs). Ideally the NIC, through nested policy cycles, creates and sustains linkages between the national and regional processes or IGOs. The CLME+ initiatives have been [supporting research on NICs and promoting their establishment and/or strengthening of NICs](#) and similar arrangements from the outset of the project.

Policy Planning

Strategic and management plans at all levels hinge on the ability to: identify research needs; have approaches to obtaining research input; and have a clear process by which the research will be used. This is especially important for researchers because it allows them to better understand the interface between research and policy.

Regional IGOs and national agencies often have researchers, however a considerable amount of research for supporting decision-making is conducted externally. Research capacity is widely distributed across various agencies and organisational levels, as well as geographically. As such, there can be some measure of difficulty in accessing outputs and expertise, which, as a result, could impact the level of uptake of science into decision-making processes.

Through collaboration and engagement, efforts have been made to improve access to research. The use of databases and inventories with centralised or distributed access through portals is utilised. Access to an existing network of expertise is available through the University of the West Indies (UWI) Ocean Governance Network² managed by CERMES. Improving access to information also includes proper documentation of scientific findings and applied research. Some examples of how such access is facilitated includes but is not limited to: CERMES technical reports, CRFM reports, FAO Reports (e.g. Fisheries and Aquaculture Report), GCFI annual publications; all accessible on the web.

There is a long and rich history of marine research in the Caribbean. Numerous assessments have been conducted on the natural state of the marine environment with considerations for socio-economic and governance linkages. Table 2 highlights some of the notable research efforts over the past few years.

Table 2. Examples of outcomes from marine research and scientific assessments conducted by international and regional stakeholder agencies where consideration is given to the social, economic and governance aspects that can be used to inform effective decision-making.

Stakeholder Agency	Research and Scientific Outcomes
United Nation Development Programme (UNDP) GEF CLME+ Project	<ul style="list-style-type: none"> Developed the State of the Marine Environment and associated Economies (SOMEE) to facilitate action and support decision-making for improved governance of shared LMR in the WCR.
United Nations Environment Programme - Caribbean Environment Programme (UNEP-CEP)	<ul style="list-style-type: none"> Created several technical reports specific to marine litter, sargassum, ballast water and oil spills; these reports build on previous research efforts and provide information that can be translated into policy.

² Established in 2013, the network has over 80 members across the UWI Campuses in the full range of disciplines. It was established primarily to provide an access point to UWI expertise for CARICOM, OECS, the ACS, their institutions, and their member countries.

Stakeholder Agency	Research and Scientific Outcomes
	<ul style="list-style-type: none"> • Developing a Regional Nutrient Reduction Strategy (RNRS) to expand baseline research and identify the most critical pollution sources. • United Nations Environment Programme- Caribbean Environment Programme (2020). The State of Nearshore Marine Habitats in the Wider Caribbean. Port-of-Spain: CANARI. • Regional Strategy and Action Plan for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021 – 2030 United Nations Environment Programme - Caribbean Environment Programme (UNEP-CEP) Caribbean Natural Resources Institute (CANARI), Technical Report No.00 • Developed the earliest regional research strategy for the Caribbean (1989). This catalysed the establishment of multiple National Programmes of Action (NPAs); further resulting in the State of the Cartagena Convention Area Report (SOCAR).
Organisation of the Eastern Caribbean States (OECS)	<ul style="list-style-type: none"> • Developed a marine strategy (2016) aimed at supporting the implementation of the Eastern Caribbean Regional Ocean Policy (ECROP). The strategy includes the Caribbean Regional Oceanscape Project (CROP) and builds on research policies from organisations such as CRFM and FAO • State of the Marine Environment and Associated Economies in the OECS Sub-region (OECS SOME) David A. Simmons, Tanya Staskiewicz, Aditi Thanoo Technical Report No. 02
Caribbean Regional Fisheries Mechanism (CRFM)	<ul style="list-style-type: none"> • Developed a Fisheries and Aquaculture Research Agenda (2016-2018) consisting of 26 priority research activities, which were identified from 182 research recommendations.
Institute of Coastal and Marine Research (INVEMAR)	<ul style="list-style-type: none"> • Developed a Regional Action Plan on Ocean Acidification for Latin America and the Caribbean (2016) which identified key priorities for addressing ocean acidification in support of the region's response to this global challenge.
Association of Marine Laboratories in the Caribbean; Caribbean Water and Wastewater Association (CWWA); & GCFI	<ul style="list-style-type: none"> • Host numerous regional research conferences and meetings bringing together hundreds of international and regional scientists and researchers. There is usually a lot of collaboration across stakeholder agencies (e.g. GCFI & UNDP-CEP have collaborated to co-host the Caribbean Node of Global Partnership on Marine Litter).

Implementing the Research Agenda

The ocean governance science and research agenda with its three priority areas (i.e. key fisheries: Caribbean Spiny Lobster, Flyingfish and shrimp and groundfish; habitat protection; and pollution) comprises five themes (science, governance, monitoring, economics and communications). These themes represent the full range of information decision-makers would need.

The research agenda was developed primarily to: mitigate deleterious effects resulting from poor governance; and manage the unforeseen impacts on the marine ecosystems in the CLME+ region. For achieving this goal, the main focus is on developing mechanisms that integrate scientific information into the RGF. Regional IGOs and national agencies/organisations (governmental and non-governmental) are vital to this agenda. However, the inclusion of all other stakeholders, especially at the national level is equally important; this is explored briefly in the next section.

Role of civil society and the private sector

The projects, programmes and initiatives of regional and national marine or ocean governance frameworks often include local knowledge and participation; this is critical to successful outcomes. The inputs from local knowledge and participation happens at the national level by engaging stakeholders from the civil society and private sector.

Across the CLME+ region, there are efforts specifically geared at improving relations among civil society and private sector groups. Institutions, agencies and IGOs strongly support the inclusion of all marine stakeholders. NICs play a vital role in this national-level stakeholder inclusivity. One of the key features of a NIC is having a comprehensive inclusion of stakeholders, creating an enabling environment for stakeholder participation. This level of engagement is needed to:

- improve relationships and collaboration among stakeholders at all levels; promoting principles of good governance
- build awareness and capacities for information uptake and use
- strengthen the capacity of stakeholders within civil society (e.g. fisherfolk, field technicians, managers) so that they are able to influence the policies that directly affect them or their way of life (e.g. livelihoods of fishers)
- support robust decision-making; this means including input from the wide cross-section of stakeholders.

Projects such as:

- “A participatory case study in support of the implementation the Small-scale Fisheries (SSF) Guidelines on: *Providing a SSF Guidelines and gender mainstreaming protocol for the Caribbean Community Common Fisheries Policy*” (a partnership between FAO, CERMES, CANARI, CRFM and CNFO³);
- “Enhancing Stakeholder Participation in Management of the Flyingfish Fishery” (a partnership between UNDP/GEF CLME+ Project, CRFM, CANARI and CERMES); and
- “Engaging Civil Society in CLME+ Strategic Action Programme Implementation” (a partnership between UNDP/GEF CLME+ Project and CANARI),

place emphasis on engaging civil society (as well as the private sector) to support and complement the research and science that informs decision-making in the CLME+ region.

Implementing this research agenda will take the collective effort of all stakeholders and the effective utilisation of resources (human, financial, technical, scientific) that can be leveraged from the different stakeholder groups (i.e. international agencies, regional IGOs, academia, civil society, etc.).

Best practices and lessons learned

There are several lessons that can be learned and best practices utilised from all the great research that has been and continues to be done in the CLME+ region. The following lessons and best practices outlined below are specific to ocean governance research at the nexus of the science-policy interface in the WCR.

³ Caribbean Network of Fisherfolk Organisations

- The science-policy process should be based on a set of key principles, such as the good governance principles⁴ for resource management; principles that promote credibility, accountability, transparency, legitimacy and participation. These principles should be agreed by all the stakeholders that will be engaged in the process.
- Specialised knowledge and expertise is needed to facilitate meaningful exchanges between stakeholders specifically engaged in the decision-making process. This knowledge and expertise could come from external researchers and information providers; local, national and regional groups, agencies and organisations (not directly involved in decision-making); and underrepresented groups (e.g. women and youths). This level of inclusion takes into consideration existing perceptions, biases, competing interests as well as the broader societal values; these help to formulate the advice that influences decisions.
- There are various science-policy interfaces for governance in the WCR, therefore, developing strategies for improving the uptake of science into policy must consider all these difference interfaces. Understanding how they are structured and how they work would be very beneficial to the science community, especially for influencing policy decisions.
- Improving access to and visibility of research outputs is essential to ensuring that relevant, timely and scientifically sound information is available to inform decision-making and other governance processes.
- Making applied research more lucrative for researchers by offering incentives could increase engagement and collaboration of science and policy stakeholders. Access to research funding helps in resolving this issue (e.g. UNDP/GEF provides various levels of grants and funding opportunities to regional stakeholder agencies – the CLME+ project benefits holistically from UNDP/GEF funding.).
- Research, no matter what stage it is in, should be documented, monitored and evaluated for improving quality and uptake.
- High-level applicable science has the greatest impact when: donors (all types, e.g. private, UN, etc.) are engaged; regional research centres are strengthened; opportunities are available for sharing and learning among researchers (e.g. GCFI conferences, working groups of WECAFC); and opportunities for early career development of researchers are supported.
- Promoting integration and improving knowledge transfer will help in achieving sustainability goals, especially in existing and emerging areas such as fisheries, energy, aquaculture, climate change, and blue technologies.

Underpinning these best practices and lessons learned is climate change. The impacts and effects of climate change are thus embedded within the research priorities for each agenda. Considerations are given to how living resources respond to the changing conditions. Ultimately, climate change influences all activities in ways that are currently unknown and unpredictable. The manifestation of resulting impacts will determine the achievability and implementation of planned activities.

REPLICATION

Processes that are well-documented and ecologically relevant have proven to be most impactful. Management decisions must be derived from a sound scientific base. The examples provided of well-designed processes and engaging programmes should be monitored. Best practices should be extracted, and improvements and adaptations made, when and where necessary.

Responses to management and policy requires a clear understanding of underlying causes and effects. The current approaches being used to conduct assessments (i.e. fisheries stock, governance effectiveness, habitat biodiversity, marine pollution) at the regional level, can be modified by scale and feasibility to help address any science and knowledge gaps at the national level. This could improve capacities within existing policy frameworks (e.g. RGF).

⁴ A set of fundamental values that guide governance. There have been 13 good governance principles that have been identified for resource management in the Caribbean context. Compton et al., (2019) outlines these principles.

A one-size fit all approach for the governance of transboundary LMR is not practical and climate change must permeate the culture of every organization so that responses to issues become second nature. Governance arrangements that are easily understood will better support effective management of the marine resources and deliver social, cultural, economic, and environmental benefits. Therefore, careful consideration should be given to the different arrangements, the multiple stakeholders and the various scales within which they operate.

SIGNIFICANCE

Although it is impossible to measure and understand every aspect of each of the priorities in the research agenda, the scientific knowledge and collaborations fostered helps with analysis and monitoring. Focus can be placed on activities that will inform and improve the understanding of the most essential components and functions of the ecosystems in the CLME+ region.

Better management practices can be developed based on the information provided on the anthropogenic impacts. Efforts can be concentrated on activities that directly influence decisions most important to the well-being of the region's LMR and society. The information transfer interface that has been and continues to be developed and improved on must be responsive to the needs of policy in order to achieve effective and efficient governance arrangements.

Promoting collaboration and engagement across the science-policy interface helps to devise strategies for addressing existing gaps and challenges. Achieving national, regional and international goals and agendas such as the UN sustainable development goals (SDGs) and the blue economy objectives, relies on the successful engagement across the wide cross-section in the CLME+ region.

REFERENCES

More information can be accessed from the following websites:

1. <https://clmeplus.org/a-research-agenda-for-the-wider-caribbean-region/>
2. <https://clmeplus.org/>
3. <https://www.cavehill.uwi.edu/cermes>
4. <https://www.clmeproject.org/sap-overview/>
5. <https://www.gcfi.org/>
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