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Challenges to Implementing Regional Ocean Governance in the Wider Caribbean Region

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For over two decades, the countries, subregional and regional level intergovernmental organizations in the Wider Caribbean Region (WCR) have been engaged in an initiative to implement a regional governance approach for managing the shared living marine resources of the Caribbean Sea and adjacent regions. Given the inherent socio-economic and geopolitical complexity of the region, this approach has been recognized as essential to address the challenges associated with the interconnected nature of shared ecosystem goods and services upon which countries in the region depend. This paper uses a retrospective lens to shed light on the challenges confronting the region and its efforts to overcome them. It is based on the Large Marine Ecosystem Governance Framework developed specifically for the WCR in 2006 and characterized as "learning by doing." Data were obtained for this study through desktop review of published literature documenting progress over the period 2001–2021 and insights requested from 15 key individual and institutional contributors involved in the initiative. While the lack of financial resources was an underpinning and cross-cutting issue, key constraints identified were categorized as institutional, capacity building, awareness raising, leadership, legal, political, social capital, or socio-cultural. They include national capacity to engage with regional level processes due to a variety of factors including funding, political, and institutional challenges of developing a regional coordination mechanism, engaging the broader ocean community to create the critical mass needed, the difficulty of mainstreaming ocean affairs into high level political and decision-making fora and the scarcity of local, national and regional technical and political champions. This paper advances understanding of the barriers to be overcome in highly complex socio-politically developing regions if regional ocean governance initiatives are to play the essential role identified in the 2030 Sustainable Development Agenda, reaping the sustainable benefits of a blue economy.

Keywords: ecosystem-based management, constraints, shared living marine resources, Large Marine Ecosystem, Caribbean, multi-level governance

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INTRODUCTION

Evidence supporting a regional approach for managing transboundary ocean space, especially within enclosed and semi-enclosed seas, has been growing over the past few decades (Sherman, 1999; Fanning et al., 2009; Sherman and Hempel, 2009; Chung, 2010; Rochette et al., 2015; Duda, 2016; Billé et al., 2017; Langlet, 2018; Cavallo et al., 2019). More recently, strengthening institutional capacity at the regional level has been identified as essential for achieving the United Nations 2030 Agenda for Sustainable Development (UN, 2015) and for pursuing initiatives targeting a blue economy (World Bank and UN-DES, 2017; Keen et al., 2018; Garland et al., 2019; UNGA, 2020). Additionally, the benefits of countries adopting a regional approach for resolving transboundary issues, particularly those affecting shared living marine resources (sLMRs) and for pursuing marine ecosystem-based management (EBM) have also been recognized (Fanning et al., 2011). Contributing to an understanding of the current level of regional uptake to help meet these expectations, Mahon and Fanning (2019b) identified 20 regional clusters comprising governance arrangements related to EBM across the global ocean space. Of these, only four (Arctic, Antarctic, Pacific Islands Region, and South-East Pacific) were considered to have the integrating and coordinating institutional mechanisms needed to facilitate EBM (Mahon and Fanning, 2019a). The authors' assessment of the Western Central Atlantic region which comprised the Wider Caribbean Region (WCR) indicated the absence of an overarching regional integration mechanism "despite there being several regional and subregional mechanisms for fisheries and environment." (Mahon and Fanning, 2019a, p.5).

Efforts have been underway for over two decades by the countries, subregional and regional level intergovernmental organizations in the WCR to develop an integrated regional approach to governing sLMRs (CLME Project, 2011; Mahon et al., 2014; McConney et al., 2016; Debels et al., 2017). This paper explores factors thought to be hindering the achievement of this goal. We use a retrospective lens to shed light on the challenges confronting the region and its efforts to overcome these barriers, based on the Large Marine Ecosystem (LME) Governance Framework developed specifically for the WCR in 2006 and characterized as "learning by doing" (Fanning et al., 2007). We begin by setting the context for the research with a brief overview of the WCR, the rationale behind a regional integrated approach for addressing transboundary issues and a description of the evolution of efforts over the past two decades, hereafter referred to as the Caribbean Large Marine Ecosystem (CLME) initiative. This is followed by an assessment of the constraining factors identified from a desktop review of published literature from the CLME Initiative over its 20 year history as well as insights provided by key contributors involved during each phase of the initiative. The paper concludes with a discussion on how the lessons learned from the WCR can shed light on the contribution regional initiatives can make to achieving the 2030 SDGs and to reaping the sustainable benefits of a blue economy. The findings are not only relevant for the WCR as it continues to pursue regional ocean governance but also to advancing understanding of potentially similar barriers and solutions in other developing regions of high socio-political complexity.

SETTING THE CONTEXT

As an ocean management area, the WCR is defined in the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (referred to as the Cartagena Convention) as "the marine environment of the Gulf of Mexico, the Caribbean Sea and areas of the Atlantic Ocean adjacent thereto, south of 30° north latitude and within 200 nautical miles of the Atlantic coasts of States referred to in article 25 of the Convention." (Article 2, paragraph 1). As defined in the Convention, this marine area is bordered by 28 sovereign states and 18 overseas territories of France, United Kingdom, United States of America (USA), and The Netherlands. It extends from French Guiana in the south to Cape Hatteras, United States in the north, the Caribbean countries of Central America in the west and all of the insular Caribbean countries and territories. While Brazil is not considered part of the Cartagena Convention area, it is a member of the Western Central Atlantic Fisheries Commission (WECAFC) of the UN Food and Agriculture Organization (FAO). It is also a member of the Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE) of the Intergovernmental Oceanographic Commission (IOC) of UNESCO. Additionally, given the significant biogeophysical influence of Northern Brazil on parts of the WCR and the marine ecosystems shared with other countries of the North Brazil Shelf LME (NBSLME), the importance of including Brazil in efforts to develop and implement mechanisms aimed at fostering regional ocean governance becomes evident. This was further recognized in 2001 by the Global Environment Facility International Waters (GEF-IW) program which agreed to financially support a regional project focusing on the governance processes needed to sustainably manage sLMRs of the CLME and adjacent areas, with the latter referring specifically to the NBSLME[1]. As the GEF-IW program has provided separate funding to address issues in the Gulf of Mexico LME, this paper limits its focus to ongoing collaborative efforts aimed at building and strengthening regional ocean governance processes within the CLME and NBSLME (**Figure 1**) since 2001.

Making the Case for Regional Ocean Governance in the WCR

The Wider Caribbean Region and in particular the Caribbean LME was assessed as one of the most geopolitically complex regions in the world (Mahon et al., 2010a). In addition to having countries among the largest (United States and Brazil) to the smallest (St. Kitts and Nevis) and spanning those among the richest to the poorest (United States and Haiti), there are 16 Small Island Developing States (SIDs)[2] within the region. These are recognized as being significantly challenged with "limited resources, susceptibility to natural disasters, vulnerability to

[1]http://lme.edc.uri.edu/index.php.

[2]https://www.un.org/esa/sustdev/sids/sidslist.htm#Latin.

FIGURE 1 | Map of countries in the Wider Caribbean Region.

external shocks and excessive dependence on international trade" (United Nations Department of Economic and Social Affairs (UNDESA), 2017), among other factors limiting sustainable development (Bernal, 2001). With a population of approximately 93 million living within 100 km of the coast of the CLME and NBSLME (CLME + PCU, 2020), the goods and services from these ecosystems have been critically important for ensuring livelihoods, food security and the wellbeing of the people of the region (Fanning et al., 2007; UNEP, 2016). Most tangible are fisheries and tourism, but cultural, recreational, and spiritual aspects are also of great significance (Mahon et al., 2014). When the semi-enclosed nature of the Caribbean Sea and the large number of countries sharing the basin are taken into account, the need to collaboratively address transboundary threats to these goods and services becomes paramount (Debels et al., 2017).

Deteriorating Condition of the Wider Caribbean Region

Prior to and since 2001, numerous studies have documented the deteriorating condition of the coastal and marine ecosystems and the potential loss of benefits to the people of the WCR. They highlighted the need for collaboration to reverse the trend. At the national level, collaboration included the growing demand for integrated coastal zone management as exemplified in Barbados (CZMU, n.d.; Scruggs and Bassett, 2013), Belize (CZMAI, n.d.; Verutes et al., 2017), and Cuba (Hernandez, 1999; Gerhartz-Abraham et al., 2016). At the subregional level, the Caribbean Community (CARICOM), comprised primarily of former British colonies, the Central American Integration System (SICA for its Spanish acronym) representing countries in Central America and the Dominican Republic, and the Organization of Eastern Caribbean States (OECS) with its current 11 members, each began to focus attention on threats to the marine environment and their impacts on the socio-economic well-being of their member countries. At the regional level, among several intergovernmental organizations with a mandate on oceans, the United Nations Environment Programme (UNEP) was spearheading the adoption of the Cartagena Convention and its protocols in recognition of the growing need to balance development with protection of the Caribbean marine environment. Other UN organizations responsible for fisheries (WECAFC/FAO), shipping (IMO), and ocean science (IOCARIBE of IOC UNESCO) were also drawing attention to regional impacts arising from increased overfishing, land and marine-based sources of pollution, biodiversity loss and habitat degradation, with climate change adding another layer of uncertainty. Lastly, a number of non-governmental organizations (NGOs) in partnership with countries and international organizations were also drawing attention to the status of coastal and marine ecosystems in the region, such as the International Coral Reef Initiative (Jackson et al., 2014). These

and other studies (e.g., Agard and Cropper, 2007), along with efforts by the Association of Caribbean States updating a UN General Assembly (UNGA) Resolution in 2006 (A/RES/61/197) declaring the Caribbean Sea as a special area in the context of sustainable development, confirmed growing concerns over the impacts anthropogenic activities were having on the Caribbean Sea (Singh and Mee, 2008). They also raised the level of awareness regarding the need for a region-wide, ecosystem-based approach and funding resources to better understand and manage these impacts (Fanning et al., 2011).

Evolution of the CLME Initiative: 2001–2021

PDF-A Phase: 2001–2005

Funding efforts for this phase of the CLME initiative gathered additional momentum in 2001[3] with the submission of a proposal to the GEF-IW programme under a *Project Preparation and Development Facility* grant, referred to as the PDF-A phase of the GEF Project Cycle (GEF, 2003; **Table 1**). This process was endorsed by representatives of five GEF-eligible countries[4] and facilitated by IOCARIBE of IOC UNESCO as the regional executing agency, with the United Nations Development Programme (UNDP) serving as the implementing agency (UNDP/GEF, 2001). Making the case for the largely piecemeal and uncoordinated approaches from countries and organizations to reverse trends in degradation (Fanning et al., 2009), the project concept, entitled *Sustainable Management of the Shared Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions* was accepted into the GEF pipeline in 2003. Following acceptance, a funding proposal for the preparation of a full-sized project proposal, referred to as the *Project Preparation and Development Facility—B* (PDF-B) phase, was completed. Led by IOCARIBE of IOC UNESCO, this required and received endorsement by 15 eligible countries[5] in the region, prior to its submission to the GEF-IW program by UNDP in 2005 and its subsequent approval for funding.

PDF-B Phase: 2006–2007

This phase of the CLME Initiative began implementation in 2006 following approval of US $700,000 from the GEF along with co-financing commitments of US $213,000 from project partners (**Table 1**). The project was designed to obtain information on key transboundary issues affecting living marine resources and their root causes, leading to the submission of a full-sized project proposal to the GEF (UNDP/GEF, 2005). Over an estimated 18 months, the specific activities focused on developing a shared vision and approach for the full-sized project. The overall objective was the sustainable management of sLMRs in the CLME and adjacent regions through an integrated management approach that will meet World Summit on Sustainable Development (WSSD) targets for sustainable fisheries. The PDF-B phase included the preparation of a preliminary Transboundary Diagnostic Analysis (TDA) to identify the major transboundary issues affecting the sLMRs in the WCR and their root causes. Given the extent and

[3]In 1995 and 1997, Member States of IOCARIBE of IOC UNESCO adopted Recommendation (SC-IOCARIBE-V.4) supporting the establishment of a Caribbean LME monitoring and assessment programme and Recommendation SC-IOCARIBE-VI.5, where it agreed to continue supporting the development of project proposals for the Caribbean LME for submission to the GEF for funding. The recommendations were subsequently approved by the senior executive branches of the IOC.

[4]Barbados, Cuba, Jamaica, Mexico, Venezuela.

[5]Antigua and Barbuda, Barbados, Belize, Costa Rica, Dominica, Guatemala, Guyana, Haiti, Jamaica, Nicaragua, Panama, St. Kitts and Nevis, St. Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago.

TABLE 1 | GEF-IW program submission and funding timeline.

Project phase	Time period	GEF process	GEF funding	Co-financing
PDF-A	August 2001	PDF-A concept document submitted to GEF	US$ 18,836	US$ 16,844
	June 2003	Concept accepted into the GEF pipeline		
	January 2004	PDF-B project proposal submitted to countries		
	July 2005	PDF-B project proposal endorsed by countries		
	August 2005	PDF-B project proposal approved by GEF		
PDF-B	April 2006	PDF-B project implemented	US$ 700,000	US$ 213,000
	November 2007	Full-Sized Project proposal endorsed by countries		
	November 2007	Full-Sized Project proposal submitted to GEF		
	April 2008	Full-sized project approved by GEF		
Full-Sized Project 1 (FSP1)	May 2009	First full-sized project implemented	US$ 7,008,116	US$ 47,591,111
	May 2013	Strategic Action Programme endorsed by countries	US$ 450,000	
	August 2013	Second full-sized project concept submitted to GEF		
	September 2013	Second full-sized project preparation approved		
	November 2013	Concept approved by GEF		
	March 2015	Second full-sized project document approved by GEF		
Full-Sized Project 2 (FSP2)	May 2015	Second full-sized project implemented	US$ 12,500,000	US$ 134,153,695
	October 2018	Mid-term review		
	October 2021	Expected conclusion		
Total funding			US$ 20,676,952	US$ 181,974,650

diversity of the WCR, three TDAs were conducted focusing on the Insular Caribbean, the Western Central American area and the Guianas-Brazil subregion. The project also developed a preliminary Strategic Action Programme (SAP) that examined the current transboundary living marine resources governance gaps and recommendations on actions needed in the full-sized project in order to achieve the overall project objective. The preliminary SAP identified weak multi-level governance as a root cause of these transboundary issues. This led to the development of the "made in the Caribbean" LME Governance Framework which was endorsed by the countries to be applied in the Full-Sized Project (FSP) as the basis for understanding and testing solutions aimed at improving transboundary living marine resource governance (Fanning et al., 2007).

First Full-Sized Project (FSP1) Phase: 2009–2014

The Full-Sized Project document generated from the PDF-B phase was endorsed by 23 GEF-eligible countries[6] and was approved in 2008 by the GEF for US $7,008,116 (UNDP/GEF, 2008). Co-financing commitments by partners totaled US $47,591,111 (**Table 1**). Key objectives were to update the preliminary TDAs to agree on the major issues confronting the region's marine environment and sLMRs, and their root causes; and to develop a 10 year SAP for sustainably managing these resources in the CLME and its adjacent regions. The project, more commonly referred to as the *CLME Project*, had three additional objectives: to improve the shared knowledge base needed to address the identified issues; to finalize the actions in the SAP required to achieve legal, institutional and policy reforms to support transboundary LMR management; and, to develop an institutional and procedural approach to LME level monitoring, evaluation, and reporting (UNDP/GEF, 2008). Based on advice from the Technical Task Team early in this phase of the project, updating the TDAs shifted focus from geographical sub-regions to EBM of the three major fisheries ecosystems, namely coral reef, continental shelf and pelagic ecosystems (Heileman, 2011; Phillips, 2011). Within these ecosystems, the priority transboundary issues were confirmed to be unsustainable exploitation of fish and other living resources, pollution and habitat degradation/biodiversity loss, with climate change impacts as crosscutting. Using the knowledge acquired from the TDAs and causal chain analyses, the final SAP focused on an ecosystem-based proposal for fisheries governance that addressed local, national and regional needs (Debels et al., 2017).

Second Full-Sized Project (FSP2) Phase—2015–2021

With the endorsement of the SAP by 21 GEF-eligible countries[7] and the United States at the conclusion of the FSP1 phase, the second FSP entitled *Catalyzing 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* (referred to as the CLME + Project) was submitted for funding to the GEF (UNDP/GEF, 2015). The project proposal was developed with a US $450,000 preparation grant and focused on implementing the first 5 years of the 10 year SAP developed during the FSP1 phase. Funding to implement the project was approved in March 2015 for US $12,500,000 (GEF, 2020a), supported by co-financing from partners of US $134,153,695 (**Table 1**). The project's five components aimed at: (i) strengthening institutional, policy and legal frameworks for transboundary LMR governance; (ii) enhancing institutional capacity to implement ecosystem-based management (EBM) for the shared LMRs in the region; (iii) reducing environmental stress and enhancing livelihoods through piloting the implementation of EBM using specific case studies that allow for replication and upscaling; (iv) identifying high priority investment needs and feasible opportunities to address the sustainable management of shared living marine resources; and (v) monitoring, evaluating and sharing lessons on the overall implementation of the SAP (GEF, 2020b).

MATERIALS AND METHODS

LME Governance Framework

The LME Governance Framework developed during the PDF-B phase is used in this study to structure the identification of constraints during each phase of the four GEF-funded phases of the CLME initiative (Fanning et al., 2007). The framework addresses two key components of LME governance, namely the iterative policy cycle process by which informed decisions are made, implemented and reviewed and the multi-level, multi-scalar jurisdictional, spatial, temporal, and ecological nature of LMEs (**Figure 2**). To apply the framework, the policy cycle for each of the issues identified as affecting regional ocean governance in the WCR can be assessed by knowledgeable stakeholders for its functionality at each stage and for linkages between stages to determine the level of completeness of the policy cycle. For example, is the data and information needed for analysis and advice to inform decision making appropriate and are all those who have data and information involved? Are decisions implemented, monitored and evaluated for their effectiveness? This is followed by an examination of the connectivity between these decision-making processes vertically across jurisdictions (e.g., is the policy cycle relating to fisheries decision-making at the national level linked to those at the local and regional levels) and laterally at each jurisdictional level within the region. As described by Fanning et al. (2007), any disruption in moving through the five stages of the policy cycle (data and information, analysis and advice, decision-making, implementation, and review and evaluation), can result in incomplete cycles leading to poor governance. Additionally, recognizing that a variety of decision-making processes will be occurring at the different jurisdictional levels of the LME, the framework facilitates assessment of any barriers

[6]Antigua and Barbuda, Bahamas, Barbados, Belize, Brazil, Colombia, Costa Rica, Dominica, Dominican Republic, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, St. Kitts and Nevis, St. Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

[7]Antigua and Barbuda, Barbados, Belize, Brazil, Colombia, Costa Rica, Dominica, Dominican Republic, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, St. Kitts, and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago. Note that as of June 2019, the CLME + Project website (https://www.clmeproject.org/sap-overview/) indicated the Bahamas, Cuba and Nicaragua, along with France and the United Kingdom had also endorsed the SAP.

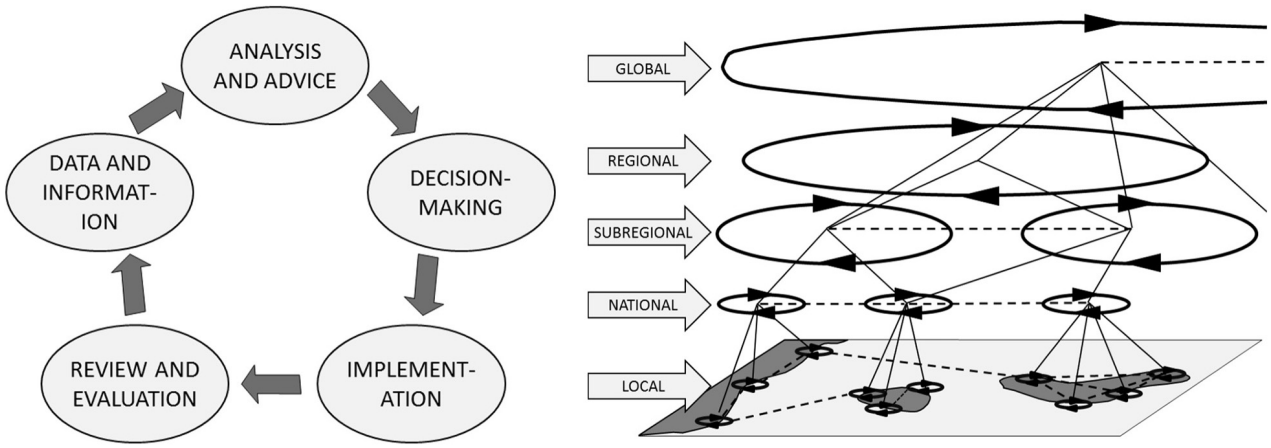

FIGURE 2 | The LME Governance Framework showing the five stages of the policy cycle component on the left and the multi-level component showing the vertical and lateral linkages needed for policy cycles to facilitate effective governance at the LME level (represented by ovals on the right).

inhibiting the lateral and vertical linkages needed to facilitate effective governance at the LME level. Lastly, the framework provides for a review of the adequacy of the coverage of available information being used in each stage of the policy cycle and at each level, based on the degree of engagement by stakeholders having the knowledge needed to inform the process. Additional details on applying the framework using three different resource management situations in the WCR are provided in Fanning et al. (2013).

Data Collection and Analysis

Data obtained for this study included a desktop review of published material (peer-reviewed and non-peer reviewed project-related documentation) over the period 2001–2021 and retrospective insights requested in 2020 from 15 individual and institutional contributors involved in the various phases of the CLME Initiative. Although extremely knowledgeable and engaged at various stages of the CLME initiative, the information provided by these contributors reflects their perceptions of constraints and should not be interpreted as representing the views of all stakeholders engaged in the CLME initiative. As a GEF-funded project, the required written project-related documentation for each phase of the initiative is specified by the GEF and is publicly available. These documents were obtained from three major sources: the GEF project database website[8], the Knowledge Management Hub established under the CLME + Project[9] and the repository available at the UWI-CERMES website[10]. Two peer-reviewed published papers providing overviews of the GEF-funded projects to 2013 (Mahon et al., 2014) and to 2016 (Debels et al., 2017) were also used to obtain additional insights regarding constraints and efforts to address them. Major project-related documents reviewed are listed in **Table 2**. Data from contributors were obtained individually by first sending a request for expression of interest to regional level governmental and non-governmental institutional representatives, academics and consultants who were identified as involved in the CLME initiative over its 20 year period. Based on a positive response, the template provided in **Table 3** was emailed to each recipient. All data received were transferred to an Excel spreadsheet for subsequent qualitative content analysis. The analytical results were then shared with contributors for feedback on the thematic assignment of the constraints, which received their agreement. Feedback provided from institutional contributors (UNEP, IOCARIBE, FAO, CRFM, OSPESCA, CANARI, UWI-CERMES)[11] represented their individual views and not those of their organizations.

Data on perceived challenges collected from contributors were analyzed using standard qualitative content analysis techniques that include the identification of categories or themes emerging from the responses (Hsieh and Shannon, 2005). A summary of the steps includes (a) identifying key words or codes to look for in the data that relate to the unit of analysis; (b) develop rules for the key words codes that ensure consistency; (c) coding the text according to the developed rules; (d) examine the results for patterns; (e) draw inferences based on the patterns. The analysis resulted in each perceived constraint being categorized into one of the following categories: institutional; awareness building; leadership; socio-cultural; capacity building; political; social capital; legal. Constraints that were identified by more than one participant for a given phase were counted as a single constraint for that phase of the CLME initiative. However, the same constraint identified for more than one phase was counted separately in each of the phases for which it was mentioned. Each constraint was then evaluated on the basis of how it affected the

[8]https://www.thegef.org/projects

[9]https://clmeplus.org

[10]https://www.cavehill.uwi.edu/cermes/news/technical-reports.aspx

[11]UNEP-United Nations Environment Programme; IOCARIBE-IOC-Sub Commission for the Caribbean and Adjacent Regions; FAO-Food and Agriculture Organization; CRFM-Caribbean Regional Fisheries Mechanism; OSPESCA-Organización del Sector Pesquero y Acuícola del Istmo Centroamericano; CANARI-Caribbean Natural Resources Institute; UWI-CERMES-University of the West Indies Centre for Resource Management and Environmental Studies.

TABLE 2 | List of reviewed project-related documents.

PDF-A project 2001–2005	PDF-B project 2006–2008	First full-sized project (FSP1) 2009–2014	Second full-sized project (FSP2) 2015–2021
PDF-A project document (2001)	PDF-B project document (2005)	First full-sized project document (2008)	Second full-sized project document (2015)
Pipeline Concept Paper (2003)	Fisheries Governance report (2007) and Living Marine Resource Governance focusing on Non-extractable Resources report (2007)	Finalized TDA (2011) Causal chain analysis (2011)	Mid-term review (2018)
	Final report—Project concept/TDA synthesis (2007)	Fisheries ecosystems governance (2012)	
		Mid-term review (2012)	
		Finalized SAP (2013)	
		Terminal evaluation (2013)	

Mahon et al. (2014) and *Debels et al. (2017)*.

TABLE 3 | Data collection template identifying constraints at each phase of the GEF-supported CLME initiative.

	PDF-A Project 2001–2005	PDF-B Project 2006–2008	FSP1 Project 2009–2014	FSP2 Project 2015–2021
Constraint				
Stages of the policy cycle affected				
data and information				
analysis and advice				
decision making				
implementation				
monitoring and evaluation				
Relevant level(s) involved in lateral and vertical linkages				
Global				
National				
Regional				
Local				
Stakeholders involved				

completeness of the relevant policy cycle, the need to strengthen or build vertical and/or lateral linkages among the relevant jurisdictional levels and the adequacy of pertinent stakeholder engagement. To ensure anonymity, the results obtained from analyzing each contributor's input were aggregated.

Using the constraints identified by each contributor, the project-related documentation for each phase of the initiative (**Table 2**) was examined to assess the extent to which the constraints perceived to be in place by the contributors had been identified and the attention given to addressing them. Every document was analyzed using key words relating to the identified themes and constraints arising from the content analysis of the data provided by contributors.

RESULTS

Nature of the Identified Constraints

The categories of constraints and numbers of constraints in each category identified by contributors for each of the four phases of the GEF-funded initiative are illustrated in **Figure 3**. The number of different types of constraints ranged from a low of 10 in the PDF-B phase to a high of 18 in the second full-sized project, with institutional constraints being the most frequent across all four phases. Of particular interest is the increase in the category of constraints identified over time, ranging from six at the onset of the initiative in 2001–2005 to eight in the current 2015–2021 phase. Also noteworthy is the absence of the awareness building category of constraint during the first full-sized project (2009–2014), the only phase in which this category was not mentioned. Two new constraint categories, political and social capital, while not flagged by contributors for the PDF-A and PDF-B phases, were identified for both full-sized projects.

Identified Constraints

A total of 29 constraints were identified by contributors covering the period from 2001 to 2021. Twelve (41%) were categorized as *institutional*, five (17%) as *capacity building*, four (14%) as *awareness building*, two each (7%) as *legal*, *leadership* and *political* and one each (3.5%) as *socio-cultural* and *social capital*. **Supplementary Table 1** provides details on constraints identified for each phase of the CLME initiative, highlighting those shared across each phase as well as constraints unique to each phase. Stages of the policy cycle most affected, status of vertical and lateral linkages as well as stakeholders involved are also provided for each constraint. **Table 4** provides a simplified representation of constraints across the four phases of the CLME initiative, described in greater detail in **Supplementary Table 1**.

PDF-A Phase: 2001–2005

Constraints perceived by contributors during this initial phase of the initiative focused on the single sector nature of ocean management and governance among national level agencies and the inward perspective of countries in the region resulting in a preoccupation with national priorities over a more collaborative and visionary regional approach (Constraints 1–11, **Supplementary Table 1**). Challenges arising from differing levels of human and financial resources among countries, coupled with significant socio-cultural diversity as influenced by different colonial histories and languages were also flagged as constraints to sustainable management of shared living marine resources. During this phase, engagement of civil society and the private sector in decision making was identified retrospectively by contributors as undervalued by national governments.

Regarding the stages of the policy cycle, contributors noted that an absence of data and information, whether due to unavailability or inaccessibility, had the "domino effect" of

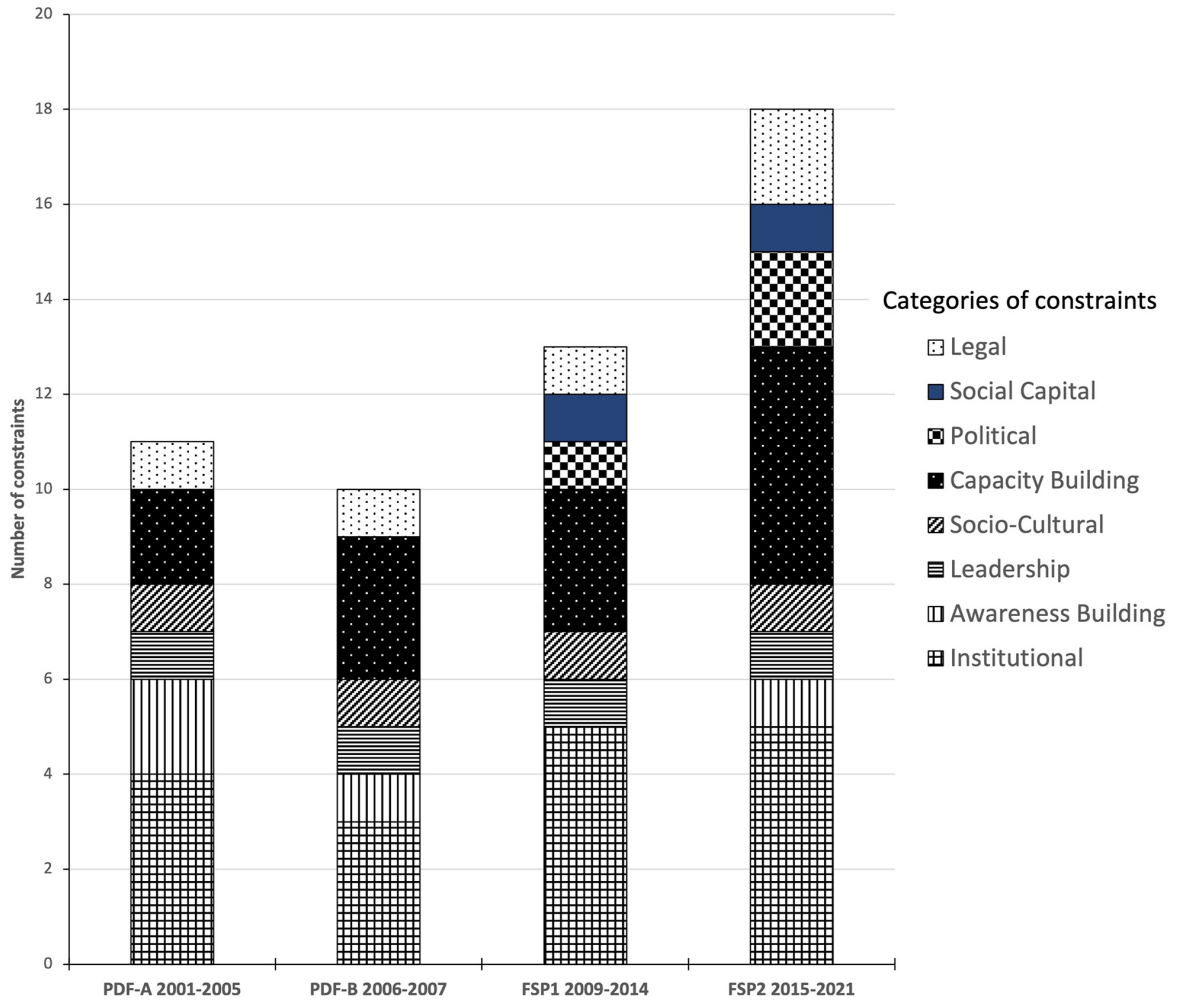

FIGURE 3 | Nature of constraints for each phase of the CLME initiative.

influencing all other stages of the policy cycle. Even when data were available and accessible, there was the perception of avoiding evidence-based decisions. In cases where sectoral planning was occurring, while the completeness of the policy cycle for some stakeholders such as governmental agencies appeared relatively high, contributors noted the lack of lateral linkages with other national agencies as constraining integrated efforts. No specific stage of the policy cycle could be assigned to addressing the challenge of socio-cultural diversity. Overall, when examining the identified constraints during the PDF-A phase (**Supplementary Table 1**), weak vertical linkages between national and regional levels contributed to the lack of support for an integrated regional approach and achieving consensus for regional ocean governance priorities. At the same time, non-existent to weak lateral linkages among sectors as well as civil society organizations (CSOs) contributed to poor interactive governance and the predominance of sector-based planning during this PDF-A phase. Additionally, stakeholders involved in ocean governance processes at the national and regional levels were primarily governmental, with minimal contribution of civil society and the private sector.

PDF-B Phase: 2006–2007

Seven of the 10 constraints perceived by contributors during this phase corresponded to those identified in the PDF-A phase (Constraints 5–11, **Supplementary Table 1**). This is not surprising since this phase was intended to conduct preliminary analyses aimed at identifying barriers to a regional approach rather than addressing constraints identified in the earlier phase. The three new constraints (Constraints 12–14, **Supplementary Table 1**) gave added attention to the lack of adoption of an ecosystem-based management approach. This is coupled with the lack of awareness of the transboundary implications of not adopting such an approach and the lack of capacity to adopt and implement regional and global multilateral ocean-related agreements. Given that the GEF had agreed to include the PDF-A concept note into its pipeline and to fund the PDF-B phase, the earlier constraint of the low priority given by donor organizations to integrated ocean-related projects in the

TABLE 4 | Distribution of constraints among the four phases of the CLME initiative by category and phase of the CLME initiative.

Category	Brief description of constraints	PDF-A	PDF-B	FSP1	FSP2	Constraint #
Institutional	Lack of synergies among regional actors	■				1
	Predominantly sector-based planning	■				4
	Importance of civil society/private sector input	■	■			5
	Lack of integration across the main transboundary issues		■			12
	Weak mechanisms for interactive governance	■	■	■	■	10
	Limited national intersectoral coordination mechanisms			■		15
	Lack of effective engagement of civil society			■		16
	Fisheries focus			■		17
	Sharing and accessibility of data and information			■	■	18
	Limited national intersectoral coordination				■	21
	Lack of appropriate regional coordinating mechanism				■	23
	Limited coordination among countries for transboundary issues				■	28
Capacity building	Limited country capacity for uptake from regional projects	■	■	■	■	7
	Weak networking and collaboration among the civil society organizations	■	■	■	■	9
	Lack of capacity to implement regional and global ocean commitments		■	■	■	14
	Inadequate communication strategy and plan CLME + project				■	26
	Inadequate strategy for engagement with private sector at all levels				■	27
Awareness	Limited interest of donors in Caribbean ocean governance	■				2
	Lack of national level understanding of importance of oceans governance	■				3
	Lack of understanding of implications of transboundary issues		■			13
	Low national understanding of blue or ocean-based economy challenges				■	24
Leadership	Lack of an accepted regional vision	■	■	■		6
	Lack broader development vision for the region.	■	■	■	■	25
Legal	No harmonized regional targets	■	■	■		8
	Weak national governance framework				■	22
Political	Decreasing interest in science-policy interfaces			■	■	19
	Exercise of power and influence by some countries				■	29
Socio cultural	Diversity in culture, capacity, human development	■	■	■	■	11
Social capital	Limited succession planning			■	■	20

region was considered addressed. Growing awareness of the importance of oceans governance and the LME Approach and the need for integrated planning among those participating in the project development and implementation were also perceived as addressed (Constraints 1–4, **Supplementary Table 1**).

As with the PDF-A phase, the need for relevant data and information and analysis and advice to assist with more informed decision making and implementation were identified as necessary to strengthen the policy cycle process for the three additional identified constraints (Constraints 12–14, **Supplementary Table 1**). Regarding the need to strengthen vertical and lateral linkages, attention was focused on the limited connectivity vertically from national, to subregional to regional, thereby constraining the development of a regional approach. Nonetheless, weak lateral linkages at all jurisdictional levels were also noted. Lastly, mainly governmental stakeholders continued to be involved in decision making processes during this stage.

First Full-Sized Project (FSP1) Phase: 2009–2014

Contributors identified 13 constraints during this FSP1 phase. Six of these were first perceived during the PDF-A phase (Constraints 6–11, **Supplementary Table 1**) and one was carried over from the PDF-B phase (Constraint 14, **Supplementary Table 1**). Their persistence into the FSP1 phase reflects an ongoing perception of a lack of leadership to adopt a regional vision, limited valuing of civil society, and private sector input, ongoing limited capacity of national governments and civil society stakeholders and the inherent socio-cultural diversity of the region. Of the six new constraints identified (Constraints 15–20, **Supplementary Table 1**), four focused on institutional weaknesses that limit input from a cross section of ocean-related stakeholders to facilitate the TDA/SAP production (or preparation)—a key output of this phase. Specifically, contributors perceived the lack of integration of pollution and habitat degradation considerations in the growing attention being paid to fisheries. Of particular concern was the apparent growing unwillingness of institutional stakeholders to share data and information that they hold. Additionally, from a political perspective, the perception among most contributors was a varying interest in evidenced-based decision-making during this phase. Lastly, given the long-term commitment needed to sustainably manage sLMRs of the region and the challenges to be overcome, the absence of succession planning was perceived as a potentially significant constraint (Constraint 20, **Supplementary Table 1**). Three constraints identified in the PDF-B phase (Constraints 5, 12, and 13, **Supplementary Table 1**) were not mentioned by

contributors in this phase These related to improvements in governments' recognition of the role of civil society and the private sector in ocean governance, growing though still weak efforts at integration across fisheries, pollution and habitat degradation/biodiversity and the need to adopt an LME approach to address these issues. This suggests contributors thought that progress was made during this period with intersectoral integration and adopting the LME approach to address transboundary issues.

The lack of completeness of policy cycles among all the constraints identified for this phase was noted (Constraints 6–11 and 15–20, **Supplementary Table 1**). The ongoing lack of cross-sectoral inputs through mechanisms such as National Intersectoral Committees (NICs) and directly from civil society and private sector organizations was also perceived to limit the scope or quantity and quality of data and information available to other stages of the policy cycle. Contributors also noted that vertical and lateral linkages were weak across all jurisdictional levels and sectors. However, in terms of regional level stakeholder involvement, they noted the positive yet limited trend of starting to engage CSOs and academia in processes related to regional ocean governance.

Second Full-Sized Project (FSP2) Phase: 2015–2021

Eighteen constraints were perceived to be present during the almost completed FSP2 phase of the CLME initiative. Nine constraints were carried over from earlier phases. Among these, five identified in the PDF-A phase were thought to be persisting some 15–20 years later (Constraints 7–11, **Supplementary Table 1**). Contributors noted the continued limited intraregional ability to set harmonized targets addressing the three major transboundary issues, a continued need for capacity building and weak mechanisms for interactive governance. Also persisting was the constraint of socio-cultural diversity; one which cannot be removed, only accommodated. The perceived lack of capacity to implement multilateral agreements, noted in both the PDF-B and FSP1 phase, was still perceived as present in this current phase (Constraint 14, **Supplementary Table 1**). The remaining three previously seen constraints noted during the FSP1 phase relate to the continued concern over the sharing of data, the variability in bridging the science-policy interface and lack of attention to succession planning (Constraints 18–20, **Supplementary Table 1**).

Among the nine new constraints that were perceived during the FSP2 phase (Constraints 21–29, **Supplementary Table 1**), new institutional, legal and political challenges resulting from the potential exercise of power and influence were highlighted. These were raised as potentially hampering the full integration needed for effective regional ocean governance. Additionally, while recognizing the accomplishment of the current iteration of the SAP as the first of its kind to be supported in the region, the opportunity to enhance its contribution to a regional vision and for increasing buy-in from stakeholders at all levels were noted by contributors (Constraints 25–27, **Supplementary Table 1**). Lastly, limited awareness among governmental decision makers and other stakeholders of the link between regional ocean governance and successfully pursuing the benefits of a blue economy was raised as a concern (Constraint 24, **Supplementary Table 1**). On a positive note, contributors considered four constraints from earlier phases to have been addressed. These related to the acceptance of a regional vision and SAP (Constraints 6, **Supplementary Table 1**) and improvements in engaging civil society and NICs in the TDA/SAP process as well as better integration across the three transboundary issues (Constraints 15, 16, 17, **Supplementary Table 1**).

As with previous phases, stakeholders involved were principally national agencies and regional intergovernmental organizations (IGOs) with limited but growing inclusion of academia and civil society due to the C-SAP. While for some constraints weaknesses in the policy cycle were noted specifically for the analysis and advice, decision making and implementation stages, all stages of the policy cycle were deemed to be affected. Likewise, vertical and lateral linkages among stakeholders required strengthening during this phase.

Awareness of Perceived Constraints in Project Documents

In an effort to compare the level of awareness of the 29 perceived constraints identified retrospectively by contributors with efforts undertaken over the life of the CLME initiative, key project-related documents were reviewed (**Table 2**).

PDF-A Phase: 2001–2005

During 2001–2005, both the PDF-A Project Document (UNDP/GEF, 2001) and the Pipeline Concept Paper (UNDP/GEF, 2003) document submitted to the GEF clearly articulated all 11 constraints identified retrospectively by contributors for this phase of the initiative (Constraints 1–11, **Supplementary Table 1**). These documents stressed the persistent need to address the sustainable use of sLMRs upon which countries in the region depend. They identified the lack of capacity and information at national and regional levels to manage shared resources, coupled with the geopolitical, socio-cultural complexity of the region. They also highlighted the growing negative consequences of human activities for the continued provision of marine ecosystem services. Specific attention is paid in these project documents to the need to address the legal, policy and institutional aspects of governance required to sustainably manage living marine resources and the *ad hoc*, fragmented sectoral approach that was evolving.

PDF-B Phase: 2006–2007

For the PDF-B phase, four documents (**Table 2**) were reviewed to assess whether the 10 constraints identified retrospectively by contributors in **Supplementary Table 1** (Constraints 5–14) for the PDF-B phase (2006–2007) were anticipated. The project document submitted to the GEF outlined the proposed activities for this phase (UNDP/GEF, 2005). This included information-gathering, producing a preliminary synthesized TDA and SAP, supporting coordinated national and sub-regional inputs from all stakeholders and developing and adopting the FSP1 project document for submission to the GEF. As such, the constraints carried forward from the PDF-A phase were well-recognized at the onset of this phase in this document. Two documents

focusing on the current governance mechanisms in place for both fisheries and non-extractable living marine resources (CLME PCU, 2007b; Parsons, 2007) emphasized weak governance. They highlighted the myriad organizations involved in managing these resources who rarely interacted with each other and the need to strengthen linkages across multiple jurisdictional levels. The fourth report focused on synthesizing the efforts undertaken during the PDF-B phase to produce preliminary TDAs for the three sub-regions (CLME PCU, 2007a). In discussing the findings from the preliminary TDAs, the report highlighted the lack of integration across the three major transboundary issues (fisheries, pollution, biodiversity/habitat degradation). It also identified the need for information to fully understand the implications of poor governance of transboundary issues and to support capacity building to help countries implement regional and global agreements (Constraints 12–14, **Supplementary Table 1**). The adoption of the LME Governance Framework with the goal of having fully functional policy cycles, linked vertically and laterally (Fanning et al., 2007) was also endorsed by countries during this phase, underscoring the need to improve collaboration across sectors, stakeholders and jurisdictional levels. In summary, the constraints perceived by contributors to be present during the PDF-B phase were also noted in relevant project documents for the period.

First Full-Sized Project (FSP1) Phase: 2009–2014

The project document submitted to GEF for funding approval of the first full-sized project (2009–2014) reiterated the shared nature of living marine resources within the region and the importance of these resources to the countries in the region (UNDP/GEF, 2008). The document stressed the inadequacy of the existing legal, policy and institutional frameworks, weak capacity among countries to manage the transboundary issues and the poor and fragmented information base. When matched with the 13 perceived constraints identified for this study by contributors for the FSP1 phase (Constraints 6–11 and 14–20, **Supplementary Table 1**), it would appear that most were well-understood and highlighted in the project document at the onset of the FSP1 phase. Three constraints identified retrospectively that were not anticipated in the project document in 2008 related to the increasing poor sharing of data, a potential decrease in bridging the science-policy gap among some decision makers and limited succession planning (Constraints 18–20, **Supplementary Table 1**). Similarly, none of the additional documents reviewed during the time frame of the FSP1 project (**Table 2**; CLME PCU, 2011; Heileman, 2011; Mahon et al., 2012; CLME + PCU, 2013) as well as the mid-term review (Hearns, 2012) noted these three constraints. However, it would appear that the other perceived constraints noted by contributors for this phase were highlighted in these documents. These included: poor governance; inadequate knowledge and low public awareness; weak and ineffective legal and institutional frameworks; inadequate environmental quality standards and legislation; inadequate data and information; and, limited financial and human resources. The final project-related output reviewed for this FSP1 phase, the CLME + SAP, identified a 10 year implementation programme for addressing these issues (CLME + PCU, 2013; Debels et al., 2017).

Second Full-Sized Project (FSP2) Phase: 2015–2021

With the endorsement of the SAP by countries in the region, the project document approved for the FSP2 phase (UNDP/GEF, 2015) provided evidence that an accepted regional ocean governance vision for sLMRs had been accomplished. This addressed the constraint identified as present since the PDF-A phase by contributors (Constraint 6, **Supplementary Table 1**) and in project-related documents (**Table 2**). The FSP2 project components focused on implementing the short-term actions of the SAP over a 5 year period aimed at strengthening governance arrangements and increasing human and institutional capacity (UNDP/GEF, 2015; Debels et al., 2017). The activities associated with these components indicate that of the 18 remaining constraints perceived by contributors to be challenging the success of the FSP2 phase, five were not acknowledged in project documents relating to this phase. In addition to the three previously mentioned FSP1 constraints (Constraints 18–20, **Supplementary Table 1**), two newly perceived constraints were noted (Constraints 22 and 29, **Supplementary Table 1**). These related to out-dated legislation and the potential unequal exercise of power and influence in crafting mechanisms to address regional ocean governance. Additionally, the mid-term review of the FSP2 phase specifically mentioned constraints associated with the fragmentation of management approaches in the region and insufficient communication, coordination and information exchange (Merla, 2018). However, two major achievements for this period were the establishment of the SAP Interim Coordination Mechanism (CLME + SAP ICM, 2017) and the development of the Civil Society Action Programme (C-SAP). These are aimed at addressing constraints related to regional coordination and civil society engagement as a means of acknowledging the crucial role of civil society in achieving the CLME + vision (CANARI, 2018).

DISCUSSION

Type and Number of Constraints

Given that the justification for GEF funding across all phases of the CLME initiative focused on institutional challenges, dependence on living marine resources and limited capacity to address transboundary issues, it is understandable to find 72% of the identified constraints falling into the institutional (41%), capacity building (17%), and awareness building (14%) categories. Equally understandable is the overall focus on these categories during the earlier PDF-A and PDF-B phases where 73 and 70% of the constraints, respectively, comprised these categories as compared to approximately 60% for the latter two phases (**Figure 3**).

The lack of awareness building constraints during the FSP1 phase may be explained by contributors' perception of the momentum gained from implementing the project and the successful endorsement of the project by countries and regional

organizations (UNDP/GEF, 2008). The growing attention given to political and social capital constraints during this phase may also have contributed to a diminished attention to awareness raising. The introduction of the political category during the FSP1 and FSP2 phases is significant and understandable given the requirement for regional consensus to develop and implement strategies to address weak governance and foster an integrative approach to addressing transboundary issues. Similarly, social capital constraints were noted only after the initiative had reached the stage of in-depth strategic planning and implementation. The timing of these two categories in the CLME initiative highlights the need to anticipate and address these types of constraints as they can severely jeopardize the achievement of regional goals and objectives.

Policy Implications

Of the 29 constraints identified by contributors involved in the CLME Initiative over the period 2001–2021, only 11 were considered to have been addressed, leaving 18 still in need of attention at the conclusion of the FSP2 phase (**Table 4**). Furthermore, five of the unaddressed constraints were not identified as such in project documents. The policy implications of having constraints unaddressed at this advanced stage of the CLME initiative as well as the consequences of having them present at different phases, even if subsequently addressed, are discussed. However, we note that while contributors were asked to identify perceived constraints based on their involvement during the phases of the CLME initiative, it would be unrealistic to expect all constraints would be addressed solely by these GEF-funded projects.

Institutional Constraints

Constraints categorized as institutional were identified at the onset of the CLME initiative and extended across the 20 year period of GEF funding (**Table 4**). As the end of the FSP2 phase approaches, 5 of the 12 institutional constraints remain unaddressed. Policy implications arising from these constraints fall into three major areas: (i) effects of sector-based planning limiting the adoption of an ecosystem-based approach; (ii) dominance of governmental actors in decision-making along with the consequential limited involvement of stakeholders, thereby demonstrating a lack of transparency and inclusiveness as good governance principles; and (iii) gaps and potential duplication from fragmented governance mechanisms potentially resulting in conflicting policies that undermine both sector-derived and integrated management goals.

During the early phases, policy cycles were weak at all levels due to limited data and information needed to contribute to subsequent stages of the cycle. This resulted in discontinuity, particularly between the analysis and advice and decision-making stages. The level of lateral interaction between IGOs with mandates for different transboundary marine issues was minimal. Interaction was primarily vertical between national governments and regional level IGOs. Consequently, while there were regional arrangements with different foci and mandates such as UNEP Regional Seas Programme, with a focus on pollution and habitats/biodiversity, and WECAFC, with a focus on fisheries, there was no regional mechanism with a mandate to coordinate and integrate them toward a truly EBM approach to ocean governance. This remains the case although there has been considerable progress in this area with the development of a permanent coordinating mechanism to replace the 2017 SAP Interim Coordinating Mechanism (CLME + SAP ICM, 2017; Fanning et al., 2019).

Efforts to establish horizontal linkages among fisheries organizations resulted in an Interim Fisheries Coordination Mechanism through an MOU among WECAFC, OSPESCA, and CRFM in 2016 (CLME + SAP ICM, 2020). This has led to better integration among fisheries policy cycles. At the national level, decision-making was sector-based, despite the growing recognition of the need for a collaborative approach to management at the appropriate scales. From a policy perspective, strengthening horizontal linkages at the national level among the different agencies with responsibility for ocean issues, including the use of NICs and among national level decision makers across the region, could facilitate sharing of information and experiences on interactive governance.

During 2001–2014, mechanisms for participatory governance at the national level were deemed to be weak by contributors to the study because of the persistent culture of top-down management. Additionally, a sense of mistrust/disrespect of civil society by governments was coupled with the public's perception of governments' strong and active resistance to transparency and accountability (Pousadela, 2016; Scobie, 2018). This was despite funding provided since the PDF-B phase to assist countries in establishing NICs, a requirement for all GEF International Waters (IW) projects. NICs are seen as key vertical brokers linking transboundary through national to sub-national governance levels. Their absence or weakness fragments governance (Mahon et al., 2010b). The 2010, 2015, and 2019 surveys on NICs in the region provided considerable insight, indicating many stakeholders were open to either establishing or reactivating marine and/or ocean governance arrangements for achieving effective participatory governance (Mahon et al., 2010b; Compton et al., 2020). Through these surveys, a better understanding of NICs was sought. Emphasis was placed on understanding the gaps/limitations, challenges and successes in order to adequately support national capacities and linkages to regional and international governance processes. As of July 2019, Compton et al. (2020) reported 68% of countries and territories in the CLME + region had NICs in practice or in progress, exceeding the 60% FSP2 project target. Private sector and civil society stakeholders expressed hope that with NICs in place they will have better representation and be given an opportunity to contribute to and influence all stages of the policy cycle, especially the decision-making and data and information stages. Their involvement will likely become increasingly important as countries and the region as a whole seek opportunities from a blue economy.

At the regional level during the FSP2 phase, good informal relationships among many CSOs (and particularly CSO leaders) exist which could be leveraged. However, there is currently no widespread and strong network that could mobilize and

leverage the potential of these organizations. Nature Caribé[12] is one example of a small network formed recently, which has potential but needs further development to position itself in regional governance initiatives. Recent effort within the FSP2 phase to facilitate the development of the Civil Society Action Programme (C-SAP) has resulted in endorsement from some 51 CSOs within the region, with the hope of building and strengthening such a network. Despite national boundaries and cultural boundaries such as language, people and their institutions are well connected across the WCR. They often gather in sites of exchange (e.g., conferences) or are engaged in multi-stakeholder interactions (e.g., in projects) that establish ties. Bonding and bridging capital are evident in moving through the levels of governance (Cooke, 2017). Consequently, most leading organizations and their governance arrangements favor transboundary LMR governance as a rational expression of existing relationships. However, in most Caribbean countries, formal processes can be constraining, supported by outdated laws that restrict interactive governance while fiscal and funding arrangements inhibit effective functioning of CSOs.

Capacity Building Constraints

Contributors noted that none of the five perceived capacity building constraints have been adequately addressed (**Table 4**). Countries continue to have limited ability to uptake and incorporate the knowledge gained from participating in regional projects. This often results in new projects that repeat earlier activities, leading to ineffective use of resources. This was exacerbated during the CLME initiative with turn-over in on-going participation and/or inadequate representation for the tasks at hand, particularly among country representatives. This led to the need to repeatedly overcome the challenge of building awareness and capacity for multi-level governance. One approach for addressing this issue is for all new project participants, irrespective of jurisdictional level or affiliation, to be encouraged to review the online LME governance training module which covers these issues (GEF LME LEARN, 2018), and to adapt this module to the specific region's circumstances.

The incapacity of governments to implement actions committed to in regional and global agreements has resulted in the ongoing degradation of marine ecosystems despite a commitment to ecosystem-based management. In part, this may be attributed to limited financial, human and/or technical resources, a lack of data and appreciation of the economic value of ecosystem goods and services At the same time, attention to building governmental capacity for SAP implementation with limited support and input from civil society and the private sector in all but the FSP2 phase has the potential to disconnect these important stakeholders from the policy process. While a C-SAP is an acknowledgement of the important role civil society must play in achieving effective ocean governance, contributors highlighted a lack of resources and appropriate messaging and strategies to engage these stakeholders. Seizing opportunities to recognize the usefulness of such programmes as a means to mobilize resources for implementation can be significantly enhanced, as is currently being anticipated in the draft proposal for the next phase entitled PROCARIBE + [13]. Even where governments and inter-governmental agencies were willing to engage non-governmental stakeholders in governance initiatives in the FSP2 phase, it proved challenging for them to identify focal points who could effectively represent and provide channels for engagement. In some countries, there are networks among CSOs working in a particular area (e.g., environmental CSOs, fisherfolk, small business associations), but very rarely are there linkages across the range of sectors that should be involved in complex issues around ocean governance (e.g., environment, livelihoods, gender, socio-economic development). Lastly, as a major capacity building stakeholder, the role of academic institutions and in particular the University of the West Indies in contributing to training and building capacity that facilitates regional ocean governance needs to be further encouraged and supported. While units such as UWI-CERMES have contributed to all phases of the CLME initiative, a long-term strategy for building the technical and managerial capacity of current and future leaders across all sectors of Caribbean society is needed.

Awareness Building Constraints

Unlike the persistence of the perceived constraints associated with capacity building over the life of the CLME initiative, efforts to increase awareness levels around regional ocean governance had been relatively successful by the end of the PDF-B phase in 2007. However, given the reidentification of awareness building as a constraint during the FSP2 phase, the need for all key stakeholders, including appointed national focal points, to share in the responsibility of awareness building becomes essential. Even when awareness is present, it does not necessarily translate into action, especially if capacity is limited as discussed in the previous section (Moser and Kleinhückelkotten, 2018). This is particularly concerning for multi-level, polycentric systems such as those found in the WCR where the potential exists for regional level organizations to not fully grasp the benefits and costs associated with properties such as subsidiarity, resilience and redundancy that are inherent in such systems (Mahon and Fanning, 2019a,b). Additionally, much has been made of the potential of the CLME initiative to contribute to both the achievement of the 2030 Sustainable Development Goals and the pursuit of a blue economy. However, building expectations without also developing understanding of how to achieve them could have significant policy and socio-political implications if those expectations are not realized. As such, contributors to this study noted the importance of measures to increase awareness and understanding of the challenges and opportunities associated with achieving these benefits (Clegg et al., 2020). This likely assumes added importance given efforts aimed at a post-Covid socio-economic recovery, especially among SIDs.

Leadership Constraints

A lack of regional level leadership for integrated ocean governance has delayed agreement on an accepted regional

[12] http://naturecaribe.org.

[13] See https://clmeplus.org/ppi_database/protecting-and-restoring-the-oceans-natural-capital-to-support-post-covid-recovery-and-to-drive-region-wide-investments-toward-a-sustainable-blue-economy/.

vision for the CLME + region until the FSP2 phase. This has resulted in a sustained focus on national development issues and priorities, disconnected from an integrated regional perspective. At the end of the FSP1 phase, this constraint was addressed with countries agreeing on priority strategies and actions needed to improve regional governance (CLME + PCU, 2013). However, what is still lacking are coherent decisions and joint "whole of society" national/regional consensus on regional targets to address the transboundary issues of overfishing, pollution and habitat degradation/biodiversity. Better clarity around how the components of the SAP fit into the broader development vision for the region and into the strategies of existing regional IGOs themselves could help facilitate this. It could also help countries recognize the ongoing and likely benefits to be gained from regional level engagement in integrated ocean governance. Without such buy-in, there is a real possibility that national leaders may question the ongoing utility of achieving regional level consensus and decision making. There is also concern as to where the leadership for regional approaches to ocean governance within the region will come from, given limited attention to succession planning and unless funds are forthcoming for a third FSP. Effort to solicit such funding from GEF is currently in progress as are other efforts such as the development a Caribbean Network of Fisherfolk Organization Leadership Institute under the FAO StewardFish project (FAO and WECAFC, 2020).

Legal Constraints

A significant issue that influences policy setting occurs when subregional, regional, and global arrangements are unable to require mandatory implementation by countries (Kumar, 2020). While this authority has been successfully demonstrated in the Central American sub-regional policy mechanism (SICA and associated bodies), the approach that has evolved for the region as a whole is a networked governance framework which allows for a diversity of binding and non-binding decision-making mechanisms (Mahon et al., 2014). Research on LMEs globally has shown that countries are more willing to adopt non-binding agreements (Fanning et al., 2015). However, in the absence of adequate resources and the geopolitical complexity of the region, adoption and implementation of regional level rules by countries remain uncertain. Yet another legal issue arises from the growing demand by stakeholders to be involved in decisions affecting their well-being through an interactive and collaborative governance approach. This will require both legal and institutional reforms to fully enable progress beyond the FSP2 phase. At the regional intergovernmental level, there has been some success around decisions of the Cartagena Convention as a legally binding instrument as well as Ministerial Decisions of CARICOM, OECS, CRFM that have formed the basis for legal and regulatory reforms. However, recent discussions around strengthening the decision-making capacity of WECAFC suggests that legal-institutional issues or perceptions remain large constraints.

Political Constraints

Both of the political constraints identified by contributors arose during the FSP1 and FSP2 phases and both were thought to be unaddressed. In terms of the argument supporting the use of evidence to inform decision making, Anderson (2002) highlighted its contribution in developing more informed policy interventions following a better understanding of problems. As a result, not only do decision makers have a better sense of the likely effectiveness of policy options but this helps to improve the quality of stakeholder input when selecting policy objectives. For the WCR, these may include not only consensus around environmental targets but on the types of investments/activities that eventually have the greatest impact on coastal and marine resources. However, policy in the WCR has seldom been science driven, especially in the SIDS with low to moderate capacity to either produce or fully utilize science (natural, social or interdisciplinary) (McConney et al., 2016). In the earlier PDF-B phase, contributors noted interest among decision-makers in having science inform regional and national decision making. This may have been due to increasing awareness of the LME modular concept as a result of the GEF process (Sherman, 1999) even though the focus was on governance. In the later phases, notwithstanding the development of a research strategy with input from regional research institutions and academia (Acosta et al., 2020), some contributors perceive less emphasis on bridging the science-policy interface. However, others have noted the increase in interest of science-policy bridging tools as one of the anticipated outcomes of the FSP2 phase. The need to bring widely dispersed expertise, data and information in the region together in ways that would focus these assets on priority policy and management issues has been documented (Merla, 2013; Cortés et al., 2019). Addressing this need in the WCR has been initiated with the development of status reports for the protocols relating to land-based sources of pollution and habitats under the Cartagena Convention. The intent is to provide the science and data to decision/policy makers, with the aim of having a policy impact. Additional challenges that need to be overcome include the increasing number of overlapping marine science projects and/or poor or deteriorating communication and uptake of national and institutional data and information in the relevant policy cycles.

The second identified political constraint arises from the diversity in human, technical and financial capacity within the CLME + region and the resulting potential for such power disparities to manifest themselves in regional ocean governance processes. This diversity creates an environment where political advantage may be sought by the exercise of power and influence among those who have it, both internal and external to the region (Erisman, 2019). Mahon et al. (2014) were of the view that the effort to craft agreement surrounding the establishment of a permanent coordinating mechanism (CM) during the FSP1 phase was challenged by such a demonstration of power and influence. The complex process of leading such a geopolitically diverse region toward consensus on mandate, structure and modalities, and the roadmap toward formally establishing the CM, did fully manifest itself during the FSP2 phase. It will now take a third phase to fully establish, operationalize and consolidate the coordination mechanism. Some of the issues faced were countries' concerns over the legal personality of the mechanism, its mandate and dispute resolution mechanisms,

among others. Resolving these issues in a collaborative manner is especially important for gaining consensus on and buy-in for the CM as it is intended to play a key role in strengthening multi-jurisdictional vertical linkages and lateral linkages among the components of the region's ocean governance framework.

Social Capital and Socio-Cultural Constraints

Although contributors identified only one constraint in the social capital and socio-cultural categories, potential policy implications associated with these can be significant. Regarding socio-cultural diversity, this has implications on the type of policy direction arising from differing value systems and priorities and the potential for misinterpretation across different languages. Potentially exacerbating this is the degree of attention paid to transboundary issues in the WCR by metropolitan countries with territories in the region. Early experience found engaging these countries in regional issues involving their overseas territories was difficult. However, this has improved during the FSP2 phase with engagement by Dutch territories and with France signing the SAP. While there are challenges arising from the diversity of socio-cultural factors in the CLME + region, explicitly including measures to enhance the awareness and understanding of these differences (and similarities) in regional project activities could help facilitate cross-cultural opportunities and other beneficial project-related consequences not previously anticipated.

In terms of recognizing the importance of building social capital to successfully achieve an integrated, ecosystem-based approach to managing sLMRs, succession planning across all stakeholders and sectors was perceived to be essential. Given the long-term horizon of the goals and objectives of the current and future SAPs, policies aimed at ensuring the human resources and transferal of commitment to upcoming generation of leaders are critical. Many policy actors in the WCR who were instrumental in building and advancing theory and practice for regional ocean governance have moved on or are in the mid to late stages of their careers. There is the potential for losing institutional memory, which can have detrimental consequences for achieving success. A related concern noted in both the mid-term evaluation and the terminal evaluation reports for the FSP1 phase was the resulting delay in project deliverables due to high project staff turn-over (Hearns, 2012; Merla, 2013).

Cross-Cutting Policy Implications

While each of the categories of constraints discussed above has specific policy implications, the diversity in the range of categories themselves and the interconnectedness among categories of constraints introduce yet another set of policy implications. For a developing region that has been assessed as one of the most geo-politically and socio-culturally complex among ocean regions (Mahon et al., 2017), the multi-faceted complexity of the constraints makes it significantly more difficult to develop policies aimed at achieving a common vision and prioritizing actions. Despite this, by the end of the FSP2 phase, the SAP has been widely supported by the countries.

Lastly, by exposing the number of constraints that were carried forward from one phase to the next, this study raises the policy-relevant question surrounding the possible inflexibility of large initiatives such as those funded by the GEF to address constraints that might arise and to link to new and emerging issues being promoted. Our research does not have an answer to this question. However, we believe it deserves to be mentioned as the success of these multi-million-dollar investments and expectations of those who depend on the ongoing provision of marine ecosystem goods and services necessitate overcoming these constraints and seizing opportunities that might arise.

Moving Forward

The focus of this study has been on the constraints that contributors involved in the CLME initiative perceived to have been present during the four phases spanning 2001–2021. The analysis indicated 18 of the 29 identified constraints still need to be addressed. However, rather than being seen as a deficiency of the CLME initiative, this result highlights a number of lessons from which both the WCR and other complex developing regions can benefit. First, while identifying and overcoming potential barriers is a key step toward project success, it is worth remembering that no single initiative can be expected to address all constraints. To quote one contributor.

> *It was acknowledged that addressing all root causes and constraints would need to be achieved through a multitude of projects, under the umbrella of a "SAP" programmatic approach. I do think it is important to note that some constraints were not explicitly acknowledged in the FSP2 CLME + project, but it should also be made clear that CLME + , while having a central role in SAP implementation, could never have been expected to resolve all challenges, root causes and constraints that were to be addressed for full, successful SAP implementation/achievement of the CLME + Vision.*

A second lesson is acknowledging the difficulty, financial resources and time needed to develop the institutional mechanisms and to build the capacity to implement regional ocean governance. This is exacerbated in regions with the inherent limitations of SIDs and the asymmetrical distribution of expert and human resources capacity, as found in the WCR. However, progress is evidenced in the WCR where the level of endorsement from countries grew from five for the PDF-A proposal in 2001 to 15 for the PDF-B proposal in 2005 to 23 for the FSP1 proposal in 2008 to 25 countries and counting for the CLME + SAP since 2019.

Thirdly, achieving consensus on regional targets and addressing the limited implementation of commitments by countries are linked to political, legal, financial, and leadership challenges. Future initiatives therefore need to give more attention to improving the implementation deficit. Examples include focusing on achieving results through legal and institutional reforms and capacity building as well as better decision-making and leadership, supplemented with robust monitoring and evaluation systems. While project-related activities such as those undertaken with GEF-funded support can serve to highlight and catalyze these changes, national budgetary conditions also play a key role as these improvements are unlikely to be made solely with project funding.

A fourth lesson centers around the benefits of developing processes for engaging civil society early while also recognizing the requirement to build governmental buy-in and support. Much of the attention in the CLME initiative focused on the latter. The lack of engagement of civil society in the earlier phases of the initiative has been acknowledged in the current FSP2 phase. As discussed above, this is now being accommodated by facilitating the endorsement of a civil-society version of the SAP, referred to as the "People Managing Oceans" C-SAP. This programme is intended to deliver on civil society's contributions to achieving the over-arching, regional vision shared among civil society and governments. Despite its late timing, it has already contributed to strengthening the awareness of CSOs across the region and the value of their contribution to regional ocean governance in the WCR. The experience in the WCR has highlighted the significant challenge of successfully linking key stakeholder groups from civil society and the private sector with those involved in developing and implementing policy, in part due to their diverse and diffuse interests. However, an explicit and early recognition of efforts needed to build in engagement mechanisms that allow for the expression of these interests coupled with capacity building can help with mitigating this governance gap.

A final lesson relates to the importance of sharing and making information pertaining to regional ocean governance more easily accessible. To highlight this point, three separate SAPs for different ocean-related projects have been implemented within the timeframe of the FSP2 phase of the CLME + initiative and one more is known to be in development. While there is overlap in regional IGOs and other stakeholders involved in these projects, these projects have not been as well-coordinated as they could be to maximize opportunities, emphasizing the importance of a knowledge-based regional coordinating mechanism (CM). To facilitate this, an internet-based "knowledge management" Hub is being developed in the FSP2 phase to enhance region-wide insights into actions on the marine environment. Maintenance of the Hub is currently through the Secretariat of the ICM and will be co-owned by the CM membership, once established. In addition to being a knowledge repository, the Hub will include a "training portal" prototype developed under the lead of IOCARIBE, aiming at creating awareness among stakeholders about training and capacity building initiatives. While the Hub aims to reduce duplication of efforts by providing better insights into all ongoing activities, its success and impact will be determined by level of engagement of, and contributions by, all stakeholders in the region.

CONCLUSION

Over the past two decades, the efforts to implement an integrated, regional approach to sustainably manage sLMRs of the CLME + region have been extensive. With financial, technical, and human support provided by an array of committed actors from multiple sectors and jurisdictional levels spanning local to global, the progress achieved to date has not been without its challenges. Of the 29 constraints identified in this paper by contributors, overcoming institutional and capacity constraints have been particularly challenging for the region. Similarly, given the geopolitical complexity and diversity of the region, committed policy actors and stakeholders have had to acknowledge and reconcile a number of political, leadership, legal, socio-cultural and social capital issues in a manner that reflects the specific context of the WCR. The ability to meaningfully engage governmental, civil society and private sector actors across sectors and geographic space to accomplish a shared vison for the ocean is no doubt an achievement that many regional initiatives are seeking. By sharing the experiences of the CLME + region, this paper contributes to an improved understanding of the barriers to be overcome in highly complex socio-political developing regions. This is especially needed if regional initiatives, particularly those that involve GEF-eligible countries, are to play the essential role identified in the 2030 Agenda and contribute to realizing the sustainable benefits of a blue economy.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

LF wrote all versions of the manuscript. LF and RM undertook the data analysis. All authors contributed to the structure, design of the research methodology, manuscript revision, read, and approved the submitted version.

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