StewardFish

EXAMINATION OF ECOSYSTEM APPROACH TO FISHERIES (EAF) RELATED INTERNATIONAL GUIDELINES

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Developing organizational capacity for ecosystem stewardship and livelihoods in Caribbean small-scale fisheries

StewardFish Project

StewardFish

StewardFish is focused on empowering fisherfolk throughout fisheries value chains to engage in resource management, decision-making processes and sustainable livelihoods, with strengthened institutional support at all levels in the Caribbean and North Brazil Shelf Large Marine Ecosystem (CLME+) region.

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Abstract

Ecosystem approach to fisheries (EAF) is advocated as a means of natural resource management focused on the conservation and sustainable use of the whole ecosystem. The approach is not new; its key principles have their roots in earlier natural resource management instruments, as well as indigenous management practices and customary tenure developed millennia ago. There are now a number of international agreements and instruments which describe what EAF entails, its guiding principles and how it is implemented. Despite this attention, countries have been challenged to put in place measures required to give effect to the principles at the national and local level. In the Caribbean, there is a supportive political foundation for EAF, however, most countries are making slow incremental progress. To support operationalization of EAF principles in the Caribbean the StewardFish project recommends the development of both regional and national-level practical EAF Codes of Conduct by and for persons in the fishing industry. Following a methodology previously used in Barbados to develop a local fisheries code of conduct, we outline an iterative social learning process of development for these codes, which emphasizes industry engagement, formal endorsement, implementation and participatory monitoring and evaluation.

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1 BACKGROUND ON THE EAF

For the last two decades the FAO-promoted Ecosystem Approach to Fisheries (EAF) has been widely advocated as a means of natural resource management. The approach has been championed as one which more holistically considers linkages across human and natural (social-ecological) systems, identifies conflicts between competing ecosystem services, and also considers both direct and indirect impacts of fishing activities on marine ecosystems[1]. EAF and the related concept of Ecosystem Based-Management (EBM), have developed in response to the need to implement, in a practical manner, the principles of sustainable development[2], the Convention on Biological Diversity[3] and the Code of Conduct for Responsible Fisheries[4]. EAF is consistent with all of these principles and has been adopted by the FAO Committee on Fisheries (COFI) as the appropriate approach to implement these principles for the management of fisheries[5].

Fisheries represent vital components of developed and developing economies, providing income and employment in addition to food and nutrition[6]. Fisheries are the mainstay of many coastal communities. In Caribbean Community (CARICOM) countries, at least 64,000 persons are directly employed in small-scale fisheries and aquaculture and an estimated 180,000 people are involved in fish processing, boat construction, net repair, retail and related activities[7]. In addition to providing employment and livelihoods, the fisheries sector is also important to Caribbean culture and food security, particularly in poorer communities. The industry has been regarded as integral to shaping the lifestyle and heritage of the Caribbean. Small-scale traditional fishing also forms a large part of the social fabric of many coastal communities. Annual fish consumption contributes between 2-15% of the protein intake of the population in the region[8]. However, with growing populations and increased demand for fish, the majority of commercially harvested stocks in the Caribbean are now considered either fully exploited or overexploited.

Coincident with the decline of important fish stocks, there has also been a long-term and region-wide decline of corals across the Caribbean basin[9]. While historical declines in the abundance of large Caribbean reef fishes likely reflect centuries of overexploitation[10], the recent significant decline in overall fish abundance (of both fished and non-fished species) indicate that Caribbean fishes have begun to respond negatively to habitat degradation[11]. A recent review of the reported impacts of climate change on fisheries, has noted that mass coral bleaching events, damaging storms and coral diseases, combined with increased sedimentation and runoff from land-based activities have altogether resulted in reefs which are less structurally complex, less diverse, have different species assemblages and in some cases, have completely shifted to algal-dominated communities[12]. Such changes to the nearshore environment have impacts beyond the coastal

area; the biological productivity of any coastal habitat will impact their ecosystem services and both the nearshore and the pelagic food chain[13]. Given the importance of fisheries to the Caribbean region and Small Island Developing States (SIDS) in general, the impacts of unsustainable fishing practices and the current state of critical coastal ecosystems, an approach such as EAF which gives consideration to both fishery and ecosystem-level goals seems appropriate.

Available international agreements and instruments, along with work already undertaken at the regional and national level indicate a wide consensus on the need to incorporate an ecosystem approach to fisheries[14]. However, to make EAF operational, the principles underpinning this approach need to be translated into policy goals and then into operational objectives that can be achieved by applying management measures. Without this translation, EAF will remain an important, but largely unachievable, concept.

In this review, we identify the international and regional instruments which speak to EAF/EBM; review regional progress in the Caribbean towards implementation of the approach and propose a methodology for developing relevant regional and national EAF codes of conduct for the StewardFish project countries (Antigua and Barbuda, Barbados, Belize, Guyana, Jamaica, St. Lucia and St. Vincent and the Grenadines). We offer guidance on making EAF operational in these countries.

This review forms part of the 'Developing Organisational Capacity for Ecosystem Stewardship and Livelihoods in Caribbean small-scale fisheries (StewardFish) Project' which aims to empower fisherfolk throughout value chains to engage in resource management, decision-making process and sustainable livelihoods, with strengthened institutional support at all levels. The review is delivered for activity 2.1.2.2 in component 2 of the project which aims to enhance ecosystem stewardship for fisheries sustainability. The expected outcome is increased participatory EAF application including for healthier habitats and pollution reduction. This review is the first step towards developing regional and national codes of conduct that promotes the implementation of EAF in the Caribbean.

2 EAF GUIDELINES AND AGREEMENTS

There has been much effort dedicated to defining what EAF entails, its guiding principles and how it is implemented. Along with these attempts has come the recognition that the key principles which underlie ecosystem-based approaches to management are not new, but have their roots in earlier natural resource management instruments, agreements and declarations[15] , as well as

indigenous management practices and customary tenure developed millennia ago. These include the 1982 UN Convention on the Law of the Sea, the 1995 FAO Code of Conduct for Responsible Fisheries, the 1971 Ramsar Convention, the 1992 Convention on Biological Diversity (CBD), the 1995 Jakarta Mandate on Marine and Coastal Biological Diversity[16]. Concurrently, there has been a shift towards thinking in terms of governance rather than government, considering entire ecosystems rather than their separate parts, and promoting resilience through self-organisation[17]. In response to these trends, EAF and EBM have been gaining credibility.

The oceans and their resources used to be considered unlimited in nature. Following the Second World War and the increased development of fisheries, this myth faded and was replaced with the realization that aquatic resources, although renewable, are not infinite, and therefore, need to be properly managed[18]. By the middle of the 20th century there were clear signs that fishing was causing over-exploitation of globally important fish stocks and damage to the ecosystems which support them[19]. In the time since, a suite of instruments, agreements and declarations have highlighted the need to manage fisheries more sustainably and give consideration to environmental concerns. These instruments, agreements and declarations include key principles which underlie ecosystem-based approaches.

2.1 FAO Guidelines

2.1.1 FAO Code of Conduct for Responsible Fisheries

The 1995 FAO Code of Conduct for Responsible Fisheries (CCRF) recognizes the state of the world's fisheries at the time of its development and proposes action that would help achieve long-term sustainability. The Code continues to serve as an important reference point for national legislators and as an internationally agreed framework to direct global efforts to achieve the sustainable exploitation of aquatic resource. The Code sets out voluntary principles, goals and areas for action that are intended to guide countries in formulating and implementing responsible fisheries management policies and practices. The Code also offers guidance for the small-scale fisheries sector to enter international markets and reap the benefits of their resources.

2.1.2 FAO Ecosystem Approach to Fisheries Guidelines and "How to" Guide

Held from the 1st to 4th of October, 2001 the FAO-Iceland Conference on Responsible Fisheries in the Marine Ecosystem, brought the issue of an ecosystem approach to the forefront of fisheries.

At the end of the Conference, the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem was adopted by the Parties[20]. This Declaration was to set the stage for future national and international implementation of the principles of ecosystem based management of the living marine resources in practical fisheries management. The Parties to the Conference requested the FAO to develop guidelines for EAF. Accordingly, in 2003, the FAO published one of the most complete sets of conceptual and operational tools for the implementation of the ecosystem approach to fisheries. Within these guidelines, the FAO outlines the following working definition of EAF:

> An Ecosystem Approach to Fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic, and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries[21].

The guidelines also provide 16 interrelated guiding principles or conceptual objectives which underpin both EAF and the related EBM. Many of these principles have been adopted by states under the Convention on Biological Diversity or through the Convention on the Law of the Sea, while others are derivatives or extensions of such principles. Key principles include, the recognition of the interdependence between human and ecosystem well-being, the exhaustible nature of marine resources, the importance of maintaining ecosystem integrity and maintaining ecological relationships between exploited and unexploited species. The guidelines also highlight the importance of increasing the direct involvement of stakeholders in decision-making, and implies the creation of institutions at lower governance levels and the development of governance capacity at such levels. In 2016, the FAO also published a “How-to Guide” to assist fisheries managers and those responsible for drafting legislation to facilitate EAF implementation within their national legal frameworks. The guide sets out 17 minimum components that are necessary for legislating for EAF and describes how these components may be included within national fisheries and/or EAF relevant sector specific legislation.

2.1.3 Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication

Small-scale fisheries (SSF) for both inshore and offshore species contribute significantly to livelihoods, foreign exchange earnings, social relations, food security, culture and well-being in the Caribbean[22]. Recognising the importance of SSF, in 2015 the FAO published Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (the SSF Guidelines)[23]. The SSF Guidelines are the first internationally agreed instrument dedicated to the small-scale fisheries sector, and address key issues for securing sustainable small-scale fisheries around the world. The report provides a set of guiding principles

for sustainability, one of which (Principle 11) speaks directly to the importance of an ecosystem approach:

> Holistic and integrated approaches: recognizing the ecosystem approach to fisheries (EAF) as an important guiding principle, embracing the notions of comprehensiveness and sustainability of all parts of ecosystems as well as the livelihoods of small-scale fishing communities, and ensuring cross-sectoral coordination as small-scale fisheries are closely linked to and dependent on many other sectors.

2.1.4 Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security[24] were officially endorsed by the Committee on World Food Security on 11 May 2012.The overarching goals are to achieve food security for all and support the progressive realization of the right to adequate food in the context of national food security. The guidelines are also intended to contribute to achieving sustainable livelihoods, social stability, housing security, rural development, environmental protection, and sustainable social and economic development. They serve as a reference and set out principles and internationally accepted standards for practices for the responsible governance of tenure and provide a framework that States can use when developing their own strategies, policies, legislation, programmes and activities.

2.1.5 Sustainable Development Goals

The 2030 Agenda for sustainable development recognizes the importance of nature as underpinning well-being. The agenda explicitly incorporate objectives to preserve natural ecosystems. Ecosystem approaches can support nations in meeting multiple Sustainable Development Goals. In the context of the EAF, Goal 14 is of particular interest. This Goal seeks to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

2.2 National Codes of Conduct for Responsible Fishing Operations

Since the development of the CCRF some countries and regions have formulated their own codes of conduct for responsible fishing or plans to implement the CCRF. In addition, a number of

industrial fishery associations have developed codes of best practice that are contiguous with the CCRF. Below we present a few examples of such instruments and agreements.

2.2.1 Canadian Code of Conduct for Responsible Fishing

In 1998, Canada finalized the production of the Canadian Code of Conduct for Responsible Fishing Operations[25]. The code outlines the general Principles and Guidelines for all commercial fishing operations that take place in Canadian waters. Implementation of the Code is intended to contribute to the conservation of stocks and the protection of the aquatic environment. The code consists of nine principles to be pursued by responsible fishers. Important elements amongst these principles which are consistent with other sustainable fisheries instruments include, responsible harvesting, ecological sustainability, promoting public awareness and understanding and integration of science and traditional knowledge.

2.2.2 NOAA Fisheries Implementation Plan of the FAO Code of Conduct for Responsible Fisheries

The National Marine and Fisheries Services (NMFS) is an organization within the National Oceanic and Atmospheric Administration (NOAA) of the United States Government. NMFS is specifically responsible for the management, conservation and protection of living marine resources within the United States' exclusive economic zone. In 1997 NOAA developed an implementation plan for the CCRF, and also released an updated plan in 2012. This Implementation Plan deals with the implementation of the CCRF in the domestic fisheries of the United States[26]. The document highlights that the NMFS, through their Next Generation Strategic Plan, has several long-term goals for healthy oceans that are directly related to the objectives of the CCRF. The Implementation Plan also emphasizes that the NMFS, through its legislative mandates, strategic plans and programmatic activities, seeks to achieve practically all the same goals, or at least make significant and measurable progress toward them, as the CCRF. The action steps of the plan address the key elements of responsible and sustainable fisheries, including marine fisheries resources; resource habitats, ecosystems and associated species; resource users (and allocations to resource users); marine aquaculture; and tools to meet NMFS objectives and responsibilities: fisheries science, international agreements, trade activities.

2.2.3 Code of Ethics for Responsible Fisheries and Aquaculture in the States of the Central American Isthmus

The Central American Integration System (SICA) is the institutional framework of Regional Integration in Central America and includes membership from the States of Costa Rica, El

Salvador, Guatemala, Honduras, Nicaragua, Panama, Belize and the Dominican Republic[27]. The Central American Integration System, through its Organization of the Fisheries and Aquaculture Sectors of Central America (OSPESCA) generated a dialogue which was complemented by a regional consultation and ended in the development and adoption of a Code of Ethics for Responsible Fisheries and Aquaculture in the Central American Countries. The Code, which came into force on 1st July 2011, is intended to support the management and sustainable development of fisheries and aquaculture resources[28].

2.2.4 Australian Seafood Industry Council's Code of Conduct for a Responsible Seafood Industry

This code has general application to the seafood industry, including aquaculture, processing and marketing segments. The code is based on the FAO CCRF and tailored for conditions relevant to the Australian seafood industry. The first two stated objectives of the code, which are contiguous with the CCRF, are to:

- promote the ecologically sustainable development of the seafood industry and the sustainable use of living aquatic resources and their environments;
- establish principles and practices, in accordance with the relevant regulations, for responsible fishing, aquaculture and seafood processing activities, taking into account their relevant biological, technological, social, environmental and commercial factors and customer requirements[29].

The Australian Seafood Industry Council's code covers a wide array of issues relative to fishing operations, aquaculture operations and seafood quality and safety.

2.3 Caribbean Regional Agreements and Policies

2.3.1 Cartagena Convention

The Cartagena Convention is a regional legal agreement for the protection of the Caribbean Sea. The Convention was adopted in Cartagena, Colombia on the 24th of March, 1983 and entered into force on 11th October 1986. The Convention has been ratified by 25 United Nations Member States in the Wider Caribbean Region[30]. It covers the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30 north latitude and within 200 nautical miles of the Atlantic Coasts of the United States of America. The Convention is supported by three technical agreements or Protocols on Oil Spills, Specially

Protected Areas and Wildlife (SPAW) and Land Based Sources of Marine Pollution (LBS). Countries who are Contracting Parties to the Convention are required to:

- Protect and preserve rare or fragile ecosystems and habitats of depleted, threatened or endangered species;
- Develop technical and other guidelines for the planning and environmental impact assessments of important development projects; and
- Prevent, reduce and control marine pollution from several sources (e.g., ships, dumping and land-based sources of pollution).

2.3.2 St. George's Declaration of Principles for Environmental Sustainability in the OECS

The St. George's Declaration (SGD) of Principles for Environmental Sustainability in the OECS was signed by the OECS Ministers of the Environment in April 2001. The Declaration sets out the broad framework to be pursued for environmental management in the OECS region. Initially, the SGD was structured around 21 Principles[31]. In 2005 these Principles were reviewed and translated into a framework that orders them under one overall aim and four major goals, each with a set of outcomes Some of the stated outcomes in the Declaration speak directly to managing resources to maintain healthy ecosystems and the sustainable use of biodiversity. Goal 3 of the Declaration is to "Achieve the Long-term Protection and Sustained Productivity of the Region's Natural Resource Base and the Ecosystem Services it Provides" [32]

2.3.3 Eastern Caribbean Regional Ocean Policy (ECROP)

The Eastern Caribbean Regional Ocean Policy (ECROP) and strategic action plan were endorsed by the OECS Heads of Government in 2013. The ECROP informs the establishment of mechanisms and frameworks necessary for implementing an integrated Ocean Governance programme in the OECS. This policy aims to promote and guide the future sustainable use and development of the region's marine waters and resources. The policy document provides an outline of the key threats and challenges faced by policy makers and managers; the basis for such a national policy; a future Vision for the ocean; and a suggested set of principles, and goals for ocean governance in the Eastern Caribbean Region[33].

The Caribbean Regional Oceanscape project (CROP) is designed to contribute to the implementation of the ECROP by strengthening capacity for ocean governance, and coastal and marine geospatial planning in the participating countries. This project has an overall objective to develop and implement integrated ocean governance policies to leverage sustainable public and

private investment in the waters of OECS member states and other participating Caribbean countries. One of the major outputs of this project will be an enhanced ECROP that is aligned to the Agenda 2030 for Sustainable Development.

2.3.4 Caribbean Community Common Fisheries Policy

The Caribbean Community Common Fisheries Policy (CCCFP) was approved for implementation in 2014. This binding treaty focuses on cooperation and collaboration of Caribbean people, fishermen and governments in conserving, managing and sustainably utilising fisheries and related ecosystems[34]. CARICOM works to implement the CCCFP through the Caribbean Regional Fisheries Management (CRFM) Secretariat. One of the CCCFP's main objectives is to integrate environmental, coastal and marine management considerations into policy[20].

Since its adoption, the CCCFP has been used by CRFM States as a mandate/framework to develop several regional cooperation and regulatory initiatives, including one at the ecosystem level - a regional coral reef action plan[35]. Recognizing that the FAO's SSF Guidelines would serve to strengthen the mission of the CRFM and the implementation of the CCCFP, in 2017, a protocol was drafted to support and incorporate the SSF Guidelines into the Agreement Establishing the Caribbean Community Common Fisheries Policy. This protocol was entered into force by CRFM Ministerial Council in May, 2018.

Another relevant protocol under the Caribbean Community Common Fisheries Policy is the protocol on Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture which came into force in September 2018. This protocol was encouraged by existing efforts to strengthen cooperation for the sustainable development, management and conservation of national and regional fisheries resources and the supporting ecosystems and ecosystem services.

Given the instruments reviewed in this section, it appears that there is a supportive international and regional political foundation for EAF implementation in the Caribbean region. Despite this, challenges for full implementation still remain in many countries. In the following section we present progress towards EAF/EBM in the Caribbean region, as well as concerns and barriers to its implementation.

3 PROGRESS TOWARDS EAF/EBM IN THE CARIBBEAN

Across the Caribbean region there has been incremental progress on the implementation of EAF/EBM with the exception of Belize, Jamaica, and Saint Kitts and Nevis where comprehensive EBM/EAF is demonstrated[36]. Below we present several initiatives which demonstrate ecosystem approaches to resource management (Summarized in Figure 1). These initiatives are relatively recent, as it often requires decades to show social and ecological outcomes at larger scales, particularly in multi-objective initiatives[37,38], it is too early to comment definitively on their effectiveness. Table 1 lists these initiatives and provides links to where additional project information can be found.

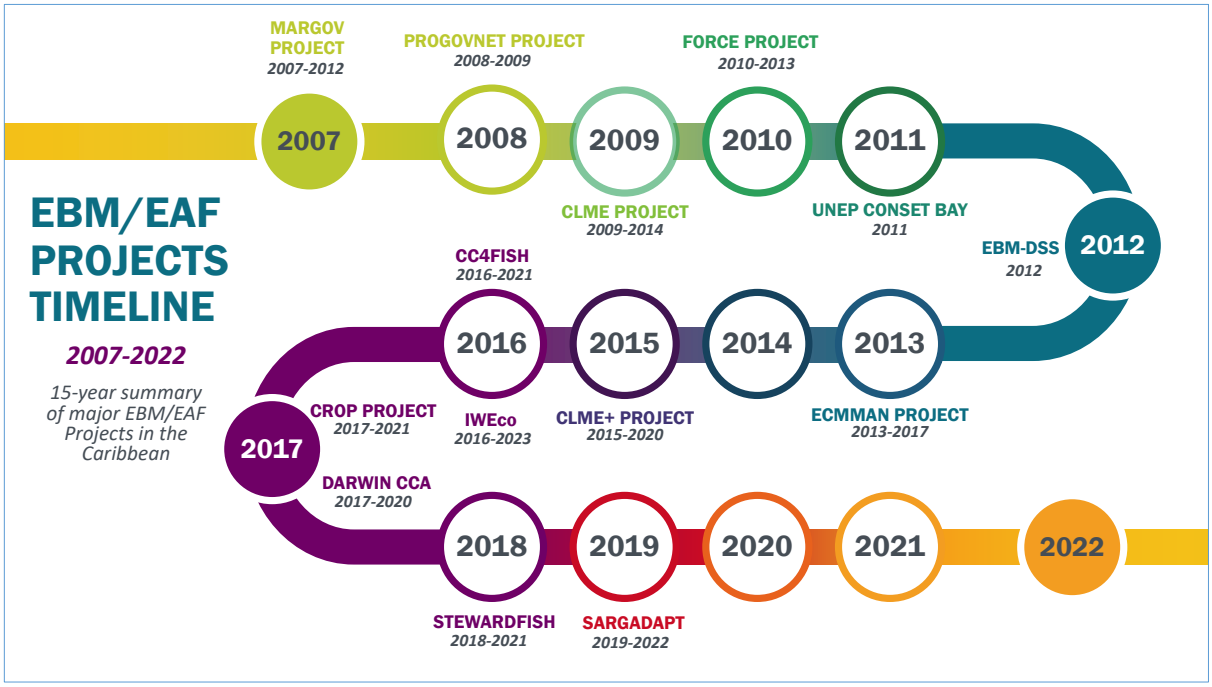

Figure 1. Timeline of Major EAF Projects in the Caribbean within the last 15 years.

Table 1. Summary of Major EAF Projects in the Caribbean within the last 15 years.

	Project Acronym	Project Name
1.	MarGov	Coastal and Marine Resource Governance in the Eastern Caribbean (MarGov) https://www.idrc.ca/en/project/coastal-and-marine-resource-governance-eastern-caribbean
2.	PROGOVNET	Strengthening Principled Ocean Governance Networks Major project output: https://www.amazon.com/Towards-Ecosystem-Based-Management-Caribbean-Publications/dp/9089642420

	Project Acronym	Project Name
3.	CLME	Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions https://www.clmeproject.org/phaseone/
4.	FORCE	Future of Reefs in a Changing Environment https://climate-adapt.eea.europa.eu/metadata/projects/future-of-reefs-in-a-changing-environment-an-ecosystem-approach-to-managing-caribbean-coral-reefs-in-the-face-of-climate-change
5.	UNEP Conset Bay	Up-scaling Sustainable Resource Management in Coastal Watershed Communities of Barbados' National Park and System of Open Spaces Project https://www.cavehill.uwi.edu/cermes/projects/conset-bay-pilot-project.aspx
6.	EBM-DSS	Biodiversity for Sustainable Development in the Caribbean through Ecosystem-Based Management (EBM): Ecosystem-Based Management-Decision Support System (EBM-DSS) dissemination and application https://www.cavehill.uwi.edu/cermes/projects/ebm-dss/project-home.aspx
7.	ECMMAN	Eastern Caribbean Marine Managed Area Network https://marineplanning.org/projects/carribean/ecmman/
8.	CLME+	Sustainable Management of the Shared Living Marine Resources of the Caribbean Large Marine Ecosystem (CLME) and Adjacent Regions Amendment https://www.clmeproject.org/
9.	CC4FISH	Climate Change Adaptation in the Eastern Caribbean Fisheries Sector http://www.fao.org/in-action/climate-change-adaptation-eastern-caribbean-fisheries/en/
10.	IWEco	Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States https://www.iweco.org/
11.	CROP	Caribbean Regional Oceanscape Project https://projects.worldbank.org/en/projects-operations/project-detail/P159653
12.	Darwin CCA	Climate Change Adaptation in the Fisheries of Anguilla and Montserrat https://canari.org/wp-content/uploads/2018/09/Darwin-CCA-Fisheries-OTs-Project-Brief-4.2019.pdf
13.	StewardFish	Developing Organizational Capacity for Ecosystem Stewardship and Livelihoods in Caribbean Small-Scale Fisheries https://www.thegef.org/project/developing-organizational-capacity-ecosystem-stewardship-and-livelihoods-caribbean-small
14.	SargAdapt	Adapting to a new reality: Managing responses to influxes of sargassum seaweed in the Eastern Caribbean as ecosystem hazards and opportunities https://www.cavehill.uwi.edu/cermes/docs/connections/cermes_connections_2019_12_19.aspx

4 OPERATIONALISING EAF

An ongoing challenge that has been noted, is to put in place the measures required to give effect to the principles of EAF/EBM at the local, national and regional levels[39]. Ecosystem Approach to Fisheries Management and EBM are not singular approaches, rather frameworks for managing human–environment interactions. As a result, the application of EAF/EBM does not need to follow a singular blueprint, instead, it should be consistent with local context, means and culture[40]. With this in mind, the Conset Bay project which led to the development of a locally relevant code of conduct, is particularly instructive. In the final section of this report, we review the methodology used under the Conset Bay Project and offer suggestions to facilitate its application in other countries and communities in the Caribbean region. It is important to note that regional organizations, such as the FAO, CRFM and CANARI have been including EAF in training and other events for over a decade. As a result, there exists a base of institutional knowledge and experience that can be drawn upon to support operationalizing EAF in project countries through the development of nationally relevant codes of conduct.

5 CONDUCT AND ETHICS

One entry point, or means for communities to begin defining what EAF looks like for them, and then implementing compatible strategies, is the development of a code of conduct. A code of conduct clarifies the mission, values and principles of a group and links them with the standards of behaviour of individuals who participate in the group. There are several reasons why a code of conduct is useful for a group or organization[1]:

- ✓ Communicates to members that the group is committed to operating in a responsible manner;
- ✓ Provides clear guidelines to new persons seeking to participate in the group related to the conduct they are expected to uphold;
- ✓ Demonstrates to outsiders that the group values integrity and responsibility in its operations;
- ✓ Prevents 'innocent' violations of ethics by addressing issues which may not occur to regular members; and
- ✓ Offers a clear point of reference when enforcing corrective action.

Below we outline the steps which were taken to develop the Local Sustainable Fisheries (LSF) Code for Conset Bay, a small fishing community in Barbados, as summarised in Figure 2.

[1] Adapted from https://www.whistleblowersecurity.com/four-reasons-business-needs-code-ethics/

1. **Review of the FAO Code of Conduct for Responsible Fisheries (CCRF).** An in-depth review of the FAO's CCRF, FAO (2011) report on "Discussion Document: Towards voluntary guidelines on securing sustainable small-scale fisheries" and the Canadian Code of Conduct for Responsible Fishing Operations was conducted.

2. **Sensitisation of the CCRF and identification of best practices**. This was achieved through (1) the production and dissemination of a video about the CCRF and the importance of sustainable fisheries in the context of Conset Bay, and (2) a consultation with fishers where they were encouraged to share their knowledge on the best and bad practices observed within the fishing community.

3. **Determining the principles of the LSF Code**: Interviews were conducted with a cross section of the LSF fishing community to develop the key principles of the LSF Code.

4. **Developing the first draft of the principles of the LSF Code**. Based on the results of the consultation and interviews, a list of 17 draft principles were developed. These draft principles were firstly shared with the national fisherfolk organization as well as relevant government entities. They were subsequently shared with the community during a consultation, at which time a democratic prioritisation exercise was used to determine the final list of principles.

5. **Finalizing the code**. Based on the outcomes of the prioritisation exercise, the highest rated principles) were used to formulate the draft LSF Code for Conset Bay, which was subsequently finalized and developed into a poster (Figure 3).

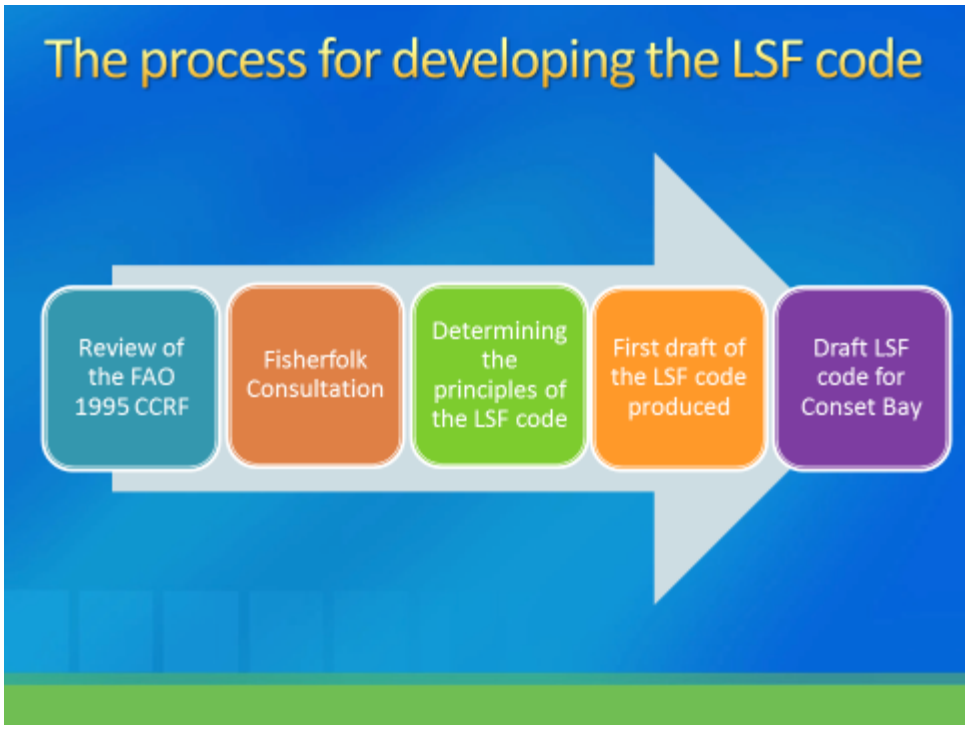

Figure 2. Stages for the development of the draft LSF code for Conset Bay[41].

Figure 3. Draft final Code of Conduct for Conset Bay[42].

It is important to note that while the process employed in Conset Bay was effective in developing a draft code for the area, it lacked several important steps necessary to make this code operational, including:

- A process to ensure the formal adoption of the code;
- Practical guidance on code implementation;
- A process for monitoring and evaluation of compliance with the code; and
- A facility for the revision of the code, to maintain its relevance over time.

The success of a Code of Conduct cannot be gauged solely by its development. Thirteen years after the publication of the FAO's Code of Conduct for Responsible Fisheries, a detailed evaluation involving 53 countries revealed that compliance with this code was dismayingly poor[43]. Although intent to comply with the code is high in many countries, intentions exceed compliance by 9% on average. This study demonstrates that while the development of Codes of Conduct and building support for compliance are important, they are not sufficient. To improve matters, the authors suggest establishing mandatory instruments, either national or international, that echo the specific requirements for compliance with the code, and tailoring aid for developing countries to address specific weaknesses. In the following section we recommend a process to build on the progress made under the Conset Bay Project, to develop a Caribbean regional Code of Conduct that is consistent with EAF principles, for adaptation and implementation at the national level in StewardFish Project Countries[2]. Subsequent to this, we also provide guidance on how the codes can be operationalized.

6 ACTION REQUIRED

In order to advance EAF management in the Caribbean, there is the need for a code of conduct which articulates a shared understanding of what EAF entails at the regional and national levels. Regional and National Codes of Conduct can serve as a guideline for current and future activities, as well as a benchmark against which they can be measured. In Table 2 we describe the process for the development of codes at the regional and national levels. Development of local/community codes may not be necessary in every country. However, they can provide added value in instances where specific practices that are unique to an area need to be assessed in relation to EAF principles. As seen in the table below, the methodology for development of the codes is similar to that employed in Conset Bay, with the important distinction that it includes steps related to formal endorsement of the codes, planning to operationalize the codes,

[2] Antigua and Barbuda, Barbados, Belize, Guyana, Jamaica, St. Lucia, and St. Vincent and the Grenadines.

monitoring and evaluation, and periodic revision of the codes to maintain their relevance. The process for development of regional and community codes will be further elaborated in an accompanying Concept Note.

Table 2: Process and timeline for development of Regional, National and Local EAF Codes. Dates are subject to change in light of the COVID-19 pandemic.

PROCESS	LEVEL Regional Code	National Code	Local Code
A. Convene Advisory Group	Form a special regional advisory committee (RAC). [To be initiated by the Caribbean Network of Fisherfolk Organisations (CNFO)]. The committee will have representation from the Caribbean Regional Fisheries Mechanism (CRFM), fisheries management officials, Academia and regional non-governmental organisations (NGOs) involved in fisheries or coastal/environmental management.	Form a national advisory committee (NAC) with representation from National Fisherfolk Organisations, national fisheries management authority, national Fisheries Advisory Committee (FAC) or national inter-sectoral coordinating mechanism (NICs), Academia and NGOs. ***(August 2020)***	Local committee includes representation from members of the local fishing community, Board of the local fisherfolk organisation, and heads of community groups.
B. Review relevant information	Review existing international/regional instruments/processes and initiatives related to EAF. **(*Dec 2019- June 2020)***	Review Regional Code of Conduct with respect to national context: policy, legislation, ecosystems, cultural norms, and national plans/ongoing initiatives ***(August 2020)***	Review National Code in relation to unique practices and sensitive ecosystems in the area.
C. Determine principles of code	Virtual (Dec 2019-June 2020) and in-person consultations. ***(June 2020)***	In-person and virtual national consultations. ***(August-October 2020)***	In-person consultations in communities.
D. Formally Endorse Code	Formal endorsement by RAC, Caribbean Fisheries Forum and CRFM Ministerial Council. ***(TBD 2020)***	Formal endorsement by relevant Government entities (e.g., Ministers) and erection of signs which outline code. ***(21 November 2020)***	Code endorsed by local Government representatives or community leaders.

PROCESS	LEVEL Regional Code	National Code	Local Code
F. Implement Code	Code of Conduct disseminated to national contacts/FAC. **(August 2020)**	Develop a plan for implementation and begin implementing; establishment of new instruments or mainstream into existing national plans. **(December 2020)**	Develop a plan for implementation and begin implementing new activities/mainstreaming into existing activities.
G. Monitor and Evaluate Implementation	Undertaken at the national levels, with reporting to RAC.	M&E Framework created with country specific indicators. Monitoring and evaluation undertaken by national contacts in project countries, in collaboration with fishers/local community members. Updates on code implementation should be provided at NAC monthly meetings.	Participatory Monitoring and evaluation by community members with support from national contacts. Community leaders update NAC at monthly meetings.
H. Review progress, revise approach and codes as necessary	Every 4-5 years, the EAF-RAC receives a national summary from each participating country which outlines their success and challenges towards integrating and EAF approach. Based on feedback and further consultations, the regional Code is amended accordingly. The amended regional Code should be endorsed by the Caribbean Fisheries Forum and CRFM Ministerial Council.	Review progress yearly, to produce a national summary that can be shared with Regional EAF Advisory Committee.	Summary of successes, challenges and lessons learned to be shared annually with NAC.

As seen in Figure 3, developing codes of conduct at the regional, national and local should be considered an iterative process, not a one-time endeavor. Following a period of implementation, there should be time taken to review progress at the community and national levels. The results of national implementation should ultimately be shared with the Regional Advisory Committee, for amendment of the regional code, to maintain its relevance over time.

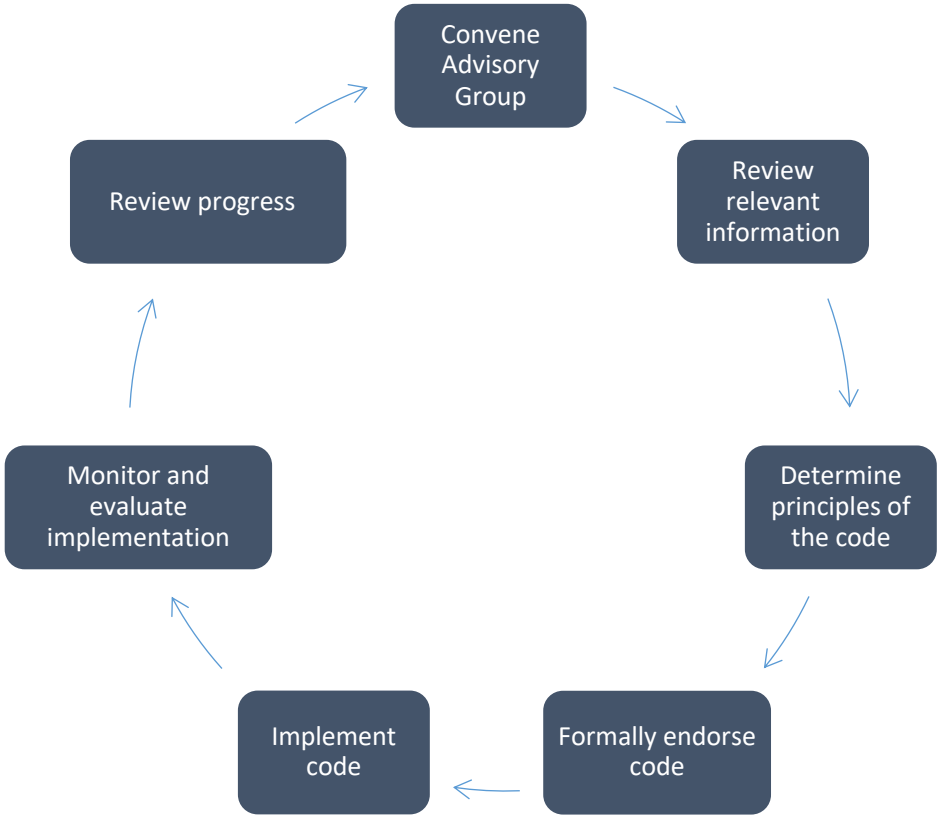

Figure 3. Process for developing an EAF Code of Conduct at the regional, national and local levels in the Caribbean.

6.1 Guidance on Code Adoption and Implementation

It is critical that the development of codes of conduct does not occur solely as a conceptual exercise; the codes will need to be translated to practice to truly become effective. Below we offer some recommendations to promote implementation:

1) Codes should be endorsed at the highest level. At the regional level, the code should be reviewed and adopted by the Caribbean Fisheries Forum and the CRFM Ministerial council. Formal adoption of national codes can take the form of an unveiling ceremony of a sign highlighting the codes on World Fisheries Day where the Minister or another policy maker can verbally endorse the code and participate in a photo opportunity. Media covering the event would be ideal to help raise public awareness and disseminate the codes messages. Such formal endorsement should occur for codes developed at both the national and local levels.

2) The codes should be mainstreamed into existing national fisheries/coastal management plans and policies. This may be a separate exercise which is advocated by the NFO in collaboration with a relevant policy maker. Alternatively, a separate plan for implementation of the codes could be developed. In some countries, there may be a need for mandatory instruments that echo the specific requirements for compliance with the code. Whatever the mechanism, a clear idea of how the national code will be applied needs to be articulated prior to the formal adoption of the code.

3) Updates on code implementation should be provided at monthly meetings with the Fisheries Advisory Committee and/or National Advisory Committee.

4) The Regional Code of Conduct should be integrated into the training curriculum of the CNFO leadership institute.

5) The National Code of Conduct should be integrated into the training curriculum provided by NFOs and government agencies for fishers and the fishing community. The Codes should be prominently displayed at fish landing sites and marketplaces.

6) While the initial impact of the codes of conduct will be captured under the StewardFish Project, an appreciation of their efficacy will only be understood through consistent, long-term monitoring. Therefore, the resources required to facilitate this monitoring should be given careful consideration during the process of each code's development.

7 REFERENCES

[1] Cowan Jr., J. H., Rice, J. C., Walters, C. J., Hilborn, R., Essington, T. E., Jr, J. W. D., & Boswell, K. M. 2012. *Challenges for Implementing an Ecosystem Approach to Fisheries Management*. Marine and Coastal Fisheries, *4*(1), 496–510. https://doi.org/10.1080/19425120.2012.690825

[2] WCED. 1987. *Our Common Future* (p. 247). Retrieved from United Nations website: file:///C:/Users/Nikki/Downloads/our_common_futurebrundtlandreport1987.pdf

[3] United Nations. 1992. *Cbd-en.pdf*. Retrieved from United Nations website: https://www.cbd.int/doc/legal/cbd-en.pdf

[4] FAO. 1995. *Code of Conduct for Responsible Fisheries*. Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/v9878e/v9878e00.htm

[5] FAO. 2011. *FAO - EAFnet—What is EAF*. Retrieved October 23, 2019, from Food and Agricultural Organization of the United Nations website: http://www.fao.org/fishery/eaf-net/about/what-is-eaf/en

[6] Kenny, A. J., Campbell, N., Koen-Alonso, M., Pepin, P., & Diz, D. 2018. *Delivering sustainable fisheries through adoption of a risk-based framework as part of an ecosystem approach to fisheries management*. Marine Policy, 93, 232–240. https://doi.org/10.1016/j.marpol.2017.05.018

[7] FAO. 2014a. *Securing fish for the Caribbean (No. Issue Brief 10; p. 4)*. Retrieved from Food and Agriculture Organization of the United Nations - Subregional Office for the Caribbean website: http://www.fao.org/3/a-ax904e.pdf

[8] FAO. 2016. *Report of the Thirty-Fourth FAO Regional Conference for Latin America and the Caribbean. Report of the Thirty-Fourth FAO Regional Conference for Latin America and the Caribbean*. Mexico City, Mexico. 29 February to 3 March 2016, 36. Retrieved from http://www.fao.org/3/a-mq197e.pdf

[9] Gardner, T. A., Côté, I. M., Gill, J. A., Grant, A., & Watkinson, A. R. 2003. *Long-term region-wide declines in Caribbean corals*. Science, 301(5635), 958–960.

[10] Pandolfi, J. M., Bradbury, R. H., Sala, E., Hughes, T. P., Bjorndal, K. A., Cooke, R. G., … Paredes, G. 2003. Global trajectories of the long-term decline of coral reef ecosystems. Science, 301(5635), 955–958

[11] Paddack, M. J., Reynolds, J. D., Aguilar, C., Appeldoorn, R. S., Beets, J., Burkett, E. W., … Fonseca, A. C. 2009. *Recent region-wide declines in Caribbean reef fish abundance*. Current Biology, 19(7), 590–595

[12] Oxenford, H., & Monnereau, I. 2018. Chapter 9: Climate change impacts, vulnerabilities and adaptations: Western Central Atlantic marine fisheries. In FAO Fisheries and Aquaculture Technical Paper: Vol. 627. Impacts of climate change on fisheries and aquaculture Synthesis of current knowledge, adaptation and mitigation options (pp. 185–206). Retrieved from http://www.fao.org/3/i9705en/i9705en.pdf

[13] Christie, P., Lowry, K., White, A. T., Oracion, E. G., Sievanen, L., Pomeroy, R. S., … Eisma, R.-L. V. 2005. Key findings from a multidisciplinary examination of integrated coastal management process sustainability. Ocean & Coastal Management, 48(3–6), 468–483

[14] FAO. 2003. Fisheries Management. Ecosystem Approach to Fisheries (No. 4 Suppl. 2; p. 121). Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/a-y4470e.pdf

[15] Bianchi, G., & Cochrane, K. 2011. *Meeting the Challenge of Applying an Ecosystem Approach to Fisheries Management Some Experiences and Considerations Based on the FAO's Work*. In Centre for Maritime Research (MARE) Publication: Vol. 6. Towards Marine Ecosystem Based Management in the Wider Caribbean (p. 426). Amsterdam: Amsterdam University Press.

[16] Garcia, S. M., Zerbi, A., Aliume, C., Do Chi, T., & Lasserre, G. 2003. *The ecosystem approach to fisheries. Issues, terminology, principles, institutional foundations, implementation and outlook*. (Technical Paper No. 443; p. 71). Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/a-y4773e.pdf

[17] Fanning, L., Mahon, R., & McConney, P. 2011. *Towards Ecosystem Based Management in the Wider Caribbean*. Amsterdam: Amsterdam University Press.

[18] FAO. 1995. *Code of Conduct for Responsible Fisheries*. Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/v9878e/v9878e00.htm

[19] FAO. 1995. *Code of Conduct for Responsible Fisheries*. Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/v9878e/v9878e00.htm

[20] FAO. 2002. Report of the Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem, Reykjavik, Iceland, October 2001. *FAO Fisheries Report no. 658*, Rome: Food and Agricultural Organization.

[21] FAO. 2003. Fisheries Management. Ecosystem Approach to Fisheries (No. 4 Suppl. 2; p. 121). Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/a-y4470e.pdf

[22] Fanning, L., Mahon, R., & McConney, P. 2011. *Towards Ecosystem Based Management in the Wider Caribbean*. Amsterdam: Amsterdam University Press.

[23] FAO. 2015. *Voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication*. Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/a-i4356en.pdf

[24] FAO. 2012. Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Retrieved from Food and Agriculture Organization of the United Nations website: http://www.fao.org/3/a-i2801e.pdf

[25] Fisheries and Ocean Canada. 1998. Canadian Code of Conduct for Responsible Fishing Operations: Consensus code 1998. Retrieved from http://www.dfo-mpo.gc.ca/fisheries-peches/policies-politiques/cccrfo-cccppr-eng.html

[26] National Oceanic and Atmospheric Administration. 2012. *NOAA Fisheries Implementation Plan of the FAO Code of Conduct for Responsible Fisheries*. Retrieved from https://repository.library.noaa.gov/view/noaa/4057/noaa_4

[27] SICA. (n.d.). *SICA in Brief*. Central American Integration System. https://www.sica.int/sica/sica_breve_en.aspx

[28] OSPECA. 2011. Code of ethics for responsible fisheries and aquaculture in the states of the Central American Isthmus. San Salvador, El Salvador.

[29] Hosch, G. Analysis of the implementation and impact of the FAO Code of Conduct for Responsible Fisheries since 1995. *FAO Fisheries and Aquaculture Circular*. No. 1038. Rome, FAO. 2009. 99p.

[30] Learn about the Cartagena Convention and its Protocols. (n.d.) Retrieved February 2, 2020, from Caribbean Environment Programme Website: http://cep.unep.org/cartagena-convention

[31] Organisation of Eastern Caribbean States (OECS). 2007. St George's Declaration of Principles for Environmental Sustainability in the OECS. Castries, St. Lucia: The OECS Secretariat

[32] Organisation of Eastern Caribbean States (OECS). 2007. St George's Declaration of Principles for Environmental Sustainability in the OECS. Castries, St. Lucia: The OECS Secretariat

[33] Organisation of Eastern Caribbean States (OECS) 2013. Eastern Caribbean Regional Ocean Policy. Castries, St. Lucia: The OECS Secretariat.

[34] CRFM. (n.d.). *Caribbean Community Common Fisheries Policy Fact Sheet*. Retrieved from https://www.cavehill.uwi.edu/cermes/getdoc/d645a4c5-6bae-4a4a-8c7b-ded733b6d1df/cccfp_fact_sheet.aspx

[35] Murray, P. 2018. *Oceans Economy and Trade Strategies -the Caribbean Community Common Fisheries Policy: A consideration for the legal framework*. Presented at the First National Stakeholder Workshop: Oceans based sectors selection and assessment, Belize City, Belize. Retrieved from https://unctad.org/meetings/en/Presentation/ditc-ted-Belize-28112018-CRFM-Murray.pdf

[36] Sabir, K., Simpson, N., Cox, S., & McConney, P. 2018. *A preliminary look at the implementation of EBM/EAF in the CLME+ region*. Report to the UNDP/GEF CLME+ Project (2015-2020) (p. 20). Bridgetown, Barbados: Centre for Resource Management and Environmental Studies, University of the West Indies, Cave Hill Campus.

[37] Christie, P., Lowry, K., White, A. T., Oracion, E. G., Sievanen, L., Pomeroy, R. S., … Eisma, R.-L. V. 2005. *Key findings from a multidisciplinary examination of integrated coastal management process sustainability*. Ocean & Coastal Management, 48(3–6), 468–483

[38] Olsen, S., & Christie, P. (2000). *What are we learning from tropical coastal management experiences?* Coastal Management, 28(1), 5–18

[39] Fanning, L., Mahon, R., & McConney, P. 2011. *Towards Ecosystem Based Management in the Wider Caribbean*. Amsterdam: Amsterdam University Press.

[40] Fanning, L., & Oxenford, H. 2011. *Ecosystem Issues Pertaining to the Flyingfish Fisheries of the Eastern Caribbean*. In Centre for Maritime Research (MARE) Publication: Vol. 6. Towards Marine Ecosystem-based Management in the Wider Caribbean Region (pp. 227–240). Amsterdam: Amsterdam University Press.

[41] Blackman, K., Selliah, N., Sinckler, T., McConney, P., King-Brathwaite, D., & Cox, S.-A. 2013, November. *Working towards a sustainable fisheries code for Conset Bay in Barbados*. Presentation delivered at the 66th Conference of Gulf Caribbean Fisheries Institute, Corpus Christi, Texas, USA

[42] Blackman, K., Selliah, N., Sinckler, T., McConney, P., & Cox, S.-A. 2013. *Working Towards a Code for Sustainable Fisheries with the Conset Bay Fishing Community in Barbados*. Proceedings of the 66th Gulf and Caribbean Fisheries Institute, 59–63. Retrieved from https://www.researchgate.net/publication/305734662_Working_Towards_a_Code_for_Sustainable_Fisheries_with_the_Conset_Bay_Fishing_Community_in_Barbados

[43] Pitcher, T., Kalikoski, D., Pramod, G., & Short, K. (2009). *Not honouring the code*. Nature, 457(7230), 658–659. https://doi.org/10.1038/457658a