

Caribbean and North Brazil Shelf Large Marine Ecosystem (CLME+) Project
EAF within EBM – Strategy and Guidance Notes: Reef Ecosystem
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Photo credit: David Gill

Ecosystem Approach to Fisheries (EAF) within Ecosystem-based Management (EBM)

What is the ecosystem approach to fisheries (EAF)?

EAF is a practical way to implement sustainable development principles of fisheries management. It is a risk based management planning process that covers the principles of sustainable development including the human and social elements of sustainability, not just ecological and environmental aspects of fisheries.

(FAO EAF Toolbox online is a key reference for all sections)

What is ecosystem-based management (EBM)?

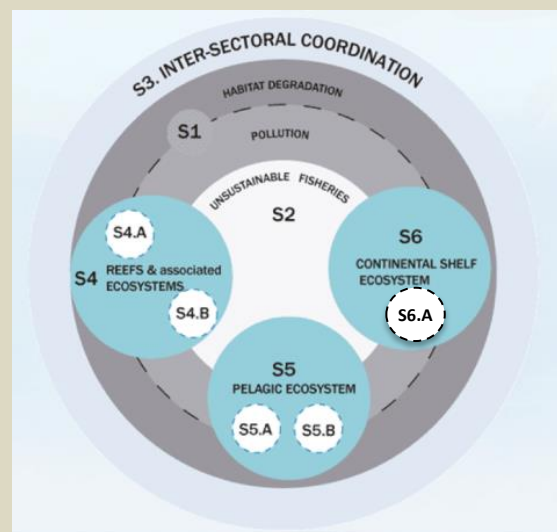
“Ecosystem-based management (EBM) regards marine and coastal ecosystems as units with many ecological and social links. These connections can be numerous and complex, with disruptions to any part of an ecosystem - such as changes to habitats or fluctuations in the population of a species - having many knock-on effects.”

(UNEP 2011; Fanning et al (2011) also online has guidance for marine EBM concerning all sections)

EBM provides the broad context whereas EAF focuses on fisheries management and development. Hence both EBM and EAF are needed to support the implementation of sustainable development through the principles of good governance.

CLME+ Strategic Action Programme (SAP)

- The Large Marine Ecosystem (LME) approach is seen as “an engine for achieving SDG 14” and is aimed at operationalizing EBM and EAF.
- Key to the Wider Caribbean Region is the ten year (2015-2025) Strategic Action Programme (SAP) (CLME+ website).
- The CLME+ Project implements EBM and the EAF in the CLME+ region in the first 5 years of the SAP.



CLME+ SAP – 6 main strategies and 4 sub-strategies

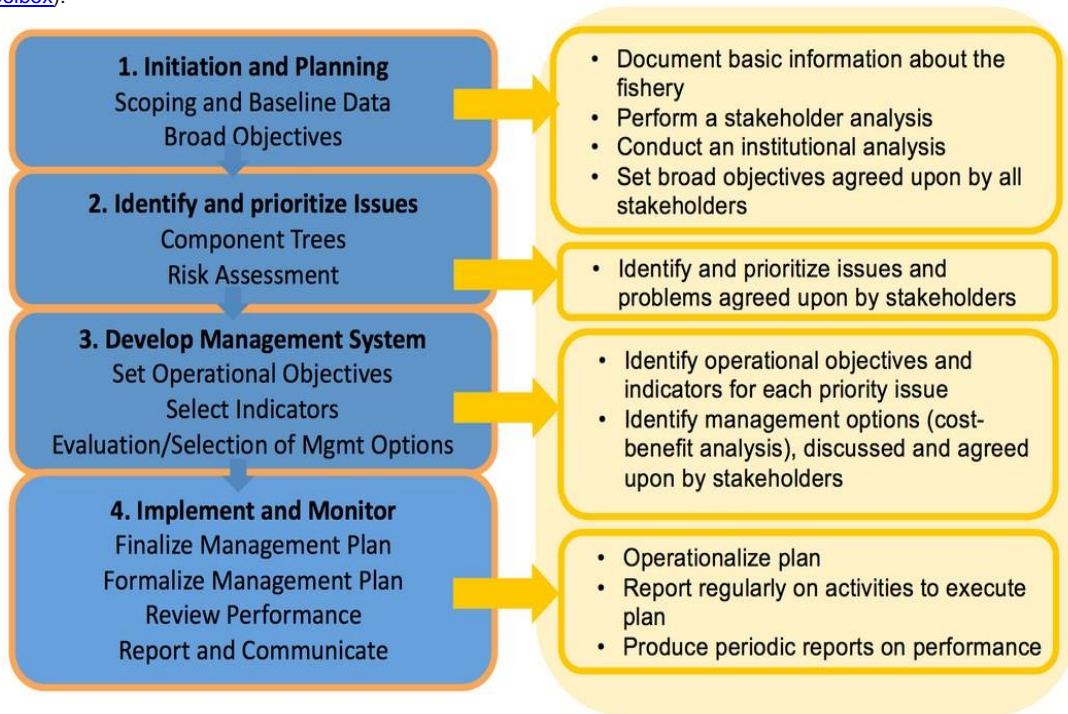
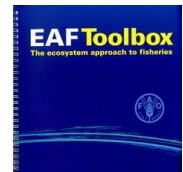
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|---|-----------------------------------|
| S1 – Protection of the Marine Environment | |
| S2 – Sustainable Fisheries | S5 – EAF, Pelagic Ecosystem |
| S3 – Inter-sectoral Coordination | S5a Flyingfish Fisheries |
| S4 – EBM, Reef Ecosystems | S5b Large Pelagics Fisheries |
| S4a Spiny Lobster Fisheries | S6 – EBM/EAF, Continental Shelf |
| S4b Queen Conch Fisheries | S6a Shrimp and Groundfish fishery |

Four Steps of the EAF Planning Process EAF PLANNING



Photo credit: David Gill

EAF builds on conventional fisheries management and doesn't require complete knowledge about an ecosystem. It works by comprehensively identifying, assessing and addressing issues through participatory processes. EAF addresses both the negative and positive aspects of fisheries, with the aim to develop and implement integrated management arrangements that will benefit communities and society in general. EAF planning process steps are set out and resources are available online in the FAO EAF Toolbox (<http://bit.ly/EAFToolbox>).



EAF Planning Process. Adopted from: FAO, 2017

Each step of the EAF planning process is characterized by: 1) key activities or objectives; 2) main outputs. For example, in Step 2 key activities include asset and issue identification and prioritization, and risk management. Expected outputs are a complete set of EAF-related issues relevant to the fishery and the recommended level of direct management action or activities.

The sections that follow, expand on each step of the EAF planning process and offer useful resources for implementation.

For more guidance on planning and implementing EAF within EBM read Fanning et al (2011) and visit the *FAO EAF Toolbox*.

1. INITIATION AND PLANNING

- Avoid social-ecological mismatch -- policy cycles must fit the stakeholders, management unit, scope of the fishery
- Determine the scale and scope of key institutions to involve – including watershed, coastal zone, protected area, etc.
- Use a national inter-sectoral coordination mechanism for the initiation of planning, by visioning across key coastal uses

Marine EBM practitioners from around the CLME+ region set out key vision elements for EBM of reef ecosystems under 3 themes:

Theme 1 – Strengthen knowledge base

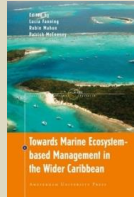
Environmentally educated public
Quality information accessible to all

Theme 2 – Good Governance

Serious politicians with a will to manage
Appropriate effective accountable balance
Enforcement that works
Stakeholders fully involved

Theme 3 – Healthy reefs sustaining people

Healthy functional ecosystem
Secure and sustainable livelihoods
Caribbean-wide marine space use management
Only clean water to the sea



USEFUL RESOURCES

- CANARI Guidelines for stakeholder analysis (<http://bit.ly/CANARI>)
- Institutional Analysis (<http://bit.ly/2sU3b20>)
- Stakeholder methodologies in natural resource management (<http://bit.ly/2tnzo2S>)
- Training modules for EAF, climate change and communication for fisherfolk in the Caribbean (http://bit.ly/CANARI_EAF)
- The LME approach: An engine for achieving SDG 14 (<http://bit.ly/2umyv7d>)
- Taking Steps toward Marine and Coastal Ecosystem-Based Management (<http://bit.ly/StepsEcoBM>)
- CLME+ Project Overview (<http://bit.ly/CLMEov>)
- Implementation of the 1995 FAO Code of Conduct for Responsible Fisheries (<http://bit.ly/FAOCode>).
- Putting into practice the ecosystem approach to fisheries (<http://bit.ly/EAFPract>)

2. IDENTIFY AND PRIORITIZE ISSUES

- Use the transboundary diagnostic analysis and causal chain analysis to help determine root causes of issues
- Consider EBM aspects such as land-based sources of pollution, marine debris, coastal development, etc.
- Link issues to major factors, like climate and disasters, to ensure a comprehensive and coherent approach that can include blue economy, seascapes, etc.
- Provide analysis and advice to policy-makers, that incorporates knowledge from diverse stakeholders.
- Ensure that the voices of marginalised groups that may include women, youth and minorities are clearly heard
- Determine the criteria for prioritization ahead of the process of selection in order to be fair and transparent
- Align national issues with the agreed policies and priorities of regional and international organizations, where feasible, in order to facilitate policy coherence through coordination
- Provide policy-makers, stakeholders and the public with reliable information on the economic values of ecosystem goods and services so as to determine acceptable trade-offs

USEFUL RESOURCES

- Caribbean Large Marine Ecosystem Regional Transboundary Diagnostic Analysis (TDA) (<http://bit.ly/CLMETDA>)
- Governance arrangements for marine ecosystems in the Wider Caribbean Region (<http://bit.ly/GovWCR>)
- OSPESCA/WECAFC/CRFM/CFMC Working Group on Spiny Lobster (<http://bit.ly/SpinyLob>)
- CLME+ SAP (<http://bit.ly/CLMESAP>)
- UNEP Caribbean Environment Programme (CEP) (<http://bit.ly/CaribEnvProg>)
- Specially Protected Areas and Wildlife Programme (http://bit.ly/CEP_SPAW)
- Caribbean Challenge Initiative (CCI) (<http://bit.ly/CaribCI>)

3. DEVELOP MANAGEMENT SYSTEMS

- Link EBM-EAF management of ecological assets to national/regional socio-economic goals (e.g. SDGs)
- Determine the level of political commitment and institutional capacity required to sustain management
- Apply a pragmatic incentive approach to EAF within EBM that offers success and benefits for stakeholders
- Manage fisheries interactions with other sectors via marine spatial planning, integrated coastal management, etc.
- Continue to use a national inter-sectoral coordination mechanism for developing the management systems
- Review the completeness and connectedness of the policy cycles related to the management system and decisions
- Assess risk and uncertainty to determine what are suitable indicators of management performance taking into account ecosystem goods and services
- Engage the regional and international organizations and processes with mandates for coral reef and associated ecosystems so as to mobilize resources
- Include intergenerational stewardship as an ethical imperative for societal pursuit of sustainability

USEFUL RESOURCES

- WECAFC Recommendations and Resolutions on fisheries management for Conch and Spiny Lobster Fisheries (<http://bit.ly/MgmtCSL>)
- Implementation report (2013-2015): regional strategy for the control of invasive lionfish (<http://bit.ly/CRFMlionfish>)
- A community-based ecosystem approach to fisheries management (<http://bit.ly/ComEAF>)
- Improving the outlook for Caribbean coral reefs: A Regional Plan of Action 2014-2019 (<http://bit.ly/ReefPOA>)
- Management and Conservation of Reef Biodiversity and Reef Fisheries Pilot Project: Governance assessment for Pedro Bank, Jamaica (<http://bit.ly/GAPed>)

4. IMPLEMENT AND MONITOR

The “Governance Effectiveness Assessment framework” (GEAF), adapted from the Global Environmental Facility’s (GEF) Transboundary Waters Assessment Programme (TWAP), “provides a useful tool for results-based planning, coordination and management of activities...” (UNEP, GEF, 2016). The CLME+ Project is using the GEAF throughout.

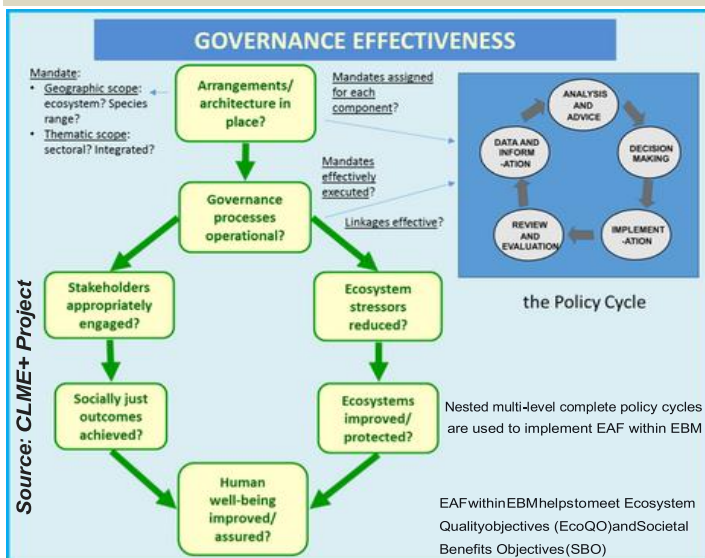
- Agree on the time, spatial and other scales for monitoring and evaluating each major element of the EAF plan within EBM
- Establish participatory monitoring and evaluation (PM&E) processes conducive to learning and adaptive management
- Develop communications plans to inform all relevant stakeholders of what actions will be occurring and when
- Set the EAF plan within legislation to the extent necessary, supported by relevant agencies and stakeholder groups.
- Where performance is not acceptable, or there has been a perturbation, implement alternative management measures

STRATEGIES FOR ACCOMPLISHING THE VISION FOR MARINE EBM OF REEF ASSOCIATED ECOSYSTEMS IN THE WIDER CARIBBEAN

- Increase stakeholder engagement;
- Promote regional collaboration and networks;
- Pursue multi-sectoral integrated approaches;
- Build public awareness; and
- Promote communication mechanisms and networks.

USEFUL RESOURCES

- CLME pilot reef fisheries of biodiversity best practices and lessons learned (<http://bit.ly/CEPReef>)



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