





The Caribbean Large Marine Ecosystem (CLME) Project

CLME Project Unit

Centre for Resource Management and Environmental Studies (CERMES)

University of the West Indies

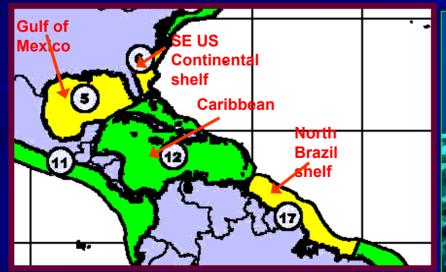
Cave Hill Campus, Barbados



The CLME Project - Overall objective

Sustainable management of the shared living marine resources of the Caribbean LME and adjacent regions through an integrated management approach that will meet WSSD targets for sustainable fisheries

Technical focus on transboundary living marine resource management - Both exploited and non-extractable





Status of living marine resources

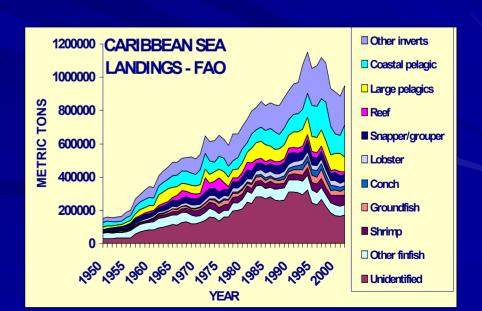
Non-extractable

- Extent of healthy coral reefs around the region in decline
- Associated biodiversity under threat
- Critical coastal habitat in decline
- Coastal & marine protected areas inadequate



Fisheries

- Most resources fully or overexploited – especially coastal
- Most resource assessment effort into lobster, conch, shrimp
- Ocean-wide large pelagics assessed by ICCAT
- Regional large pelagics unknown



The Caribbean LME (CLME) Project

Progress in the PDF-B

- Aug 2006 First Steering Committee Meeting Panama
- October Nov-2006 Technical Task Team meeting Barbados,
- Feb-Mar 2007 Project Concept/Tda Synthesis Workshop, Jamaica
- June 2007 Second Steering Committee Meeting, Colombia

ProDoc Currently under preparation for completion

The Caribbean LME (CLME) Project

Reports and documents produced:

- Preliminary TDA for the Insular Caribbean Sub-Region
- Preliminary TDA for the Guianas-Brazil Sub-Region
- Preliminary TDA for the Central/South America Sub-Region
- Overview of the Preliminary Subregional TDAs for the Caribbean LME and its Adjacent Region, the Guianas-Brazil Shelf
- Governance of Transboundary Fisheries Resources in the Wider Caribbean
- Living Marine Resources Governance for the Wider Caribbean with Particular Emphasis on Non- Extractable Resources and LME Level Monitoring and Reporting
- Preliminary Sub-Regional, Regional and International Stakeholder Assessment Report
- Key Institutional Players at the Local, National, Sub-Regional, Regional and International Levels in the Caribbean Sea Large Marine Ecosystem
- Meeting reports

The CLME Project - Context

The Wider Caribbean Region is geographically and politically highly diverse and complex

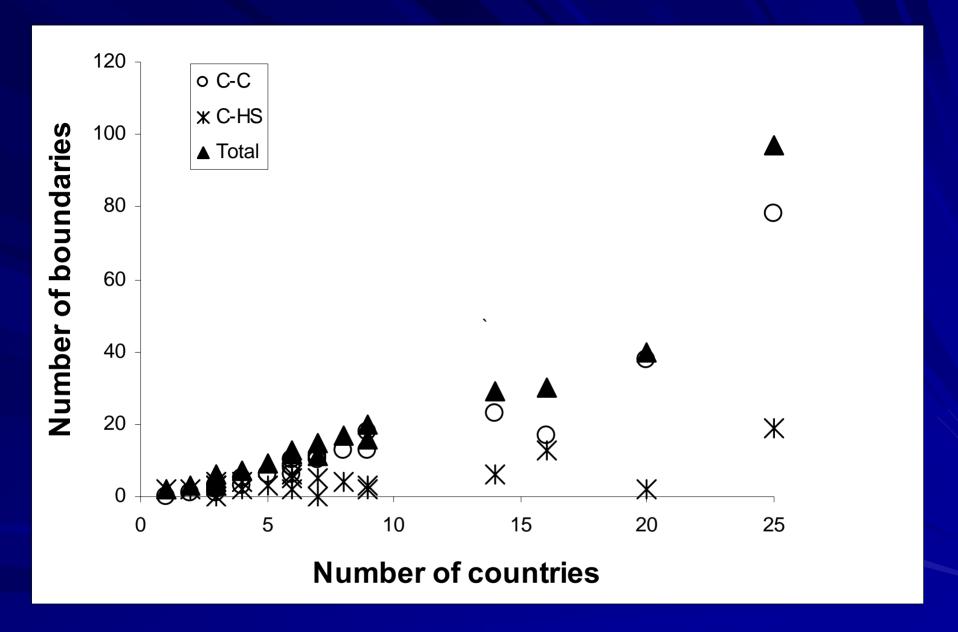


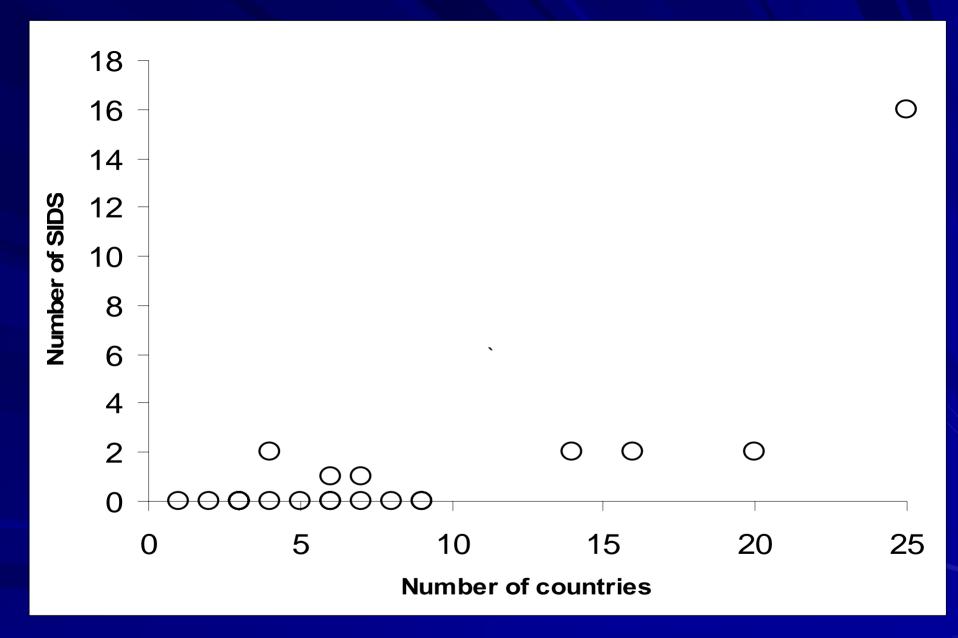
- Geopolitical
 - 33 state entities
- Cultural
 - ethnicity, language
- Size
 - smallest to largest
- Development
 - poorest to most wealthy

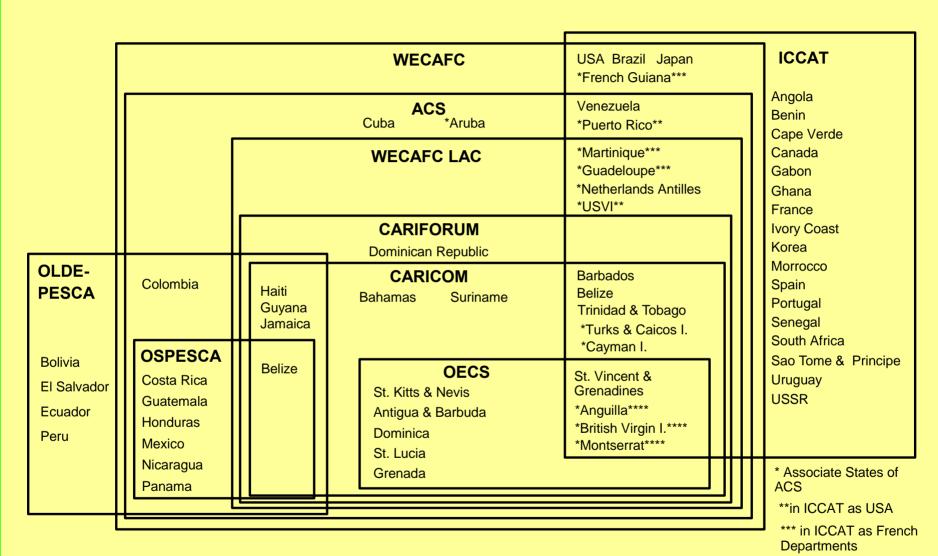
Geopolitical components of LME complexity

LMEs selected for analysis.

LME No.	LME name	No. CC	LME No.	LME name	No. CC
12	Caribbean Sea	25	62	Black Sea	6
26	Mediterranean	20	24	Celtic-Biscay Shelf	5
28	Guinea Current	16	17	North Brazil Shelf	4
32	Arabian Sea	14	47	East China Sea	4
22	North Sea	9	5	Gulf of Mexico	3
23	Baltic Sea	9	29	Benguela Current	3
36	South China Sea	8	31	Somali Coastal Current	3
33	Red Sea	7	37	Sulu-Celebes Sea	3
34	Bay of Bengal	7	48	Yellow Sea	3
27	Canary Current	6	13	Humboldt Current	2
30	Agulhas Current	6	38	Indonesian Sea	1







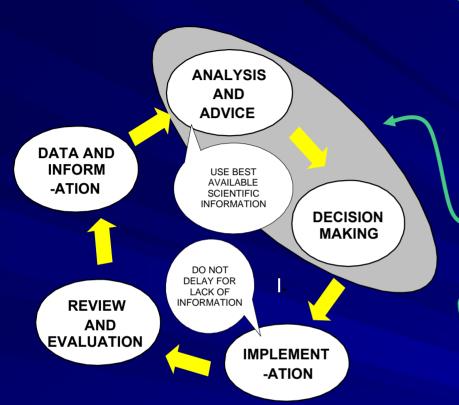
**** in ICCAT as UK

Typical LME project based on five modules

Modular Assessments for Sustainable Development POLLUTION & ECOSYSTEM PRODUCTIVITY MODULE INDICATORS **POLLUTION HEALTH MODULE INDICATORS** Photosynthetic activity Eutrophication Zooplankton biodiversity **ECOSYSTEM Biotoxins** Oceanographic variability Zooplankton biomass HEALTH Pathology FISH Ichthyoplankton biodiversity **Emerging disease** Health indices **PRODUCTIVITY FISHERIES** Multiple marine ecological disturbances SOCIOECONOMICS **GOVERNANCE FISH & FISHERIES MODULE** SOCIOECONOMIC MODULE INDICATORS **INDICATORS Biodiversity** Integrated assessments Finfish **Human forcing** Shellfish Sustainability of long-term **Demersal species** socioeconomic benefits **Pelagic species** GOVERNANCE MODULE INDICATORS Stakeholder participation Adaptive management

CLME emphasizes governance, processes and institutions and treats
governance as overarching

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CLME Project focus on governance is based on:

- The standard policy cycle
- Attention to scale issues

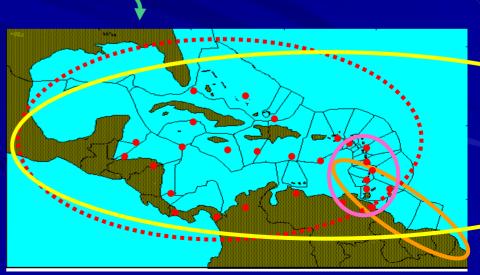
Large pelagics

Reef fishes

Flyingfish

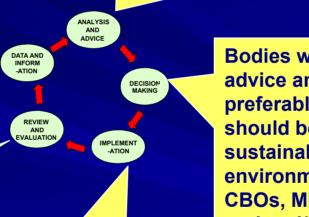
Shrimps

Lobster/Conch



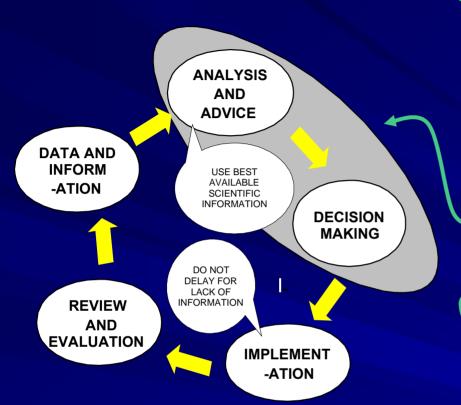
All kinds of research and assessment including Traditional or Local Ecological knowledge, participatory research, oceanography, stock assessment, resource mapping, sociology and economics at all scales

Similar bodies to those that are responsible for analysis and advice and that often oversee the policy cycle All kinds of analysis that is focused on addressing fishery and environmental management problems and that can lead to advice that is useable by decision makers: local groups, national committees, regional scientific bodies and NGOs



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

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



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Large pelagics

Reef fishes

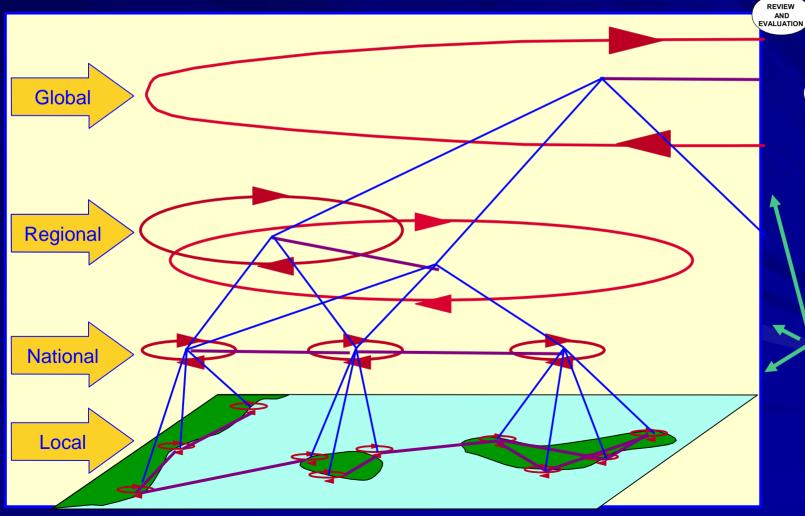
Flyingfish

Shrimps

Lobster/Conch



Building a multi-scale policy-cycle based governance framework



Complete

IMPLEMENT

ANALYSIS AND ADVICE

MAKING

DATA AND INFORM

Linked vertically

Linked laterally

Diversity

The Caribbean LME (CLME) Project

Framework building interventions

- The goal of intervention fully-functional policy cycles at all appropriate levels with the appropriate vertical and lateral linkages.
- Interventions can be specifically targeted at:
 - 1. Establishing or completing policy cycles
 - 2. Building or enhancing linkages

Building a multi-level policy-cycle based governance framework

Transboundary diagnostic analysis (TDA)

Assesses issues to be addressed in activities

Strategic Action Programme (SAP)

Develops agreed plan to address key transboundary issues in next phase

LME Level Monitoring and Reporting

Develops indicators to monitor LME status

Strengthening Regional Governance

Engages regional and sub-regional organisations to put LMR governance on their agendas for policy decision-making.

Promoting the Caribbean Sea Initiative

Works with ACS and its Caribbean Sea Commission and other regional organisations to implement the UN Resolution on the Caribbean as a special area.

Large Pelagics Project

Increases involvement in ICCAT for oceanic species and pursues regional governance arrangements for species contained in the Wider Caribbean area.

Guianas-Brazil Shrimp and Groundfish

Establishes and operates subregional cycle for cooperation in management of the shared stocks.

Eastern Caribbean Flyingfish Pro

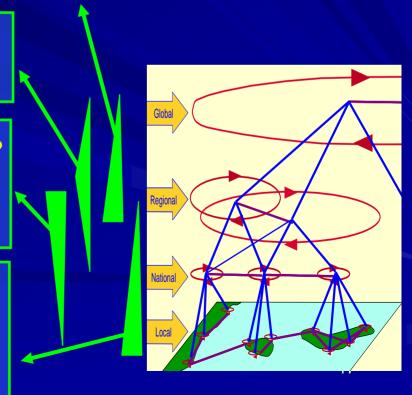
Establishes and operates subregional cycle for cooperation in management

Reef Fisheries and Biodiversity

Enhances local level linkages among fishery and non-fishery stakeholders and upward linkages to national and regional levels

Spiny Lobster

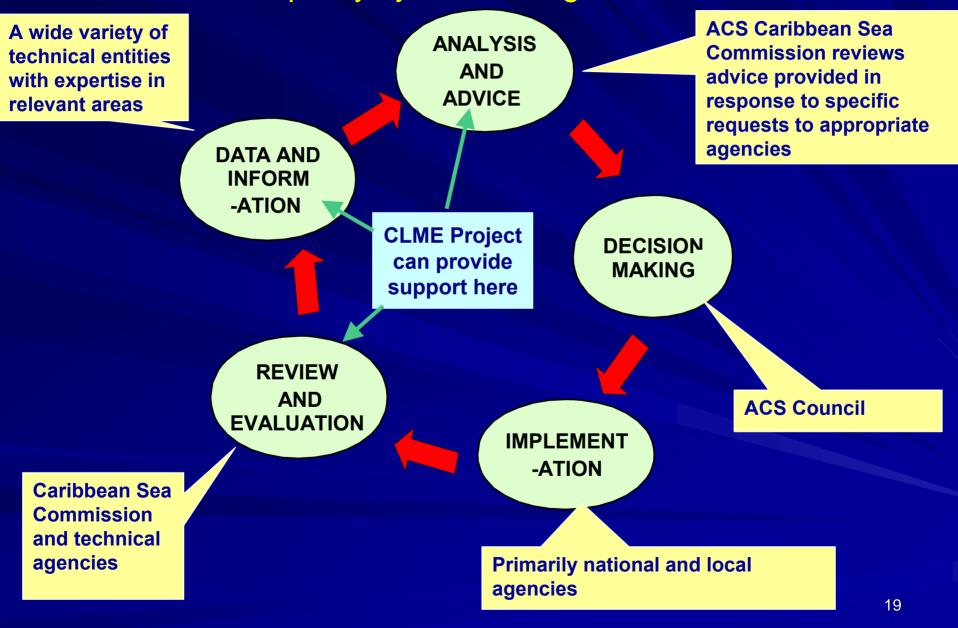
Enhances local level capacity and linkages among western
Caribbean fishery stakeholders and upward linkages to national and regional levels



Thank you

ACS-CLME Partnership

Possible ACS policy cycle for living marine resources



Networked FMOs

