

**INTEGRATED WATER RESOURCES MANAGEMENT
PLANNING & IMPLEMENTATION IN THE GUINEA CURRENT
LARGE MARINE ECOSYSTEM (GCLME)**

BY

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INTRODUCTION

- The Guinea Current
- dominant feature of shallow ocean off Western Africa countries
- from Guinea Bissau to Angola.
- distinctive bathymetry, hydrography, productivity and trophodynamics
- therefore qualifies as a Large Marine Ecosystem
- 28th of the fifty LMEs delineated globally.

Population

- 40% of GCLME region's 280 million people live on the coastal
- & dependent on lagoons, estuaries, creeks and inshore waters for livelihood

The waters

- important for transportation of goods and people.
- also important sources of animal protein in the form of fish and shellfish.

Pollution has affected the waters of the GCLME

- resulting in habitat degradation, loss of biological diversity, productivity and
- degenerating human health (IOC-UNESCO & IAEA Marine Environmental
- Laboratory).

Sectoral national monitoring and assessment efforts,

- provide limited data & information
- required for transboundary & integrated regional management
- not designed to assess long-term trends
- therefore potential threats of cumulative impacts of human activities.

Water resources management

- Essential
- as the health status of the water resource determines carrying capacity functioning ability / integrity.

Water Quality Deterioration

- Threat to GCLME at local and regional levels.
- Chronic impacts mostly localized national issues
- h/w common to all countries & increases with population
- ultimately require collective, transboundary action

Catastrophic events

- i.e. major oil spills and large-scale system-wide events
- can have widespread transboundary consequences
- requiring co-operative management and sharing of knowledge, equipment and technology

WATER RESOURCES ISSUES OF THE GCLME

GCLME transboundary water management issues

- include deterioration in water quality (chronic and catastrophic)
- pollution from land based activities
- eutrophication & harmful algal blooms
- resulting from high loading by nutrients and contaminants

While most impacts are localized

- the problems are common to all sixteen counties
- therefore requiring collective action to address the pollution
- from municipal, industrial and agricultural sources

Ballast water

- introduces alien species, thereby compromising the water resources integrity.

PLANNING AND IMPLEMENTATION STRATEGIES

The intense pressure on GCLME waters

- Calls for serious commitment and preventive action at all levels: local, national and regional.

In response to these problems,

- countries under the aegis of the United Nations have negotiated and adopted several Multilateral Environmental Agreements (MEAs)
- committing their countries to implementing sustainable management measures and strategies to protect the IW of the GCLME.

The multisectoral ecosystem approach of LMEs

- poses to strengthen the collaboration and coordination of all stakeholders of LMEs environment through participation in global and LME programmes.

GCLME Project

- is to assist the countries achieve environmental and resource sustainability.
- by shifting from short-term sector by sector driven management objectives
- to longer-term perspective
- & from managing commodities
- to sustaining the production potential for ecosystem-wide goods and services.

Various mechanisms employed to achieve Project goal

- from establishment of the Regional Coordination Unit & development of regional coordination mechanisms
- inauguration Regional Steering Committee to govern the project & Interim GCLME Commission
- established to strengthen regional cooperation.
- implementation of the Strategic Action Programme (SAP)
- Committee.

Creation of consultative organ at both scientific and administrative levels for management of shared resources,

Establishment of Regional Working Groups

- for various topical issues of importance
- to establishment
- of Regional Activity Centres at the regional level.

Regional workshops & training are conducted;

- institutional strengthening & collaboration with private sector are being actively pursued.
-

national level mechanisms

- among others include Interministerial Committee of all relevant government agencies
- National Strategic Action Plan through which each member state carry out national action to further the implementation of the SAP.
- Public Awareness Programmes such as the National Programme of Action (NPA) in relation to the protection of Marine Environment from Land-Based Activities and Cleaner Technology Advocacy

SPECIFIC IMPLEMENTATION STRATEGIES FOR INTEGRATED WATER MANAGEMENT

In the GCLME countries,

- Multilateral Environmental Agreements relevant to Integrated Water Management in operation include
- (i) Global Programme of Action (GPA) for the Protection of the Marine
- Environment from Land Based Activities (LBA)

- (ii) Abidjan Convention for Cooperation in the Protection, Management &
- Development of the Marine & Coastal Environment of the West and Central African Region.
- the Convention is the legal components of the West and Central Africa (WACAF) Action Plan.

- provides framework through which national policy makers and
- resource managers implement national control measures in the
- protection and development of the marine and coastal environment
- of the WACAF Region.

Regional Activity Centres:

- provide the region with centre of excellence for the topical issues identified for the region.
- e.g. Regional Marine Productivity Laboratory at the University of Ghana,
- Regional Environmental Information Management Centre at the University of Lagos;
- Regional Pollution Monitoring and Research Centre in the facilities of the Imo State Environmental Protection Agency (ISEPA) in Owerri, Nigeria;
- Comprehensive Risk Analysis and Management in Libreville, Gabon; &
- Fisheries Activity Centre in Luanda, Angola.

Workshops:

- also mechanism used in the implementation strategies for the GCLME Project.
- various workshop conducted both by the project and also in partnership with other agencies.
e.g. IMO Workshop which reviewed the region's maritime infrastructure with particular regard for survey and inspection requirements is one of such workshops.

Regional Workshop on Management of Ballast Water Management and

- Control for a regional action plan to deal with aquatic invasive species in ship's ballast water coupled with awareness creation on problems associated with ballast water.
- Development of regional policy on ballast water in tandem with existing international ballast water project.

Workshop on Methodology of Nutrient Monitoring / Reduction Strategies

- Generated a Regional Protocol for Nutrient Monitoring in the GCLME,
 - Establishment of Quality Standard for the Discharge of Effluents, and
 - Development of specific policies and strategies.
- Regional Workshop on Pollution and Ecosystem Health Working Group
- Improved the Training Manual for the Development of National
 - Programme of Action on the Land-Based Activities (NPA / LBA) of the Global Programme of Action (GPA) and the Marine Pollution Monitoring Manual.

Training and Capacity Building:

- capacity building in the region,
as this is one of the objectives of the GCLME Project for sustainable resource management,
- training on Geographical Information Systems (in collaboration with ICS-UNIDO);
- Workshop on Coastal Dynamics and Early Warning Systems (with AU-STRC IOC-UNESCO);

Institutional Strengthening:

- Institutional Strengthening Initiative has yielded positive structural changes
- policy adjustments in environmental and resource management in the region
as is exemplified by the proposal for setting up waste oil reception
- facilities in the region as part of contingency plans of pollution & the various Activity Centres established and equipped in the region.

Networking:

- GCLME Project
 - has helped in the establishment of bond between the 16 countries
 - building very strong network of technocrats, researchers, environmental planners, scientists and other senior level experts from various ministries and institutions

National and Regional Actions:

- These include the formulation of Strategic Plan for the Identification & Mapping of Physically Altered Sensitive Habitats;
- Identification of Pollution hotspot of some Central African countries.
- National Programme of Action for the protection of Marine Environment from
- Land Based Activities (LBA).

Institutional Arrangements:

- In order to implement the actions and policies agreed upon, it is imperative that existing regional mechanisms for cooperation among the member states be strengthened to ensure the necessary capacity building to promote integrated management of the GCLME.
- The member states are actively pursuing a policy of co-financing with industry and donor agencies.

Collaborations:

- Collaborative mechanism is also major in the achievement of GCLME's goals
e.g.
- Oil spill contingency planning and installation of reception facilities, the Tilbury Environmental Group, Tema Port.;
- with national authorities on project implementation;
- NEPAD on joint initiative on Alternative Livelihood for Coastal Communities in Nigeria;
- with private sector i.e. Lake fish farm in Nigeria.

Financing:

- activities are funded through national, regional and international sources,
- through private and general public funding or
- through the application of specific economic instruments as well as grants and loans.

**IMPLEMENTATION
CHALLENGES**

- The implementation of the programs in many countries have been hampered by
- lack of human and financial resources,
- lack of scientific data, monitoring programs and institutional capacities,
- fragmentation and lack of cooperative mechanisms,
- policies and strategies and integrated development models.