EARTH OBSERVATION DATA AND INFORMATION FOR MITIGATION OF VULNERABILITY TO CLIMATIC HAZARDS OF COASTAL AREAS.

BY

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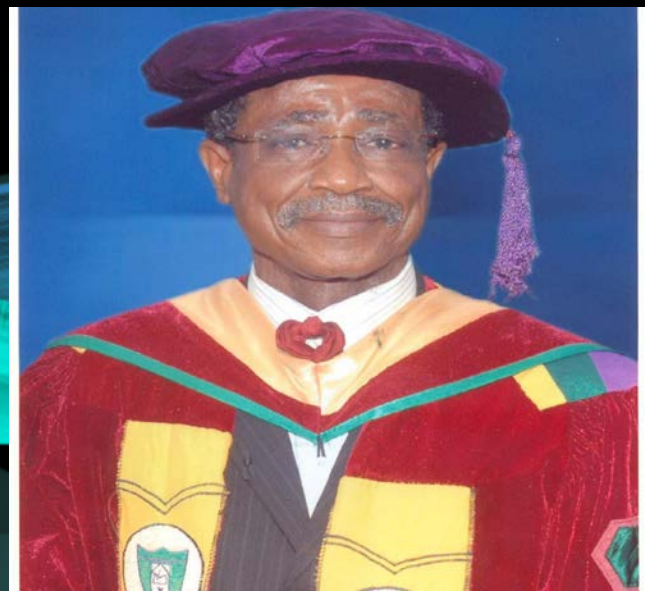
INDEPENDENT EXPERT

ALSO, UNIPORT



GLOBALLY, COASTAL AREAS

- Host 30-60 % of populations
- 95 % of natural resources
- Repository of GS Biodiversity
- Hub of national economic life
- Gateway to the Nations

MONEY, MONEY, MONEY

- When Costanza et al (1997) put a value of US$12.6 Trillion/year for coastal zone goods and services out of a global total of US$33.3Trillion/year, it served to focus attention to the socio-economic benefits of coastal zones.

GENESIS 1:27 - 31

- Environmental Degradation
- Depletion of natural resources
- Integrity of ecosystems compromised - regulation of climate by oceans

SEE WHO IS COMING TO DINNER

- Climate Change(stresses or shocks) comes as a major additional layer of problems putting a lot of pressures on traditional farming systems and livelihoods, food security, socio-economic infrastructure and activities, human health, safety and security and social/political stability.

HAZARD ISSUES

An understanding of the relationship between climatic hazards and Society is vital to the need to anticipate future events with their effects and provide ameliorating measures.

SAY WHAT ?

- It brings home the imperativeness of integrated assessment of coastal ecosystems as a basis for proffering options(alternatives) for their sound management and governance.
- It fuels attempts at more realistic quantitations of socio-economic activity patterns and drivers.

IMPACT ASSESSMENT

- The Identification and Assessment of potential Impacts is only as good as the available Data Base which is generally defficient .

DATA & INFO SYSTEMS NEEDS

Expressions of sectoral planning interests in response to one or more problems or opportunities identified .-

- Agricultural Development (Fisheries & Aquaculture/Mari-culture)
- Natural area protection systems
- Water supply
- Recreation/tourism development
- Transportation (Port Development-spill planning)
- Energy development)
- Industrial Siting
- Human Health

GEO-CONVEYOR BELT

- LARGE SCALE
- REPETITIVE
- SYNOPTIC
- INTERACTIVE

MITIGATION PLANNING

EIAs UNDERPIN MITIGATION PLANNING IN A REGION OR POOLING OF MITIGATION REQUIREMENTS

- AS A USEFUL WAY TO BUILD GOOD INTEGRATED COASTAL RESOURCES MANAGEMENT PRINCIPLES INTO THE DEVELOPMENT SECTORS.

ADAPTATION MEASURES

- In essence , a part of Mitigation Planning.
- Objectives:

--- Reduce Vulnerabilities

----Increase Resilience

----mainstream adaptive management

HIERARCHICAL DIFFERENTIATION

NATIONAL, STATE & LOCAL GOVTS/REGIONAL

As one descends, less sectoral divisions.

Developing countries, Weak State and Local govts

Exceptions are metropolitan regions built around cities which are both capital & its major ports; eg. Lagos, Buenos Aires, Jakatar, Bangkok, Manila, & Cape Town

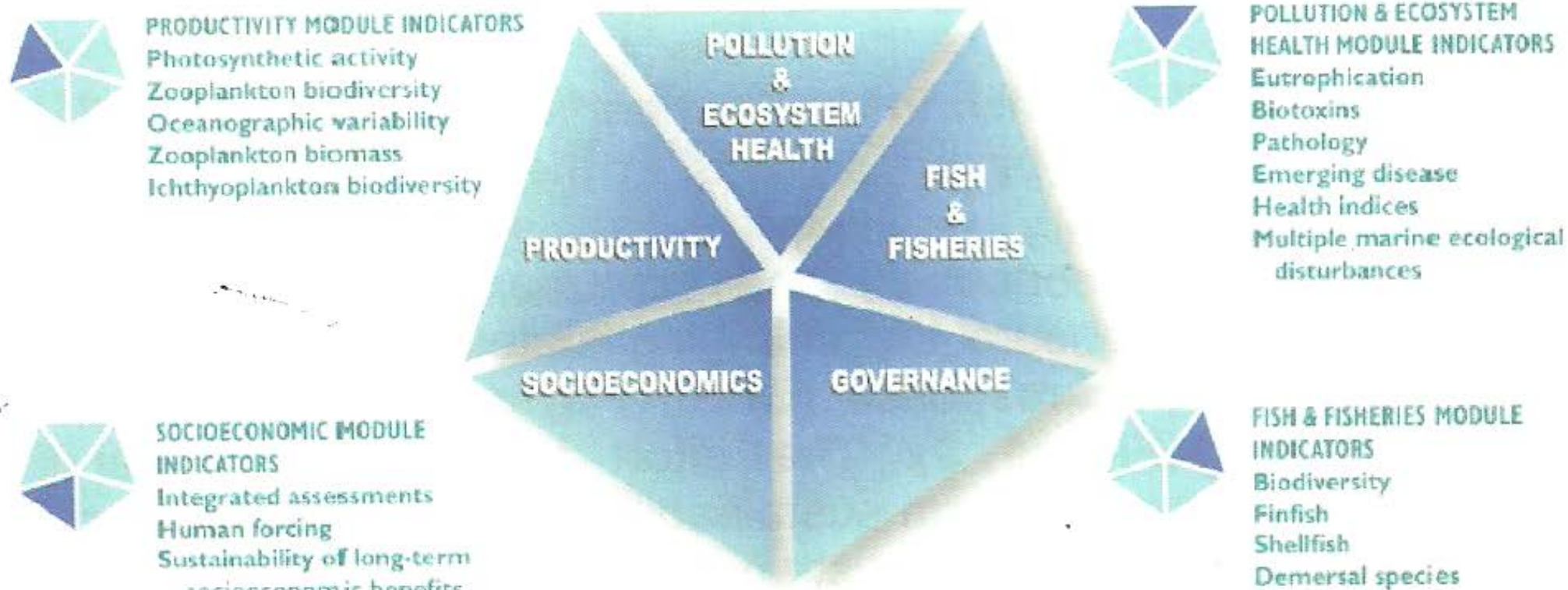
APPROACHES

- Urban & Regional planning
- Integrated Costal Zone Management
- Large Marine ECOSYSTEM (LME) Approach.

- These 3 approaches have the most demanding requirements for data & information, expertise, coordination among government ministries, integration of NGOs, CSOs, as well as strong linkages between analysis, plan making , and implementation.

LME FIVE ALIVE

Modular Assessments for Sustainable Development



PRODUCTIVITY MODULE INDICATORS
Photosynthetic activity
Zooplankton biodiversity
Oceanographic variability
Zooplankton biomass
Ichthyoplankton biodiversity

POLLUTION & ECOSYSTEM HEALTH MODULE INDICATORS
Eutrophication
Biotoxins
Pathology
Emerging disease
Health indices
Multiple marine ecological disturbances

SOCIOECONOMIC MODULE INDICATORS
Integrated assessments
Human forcing
Sustainability of long-term socioeconomic benefits

FISH & FISHERIES MODULE INDICATORS
Biodiversity
Finfish
Shellfish
Demersal species
Pelagic species

GOVERNANCE MODULE INDICATORS
Stakeholder participation
Adaptive management

PARADIGM SHIFT---LME YUMMIES

Individual species

Small spatial scale

Short-term perspective

Humans: independent of ecosystems

Management divorced from research

Managing commodities

► TO

Ecosystems

Multiple scales

Long-term perspective

Humans: integral part of ecosystems

Adaptive management

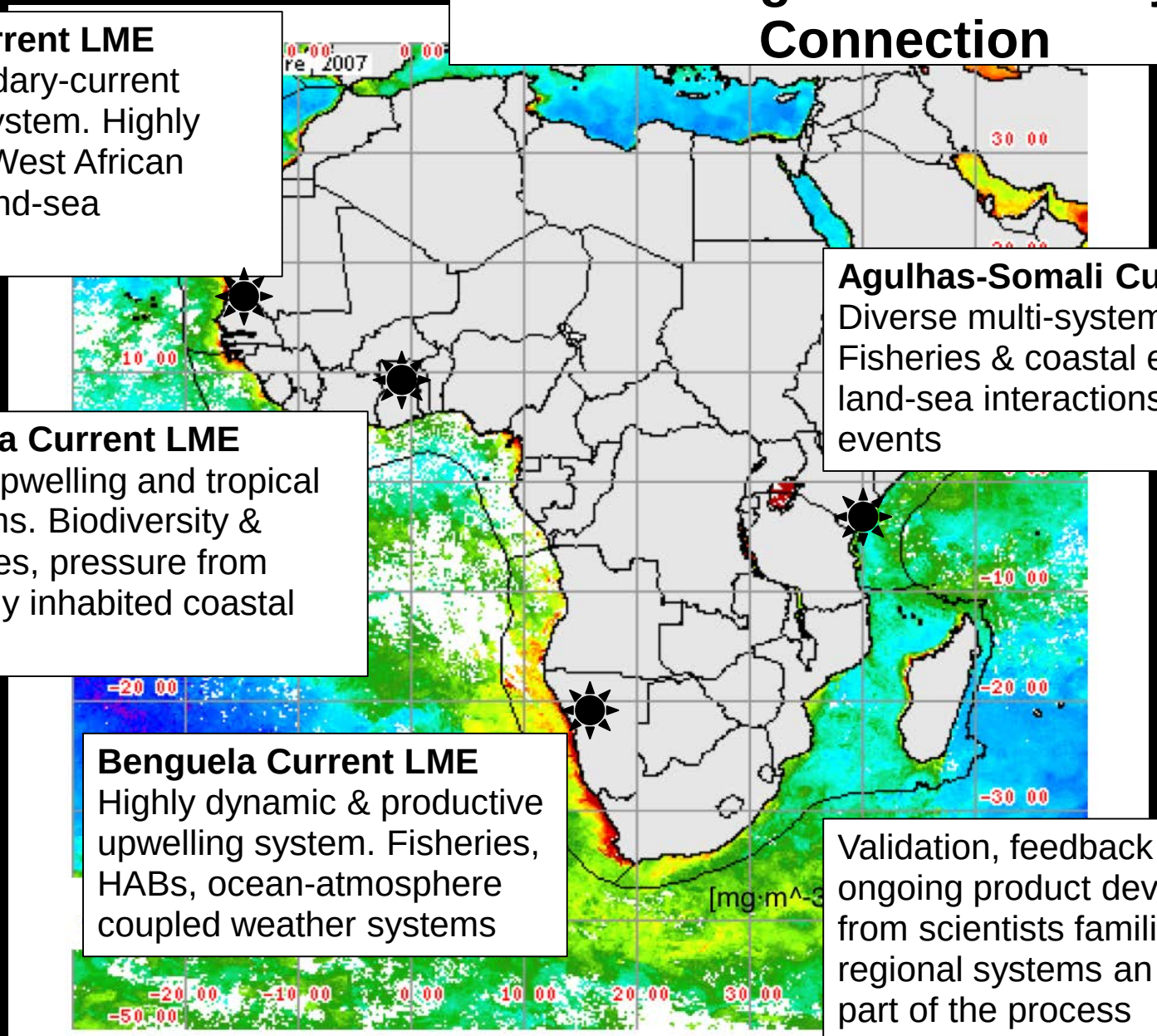
Sustaining production potential for goods and services

DECISION-MAKING SUPPORT FOR COASTAL ZONE MANAGEMENT
WATER RESOURCES AND CLIMATE CHANGE IN AFRICA
15-17 FEBRUARY 2010,COTONOU-BENIN

AFRICAN CROSS-CUTTING: GEO - CZCP ACTIVITY

GOOS-AFRICA
African Large Marine Ecosystems Connection

Canary Current LME
Major boundary-current upwelling system. Highly productive West African fisheries, land-sea interaction



Agulhas-Somali Current LME
Diverse multi-system LME. Fisheries & coastal ecosystems, land-sea interactions, extreme events

Guinea Current LME
Both upwelling and tropical systems. Biodiversity & fisheries, pressure from densely inhabited coastal zone

Benguela Current LME
Highly dynamic & productive upwelling system. Fisheries, HABs, ocean-atmosphere coupled weather systems

Validation, feedback and ongoing product development from scientists familiar with regional systems an essential part of the process

AFRICA CZ - TREASURE COVE - BUT

- Are the majority of mega cities in Africa - - - not only the hub of socio-economic development but are also vast agglomerations of populations adjoined by “satellite” communities which grow through spiraling rural-urban migration and, sometimes, through inter-regional migration.
- All indications are that future population growth and advancement in socio-economic infrastructure in Africa will continue to be concentrated along the coasts - increasing vulnerability to CC HAZARDS.

A DAMN GOOD AFRICAN STORY

- IN 2015 - Approval of $1.5 Million Dollars from DTCA of Ministry of Foreign Affairs of Nigeria for a 3-year African Project titled:
- Minimizing Vulnerabilities of African Coastal Cities and Communities to the Impacts of Climate Change through Adaptation Measures – A comparative Study of Port Said(Egypt), Lagos(Nigeria) and Cape Town(S.Africa).
- Recession - $500k for first Year

SPECIFIC OBJECTIVES

i) City operatives and community members to identify the past, present and future climate changes, the affected sectors, identify the needs and to propose certain solutions

ii)Develop strategies &initiate actions for the effective integration of climate change adaptation(CCA), Climate change mitigation (CCM), and DisasterRisk Reduction (DRR) measures into development planning at city and community levels

2016 REVIEW MEETING –CAPE TOWN

GEO--- HERE WE COME !

NEW KID ON THE BLOCK

- April 17, 2016 – NARSS(Egypt,kenya Nigeria, S.Africa) to GEO Initiative, a project on :

- "Climate Change Impact Observations on Africa's Coastal Zones - GEO-CCIOACZ"

SPECIFIC OBJECTIVES

. Produce and share up-to-date and high resolution Climate change data & information on coastal zones of four selected African countries.

- Training and capacity development on "Climate Change Mitigation and Adaptation". Build Resilience.
- Provide Climate change Information services to end-users at the different levels (i.e. policy and decision makers, stakeholders and local communities)

JUST DO IT !

- GEO Strategic objectives (2016-2025): Advocate, Engage and Deliver

IS THIS REAL GOLD?