



My Experience on ISA Capacity Development Program (CDP)



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Outline

- **ADSR Project and objectives**
- **Experience with ISA on CDP**
- **Application of some data from DeepData Database**
- **Study area and methodology**
- **Results**
- **Knowledge gained from ADSR Project**



ADSR PROJECT



All Members of AU



REGIONAL WORKSHOPS
Abidjan, Cote-D Ivoire,
(2018), Pretoria, South
Africa (2019) and
Mauritius (2021).



SECONDMENTS-10
Experts



ADSR PROJECT

Implemented by ISA in partnership



Objective

- ❖ To foster cooperation
- ❖ To promote the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy
- ❖ increase the decision-making process and technical capacity of national experts
- ❖ Create a positive impact on the Marine Mineral Resources of Africa's Continental shelf and Adjacent International Seabed Area.
- ❖ To enable the ISA Secretariat to benefit from the contribution of such experts with a view of advancing specific tasks identified in partnership with the Legal and Technical Commission (LTC).

EXPERIENCE WITH ISA

Training session

- ❖ Overview of the reserved areas
- ❖ The Mining Code and the Legal regime for the protection and preservation of the environment under the Mining Code
- ❖ Roles & mandate of ISA with respect to capacity-building
- ❖ MSR and Biodiversity in the Area
- ❖ Environmental management in relation to activities in the Area
- ❖ Formation, occurrence and variety Seabed Minerals.



- ❖ Worked with OEMMR
- ❖ Use of facilities
- ❖ ISA 26th session of the Assembly
- ❖ Workshop/webinars
- ❖ Project work

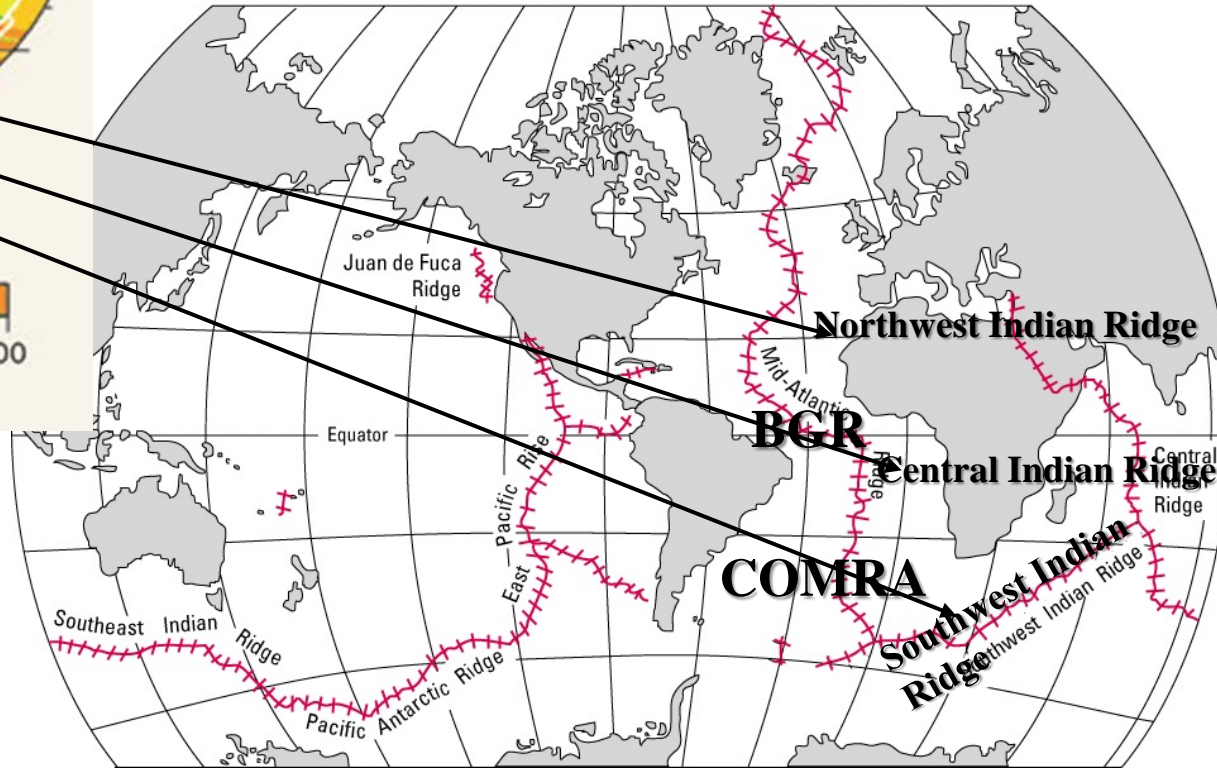
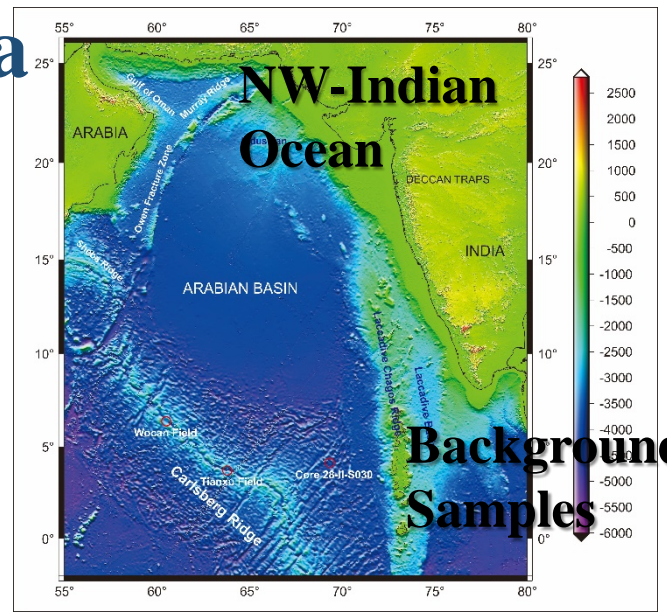
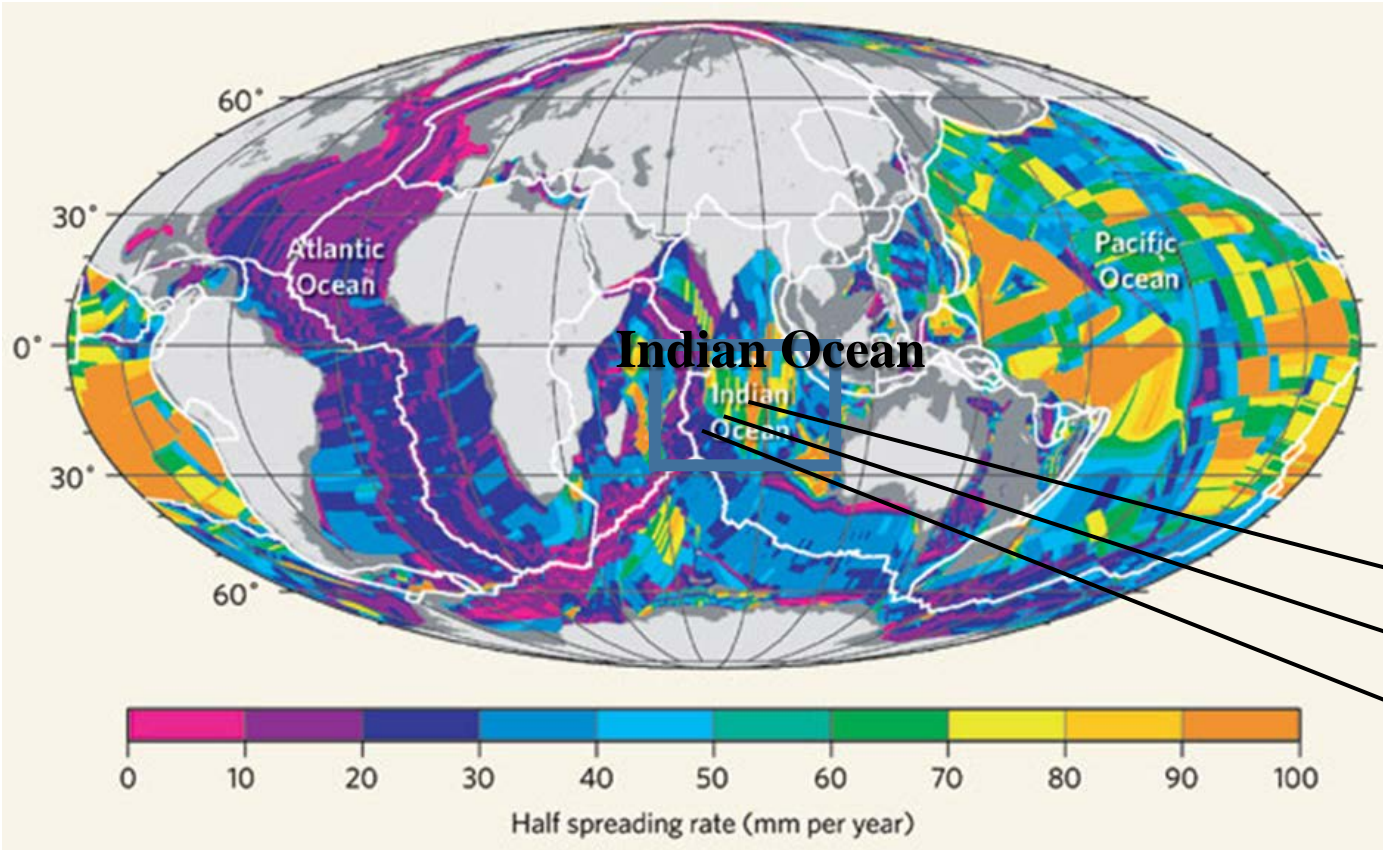


Report Launch (virtual)

Contribution of the International Seabed Authority to the 2030 Agenda for Sustainable Development

30 November 2021
9:00 AM - 11:00 AM GMT-5

The application of Some data from DeepData Database





Study area and Methodology



Indian Ocean



**Southwest Indian Ridge
(COMRA)
TVG and GC
DY49L3;DY52L2;DY52L3**



**Central Indian Ridge
(BGR)
PC and GC**



**Northwest Indian Ridge
(CR), CR PC and TVG**

TV Grab



Push Core



Gravity Core

XRF



ICPOES



ICPMS

- **PC** Push core
- **GC** Gravity core
- **TVG** TV Grab
- **XRF** Xray Fluorescence Spectrometer
- **ICPOES** Inductively Coupled Optical Emission Spectrometer
- **ICPMS** Inductively Coupled Plasma Mass Spectrometer



Criteria For Distinguishing Metalliferous Sediments From Pelagic Sediments

Among the criteria are ratio of:

- $Al/(Al + Fe + Mn) < 0.3;$
- $Fe/(Al+Fe+Mn) > 0.5;$
- $(Fe + Mn)/Al > 2.5;$
- $(Fe + Mn)/Ti > 25;$
- **Fe concentration >10 wt. %.**
- **Fe >30% ore sediments**



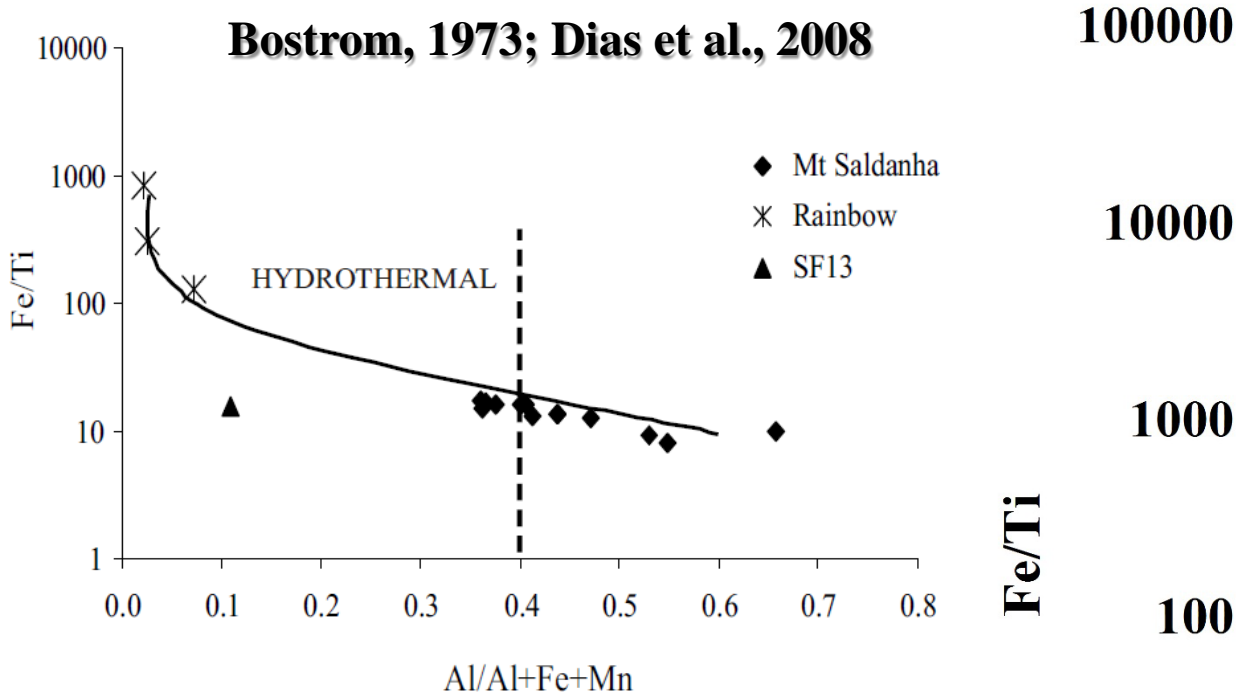
These criteria are used to indicate vector to ore deposits, insight into seafloor mineralization and background (non-mineralized) status of the sediments.

Ref: Bostrom, 1973; Listin, 1993; Gurvich, 2006; German et al., 1993; Dias et al., 2008; Popoola et al., 2019



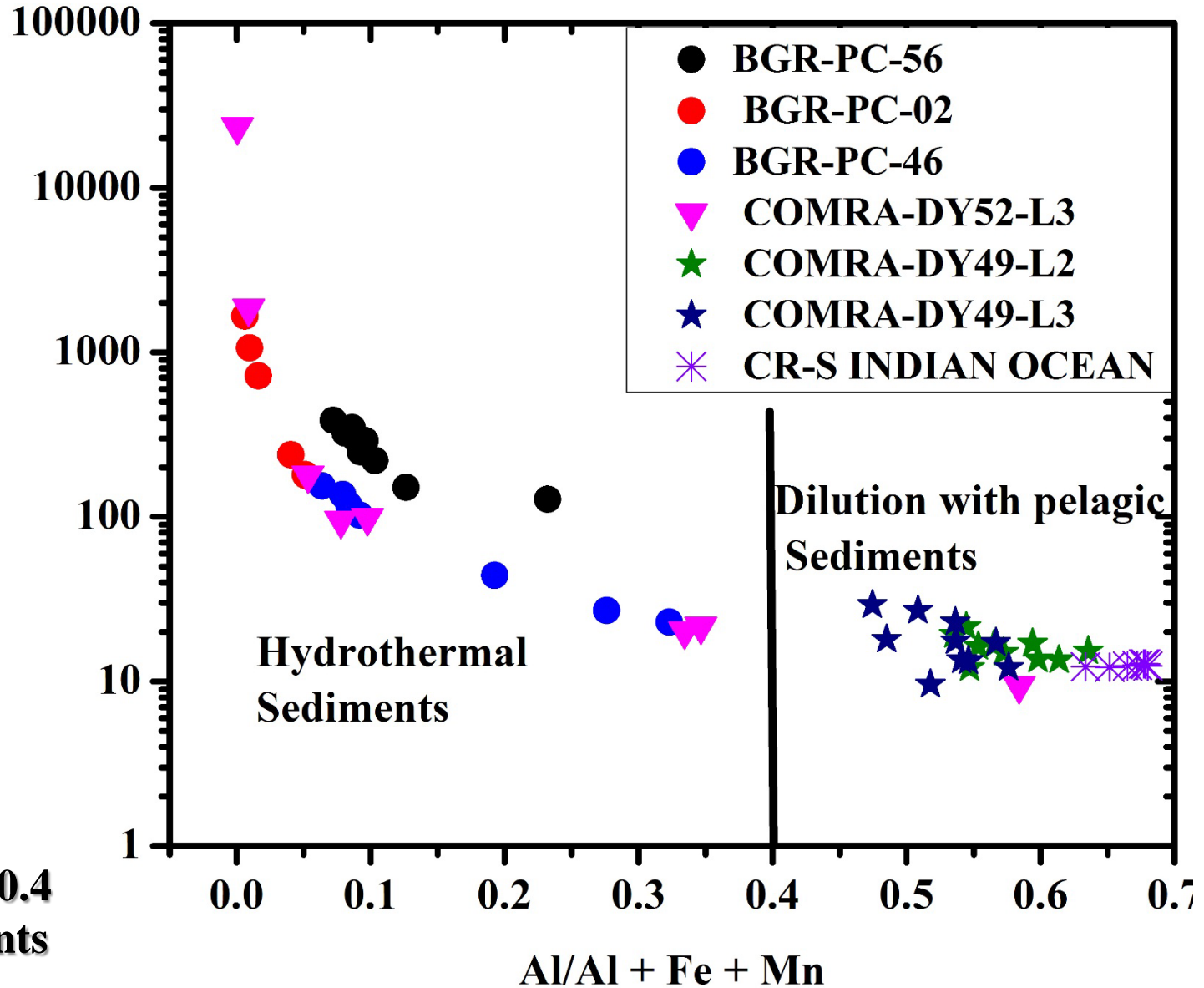
Results

End-member



Increased Fe/Ti ratio and $Al/(Al + Fe + Mn) < 0.4$ indicate strong hydrothermal component and closer to ore deposits

Decreased Fe/Ti ratio and $Al/(Al + Fe + Mn) > 0.4$ indicate increased dilution with pelagic sediments





Twenty-fifth session
Legal and Technical Commission session, part I
Nagasaki, 4–15 March 2019
Agenda item 11
Review of the recommendations for the guidance of contractors
for the assessment of possible environmental impacts arising
from the exploration for marine minerals in the Area

**Recommendations for the guidance of contractors for the
assessment of the possible environmental impacts arising
from exploration for marine minerals in the Area**

Issued by the Legal and Technical Commission*

I. Introduction

1. During exploration for marine minerals, the International Seabed Authority is required to, among other things, establish and keep under periodic review environmental rules, regulations and procedures to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area and, together with sponsoring States, apply a precautionary approach to such activities on the basis of recommendations by the Legal and Technical Commission. In addition, contracts for mineral exploration in the Area require the contractor to gather oceanographic and environmental baseline data and to establish baselines against which to assess the likely effects of its programme of activities under the plan of work for exploration on the marine environment and a programme to monitor and report on such effects. The contractor shall cooperate with the Authority and the sponsoring State or States in the establishment and implementation of such monitoring programmes. The contractor shall report annually on the results of its environmental monitoring programmes. Furthermore, when applying for approval of a plan of work for exploration, each applicant is required to provide, inter alia, a description of a programme for oceanographic and environmental baseline studies in accordance with the relevant regulations and any environmental rules, regulations and procedures established by the Authority that would enable an assessment of the potential environmental impact of the proposed exploration activities, taking into account any recommendations issued by the Legal and Technical Commission, as well as a preliminary assessment of the possible impact of the proposed exploration activities on the marine environment.

* The present document replaces ISBA/19/LTC/8. For further information, please see paragraphs 16 to 19 of ISBA/25/C/19.



**Recommendations for the guidance of contractors for
the assessment of the possible environmental impacts
arising from exploration (ISBA/25/LTC/6/Rev.1 and
Corr. 1):**

**Part III –Requirements for Environmental Baseline
Studies, specifically the collection of data for the
purposes of establishing baseline conditions of
physical oceanography,
chemical oceanography
Geological oceanography
Biological oceanography**

**The concentration of element in marine sediment is
another important parameters for background and
threshold chemical composition**

**To understand the impact and extent of the suspended
sediment, plumes spread and dilution**



Minimum Concentration



	NWIR	SWIR	BGR-CIR	BGR-CIR
	TVG	TVG	BGR-PC	BGR-GC
Metals	CR			Baseline
Cr	10ppm	5 ppm	100ppm	11ppm
Ni	12.7ppm	1.81 ppm	20ppm	7ppm
Pb	5.3ppm	0.36 ppm	30ppm	7ppm
As	2.9ppm	1.4 ppm	100ppm	2ppm
Cd	0.32ppm	0.21 ppm	20ppm	1.32ppm
Fe	1.46ppm	0.26 wt. %	3.44wt%	0.54ppm
Mn	0.03wt. %	0.01wt%	0.12wt%	0.07ppm
Cu	60ppm	1.6 ppm	700ppm	28ppm
Zn	24ppm	2.29 ppm	100ppm	8ppm
Co	12.7ppm	3.4 ppm	20ppm	6ppm
Al	0.63wt. %	0.07wt. %	0.21wt. %	0.13ppm
Ti	0.042 wt. %	0.07wt. %	0.02wt. %	0.005ppm
Al/(Al+Fe+Mn)	0.297	0.206	0.056	0.176

KNOWLEDGE GAINED

❖ Increased understanding of the Area

❖ Increased knowledge on policy and legal frameworks of the Area

❖ Enhanced technical and scientific knowledge on deep sea mineral resources

❖ The application of Some data from DeepData Database for background chemical composition data





Norad

THANK YOU FOR LISTENING



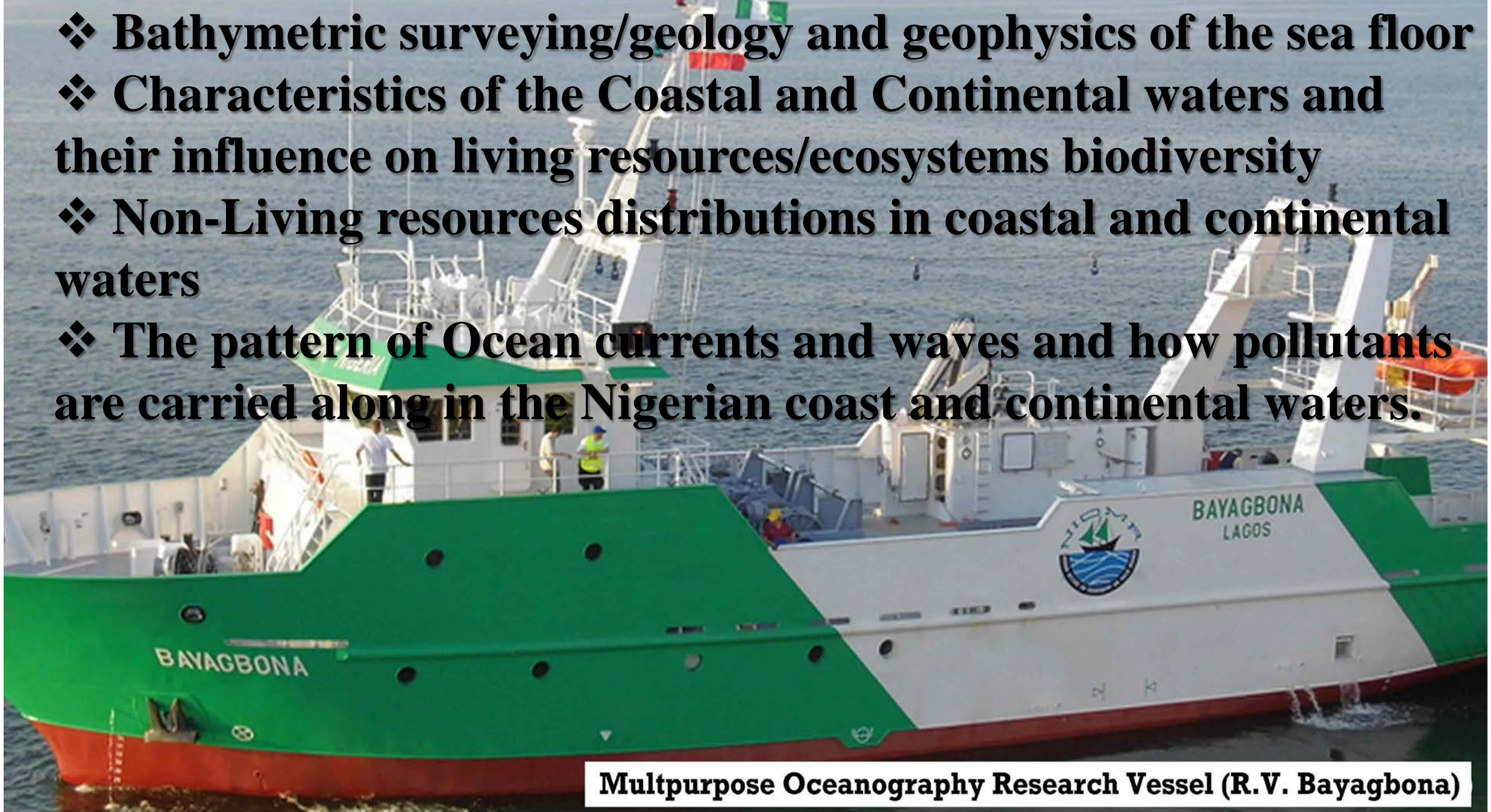
AMDC
African Minerals Development Centre



Dr Maureen P. Tamuno

Nigerian High Commissioner to Jamaica

- ❖ Bathymetric surveying/geology and geophysics of the sea floor
- ❖ Characteristics of the Coastal and Continental waters and their influence on living resources/ecosystems biodiversity
- ❖ Non-Living resources distributions in coastal and continental waters
- ❖ The pattern of Ocean currents and waves and how pollutants are carried along in the Nigerian coast and continental waters.



Multipurpose Oceanography Research Vessel (R.V. Bayagbona)