



## DEEP SEA MINING: CHALLENGES AND OPPORTUNITIES FOR AFRICA

*Summary Report of the Tenth Sensitization Seminar, South Africa, 17-19 March 2015*

The ISA sensitization seminar on *Exploration and Exploitation of Deep Seabed Mineral Resources in the Area: Challenges for Africa and Opportunities for Collaborative Research in the Mid-Atlantic and Mid-Indian Ridges* was held from 17-19 March 2015 in Thswane, South Africa. The seminar was organized by the Department for International Relations and Cooperation of South Africa, the South African Council for Geoscience and the ISA. This was the tenth in a series of sensitization seminars convened by ISA, and the second to be held in Africa. Previous seminars were held in Indonesia, Brazil, Nigeria, Spain, Jamaica, Mexico and New York. The seminars are organized by the ISA in partnership with the host country and with the participation of experts from various scientific and legal institutions associated with the implementation of the 1982 UN Convention on the Law of the Sea. The seminars aim to bring together experts from the international legal and scientific community with national and regional government officials, scientists, researchers and academics to discuss scientific research on marine minerals and improve regional cooperation in scientific research and marine mineral development.

### INTRODUCTION

A total of 108 participants from 12 South African Developing Community (SADC) countries attended the seminar, including representatives from the private sector, governments and non-governmental organizations.

In her opening remarks to the seminar, the Permanent Representative of South Africa to the International Seabed Authority and High Commissioner of South Africa to Jamaica, H.E. Mathu Joyini stated that sustainable deep sea mining activity, should include a clear legal framework, sustainable technology and the participation of the private and public sectors under strong governance arrangements. She acknowledged that Africa had not been sufficiently involved with ISA and its work on deep sea mining.

The Honourable Godfrey Oliphant, Deputy Minister of Mineral Resources of the Republic of South Africa, presented the keynote address, in which he stated that the exploitation of deep sea mineral resources must be done in a rational and sustainable manner with respect for the environment. Mr. Oliphant mentioned that South Africa possessed extensive experience in land-based mining and that it was on the threshold of assessing marine mineral resource potential on the continental shelf.

Mr Michael Lodge, Deputy to the Secretary General and Legal Counsel of ISA, addressed the need for African States to get more closely involved in the activities of ISA, not only because the mineral resources beyond national jurisdiction are the common heritage of mankind, but also to provide support to the development of the rules and regulations that ISA will issue to ensure that deep sea mining will be done under well regulated conditions, as well as to ensure that developing countries will be able to secure a fair and equitable share of the resources.



## REGULATORY REGIME FOR DEEP SEA MINING IN THE AREA

Mr Lodge presented a review of the legal and administrative framework under which the ISA operates. In his presentation, he explained the structure and functions of ISA as well as the historical evolution of exploration activity in the Clarion-Clipperton Zone and the contracts issued for exploration for polymetallic nodules, cobalt-rich crusts and polymetallic sulphides in the Area. To date, regulatory frameworks exist for prospecting and exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich crusts. He also mentioned that ISA had commenced work on a regulatory code for exploitation and welcomed participation by all stakeholders in this effort.

Mr Vladimir Jares, Deputy Director of the United Nations Division for Ocean Affairs and the Law of the Sea (UN-DOALOS), made a presentation on the scope of the UN Convention on the Law of the Sea and its institutional bodies, including the International Tribunal for the Law of the Sea (ITLOS) and the Commission on the Limits of the Continental Shelf (CLCS).

## DEEP SEA MINERAL RESOURCES

Dr Pratima Jauhari, ISA Geologist, described the historical development of deep sea activities in the Area relevant to the African Continent, that is, the South Mid-Atlantic Ridge and the South Indian Ocean. She said seminal work on deep sea mining had been done in the South Indian Ocean, particularly for polymetallic nodules.

Dr. Georgy Cherkashov from VNIIOkeangeologia, St. Petersburg, Russia, described the prospects for the development of polymetallic sulphides and cobalt-rich

crusts, in particular for the South Atlantic and Indian Oceans. He also provided valuable information on the technical aspects and capacities needed to conduct mineral exploration in the Area.

Dr Sandor Mulsow, Head of the Office of Resources and Environmental Monitoring of the ISA, made a presentation on the environmental aspects of the work of the Authority. He explained the importance of the parallel advances in technology for exploitation and the acquisition of valuable environmental data in understanding ecological functions as well as

biodiversity assessments.

His presentation focused on the exploration activities for polymetallic nodules in the Clarion-Clipperton Zone of the Pacific Ocean where the ISA had approved 16 exploration contracts. Mr Mulsow explained the fragility of the different habitats that would, potentially be exploited and emphasized the need for collaborative efforts at the technical, legal and social levels.

Dr Kim Juniper, Ocean Ecosystems and Global Change, Canada, presented important issues relating to preservation and protection of the marine environment from activities in the Area. He not only described the scientific basis for preservation and protection of the habitats associated with polymetallic nodules, cobalt-rich crust and

polymetallic sulphides, but also addressed the issues from the point of view of environmental management.

Mr Yongsheng Cai, ISA Legal Officer, presented available training programmes in the ISA which included the Contractor training programmes, the Endowment Fund training programme and Internships.

Dr Rahul Sharma, Senior Scientist at the National Institute of Oceanography, Goa, India, presented a road map for the development of a country's capability to scientifically approach deep sea mining in potential





collaboration with African countries in future endeavours.

Mr Bâidy Diène, Deputy Secretary-General of the Senegal/Guinea-Bissau Management and Cooperation Agency, Senegal, discussed the structure and functions of the Enterprise, which is intended to be the commercial arm of ISA. The Enterprise, although not yet functional, will be an important avenue for developing countries to be able to participate in deep sea mining through the reserved area system.

## AFRICAN STATES ACTIVITIES IN THE AREA

Dr Kerry Sink, Marine Programme Manager, Cape Town, Republic of South Africa, gave a presentation on environmental perspectives on marine mining in the Southern African region with an overview of the different stakeholders already exploiting several natural resources in the region. Mining for minerals (diamonds and titanium), fisheries, oil and gas and phosphate already has a strong footprint in waters under the jurisdiction of South Africa. Her presentation documented the environmental concerns that had been taken into account and several initiatives to regulate and protect the coastal environment that were being put in place. She continued that efforts to implement a strategic impact assessment programme are being developed in Namibia in relation to phosphate mining. Dr Sink noted that 35 areas had been identified as Ecologically and Biologically Significant

Areas (EBSAs) under the processes of the Convention on Biological Diversity (CBD) in the South-East Atlantic Ocean and 39 EBSAs had been identified in the

Southern Ocean. Within the EEZ of South Africa there were 15 proposed EBSAs, some of them reaching below 500 m water depth.

Nonetheless, there were significant challenges to improving marine environmental protection in the region, including poor open ocean biological information, inadequate protection programmes for offshore sites, weak environmental impact assessment processes, low awareness of potential impacts and deficiencies in governance.

Mr Michael MacHutchon, of the Marine Geosciences Unit of the South African Council for Geosciences, presented a working approach for South Africa to better map the South African continental shelf to appropriately serve the needs of stakeholders in the sharing of marine space to meet exploitation goals. He said all stakeholders would benefit from the mapping programme.

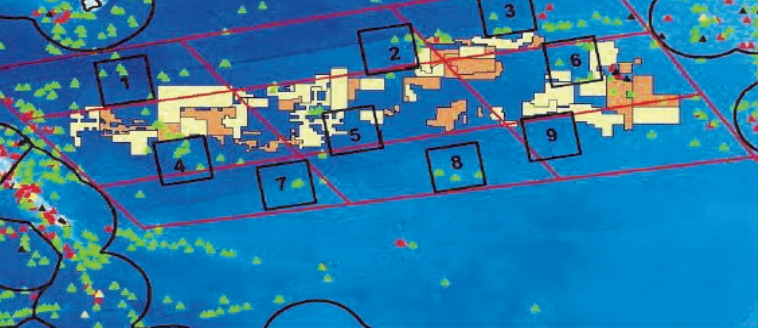
Dr Hayley Cawthra, also of the South African Council for Geosciences, presented a unique example of multidisciplinary efforts on the continental shelf of South Africa. She described how geophysical tools, normally used for prospecting in the

deep sea and the seafloor in general, were used to support the paleoenvironmental reconstruction of an anthropological site.

The final remarks and conclusions of the seminar were presented by Mr Lodge and High Commissioner Joyini following an extensive and active discussion by seminar participants. Both speakers emphasized the need for







active participation of African States in the activities of ISA, noting that exploration activity had increased dramatically in recent years and was moving rapidly towards exploitation. African States could also play an important role in supporting the work of ISA in preserving and protecting deep sea habitats for future generations, as these environments form part of the common heritage of mankind.

## PRESENTERS

Dr Kim Juniper, BC Leadership Chair in Ocean Ecosystems and Global Change, School of Earth & Ocean Sciences, and Department of Biology, University of Victoria, British Columbia, Canada

Dr Georgy Cherkashov, VNIIOkeangeologia Institute for Geology and Mineral Resources of the Ocean, Russia

Dr Raul Sharma, Senior Scientist, National Institute of Oceanography, Dona Paula, Goa, India

Mr Vladimir Jares, Deputy Director, Division for Ocean Affairs and Law of the Sea, Office of Legal Affairs, United Nations, New York

Mr Baidy Diène, Deputy Secretary-General, The Senegal/Guinea-Bissau Management and Cooperation Agency, Senegal

Hon. Godfrey Oliphant, Deputy Minister of Mineral Resources, Republic of South Africa

H.E. Ms. Mathu Joyini, Permanent Representative of the Republic of South Africa to the International Seabed Authority and High Commissioner of South Africa to Jamaica

Dr Kerry Sink, Marine Programme Manager, South African Biodiversity Institute, Centre for Biodiversity Conservation, South Africa

Mr Michael MacHutchon, Marine Geosciences Unit, South African Council for Geosciences, South Africa

Dr Hayley Cawthra, Marine Geosciences Unit, South African Council for Geosciences, South Africa

Dr Alex Benkenstein, Programme Manager, Governance of Africa's Resources Programme, South African Institute of International Affairs, South Africa

### ***International Seabed Authority***

Michael Lodge, Deputy to the Secretary-General and Legal Counsel

Yongsheng Cai, Legal Officer, OLA

Sandor Mulsow, Head, OREM

Pratima Jauhari, Senior Scientific Officer, OREM

*For the complete copies of the presentations, visit the seminar webpage (<http://bit.ly/1EAoFMw>) on the ISA website*



*The International Seabed Authority is an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea. The Authority is the organization through which States Parties to the Convention shall, in accordance with the regime for the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction (the Area) established in Part XI and the Agreement, organize and control activities in the Area, particularly with a view to administering the resources of the Area.*

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