



Africa's Deep Seabed Resources Project: Second Workshop Report

Pretoria, May 2019



SUPPORTING
AFRICA'S BLUE
ECONOMY
[#OceanAction16374](#)

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Abbreviations

ADSR	Africa's Deep-Sea Resources	IMO	International Maritime Organisation
AIMS	Africa's Integrated Maritime Strategy	ISA	International Seabed Authority
AMD	Africa's Maritime Domain	ITLOS	International Tribunal of the Law of the Sea
AMDC	African Minerals Development Centre	LTC	Legal and Technical Commission
AMREC	African Minerals and Energy Classification	MSR	Marine Scientific Research
AU	African Union	NM	Nautical Miles
AUBP	African Union Border Programme	NORAD	Norwegian Agency for Development Cooperation
BNJ	Beyond National Jurisdiction	PARC	Pan African Reporting Code
CB	Capacity-building	RCE	Regional Centres of Excellence
CCZ	Clarion-Clipperton Zone	REC	Regional Economic Community
CEMZA	Combined Exclusive Maritime Zone of Africa	REMP	Regional Environmental Management Plan
CLCS	Commission on Limits of the Continental Shelf	R/V	Research Vessel
CS	Continental Shelf	SDG	Sustainable Development Goals
DIRCO	Diplomatic Training, Research and Development	SOLAS	International Convention for the Safety of Life at Sea
DOALOS	Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea, United Nations Secretariat	SPLOS	States Parties to the Law of the Sea
DSM	Deep Seabed Mining	UN	United Nations
EEZ	Exclusive Economic Zone	UNECA	United Nations Economic Commission for Africa
GDP	Gross Domestic Product	UNCLOS	United Nations Convention on the Law of the Sea
IGO	Intergovernmental Organization		

Foreword

The sustainable development of deep seabed resources located on Africa's continental shelves and in the international seabed Area could be a key driver for the development of Africa's Blue Economy. Yet despite a long-standing commitment of Africa to the work of the International Seabed Authority, the body responsible for managing the resources of the Area, Africa remains the only regional group that has not yet taken full advantage of the provisions of the UN Convention on the Law of the Sea to take part in deep sea mineral exploration.

This workshop, the second to be organized in the context of the Africa Deep Seabed Resources (ADSR) Project, has been an important step towards strengthening the engagement of African States in the activities undertaken in the international seabed area.

It responds to the need identified at a workshop organized by the Authority in partnership with the Africa Minerals Development Center (AMDC) of the United Nations Economic Commission for Africa and the Pew Charitable Trusts in early 2017 in Kampala, Uganda. Besides the fact that the Kampala workshop was the first workshop ever convened by the Authority in a landlocked developing country, the outcomes of this workshop led to the formulation of a specific Voluntary Commitment registered by the Authority and AMDC at the 2017 UN Ocean Conference which aims at supporting the sustainable development of Africa's Blue Economy (#OceanAction16374).

Since then, our Voluntary Commitment has been translated into a two-year project, known as the ADSR Project. The project is led by the





Authority and implemented in partnership with the African Union to which the AMDC is now attached, in close cooperation with all African States. I am also delighted that the Government of Norway has joined as a partner, and I am grateful for its generous financial contribution to the Project.

This second workshop organised to implement the ADSR Project focussed on the Southern African States. I welcome the results, which include clear recommendations that the Authority can take into consideration when readjusting its capacity-building and training programmes. All the ideas and views of the experts will provide an important foundation for a strategy for African States, and particularly the landlocked and least developed countries, to make the best possible use of the opportunities available to them through the

legal regime set out in Part XI of the United Nations Convention on the Law of the Sea.

I wish here to reiterate my gratitude to the Government of South Africa for successfully hosting the workshop. Every participant was greatly impressed by the beauty of Pretoria and the hospitality of the South African people. A good beginning is only half of the task. More workshops will be held, under the auspices of the Authority, to ensure that our Voluntary Commitment will contribute to the regional and national development objectives set out by our Member States, especially in the context of the African Decade of Seas and Oceans and the 2030 Agenda for Sustainable Development.

Mr Michael W. Lodge

Secretary-General, International Seabed Authority

Acknowledgments

This report has been prepared by the Secretariat of the International Seabed Authority. The process of preparation of the report involved the submission of the presentations and abstracts by the presenters as well as further consultations with the experts involved in the Pretoria workshop.

The Secretariat wishes to express its deep appreciation to all those who helped in organizing the workshop and in particular, the Department of International Relations and Cooperation (DIRCO) of the Republic of South Africa, the High-Commission of the Republic of South Africa to Jamaica, the Department of Mineral Resources of the Republic of South Africa, the Council for Geoscience of South Africa, the Petroleum

Agency, the Nelson Mandela University and the Norwegian Embassy to South Africa.

The Secretariat wishes also to thank all the experts who contributed to the success of this workshop.

Thanks are also due to staff of the Secretariat who assisted in administrative tasks and more specifically, Ms Trudi-Ann Herdsman, Mrs Ksenija Thompson, and Mr Joseph Khoreich.

The Communications Unit of the Authority should also be thanked for the preparation of this report and in particular, Mrs Katie Elles and Ms Shanique Gregory as well as Mr Omar Samuels, Consultant.

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Executive summary

The International Seabed Authority (ISA) conducted a workshop in Pretoria, Republic of South Africa, from 16 to 18 May 2019 as part of the Africa's Deep Seabed Resources (ADSR) Project. This project is the operationalisation of the Voluntary Commitment registered by ISA in partnership with the African Minerals Development Centre of the African Union ([#OceanAction16374](#)) at the 2017 UN Ocean Conference that was held in New York, USA. The ADSR Project has since received the financial support of the Government of Norway through the participation of the Norwegian Agency for Development Cooperation (NORAD).

The aim of this project is to foster international and regional cooperation to promote the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy. The main objective is to raise awareness among African decision-makers about the importance of sustainable development activities on Africa's continental shelf and in the international seabed area. It is also envisaged that through the implementation of this project, participating countries will be provided with an opportunity to discuss what capacity-building actions and strategies could be further developed either at the national, regional or international levels to help African States benefit fully from their Blue Economies, particularly with regard to increased participation in deep seabed exploration activities.

The Pretoria workshop was the second in a series of five workshops to be organised within the context of the implementation of the ADSR Project which has been designed to



deliver its objectives over the course of 2019 and 2020.

The Pretoria workshop provided the opportunity for 40 government representatives from Angola, Botswana, Eswatini, Lesotho, Liberia, Malawi, South Africa and Zambia to attend and participate. Representatives of ISA, including members of the Legal and Technical Commission (LTC), also attended, as well as those of the African Union (AU), the Office of Legal Affairs of the Division for Ocean Affairs and the Law of the Sea of the United Nations Secretariat (DOALOS) and the Kingdom of Norway. Several experts from Africa and beyond were also in attendance.

The Pretoria workshop included the following six sessions, each containing presentations from government representatives, experts from intergovernmental organizations, academia and the private sector:

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1. The United Nations Convention on the Law of the Sea and the 1994 Agreement
 2. Increased regional and international cooperation in support of the sustainable development of Africa's Blue Economy
 3. Prospection, exploration and exploitation on continental shelves and in the Area
 4. Environmental management of deep seabed mineral resources
 5. Management and dissemination of geological, mineral and environmental information
 6. Enabling conditions for capacity building opportunities for African States
-

As a result, the workshop provided a unique forum for all participants to discuss and exchange around the fundamental questions and issues associated with the implementation of the legal regime set out by UNCLOS for the conduct of exploration and exploitation on continental shelves and in the Area. It was also the unique opportunity for government representatives of the participating countries to identify key capacity-building needs at both national and regional levels. Furthermore, some recommendations were made to increase participation of African States in activities undertaken in the Area and ensure that such activities could contribute effectively to support Africa's Blue Economy.





Objectives of the ADSR Project and the Pretoria Workshop

(i) Objectives of the ADSR project

Africa is the world's second largest and second-most-populous continent. It covers approximately 30.3 million km² and is bordered by the Indian and Atlantic Oceans, as well as by the Mediterranean and the Red Sea. Described as a big 'Island Continent', Africa has 38 out of its 54 States as coastal States. Maritime zones under Africa's jurisdiction include about 13 million km² including approximately 6.5 million km² over the continental shelf.

The wealth of natural resources includes living and non-living marine resources that are to be found in the oceans and seas surrounding the African Continent, has led to a growing interest in the sustainable development of the African Blue Economy. This is reflected in the African Union (AU) *2050 Africa's Integrated Maritime (AIM) Strategy* (January 2014), in the publication by the United Nations Economic Commission for Africa (UNECA) entitled "*Africa's Blue Economy: A Policy Handbook*" (March 2016) and in the *African Charter on Maritime Security, Safety and Development* (Lome Charter) adopted by the African Heads of State in October 2016. It is also assumed that the ADSR Project will strongly contribute to the discussions and achievements of the Africa's Blue Economy in the context of the African Decade of Seas and Oceans (2015–2025), and reflected in the *Agenda 2063: The Africa we want*, the strategic framework for the socio-economic transformation of the continent over the next 50 years, which expressly identifies "*exploration and*

beneficiation of deep sea mineral" as a key driver for the development of Africa's Blue Economy.

The International Seabed Authority (ISA) in partnership with the African Minerals Development Centre (AMDC) of the African Union have officially announced at the UN Ocean Conference held in New York in June 2017, the launch of their Voluntary Commitment to foster cooperation to promote the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy ([#OceanAction16374](https://oceanconference.un.org/commitments/?id=16374))¹. This commitment aims at raising awareness among African States about the importance and opportunities associated with the development of Africa's continental shelf and increased participation of African citizens in exploration activities undertaken in adjacent international seabed areas (the Area). This project is also intended to facilitate consultation amongst relevant actors in order to contribute to the development of a dedicated strategy that will foster the enabling conditions for improved capacity-building opportunities for the continent and increased participation of African countries in activities undertaken in the Area.

The ADSR Project is implemented by ISA in partnership with the African Union and NORAD. Activities are undertaken in close cooperation with States Parties to UNCLOS, relevant international and regional organizations and experts.

One critical deliverable of the ADSR Project is the organization of five workshops, one in each African region, with a view to raising

¹ See: [<https://oceanconference.un.org/commitments/?id=16374>]

awareness among African decision-makers about the importance of the sustainable development of activities on the African's continental shelf and adjacent international seabed area (the Area) carried by African nationals. Beyond the fact that these workshops provide the opportunity to bring together international and African experts to discuss emerging issues associated with the work of ISA and current activities undertaken in the Area; they also represent a unique opportunity for decision-makers and experts to discuss strategies that could help African States to build necessary capacities to benefit fully from their Blue Economies, particularly with regard to increased participation of African States in deep seabed activities undertaken in the Area.

All workshops are designed to bring together experts from the international legal and scientific community with government officials, representatives of regional and international organizations, the scientific community, researchers and academics as well as representatives of the private sector. The workshops are also structured around key issues associated with the United Nations Convention on the Law of the Sea (UNCLOS) and the work of the ISA on marine mineral

resources development and the protection and preservation of the marine environment from activities in the Area. Dedicated discussion is also directed to identify and propose mechanisms for improving regional cooperation and participation of African countries in the deep seabed regime. In particular, it will address special interests of landlocked African countries.

(ii) Objectives of the Pretoria workshop

Being the second workshop to be organized in the context of the ADSR Project, the main objective of the Pretoria workshop was to raise awareness among decision-makers from participating countries about the importance of sustainable development activities on Africa's continental shelf and in the adjacent international seabed area. It was also envisaged that this workshop would provide an opportunity to discuss capacity-building strategies that could help African States benefit fully from their Blue Economies, particularly with regard to increased participation in deep seabed exploration activities.





Opening Session

Welcoming address

H.E Mathu Joyini,
Deputy Director-General, Diplomatic Training, Research and Development (DIRCO),
Republic of South Africa

Opening addresses and presentation of the workshop programme and objectives

Mr Michael W. Lodge
Secretary-General, International Seabed Authority (ISA)

Remarks

Mr Paal Bjørnstad
Deputy Chief of Mission and Minister Counsellor, Embassy of Norway to South Africa

High Commissioner Lumka Yengeni
Permanent Representative of the Republic of South Africa to ISA and President of ISA
Council (25th session)

Mr Thabo Mokoena
Director-General, Department of Mineral Resources (DMR), Republic of South Africa



Welcoming Address from Ambassador Mathu Joyini, Deputy Director-General, Diplomatic Training, Research and Development (DIRCO), Republic of South Africa

His Excellency, Mr Michael Lodge, Secretary-General of the International Seabed Authority

High Commissioner Lumka Yengeni, Permanent Representative of the Republic of South Africa to International Seabed Authority and President of the Council of the 25th Session of the International Seabed Authority

Adv Thabo Mokoena, Director-General, Department of Mineral Resources

Mr Mosa Mabuza, Chief Executive Officer, Council for Geo-Science

Mr Paul Bjornestad, Acting Ambassador for the Kingdom of Norway

Ms Lindiwe Mekwe, Acting Chief Executive Officer, Petroleum Agency South Africa

Distinguished presenters and participants from all sectors;

Members of the Media
Ladies and gentlemen
Good morning!

I esteem it a privilege and an honour to welcome you here today to this long overdue workshop organised by the International Seabed Authority in partnership with the Government of the Republic of South Africa. As you may recall, the ADSR is a collaboration between the ISA and the AU, funded by the Government of Norway.

From Monday to Wednesday this week, we had a workshop that focussed on the process for the development of standards and guidelines on the draft mining code, a regulatory regime for deep seabed mining.

This workshop, among other things, aims to foster international and regional cooperation to promote the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy by bringing together key stakeholders including official representatives of Angola, Botswana, Eswatini, Lesotho, Liberia, Malawi, Mozambique, Namibia, Sao Tome & Principe, South Africa, Zambia and Zimbabwe; as well as African experts in Law of the sea and Mining issues. South Africa, as a host country, welcomes you all.

South Africa is of the view that the mineral resources in areas beyond national jurisdiction are the common heritage of mankind and as such, they must be for the benefit of humankind as a whole.

The boldest measure envisaged by the 1982 United Nations Convention on Law of the Sea, to institutionalise benefit-sharing is the creation of the Enterprise, the commercial arm of the ISA.

The Enterprise presents one of the meaningful, fair and transparent ways of making sure that developing countries participate in deep seabed mining activities in areas beyond national jurisdiction.

Without the Enterprise, these mineral resources could be effectively reserved for developed countries and those private corporations and government entities with sufficient capital and operational and technological knowledge to extract them, to the effective exclusion of the developing countries.

The Enterprise could also contribute to the promotion of the sustainable development



of Africa's deep seabed resources in support of Africa's Blue Economy and this is what this workshop is all about.

With these few remarks, I would like to say once more, welcome to South Africa. I wish you a productive and successful workshop.

Thank you for your attention.

May I now invite, Mr Michael Lodge to take the podium.

Opening Remarks from Michael W. Lodge, Secretary-General of the International Seabed Authority

Mr Kgabo Mohoai, Director-General, DIRCO
Your Excellency Ambassador Mathu Joyini,
Your Excellency High Commissioner Lumka Yengeni,
Mr Thabo Mokoena, Director-General,
Department of Mineral Resources,

Ladies and Gentlemen,
Good morning,

Today I am pleased to welcome you to the opening ceremony of our workshop to promote international and regional cooperation for the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy.

Let me begin by thanking the Government of South Africa for its warm welcome and support in organizing this workshop.
Ladies and gentlemen,

African States make up 46 of the 168 Parties to the United Nations Convention on the Law of the Sea. This includes 38 coastal States

whose maritime areas cover approximately 13 million square kilometres.

There has always been a close relationship between the Authority and Africa. The Chair of the First Committee of UNCLOS III, which was responsible for Part XI of the Convention, was Paul Bamela Engo of Cameroon. Both the Presidents of the Preparatory Commission - Joseph Warioba of Tanzania and Jose Luis Jesus of Sao Tome and Principe - came from Africa. My immediate predecessor as Secretary-General, Nii Allotey Odunton, came from Ghana.

As of today, 8 African States sit on the Council of the Authority, and 6 African experts are members of the Finance Committee or the Legal and Technical Commission. We are also honoured to have with us High Commissioner of South Africa to Jamaica and Permanent Representative to the Authority, Her Excellency Lumka Yengeni, who is also President of the Council for 2019.

Nevertheless, despite this long-standing commitment of Africa to the work of the Authority, Africa remains the only regional group that has not yet taken full advantage of the provisions of the Convention to take part in deep sea mineral exploration.

This is one reason why, since taking office in 2017, I have made it a priority for the Authority to seek to establish strategic partnerships with relevant international and regional organizations, such as the African Union, UNECA, the Indian Ocean Rim Association (IORA), the African Development Bank and the Organisation Internationale de la Francophonie in order to better identify and respond to the specific needs of African States.

That is why, in 2017, at the United Nations' Ocean Conference, the Authority in partnership with the African Minerals

Development Centre of the Africa Union, registered a Voluntary Commitment (#OceanAction16374) aimed at supporting the sustainable development of Africa's Blue Economy. The concept for this Voluntary Commitment emerged from a workshop held in early 2017 in Uganda – the first workshop ever convened by the Authority in a landlocked developing country.

Since then, our Voluntary Commitment has been translated into a two-year project, known as the Africa Deep Seabed Resources Project. The project is led by the Authority and implemented in partnership with the African Minerals Development Centre, in close cooperation with all African States.

I am also delighted that we have been joined as a partner in our project by the Government of Norway, which has made a generous financial contribution to the project.

The ADSR project envisages 5 regional workshops across the African continent. The first such workshop took place in Abidjan, Cote d'Ivoire, in October 2018. Not only was this a great success, but also it was another first – the first time the Authority held an activity in a Francophone country.

Today is the second workshop organised to implement the ADSR project and focusses on the Southern African States.

I attach particular importance to this, because when we look at the 11 States in this region, we can see that all are Parties to UNCLOS, whilst 6 are landlocked developing States (Botswana, Eswatini, Lesotho, Malawi, Zambia, Zimbabwe).

This is despite the fact that UNCLOS contains provisions – largely influenced by Africa – that are designed to guarantee the right of access to seabed mineral resources located beyond national jurisdiction to all States, including landlocked States. UNCLOS also provides for

a benefit-sharing mechanism that explicitly gives preference to developing countries.

Against this background, the main objectives of the ADSR Project are threefold:

First, to better inform the decision-making processes of African States in relation to deep sea exploration and mining.

Second, to strengthen the technical capacity of national experts, including women.

Third, to stimulate reflection and discussion that could result in recommendations to increase and improve capacity-building of African nationals in deep sea exploration, marine scientific research and marine technology.

At the core of the Authority's mandate is the dual responsibility to develop the mineral resources of the deep seabed for the benefit of all humanity while at the same time ensuring protection and preservation of the marine environment.

In recent years, the wealth of natural resources, including living and non-living marine resources that are to be found in the oceans and seas surrounding the African Continent, has generated growing interest. In this context, the potential benefits that could be derived from sustainable development of deep seabed resources located on the continental shelves and in the international seabed Area could be a key driver for the development of Africa's Blue Economy. This strategic linkage is clearly established by the African Union in its 2050 Africa's Integrated Maritime Strategy and Agenda 2063.

The benefits for African countries of strengthening their engagement in the activities undertaken in the international seabed area cannot be disputed. For this reason, I expect that the implementation of our Voluntary Commitment will contribute



significantly to the regional and national development objectives set out by our Member States, especially in the context of the African Decade of Seas and Oceans.

I hope that the discussions over the next few days will lay the foundations of a strategy for African States, and in particular the landlocked and least developed countries, to make the best possible use of the opportunities available to them through the Part XI regime.

With that, I wish you a successful and productive workshop. I personally very much look forward to the results you will produce, which I hope will include clear recommendations that the Authority can take into consideration when readjusting its capacity-building programmes.

Opening Remarks from Peter Bjørnstad, Deputy Chief of Mission and Minister Counsellor, Embassy of Norway to South Africa

It is a pleasure for me to address you here today as participants to this ISA workshop on the sustainable development of Africa's deep seabed resources in support of Africa's Blue Economy. This is an important topic that points to Africa's future.

Let me also say that Norway is happy to cooperate with the ISA on this initiative. The ISA has an important role to play in global ocean management and Norway appreciates its efforts. We celebrate the 25th anniversary of the ISA this year and we also celebrate the achievements made. Thanks to the efforts of the ISA exploitation of mineral resources from areas beyond national jurisdiction might not be too far ahead.

Norway is an ocean Nation. The ocean has been essential for the Norwegian economy, but also for our history, culture and identity.

Norway has a long tradition for deep sea research, starting with Michael Sars during the early 19th century, and later on his son Georg Sars. They carried out surveys and studied marine life at large depth up to 820 metres below sea level. They were pioneers, and we still benefit from their work. This tradition to explore the life of the sea was extended when the oil industry was introduced in the 1960s.

Since then, Norwegian energy companies have developed world-class technology within offshore and deep sea industries. These companies operate under the strictest environmental regulatory regime. Their technology has great potential also to extract deep seabed mineral resources in an environmentally friendly way, while not harming the environment or other ocean industries. Rich oceans depend on clean oceans. Clean and healthy oceans where we manage the resources in a sustainable and integrated manner are a prerequisite for reaching the Sustainable Development Goals (SDG). Norwegian companies are ready to deploy this technology when the opportunities emerge.

In 2016, Norway presented its first White paper on the ocean in the context of foreign and development policy. The White paper presents Norway's policy for the protection and sustainable use of the oceans. In the extension of this, Prime Minister Erna Solberg established a high-level panel on sustainable ocean economy. The panel consists of heads of governments from 14 ocean countries across the globe, and are co-operating closely with experts, civil society and UN organizations to create a platform for action to unleash the potential in sustainable ocean management. I believe the panel will be a strong force for delivering on Sustainable Development Goal number 14 - Life below water.

Under the Law of the Sea, States have the obligation to protect and preserve the marine environment and the right to exploit their natural resources. For Norway, it is of vital importance that all States are able to exercise these rights and fulfil these responsibilities. Capacity-building is therefore a clear priority for us. For decades, Norway has cooperated with developing states on ocean management.

Our support for this project fits well with this tradition. We hope this initiative can inspire and initiate thinking and activity that can result in commercial activity that can contribute to the development of a blue and sustainable economy in Africa.

Opening Remarks from High Commissioner Lumka Yengeni, Permanent Representative of the Republic of South Africa to the International Seabed Authority and President of the ISA Council for the 25th Session

Your Excellency, the Secretary-General of ISA, Mr Michael Lodge;

The Director-General of DIRCO, Mr Kgabo Mohaoi;

The Director-General of the Department of Mineral Resources, Advocate Thabo Mokoena;

Her Excellency Deputy Director-General, Ambassador Mathu Joyini

Fellow permanent representatives to ISA;

The African group coordinator, Mr Mehdi Remaoun;

Members of the ISA Council;

Senior officials of DIRCO and all other government departments;

Specially invited guests, in particular technical experts from ISA member states;

Ladies and gentlemen,

It gives me great pleasure and it is indeed an honour for me to deliver opening remarks at this important workshop on Standards and Guidelines, which has as its objective the intention to bring together the relevant experts and stakeholders to further contribute towards the development and delivery of standards and guidelines under the Authority's Mining Code.

I am particularly honoured because not only have I very recently taken up my post as South Africa's Permanent Representative to the ISA, but also because in 2019, the African Group placed its confidence in South Africa as the Group's candidate to elect a President of Council, which led to my nomination as the President of the 25th Session of Council. Again, let me take this opportunity to thank the African Group for its confidence in South Africa, and in me. Allow me also to thank the Secretary-General, his team, and the members of Council for the outstanding support that has been provided to me during the first part of the 25th Session.

Excellencies, ladies and gentlemen, the history on the development of the UN Convention on the Law of the Sea (UNCLOS) is important in every aspect of the mandate of ISA as a regulating authority. It took a number of years and immeasurable amounts of hard work to produce the Convention. UNCLOS not only recognises the importance of life



in the ocean, but crucially it is drafted in a manner that will ensure that certain parts of humanity's history do not repeat themselves, if we abide by these guiding principles.

As an African, I am obliged to state that Slavery and colonialism had a devastating impact on the African continent and other developing countries. These countries, which were rich in land based mineral resources, were looted by the Colonial powers and the consequences and impact of that is still being felt today. It manifests itself in high unemployment, high rates of illiteracy, low levels of skills and technical capacity because the mineral wealth of these countries has over centuries been removed and in some cases, still is. None of us want for commercial activity in the Area to make existing problems worse! Rather, we endeavour to ensure through our work the common heritage of mankind and equitable benefit sharing actually changes the lives of the people it was intended to benefit.

The guiding principles in UNCLOS ensure that because deep sea-bed mining will take place in the seas which are beyond boundaries of national jurisdiction, "the Area," its resources are the common heritage of mankind. The sharing of all profit from commercial activity will therefore have to be equitable, benefitting of all humanity. However, it is incumbent upon us collectively to ensure that this does indeed happen.

It is for this reason, amongst many others, that this workshop is so important and it is timely that it is being held in South Africa. It is absolutely critical that, although very technical in nature, the important work being undertaken by ISA, the work of the Council members, the Legal and Technical Commission, and the contribution by non-governmental organizations through their observer status, as well as other stakeholders must be recognized and known beyond the walls of the ISA. Its importance must

become widely known and supported by the people of all our countries, simply because it is ultimately the people who must benefit from all future activity in the Area including our collective responsibility to protect the common heritage.

The importance of the work of ISA must become known by public representatives, workers in particular, and the business community, because ultimately, these are the people in society that will play a key role in shaping and developing the national legislation that has to be submitted to the Authority. It must not be forgotten that the people are a crucial component of what the Authority seeks to regulate in future.

As the experts share their knowledge acquired from parallel industries, we are also aware that deep sea-bed mining is relatively new terrain and there are a number of factors that must be considered as a balance between the standards and guidelines that will provide the framework for resource extraction while ensuring that environmental protection remains paramount.

Prioritising the development of standards and guidelines for deep sea-bed with the assistance of all our experts gives us the unique opportunity to take collective responsibility in line with and consistent with part XI of the United Nations Convention on the Law of the Sea (UNCLOS). It is a unique opportunity because we are all aware that globally we are faced with the defining challenge of our time - Climate Change, which unfortunately disproportionately affects developing countries. The development of these standards and guidelines must be open, transparent and accountable to all of humanity, not only those who should benefit from the commercial benefit of mining activity in the Area, but also from a safe and protected environment. Once developed, the Standards and Guidelines will become the tools that will

ensure that developing countries in future are not negatively impacted by mining in the Area.

Let me also use this opportunity to state that the development of standards and guidelines must also ensure that women aboard research or exploration vessels must be protected and be free from harm or discrimination.

As we continue in our collective efforts to finalise the draft regulations for deep sea-bed mining in the Area, we must remain committed to and focussed on the fact that the Common Heritage of Mankind principle must underscore and reinforce all of our actions going forward.

Again, it gives me great pleasure that this workshop in South Africa has brought

together so many experts. As you may well know, South Africa is in the process of drafting its national legislation on mining. The sharing of knowledge and expertise will assist our experts so that they are better equipped to share with the necessary stakeholders in South Africa information on the work of ISA, the importance of the development of the draft regulations for deep sea-bed mining in the Area, and the priority development of standards and guidelines for mining activity in the Area, and how this should fit in with the legislation referred to above.

Let me take this opportunity to wish you well in your discussions during the course of this week.

I thank you.



SESSION 1

The United Nations Convention on the Law of the Sea and the 1994 Agreement

Presentations

President: Mr Michael W. Lodge, Secretary General, ISA

Mr Michael Shewchuck, Legal Officer, United Nations Division for Ocean affairs and the Law of the Sea (DOALOS)

"Legal regime governing the exploitation of resources and preservation of the marine environment"

Dr Marie Bourrel-McKinnon, Senior Policy Officer – Special Assistant to the Secretary General, ISA

"The International Seabed Authority: Roles and Functions"

Dr Edwin Egede, Reader in International Law and International Relations, Cardiff University

"The outer limit of the continental shelf in Africa: present situation and prospects"

Prof Patrick Vrancken, Nelson Mandela University, South Africa

"Content and achievements of UNCLOS and its significance for African States"

Prof Pedro Madureira, Legal and Technical Commission, ISA, Portugal

"The mechanism of 'reserved areas': overview and practical implications"

The first presentation of the workshop provided an overview of the international legal regime governing the exploitation of natural resources and the preservation of the marine environment, as set out in the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which currently has 168 Parties, including the European Union. **Mr Michael Shewchuk** highlighted the comprehensive legal framework set out in UNCLOS, within which all activities in the oceans and seas must be carried out, including a description of the

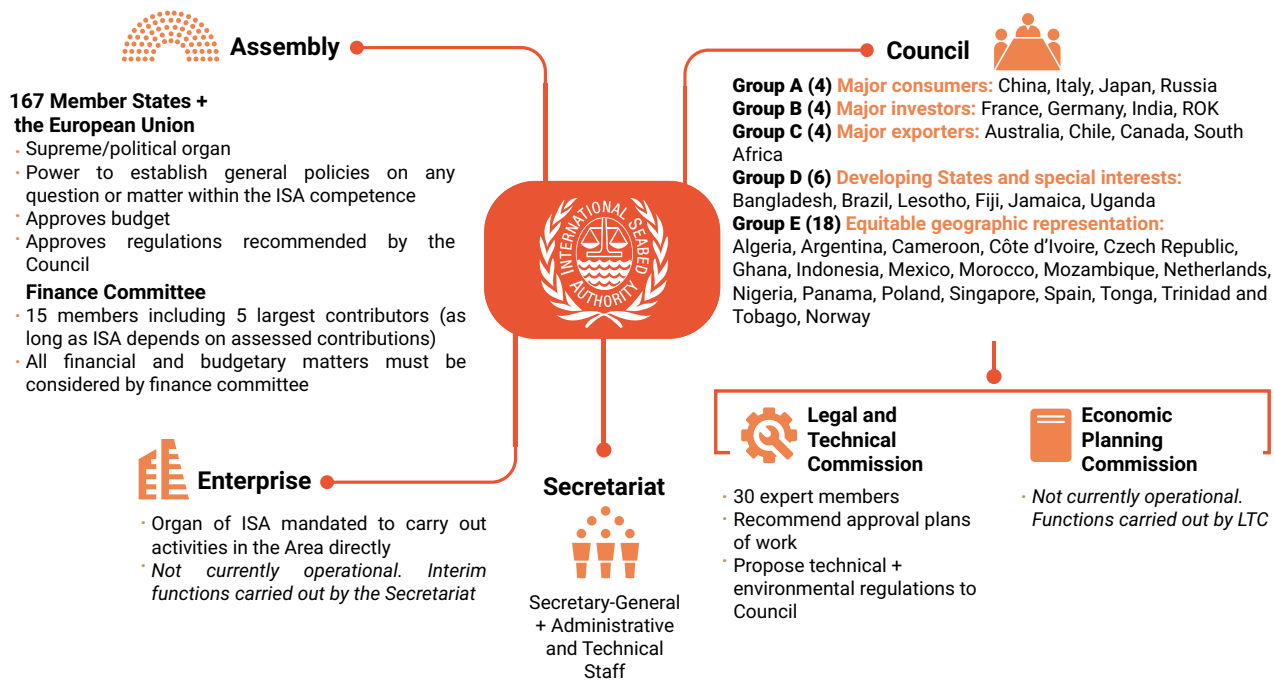
rights and obligations of States in the different maritime zones. Recalling the provisions of UNCLOS regarding the protection and preservation of the marine environment, Mr Shewchuk noted that mining activities on the continental shelf of coastal States are required to be conducted with due regard for the protection and preservation of the marine environment. Important mention was also made of the specific obligations in UNCLOS pursuant to which coastal States are required to deposit with the Secretary-General of the

United Nations charts or lists of geographical coordinates of points concerning baselines and the outer limits of their maritime zones derived therefrom, including the lines of delimitation. Coastal States are also under an obligation to give these lines due publicity, with the exception of the outer limits of the continental shelf beyond 200 nautical miles (NM) from the baselines, the due publicity of which is an obligation of the Secretary-General. Mr. Shewchuk then highlighted that by assisting States in fulfilling these obligations, the Division on Ocean Affairs and the Law of the Sea (DOALOS) of the Office of Legal Affairs, assisted coastal States in ensuring publicity and transparency on the extent of national jurisdictions, which in turn contributed to increased clarity on the extent and configuration of maritime zones, including the limits of the Area. To this end, article 84 of UNCLOS specifically prescribes that the outer limits of the continental shelf (both up to and beyond 200 NM), are to be deposited by coastal States not only with the Secretary-General of the United Nations, but also with the Secretary-General of ISA.

A presentation was then delivered by **Dr Marie Bourrel-McKinnon** on the role and functions of ISA. In her preliminary comments, Dr Bourrel-McKinnon emphasised that while UNCLOS is the main source of law for the management of ocean space, it also aims to ensure the equitable and efficient utilization and conservation of living and non-living resources. The fact that UNCLOS, although adopted in 1982, entered into force twelve years later (1994) needed to be understood via the prism of Part XI considering that the main reason for this was the existence of divergent views between nations about access and use of deep seabed minerals located beyond national jurisdictions in the Area. The main disagreement that needed to be overcome was between developing and developed countries on how the relevant legal regime should be managed and how individual nations should be able to

access these mineral resources. Eventually, an implementing agreement pertaining to Part XI of UNCLOS was agreed in 1994 which led to the entry into force of UNCLOS. An overview of the legal rights to seabed minerals within national jurisdiction and in the Area was provided which enabled the presenter to highlight the key principles of the regime set out in Part XI of UNCLOS and in the 1994 Agreement. This allowed to highlight that the Area and its resources *constitute the "common heritage of mankind"* (UNCLOS, art.136), that the activities in the Area shall be conducted for the benefit of mankind as a whole (UNCLOS, art.140) and that ISA was established to regulate all activities undertaken in the Area. Accordingly, the mandate of ISA was further elaborated as well as its role and functions (see **figure 1**).

Dr Edwin Egede was invited to provide the participants with an overview of the current situation and future prospects in the determination of the outer limit of the continental shelf in Africa. Indicating that the entry into force of UNCLOS introduced more precision to the determination of the outer limits of the continental shelf in comparison to the regime set out by the 1958 Geneva Convention on the Continental Shelf, the presenter highlighted that such progress was important, particularly for African coastal States, for a series of reasons. First, it allows these States to precisely establish their maritime zones within national jurisdiction. Second, it allows for the precise establishment of the boundaries of the Area outside of national jurisdiction as defined by article 1 (1) of UNCLOS. Third, it allows for the eventual establishment of the "Africa's Maritime Domain" (AMD), a concept initially introduced by the 2050 African Integrated Maritime Strategy (AIMS) and further confirmed by the African Charter on Maritime Security and Safety and Development in Africa (Lomé Charter). Dr Egede then emphasised that pursuant to article 76 of UNCLOS, the outer limit of the continental

Figure 1: Structure and functions of ISA

Source: ISA Secretariat, 2019.

shelf of a coastal State may either extend from the baselines from which the breadth of the territorial sea measures up to 200 NM or, in the case of States with broad continental shelves (sometimes described as States with extended continental shelves) it shall not exceed 350 NM from the baselines from which the breadth of the territorial sea is measured or exceed 100 NM from the 2,500 metre isobath. A specific technical body, the Commission on Limits of the Continental Shelf (CLCS), has been established by UNCLOS to consider submissions of States claiming to have continental shelves beyond 200 NM and to make binding recommendations on such submissions. The presenter further elaborated on the different submissions that have been made by African States (table 1). He ended his presentation by identifying the following crucial questions that would need to be addressed for significant progress to

be made by African States on the issue of the outer continental shelf:

- How can African States be helped with moving their preliminary information to actual submissions to CLCS?
- After CLCS recommendations- what next?
- How do African States deal with making their revised submissions?
- What about post CLCS recommendation implementation? Such as:
 - Complying with obligation under Art.76(8) of UNCLOS
 - Appropriate national legislation
- Does Africa need a central co-ordinating body housed by the AU (perhaps the Africa Union Border Programme?) to act as a one-stop shop to point African coastal States to various organizations that may provide advice and/or support for outer continental shelf issues?

Table 1: Actual submissions made by African States to CLCS

African States	Date of submission	Status
Joint submission by the Republic of Mauritius and the Republic of Seychelles - in the region of the Mascarene Plateau	1 December 2008	<ul style="list-style-type: none"> • First submission by African States, and prepared collaboratively by two mid-ocean small developing states • Informed CLCS of intention to make further submissions for their respective remaining areas of continental shelf. • On 30 March 2011 - CLCS made recommendations
Ghana	28 April 2009	<ul style="list-style-type: none"> • 5 September 2014 - CLCS made recommendations
South Africa - in respect of the mainland of the territory of the Republic of South Africa	5 May 2009	<ul style="list-style-type: none"> • 17 March 2017 - CLCS made recommendations in respect of some of the areas in the submission, but did not substantively address several areas covered by the submission. • CLCS recommended a revised submission in regard to areas not covered by the recommendation. • 13 September 2017 - South Africa files note verbally expressing disappointment that the CLCS had not provided the scientific rationale for its decision not to endorse the areas not covered. • Expressed concern about the additional costs to be incurred and the lack of transparency, etc.
Joint submission by France and South Africa - in the area of the Crozet Archipelago and the Prince Edward Islands	6 May 2009	<ul style="list-style-type: none"> • A sub-commission of CLCS for the consideration of the submission established - awaiting recommendations of CLCS
Kenya	6 May 2009	<ul style="list-style-type: none"> • CLCS decided to defer further consideration of the submission due to dispute
Mauritius - in the region of Rodrigues Island	6 May 2009	<ul style="list-style-type: none"> • CLCS sub-commission still considering the submission
Nigeria	7 May 2009	<ul style="list-style-type: none"> • CLCS sub-commission still considering the submission
Seychelles - concerning the Northern Plateau Region	7 May 2009	<ul style="list-style-type: none"> • 27 August 2018 - CLCS made recommendations
Cote D' Ivoire	8 May 2009	<ul style="list-style-type: none"> • Impact of proceedings before the International Tribunal for the Law of the Sea on Ghana/Cote D'Ivoire case



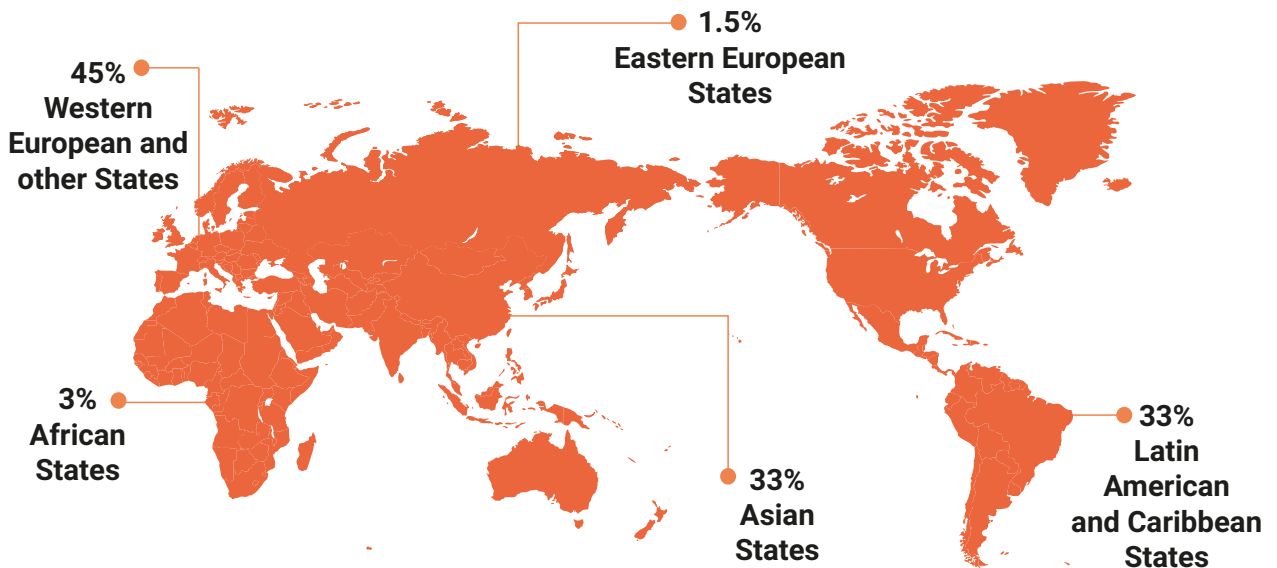
Namibia	12 May 2009	<ul style="list-style-type: none"> • Submission of CLCS to be established
Mozambique	7 May 2009	<ul style="list-style-type: none"> • Submission of CLCS to be established
Madagascar	29 April 2009	<ul style="list-style-type: none"> • Submission of CLCS to be established
United Republic of Tanzania	18 January 2012	<ul style="list-style-type: none"> • Submission of CLCS to be established
Gabon	10 April 2012	<ul style="list-style-type: none"> • CLCS decided to defer further consideration of the submission due to potential dispute
Angola	6 December 2013	<ul style="list-style-type: none"> • CLCS decided to defer further consideration of the submission due to potential dispute
Somalia	21 July 2014	<ul style="list-style-type: none"> • CLCS decided to defer further consideration of the submission due to potential dispute
Joint submission by Cabo Verde, The Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone - in respect of the areas in the Atlantic Ocean adjacent to the coast of West Africa	25 September 2014	<ul style="list-style-type: none"> • Sub-commission of CLCS established
Joint submission of the Republic of Benin and the Tongolese Republic	21 September 2018	<ul style="list-style-type: none"> • Nothing done yet by CLCS
Liberia	23 October 2018	<ul style="list-style-type: none"> • Nothing done yet by CLCS
Mauritius - concerning the southern Archipelago region	26 March 2019	<ul style="list-style-type: none"> • Nothing done yet by CLCS

Source: EE, 2019

The presentation delivered by **Professor Patrick Vrancken** focussed on the content and achievements of UNCLOS and its significance for African States. Taking into account the developmental and transformational challenges with which most of Africa is still confronted, the presentation was used to express some views on how, as it is stated in its preamble, UNCLOS can contribute *“to the realisation of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole*

and, in particular, the special interests and needs of developing countries, whether coastal or land-locked”.

After pointing out the main features of the UNCLOS regime as well as some of its achievements, the presenter stressed that there cannot be any doubt that the negotiations leading to, and the coming into effect of, UNCLOS were high priorities for African States. In addition, there cannot be any doubt that, since UNCLOS came

Figure 2: Ratification of UNCLOS per region (% end of 1993)

Source: PV, 2019

into effect and now that the great majority of African States are parties to UNCLOS, the latter has provided the necessary foundation and impetus for the development of the continent's own ocean governance framework. However, the adoption in 2014 of the 2050 Africa's Integrated Maritime Strategy, which underpins politically that regime, as well as the signing in 2016 of one of its latest additions, the Lomé Charter on Maritime Security and Safety and Development in Africa, were to a large extent prompted by the limited transformative impact of UNCLOS, a weakness that can be attributed to the fact that UNCLOS fails to go beyond formal equality on land and to fully acknowledge the range and depth of substantive inequalities that continue to scar the international community. The EEZ regime and implementation were used as illustrations. To address that state of affairs, the drafters of the AIM Strategy appear to have envisioned the proposed combined exclusive maritime zone of Africa (CEMZA) as an arrangement where a balance is struck between, on the one hand, the sovereign

rights of each coastal State and, on the other hand, the collective interest in protecting the integrity of an African maritime domain that is safe and secure in its entirety. The adoption, in 2016, of the Statute of the African Minerals Development Centre (AMDC) is another step in the same direction. Indeed, as its preamble indicates, the Statute was born out of the deep concern that *"Africa's abundant mineral resources are not yet contributing equitably and effectively towards improving the living conditions of its populations"* as well as the awareness of *"the need for co-operation in this field, particularly research, development and training"*. It is logical for AMDC, as a specialised agency of the African Union, to join forces with ISA to address some of the issues raised by the watering down of Part XI of UNCLOS by the 1994 Agreement. This step and the developments that will continue to ensue recognise the centrality of Part XI in UNCLOS, build on the achievements made in its application and go a long way towards confirming the significance of UNCLOS for African States.



The last presentation of session 1 was aimed at providing participants with an overview of the mechanism of the “reserved areas” and their practical implications in the context of the implementation of Part XI of UNCLOS and the 1994 Agreement. In his preliminary remarks, **Professor Madureira** recalled the participants that the decades that preceded the adoption of UNCLOS were characterized by significant advances in science and technology particularly in relation to the exploration of the depths and morphology of the ocean floor. This was reflected in the speech delivered by Ambassador Arvid Pardo from Malta in 1967 at the General Assembly of the United Nations which in turn, paved the way for the Third United Nations Conference on the Law of the Sea and influenced the drafting of the 2749 (XXV) Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, beyond the limits of National Jurisdiction. Professor Madureira underlined that both were instrumental in the development of the philosophical objective that seabed minerals of the international seabed area should be conceived as the “common heritage of mankind” and that exploration and exploitation activities beyond national jurisdictions should be carried out for the benefit of mankind. During the Third Conference, because of the diverging interests opposing industrialized and developing States on the question of access and use of seabed minerals in the Area, a third view emerged through the adoption of the so-called “parallel system”, which was a proposal initially forwarded by Henry Kissinger, at the time Secretary of State of the United States of America. Under this

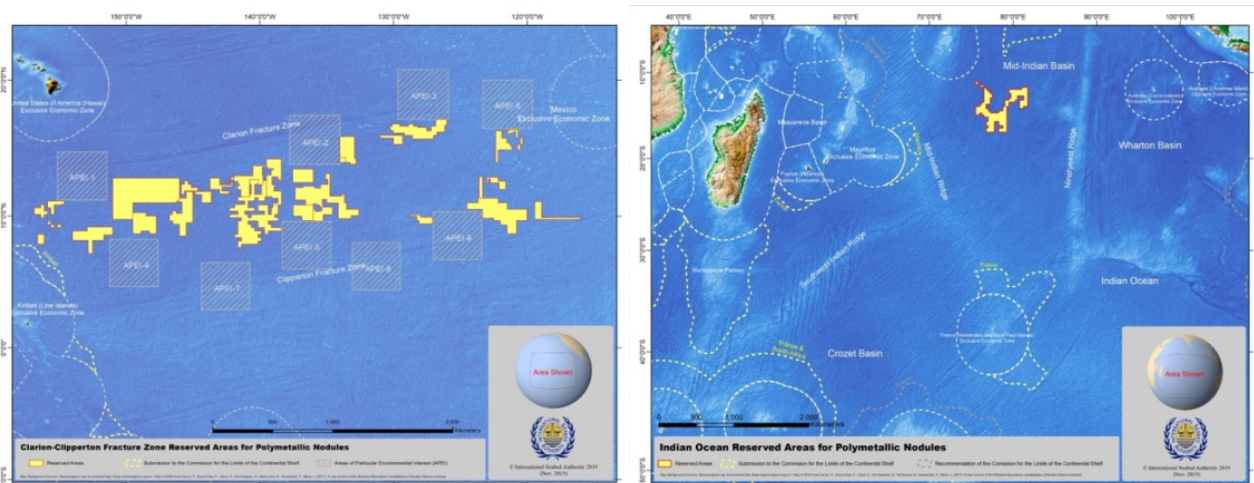
compromise, activities carried out in the Area could be performed through the Enterprise (or in conjunction with developing States) and either individual (natural or juridical) or State enterprise. For the latter, and in applying for a contract for exploration or exploitation in the Area, there was the obligation to present the international community, which would then be represented by what will become the International Seabed Authority (ISA) two alternative areas with “equal” estimated commercial value. It would then be the responsibility of ISA to select one of the areas where activities could be conducted through the Enterprise or in association with developing States. The “parallel system” is reflected in UNCLOS, notwithstanding the fact that important provisions related with it, such as the Enterprise, the transfer of technology and the review conference, were downgraded by the 1994 Agreement. Professor Madureira then emphasized that pursuant to section II of Annex II of the Regulation on prospecting and exploration for mineral resources in the Area (see **box 1**), the application is required to provide sufficient information to enable the Council to designate a reserved area. This needs to include data on the location, surveys and evaluation of the specific mineral resource in the areas, geological and physical properties, abundance (for polymetallic nodules), thickness (for polymetallic sulphides and cobalt crusts), tonnage, average grade, and used techniques. As of today, this system has enabled several developing States to sponsor activities in the Area (see **figure 3**). However, it was highlighted that none of them are from Africa (see **table 2**).

Box 1: Extracts from Regulation 16, of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and Regulation 16, of the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area

Regulation 16, of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area *“Each application shall contain sufficient data and information, as prescribed in section II of annex II to these Regulations, with respect to the area under application to enable the Council, on the recommendation of the Legal and Technical Commission, to designate a reserved area based on the estimated commercial value of each part. Such data and information shall consist of data available to the applicant with respect to both parts of the area under application, including the data used to determine their commercial value.”*

Regulation 16, of the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area *“Each applicant shall, in the application, elect either to: (a) Contribute a reserved area to carry out activities pursuant to Annex III, article 9, of the Convention, in accordance with regulation 17; or (b) Offer an equity interest in a joint venture arrangement in accordance with regulation 19”.*

Figure 3: ISA maps of current reserved areas for polymetallic nodules



Source: ISA Secretariat, 2019.

Table 2: Sponsoring State/Contractors undertaking exploration activities in the Area (in red, those benefiting from the "parallel system")

Sponsoring State/ Contractor	Polymetallic Nodules	Polymetallic Sulphides	Fe-Mn Crusts
China/COMRA	2001	2011	2014
Russia/YMG	2001	-	-
Japan/DORD, JOGMEC	2001	-	2014
Government of India	2002	2016	-
France/IFREMER	2001	2014	-
Government of the Republic of Korea/ KIOST	2001	2014	2018
Bulgaria, Cuba, Czech Republic, Poland, Russian Federation, Slovakia/IOM	2001	-	-
Germany/BGR	2006	2015	
Nauru/NORI	2011	-	-
Tonga/TOML	2012	-	-
Government of the Russian Federation	-	2012	-
Belgium/GSR	2013	-	-
United Kingdom/UKSRL	2013, 2016	-	-
Ministry of Natural Resources and Environment of the Russian Federation	-	-	2015
Kiribati/MARAWA	2015	-	-
Singapore/OMS	2015	-	-
Cook Island/CIIC	2016	-	
Brasil/CPRM		-	2015
China/CMC	2017	-	-
Poland	-	2018	-

Source: PM, 2019.

SESSION 2

Increased regional and international cooperation in support of the sustainable development of Africa's Blue Economy

Presentations

President: Mr Molefe Morokane, Department of Mineral Resources, South Africa

Mr Eliah Ralushai, Senior Geologist, Council for Geoscience, South Africa

"Role of the mining industry to support the development of the Blue Economy: a case for South Africa"

Participants were provided with a broad overview of the importance of the Blue Economy concept for South Africa. This was the occasion to remind participants that South Africa has 3,900 km of coastline – including the islands of Marine and Prince Edwards and an EEZ spreading over 1,5 million km² whereas the land size of South Africa was of 1,2 million km². **Mr Ralushai** indicated that in 2014, the Cabinet approved the piloting of the Malaysian Big Fast Results (BFR) methodology which has been named "operation Phakisa". First implemented by the Department of Environmental Affairs, Operation Phakisa aims to unlock the potential of South Africa's Blue Economy which has been assessed to contribute potentially up to R177 billion to the country's gross domestic product by 2033 and the creation of over 1 million jobs. Based on an assessment carried out in 2010, the Blue Economy contributed

approximately to R54 million to South Africa's gross domestic product and accounted for approximately 316,000 jobs. Further information was also provided on the offshore oil and gas activities with particular emphasis on the exploration license issued to Total in the Brulpadda Block, in the Outeniqua Basin, and located 175 km off the coast. In 2019, Total announced that 1 billion barrels had been discovered. The quality and strength of the current transport infrastructures for bulk minerals exports was also discussed as well as the mineral occurrences in South Africa. These mineral occurrences were shown in relation to the ports terminals where such minerals get exported. Mr Ralushai also emphasised the developments of the new bulk minerals' terminals within some of the South African ports to supplement current minerals' terminals.



SESSION 3

Prospection, exploration and exploitation on continental shelves and in the Area

Presentations

President: Mrs Lindiwe Mekwe, Acting Chief Executive Officer, Petroleum Agency, South Africa

Mr Christopher Brown, Legal Expert, Consultant

"The legal framework for activities in the Area: transitioning from exploration to exploitation"

Mr Harald Brekke, Vice-Chair, Legal and Technical Commission, ISA, Norway

"Mineral resources of the Area and current status of marine mineral technology"

Mr Yongsheng Cai, Senior Legal Officer

"Role and responsibilities of sponsoring states"

Mr Mehdi Remaoun, Coordinator of the African Group, Permanent Mission of Algeria to the International Seabed Authority

"Contribution of the African Group to the development of ISA's Mining Code"

Mr Andre Share, Department of Environmental Affairs, South Africa

"Marine protection - African context - South African perspective"

Mr Michael Lodge, Secretary General, ISA

"Role of ISA in ensuring the equitable sharing of financial and other economic benefits from DSM"

Dr Edwin Egede, Reader in International Law and International Relations, Cardiff University

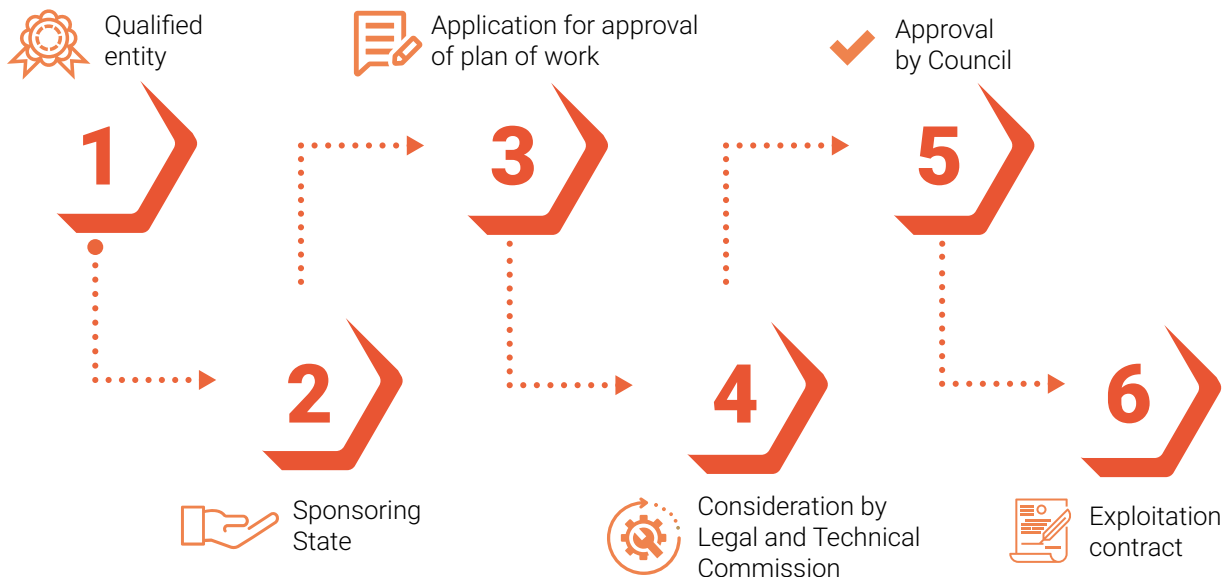
"Independent operation of the Enterprise: perspectives and challenges"

The first presentation was intended to provide the participants with an overview of the legal framework developed by ISA for regulating activities in the Area. In addition to the three sets of exploration regulations adopted respectively for polymetallic nodules², polymetallic sulphides³ and ferromanganese crusts⁴, **Mr Brown** indicated that exploration activities were regulated by the content of the recommendations for the guidance for contractors adopted by the Legal and Technical Commission of ISA and more specifically for: (i) the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area; (ii) for contractors and sponsoring States relating to training programmes under plans of work for exploration; (iii) the reporting of actual and direct exploration expenditure; and (iv) the content, format and structure of annual reports. Further indications were also provided on the application process currently

in place for exploration contracts (see **figure 4**) as well as the standard exploration contract terms.

Mr Brown also provided an update and overview of the progress made in relation to the development of draft regulations on exploitation of minerals resources in the Area. It was then emphasised that these regulations had been developed on the basis of knowledge and outputs of the exploration framework, through a series of multi-stakeholder consultations with the view of setting out the fundamental rights and obligations between ISA and future mining operators. The presenter also highlighted that these regulations will be supplemented by a suite of guidelines and standards. In light with this, particular points of the current draft exploitation regulations were presented such as the application process and the different activities involving contractors.

Figure 4: Application process for exploration contracts



Source: CB, 2019

² See ISBA/19/C/17.

³ See ISBA/16/A/12/Rev/1.

⁴ See ISBA/18/A/11.



The presenter concluded his presentation by outlining the next steps within which the draft regulations will be developed. These include the continuation of the negotiations with the ISA Council, the importance of developing financial terms for contracts, and the design of robust monitoring, inspection and compliance mechanisms.

Participants were also provided with a presentation on the mineral resources of the Area and current status of marine mineral technology which was delivered by **Mr Harald Brekke** from the Norwegian Petroleum Directorate and Vice-Chair of the

Legal and Technical Commission of ISA. After establishing the key distinctive features of the legal regimes of the continental shelf and the Area as set out by UNCLOS, the presenter highlighted the main specificities of the different types of seabed resources found on one hand on the continental shelf (aggregates and placer deposits and oil and gas) and on another hand, in the Area and the continental shelf (polymetallic nodules, polymetallic sulphides, cobalt-rich ferromanganese crust). In so doing, Mr Brekke elaborated on the typical habitats and geological environment of each type of minerals (see **tables 3** and **4**).

Table 3: Seabed minerals - Typical habitats

Seabed Mineral	Typical Habitat
Polymetallic Nodules	In soft seabed at great ocean depths (4000-6000 metres) in distal parts of the oceans where there is mineral or no terrigenous sediment input.
Polymetallic Sulphides	Formed by hydrothermal vents along the central graben of ocean spreading ridges
Cobalt-Crusts	On surfaces of bare rock on seamounts and other seafloor highs, typically 1500-2500 metres deep.

Source: HB, 2019

Table 4: Geological settings and global resources of deepsea mineral deposits

	Nodules	Crusts	SMS
Geological Setting	Abyssal basins	Seamounts	Mid-ocean ridges, island arc systems
Major components	Mn, Ni, Co, Cu	Co, Mn, Cu, REE	Cu, Zn, Pb, Au, Ag
Minor components/byproducts	Mo, Li, REE, Tl, Zr, Ti, Ge	Te, Mo, Bi, W, Ti, Pt, V, Nb, Y	Se, Te, Ge, Bi, As, Cd, Ga, Tl, In
Global resources, mln t	38,900 (Sergeev et al., 2017)	35,100 (Halbech et al., 2017)	4,000
Resources in "Prime zones", mln t	21,100 (Clarion Clipperton Zone)	7,533 (North Pacific Prime Crust Zone)	100 (North Atlantic Equatorial Zone)

Source: HB, 2019

Mr Brekke then provided an overview of the current status of the marine mineral technology as well as a comparison between the grades of major components in deep sea and terrestrial deposits, highlighting the type and nature of metal resources in terrestrial

and deep sea mineral deposits (see **tables 5 and 6**). Mr Brekke informed participants of the main economic drivers of the development of the deep seabed mining industry within national jurisdictions (see **table 7, figures 5 and 6**).

Table 5: Grades of major components in deep sea and terrestrial deposits

	Nodules (Prime Zone - Clarion Clipperton Zone)	Crusts (Prime zone - North Pacific Prime Crust Zone)	Sulphides (Global)	Terrestrial (Large Deposits)
Mn, %	27.2	22.8	-	22-28 (Nikopol) 22 (China)
Co, %	0.3	0.67	-	0.29 (Congo)
Ni, %	1.3	0.42	-	0.69 (Talnakh)
Cu, %	1.2	0.1	5.2	0.68 (Chile)
Zn, %			10.7	13.0 (Australia)
Mo, ppm	590	463	-	170-1080 (China)
∑REE, ppm	813	2,454	-	60,000
Au, ppm	-	-	2.9	6-10 (Witwatersrand)
Ag, ppm	-	-	206	320 (Mexico)

Source: HB, 2019

Table 6: Metal resources in terrestrial and deep sea mineral deposits

	Terrestrial		Deep sea			
	Resources	Reserves	Resources			
			Nodules	Crusts	Sulphides	Total
Co, mln t	25	7.1	84.8	140.2 207.5	-	225.0 - 292.3
Ni, mln t	130	79	374.4	97.7 144.0	-	472.1 - 518.4
Cu, mln t	2,100	720	293.7	21.0	31.2	346.9
Mn, mln t	6,860	620	9,352	4,297		13,649
Au, thous t	130	56	-	-	1.74	-
Zn, mln t	1900 (identified)	200	-	19.0	-	-
REE (REO), mln t	nd	130	17	51.1	-	-
Mo, mln t	14	11	-	12.9	-	-

Source: HB, 2019



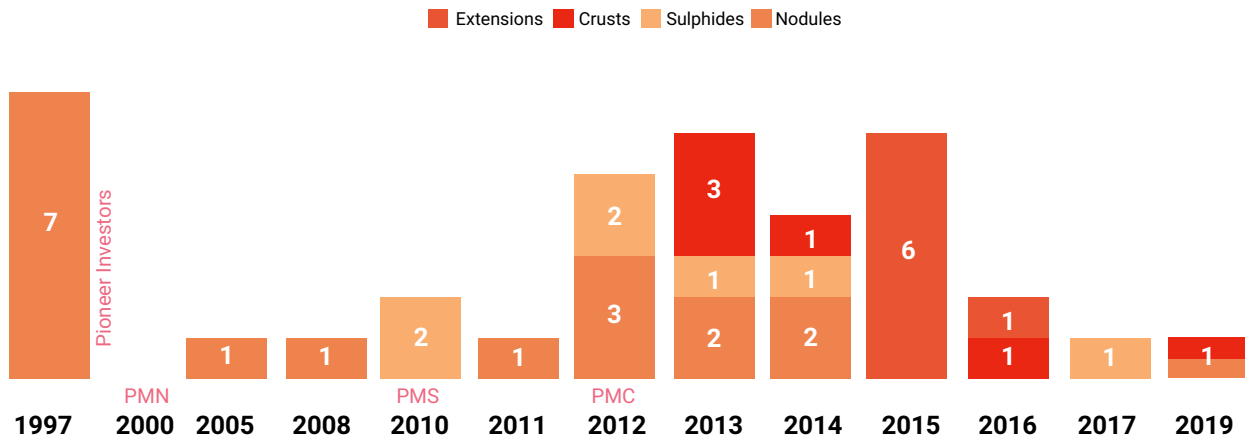
Table 7: Distribution of resources in the Area, in the EEZs and on ECS

Type of Deposit	The Area %	EEZ %	ECS %
Nodules	81	14	5
Crusts	46	44	10
Sulphides	59	39	2

Source: HB, 2019

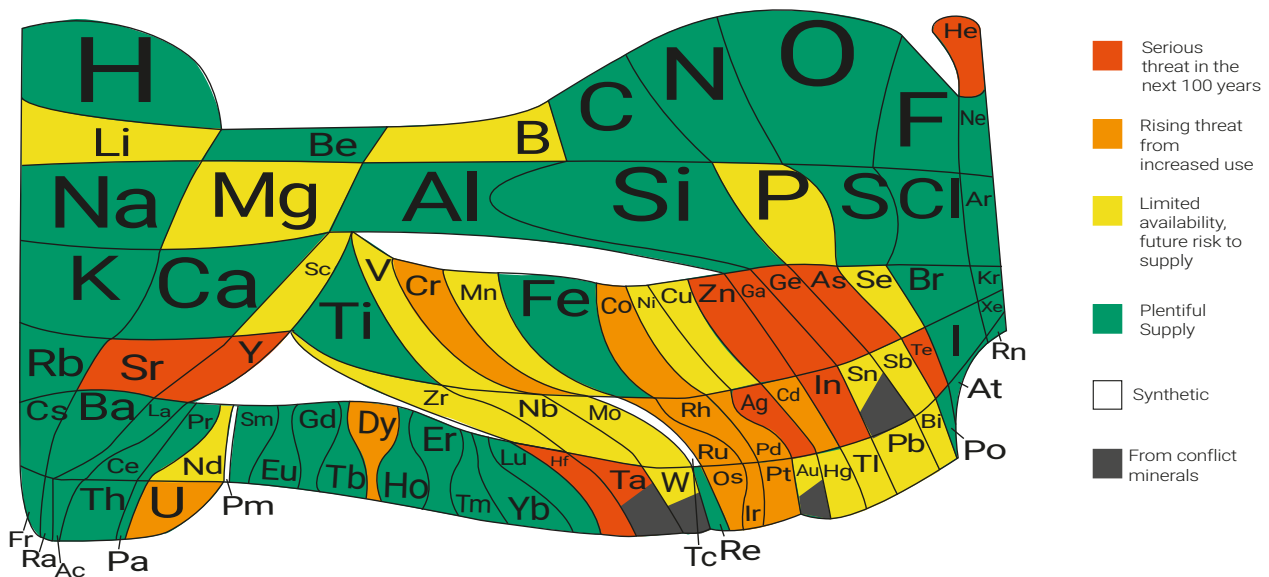
Figure 5: Applications for international exploration contracts (number of applications per year)

(With timing of regulations)



Source: HB, 2019

Figure 6: Current impressions of future demands and supply



Source: the European Chemical Society

Figure 7: Role of Sponsoring States towards different actors

Source: ISA Secretariat, 2019

The third presentation delivered focused on the role and responsibilities of sponsoring States. **Mr Cai** indicated that in accordance with UNCLOS, a State enterprise, or a private or commercial entity wishing to carry out mineral activities in the Area had to be sponsored by a State that is a Party to UNCLOS and de lege, a member of ISA. In so doing, the sponsoring State assumed significant legal responsibilities. One of the requirements to be satisfied lies in the obligation for the sponsoring State to submit a certificate of sponsorship to ISA, in which it declares that its sponsored entity “assumes responsibilities in accordance with article 139, article 153, paragraph 4, and Annex III, article 4, paragraph 4 of the Convention”. The presenter then recalled participants that, at the request of ISA Council, the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea, in 2011, issued an Advisory Opinion on the Responsibilities and Obligations of States Sponsoring persons and entities with respect to Activities in the Area. According to the Advisory Opinion, obligations apply equally to developed and developing States, unless specifically provided

otherwise in the applicable provisions, such as Principle 15 of the Rio Declaration, referred to in the Exploration Regulations, according to which States shall apply the precautionary approach “according to their capabilities”. Responsibilities of a Sponsoring State include those towards different actors, including ISA, sponsored contractor or applicant and other third parties in relation to activities in the Area. (see **figure 7**).

In line with the Advisory Opinion, a sponsoring State, whether a developed or developing State, has two kinds of obligations: namely “due diligence” and “direct” obligations. The “due diligence” obligation is to ensure compliance by sponsored contractors with the terms of the contract and the obligations set out in UNCLOS, the 1994 Agreement and the rules, regulations and procedures of ISA, including the exploration regulations and the exploitation regulations, when adopted. The most important direct obligations of the sponsoring States are: (i) the obligation to assist ISA⁵; (ii) the obligation to apply a precautionary approach as reflected in

⁵ UNCLOS, article 153 (4).



Principle 15 of the Rio Declaration and set out in the Exploration Regulations; (iii) the obligation to apply the “best environmental practice” set out in the Exploration Regulations; (iv) the obligation to adopt measures to ensure the provisions of guarantees in the event of an emergency order by ISA for protection of the marine environment; (v) the obligation to provide recourses for compensation; and (vi) the due diligence obligation to ensure compliance by the sponsored contractor with its obligation to conduct an environmental impact assessment. Mr Cai also provided an overview of the liability regime applying to the sponsoring State in case of failure to fulfil its obligations under UNCLOS and other relevant instruments. In line with the Advisory Opinion, a failure to comply with the primary obligation incurs State responsibility and potentially exposes the sponsoring State to liability for any resulting damage caused. Two main conditions need to be met: first, the existence of a failure by the sponsoring State to carry out its responsibilities under UNCLOS; second, the occurrence of damage. The sponsoring State can be exempted of any liability if it has taken “*all necessary and appropriate measures to secure effective compliance*” by the sponsored contractor with its obligations.

Mr Remaoun, delegate of the Permanent Mission of Algeria to ISA and coordinator of the African Group, delivered a presentation on the contribution of the African Group to the development of the draft exploitation

regulations by ISA. The presentation was articulated around five main parts, namely: (i) the African Group and the principle of the common heritage of mankind, (ii) features of ISA compared to other intergovernmental forums, (iii) ISA draft exploitation regulations, (iv) path towards the adoption of the draft exploitation regulations, and (v) the contribution of the African Group to the development process of the draft exploitation regulations. In introduction, Mr Remaoun provided participants with a historical overview of the participation of the African Group in the work of ISA. The emphasis was placed on the different submissions of the African Group as part of the development process of the draft exploitation regulations which in turn, highlighted the force of proposal and constructive spirit characterizing the contribution of the African Group to the work of ISA. Mr Remaoun underscored the importance for the African Group to the operationalisation of the principle of the common heritage of mankind regardless of the different interests guiding the engagement of respective countries in the work and activities of ISA. Particular mention was also made to the partnership between ISA and the African Union in the context of the implementation of the ADSR Project.

Mr Share, from the Department of Environmental Affairs of the Republic of South Africa delivered a presentation on the Operation Phakisa with a particular emphasis on the measures currently implemented



The African Group and Mr Michael W. Lodge, Secretary-General of ISA, ISA 23rd Session, 2017 Photo: ENB.

by South Africa to ensure protection of the marine environment. In the introduction, Mr Share recalled that pursuant to UNCLOS, if States have the right to exploit their natural resources in compliance with their environmental policies and in accordance with their duty to protect and preserve the marine environment, in Africa, consideration should be given to the 2050 Africa's Integrated Maritime Strategy which aims to "foster more wealth creation from Africa's oceans, seas and inland water ways by developing a thriving maritime economy and realising the full potential of seabed activities in an environmentally sustainable manner". Following an overview of the current threats to the oceans and seas globally, and in the African context, Mr Share highlighted that in South Africa the main challenges faced by the government to ensure integrated and sustainable management of the ocean space while maximising opportunities for economic growth was due to the lack of knowledge, information and data. Further details were then provided to the participants on the context within which the Operation Phakisa project was formed.

Box 2: Section 24 of the Constitution of the Republic of South Africa

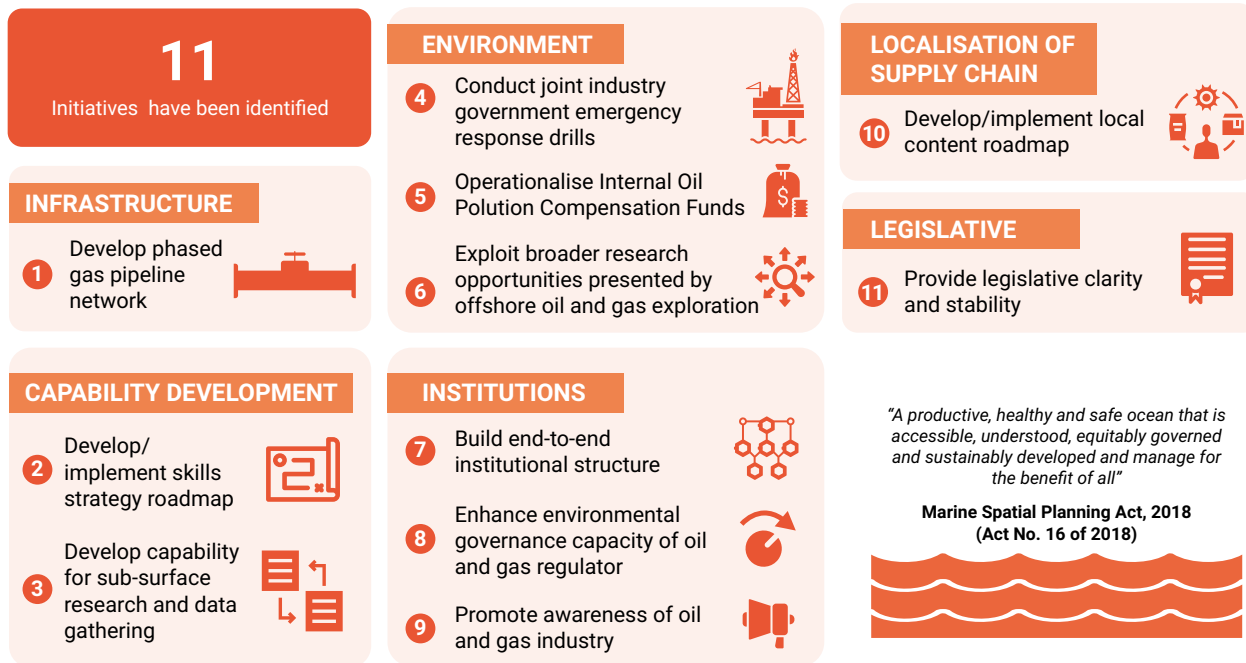
"Everyone has the right

- a) To an environment that is not harmful to their health or well-being; and*
- b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -*
 - i. Prevent pollution and ecological degradation;*
 - ii. Promote conservation; and*
 - iii. Secure ecologically sustainable development and use of natural resource; while promoting justifiable economic and social development"*

Noting the linkage between this project and section 24 of the Constitution of South Africa which enshrines the right to the environment for all (see **box 2**), Mr Share highlighted that Operation Phakisa was initially developed to serve the Oceans Economy which, based on estimates, has the potential to contribute up to R117 billion to the gross domestic product by 2033 and create approximately 1 million jobs in nine different sectors. However, realising high level targets for the Oceans Economy requires two main conditions. First, to realise a GDP contribution of R177 billion by 2033, South Africa will require a real growth rate of approximately 1.82% per annum from 2015.

Second, to realise the creation of 1 million jobs by 2033, South Africa will require a real employment growth rate of approximately 4.9% per annum from 2015. For that, significant investments are needed particularly for infrastructure development (ports), marine manufacturing (shipbuilding), aquaculture and seismic survey. Mr Share also underscored the potentialities attached to the development of the offshore oil and gas industry. It was then indicated that although South Africa has possible resources of 9 billion barrels of oil and approximately 60 trillion cubic feet of gas offshore, uncertainty is still high. Accordingly, the government is committed to create an environment that promotes exploration while simultaneously, maximises the benefits for South Africa. In light of this, a series of initiatives are being implemented to develop offshore oil and gas exploration (see **figure 8**).

In the field of marine environment protection and ocean governance, the Operation Phakisa lies on the vision embedded in the Marine Spatial Planning Act of 2018 (see **box 3**). Particular importance is also given to the need to deliver against the 2030 Agenda for Sustainable Development and foster cooperation amongst African countries to ensure that environmental considerations can be integrated with the need to advance economic opportunities within the ocean space.

Figure 8: Initiatives for offshore oil and gas exploration in South Africa

Source: AS, 2019

Mr Michael W. Lodge, Secretary-General of ISA, delivered a presentation on the requirement set out by UNCLOS for ISA to establish an equitable benefit-sharing mechanism. In introduction, Mr Lodge reminded the participants that pursuant to UNCLOS, the mineral resources of the Area are the common heritage of mankind. This implies that activities in the Area must be carried out for the benefit of mankind as a whole. More specifically, article 140 of UNCLOS requires ISA to provide for the equitable sharing of financial and other economic benefits derived from activities in the Area. Such responsibility lies with the Assembly of ISA which needs to adopt rules, regulations and procedures for this purpose. However, in so doing, the Assembly must take into account recommendations of the Finance Committee⁶. Mr Lodge then raised that few issues that will need to be considered in developing rules for equitable benefit-sharing. First, participants were reminded

that article 140 of UNCLOS refers to "financial and other economic benefits" and that UNCLOS already recognizes various forms of non-monetary benefits that may be derived from activities in the Area. These include mandatory training for personnel from developing countries, capacity development, protection and preservation of the marine environment, increased scientific knowledge from exploration, expansion of the global

Box 3: Extract from the Marine Spatial Planning Act, 2018 of the Republic of South Africa

Marine Spatial Planning Act, 2018 (Act no. 16 of 2018) of the Republic of South Africa

"A productive, healthy and safe ocean that is accessible, understood, equitably governed and sustainably developed and managed for the benefit of all"

⁶ See 1994 Agreement, Annex Sec 9 (7).

mineral resource base and preferential access rights for developing countries through the reserved area system. These are shared directly and through the programmes developed by ISA.

Emphasis was also placed on the fact that once exploitation begins, monetary benefits will flow in the form of payments (royalties or profit-share) made by mining contractors. Mr. Lodge also reminded the participants that the payment regime was currently being developed by the Council. In such context it was important to note that UNCLOS provides limited guidance as to the use of these funds. Although it is indicated in UNCLOS that a portion will be used to meet the administrative expenses of ISA⁷ and that a further portion will be allocated to an economic assistance fund⁸, clarification was still needed on the modalities based on which such fund will have to be established. Mr. Lodge then indicated that remaining funds are available for sharing between States Parties according to “equitable sharing criteria”. In such context, the notion of “equitable sharing” raises some interesting considerations essentially

because equity is a complex idea that resists simple formulations. Mr. Lodge underscored that this principle was strongly shaped by cultural values, by precedent, and by the specific types of goods and burdens being distributed. Mr. Lodge further highlighted that the principle of equity was a central concern in the most basic political decisions and therefore to be fully understood, required that attention be given to contextual details. In the context of activities undertaken in the Area, several issues will need to be addressed. These include: (i) the principles to be used in determining the “claims” that different entities or groups (current or future) will have on the pool of resources that are generated, and (ii) the mechanisms to be used for distributing available funds, including whether distribution should be in the form of direct payments to States or, for example, through the establishment of a global fund used to address deficiencies in the provision of global public goods. Mr. Lodge indicated that in determining equitable sharing criteria, the language of UNCLOS (art. 140) requires that the interests and needs of developing States should be prioritized, which implies

Figure 9: Monetary and non-monetary benefits recognized in Part XI of UNCLOS



Source: ISA Secretariat, 2019

⁷ See UNCLOS, art. 173 (2).

⁸ See UNCLOS, art. 151 (10).



that the objective is to redistribute income or wealth from wealthier States to poorer States. This suggests that shares should be distributed based on some indicator of a State's priority in the redistribution goal, and would, typically, embody some form of progressivity that favours poorer States in the distribution scheme. In light of this, ISA will need to develop specific principles and associated metrics for conceptualizing a hierarchy of needs and equitable shares. Mr Lodge noted that metrics based on population and per capita income, such as those used to determine United Nations budget contributions, could be used. Alternatively, priorities could be based on a composite index combining various well-known and generally accepted development indicators and statistics. These might include, for example, the Human Development Index maintained by the United Nations Development Programme and the World Development Indicators developed by the World Bank. An alternative possibility, which would take into account intergenerational equity, could be to establish a resource fund (like a sovereign wealth fund) for managing and distributing royalties from resource rents over time. In this case, with appropriate restrictions on drawing down the fund's principal and limiting disbursements to the returns earned on that principal, the fund could provide a flow of benefits for generations that follow the cessation of deep sea mining.

The last presentation of Session 3 was dedicated to the question of the independent operation of the Enterprise. After reminding participants that the Enterprise had been established by UNCLOS as an organ of ISA to specifically engage in commercial deep sea mining activities in the Area, **Dr Egede** highlighted that although the Enterprise has to act in accordance with the general policies of the Assembly and the directives of the Council, under UNCLOS it was intended that it should have a certain level of autonomy

in the conduct of its operation. However, as indicated by the presenter, following the entry into force of the 1994 Agreement, the Enterprise became a part of the secretariat of ISA, to have an interim Director-General to be appointed by the Secretary-General of ISA from within the staff of ISA. Dr Egede further highlighted that since the last interim Director-General—who resigned in 2013—no other interim Director-General has been appointed, as required by the 1994 Agreement. However, a Special Representative has been appointed by the Secretary-General of ISA in 2018 to negotiate a draft proposal regarding a joint venture for the Enterprise with the Government of Poland. He pointed out that the 1994 Agreement anticipates two alternate trigger events for the independent operation of the Enterprise, namely the receipt by the Council of an application for a joint-venture operation with the Enterprise (pre-exploitation trigger) or upon the approval of a plan of work for exploitation for another entity (post-exploitation trigger). Dr Egede, in his presentation, further examined certain key issues arising with regard to the independent operation of the Enterprise, such as the nature of joint ventures arrangements; the meaning of “sound commercial principles”; the need to avoid the tension between “efficient running of the Enterprise and its politicisation”, as well as governance, liability, funding, transfer of technology and immunity issues. He pointed out that based on the 1994 Agreement, which eventually envisages the independent functioning of the Enterprise, the African Group put forward in 2018 a proposal for the operationalisation of the Enterprise so it could function independently from the Secretariat, carry out activities in the Area and thus give effect to the implementation of the common heritage of humankind, as required by UNCLOS and the 1994 Agreement. Since then, the operationalisation of the Enterprise is a recurrent item on the ISA Assembly's agenda.

SESSION 4

Environmental management of deep seabed mineral resources

Presentations

President: Mr Molefe Morokane, Department of Mineral Resources, South Africa

Mrs Lowri Griffiths, Head of the Maritime Policy Unit, Foreign and Commonwealth Office, United Kingdom of Great Britain and Northern Ireland

"Effective protection of the marine environment from activities in the Area"

Dr Samantha Smith, Head of Sustainability & External Relations, GSR

"Environmental obligations in DSM context: perspective of a contractor"

The role of ISA in relation to the protection of the marine environment in the Area was developed by Mrs Griffiths who highlighted that the main responsibilities of the Organization in that regard were embedded in article 145 of UNCLOS, the 1994 Agreement and the rules, regulations and procedures of ISA. In so doing, **Mrs Griffiths** indicated that the LTC has the responsibility to develop and implement procedures for determining, on the basis of best available scientific and technical information, whether proposed activities in the Area would have serious harmful effects on vulnerable marine ecosystems. The presenter also underscored that clear responsibilities were assigned to contractors who are required to gather environmental baseline data or provide a description of programmes for environmental baseline studies, against which to assess the likely effects of proposed

activities on the marine environment. Contractors are also required to cooperate with ISA in implementing programmes for environmental monitoring and evaluation. Participants were also reminded that at its 19th session, the LTC adopted *Recommendations for the Guidance of Contractors for the assessment of possible environmental impacts arising from exploration for marine minerals in the Area*⁹ which were reviewed in 2019¹⁰. Further information was also shared with the participants in relation to the development of the draft Exploitation Regulations and the importance of establishing clear standards and guidelines for environmental assessment of deep-seabed mining. On the development of Regional Environmental Management Plans (REMPs) by ISA, Mrs Griffiths recalled that the first REMP has been adopted for the Clarion Clipperton Zone in 2012¹¹ and that additional REMPs were under development

⁹ See ISBA/19/LTC/8.

¹⁰ See ISBA/25/LTC/6.

¹¹ See ISBA/18/C/22.

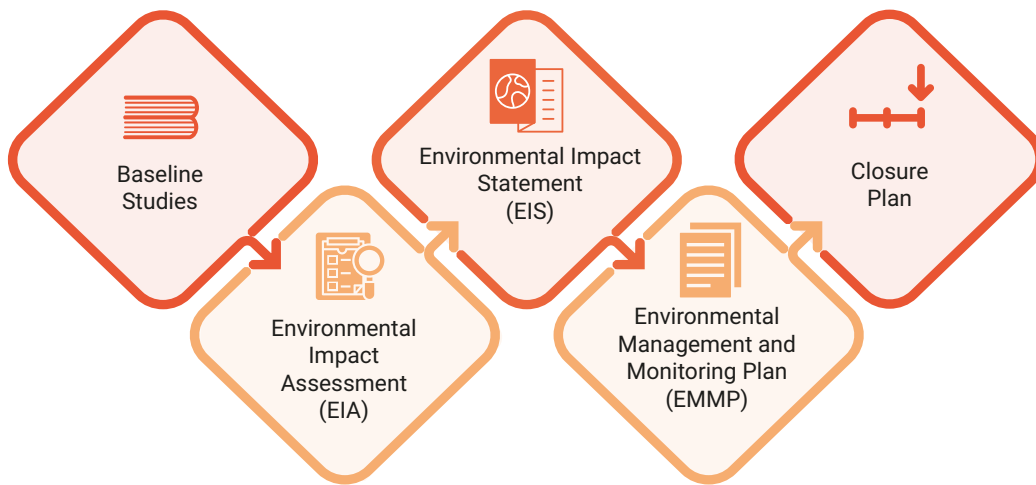


by ISA in priority areas identified by the ISA Council.

Invited to present on the environmental obligations of contractors, **Mrs Smith** highlighted the importance of gathering information for baseline studies in general and in particular, in the context of any further application for exploitation contract in the

Area. It was then indicated that such studies play an essential role for the development of any Environmental Impact Assessment (EIA) and Environmental Impact Statement (EIS). Mrs Smith also underscored the critical nature of such information for contractors who are responsible for developing the Environmental Management and Monitoring Plan (EMMP) and the closure plan (see **figure 10**).

Figure 10: Required steps for an exploitation contract application



Source: SS, 2019

SESSION 5

Management and dissemination of geological, mineral and environmental information

Presentations

President: Mr Harald Brekke, Vice-Chair of the Legal and Technical Commission, ISA, Norway

Prof Theophile Ndougsa Mbarga, Legal and Technical Commission, ISA, Cameroon
"Geological, mineral and environmental data as a critical tool to inform decision-making processes, investment and governance of mineral activity"

Prof Pedro Madureira, Legal and Technical Commission, ISA, Portugal
"Available data and role of ISA in sharing environmental information"

Session 5 was dedicated to the question of management and dissemination of geological, mineral and environmental information. The first presentation was delivered by Professor Mbarga who highlighted the importance of geo-scientific, mining and environmental data and knowledge in making investment and governance decisions concerning mining activities in the Area. In that respect, the responsibility of ISA to coordinate marine scientific research in the Area and disseminate the results of such research when available was highlighted (UNCLOS, art.143 (2)). **Professor Mbarga** also indicated that contractors were required to provide ISA, prior to the approval of any plan of work for exploration, some environmental data and information (speed and direction of winds,

salinity and water temperature, biogenesis)¹² and have to take necessary measures to monitor the environment and report annually to the Secretary-General of ISA¹³. Further, contractors are required to submit annually, a report to the ISA Secretary-General, containing all relevant geological, mining and environmental data and information collected¹⁴. At expiration of the contract, contractors are also expected to provide, if not already done, all relevant geological, geophysical, geochemical and environmental data and information including all technical, economic and environmental reports¹⁵. In conclusion, Professor Mbarga underscored the importance to create in the context of the efforts invested at the African level, the necessary mechanisms for the collection

¹² See ISBA/19/C/17, Annex II, Section II, para.19(b).

¹³ See ISBA/19/C/17, Annex IV, Section 5.

¹⁴ See ISBA/19/C/17, Annex IV, Section 10.

¹⁵ See ISBA/19/C/17, Annex IV, Section 11.



of geoscientific, mining and environmental data and information. This could be done by pooling efforts of several African countries. In so doing, these African countries could then create the enabling conditions for stimulating private investment in data collection and the establishment of mineral resource database systems which could then constitute foundation for the development of Centres of Excellence and associated expertise in Africa when it comes to the collection of geoscientific, mining and environmental data and information.

Invited to deliver a presentation of the available data collected through exploration of marine mineral resources and the role of ISA in sharing those in the public domain, **Professor Madureira** underscored the critical importance of such data for the formulation by ISA, of rules, regulations and procedures particularly in relation to the protection and preservation of the marine environment. . According to the regulations on prospecting and exploration for mineral resources in the Area, *“Data and information that is necessary for the formulation by the Authority of rules, regulations and procedures concerning protection and preservation of the marine environment and safety, other than proprietary equipment design data, shall not be deemed confidential.”* Professor Madureira also indicated that dissemination of such data could play a key role in promoting the effective participation of developing States as provided by UNCLOS (art.148). The presenter also recalled that pursuant to Part V of the Regulations on prospecting and exploration for mineral resources in the Area and more specifically, Regulation 32 (Regulations of Prospecting and Exploration for polymetallic

nodules) or 34 (Regulations of Prospecting and Exploration for polymetallic sulphides and cobalt-rich ferromanganese crust), contractors have the obligation:

“1 - (...) to gather environmental baseline data and to establish environmental 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 recommendations issued by the Commission may, inter alia, list those exploration activities which may be considered to have no potential for causing harmful effects on the marine environment. The contractor shall cooperate with the Authority and the sponsoring States or States in the establishment and implementation of such monitoring programme.

2- The contractor shall report annually in writing to the Secretary-General on the implementation and results of the monitoring programme referred to in paragraph 1 and shall submit data and information, (...) taking into account any recommendations”.

Professor Madureira then highlighted the efforts made by ISA in making publicly available the environmental data and information gathered by exploration activities including through the specifications issues in the *Recommendations of the LTC for the Guidance of Contractors on the content, format and structure of annual reports*¹⁶, the Deep Data ISA database and in line with the Strategic Plan of ISA for 2019-2023¹⁷.

¹⁶ See ISBA/21/LTC/15.

¹⁷ See ISBA/24/A/10.

SESSION 6

Enabling conditions for capacity-building opportunities for African States

Presentations

President: Mr Mosa Mabuza, Chief Executive Officer, Council for Geoscience, South Africa

Mr Chapi Mwango, Chief, Contract Management Unit, ISA
"The Contribution of ISA to capacity building of African States"

Ms Safiyya Sedick, Taxonomist, Anchor Environmental Consultants, South Africa
"Perspective of an ISA trainee"

The role and contribution of ISA to building the capacity of African States in deep sea mining and marine science matters were presented by **Mr Mwango**. He highlighted that all 47 African members of ISA were eligible to benefit from the capacity-building programmes and initiatives implemented by ISA. Emphasis was placed on the three main programmes, namely, the Contractor Training Programme, the Endowment Fund for Marine Scientific Research Programme and the Internship Programme. It was shown that to date, of the total places, 33% for the Contractor Training programme and 40% for Endowment Fund for Marine Scientific Research were taken up by nationals of African States; no African nationals have participated in the internship programme. Mr Mwango highlighted the importance given to capacity building and training by ISA, as reflected in the ISA Strategic Plan for 2019-2023¹⁸. He further informed participants

that an international workshop on capacity-building will be held by ISA in early 2020, at which developing States will be invited to contribute to identifying their specific capacity-building needs. He concluded by recalling the importance of African States to continue to promote the initiative to establish African Regional Centres of Excellence for Deep Sea Mining for, amongst others, pooling of scarce resources, as repositories of knowledge and concentration of hi-tech equipment and laboratories. Such centres would facilitate building on and sustaining the training and experience delivered through the ISA capacity-building programmes.

The last presentation of the workshop was delivered by a former trainee of ISA (Contractor Training Programme), **Ms Safiyya Seddick**, currently marine invertebrate taxonomist for Anchor Environmental Consultants in South Africa. She shared with the participants her

¹⁸ See ISBA/24/A/10.



experience on board the research vessel R/V Kilo Moana in 2018, for a duration of four weeks, as part of a survey team comprising researchers from the Korea Institute of Ocean Science and Technology (KIOST) and the Korean Ministry of Oceans and Fisheries (MOF) conducting research for the collection of baseline environmental, geographical and biological data in the Clarion-Clipperton Zone in the Pacific Ocean. During her training, Ms Seddick had the opportunity to learn

how to use several survey instruments that include box core, deep sea towed camera and a baited trap before deployment. She also performed activities such as recording of data using deep camera tows and culturing zooplankton for toxicity tests. Ms Seddick also indicated that her experience provided her with a unique opportunity to expand problem solving skills which proved to be essential in the pursuit of her career.



Final session & synthesis of recommendations

The last part of the workshop was dedicated to a break-out session structured around the following three questions:

1. How can exploration and exploitation activities undertaken in the Area contribute to Africa's Blue Economy?
2. What are the capacity-building needs of African States to participate in activities in the Area?
3. How the participation of African States can be increased in activities undertaken in the Area?

The participants were divided in three groups and provided with 45 min with each facilitator to discuss the questions. At the end of the session, each facilitator reported the main elements raised by the three groups. The outcomes of these discussions are summarised below.

1. How can exploration and exploitation activities undertaken in the Area contribute to Africa's Blue Economy?

- Importance to develop strong regulatory frameworks that could facilitate participation of African governments in exploration/exploitation activities in the Area;
- By providing the data and scientific information and knowledge needed to African States to progress with implementation of their strategic objectives in support of national/regional Blue Economy policies creating incentives to develop scientific research programmes involving African nationals;
- Position the African continent strategically to ensure long-term economic returns for national economies (including through establishment of consortium);
- By creating incentives for African states to develop mineral processing facilities and value chains

The main challenges identified were:

- The lack of awareness of African decision-makers for potential benefits associated with exploration activities in the Area;
- The need to adjust national policies/strategies to include deep seabed exploration and exploitations;
- Importance of operationalizing the provisions of UNCLOS for the transfer of technology as a prerequisite for African States to be able to take advantage effectively of exploration and exploitation activities in the Area.



2. What are the capacity-building needs of African States to participate in activities in the Area?

- Need to build/develop expertise of African nationals in very technical fields;
- Development of geological skills to improve assessment of potential resources on continental shelves and in the Area;
- Development of ocean/Blue Economy policy skills to support decision-making processes in country;
- Development of scientific expertise and infrastructures to support establishment of an African scientific leadership.

The main challenges identified were:

- The lack of cooperation amongst African States and with international/regional organisations to develop scientific skills of African nationals;
- The low political awareness of potential benefits associated with exploration and exploitation of deep seabed minerals on the continental shelves and in the Area;
- Establish enabling conditions at national and regional levels to retain skilled personnel;
- Improve visibility of opportunities for the private sector to support government's efforts in developing Blue Economy projects.

3- How the participation of African States can be increased in activities undertaken in the Area?

- Importance to draw awareness of African leaders on the role deep seabed exploration/exploitation can play for the African continent;
- Need for African Union and African States to investigate what could be the role of the African Continent in processing seabed minerals.

The main challenges identified were:

- The cost of attendance/participation of African States to ISA annual sessions;
- The lack of technology and equipment to engage in scientific activities in the Area;
- The need to mobilise resources and private sector's interest in partnering with African States to develop engagement in the Area.

Concluding remarks

Closing Address from Ambassador Mathu Joyini, Deputy Director-General, Diplomatic Training, Research and Development (DIRCO), Republic of South Africa

His Excellency, SG of ISA, Michael Lodge,
CEO of the Council for Geoscience SA, Mr
Mosa Mabuza, Presenters, participants,

On behalf of the South African Government
and the Department of International
Relations and Cooperation, I wish to thank the
International Seabed Authority (ISA) for giving
us the opportunity to host this workshop in
partnership with them.

I am sure my fellow African representatives
would agree that this was most useful.

We are of one mind that the amount and
quality of information shared with us is
incredible and has gone a long way in
inculcating deeper understanding of the
1982 Convention, the ISA and its programme
of work.

The encouragement from ISA to have African
States fully participating in deep seabed
mining has to be commended. We are seeing
concrete programs being put in place to do
that; the ADSR workshop being such.

It is now for us as African States to work
through what has been presented to us and
have concrete strategies for increasing our
meaningful participation. Let us not forget
that Africa has been ably represented at

the United Nations and at the ISA. The
African group has done a lot to ensure that
the regulatory regime, mechanisms and
instruments for deep seabed mining that are
being developed advances and protects the
interests of African States.

Some of our African colleagues and experts
are in this room with us, Prof Edwin Egede,
Prof Theophile Mbarga, Mr Mehdi Remaoun
who is coordinating the African Group and
others. Let's give them a round of applause.
They are doing a great job.

To the SADC representatives, thank you for
being here. Let us continue our work and
explore how we can meaningfully work
together in increasing our participation in
deep seabed mining.

To the South African Delegation, you have
done well. You have stayed the course, and I
believe we have a firm foundation to continue
the work.

Please allow me to thank members of the
Diplomatic Academy that worked tirelessly
to ensure that this work is a success. Ms
Nomfundo Zulu has been central in working
with the Secretariat to ensure we are all here.
Ms Tinyiko Kumalo; Mr Anesh Maistry, and Mr
Avumile Dlakavu, thank you.

An equal thank you goes to the staff of ISA
that have been working with us to organise
the workshop. Dr Marie Bourrel-McKinnon,
you have been great. Mr Chapi Mwango; Mr
Yongshen Cai, Ms Talatu Akindolire and Ms
Shanique Gregory, thank you to all of you.
You were essential to the success of both
workshops.

I want to end, by once more expressing our
gratitude to the Secretary General, Mr Michael



Lodge and the ISA for this collaboration, and, of course, our partners; the AU and NORAD. It has been a wonderful experience and learning process. I thank you.

Closing Remarks from Michael W. Lodge, Secretary-General of the International Seabed Authority

I would like to thank everyone, participants and presenters, for their contributions over the past two days.

Perhaps we were not so many in number, but it is clear from the way the discussions have gone that the right people were here.

We benefited from excellent presentations, good questions and a high level of interest. I was particularly impressed by the discussions that took place in the small working groups and the recommendations that emerged.

It is very important to maintain the contacts that have been made this week, to continue the conversation and to add to the recommendations. As I mentioned at the

beginning, this is the second workshop in a series that is intended to result in a holistic set of recommendations from the African continent. We will continue to pull these together as they emerge and share them with all participants in the project.

As we do so, we should keep in mind the major objectives behind the ADSR project, which I believe have been re-affirmed by this workshop:

- We need to find the best way to realise the Common Heritage of Mankind for African States and African people.
- It is timely for Africa to look to the sea for resources and development opportunities.
- The cost of missed opportunity is very high.

On this basis, I do believe that the second ADSR workshop has been a success.

I hope that we can continue to work together going forward, and I would like to personally assure this group of countries of the ongoing support of ISA in meeting your objectives.

I look forward to our future engagement and hope to see many of you in Kingston, Jamaica in July 2019.

List of boxes, figures and tables

Boxes

1	Extracts from Regulation 16 of the Regulations for prospecting and exploration for Polymetallic Nodules and Polymetallic Sulphides
2	Section 24 of the Constitution of the Republic of South Africa
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5	Grades of major components in deep sea and terrestrial deposits
6	Metal resources in terrestrial and deep sea mineral deposits
7	Distribution of resources in the Area, in EEZs and on ECS



Agenda

16 May 2019

9:00 – 9:30	Registration
9:30 – 10:30	<p>Welcoming Address H.E Mathu Joyini, Deputy Director-General, Diplomatic Training, Research and Development (DIRCO)</p> <p>Opening Address and presentation of workshop programme and objectives Mr Michael W. Lodge, Secretary-General, International Seabed Authority</p> <p>Remarks Mr Paal Bjørnstad, Deputy Chief of Mission and Minister Counsellor, Embassy of Norway to South Africa</p> <p>High Commissioner Lumka Yengeni, Permanent Representative of the Republic of South Africa to ISA and President of ISA Council</p> <p>Mr Thabo Mokoena, Director-General, Department of Mineral Resources (DMR)</p>
10:30–11:00	<i>Morning Tea</i>
Session 1	<p>The United Nations Convention on the Law of the Sea and the 1994 Agreement President: Mr Michael W. Lodge, Secretary-General, ISA</p>
11:00 – 11:30	<p>Mr Michael Shewchuk, Legal Officer, United Nations Division for Ocean Affairs and the Law of the Sea (DOALOS)</p> <p>“Legal Regime Governing the Exploitation of Resources and Preservation of the Marine Environment”</p>
11:30 – 12:00	<p>Dr Marie Bourrel-McKinnon, Senior Policy Officer – Special Assistant to the Secretary-General, ISA</p> <p>“The International Seabed Authority: Roles and Functions”</p>
12:00 – 12:30	<p>Dr Edwin Egede, Reader in International Law and International Relations, Cardiff University</p> <p>“The Outer Limit of the Continental Shelf in Africa: Present Situation and Prospects”</p>
12:30 – 13:00	<p>Prof Patrick Vrancken, Nelson Mandela University, South Africa</p> <p>“Content and achievements of UNCLOS and its Significance for African States”</p>
13:00 – 14:00	<i>Lunch</i>
14:00 – 14:30	<p>Prof Pedro Madureira, Legal and Technical Commission, ISA, Portugal</p> <p>“The Mechanism of “Reserved Areas”: Overview and Practical Implications”</p>

14:30 – 14:45	General Discussion
Session 2	Increased Regional and International Cooperation in Support of the Sustainable Development of Africa's Blue Economy
	President: Mr Stephane Mohale, Chief Director, Mineral promotion and international coordination, Department of Mineral Resources, South Africa
14:45 – 15:15	Mr Eliah Ralushai, Senior Geologist, Council for Geoscience, South Africa "Role of the Mining Industry to Support the Development of the National Blue Economy"
15:15 – 15:45	<i>Afternoon tea</i>
15:45 – 16:15	General Discussion

17 May 2019

Session 3	Prospection, Exploration and Exploitation on Continental Shelves and in the Area
	President: Mrs Lindiwe Mekwe, Acting Chief Executive Officer, Petroleum Agency, South Africa
9:00 – 9:30	Mr Christopher Brown, Legal Expert, Consultant "The Legal Framework for Activities in the Area: Transitioning from Exploration to Exploitation"
9:30 – 10:00	Mr Harald Brekke, Legal and Technical Commission, ISA, Norway "Mineral Resources in the Area and Current Status of Marine Mineral Technology"
10:00 – 10:30	Mr Yongsheng Cai, Senior Legal Officer, ISA "Role and Responsibilities of Sponsoring States"
10:30 – 11:00	Mr Mehdi Remaoun, Coordinator of the African Group, Permanent Mission of Algeria to the International Seabed Authority "Contribution of the African Group to the Development of ISA's Mining Code"
11:00 – 11:30	<i>Morning tea</i>
11:30 – 12:00	Mr Andre Share, Department of Environmental Affairs, South Africa "Marine protection - African context - South African perspective"
12:00 – 12:30	Michael Lodge, Secretary-General, ISA "Role of the ISA in Ensuring the Equitable Sharing of Financial and Other Economic Benefits from DSM"
	Prof Edwin Egede, Reader in International Law and International Relations, Cardiff University "Independent Operation of the Enterprise: Perspectives and Challenges"



12:30 – 14:00	<i>Lunch</i>
Session 4	Environmental Management of Deep Seabed Mineral Resources
	President: Mr Molefe Morokane, Department of Mineral Resources, South Africa
14:00 – 14:30	Mrs Lowri Griffiths, Head of the Maritime Policy Unit, Foreign and Commonwealth Office, United Kingdom of Great Britain and Northern Ireland “Effective Protection of the Marine Environment from Activities in the Area”
14:30 – 15:00	Mrs Samantha Smith, Head of Sustainability and External Relations, GSR “Environmental Obligations in DSM Context: Perspective of a Contractor”
Session 5	Management and Dissemination of Geological, Mineral, Environmental Information
	President: Mr Harald Brekke, Legal and Technical Commission, ISA.
15:00 – 15:30	Prof Thèophile Ndougsa Mbarga, Legal and Technical Commission, ISA, Cameroon “Geological, Mineral and Environmental Data as a Critical Tool to Inform Decision-Making Processes, Investments and Governance of Mineral Activities in the Area”
15:30 – 16:00	<i>Afternoon tea</i>
16:00 – 16:30	Prof Pedro Madureira, Legal and Technical Commission, ISA, Portugal “Available Data and Role of ISA in Sharing Environmental Information”

18 May 2019

Session 6	Enabling Conditions for Capacity Building Opportunities for African States
	President: Mr Moza Mabuza, Chief Executive Officer, Council for Geoscience, South Africa
9:00 – 9:30	Mr Chapi Mwango, Chief, Contract Management Unit, ISA “The Contribution of ISA in Building the Capacity of African States”
9:30 – 10:00	Ms Safiyya Seddick, Taxonomist, Anchor Environmental Consultants, South Africa “Perspective of an ISA Trainee”
10:00 – 10:30	<i>Morning tea</i>

<p>10:30 – 12:00</p>	<p>Breakout Sessions</p> <p>Topics</p> <ul style="list-style-type: none"> • How can exploration and exploitation activities undertaken in the Area contribute to Africa’s Blue Economy? Facilitator: Dr. Marie Bourrel-Mckinnon, Senior Policy Officer, Special Assistant to the Secretary-General, ISA • What are the capacity-building needs of African States? Facilitator: Mr Chapi Mwangi, Chief, Contract Management Unit, ISA • How to ensure increased participation of African States in activities undertaken in the Area? Facilitator: Mr Molefe Morokane, Department of Mineral Resources, South Africa
<p>12:00 – 12:30</p>	<p>Synthesis and Recommendations</p>
<p>12:30 – 13:00</p>	<p>Closing Ceremony</p> <p>Mr Michael W. Lodge, Secretary-General, ISA</p> <p>H.E Ambassador Mathu Joyini, DIRCO</p>
<p>13:00 – 14:00</p>	<p><i>Lunch</i></p>



List of participants

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Gbemado-Medecy HESSOU	Ministry of Mines and Energy, Liberia
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Patrick VRANCKEN	Nelson Mandela University
H.E. Lumka YENGENI	Permanent Representative of the Republic of South Africa to ISA and President of ISA Council for the 25 th Session



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