

Photo: BGR

03

IMPLEMENTATION & REVIEW OF THE STRATEGIC PLAN 2019 - 2023



Implementation and review of the Strategic Plan 2019 - 2023

The Strategic Plan of ISA for the period 2019-2023 was developed in consultation with ISA Members and other relevant stakeholders and adopted by the Assembly at its 24th session in July 2018.

The Plan includes nine strategic directions, which have guided the work of ISA since 2019.

Actions necessary to achieve the objectives of the Strategic Plan and corresponding expected outputs have been defined in the High-Level Action Plan adopted by the Assembly at its 25th session in July 2019.

This Chapter presents the progress made under each strategic direction between July 2022 and June 2023.

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SD 1. Realize the role of ISA in a global context

Contribution of ISA to the 2030 Agenda for Sustainable Development

ISA is committed to ensuring that its programmes and initiatives contribute to the 2030 Agenda for Sustainable Development and its constituent Sustainable Development Goals (SDGs), particularly SDG 14 (Life below water). In 2021, the Secretary-General of ISA commissioned an independent report to review the contribution of ISA to the achievement of the 2030 Agenda. Documentary evidence and interviews with experts and individuals from a broad

range of backgrounds representing the full spectrum of ISA stakeholders concluded that ISA contributes meaningfully to 12 of the 17 SDGs (**Figure 5**).

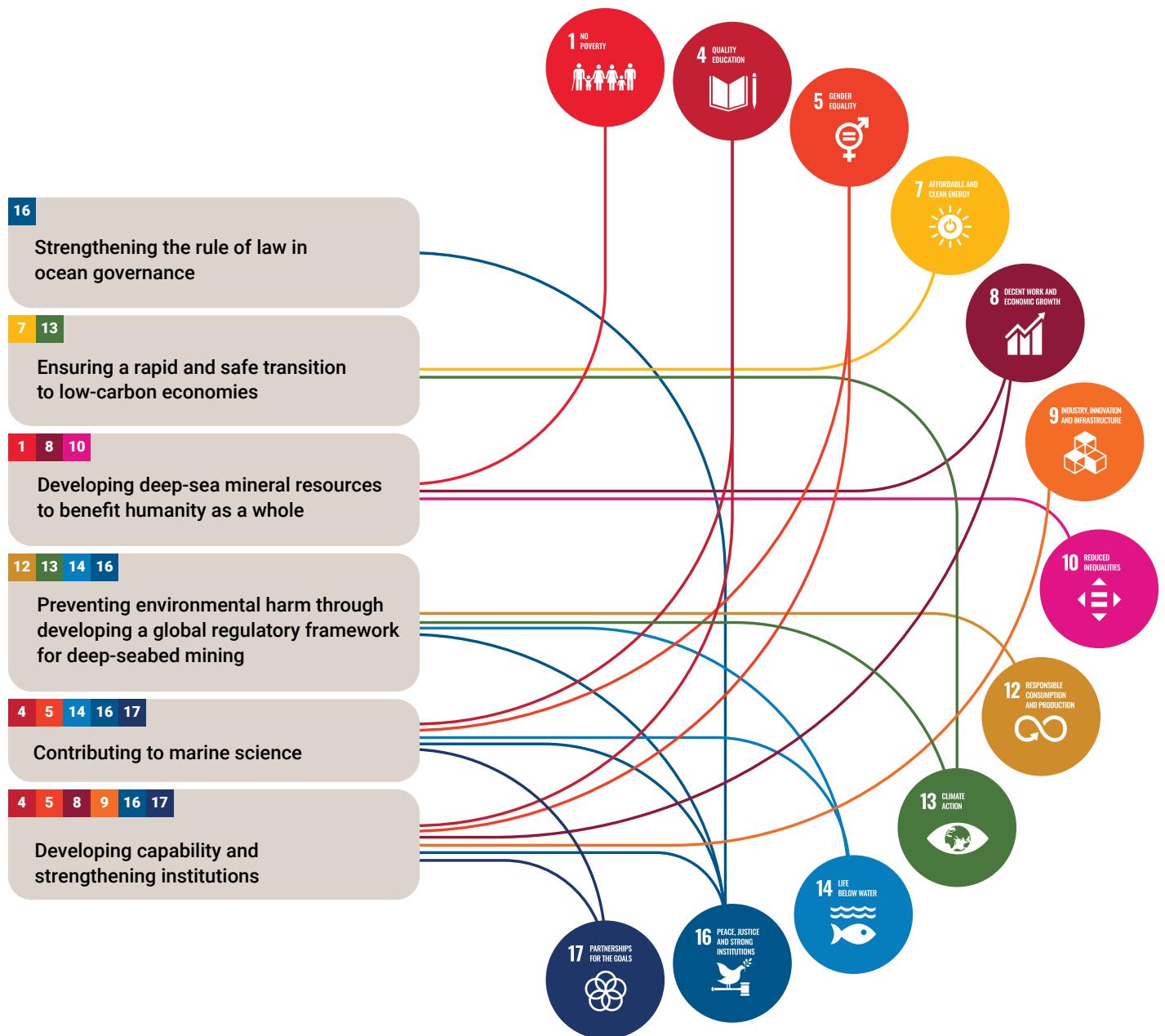
The central role of ISA in ocean governance was also underscored at the high-level commemorative special session organized by the United Nations General Assembly on 8 December 2022 to mark the 40th anniversary of the adoption of UNCLOS.¹⁷

15 ISBA/24/A/10.

16 ISBA/25/A/15.

17 ISA. 2022. Press release: ISA Secretary-General joins the 77th session of the UNGA commemorating the 40th Anniversary of UNCLOS. Available at: <https://www.isa.org.jm/news/isa-secretary-general-joins-77th-session-unga-commemorating-40th-anniversary-unclos>.

Figure 5. ISA currently contributes to 12 of the 17 SDGs through the implementation of its mandate



40th anniversary of the adoption of UNCLOS

As 2022 marked the 40th anniversary of the opening for the signature of UNCLOS in Montego Bay, Jamaica, ISA organized several events and participated in many more throughout the year.

These included the presentation of statements – in person or through recorded video or video link – at



“As the international organization tasked with organizing and controlling activities in the Area, protecting the marine environment, and promoting and encouraging marine scientific research for the benefit of all, ISA is a fundamental pillar of the ocean governance architecture.

The extraordinary success of UNCLOS was to establish a system for the shared management of the global commons that strikes an effective balance between the rights of all States to explore and exploit natural resources and the interests of the international community to protect and preserve the marine environment and share the benefits from natural resources.

ISA represents a collective vision of how the international community could come together to manage a shared space and a shared resource for the benefit of all humanity. For that reason, its unique role and mandate place it, more than ever, at the center of any discussion about the effectiveness of multilateralism and the rule of law for the global ocean.”

**H.E. Mr. Michael W. Lodge,
Secretary-General, ISA**

UNGA, 8 December 2022



“France has been and remains a strong supporter of ISA, whose unique mandate has, to date, made it possible to preserve the common heritage of humanity, that is the Area and its resources.

Through the issuance of its exploration contracts, [ISA] has also made a useful contribution to the acquisition of fundamental knowledge to face today’s global challenges.”

**H.E. Mr. Nicolas De Rivi re, Permanent
Representative of France to the United Nations**

UNGA, 8 December 2022

various commemorative events, including during the ISA Assembly in Kingston (August 2022), the ASEAN Regional Conference in Jakarta (November 2022), the United Nations General Assembly in New York (December 2022) and the Indemer Conference in Monaco (May 2023).



“Four decades ago, the world took a vital step to bring governance and order to the ocean and its seas.

Today, we gather to mark the 40th anniversary of the adoption of UNCLOS.

Its near-universal acceptance reflects the fundamental importance of this landmark convention and its legal framework and related instruments to countries around the world.

From ensuring the sustainability, conservation and management of the world’s fisheries.

To protecting and preserving the marine environment. To delineating the outer limits of the continental shelf beyond 200 nautical miles.

To sustainably and equitably managing mineral-related activities in the international seabed area.”

**H.E. Mr. Antonio Guterres,
Secretary-General, United Nations**

UNGA, 8 December 2022



“We welcome the substantial contribution that ISA makes to the SDGs, directly contributing to 12 of them.

Developing countries, especially small island States, have welcomed the significant boost to their capacity through the work of ISA. They enjoy better access to critical data. Through these, they are better able to shape new frameworks and regulations.

Over this decade of ocean science as we expand our knowledge of the ocean, ISA played a crucial role in this effort.

The 40th anniversary is a good opportunity to undertake a stress test – a general health check. The ISA report of 2021 provided a helpful assessment of the significant progress and growing institutional strengths of ISA. I congratulate the Secretary-General and his staff for their excellent work.”

**H.E. Mr. Satyendra Prasad, President,
27th session of the ISA Assembly**

UNGA, 8 December 2022

The first-ever Women in the Law of the Sea (WILOS) conference in September 2022 in New York was particularly important.¹⁸ It was organized by ISA with the support of the Permanent Missions of Singapore and Malta and counted with the participation of the Honorable Fekitamoeloa Katoa 'Utoikamanu, Minister of Foreign Affairs and Minister for Tourism of Tonga, Mr. Miguel de Serpa Soares, Under-Secretary-General for Legal Affairs and Legal Counsel, Ms. Rabab Fatima, Under-Secretary-General and High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island States, H.E. Ms. Vanessa Frazier, Permanent Representative of Malta to ISA and the United Nations and President of the 32nd Meeting of the States Parties to UNCLOS, H.E. Mr. Burhan Gafoor, Permanent Representative of Singapore to the United Nations, H.E. Ms. Ana Paula Zacarias, Permanent Representative of Portugal to the United Nations, Mr. Odd-Inge Kvalheim, Deputy Permanent Representative of Norway to the United Nations and H.E. Ms. Mathu Joyini, Permanent Representative of South Africa to the United Nations.

The conference was facilitated by Judge Maria Teresa Infante Caffi, International Tribunal for the Law of the Sea, and Dr. Annick de Marffy-Mantuano, former President of the Institut du droit économique de la mer and former Director of the Division for Ocean Affairs and the Law of the Sea of the United Nations. The conference was structured around nine panels featuring 45 women legal experts and practitioners from 33 countries in Eastern and Western Europe, North America, the Asia-Pacific, Africa, Latin America and the Caribbean. Experts and participants addressed current and emerging issues pertaining to the implementation of UNCLOS, such as maritime delimitations, military uses of the sea, marine scientific research and transfer of technology, protection of the marine environment, sustainable management of the ocean space and its resources within and beyond national jurisdictions, settlement of disputes, the opportunities offered to developing States by UNCLOS and how to enhance the participation of women in the law of the sea.



¹⁸ ISA. 2022. Women in the Law of the Sea conference. Available at: <https://www.isa.org.jm/events/women-in-the-law-of-the-sea-conference>.



“The importance of women to the rule of law in the ocean cannot be underestimated, as demonstrated by the strong line-up of speakers for this conference. Singapore is strongly committed to the advancement of women and gender equality, and it is encouraging that various

Singaporean women experts in the law of the sea have made their mark in prominent and impactful ways. The BBNJ Intergovernmental Conference for the elaboration of a new international legally binding instrument under UNCLOS, for instance, is being presided over by a Singaporean woman—our Ambassador for Oceans and Law of the Seas Issues, Rena Lee.

The treaty negotiated in the BBNJ Intergovernmental Conference will contribute significantly to the conservation and sustainable use of our global commons. This is an event under ISA, which has been a key pillar of the legal order for the ocean under UNCLOS. Since its establishment, ISA has faithfully discharged its mandate of organizing and controlling all mineral resources-related activities in the Area. In doing so, it has materially contributed to the realization of Ambassador Arvid Pardo's vision of the Area and its resources becoming the common heritage of humankind and the international community's efforts to achieve the 2030 Agenda for Sustainable Development. Singapore, a member of the ISA Council, has actively supported ISA and will continue to contribute to its work, particularly with respect to the protection of the marine environment from harmful effects that may arise from deep-seabed activities.”

H.E. Ms. Ana Paula Zacarias, Permanent Representative of Portugal to the United Nations

Opening remarks, WILOS conference

26 September 2022



“With over 70 per cent of our shared planet's surface being seas and oceans, UNCLOS is and must evolve as our Constitution of the Ocean.

More than ever, we must protect the integrity of a rules-based system, and above all, apply it to all oceans and seas.

This is the only way we can guarantee a legal system and order for the peaceful use of our precious ocean. This is the framework for marine scientific research, the equitable and efficient use of resources and the conservation of marine life in all oceans and seas.

Every day, women around the globe ensure that UNCLOS is alive, continues to withstand the tide of time and evolves to address current and future issues and challenges.

Women's contributions span across so many areas and specialties, from the political, to the legal, technical, scientific, and let us not forget the traditional knowledge and experience.

Women of all generations, from all countries and regions around the world, including landlocked developing countries, least developed countries and small island developing states, are involved.

Just as in so many other areas, their contributions are too often overlooked and lack the much-deserved recognition. To sustainably and equitably managing mineral-related activities in the international seabed area.”

H.E. Mr. Burhan Gafoor, Permanent Representative of Singapore to the United Nations

Openings remarks, WILOS conference

26 September 2022



“As we approach the 40th anniversary of the adoption of UNCLOS, it is crucial that we take stock and reflect on many of its achievements, but also celebrate the unique contribution of women to the progressive development of the law of the sea and its implementation. I am deeply honored to be among some of the women who contributed so much to this effort over the years.

But this is also a timely opportunity to carry out a necessary reflection on how we can strengthen that contribution. Coming from a maritime country, I am all too aware of the major role women play in ocean-based economies and communities and how incredibly impacted they are by the effects of the many challenges facing the ocean, some of which are related to the topic I will be briefly covering today: Maritime delimitations. That is why it is crucial that women become more deeply involved in the implementation of the law of the sea and in the shaping of its progressive development.”

Honorable Fekitamoeloa Katoa 'Utoikamanu, Minister for Foreign Affairs and Minister for Tourism, Tonga,

Opening remarks, WILOS conference,

26 September 2022



Photo: Ifremer

Participation in the Intergovernmental Conference for the conclusion of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

In its resolution 72/249 of 24 December 2017, the United Nations General Assembly decided to convene an Intergovernmental Conference (IGC) to conclude an international legally binding instrument (ILBI) under UNCLOS on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (BBNJ). Member States agreed that the implementing agreement should address, together and as a whole, four elements of a “package deal” agreed upon in 2011, namely:

- i) marine genetic resources, including questions on the sharing of benefits,
- ii) measures such as area-based management tools, including marine protected areas,
- iii) environmental impact assessments
- iv) capacity-building and the transfer of marine technology.

The ISA Secretariat has participated in the IGC since 2017, contributing statements at all substantive sessions, in line with regular requests of its Member States that encouraged the Secretariat to represent the perspectives of ISA and its mandate during discussions (see ISBA/24/A/12 and ISBA/25/A/17). At the resumed fifth session of the IGC in 2023 and upon invitation by the President of the Conference, H.E. Ms. Rena Lee of Singapore, the Secretary-General submitted a statement on behalf of ISA.¹⁹

¹⁹ ISA. 2023. Statement by the ISA Secretary-General of at the resumed fifth session of the Intergovernmental conference for the conclusion of an internationally legally binding instrument on the conservation and sustainable use of biological diversity in areas beyond national jurisdiction. Available at: https://www.isa.org.jm/wp-content/uploads/2023/03/ISA_Statement_IGC5_resumed_online_version-27.02.23.pdf.

Cooperation with Member States



In October 2022, on the margins of the fifth workshop of the Africa Deep Seabed Resources project in Nigeria, the Secretary-General met with the Honorable Muhammadu Buhari, President of Nigeria, to discuss areas of future cooperation between ISA and Nigeria. He also met with the Honorable Prof. Yemi Osinbajo, Vice-President of Nigeria, the Honorable Geoffrey Onyeama, Minister for Foreign Affairs, the Honorable Mu'azu Jaji Sambo, Minister of Transportation, the Vice Admiral Awwal Zubairu Gambo, Chief of Naval Staff, the Honorable Mohammed Abdullahi, Minister of the Environment, and the Honorable Umana Umana, Minister of Niger Delta Affairs, to discuss specific elements of this cooperation.



In December 2022, the Secretary-General visited the Kingdom of Norway, where he met with the Honorable Anniken Huitfeldt, Minister of Foreign Affairs, to discuss the progress in the work of ISA in line with the roadmap adopted by the Council at its 27th session as well as the achievements of several capacity development projects implemented by the Secretariat with the financial support of Norway. The Secretary-General also had a chance to attend and take part in the "DSM Reference Group," which was coordinated by the Ministry of Foreign Affairs and included all interested stakeholders, and to respond to inquiries regarding the work of the different organs of ISA.



Invited by the Sultanate of Oman to make an official visit in January 2023, the Secretary-General met with the Honorable Sayyid Badr Albusaidi, Minister of Foreign Affairs, the Honorable Salim Al Afi, Minister of Energy and Minerals, and the Honorable Said Al Maawali, Minister of Transport, Communications and IT, to discuss the future engagement of Oman in the work of ISA. They also discussed opportunities for strengthening the cooperation between Oman and ISA, including through dedicated programmes to build and develop capacity and skills related to the law of the sea, ocean governance and the blue economy in the region. The two sides also discussed the importance of international cooperation to preserve and sustain biological diversity for the benefit of successive generations.



In January 2023, the Secretary-General visited Brussels, Belgium and met with the Vice-Prime Minister and Minister of Justice and the North Sea, the Honorable Mr. Vincent Van Quickenborne, and the Minister of Foreign Affairs, European Affairs and Foreign Trade and the Federal Cultural Institutions, the Honorable Ms. Hadja Lahbib. The Secretary-General and the Belgian representatives discussed progress in the work of ISA, particularly efforts of ISA Members towards protecting the marine environment and adopting the draft regulations for the exploitation of mineral resources in the Area. The contribution of Belgium to this process as a Member of the Council and its support for ISA programmatic activities were also discussed. Finally, different avenues to strengthen bilateral and regional collaboration were identified, including ways to bridge potential knowledge gaps.



In February 2023, a Chinese delegation headed by the Vice-Minister of Natural Resources (Administrator of Oceanic Administration) of China, Mr. Wang Hong, visited the headquarters of ISA and met with the Secretary-General and senior members of the staff of the Secretariat to discuss the work of ISA and future areas of cooperation. The discussions addressed the development of regulations for the exploitation of mineral resources in the Area, the design and implementation of regional environmental management plans and measures required for the application of the precautionary approach, the protection of the marine environment and conservation of biodiversity. The meeting was also an opportunity to discuss the work of ISA on the six strategic research priorities identified in the ISA MSR Action Plan and the future activities of the ISA-China Joint Training and Research Centre to build the capacities of developing Members States of ISA during 2023-2024.



In late January 2023, the Secretary-General was invited to India, where he met the Minister of Earth Sciences, the Honorable Jitendra Singh, and signed the second contract extension for the exploration for polymetallic nodules in the Indian Ocean in the presence of the Permanent Secretary, Dr. M. Ravichandran. The visit was also an opportunity for the Secretary-General to visit several public international institutes and agencies involved in deep-sea-related research in India, including the Institute of Minerals and Materials Technology (Bhubaneswar), the Indian Centre for Ocean Information Services (Hyderabad), the National Institute of Ocean Technology (Chennai), the National Centre for Polar and Ocean Research and the National Institute of Oceanography (Goa). During his visit, the Secretary-General also met with Dr. Amitabh Kant to discuss the work of ISA in relation to the G20 programme of work. Finally, the Secretary-General signed a letter of cooperation with the National Maritime Foundation, the Research and Information System for Developing Countries and the Gujarat Law University.



On 10 February 2023, the Minister of Foreign Affairs of Greece, H.E. Mr. Nikos Dendias, visited the Secretariat and presented a donation in support of the programmatic activities implemented in marine scientific research and capacity development.



In May 2023, on a visit to Italy, the Secretary-General met with Senator Nello Musumeci, Minister for Civil Protection and Sea Policies, and the Honorable Giorgio Silli, Undersecretary of State for Foreign Affairs and International Cooperation, to discuss the engagement of Italy in the work of ISA and future areas of cooperation. During his visit, the Secretary-General met with members of the Environment and Productive Activities Commissions of the Chambers of Deputies and signed a letter of cooperation with the President of the Consiglio Nazionale delle Ricerche.



In May 2023, during a visit to La Valette, Malta, the Secretary-General and the Director of the International Maritime Law Institute (IMLI) of the International Maritime Organization (IMO), Prof. Norman A. Martínez Gutiérrez, formally launched a new partnership between the two institutions by signing a letter of cooperation. The ISA Secretariat and IMLI have agreed to work together to develop and implement specific initiatives aimed at addressing the capacity development needs of ISA Member States, particularly developing States, in relation to Part XI of UNCLOS, the 1994 Agreement and other deep-sea-related disciplines.



In May 2023, the Secretary-General met with H.S.H. Prince Albert II of Monaco to discuss the current state of the draft regulations for the exploitation of mineral resources in the Area and the renewed support of Monaco to ISA's work, particularly in relation to the promotion and encouragement of marine scientific research and the development and implementation of tailored capacity development opportunities to address the needs identified by developing States members of ISA. The commitment of Monaco to support ISA in its efforts to advance women's empowerment and leadership in ocean affairs was also underscored.



In June 2023, the Secretary-General met with the Honorable Fekitamoeloa Katoa 'Utoikamanu, Minister of Foreign Affairs and Minister for Tourism of Tonga, on the margins of the fifth workshop of the Abyssal Initiative for Blue Growth project in Tonga to discuss progress in the work of ISA and future dedicated activities to address the priority capacity development needs of the Kingdom of Tonga.



In June 2023, the Secretary-General met with the Honourable Joyce Murray, Minister of Fisheries, Oceans and the Canadian Coast Guard, the Honourable Jonathan Wilkinson, Canada's Minister of Natural Resources, and Mr. David Morrison, Deputy Minister of Foreign Affairs. These meetings provided an opportunity for Secretary-General Lodge to update Canadian ministers and officials on the status of discussions in ISA including in relation to progress on the draft regulations for the exploitation of mineral resources in the international seabed area (the Area) and the provisions contained in it for ensuring the effective protection of the marine environment.

Cooperation with the United Nations and UN-Oceans

The ISA Secretariat has continued collaborating with the United Nations and its sectoral agencies on matters of mutual interest, including UN-Oceans. Over the reporting period, ISA worked with the International Maritime Organization, the International Labour Organization, the United Nations Department of Economic and Social Affairs, the United Nations Environmental Programme, the Secretariat of the Convention on Biological Diversity, the Food and Agriculture Organization, the United Nations Economic and Social Commission for Asia and the Pacific, the Intergovernmental Oceanographic Commission of the United Nations Educational Scientific and Cultural Organization, the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States and the United Nations Office on Drugs and Crime (**Chapter 2**

and **Figure 4**). This ongoing collaboration provides a platform for ensuring more effective cooperation in the conservation and sustainable use of marine resources, consistent with UNCLOS and international law. The work carried out by ISA in this regard is shared annually through the information provided by the Secretary-General to the meeting of the States parties to UNCLOS and his statement to the United Nations General Assembly.²⁰ Finally, ISA contributes to the report of the United Nations Secretary-General on ocean affairs and the law of the sea and the resolution on oceans and the law of the sea (**Box 1**).^{21 22}

The Secretariat also continued to engage in the work of UN-Oceans actively and participated in a series of technical meetings.

Box 1.

Extract of Resolution A/Res/76/72 on oceans and the law of the sea

Reaffirming the importance of the work of the International Seabed Authority (the Authority) in accordance with the Convention and the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (the Part XI Agreement),

42. Takes note of the adoption by the Assembly of the Authority of the decision to implement a programmatic approach to capacity development aimed at ensuring the fully integrated participation of developing States in the activities undertaken in the Area;

64. Reiterates the importance of the ongoing elaboration and standardization by the Authority, pursuant to article 145 of the Convention, of rules, regulations and procedures to ensure the effective protection of the marine environment, for, inter alia, the protection and conservation of the natural resources of the Area and for the prevention of damage to the flora and fauna of the marine environment from harmful effects that may arise from activities in the Area;

66. Welcomes the progress of the work of the Authority on draft regulations for exploitation of mineral resources in the Area, but also notes that the impact of COVID-19 and the limitations

recommended on meetings within its premises since the first part of the twenty-sixth session of the Authority, held in February 2020, affected the ability of the Council of the Authority to have substantive discussions on the draft regulations and procedures necessary to facilitate the approval of plans of work for exploitation in the Area pursuant to section 1, paragraph 15, of the annex to the 1994 Part XI Agreement, and in this regard encourages the Authority to continue its work on the draft regulations as a matter of priority and to provide sufficient opportunities and time for substantive consideration and discussion of the draft regulations, and emphasizes the ongoing need for openness and transparency;

69. Recognizes the importance of the responsibilities entrusted to the Authority by articles 143 and 145 of the Convention, which refer to marine scientific research and protection of the marine environment in the Area, respectively.

20 ISA. 2022. Statements of the Secretary-General: 77th Session of the United Nations General Assembly, Agenda Item 72 (a) Oceans and the Law of the Sea. Available at: https://www.isa.org.jm/wp-content/uploads/2022/12/SG_Statement_77th_Session_of_UNGA.pdf

21 See United Nations. 2022. Oceans and the law of the sea: report of the Secretary-General (A/77/68). Available at: <https://digitallibrary.un.org/record/3969299?ln=en>; United Nations. 2022. Oceans and the law of the sea: report of the Secretary-General (A/77/331). Available at: <https://digitallibrary.un.org/record/3989825?ln=en>.

22 See United Nations. 2023. Oceans and the law of the sea: resolution (A/RES/77/248). Available at: <https://digitallibrary.un.org/record/4000002?ln=en>.



Photo: BGR

Strategic alliances and partnerships with global, regional and sub-regional organizations

ISA has established strategic alliances and partnerships with global, regional and sub-regional organizations on matters of mutual interest and in compliance with UNCLOS and international law.



On 29-30 August 2022, the United Nations Office on Drugs and Crime's Global Maritime Crime Programme and ISA jointly organized an Expert Group Meeting on Enforcement Related Issues in Deep-Sea Mining. The meeting was held in a hybrid format in Bali, Indonesia. Participants discussed enforcement issues associated with the specific roles and responsibilities of sponsoring States, contractors, ISA and flag states and identified areas of cooperation between the two organizations. The two organizations also jointly organized an information session on the margins of the fifth workshop under the Abyssal Initiative for Blue Growth in Tonga in June 2023.



In collaboration with the United Nations Division of Oceans and Law of the Sea (DOALOS), the Secretariat hosted two workshops between 5 and 14 September 2022: a regional capacity-building workshop on ocean governance for the Wider Caribbean and a workshop to inform the scoping of the third World Ocean Assessment Report. Over 30 participants from 15 countries attended, including representatives of SIDS and LDCs. The Secretariat hosted another series of workshops organized by DOALOS to support the Regular process for global reporting and assessment of the state of the marine environment, including socioeconomic aspects, from 12 to 16 June 2023.



The Council of ISA approved a memorandum of understanding between ISA and the African Union to provide a framework for the implementation of the legal regime governing activities in the Area in the interest of the Member States of the African Union.

Discussions between the Secretariat and the African Union Commission are progressing to identify an appropriate time to proceed with the signature of the memorandum during 2023.



The secretariats of ISA and the Food and Agriculture Organization (FAO) have initiated a dialogue to formalize the cooperation between the two organizations in relation to research and monitoring of the spatial interaction of fisheries with activities in the Area, the development of regional environmental management plans, and marine scientific research and exchange of data.



The Secretariat has been closely following the Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission). The two organizations signed a memorandum of understanding in June 2011 to formalize their cooperation in areas of mutual interest while recognizing their respective mandates.

A letter was sent by the Secretariat on 10 March 2022 to the Chair of OSPAR's Biodiversity Committee in which it was suggested to explore the possibility of expanding the geographical scope of the proposed regional environmental management plan for the northern part of the Mid-Atlantic Ridge to cover the part of the seabed considered for inclusion in the North Atlantic Current and Evlanov Sea-basin (NACES) marine protected area. In a letter dated 24 January 2023, the Executive Secretary of the OSPAR Commission acknowledged receipt and informed that the OSPAR heads of delegations had expressed the wish to wait for the advice of the Group of Jurists and Linguists before considering such suggestions. The Secretariat was also informed that the OSPAR Commission has an ongoing consultation on broadening the conservation objective of the NACES marine protected area.

In the same letter of 24 January 2023, the Executive Secretary of the OSPAR Commission extended an invitation to share observations on legal advice submitted by the Group of Jurists and Linguists on the competence of the OSPAR Commission concerning deep-seabed mining activities within the OSPAR maritime area.

On 14 March 2023, the Secretary-General submitted the observations of the Secretariat offering constructive insights on the respective competencies recognized to ISA and the OSPAR Commission in relation to activities strictly defined and regulated under UNCLOS and the 1994 Agreement.²³



In light of the mandate of ISA under UNCLOS, Article 146 and as recommended by the LTC, the secretariats of ISA and the International Labor Organization (ILO) are discussing the preparation of a memorandum of understanding to formalize the cooperation between the two organizations. This shall ensure that ISA is able to draw on the expertise and advice of ILO and apply the highest international standards on human health and safety and conditions of work on board vessels used for activities in the Area.



GESAMP
Joint Group of Experts on the
Scientific Aspects of Marine
Environmental Protection

The Secretariat regularly collaborates with the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), including by contributing to the work on the impacts of mining wastes and other matter from mining operations in the marine environment. GESAMP is a group of independent scientific experts established in 1969 to advise the United Nations System organizations on scientific aspects of marine environmental protection. ISA will host, for the first time, the 50th session of GESAMP, which will take place from 18-22 September 2023 at its headquarters in Kingston.

23 OSPAR 2021. Ministerial Meeting of the OSPAR Commission October 2021, the Cascais Declaration. Available at: <https://www.ospar.org/site/assets/files/36552/cascaisdeclaration2021.pdf>.

Gender equality and women's empowerment

Since March 2020, the Secretary-General of ISA has been recognized as one of the International Gender Champions (IGC) and has joined a network of leaders and decision-makers determined to break down gender barriers and make gender equality a reality in their spheres of influence.

In addition to the IGC Gender-Based Violence Pledge and the Panel Parity Pledge, the Secretary-General of ISA also pledged to:

- Advance women's empowerment and leadership in marine scientific research, particularly deep-sea research. The focus is on designing and implementing tailored activities and programmes to address the specific challenges faced by women scientists from developing States, especially LDCs, LLDCs and SIDS.
- Ensure that the ISA Secretariat maintains gender parity, including at the most senior levels (P5 and above), and engages in all efforts to promote gender equality and leadership of women in the development and implementation of international law of the sea.

Progress has been made on both pledges. Women's empowerment and leadership are defined as priorities of ISA's programmatic mandate, as reflected in the significant efforts made towards enhancing the role and participation of women from developing States in deep-sea research, including through tailored capacity-building and capacity development activities.

As of June 2023, 58 per cent of ISA staff members, including 50 per cent of the senior management team, are women. Several measures have been put in place to facilitate their professional engagement without compromising their essential family roles. In that regard, the Secretariat has successfully implemented different policies that provide women a number of benefits to support them in their family and professional roles since 2020, such as a policy on breastfeeding (ISBA/ST/SGB/2020/3) that provides the necessary support for nursing mothers, including during duty travel.





SD2. Strengthen the regulatory framework for activities in the Area

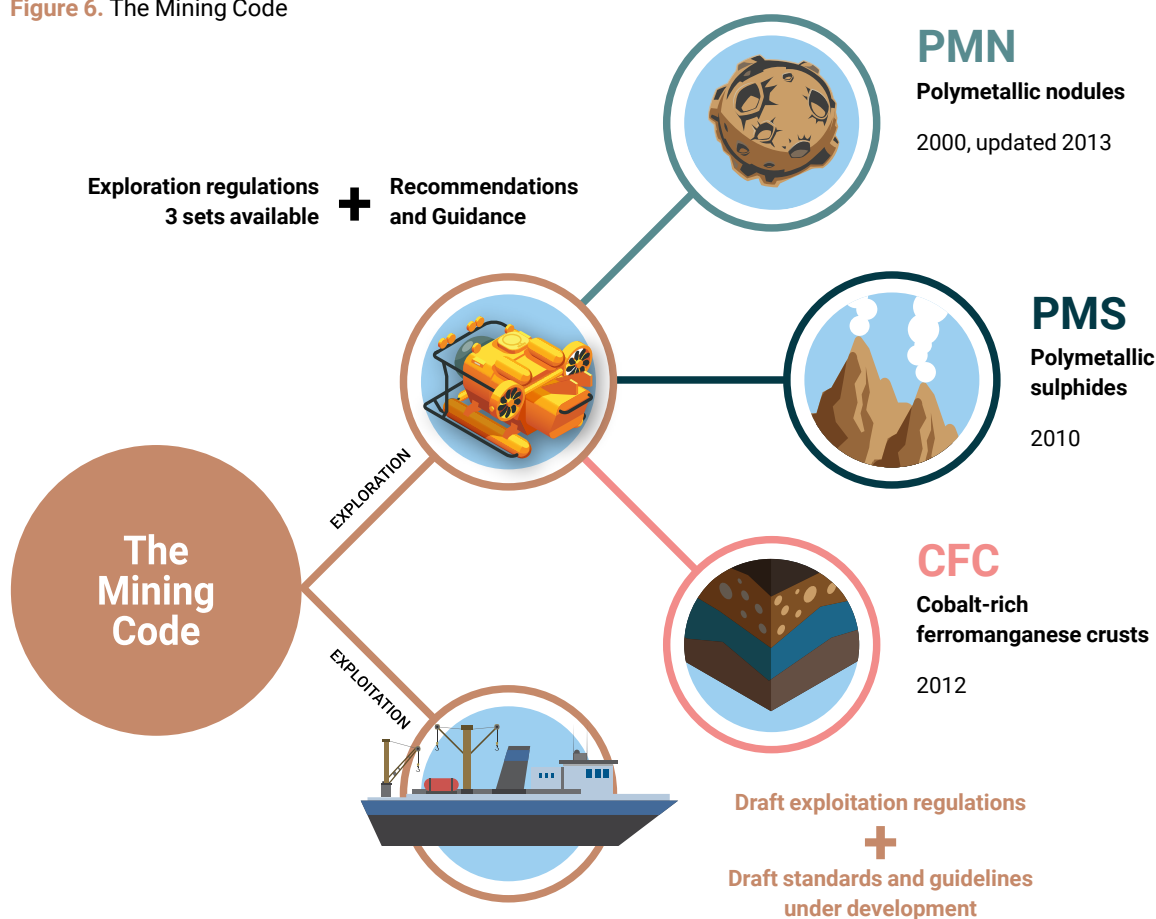
The fundamental right of all States to carry out activities in the Area is guaranteed by Part XI of UNCLOS and the 1994 Agreement. The basic conditions for prospecting, exploration and exploitation are prescribed in Annex 3 of UNCLOS. In addition, ISA is mandated by the 1994 Agreement to adopt necessary rules, regulations and procedures to facilitate activities in the Area as exploration activities progress.

The priority was to develop a comprehensive set of rules, regulations and procedures for prospecting and exploration for mineral resources in the Area. ISA has adopted three sets of exploration regulations for the prospecting and exploration for polymetallic nodules (2000 and revised in 2013),²⁴ polymetallic sulphides (2010)²⁵ and cobalt-rich ferromanganese crusts (2012)²⁶

(Figure 6). The regulations are supplemented by a series of recommendations for the guidance of contractors issued by the LTC and updated periodically (Box 2).

Since 2014, ISA has been developing rules, regulations and procedures to govern the exploitation phase, including necessary standards and guidelines (ISBA/21/C/1). Following a series of public consultations and progress briefings to the Council, the LTC submitted draft exploitation regulations to the Council in 2019. These have been under consideration by the Council since then. During its meeting in November 2022, the Council took stock of the progress made and agreed on a roadmap to continue progressing on the draft regulations during the 28th session (ISBA/27/C/21/Add.2) (Figure 7).

Figure 6. The Mining Code



The Mining Code refers to the comprehensive set of rules, regulations and procedures issued by ISA to regulate activities (exploration and exploitation) in the Area.

24 ISBA/19/A/9.

25 ISBA/16/A/12/Rev.1.

26 ISBA/18/A/11.



Box 2.

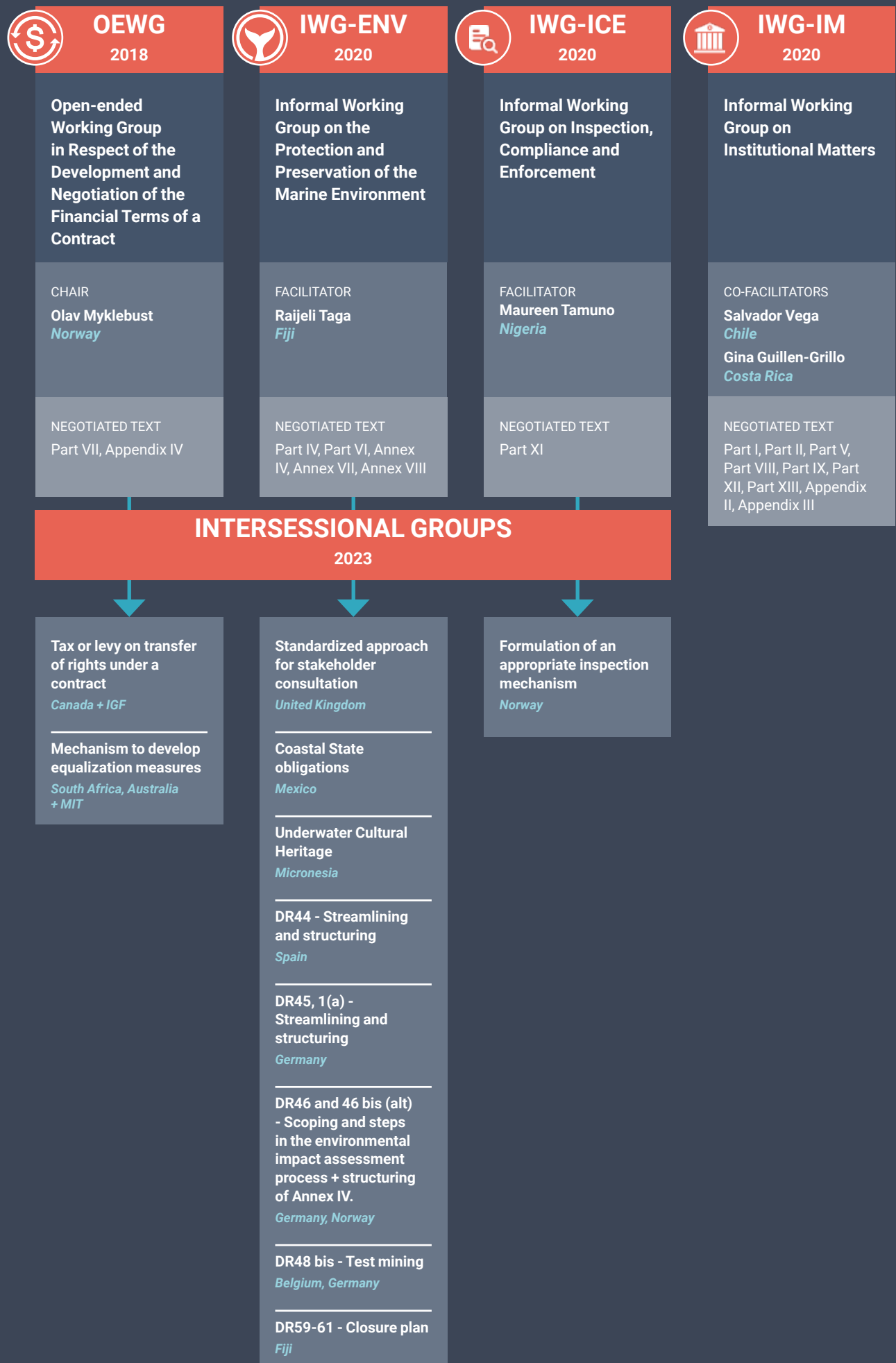
Recommendations for the guidance of contractors

The following recommendations are currently available to supplement the exploration regulations:

- Training programmes under plans of work for exploration (ISBA/19/LTC/14)
- The content, format and structure of annual reports (ISBA/21/LTC/15 and ISBA/21/LTC/15/Corr.1)
- The reporting of actual and direct exploration expenditure (ISBA/21/LTC/11)
- The assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (updated in 2020) (ISBA/25/LTC/6/Rev.1 and ISBA/25/LTC/6/Rev.1/Corr.1 and ISBA/25/LTC/6/Rev.2)
- The relinquishment of areas under the exploration contracts for polymetallic sulphides and cobalt-rich ferromanganese crusts (ISBA/25/LTC/8).

Photo: BGR

Figure 7. Informal working groups and intersessional working groups established by the Council to advance the work on the draft Regulations on the exploitation of mineral resources in the Area



Standards and guidelines

Detailed standards and guidelines will support the exploitation regulations. As decided by the Council, these are being developed in a three-phased approach with specific standards and guidelines needed by the time of adoption of the draft regulations on exploitation (phase 1) before the receipt of an application of a plan of work for exploitation (phase 2) and before commercial mining begins (phase 3). Standards and guidelines undergo a four-stage process: development by the LTC, stakeholder consultation, approval by the LTC and submission to the Council for approval.

During 2020 and 2021, the LTC prepared ten draft standards and guidelines under phase 1 (**Figure 8**). A stakeholder consultation took place from 8 April to 3 July 2021, where the LTC considered contributions. The Council considered the report of the Chair of the LTC on phase 1 standards and guidelines in Part I of its 27th session in March 2022.

Once adopted, the exploitation regulations and associated standards and guidelines will join the existing exploration regulations to form what will become a complete “Mining Code” for the Area.

Figure 8. Status of the preparation of phase 1 of draft standards and guidelines

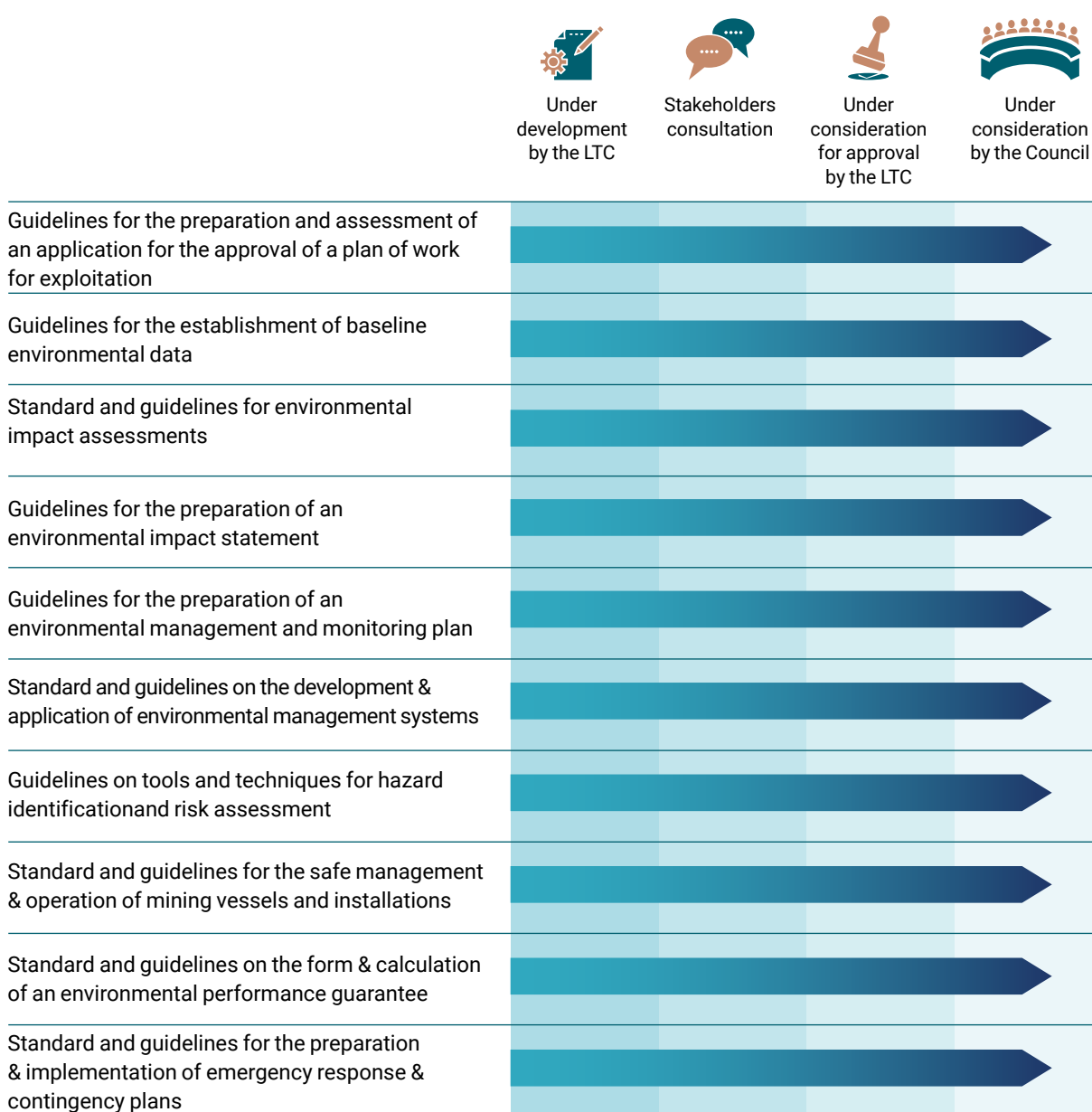




Photo: COMRA

Technical studies

During the reporting period, the ISA Secretariat published two technical studies to support and inform the ongoing discussions on the development of a regulatory regime for exploitation:

- Technical study 32 on the potential impact of polymetallic nodules production in the Area on the

economies of developing land-based producers of those metals which are likely to be most seriously affected

- Technical study 33 on potential interactions between fishing and mineral resource-related activities in areas beyond national jurisdiction: a spatial analysis.

National laws and regulations

Activities in the Area may be carried out by the Enterprise and, in association with ISA, by States parties, State enterprises, or natural or juridical persons. To be eligible to carry out such activities, natural and juridical persons must satisfy two requirements. First, they must be either nationals of a State party or effectively controlled by it or its nationals. Second, they must be sponsored by such States.

Under UNCLOS, sponsoring States are required to take “all measures necessary” to ensure compliance by the sponsored contractor with UNCLOS and the terms of their contract. Such measures include adopting laws, regulations and administrative measures within their legal systems. At its 23rd session in 2017, the Assembly invited sponsoring States, if they had not already done so, to review their respective national legislation, drawing on the advisory opinion of the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea. Since 2011, the Secretary-General has reported to the Council on the status of such laws, regulations and administrative measures.

As of June 2023, ISA’s online National Legislation Database contains information on or the texts of relevant national legislation received from the following 38 States: Bangladesh, Belgium, Benin, Brazil, China, Cook Islands, Cuba, Czechia, Dominican Republic, Ecuador, Egypt, Fiji, France, Georgia, Germany, Guyana, India, Japan, Kenya, Kiribati, Mexico, Micronesia (Federated States of), Montenegro, Nauru, Netherlands, New Zealand, Nigeria, Niue, Oman, Republic of Korea, Russian Federation, Singapore, Sudan, Tonga, Tuvalu, United Kingdom of Great Britain and Northern Ireland, United States of America and Zambia. It also contains information received from the Secretariat of the Pacific Community. The database contains further information and the texts of national laws, regulations and administrative measures submitted by the aforementioned member and observer States of ISA.²⁷ It will continue to be updated upon receipt of new information. A comparative study on national legislation concerning deep-seabed mining is also available on the ISA website.²⁸

27 ISA. National Legislation Database. Available at: <https://www.isa.org.jm/national-legislation-database>.

28 ISA. 2021. Comparative Study of the Existing National Legislation on Deep Seabed Mining. Available at: <https://www.isa.org.jm/wp-content/>



SD 3. Protect the marine environment

ISA is exclusively mandated to protect the marine environment from the possible negative impacts associated with deep-sea mining in the Area. To that end, UNCLOS, Article 145, requires ISA to adopt rules, regulations and procedures designed to prevent, reduce and control pollution and other hazards to the marine environment. The effective protection of the marine environment is guaranteed through requirements for environmental baseline studies and environmental impact assessments (EIA) and monitoring, as set out in exploration and future exploitation regulations. Plans of work for exploration activities must include a programme for oceanographic and environmental studies designed to build an environmental baseline before exploitation. The work of ISA to protect the marine environment focuses on four areas:

- the continued development of the regulatory framework, including environmental standards and guidelines
- the review and development of regional environmental management plans (REMPs) in priority areas where there are exploration contracts
- the development of environmental threshold values
- the review and synthesis of data collected from environmental baseline studies, monitoring and assessments conducted by exploration contractors.

Environmental regulations, standards and guidelines

The regulations for prospecting and exploration for the three types of seabed minerals in the Area include strong and robust environmental safeguards. The LTC is responsible for keeping these regulations under review. For the exploration phase, the LTC issued its Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in 2002 (ISBA/7/LTC/1/Rev.1). These have been revised by the LTC several times, most recently in 2022 (ISBA/25/LTC/6/Rev.2). The recommendations describe the procedures to be followed in the acquisition of baseline data and the monitoring to be performed during and after any activities that have the potential

to cause serious harm to the environment (**Box 3**). The recommendations list activities carried out during exploration that are considered to have no impact on the marine environment. They also specify activities requiring an EIA during exploration, including testing of mining components and other activities, and set out a detailed process for the review of the environmental impact statement by the LTC.

All the data and information contractors submit annually are collected, organized and compiled in the ISA DeepData database by the ISA Secretariat. All environmental data is accessible to the public through the DeepData portal (**Box 4**) on the ISA website.²⁹



Photo: Ifremer

29 ISA. DeepData. Available at: <https://data.isa.org.jm/isa/map>.

Box 3.

Environmental impact assessments and baseline environmental studies during exploration

An application for approval of a plan of work for exploration must be accompanied by an assessment of the potential environmental impacts of the proposed activities and a description of a programme for oceanographic and baseline environmental studies. Procedures to follow in the acquisition of baseline data and the monitoring to be performed during and after any activities that have the potential to cause serious harm to the environment are described in the Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area.³⁰

Activities requiring an EIA include:

- the use of sediment disturbance systems that create artificial disturbances and plumes on the sea floor
- test-mining and testing of mining components
- the testing of discharge systems and equipment
- drilling activities using onboard drilling rigs
- sampling with the epibenthic sled, dredge, trawl, or similar techniques in nodule fields that exceed 10,000 m²
- taking large samples to test land-based processes.

As of June 2023, four contractors had conducted EIAs and documented and reported the results of the EIA process in environmental impact statements (EISs). In 2018, BGR and GSR conducted EIAs and respectively submitted EISs to ISA for the joint testing of a pre-prototype nodule collector vehicle in their contract areas in the CCZ. In 2020, the Government of India submitted an EIS concerning technical trials of a pre-prototype nodule collector in its contract area for polymetallic nodules in the Indian Ocean after conducting its EIA. In 2021, NORI submitted an EIS for the conduct of technical trials of a prototype nodule collector in its contract area in the CCZ. The EIS was later revised and resubmitted in 2022 following additional EIA activities.

Environmental baseline studies entail collecting data on physical oceanography, chemical oceanography, geological properties, biological communities, bioturbation and fluxes to the sediment. These studies aim to document the natural conditions and gain insight into natural processes and natural environmental variability to establish baselines against which to assess and monitor the possible effects of exploration activities. The baseline data acquired provides the basis to make accurate environmental impact predictions (e.g., the assumed impact and its process, including the seabed disturbance plume, discharge plume, potential toxicity, noise and intensity of light).

30 See ISBA/25/LTC/6/Rev.1 and ISBA/25/LTC/6/rev.1/Corr.1.

Box 4.

DeepData: the ISA Deep Seabed and Ocean Database

DeepData was launched at the 25th session of ISA in 2019. It hosts data related to activities in the Area and is ISA's flagship source of information on the state of deep-seabed resources and the environments in which they exist.

DeepData in figures



142,000+
submissions per
year since 2012



158,000+
ecology data records
and 289,000 taxonomy
data records



5.8 million
conductivity,
temperature and depth
(CTD) sensor readings



273,000+
geotechnical
parameters records



3 million+
water properties
records



Data supplied from
an average of
3.5 contractor cruises
per year since 2012

Internalization of costs associated with environmental externalities

In line with the decision of the Council (ISBA/27/C/43), the Secretariat has commissioned a study on the environmental costs of exploitation activities, including how to internalize the costs associated with environmental externalities. The results of this study will be published on the ISA website in 2023.

Regional environmental management plans

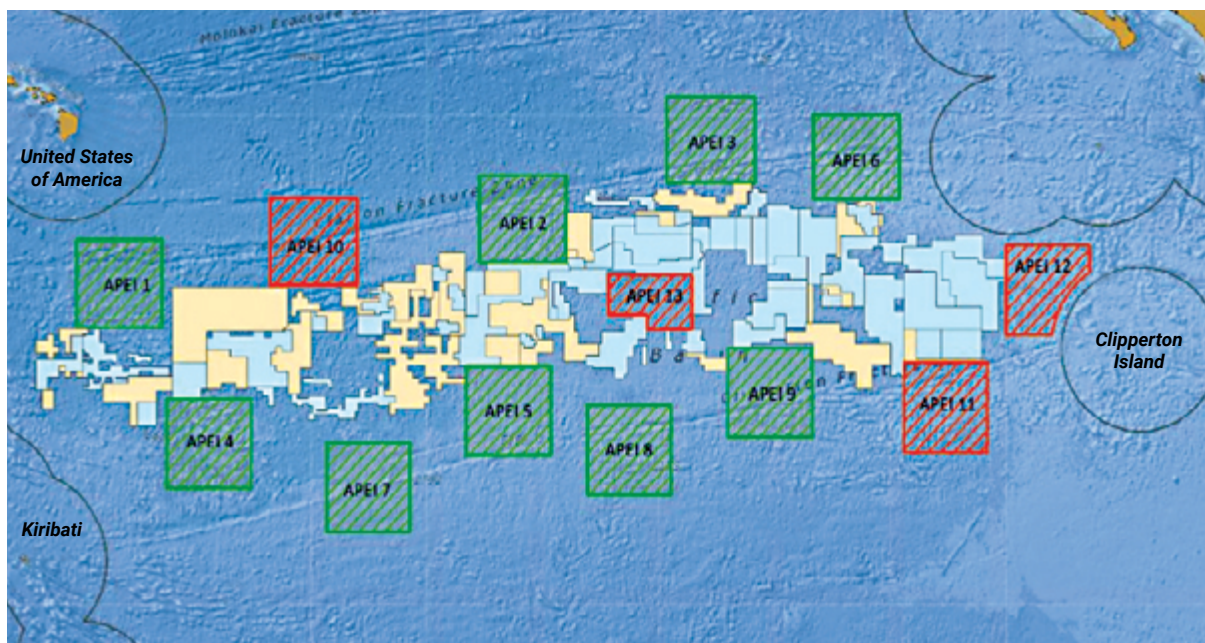
ISA has established an environmental management plan for the Clarion-Clipperton Zone (CCZ) and is establishing REMPs in other regions where exploration activities are taking place.

Clarion-Clipperton Zone

The environmental management plan for the CCZ was adopted in 2012 and included the designation of a network of nine areas of particular environmental interest (APEIs). These APEIs are established to protect biodiversity and preserve ecosystem structure and functions.

The initial network covered 1.4 million km² of seabed in the CCZ. In 2021, following a comprehensive review of the implementation of the environmental management plan for the CCZ, supported by an independent scientific process, the LTC recommended further actions to advance the implementation of the plan. These included the establishment of four additional APEIs to enhance the effectiveness of the overall network. The Council endorsed this recommendation in December 2021.³¹ As a result, the network of APEIs in the CCZ now comprises 13 APEIs covering a total area of 1.97 million km² of seabed (**Figure 9**).

Figure 9. The network of APEIs in the CCZ represents 1.97 million km² of protected seabed



31 ISBA/26/C/58.

Other regions

The development of REMPs is underway in other areas where exploration activities are currently taking place, including the northern Mid-Atlantic Ridge, the Indian Ocean and the Northwest Pacific Ocean, in line with the strategy endorsed by the Council at its 25th session³² (Figure 10).

Since 2018, ISA has convened six international expert workshops under the leadership of the LTC. These workshops involved 280 experts from 31 countries working to advance the development of REMPs in the northern Mid-Atlantic Ridge (three workshops in 2018, 2019 and 2020), the Indian Ocean (one workshop in 2023) and the Northwest Pacific Ocean (two workshops in 2018 and 2020). To support the workshop discussions, the Secretariat facilitated the compilation and synthesis of available environmental data and information for different regions in collaboration with partners.

In May 2021, the LTC completed its work on the draft REMP for the northern Mid-Atlantic Ridge, drawing on the outcomes from the three expert workshops for this region. The draft REMP was presented to the Council during the 27th session. The Council decided to postpone consideration of the draft REMP pending

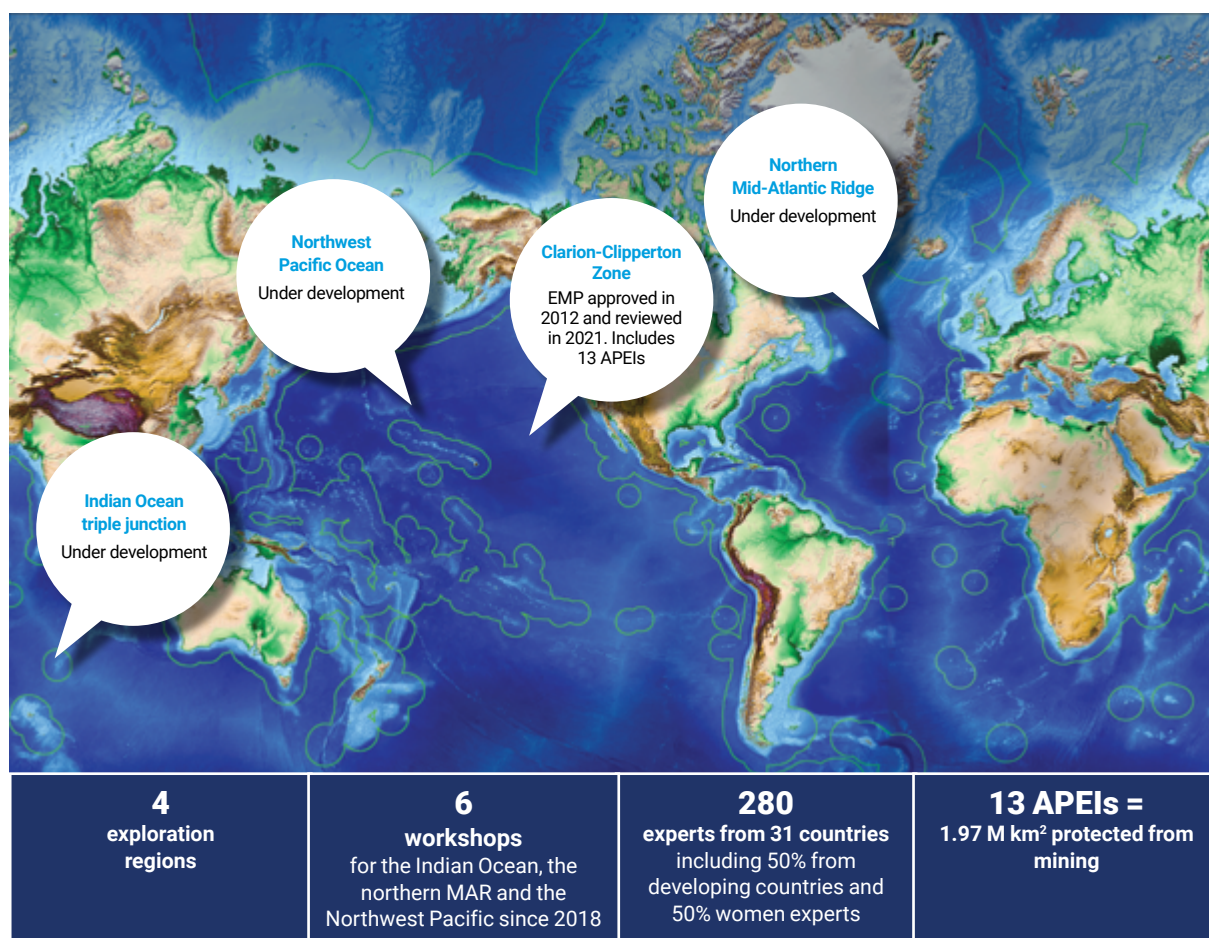
the adoption of a standardized procedure for the development, review and approval of REMPs and further decided that the LTC should review the draft REMP in light of such a procedure.

In 2022, upon request of the Council,³³ the LTC presented its recommendations³⁴ to the Council on a standardized approach to facilitate the development, implementation and review of REMPs. Following discussions in plenary during Part III of its 27th session, the Council requested the LTC to further review the draft in light of specific considerations raised. It also invited stakeholders to submit written comments on the draft by January 2023.

The most recent REMP workshop was held in May 2023 in Chennai, India, in collaboration with the Government of India. The workshop's main objective was to initiate the development of a REMP for the Indian Ocean, with a specific emphasis on the Central Indian Ocean Basin and Mid-Ocean Ridges.

Preparations are also ongoing for two workshops in 2024 to support the development of REMPs for the Indian Ocean and the Northwest Pacific.

Figure 10. Status of development of REMPs for the different regions of the Area



³² ISBA/25/C/13.

³³ ISBA/26/C/10.

³⁴ ISBA/27/C/37.



SD 4. Promote and encourage marine scientific research in the Area

A critical responsibility resulting from the exclusive mandate assigned to ISA by UNCLOS and the 1994 Agreement to manage activities in the Area underlines the duty of ISA to promote and encourage the conduct of marine scientific research in the Area, as well as coordinate and disseminate the results of scientific research and analysis when available.³⁵ In so doing, ISA also has the duty to encourage the development

and implementation of appropriate programmes for strengthening the research capabilities of developing and technologically less advanced States. In partnership with relevant stakeholders, the ISA Secretariat is implementing several initiatives to give life to this responsibility to address the priorities identified by Members of ISA.

ISA MSR Action plan in support of the United Nations Decade of Ocean Science

In December 2020, the Members of ISA unanimously adopted a set of strategic research priorities embedded in a dedicated ISA MSR Action Plan (**Box 5**).³⁶ The implementation of the Plan has been championed by Argentina since 2021. This Plan guides the work of ISA in fulfilling the mandate assigned to it by UNCLOS and the 1994 Agreement. Ultimately, it contributes to the objectives of the United Nations Decade of Ocean Science for Sustainable Development 2021-2030.

During the reporting period, the ISA Secretariat continued to actively participate in the implementation of the United Nations Decade of Ocean Science through its contribution to the Ocean Decade Alliance, the United Nations Decade Monitoring and Evaluation working group and the Decade Communications Advisory Group.

Box 5.

The six strategic research priorities of the ISA MSR Action Plan



ISA's commitment to contributing to the UN Decade of Ocean Science was formalized with the adoption by the Assembly of the ISA MSR Action Plan. The Plan is championed by Argentina.



1 Advancing scientific knowledge and understanding of deep-sea ecosystems, including biodiversity and ecosystems functions, in the Area



2 Standardizing and innovating methodologies for deep-sea biodiversity assessment, including taxonomic identification and description, in the Area



3 Facilitating technology development for activities in the Area, including ocean observation and monitoring



4 Enhancing scientific knowledge and understanding of potential impacts of activities in the Area



5 Promoting dissemination, exchange and sharing of scientific data and deep-sea research outputs and increasing deep-sea literacy



6 Strengthening deep-sea scientific capacity of ISA members, in particular developing States

35 UNCLOS, Art. 143(3).

36 ISBA/26/A/17.

Strategic alliances and partnerships for generating transformative science and knowledge

In line with the High-Level Action Plan for 2019-2023 and the ISA MSR Action Plan, the Secretariat has established several strategic, technical and financial partnerships. The main objective is to promote cooperation and coordinate marine scientific research efforts among contractors, scientific and academic communities, national agencies, and international and regional organizations concerning activities in the Area. Emphasis is placed on advancing general knowledge and understanding of the Area and its ecosystems, disseminating research results, when available, and developing the capacity of ISA Member States.

In September 2022, the Natural History Museum and the Imperial College of London, UK, hosted the Challenger Society Conference with the support of ISA. The conference commemorated the 150th anniversary of the HMS Challenger expedition and served as a tribute to the inception of international and interdisciplinary oceanography. The ISA Secretariat delivered several presentations on the prospects of seabed mineral resources in the Area, the global advancement of deep-sea science through international cooperation, and the international policy framework aimed at promoting responsible management of the Area and its resources for the benefit of humanity.

In November 2022, the Secretariat and the Ministry of Oceans and Fisheries of the Republic of Korea signed a letter of cooperation to strengthen further their cooperation in the fields of deep-sea exploration, marine scientific research and capacity-building for the sustainable development of seabed minerals in the Area. Discussions are underway to develop and implement a series of activities that will advance the work of ISA.

In May 2023, the Secretariat also signed a letter of cooperation with the Italian *Consiglio Nazionale delle Ricerche* (National Research Council) to promote and encourage marine scientific research in the Area and disseminate research results. Among the areas of cooperation, the parties agreed to support and conduct research on the effective implementation of the mandate of ISA as assigned by UNCLOS and the 1994 Agreement in the context of the BBNJ treaty and the role of deep-sea research as a driver of a sustainable blue economy.

Throughout the reporting period, the ISA Secretariat has actively participated in the advisory boards of several international scientific research projects and programmes to align the outcomes of scientific activities and maximize their contribution towards the strategic research priorities identified in the ISA MSR Action Plan (**Box 5**).

- **Deep Ocean Observing Strategy (DOOS)** project is a community-driven initiative established under the umbrella of the Global Ocean Observing System (GOOS), which brings together representatives from the United States of America and international networks engaged in sustained deep ocean observation, mapping, exploration, modeling, research and management. The partnership with DOOS is facilitating the development of a collaborative network of scientific institutions and ISA contractors to develop a pilot project for long-term ocean observation in the CCZ, focusing on oceanographic patterns and biogeochemical conditions in the region. A joint research proposal is under preparation. This partnership will contribute to implementing Strategic research priority 3 (Facilitating technology development for activities in the Area, including ocean observation and monitoring).

- **Seabed Mining And Resilience To EXperimental impact (SMARTEX)**, funded by the UK government, aims to investigate how deep-sea ecosystems respond to and recover from broad-scale disturbance. Drawing on experimental field assessment of impacts from test mining activities in the CCZ by the Pioneer Investors, this project will contribute to Strategic research priority 4 (Enhancing scientific knowledge and understanding of potential impacts from activities in the Area), including long-term resilience of deep-sea ecosystems.

- **Conservation & Restoration of deep-sea ecosystems in the context of deep-sea mining (DEEP-REST)**, a project led by Ifremer (France) and financially supported by the governments of Belgium, France, Germany, Ireland, the Netherlands, Portugal and Spain, continues to integrate environmental and biological data and compare ecological processes between abyssal plain and mid-ocean ridge ecosystems to identify key traits and functions affecting community resilience. DEEP-REST also aims to provide empirical evidence to test the effectiveness of different restoration actions on the recovery of communities from the potential impacts of future exploitation activities. This project contributes to Strategic research priorities 2 (Innovative technologies for biodiversity assessment) and 6 (Capacity development). Discussions are progressing as the Sustainable Seabed Knowledge Initiative (SSKI) establishes linkages with standardization and incorporation of functional trait information to complement taxonomic data.

- The project **Technology based impact assessment tool for sustainable, transparent deep sea mining exploration and exploitation** (TRIDENT), a project led by INESC TEC (Portugal) with a consortium of 22 European scientific partners and financially supported by the EU Commission (HORIZON-CL4-2022-RESILIENCE-01), was launched in January 2023. This project aims at developing remote and automated monitoring systems for deep-seabed mining, which will support the development of reliable and cost-effective systems for the prediction and continuous environmental impact monitoring of seabed activities in the Area (strategic research priority 4).

The Secretariat attended an in-person meeting on the scoping of a potential joint action of the members of the JPI Oceans on the ecological aspects of deep-sea mining at their headquarters in Brussels. The ISA Secretariat provided input on the scope of a potential successor project to the Mining Impact projects. This is crucial to ensuring the potential project will reinforce the science-policy interface. The Secretariat will continue to follow the discussions to ensure possible involvement in the implementation of the project.

Collecting and disseminating high-quality deep-sea data

The Secretariat has continued to develop several collaborative scientific initiatives that contribute to enhancing the collection, analysis and synthesis of the results of research activities.

Building on the partnership with the International Oceanographic Data and Information Exchange (IODE) network of IOC-UNESCO as a node for IODE's Ocean Biodiversity Information System (OBIS), ISA improved the interoperability and compliance of DeepData with the FAIR (Findable, Accessible, Interoperable, and Reusable) principles by mapping its taxonomic data to the DARWIN code standards. The collaboration also allowed utilizing several in-built taxonomic quality assurance and quality control mechanisms, such as the taxon matching features, to identify taxa appropriately. Additionally, the OBIS data duplication coder was evaluated to track potential data set duplications and was able to identify several duplications, which were subsequently removed from DeepData, contributing to Strategic research priority 5 (the promotion of the use of DeepData).

The Secretariat has made significant headway in enhancing the accessibility of oceanographic data obtained by ISA contractors by sharing this data with other publicly available databases, including the World Ocean Database (WOD) hosted by UNESCO-IOC and NOAA. The objective behind this effort is to improve the overall accessibility of information and data available through DeepData.

In 2022, most contractors successfully made use of the updated data reporting templates that had been endorsed by the LTC in 2021. The Secretariat has planned a series of data management training sessions to address areas of concern observed during the initial utilization of the templates. The objectives of the training series are to increase awareness of the new features of the reporting templates, address the knowledge gaps identified, synchronize the preparation of digital data with the recording of metadata information and improve the utilization of the DeepData platform as the primary mode for submitting digital data to the Secretariat.

Building on its successful partnership with MABIK, the Secretariat will co-organize a deep-sea taxonomic data standardization and sharing workshop from 3 to 6 October 2023. The objective will be to discuss existing best practices in deep-sea taxonomic research to generate FAIR data and to enhance capacity in deep-sea biological data sharing. Organized under the auspices of SSKI, the workshop will contribute to increasing the quality and availability of deep-sea biological data collected in the Area and enhancing the use of DeepData and other publicly available databases of the same type. It will also aim to share best practices for collecting, processing and reporting biological data.

Contributing towards improved high-resolution mapping of the seabed in the Area



ISA remains committed to contributing data to advance the general knowledge and understanding of the world's oceans and to improve the high-resolution mapping of the world's seabed by 2030. In this spirit, ISA launched the AREA2030 initiative in partnership with International Hydrographic Organization (IHO) in June 2022. This partnership also contributes to the United Nations Decade of Ocean Science for Sustainable Development and the Seabed 2030 project, a collaboration between the General Bathymetric Chart of the Oceans (GEBCO) and the Nippon Foundation of Japan to advance the definitive map of the world ocean floor at 100 m resolution by 2030.

In line with the ISA MSR Action Plan, AREA2030 continuously compiles all bathymetric data shared voluntarily by ISA contractors and submits it through IHO as a collective contribution to the United Nations Ocean Decade and towards the achievement of the goals and targets of the 2030 Agenda for Sustainable Development.

As of June 2023, the ISA Secretariat facilitated the submission of high-resolution bathymetric data from four contractors. The Interoceanmetal Joint Organization (IOM) provided data collected from 1992 to 2001 in the CCZ, Belgium's Global Sea Mineral Resources (GSR) has made data from its contract area publicly available, Japan's Deep Ocean Resources Development Co. Ltd. (DORD) provided data on APEIs in the CCZ, Germany's Federal Institute for Geosciences and Natural Resources (BGR) provided bathymetry data for a total of 120,000 km² of seabed in the Pacific CCZ and 188,500 km² of seabed along the Indian Ocean ridges, and the French Research Institute for Exploitation of the Sea (Ifremer) provided data for its two exploration contract areas in the Atlantic

(polymetallic sulphides - 10,000 km²) and in the CCZ (polymetallic nodules - 75,000 km²) at a resolution of 100 m. Other contractors are in the process of finalizing their voluntary contributions to the AREA2030 initiative.

The contribution of ISA contractors to global efforts to improve seafloor mapping through AREA2030 is critical, as they collect unique bathymetric data at unprecedented high resolution during their exploration activities in the Area. Voluntary disclosure and sharing of high-resolution bathymetric data contributes to the global database of the international seabed and helps further our understanding of fundamental ocean crust geology, oceanography, seabed habitats, potential geohazards and various potential resources.

Advancing deep-sea taxonomy



One of the six strategic research priorities identified in the MSR Action Plan relates to standardizing methodologies for deep-sea biodiversity assessment in the Area, including taxonomic identification and description.

This has been promoted through a series of workshops on deep-sea taxonomy organized jointly by ISA and MABIK. The latest workshop took place in November 2022 in Seocheon, Republic of Korea and focused on enhancing genetic approaches to advance deep-sea taxonomy in the Area. It gathered experts from the scientific community, ISA exploration contractors, government and regional organizations from 20 countries who attended in person or remotely. Several opportunities for collaboration to support the development of DNA libraries for oceanic regions where mineral exploration is taking place were identified. The

Secretariat is now cooperating with the Senckenberg Museum in Germany to expand the DNA barcode library for the CCZ, aiming to add 500 new sequences by 2024. The expanded library will significantly contribute to effectively matching DNA sequences obtained from water and sediment samples, enhancing biodiversity assessments based on environmental DNA (eDNA).

Formally launched at the 2022 United Nations Ocean Conference in Lisbon, Portugal, SSKI aims to promote a global knowledge-sharing platform for generating, standardizing and sharing deep-sea biodiversity data and expertise to support environmental management in the Area.

Building on the outcomes of the ISA-MABIK workshop series, the Secretariat hosted the SSKI inception workshop in collaboration with the Ministry of Oceans and Fisheries (MOF) of the Republic of Korea and the European Commission from 29 November to 1 December 2022 in Seocheon, Republic of Korea. Over 50 scientists, representatives of ISA exploration contractors, governments and regional organizations from 24 countries attended the workshop. Participants adopted a multiannual work plan that identifies tangible outputs to advance the understanding of biodiversity in the Area by 2025. One key activity of SSKI involves leveraging taxonomic identifications and increasing the number of described deep-sea species by at least one thousand by 2030. To this end, the Secretariat will open a call for proposals for taxonomic projects focusing on species descriptions in 2023. It will also issue a species checklist for the CCZ in collaboration with WoRMS. Along with the DNA barcode developed with the Senckenberg Museum in Germany and the image library developed under the ISA-Ifremer post-doctoral fellowship (**Box 8**), these taxonomic tools will significantly improve the consistency, efficiency and reusability of taxonomic information and foster the development of artificial intelligence methods for assessing deep-sea biodiversity in the Area.

In addition to informing ISA's decision-making processes, SSKI will establish the necessary conditions to facilitate the execution of global policy agendas. During the CBD COP 15, a side event co-organized by the ISA Secretariat and the CBD Secretariat identified

specific examples and areas where synergies could be forged to progress at least six of the 23 action-oriented global targets outlined in the recently adopted Kunming-Montreal Global Biodiversity Framework.

Advancing technology to support the sustainable exploitation of mineral resources in the Area

In line with Strategic research priority 3 of the ISA MSR Action Plan (Facilitating technology development for activities in the Area, including ocean observation and monitoring), the Secretariat further developed the draft technology roadmap, which will be released in 2023. The roadmap identifies five priority areas:

1. Mining, energy and metal processing
2. Ocean observation and communication
3. Monitoring
4. Autonomy, automation, robotics
5. Machine learning by artificial intelligence.

In March 2023, India, under the leadership of the Ministry of Earth Sciences, formally became an ISA champion for deep-sea technology.

The Secretariat is currently discussing with pertinent partners to arrange a specialized workshop during the third quarter of 2023. The workshop will aim to facilitate in-depth deliberations on the technology roadmap. It will bring together a diverse array of stakeholders from the scientific and industrial sectors to foster the development of cutting-edge initiatives for technology advancement and innovation. The ultimate goal is to bolster sustainable development practices concerning mineral resources, particularly concerning environmental preservation and monitoring activities conducted in the Area.



Photo: TMC

Advancing women's empowerment and leadership in deep-sea research

Since 2018, ISA, UN-OHRLLS and more than 20 other partners from governments, international and regional organizations, scientific institutions, academia and contractors have been implementing the Women in Deep-Sea Research (WIDSR) project. Progress has been made in the project's four areas of action: policy development and advocacy, capacity development, sustainability and partnerships, and communication and outreach.

In June 2022, the WIDSR project released an important report: "Empowering Women from LDCs, LLDCs and SIDS in Deep-Sea Research."³⁷ The report provides a detailed gender mapping of deep-sea research and related disciplines, including careers in different sectors. It identifies the critical barriers women face from LDCs, LLDCs and SIDS in participating in and accessing leadership roles in fields relating to marine scientific research.³⁸

As of June 2023, ten contractors have positively contributed to the implementation of the WIDSR project by pledging to reserve half of their training opportunities to qualified women applicants whenever possible.³⁹

The launch of the mentorship programme in partnership with key stakeholders is currently under development. It is expected to be formally announced in June 2023.



WIDSR strategic partners:



Governments



Research institutions



International and regional organizations:



ISA contractors:



37 ISA. 2022. Empowering women from LDCs, LLDCs and SIDS in deep-sea research. Available at: https://www.isa.org.jm/wp-content/uploads/2022/08/Empowering_Women_WIDSR_Report_Web.pdf.

38 The report builds on a foundational dataset of primary and secondary data from 23 LDCs, LLDCs and SIDS (Bangladesh, Belize, Botswana, Cook Islands, Fiji, Jamaica, Kiribati, Lesotho, Madagascar, Malawi, Maldives, Mauritius, Mongolia, Mozambique, Myanmar, Nauru, Nepal, Seychelles, Singapore, St. Kitts and Nevis, Tonga, Trinidad and Tobago, Vanuatu) and information collected at national, institutional and individual levels on the status of women in deep-sea research and related careers.

39 BGR, BMJ, *CPRM, DORD, GSR, Ifremer, Marawa, NORI, TOML and UKSR

*CPRM renounced its rights in relation to its exploration contract on 28 December 2021



SD 5. Build capacity for developing States

ISA is mandated by UNCLOS and the 1994 Agreement to design and implement mechanisms to build and develop the capacity of developing States. Such mechanisms should aim not only at promoting and

encouraging the transfer of technology and knowledge to developing States but also at ensuring the expansion of opportunities for their participation in activities in the Area.

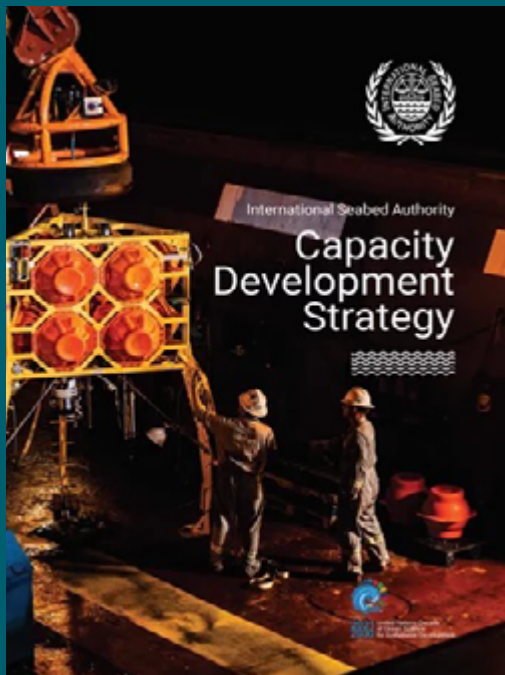
Capacity development strategy

Under the High-level action plan and in line with the decision of the Assembly relating to the implementation of a programmatic approach to capacity development,⁴⁰ the ISA Secretariat has produced a dedicated strategy for capacity development.⁴¹ All the programmes and activities implemented by ISA aim at addressing the priority capacity development needs identified by its developing Member States through a survey carried out by the ISA Secretariat in 2020.⁴²

The Capacity development strategy of ISA was adopted by the Assembly at its 27th session.⁴³ In its decision, the Assembly also requested the Secretary-General to implement the strategy, move forward with identifying key indicators to monitor progress, and continue exploring avenues for mobilizing additional resources to provide the necessary financial support for the implementation of the strategy.

Box 6.

Key results areas identified by the ISA Capacity development strategy



Key result areas

-  Ensuring that capacity development programmes and activities are meaningful, tangible, efficient, effective and targeted at the needs of developing States as identified by them
-  Establishing and furthering strategic partnerships in support of capacity development
-  Strengthening institutional capacities through technology transfer and technical assistance
-  Advancing women's empowerment and leadership in deep-sea-related disciplines through targeted capacity development activities
-  Improving deep-sea literacy through better awareness and understanding of the legal regime of the Area and the role and mandate of ISA

40 ISBA/26/A/18.

41 ISA. 2022. Capacity development strategy. Available at: https://www.isa.org.jm/wp-content/uploads/2022/12/ISA_Capacity_Development_Strategy_2022.pdf.

42 ISA. 2020. Review of capacity-building programmes and initiatives implemented by the International Seabed Authority 1994-2019. Available at: <https://www.isa.org.jm/publications/review-of-capacity-building-programmes-and-initiatives-implemented-by-the-international-seabed-authority-1994-2019>.

43 ISBA/27/A/11.

Strategic partnerships in support of capacity development and the transfer of technology

As of June 2023, there are 59 national focal points for capacity development (NAFOP-CD). To date, three meetings of the NAFOP-CD network have taken place. The most recent meeting was held in May 2023. The focal points were updated on the progress in implementing the ISA Capacity development strategy. The meeting also covered the latest initiatives to enhance coordination between the Secretariat and NAFOP-CD to expand outreach for capacity development opportunities and encourage more suitable candidates to apply.

Efforts to strengthen the relationship with NAFOP-CD have intensified during the reporting period, in line with the key result areas outlined in the Capacity development strategy. This has included a regular exchange of information on training opportunities provided by ISA.

Monitoring, evaluation and outreach

Work is underway to identify clear indicators and targets to assess the quality of all the capacity development activities implemented by ISA and their long-term impacts on career development. In December 2021, the Secretariat launched a dashboard on the ISA website presenting all the data related to the implementation of ISA's capacity development activities by country, region, gender, type of training and year.⁴⁴ In December 2022, the Secretariat contacted each Member State whose citizens had benefited from capacity development activities implemented by ISA, providing them with a list of beneficiaries by gender, discipline and type of training received. This enabled Member States to develop a pool of national experts and support their respective efforts and decision-making processes. Between July 2022 and June 2023, more than 380 individuals have benefited from at least one ISA capacity-building and/or development activity, including workshops.

Contractors' training programme

ISA contractors have a contractual obligation to provide and fund training opportunities for personnel from developing States and from ISA. Over 250 professionals have benefitted from the Contractors' training programme (CTP).

Between May 2022 and June 2023, 68 individuals, including 22 women, completed training under the CTP (**Table 2**). Twenty-three trainees were from geographically disadvantaged States (12 LDCs, 7 SIDS, 1 LLDC and 3 LDC/SIDS). At the end of the reporting period, 13 training opportunities were in progress, while 21 placements were pending.

The ISA Secretariat hosted the third and fourth editions of its end-of-training certificate presentation ceremony with the CTP beneficiaries in May and July 2023 respectively. Certificates were presented to 54 trainees from 24 developing States, including 18 women and 18 nationals from geographically disadvantaged States (four SIDS, eleven LDCs, one LLDCs and two LDC/SIDS).

Since the easing of COVID-19 restrictions, contractors have been encouraged to return to the modality of in-person training, with some flexibility granted for rescheduling training placements as required.

The ISA Secretariat has also made progress toward establishing an alumni network of former ISA trainees. The alumni network is expected to become active before the end of 2023.

Ten contractors (BGR, BMJ, CPRM,* DORD, GSR, Ifremer, Marawa, NORI, TOML and UKSR) had pledged to allocate 50 per cent of their training opportunities to qualified women applicants, when possible, in the context of the WIDSR project, as of June 2023.

*CPRM renounced its rights in relation to its exploration contract on 28 December 2021

44 ISA. Capacity building dashboard. Available at: <https://capacitybuilding.isa.org.jm:4431>.

Table 2. CTP placements during the reporting period

Contractor	Mineral	Number of placements	Modality	WIDSR pledge
BGR	PMN	4	At-sea and post-cruise training	✓
COMRA	PMN	4	Online	
CPRM*	CFC	8	At sea	
DORD	PMN	5	At sea	✓
Government of Poland	PMS	2	At sea	
Government of Poland	PMS	2	On-land multidisciplinary training	
GSR	PMN	4	Professional training	✓
Ifremer	PMN	9	Internship	✓
IOM	PMN	6	Internship	
JSC Yuzhmorgeologiya	PMN	6	Internship	
MNRE, Russian Federation	PMS	3 2	Theoretical Theoretical and at-sea training	
MNRE, Russian Federation	CFC	3 2	Theoretical Theoretical and at-sea training	
Government of the Republic of Korea	CFC	2	At sea	
Government of the Republic of Korea	PMS	2	At sea	
NORI	PMN	2	At sea	✓
TOML	PMN	2	At sea	✓

Deep-DiplomaSea

Since 2021, the ISA Secretariat has regularly hosted the Deep-DiplomaSea webinar series to inform about ISA's role, mandate and work. It is aimed at personnel of Permanent Missions to ISA and the United Nations and senior representatives of United Nations agencies. The latest edition took place in May 2023, with 57 participants selected to attend the event. The discussions covered ISA's governance structure and mandate, ISA's decision making process, the Mining Code and legal framework in the Area as it relates to the transitioning from exploration to exploitation, equitable sharing of financial and other economic benefits, protection and preservation of the marine environment from activities in the Area, an overview of the Environmental Compensation Fund as a concept in development, ISA's MSR Action Plan and the Sustainable Seabed Knowledge Initiative (SSKI).



70
participants

The discussions covered

ISA's
governance
structure &
mandate

ISA's decision
making
process

the Mining
Code & legal
framework in
the Area

Internship programme

The Secretariat accepts interns on a limited basis, depending on the specific needs of the respective offices within the Secretariat. The purpose of the internship programme is twofold: (a) provide a framework through which students and young government officials from diverse academic backgrounds can gain exposure to the work and functions of ISA to enhance their educational experience and/or gain experience in the work of ISA and (b) enable ISA to benefit from the assistance of qualified students and young government officials specialized in various fields within the scope of activities of ISA. The nature of the internships is not predefined. Rather, the Secretariat determines the number and nature of internships according to the requirements of its offices. Selection and recruitment are ongoing. Each intern is supervised by a designated staff member of the Secretariat. During the reporting period, four individuals interned at the Secretariat (two with OLA and two with OEMMR).

The Secretariat received financial support from the National Oceanography Centre of the UK to support the participation of two interns in the OEMMR who would contribute to activities implemented under the ISA MSR Action Plan. Ms. Tanga Morris from the Cook Islands joined the Secretariat between September and December 2022. She conducted an inventory of more than 30,000 image records collected by ISA contractors between 2011 and 2021, which could be potentially used and shared in the ISA DeepData database. Ms. Ruyian Zhang from China worked remotely between September and December 2022. She assessed the biological data available in the DeepData database for the Indian Ocean, the Northwest Pacific and the Mid-Atlantic Ridge regions. More than 16,000 taxonomic records were reviewed, improving the quality of these data for public use and decision-making. The outcomes of interns' work have significantly contributed to the implementation of SSKI and the REMP process.

“Getting involved in ISA workshops and conversations among stakeholders and scientists have truly opened my mind and inspired me to reflect on my own research in deep-sea taxonomy. I genuinely appreciate this experience and the bonds established with the ISA team and experts from different backgrounds.

RUIYAN ZHANG
China



2022 ISA-NATIONAL OCEANOGRAPHIC CENTER INTERNSHIP

Country: China
Education: MSc. in Marine Biology
BA. in English

Languages: Chinese and English
Hobbies: music, traveling and cooking



“During my internship with ISA, I have been given the opportunity to explore the DeepData imagery. I created an inventory and catalogued images, including appropriate labels for biodiversity assessments and communication materials. Lastly, I established effective interoperable links between DeepData and relevant external systems to build image libraries and yet to complete, DNA sequencing for deep-sea species in the Area. I am thoroughly enjoying the experience.

TANGA MORRIS
Technical Officer
Cook Islands



2022 ISA-NATIONAL OCEANOGRAPHIC CENTER INTERNSHIP

Country: Cook Islands
Education: BSc. Ecology and Biodiversity

Languages: English and Cook Islands Maori
Hobbies: outdoors, exploring, and sports



Secretary-General Award for Excellence in Deep-Sea Research



Since 2017, ISA has promoted and encouraged the excellence of young researchers from developing States through the ISA Secretary-General's Award for Excellence in Deep-Sea Research. This award is aimed at recognizing and

encouraging the achievements of young researchers from developing countries who have made outstanding contributions to the advancement of scientific knowledge of the deep-sea environment or to the development of environmentally sustainable regulatory frameworks.

In 2023, the Secretary-General appointed a new advisory committee responsible for the selection process for a three-year term. The new members of the advisory committee are professionals recognized for their expertise in the fields of deep-sea science (natural and/or applied), social sciences and humanities, and experience in the law of the sea, international law, management of marine resources: Dr. Gordon L.J. Paterson, Ms. Jihyun Lee, Prof. Pedro Madureira, H.E. Dr. Maureen P. Tamuno and Dr. G. A. Ramadass (**Box 7**).

In March 2023, the Secretary-General launched the fourth edition of the Award for Excellence in Deep-Sea Research. This year's awardee, who will be formally announced during the 28th session of the Assembly in July 2023, will also have the opportunity to participate in an environmental exploration cruise in the CCZ.

Box 7.

Members of the 2023 Advisory Committee for the ISA Secretary-General Award for Excellence in Deep-Sea Research



Dr. Gordon L. J.
Paterson



Ms. Jihyun Lee



Prof. Pedro
Madureira



H.E. Dr. Maureen
Tamuno



Dr. G. A. Ramadass

Africa Deep Seabed Resources project



ISA, the African Union and the Norwegian Agency for Development Cooperation (NORAD) have been implementing the Africa Deep Seabed Resources (ADSR) project since 2019. The project stems from a joint voluntary commitment (#OceanAction40945) registered at the 2017 United Nations Ocean Conference and renewed in 2022.

The ADSR project aims to foster international and regional cooperation to support the sustainable development of Africa's blue economy. It involves the organization of workshops in each African sub-region. Four workshops have been organized so far: Côte d'Ivoire (October 2018), South Africa (May 2019), virtually (June 2021, hosted by ISA and the government of Mauritius) and Nigeria (October 2022). Jointly hosted by ISA and the government of the Federal Republic of Nigeria, the last ADSR workshop brought together senior representatives from Nigerian ministries and authorities, seven other African countries (Comoros,

Eritrea, Ethiopia, Ghana, São Tomé and Príncipe, Sudan and Uganda) and over 250 registered participants from the industry, academia and civil society organizations. Two more regional workshops will be hosted in Morocco and Senegal.

The ADSR project also commissioned a socio-economic and environmental cost-benefit assessment to help African States understand the relevance of engaging in activities related to the sustainable development of deep-seabed resources in the international seabed area to support their blue economies. Consultations on the draft report with Member States and stakeholders of the African region are scheduled for the third quarter of 2023. The publication of this report is expected in November 2023.

Another key component of the project was the deployment of ten African experts to the ISA Secretariat, completed in 2022. A new selection of experts is expected in late 2023 or early 2024.

Abyssal Initiative for Blue Growth



The Abyssal Initiative for Blue Growth is implemented by ISA in partnership with UN DESA under the voluntary joint commitment #OceanAction40974 registered at the 2017 United Nations Ocean Conference and renewed in 2022.

The Abyssal Initiative aims at strengthening the capacity of Pacific SIDS to develop and implement appropriate enabling legal, institutional and policy frameworks for the sound and sustainable management of marine mineral resources in the Area.

As of June 2023, there were 15 Pacific SIDS among ISA Members. Four of these are sponsoring contracts for mineral exploration in the Area: the Cook Islands, Kiribati, Nauru and the Kingdom of Tonga. The Abyssal Initiative held its first workshop in Tonga in February 2019, which consisted of a broad consultation between Pacific SIDS and representatives from civil society

organizations and the private sector. Based on this consultation, a list of specific activities was designed to address the needs identified by the four participating States. Two regional workshops were organized in August 2019 in Nauru and Kiribati to discuss marine scientific research and the role and responsibilities of sponsoring States.

Initially, the Abyssal Initiative planned to hold its final workshop in April 2022 in partnership with the Kingdom of Tonga to address benefits-sharing issues. However, due to the volcanic eruption in Tonga in December 2021, the workshop was rescheduled for June 2023.

The Abyssal Initiative also made significant progress on the development of a toolkit on the role and responsibilities of sponsoring States and guidance for negotiators, which is expected to be released in 2023 after consultations with key regional stakeholders.

ISA-China Joint Training and Research Centre

In October 2019, ISA signed a memorandum of understanding with China to establish the Joint Training and Research Centre (JTRC) in Qingdao, China.

The first workshop hosted by the JTRC took place in May 2022 in a virtual format. It focused on the survey and assessment of mineral resources in the Area, the characteristics of deep-sea ecosystems and environmental management, and the global repository of data from exploration activities in the Area. A total of 55 individuals from 20 countries participated in the workshop. Twenty-five participants were women, while 24 were from LDCs, LLDCs and SIDS. Discussions about the next workshop intended to take place in October 2023 in China are ongoing.

Collaboration with the Indian Ocean Rim Association

Following approval by the Council in December 2022,⁴⁵ the Secretary-General of ISA and the Secretary-General of the Indian Ocean Rim Association (IORA) signed a memorandum of understanding on 17 March 2022. Since then, discussions have progressed to develop dedicated activities based on priorities and needs identified by members of ISA and IORA. These activities have led to the development of a joint project entitled “Strengthening deep-sea science and technology in the Indian Ocean region.” The primary objective of the project is to enhance the institutional, organizational and individual capabilities of ISA and IORA members, with a specific focus on LDCs and SIDS. This will be achieved through activities centered around seabed exploration and mapping, technology development and innovation, and promoting the empowerment and leadership of women experts in ocean affairs from the Indian Ocean region. The project will collaborate with the Impact Group on Research and Oceans for Women (IGROW) and the WIDSR initiative to ensure a synergistic approach. The project’s actions will primarily revolve around three key areas:

- (1) enhancing capacity development,
- (2) facilitating access to and sharing of information
- (3) promoting marine scientific research.

Collaboration with the United Nations Technology Bank for Least Developed Countries

The ISA Secretariat and the United Nations Technology Bank for Least Developed Countries (UNTBLC) have collaborated to establish a joint project framework aimed at conceptualizing, designing, and implementing coordinated activities to enhance the capacities of LDCs in support of the sustainable development of emerging blue economic sectors. This joint project framework aligns with the objectives outlined in the Doha Programme of Action for the Least Developed Countries for the Decade 2022-2031. It also aligns with the ISA’s mandate to facilitate the active participation of developing States and foster the transfer of technology and scientific knowledge related to activities in the Area to developing States.

As part of this partnership, ISA and the UNTBLC jointly organized an online side event during the 8th Multi-stakeholder Forum on Science, Technology, and Innovation for the Sustainable Development Goals, which took place from 3 to 4 May 2023. The event focused on harnessing the potential of ocean science, technology and innovation to support the implementation of the 2030 Agenda for Sustainable Development, specifically in relation to SDG 14, and promote women’s empowerment and leadership in these efforts.⁴⁶

ISA-Ifremer deep-sea taxonomy postdoctoral fellowship

In cooperation with Ifremer and with the financial support of the Government of France, the Secretariat established a deep-sea taxonomy postdoctoral fellowship for candidates from developing States Members of ISA. Dr. Ranju Radhakrishnan (India) started the 18-month fellowship in September 2022, focusing on developing and testing new methods and technologies for deep-sea species identification. The fellowship is part of the Ifremer Blue Revolution project. It involves work on developing and testing three-dimensional imaging techniques to identify meiofauna organisms of deep-sea ecosystems found in areas currently explored for mineral resources. The fellowship will also contribute to identifying key species that can be used as indicators for assessing potential environmental changes in the future (**Box 8**).

45 ISBA/26/C/13/Add.1.

46 ISA. 2023. STI Forum side event | Leveraging the power of ocean science, technology and innovation to support the 2030 Agenda for sustainable development. Available at: <https://www.isa.org.jm/events/sti-forum-side-event-leveraging-the-power-of-ocean-science-technology-and-innovation>.

Box 8.

ISA-Ifremer 2022-2024 fellow Dr. Ranju Radhakrishnan shares preliminary results of her postdoctoral work



Dr. Ranju Radhakrishnan's postdoctoral work focuses on the identification of benthic foraminifera. Foraminifera are protozoans that live in sediments. They are very diverse and are well represented in deep-sea sediment communities. In abyssal plains, where polymetallic nodules are found, foraminifera represent 50 per cent of the meiofaunal and macrofaunal abundance and biomass, making them ideal markers to monitor environmental changes in deep seafloor ecosystems, especially in areas explored for mineral resources.

Looking for signs of environmental disturbance

In 2021, ISA contractor GSR conducted a trial of its prototype nodule collector Patania II in its contract area in the CCZ. Its exploration cruises MANGAN 2021 and MANGAN 2022 subsequently collected sediment samples in areas potentially disturbed by the passage of Patania II.

Dr. Radhakrishna has analyzed 14 samples from the MANGAN 2021 cruise and is planning to analyze more samples obtained during the MANGAN 2022 cruise. She is looking at the occurrence and diversity of benthic foraminifera in the sediment to compare with samples collected in the same areas before the Patania II trial. Preliminary results of her analysis do not show a significant difference in foraminifera abundance and diversity in samples pre- and post-disturbance.

Calibrating a new methodology for automated image acquisition and species identification

Dr. Radhakrishnan is also testing the accuracy of species identification based on automated image acquisition. Using sediment samples from the Roscoff Bay Area in France that are particularly rich in live specimens of foraminifera, Dr. Radhakrishnan has been comparing the results of machine-based identification of specimens with taxonomical observations by humans. Her work will allow to further calibrate the methodology to increase the accuracy of automated image acquisition and species identification.

Next steps

Dr. Radhakrishnan is expected to complete her fellowship in March 2024. By then, she will have produced a manuscript on the automated image acquisition methodology and a manuscript on the potential impact of mining activities on foraminifera. Dr. Radhakrishnan is also hoping she will be able to describe several new species of monothalamids, a type of foraminifera.

ISA-SPC partnership for the enhancement of scientific and technical capacities of Pacific countries in relation to the sustainable development of deep-sea mineral resources

Building on the memorandum of understanding signed in 2015 by the two organizations, ISA and the Secretariat of the Pacific Community (SPC) responded to requests from Pacific SIDS through the development of a joint project to provide targeted assistance on technical aspects of the sustainable development of deep-seabed mineral resources. SPC implements the project with the support of ISA and in partnership with the University of the South Pacific.

It is structured around four key areas:

- facilitating consultation and training of regional experts on deep-sea-related matters
- enabling students from the Pacific to research deep-seabed-related topics
- organizing at-sea training for students
- facilitating two-month placements in the ISA Secretariat for selected students.

Collaboration with the National Maritime Foundation of India

In January 2023, the ISA Secretariat and the National Maritime Foundation of India signed a letter of cooperation to jointly conduct studies and projects on matters of mutual interest related to the sustainable development of deep-seabed resources in the Indian Ocean region. Discussions are currently underway to operationalize the first set of activities.

Collaboration with the Research and Information System for Developing Countries

In January 2023, the ISA Secretariat signed a letter of cooperation with the Research and Information System for Developing Countries of India. This collaboration aims to enable joint research and publications concerning deep-sea-related subjects and facilitate national, regional and international policy dialogue on topics of shared interest. Furthermore, the two intend to develop joint programmes and dedicated initiatives focused on enhancing the capacities of developing States, particularly in the areas of ocean governance and marine scientific research within the Indian Ocean region. Discussions are underway to initiate the first series of activities under this collaboration.

Collaboration with the Gujarat Law University

Following signing a letter of cooperation with the Gujarat National Law University of India in January 2023, the ISA Secretariat supports the development of capacity development activities that promote the effective implementation of UNCLOS, including Part XI and the 1994 Agreement. Such activities will include organizing seminars, publishing materials to support collaborative research, facilitating dialogue among relevant stakeholders and disseminating information. Emphasis will be put on facilitating the involvement of women in the law of the sea.

Building excellence in deep-sea research in support of the blue economy objectives of Antigua and Barbuda and the Caribbean

ISA and the Government of Antigua and Barbuda have partnered to support the development of dedicated capacity development activities in marine scientific research and technology development in their emerging blue economy sectors. This includes supporting a center of excellence and fostering regional and

international cooperation in the Caribbean region. The initiative will also focus on increasing the participation of women in marine scientific research and related fields in the region.

DeepDive: ISA's e-learning platform

DeepDive is a unique e-learning platform exclusively designed to address all elements of the legal regime in UNCLOS, Part XI and the 1994 Agreement. It comprises five modules covering the legal, scientific and technological aspects of activities in the Area. DeepDive builds on the exclusive body of expertise and experience of internationally renowned experts in deep-sea-related matters. The first module of self-paced lessons will be available on ISA's DeepDive platform in the summer of 2023 (**Box 9**).

DeepDive was conceived to enhance the capacity of government officials and practitioners from Member States, including developing States Members of ISA, young graduates, staff of partner institutions and other relevant stakeholders, to understand and implement better the legal regime of the Area and the different elements that construct the conduct of activities in the Area. In compliance with international law, DeepDive aims to facilitate the development and implementation of national legal frameworks and help strengthen national institutions to enable countries to participate more actively in the activities carried out in the Area and fully benefit from the opportunities offered by the blue economy. DeepDive is a meaningful, tangible, efficient, effective and targeted response to the needs of developing States, as identified by them.

Box 9. DeepDive learning content



Deep Dive experts

The lessons in Module 1 are delivered by internationally renowned experts.



Michael W. Lodge

Secretary-General,
International Seabed Authority



Sir Michael Wood

Member of the UN International
Law Commission, and a Senior
Fellow of the Lauterpacht Centre
for International Law, University
of Cambridge



Michelle Walker

Deputy Solicitor General,
International Affairs Division
at the Attorney General's
Chambers in Jamaica



Rüdiger Wolfrum

Professor of international law at
Heidelberg University and Honorary
Director of the Max Planck Foundation



Eden Charles

Special Representative of the Secretary-
General for the Enterprise, International
Seabed Authority



Mariana Durney

Legal Counsel, International
Seabed Authority



Marie Bourrel-McKinnon

Chief of Staff & Head of Strategic
Planning Unit,
International Seabed Authority



Ulrich Schwarz-Schampera

Programme Management Officer
(Mining Geologist), International
Seabed Authority



Tara Davenport

Assistant Professor, Faculty of Law,
National University of Singapore



Aldo Chircop

Professor of Law and Canada Research
Chair in Maritime Law and Policy



Elie Jarmache

Member of the Scientific Council of the
Law of the Sea Institute (Indemer)



Warwick Gullett

Professor of Law and former Dean of
Law at the University of Wollongong
and a member of the Australian
National Centre for Ocean Resources
and Security (ANCORS)



Dale Squires

Adjunct Professor of Economics at the
University of California San Diego



SD 6. Ensure fully integrated participation by developing States

The legal regime for the deep seabed under Part XI of UNCLOS and the 1994 Agreement is based on two core expectations: that the regime would have a universal character and that due attention would be given to the interests and needs of developing countries. The latter expectation is reflected in UNCLOS, Article 148, which affirms the promotion of effective participation of developing States in activities in the Area with due regard to their special interests and needs. Other provisions of Part XI provide preferential access for

developing countries (the reserved area system) and grant priority in the enjoyment of the proceeds of deep-seabed mining (equitable distribution).

Presently, ISA prioritizes identifying and promoting opportunities for personnel from developing States to be trained in marine science and technology. Particular attention is paid to the needs of LDCs, LLDCs, SIDS and technologically less advanced States.

Operationalization of the Enterprise

The Enterprise is the organ of ISA conceived by UNCLOS to carry out activities in the Area directly, including the transporting, processing and marketing of minerals recovered from it on behalf of all Members of ISA subject to the directives and under the control of the Council. Under the 1994 Agreement, certain limited functions of the Enterprise are to be carried out by the Secretariat until the Council decides that the Enterprise should function independently. Since 2019, the Secretary-General has appointed Mr. Eden Charles (Trinidad and Tobago) as the Special Representative for the Enterprise. A voluntary trust fund has been established to support his work (see Chapter 7 – Finance and resources). The Special Representative of the Secretary-General for the Enterprise has issued three reports on his work.

In March 2020, the LTC considered a study on issues related to the operationalization of the Enterprise and

made recommendations to the Council, including those relating to the establishment of the position of Interim Director General of the Enterprise in the Secretariat.⁴⁷

At its meetings in March 2023, the Council decided to formally adopt the recommendations of the LTC to establish the position of Interim Director General for the Enterprise (ISBA/28/C/10). The Council further requested the Secretary-General to submit a supplementary budget proposal for the financial period 2023-2024 to cover the costs of the interim director general for its consideration at Part II of the 28th session in July 2023.

Once fully operational, the Enterprise will play a crucial role in facilitating the participation of developing States in deep-seabed mining in the Area, as it will be able to carry out such activities in the reserved areas in association with them.

United Nations Conference for Least Developed Countries – LDC5

Since 2017, the Secretariat has been closely collaborating with UN-OHRLLS in the preparation of the review of the Istanbul Programme of Action for LDCs for the Decade 2011-2020 in the form of the newly adopted Doha Programme of Action for LDCs for the Decade 2022-2031. The aim is to reflect the strategic priorities identified by ISA Members in support of enhanced engagement of LDCs in the work of ISA (**Table 3**). Accordingly, the Secretariat was invited to participate in the Fifth United Nations Conference on the Least

Developed Countries (LDC5), which took place in Doha, Qatar, from 5 to 9 March 2023. The Secretary-General joined the meeting held by the Secretary-General of the United Nations with heads of United Nations agencies. He was invited to contribute to the discussions of Round table 1 (Investing in people in LDCs to leave no one behind)⁴⁸ and Round table (Structural transformation as a driver of prosperity in LDCs).⁴⁹

47 ISA. 2019. A Study Related to Issues on the Operationalization of the Enterprise. Available at: https://www.isa.org.jm/wp-content/uploads/2022/06/Operationalization_of_the_Enterprise.pdf.

48 ISA. 2023. Statement of the Secretary-General at the 5th United Nations Conference on the LDCs, High-level Thematic Round Table 1: Investing in people in least developed countries to leave no one behind. Available at: https://www.isa.org.jm/wp-content/uploads/2023/03/SG_Statement_5th_UN_Conference_on_LDCs_high-level_thematic_round_table_1.pdf.

49 ISA. 2023. Statement of the Secretary-General at the 5th United Nations Conference on the LDCs, High-level Thematic Round Table 2: Structural transformation as a driver of prosperity in LDCs. Available at: https://www.isa.org.jm/wp-content/uploads/2023/03/SG_Statement_5th_UN_Conference_on_LDCs.pdf.

Table 3. Deliverables and activities identified in the Doha Programme of Action for LDCs for the Decade 2022-2031 committing ISA to develop the capacities of LDCs

Action areas	Deliverables and activities	Timeline
I. Investing in people in LDCs: eradicating poverty and building capacity to leave no one behind		
Achieving universal access to quality education, skills and lifelong learning	Provide support to LDC research institutions in deep-sea science.	Ongoing
Achieving gender equality and the empowerment of all women, girls and young people to address inequality and drive economic growth	Enhance the role and participation of women scientists from LDCs in deep-sea research.	Ongoing
Achieving good and effective governance at all levels	<p>Provide assistance and support to increase awareness of the potential benefits for LDCs to ratify and implement UNCLOS and participate in activities in the international seabed area (deep-sea exploration, marine scientific research).</p> <p>Increase awareness of the benefits of the blue economy for LDCs, including establishing benefit-sharing mechanisms for economic and non-financial benefits derived from activities undertaken in the international seabed area.</p> <p>Identify measures to increase the participation of LDCs in the implementation of the regime of the international seabed area and the work of ISA.</p>	Ongoing
II. Leveraging the power of science, technology and innovation to fight against multidimensional vulnerabilities and achieve the Sustainable Development Goals		
Accessing modern technologies for sustainable development and building human capital, infrastructure and institutions to reap the benefits of the fourth industrial revolution	Promote the development and establishment of specific mechanisms and tools to develop the necessary capacities of LDCs in marine technology and organize and facilitate technology transfer in line with UNCLOS, Part XI.	Ongoing
III. Structural transformation as a driver of prosperity		
Engaging in productive capacity-building	Support and provide on-demand capacity-building to the relevant national authorities in the LDCs in the field of blue economy and effective implementation of UNCLOS and the 1994 Agreement.	Ongoing
V. Addressing climate change, environmental degradation, recovering from the COVID-19 pandemic and building resilience against future shocks for risk-informed sustainable development		
Accessing finance and technology to address climate change	Produce and disseminate knowledge and information about the role of minerals in the green energy transition and deliver the objectives of the Paris Agreement on climate change.	Ongoing



The Secretariat also hosted a high-level event aimed at exploring options for leveraging the power of science, technology and innovation in the deep seabed in support of the implementation of the Doha Programme of Action. The event served as an opportunity to discuss some of the direct impacts of several initiatives by ISA to support the most vulnerable countries within the context of the Doha Programme of Action, including LDCs. The event featured statements by the Honorable Fekitamoeloa Katoa 'Utoikamanu, Minister of Foreign

Affairs and Tourism of the Kingdom of Tonga, the Honorable Abshir Omar Jama, Minister of Foreign Affairs and International Cooperation of Somalia, H.E. Ms. Vanessa Frazier, Permanent Representative of Malta to ISA and the United Nations, H.E. Mr. Salman Al Farisi, Secretary-General of IORA, Ms. Jorun Sigrid Nossun, Assistant Director, Section Oceans, NORAD, and H.E. Mr. Henry Puna, Secretary-General of the Pacific Islands Forum Secretariat.



“The regime set out by UNCLOS to co-manage this global common operates on the fundamental principle that the interests of all States are taken into account. It is one of the few international governance regimes that specifically integrates the interests and needs of developing States, with

a strong focus on geographically disadvantaged and vulnerable States, particularly LDCs, LLDCs and SIDS.

The marine scientific and technical capacities of participating stakeholders lie at the core of this legal regime. (...) The need for improved capacities and access to marine scientific research programmes in the international seabed area for LDCs, LLDCs and SIDS has been recognized as a priority by our member States at the highest strategic level. It is clearly anchored in the ISA Strategic Action Plan and the High-Level Action Plan adopted in 2018 and 2019, the Action Plan for Marine Scientific Research in support of the United Nations Decade of Ocean Science for Sustainable Development adopted in 2020 and more recently, the Capacity Development Strategy adopted in 2022.”

**H.E. Mr. Michael Lodge,
Secretary-General, ISA**

ISA high-level event at LDC5, 5 March 2023



“LDCs, notably SIDS, too often lack the basic resources, capacities and access to technology to manage, safeguard and exploit these resources. The Doha Programme of Action creates global partnerships that acknowledge this and place LDCs at the forefront of such

endeavors, which will, in turn, accelerate their paths from progress to sustainable prosperity.”

**Hon. Fekitamoeloa Katoa 'Utoikamanu,
Minister of Foreign Affairs and
Tourism, Kingdom of Tonga**

ISA high-level event at LDC5, 5 March 2023



“The blue economy offers a wide range of economic development opportunities. Our countries will need carefully nurtured partnerships and support to be able to achieve the maximum returns. Not just any partnership – but partnerships with objectives aligned to

the ambitions of the 2050 Strategy for the Blue Pacific Continent.”

**H.E. Mr. Henry Puna, Secretary General,
Pacific Islands Forum Secretariat**

ISA high-level event at LDC5, 5 March 2023

Annual Ministerial Meeting of Foreign Ministers of LLDCs

The Secretariat has continued to work with UN-OHRLLS to implement the Vienna Programme of Action.⁵⁰ During the reporting period, specific emphasis was placed on designing tailored activities to address the needs of LLDCs in deep-sea research to proceed with implementation in late 2023.

Table 4. Deliverables and activities identified in the United Nations Roadmap for Accelerated Implementation of the Vienna Programme of Action committing ISA to develop the capacities of LLDCs

Action areas	Implementing organizations	Deliverables and activities	Timeline
ENERGY and ICT			
2.1. Energy efficiency and access, including renewables	UNOSSC, UN ESCAP, UNDP, GGGI, ISA, WGEO	Support and provide on-demand capacity-building to the relevant national authorities in the LLDCs to scale up sustainable energy use to advance the green economy transition.	2021
STRUCTURAL ECONOMIC TRANSFORMATION			
3.3. Diversification and value-addition	ISA	Provide assistance and support to increase awareness of the potential benefits of UNCLOS to LLDCs so they can ratify and implement it and participate in activities in the international seabed area (deep-sea exploration, exploitation, marine scientific research). Increase awareness of the benefits of the blue economy for LLDCs, including establishing benefit-sharing mechanisms for economic and non-financial benefits derived from activities undertaken in the international seabed area.	Ongoing
3.5. Science, technology and innovation and research	ISA	Promote the development and establishment of specific mechanisms and tools to develop the necessary capacities of LLDCs in marine scientific research and organize and facilitate technology transfer, in line with Part XI of UNCLOS.	Ongoing
MEANS OF IMPLEMENTATION AND INTERNATIONAL SUPPORT			
5.3. Assistance towards deriving benefits from relevant conventions and other legal instruments, including UNCLOS	ISA	Identify measures to increase the participation of LLDCs in the implementation of the international seabed area regime and the work of ISA.	Ongoing
OTHER AREAS			
6.4. Gender equality and the empowerment of all women and girls	ISA	Enhance the role and participation of women scientists from LLDCs in deep-sea research.	Ongoing

⁵⁰ United Nations. 2014. Second United Nations Conference on Landlocked Developing Countries. Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014-2024. Draft resolution submitted by the President. Available at: <https://digitallibrary.un.org/record/783720?ln=en>.

Transfer of technology

Article 144 of UNCLOS, as modified by Section 5 of the annex to the 1994 Agreement, deals with transfer of technology. Article 144 requires ISA to take measures to acquire technology and scientific knowledge and promote and encourage their transfer to developing countries. To this end, ISA and States Parties cooperate to initiate and promote programmes for the transfer of technology concerning activities in the Area to the Enterprise and developing States.

The 1994 Agreement further sets out principles on which the transfer of technology under Article 144 will be based. This includes fair and reasonable commercial terms for the acquisition of deep-seabed mining technology, the principle of full and effective cooperation between States Parties and contractors, and the need to promote international technical and scientific cooperation through training, technical assistance and scientific cooperation programmes in

marine science and technology, and the protection and preservation of the marine environment.

As deep-seabed mining technology continues to develop rapidly, including technology for monitoring the impacts of mining on the marine environment, the Secretariat has engaged in different initiatives aimed at devoting greater attention to the implications and modalities for implementation of UNCLOS, Article 144, based on the actual technological needs of developing States.

In 2022, the Secretary-General established a group of experts to review the role of ISA with respect to technology and provide strategic guidance and recommendations on the future implementation of Article 144 and related matters. A report will be released in late 2023 or early 2024.



SD 7. Ensure equitable sharing of financial and other economic benefits

Equitable sharing of the financial and other economic benefits from activities in the Area is an essential element of the legal regime created by Part XI of UNCLOS. UNCLOS establishes the principle that all activities in the Area, including recovery of minerals, must be carried out for the benefit of all humankind, irrespective of the geographic location of States. In pursuance of this principle, UNCLOS requires that ISA provides for the equitable sharing of financial and other economic benefits on a non-discriminatory basis.

As the Council advances its work on adopting the necessary regulatory framework that would permit commercial recovery, the Finance Committee, which has the primary responsibility to draft appropriate rules and procedures on equitable benefit-sharing, has developed formulae for equitable sharing of financial and other economic benefits in ISA Technical Study 31.⁵¹

In May 2022, the Finance Committee discussed the equitable sharing of financial and other economic benefits derived from activities in the Area based on a summary report provided by the Secretary-General on the outcomes of discussions on the matter held during the last meetings of the Council and Assembly (ISBA/27/FC/2). The Finance Committee also discussed the elaboration of a draft framework for financial regulations on the treatment of funds received from activities in the Area and welcomed the request by the Council and Assembly for it to develop a detailed proposal for the establishment of a seabed sustainability fund as an alternative or adjunct to the direct distribution of monetary benefits derived from activities in the Area. To this end, it requested the Secretariat to proceed and prepare draft proposals for the establishment of a seabed sustainability fund, as well as a study on options for the distribution of funds received under UNCLOS, Article 82(4). These matters are on the agenda of the Finance Committee for 2023.

51 ISA. 2022. Technical Study 31: Equitable sharing of financial and other economic benefits from deep-seabed mining. Available at: <https://www.isa.org.jm/publications/technical-study-31-equitable-sharing-of-financial-and-other-economic-benefits-from-deep-seabed-mining>.



SD 8. Improve the organizational performance of ISA

The High-Level Action Plan identifies the need to improve the organizational performance of ISA continuously. This includes strengthening the

management culture, reducing risk and introducing best practices through organizational reforms (High-level action 8.1.1).

Strengthening the management culture, reducing risk and introducing best practices through the planning, development and implementation of organizational reforms

During the reporting period, the Secretariat has continued to build on the work done since 2020 to develop and maintain a risk management framework through the ongoing adjustment and improvement of the ISA Business Continuity Plan, which aims at ensuring smooth and continuous administrative services and efficient standard operating procedures in support of knowledge- and information-based organization.

The Secretariat further improved communication and cooperation with other United Nations agencies and the host country's law enforcement entities to ensure the safety of personnel in case of crises or any other unforeseeable circumstances. Through the security response framework, close collaboration with relevant counterparts and well-defined procedures as part of the ISA Business Continuity Plan, the Security and Facility Management Unit successfully provided ISA staff, delegates from ISA Members, observers and dignitaries visiting the ISA headquarters with the best available services during normal operations of the different organs of ISA.

Significant work is also conducted in relation to strengthening ISA's communications and information technology services. During the reporting period, efforts have been made to improve ISA's response to cybersecurity risks and threats.

During the reporting period, further progress was made to provide a good working environment based on a strong management culture to ensure excellence in the provision of administrative services

by ISA, compliance with United Nations security and safety policies, and a commitment to learning and professional development. According to the learning and development policy issued in 2018 (ISBA/ST/SGB/2018/1), the Secretary-General placed a strong emphasis on creating learning and development opportunities for all staff. The objective is to provide all personnel with the possibility to enhance their skills and competencies to meet the changing needs of ISA in line with the evolutionary approach embedded in UNCLOS and the 1994 Agreement. During the reporting period, 36 training opportunities were granted to staff, reflecting the critical investment made in the future of ISA. This included training offered through the United Nations Staff System College.

As a participant in the United Nations common system of organizations, ISA contributes to and participates in the work of the International Civil Service Commission and utilizes common system services and tools such as Inspira, One HR, the United Nations Department of Safety and Security, the United Nations Appeals Tribunal and United Nations Staff System College. ISA also contributes to the United Nations Security Management System. This ensures access to disaster evacuation arrangements and medical evacuations, helping ISA participate in the Interagency Security Management Network and relevant Security Training Working Groups. ISA is not currently a member of the Chief Executives Board but is considering an invitation to join its three relevant networks as an observer: Human Resources, Budget and Finance, and Information Technology.

Resources management and future financing of ISA

As the Council works towards adopting regulations on the exploitation of mineral resources in the Area and the associated standards and guidelines, ISA needs to prepare to become an effective regulator of industrial activity while also implementing its other mandates under UNCLOS and the 1994 Agreement. This will require a significant increase in the capacities of its organs and bodies, including the Secretariat.

In that connection, in 2021, the Secretary-General issued a report on the future financing of ISA for consideration by the Finance Committee (ISBA/26/FC/7). The report

provided indicative budget projections through 2030 based on reasonably foreseeable scenarios. In its decision ISBA/26/A/33 of 14 December 2021, the Assembly took note of the estimated financial and budgetary implications associated with the expected evolution of ISA in the next five to ten years and the need to ensure that it is equipped with the capacity and resources necessary to fulfill its obligations under UNCLOS and the 1994 Agreement. The Finance Committee requested the Secretary-General to update the budget forecast report in 2023.

The High-Level Action plan of ISA for 2019-2023 (High-level action 8.2.1 (ii)) also tasks the Secretariat with developing measures and mechanisms to encourage contributions by Members and relevant stakeholders to the programmes, projects and initiatives of ISA, especially those relating to capacity development. In that context, the Secretariat hired a consultant to develop a resource mobilization strategy and action plan to assist in identifying and mobilizing the financial resources needed. The resource mobilization strategy and plan have been developed through the consultation of a large spectrum of key relevant stakeholders (Finance Committee, LTC, Member representatives, partners, donors, contractors, observers and non-governmental organizations) and a thorough review by the Finance Committee.

The ISA Partnership Fund (ISAPF) was established on 3 August 2022 by the ISA Assembly during its 27th session.⁵² The ISAPF is a multi-donor trust fund aimed at promoting and encouraging marine scientific research in the Area for the benefit of humankind. It also aims at contributing to dedicated capacity development programmes and activities aligned with the priority needs identified by developing States Members of ISA. Since 2022, the ISAPF has received contributions from France (USD122,124), Greece (USD52,520), China (USD20,000) and Mexico (USD10,000). As of 31 May 2023, the ISAPF had an available balance of USD604,644. The Board of the ISAPF held its first meeting on 1 June 2023 and allocated a total of USD382,000 to four initiatives (**Box 10**). This is the first of two batches of projects to be supported by the ISAPF every year.

Box 10.

Initiatives endorsed by the ISAPF in June 2023

The development of a training course on environmental impact assessment for activities carried out in the Area

USD100,000

A call for expression of interest will be issued

Building and developing capacities of LDCs in deep-sea related sciences, technology and innovation in support of the sustainable development of blue emerging economies in partnership with the UNTBLDC

USD55,000

The development of a feasibility study on the potential of early warning signals to assess deep-sea ecosystem resilience

USD55,000

A call for expression of interest will be issued

Enhancing capacity and knowledge-sharing in meiofauna research through the establishment of a “MeioScool” in partnership with Ifremer

USD172,000

52 ISBA/27/A/10.



SD 9. Commit to transparency

Enhance deep-sea literacy

Improving public understanding of the deep sea and the legal regime is paramount. Accordingly, the Secretariat, in partnership with relevant stakeholders, has initiated the development of dedicated activities focusing on raising awareness of the work currently

undertaken by the international community through ISA to advance understanding of the deep seabed, regulate human activities with respect to important resources potentials and ensure adequate protection of the marine environment.

Wakatoon digital coloring book activity

ISA partnered with Wakatoon to create a fun activity for children between the ages of 4 and 12 to learn about the deep sea, its incredible creatures, its environment, and the work of ISA to explore and protect it. The activity book "Discover the seabed with Olivia" consists of four coloring pages featuring ISA deep-sea scientist Dr. Olivia, who takes us onboard her submarine to explore the deep sea. The Wakatoon application then brings the colored drawings to life in a two-minute video

available in the six languages of the United Nations: Arabic, Chinese, English, French, Spanish and Russian. Translation and adaptation into more languages will soon be available. ISA's Wakatoon activity contributes towards ISA's mission to raise awareness of the deep sea, the international seabed area, its mineral resources and the unique legal regime that is in place to manage them for the benefit of all humanity among all audiences.



Activity book for children from 3 to 6 years old

In April 2023, the ISA Secretariat launched an activity book for children between 3 and 6 years old entitled “Life Under Water Pre-School Companion.” Building on the increasing interest of education experts in tailored tools to enhance the sensitization and understanding of children about the need to protect and sustainably use the ocean and its resources, the Secretariat partnered with an accredited Jamaican preschool providing learning in English, French and Spanish, the three main languages spoken in the Caribbean, to develop this new resource material. The book was created to inspire children to act in favor of the conservation and sustainable use of the oceans.



Deep-sea Bio-Art Hackathon

In collaboration with the National Marine Biodiversity Institute of Korea, the Secretariat will also organize a Deep-sea Bio-Art Hackathon during the third quarter of 2023. This hackathon is an event that brings together artists, scientists and technology experts exploring the intersection of deep-sea biology, art and technology. The hackathon will focus on creating innovative solutions that merge the worlds of science and art

and encourage participants to think creatively about how deep-sea biological data can be used as a source of inspiration and material for art creation. The art materials generated through the hackathon projects will be considered to form a virtual exhibition on deep-sea biodiversity that will be available to all ISA stakeholders, including ISA members, observers and contractors.

World Oceans Day



During a virtual event held on World Oceans Day on 8 June 2023, attended by a hundred participants, ISA highlighted the role of MSR in advancing the global understanding of deep-sea ecosystems and enabling the sustainable management of the Area and its

resources, including concrete actions to promote empowerment and leadership of women scientists in deep-sea research. A webinar organized in the morning was dedicated to the launch of the See Her Exceed (S.H.E.) Mentoring Programme for women scientists



from developing States in deep-sea research.⁵³ The webinar was also the opportunity to feature inspiring testimonials of several women scientists from developing States, highlighting some key challenges they faced in their careers and how they overcame them. In the presence of several deep-sea research experts who have accepted to serve as mentors and to share their expertise and knowledge with selected women scientists from developing States over 12 months and help them realize their full potential, Dr. Samantha Smith, CEO of Blue Globe Solutions and coordinator of the S.H.E. Mentoring Programme, formally launched the call for expression of interest from mentees. The ISA Secretariat will be accepting applications from mentees until 31 August 2023.

The online event concluded with announcing the winners of ISA's art competition.

After the online event, ISA received about 70 elementary school students from Emmanuel Christian Academy between the ages of 8 and 10 years at its headquarters in Kingston. The children were engaged in different deep-sea literacy activities, such as the ISA Wakatoon activity, "Discover the seabed with Olivia." Joining deep-sea scientist Dr. Olivia aboard a submarine, they delved into the mysteries of the deep sea through interactive coloring pages. Each chapter of this captivating

coloring book is thoughtfully designed to introduce young minds to the intricate complexities surrounding the management of over half of the world's ocean seabed.

In addition to this thrilling adventure, the children were introduced to the "Life Under Water Pre-School Companion." This innovative educational tool serves as an inspiration, empowering children to actively participate in the conservation and sustainable use of our oceans. This companion nurtures a deep understanding of the importance of preserving these precious resources by increasing their knowledge of ocean health and instilling a sense of responsibility towards coastal and marine areas.

Stakeholder engagement

ISA is committed to meaningful and informed engagement with all stakeholders in the work of its different organs and the advancement of its mandate. This commitment has been reflected in the consultations with different stakeholders organized to develop the draft regulations on exploitation, their associated draft standards and guidelines, and other key strategic documents and initiatives, such as the REMPs.

53 ISA. WIDSR project, S.H.E. See Her Exceed Mentoring Programme. Available at: <https://www.isa.org.jm/widsr-mentoring-programme>.

Box 11.

Presenting the winners of ISA 2023 art competition “Mysteries of the Abyss”

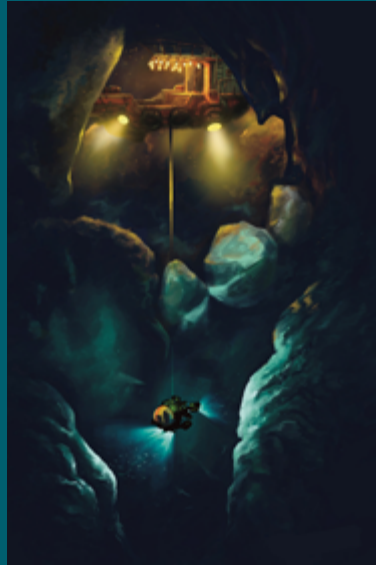
ISA organized two art competitions on the theme of the “Mysteries of the Abyss,” one for school children in Jamaica up to the age of 16 and the other for participants over the age of 16 worldwide. The winners in the two categories were announced on World Oceans Day on 8 June 2023.

International competition



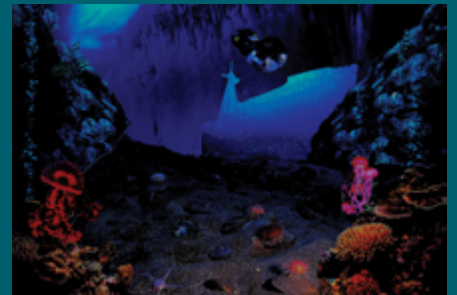
FIRST PRIZE

**Kamaal Manboard, 37,
from Jamaica**



SECOND PRIZE

**Kimingi Tewis, 30, from
Kenya**



THIRD PRIZE

**Wanni Arachchige Damitha Nayananjani
Monarawila, 28, from Sri Lanka**

Local competition



FIRST PRIZE

Amanda Emmanuel, 13



SECOND PRIZE

Shaniquea Williams, 15



THIRD PRIZE

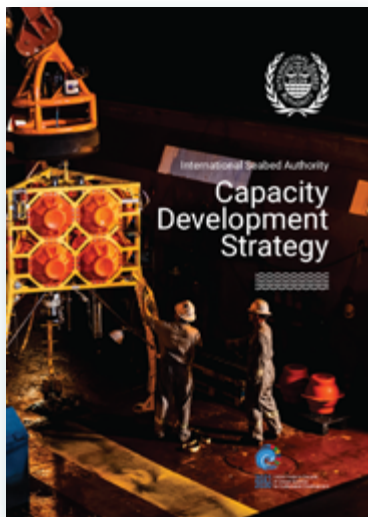
Georgian Watson, 16

Public information and outreach

Publications

Since July 2022, 8 new publications have been released and made available on the ISA website, including three general publications, one policy brief, one technical study, two legal reference books and one discussion paper.

GENERAL PUBLICATIONS



Capacity development strategy

This publication sets out the core elements of ISA's capacity development strategy created in response to the decision of the Assembly of December 2020 to adopt a programmatic approach to capacity development. It identifies five key result areas that aim at enhancing the ability of ISA to build and develop the capacity of developing States Members of ISA (strategic direction 5) to ensure the full integrated participation of these States in the work of ISA and the activities carried out in the Area (strategic direction 6).



DeepData brochure

This brochure about the ISA deep seabed and ocean database, DeepData, informs about what DeepData is, why it was created, how the data is collected, who can use it, and how it is used.



International Seabed Authority - China Joint Training and Research Centre: Annual Report 2022

This publication provides essential information and statistics on the activities of the JTRC between 2022-2023 and an overview of its governing bodies, administration, finance and resources.

POLICY BRIEFS



The Environmental Compensation Fund

This policy brief summarizes the key findings of ISA Technical Study No. 27, entitled “Study on an Environmental Compensation Fund for Activities in the Area.” It presents the relevant legal framework, examines existing international environmental compensation funds, and looks at the peculiarities of the Area from a legal, geographical and operational standpoint. It makes several suggestions relating to the creation of the proposed environmental compensation funds, such as the notion of compensable damage, the evaluation of damage and the existence of a cap on compensation, the modalities of access to the funds, the liability standard and any applicable exclusion, the standard of proof required, the identification of the contributing entities, the parameters for contribution, the size of the fund, the modalities of administration of the fund, insurance aspects and dispute settlement.

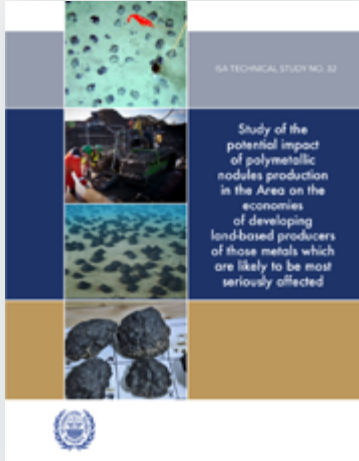
DISCUSSION PAPERS



Effective control

This paper is concerned with the proper interpretation of the term “effective control” as used in several provisions of UNCLOS relating to deep-sea mining. Having set out those provisions, it then considers other provisions in UNCLOS which use similar terminology and how they have been interpreted. Other areas of international law in which similar wording is used are looked at, as well as some analogous provisions in national law. The respective situations of the sponsoring States, the ISA and third States under UNCLOS are reviewed, and finally, an attempt is made to draw some conclusions about the legal position.

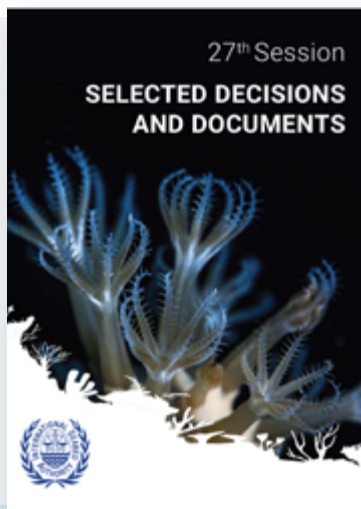
TECHNICAL STUDIES



Technical Study 32: Study of the potential impact of polymetallic nodules production in the Area on the economies of developing land-based producers of those metals which are likely to be most seriously affected

Activities in the Area may lead to serious adverse effects on the export earnings and economies of developing land-based producers (DLBPs), resulting from the decline in price or supply volumes of the affected metals. UNCLOS, Articles 150 (h) and 1 (3), determines that developing States must be protected. Special Commission 1 has identified areas of research that need to be undertaken to study the possible impacts of seabed mineral production on DLBPs. Affected metals include copper, nickel, cobalt and manganese. This study supports the conclusion of Special Commission 1 that an assessment of the relationship between mining in the Area and land-based mining should be made for each mineral separately.

LEGAL REFERENCE



Selected Decisions and Documents of the Twenty-Seventh Session

This publication contains all selected decisions and documents of the 27th session of the ISA Council and Assembly.



Selected Decisions and Documents of the Twenty-Sixth Session

This publication contains all selected decisions and documents of the 26th session of the ISA Council and Assembly.

Online presence

The Secretariat works on continuously improving the ISA website to provide swift access to information and enhance the user experience on mobile devices.

In March 2023, the Secretariat launched an upgraded version of its website, offering a more dynamic experience and advanced search features to facilitate access to content.

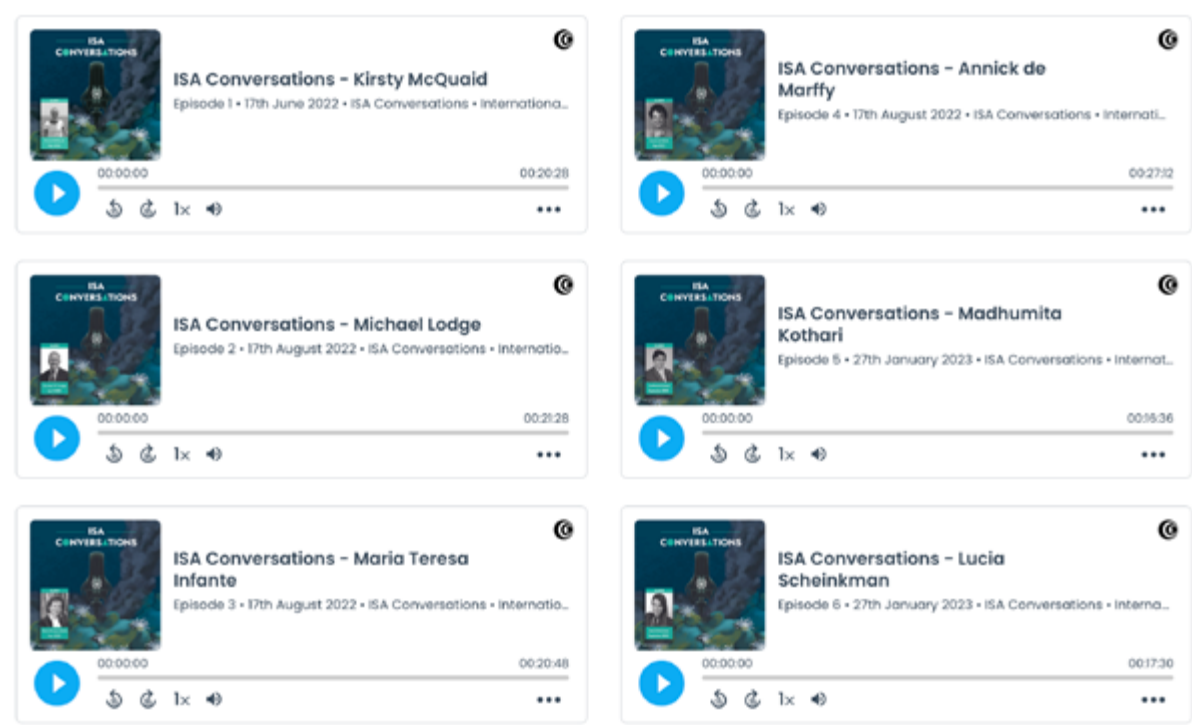
The Secretariat currently publishes three electronic bulletins, which are shared with all its stakeholders on a monthly or quarterly basis:


- ISA newsletter, monthly
- WISDR bulletin, quarterly
- ISA publications digest, quarterly.

In addition, ISA has published a daily bulletin during the sessions of the Council and the Assembly, providing daily updates on discussions since 2021.


Since 2021, the meetings of the Council and the Assembly have also been streamed live on the ISA Web TV in the six official languages of the United Nations.

In 2022, ISA launched a podcast series called “ISA Conversations.” The first podcasts addressing the topic of women in the law of the sea were launched in June 2022. Three more episodes were published in 2023 and are available on several podcast platforms.







WEBSITE
92K page views




TWITTER
4,327 followers
(+1,000 new)




FACEBOOK
3,700 followers
(+600 new)



LINKEDIN
2,119 followers
(+1,000 new)



YOUTUBE
8,000+ views



FLICKR
11K photos



Photo: ISA

Nii Allotey Odunton Museum

The Nii Allotey Odunton Museum was inaugurated in 2019. It comprises a unique collection dedicated to deep-sea exploration in the Area, featuring models of research ships, varied samples of seabed minerals, representations of deep-seabed mining technology, scientific equipment, maps and videos. All items in the collection were donated by ISA Members, contractors and partner research institutions.

The collection has continued to grow steadily since the inauguration of the museum. ISA welcomes new donations that will contribute to increasing our global knowledge of the deep sea and the deep seabed.

Satya N. Nandan Library

The Satya N. Nandan Library is named after the first ISA Secretary-General, Satya N. Nandan. It serves as the main information resource for staff, United Nations agencies, Member States, permanent missions and researchers seeking specialist information on the law of the sea, ocean and marine affairs, deep-seabed mining and seabed resources.

During the reporting period, the Library ramped up its efforts to promote research and scholarship by acquiring a variety of electronic resource portals while maintaining and updating both its print and electronic collections through a robust acquisitions programme. Further, the Library engaged in a necessary weeding exercise. The resources removed from the collection were donated to several local tertiary-level institutions. Moreover, to offer deeper insights into the history and work of ISA, the staff regularly facilitates visits and access to the Library and the Nii Allotey Odunton Museum for delegates and participants of several training programmes hosted at ISA.

The Library continued managing a budget for acquiring books and materials and engaged in exchanges with other institutional partners. Together, the Satya N. Nandan Library and the ITLOS Library are joint members of the United Nations System Electronic Information Acquisition Consortium, a United Nations System-wide initiative of Secretariat libraries functioning with the objective of gaining better purchasing agreements for electronic information, sharing opportunities for training and providing support on resource management. This membership generates considerable savings for participating agencies and is mutually beneficial to ISA and ITLOS.

To further its work in harnessing and maintaining institutional knowledge and information collected throughout the years, the Secretariat is currently progressing with the establishment of a knowledge management hub, which is expected to have an increased impact on the activities and work undertaken by relevant offices in discharging the responsibilities assigned by members of ISA.