



ADVANCING WOMEN'S EMPOWERMENT AND LEADERSHIP IN DEEP-SEA-RELATED DISCIPLINES AND RESEARCH: FROM COMMITMENT TO ACTION

Introduction

Science, technology and innovation are imperative for achieving solutions to the economic, social and environmental dimensions of the 2030 Agenda for Sustainable Development. Ensuring full, active and effective participation of women in these sectors is key to the attainment of the Sustainable Development Goals and to enhancing the scientific and technological capabilities of developing States, particularly the least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing states (SIDS) also known as big ocean states (BOS). The vital role women play in contributing to the 2030 Agenda, specifically to those Sustainable Development Goals relating to the oceans, is well established and repeatedly reaffirmed by governments in key international conferences and high-level dialogues under the auspices of the United Nations. This recognition also extends to the agreed conclusions of the Commission on the Status of Women (2011), the United Nations Resolution on Science, Technology and Innovation for Development (2013), the review of the Beijing Declaration and Platform for Action (2020) and the outcome document and the call to action of the 8th International Day of Women and Girls in Science (2023).

Despite this, women remain underrepresented in ocean science worldwide, particularly in decision-making positions. Additionally, even though women may have strong academic qualifications, these do not necessarily translate into career progression. For example, ocean observation and ocean technology areas are still heavily male-dominated, with men comprising 75 per cent of the researchers.¹ The participation of women in ocean science varies widely among different countries, with a global average currently standing at 37 per cent.²

A survey conducted in 22 countries across Africa, Asia-Pacific, Latin America and the Caribbean in the framework of the activities on empowering women from LDCs, LLDCs and BOS by the International Seabed Authority (ISA) found that three-quarters of respondents consider deep-sea research as important.³

In terms of career progression, among the 51 heads of institutions who responded to the survey, 18 were women and 31 were men. In addition, the majority of individuals in leadership roles were predominantly male (Figure 1). A detailed breakdown of the workforce in deep-sea research across the surveyed countries is presented in Figure 2. The general trend of more men being active in deep-sea research remains overall consistent across the surveyed countries.

¹ Intergovernmental Oceanographic Commission and Unesco. 2020. Global Ocean Science Report. UNESCO Publishing. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000375147>.

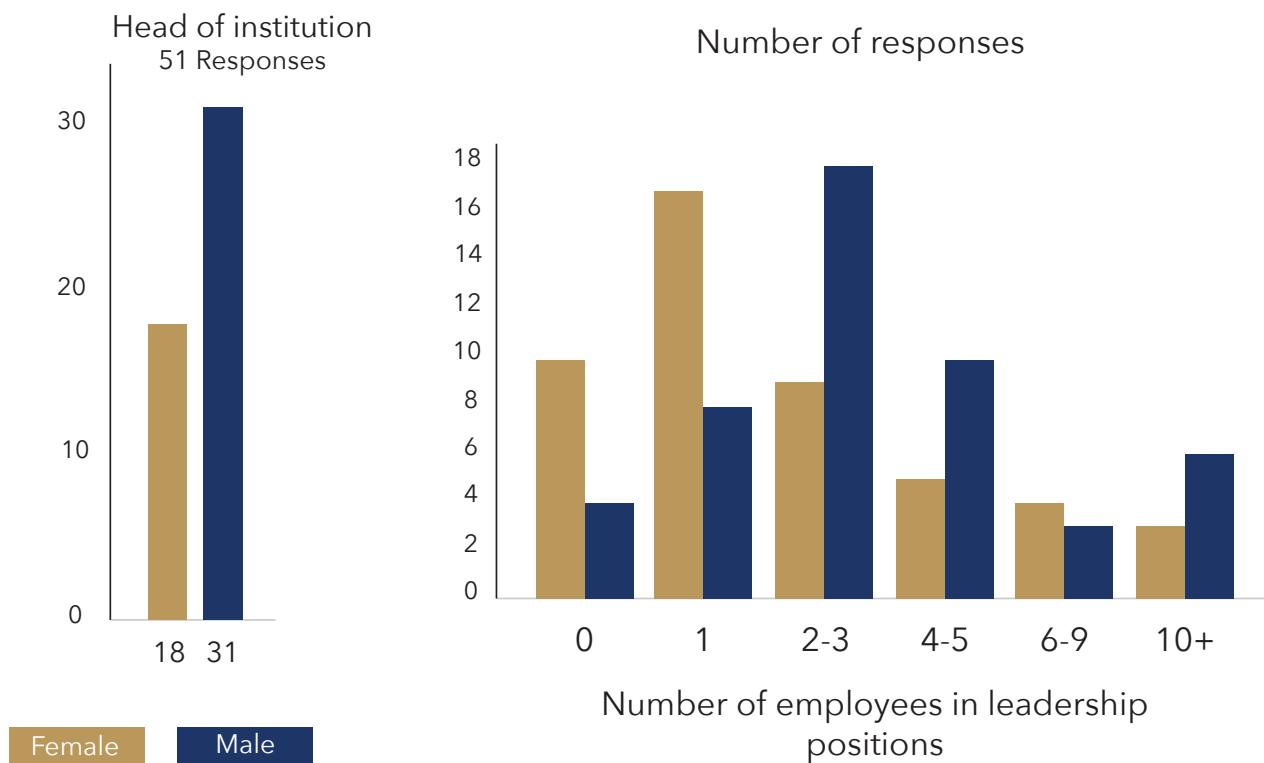
² Isensee, Kirsten. 2020. Women in Ocean Science - where are we in terms of gender equality? Available at: <https://ui.adsabs.harvard.edu/abs/2018EGUGA..2014318I>.

³ 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_WIDSReport_Web.pdf.

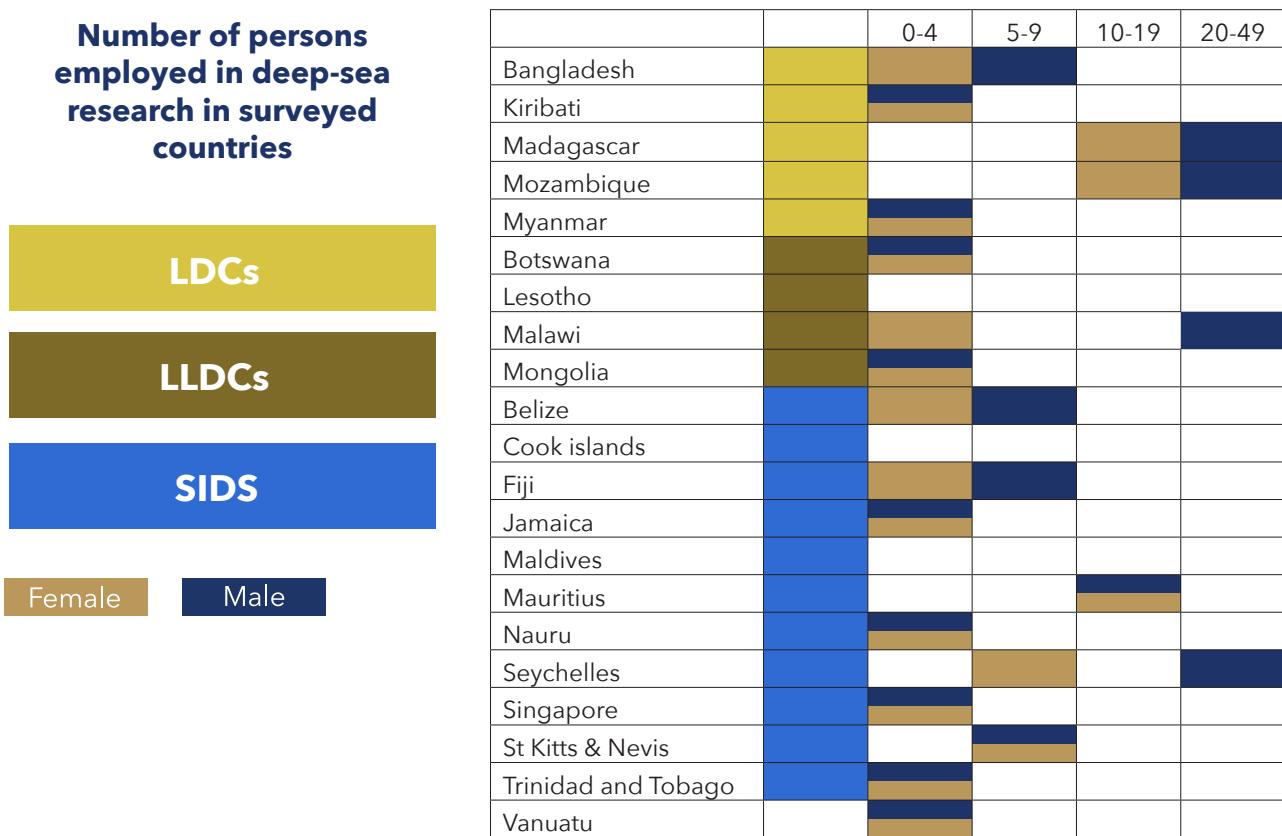
Figure 1. The survey conducted by ISA on the importance of deep-sea research for LDCs, LLDCs and SIDS



Figure 2. Overview of career progression for women in leadership positions and as heads of institutions



Source: ISA. 2022. Empowering women from LDCs, LLDCs and SIDS in deep-sea research

Figure 3. Breakdown of workforce in surveyed countries

Source: ISA. 2022. Empowering women from LDCs, LLDCs and SIDS in deep-sea research

ISA and its commitment to women's empowerment and leadership

The United Nations Convention on the Law of the Sea (UNCLOS) does not specifically reference women and their pivotal role in the implementation of its ambitious goals of strengthening peace and security and fostering a just and equitable international order of the oceans.

ISA is the organization established by UNCLOS through which States Parties organize and control all mineral-resource-related activities in the seabed and ocean floor beyond the limits of national

jurisdiction (the Area) for the benefit of humankind as a whole. Since the UN Ocean Conference in 2017, ISA has developed a series of initiatives aimed at advancing women's empowerment and leadership in ocean affairs, with a specific focus on women from developing States. ISA's commitment is concretized at both strategic and programmatic levels. At the strategic level, this commitment is set out in the [ISA Strategic Plan 2019-2025](#) and the related [High-Level Action Plan](#). Additionally, it is specifically formalized as a driver to guide specific actions and outputs in the context of the [Action Plan of ISA in support of the United Nations Decade of Ocean Science for Sustainable Development](#), adopted

by the ISA Assembly in 2020. In 2022, it was reflected as a specific key result area in the Capacity Development Strategy endorsed by the Assembly.

ISA's unique contribution to advancing women's empowerment and leadership has also been recognized in an independent report commissioned by the ISA Secretary-General on the contribution of ISA to the 2030 Agenda for Sustainable Development, released in 2021. It stressed the active role that ISA has played since 2017 in raising awareness of gender equality and women's empowerment issues in the context of UNCLOS and deep-sea-related research and disciplines, striving

for senior decision makers to address shortcomings in policy processes. The fact that dedicated strategic partnerships have been formalized with a wide spectrum of entities, including UN agencies and research institutions, is also a testament to the positive impact ISA already achieved in this domain.

Leveraging innovative actions and partnerships in support of the enhanced role of women in deep-sea-related research and disciplines

In 2021, ISA and the United Nations Office of the High Representative for the



Argentina Kiribati Madagascar Malta Nigeria Nauru South Africa



Least Developed Countries, Landlocked Developing Countries and Small Island Developing States launched the Women in Deep Sea Research (WIDSR) project on the occasion of International Women's Day. The objective of the WIDSR is to promote women's empowerment and leadership in marine scientific research through the enhancement of their roles and participation in deep-sea-related disciplines and research. The WIDSR builds on ISA's Voluntary Commitment #OceanAction40786 towards Enhancing the Role of Women in Marine Scientific Research, registered by ISA at the 2017 UN Ocean Conference and renewed in 2022. Over the years, the support for the WIDSR has accelerated exponentially. It now gathers more than 20 partners representing Member States of ISA, research institutions, international and regional organizations and exploration contractors.

The WIDSR project centres around four key action areas: policy development, capacity development, sustainability and partnerships and communications and outreach. The WIDSR activities range from improving data availability for informed policy development to establishing communities of practice, mentorship and leadership programmes, among others, through strategic alliances. Moreover, a range of partners representing governments, international and regional organizations, industry and academia are joining hands to implement its different

activities and contribute to tangible and transformative actions.

Mindful of the need to ensure and strengthen linkages with relevant strategic frameworks, the WIDSR project contributes to raising awareness among policymakers and scientific institutions about the current situation faced by women scientists. It identifies key actions to leverage further positive and transformative actions for enhancing their role and participation, establishes a community of practice of qualified women scientists specializing in deep-sea-related disciplines, encourages their participation in the delivery of outputs of the ISA Action Plan for Marine Scientific Research and increases the visibility of their contributions and success.

The WIDSR project launched the See Her Exceed (S.H.E.) mentoring programme on World Ocean Day 2022. It aims to facilitate personal development and career progression and support the development of professional networks, breaking down cultural barriers for women in deep-sea-related research and related careers.

Eight internationally renowned experts in deep-sea-related disciplines responded to the invitation to serve as mentors for this new initiative. Following an international call for expressions of interest, eight mentees were selected from different developing States (Boxes 1 and 2).

Box 1. The S.H.E. mentors

Meet the mentors

S.H.E. See Her Exceed



Joshua Tuhumwire



Marzia Rovere



Pedro Madureira



François Charlet



Cindy Van Dover



Ann Vanreusel



Rahul Sharma



Annemiek Vink

Box 2. The S.H.E. mentees

Meet the mentees

S.H.E. See Her Exceed



Lucy Njue



Oluwemisi Oluwadare



Randa Mejri



Rose Godfrey Mika



Mpho Lydia Sehlabo



Intan Suci Nurhati



Suzan El-Gharabawy



Ijeoma Eunice Orji

Empowering women scientists from LDCs, LLDCs and BOSs in deep-sea-related disciplines

According to the 2020 Global Ocean Science report, women remain underrepresented in ocean science, especially in highly technical categories. The challenge of the underrepresentation of women in ocean science is expected to become even more significant in emerging sectors such as deep-sea research and in developing States, particularly the vulnerable group of LDCs, LLDCs and BOS. The reasons for gender inequality across the whole spectrum of deep-sea-related research disciplines and related careers are intricate and multidimensional but mainly related to the lack of financial resources to access the deep sea and inadequate academic training in deep-sea-related disciplines.

ISA has developed a clear vision in which women from developing States play a central role in marine scientific research to address the historical gender gap in science, technology, engineering and mathematics. Together with the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, ISA has continuously worked since 2017 to improve the conditions needed to promote women empowerment and access to leadership positions in deep-sea research and related disciplines for women from developing States, with a particular focus on women scientists from the LDCs, LLDCs and BOS.

To this effect, the WIDSR project released a flagship report titled Empowering women from LDCs, LLDCs and SIDS in deep-sea research in June 2022. This report presents the first gender mapping of the deep-sea research fields and related disciplines in LDCs, LLDCs and BOS. It provides a data driver analysis of the barriers women in these countries face in accessing leadership positions. This report concluded that the underrepresentation of women in ocean science constitutes a significant impediment to the implementation of UNCLOS and the achievement of the goals and targets of the 2030 Agenda for Sustainable Development. Even though high-level policies for gender equality are developed in many developing countries, the gendered analysis of the deep-sea research sector across countries and institutions showed that women are underrepresented in all areas of employment, career progression and leadership. Particularly, fewer women are employed in deep-sea research than men or hold temporary or contractual positions, which are more precarious and uncertain. Finally, women often receive fewer research grants in deep-sea research than men.

The report's findings significantly contributed to fostering new partnerships for the development of the WIDSR's initiatives with a focus on gender parity and informed ways to foster international and regional cooperation for concrete actions supporting women's empowerment and leadership in deep-sea research (Box 3).

BOX 3. Recommendations from the “Empowerment of women in deep-sea research in LDC, LLDCs and SIDS” report

Data	Governments, institutions and companies should promote standardisation of gender-disaggregated data collection and reporting in fields related to deep-sea research.
Capacity	Governments of LDCs, LLDCs and SIDS could increase budgetary allocation in deep-sea research and include gender considerations in the expenditure.
Systemic barriers	Governments, particularly in LDCs, LLDCs and SIDS, should take measures to address the workplace issues identified in the report (sexual harassment, parental leave, career breaks, flexible working hours, access to childcare, etc.)
Leadership Support	ISA, in collaboration with international and regional organizations, should promote and support early career mentoring programmes for women in deep-sea research.

Implementing tailored capacity development initiatives in support of women’s empowerment and leadership in ocean affairs

Since the adoption of the Capacity Development Strategy by the Assembly in 2022, the ISA Secretariat has successfully contributed to increasing the representation of qualified women in the implementation of different capacity development programmes and activities, including the Contractors’ Training Programme, the National Expert Deployment Programme and the Secretary-General Award for Excellence in Deep-sea Research.

As far as the Contractors’ Training Programme is concerned, ISA contractors

have a legal obligation to provide and fund training opportunities for personnel from developing States and those of ISA. Working in close collaboration with contractors, the ISA Secretariat has strengthened its efforts to create the enabling conditions to allow for the active participation of women in training opportunities, including on at-sea vessels, particularly the women from LDCs, LLDCs and BOS. As of June 2024, 20 contractors have pledged to allocate 50 per cent of training opportunities to qualified female candidates. This marked a significant shift towards empowering an emerging cadre of women scientists and researchers, heralding a new era of diversity and innovation in deep-sea research. As a result, more than 90 women have benefited from training opportunities

offered under the Contractors' Training Programme, including nine women from BOS and eight women from LDCs, since 2017.

Building on the voluntary commitments registered at the UN Ocean Conference in 2017 and renewed in 2022, the ISA Secretariat has also continued promoting and encouraging the excellence of young researchers from developing States by recognizing the best of them through the ISA Secretary-General's Award for Deep-sea Research Excellence. It is worth highlighting that in the last four editions, three of the Awardees were women scientists hailing from the Cook Islands, South Africa and Trinidad and Tobago.

The improved participation of women experts in the development of the law of the sea is a major output of the Capacity Development Strategy. This has been achieved through the organization of a dedicated event involving experts from different backgrounds and experiences, with a focus on women experts from LDCs, LLDCs and BOS.

On 28 September 2022, on the occasion of the celebration of the fortieth anniversary of the adoption of UNCLOS, the first-ever Women in the Law of the Sea Conference provided the platform for thought-provoking presentations and discussions on the empowerment of women in the law of the sea, marine sciences and ocean affairs. Organized in partnership with Singapore and Malta, the conference featured contributions from 47 women experts, including 27 from LDCs, LLDCs and BOS, who suggested ways to advance the understanding of the barriers that women still experience when choosing careers in the law of the sea, marine sciences, deep-sea research and ocean affairs.

The ISA Secretariat has recently conceived new dedicated activities and initiatives under the Capacity Development Strategy implemented to continue advancing women's empowerment and leadership in deep-sea-related disciplines. They include DeepDive, the first e-learning platform completely devised by an intergovernmental institution to address all elements of the legal regime set out in Part XI of UNCLOS, the 1994 Agreement and the rules, regulations and procedures adopted by ISA, covering technical and scientific aspects. DeepDive has been conceived to equip participants, particularly women, with specialized knowledge of the Area and insight into deep seabed activities for optimal career success to produce a new generation of leaders and multitalented professionals who will contribute to the effective implementation of UNCLOS, the 1994 Agreement and, ultimately, the achievement of the 2030 Agenda for Sustainable Development at all levels. Since its formal launch in July 2023, in less than a year, DeepDive has already trained 26 women from LDC, LLDCS and BOS, representing over 41 per cent of the total enrolled students.

Mobilizing the necessary resources to accelerate actions in support of women's empowerment and leadership in ocean affairs

The Endowment Fund for Marine Scientific Research in the Area was established in 2008 to promote and encourage the conduct of collaborative marine scientific research in the Area for the benefit of humankind by supporting the participation of qualified scientists and technical personnel from developing countries in marine scientific research programmes and activities and by providing opportunities for these scientists to participate in relevant

initiatives. Over 140 young scientists or government officials from 50 countries had benefited from it, including 40 per cent women.

The Endowment Fund for Marine Scientific Research in the Area was superseded in 2023 by the [ISA Partnership Fund](#), a multi-donor trust fund established by the ISA Assembly at its twenty-seventh session. The ISA Partnership Fund aims to promote and encourage marine scientific research in the Area for the benefit of humankind and to contribute to dedicated capacity development programmes and activities aligned with the priority needs identified by developing States Members of ISA.

The ISA Partnership Fund Board (ISAPF) was established to provide strategic guidance and direction on implementing activities and endorse strategic priorities in accordance with its [terms of reference](#). Between 2023 and 2024, the ISAPF allocated around USD950,000 to projects aimed at bolstering deep-sea research, innovation and capacity development in LDCs, LLDCs and BOS. A permanent and cross-cutting criterion related to the selection of projects is their contribution to promoting women's empowerment and leadership in ocean affairs. Indeed, all the approved projects contribute to improving the conditions needed for the promotion of women's empowerment and access to leadership positions in deep-sea-related disciplines and research with a specific emphasis on women from developing States.

In February 2024, the ISAPF launched a special call for projects to celebrate the thirtieth anniversary of ISA and invited interested stakeholders to submit proposals. In light of the importance ISA attaches to the promotion of increased

participation of women in ocean affairs, the ISAPF also decided to specifically call for project proposals that could further support ISA's contribution to the empowerment of women in ocean affairs, especially from LDC, LLDC and BOS.

Gender diversity in the ISA Secretariat

Since 2017, ISA has substantially intensified its efforts to achieve the full, equal, meaningful and effective participation of women in deep-sea-related fields, including at the level of the Secretariat.

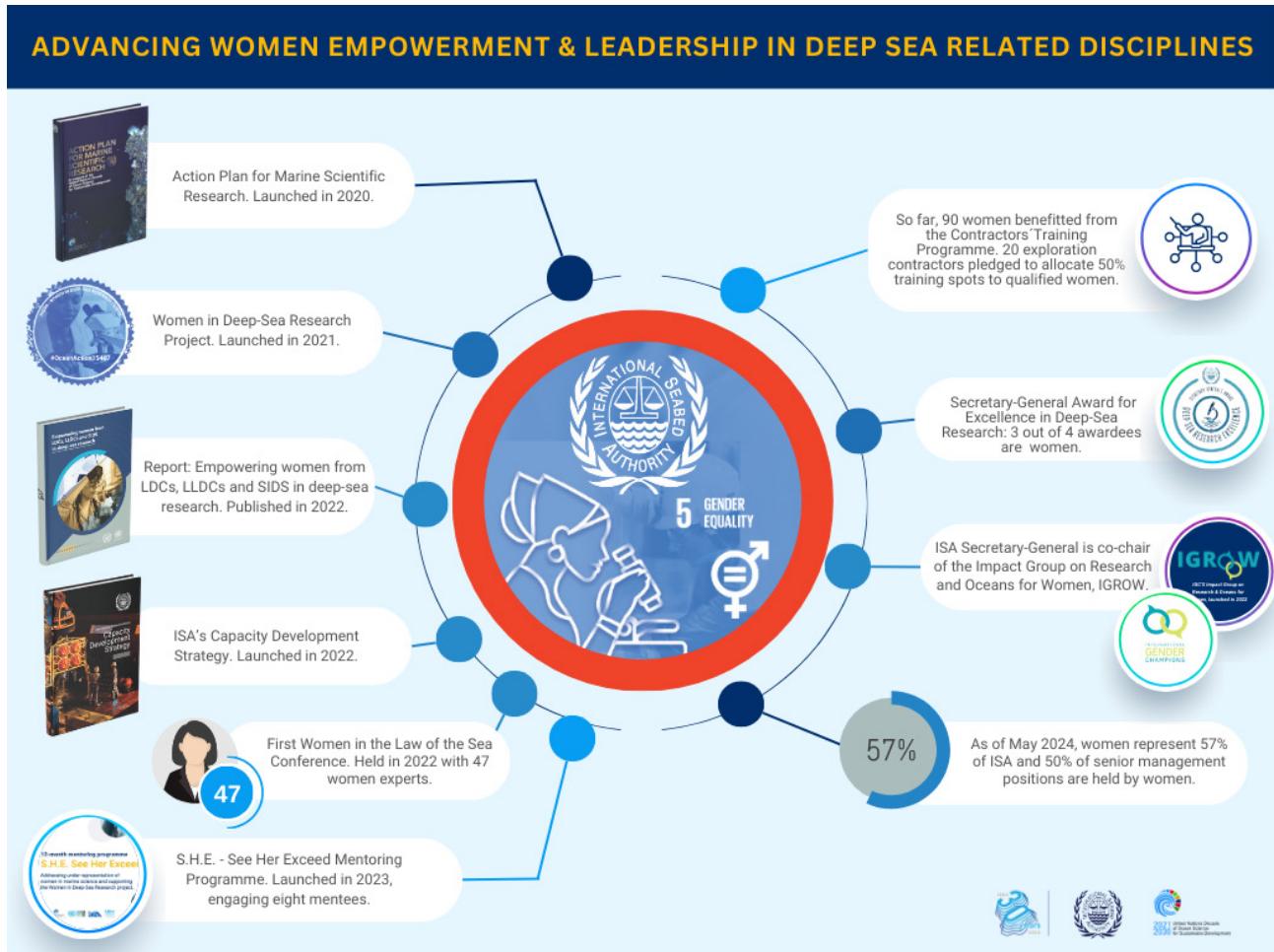
In March 2020, the ISA Secretary-General was recognized as one of the [International Gender Champions](#), joining a global network of 334 influential female and male leaders and decision makers determined to break down gender barriers and make gender equality a working reality in their spheres of influence in various sectors across six international hubs. In addition to the Panel Parity Pledge, which calls on Gender Champions to challenge the possible lack of gender balance on panels they are invited to be a part of, the Secretary-General also pledged to ensure that the ISA Secretariat reaches gender parity, including at the most senior levels (P-5 and above), by the end of 2021. As of May 2024, the ISA gender parity stands at 57 per cent, well above the UN Common System acceptable gender parity range of 47-53 per cent. Also, women account for 50 per cent at the most senior positions (D1), marking a milestone in gender diversity.

Since 2020, the ISA Secretariat has also implemented policies to support women in balancing work and family, including breastfeeding support even on duty travel

(ISBA/ST/SGB/2020/3). In 2024, the ISA Secretariat extended the parental leave to 26 weeks with full pay for the parent who gives birth (ISBA/ST/SGB/2020/1/ Amend.2).

On 7 June 2022, the International Gender Champions network launched a new Impact Group on Research and Oceans for Women (IGROW) to provide a platform to facilitate synergies and collective actions to increase the participation of women in ocean affairs. IGROW is co-chaired by the ISA Secretary-General and

the Permanent Representative of Tonga to the United Nations. Involving senior government representatives and heads of international organizations as well as leaders in civil society organizations and the private sector with associated interests, IGROW promotes concerted efforts at the highest level to ensure that women are provided with the opportunity to participate in marine and ocean affairs fully. It offers a unique opportunity to ensure gender parity in the blue economy sectors, particularly in the LDCs, LLDCs and BOS.



Conclusions

Since 2017, ISA has embarked on an ambitious journey towards women's empowerment and leadership in ocean affairs. Building on its unique mandate and mission to benefit humankind as a whole, ISA has developed a unique strategic and programmatic approach to ensure that the enhancement of women's qualifications and skills is prioritized in all the range of activities carried out by ISA.

Informed by the findings of the pioneer report Empowering women from LDCs, LLDCs and SIDS in deep-sea research, ISA has accelerated its efforts to bolster women's leadership and empowerment, including through new partnership and the identification of tailored capacity development initiatives with a specific emphasis on LDC, LLDCs and BOS.

Collaborative partnerships, including with exploration contractors, United Nations agencies and other international organizations, are at the heart of this progress, contributing to the full achievement of ISA's voluntary commitments, the ISA Action Plan for Marine Scientific Research and the Capacity Development Strategy.

Cognizant of the long way ahead, ISA remains steadfast in its commitment to giving priority to women from developing countries, especially from LDCs, LLDCs and BOS, in their involvement in activities in the Area. Ultimately, this commitment will ensure the full implementation of UNCLOS and the mandate of ISA for the benefit of humankind.



ABOUT THE INTERNATIONAL SEALED AUTHORITY

Made up of 168 Member States, and the European Union, ISA is mandated under the UN Convention on the Law of the Sea to organize, regulate and control all mineral-related activities in the international seabed area for the benefit of humankind as a whole. In so doing, ISA has the duty to ensure the effective protection of the marine environment from harmful effects that may arise from deep seabed related activities.