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Report of the Secretary-General on the contribution of the International Seabed Authority to the United Nations Decade of Ocean Science for Sustainable Development

Implementation of the action plan of the International Seabed Authority in support of the United Nations Decade of Ocean Science for Sustainable Development

Report of the Secretary-General

I. Introduction

1. Under article 143, paragraph 2, of the United Nations Convention on the Law of the Sea and paragraph 5 (h) of the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, the International Seabed Authority is mandated to promote and encourage the conduct of marine scientific research in the Area and to coordinate and disseminate the results of scientific research and analysis when available. It may also carry out marine scientific research concerning the Area. In addition, the Authority is required to encourage the design and implementation of appropriate programmes for the benefit of developing and technologically less developed States with a view to strengthening their research capabilities, training their personnel in the techniques and applications of research, and fostering the employment of their qualified personnel in research in the Area.¹

2. At its seventy-second session, in 2017, the General Assembly decided to proclaim the United Nations Decade of Ocean Science for Sustainable Development from 2021 to 2030.² With a view to contributing to the implementation plan for the United Nations Decade, and in line with the mandate concerning marine scientific research, the Authority has participated in all phases of planning of the Decade and is now committed to supporting its implementation effectively.

* Reissued for technical reasons on 5 November 2021.

** New dates of the in-person meetings originally scheduled for July 2020 and then July 2021.

¹ United Nations Convention on the Law of the Sea, art. 143 (3).

² General Assembly resolution [72/73](#), para. 292.



3. The importance of the United Nations Decade is highlighted in the context of the strategic plan³ and the high-level action plan⁴ of the Authority for the period 2019–2023. In both plans, the commitment of the Authority to contributing to the achievement of relevant Goals and targets of the 2030 Agenda for Sustainable Development is recognized, in particular Goal 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development).

4. The commitment of the Authority is reflected in the nine strategic directions that have substantial implications for advancing marine scientific research in the Area, and the 12 high-level actions and 14 associated outputs have been identified as relevant for contributing to the four scientific objectives of the United Nations Decade.⁵

5. The Authority's commitment to contributing to the United Nations Decade has been further formalized with the adoption by the Assembly, in December 2020, of the action plan of the Authority in support of the United Nations Decade (the Action Plan for Marine Scientific Research).⁶

6. The present report is aimed at providing an overview of the progress facilitated by the secretariat, in collaboration with members of the Authority, contractors and partner organizations, in relation to the implementation of the Action Plan for Marine Scientific Research, taking into consideration that, as recognized by the Assembly, the content of the Action Plan will continue to evolve as new strategic research priorities are identified and endorsed by the members of the Authority.⁷

II. Progress in the implementation

7. The implementation of the Action Plan for Marine Scientific Research is focused on six strategic research priorities.

A. Strategic research priority 1: advancing scientific knowledge and understanding of deep-sea ecosystems, including biodiversity and ecosystems functions, in the Area

8. The focus of strategic research priority 1 is on enhancing the scientific knowledge of deep-sea ecosystems, as a critical knowledge base for ensuring the sustainable development of activities in the Area, as well as for achieving an enhanced understanding of the contribution of the deep sea to global environmental and societal benefits. That strategic research priority can be implemented most effectively through coordinating research efforts and promoting cooperation among academic communities, the private sector and governmental and non-governmental institutions, in particular by addressing research questions on deep-sea biodiversity and its role in global evolutionary and ecological processes, unlocking the potential of living and non-living deep-sea resources for future societal needs and strengthening the

³ ISBA/24/A/10, annex.

⁴ ISBA/25/A/15, annex II.

⁵ Four scientific objectives have been identified to guide the design and implementation of actions during the United Nations Decade of Ocean Science for Sustainable Development, namely: (a) to increase the capacity to generate, understand, manage and use ocean knowledge; (b) to identify and generate required ocean data, information and knowledge; (c) to build a comprehensive understanding of the ocean and ocean governance systems; and (d) to increase the use of ocean knowledge.

⁶ See ISBA/26/A/17.

⁷ Ibid.

scientific basis for the future assessment of environmental impacts that may arise from activities in the Area.

9. The secretariat, together with relevant scientific groups and stakeholders, has designed the Sustainable Seabed Knowledge Initiative with a focus on establishing a global framework for advancing the knowledge of the deep-sea environment and ecosystems in support of the mandate of the Authority. The Initiative also serves to operationalize two voluntary commitments made by the Authority at the United Nations Conference to Support the Implementation of Sustainable Development Goal 14, held in 2017.⁸ Specifically, the Initiative is focused on generating new knowledge of deep-sea biodiversity, developing integrative and innovative tools for biodiversity assessments and promoting the effective sharing and use of deep-sea biodiversity data and information.

10. Several strategic, technical and financial partnerships have been engaged to facilitate the development and implementation of the Sustainable Seabed Knowledge Initiative, including with the National Marine Biodiversity Institute of Korea, the Natural History Museum of the United Kingdom of Great Britain and Northern Ireland, the Institut français de recherche pour l'exploitation de la mer (Ifremer), the World Register of Marine Species, and the Ocean Biodiversity Information System of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO).

B. Strategic research priority 2: standardizing and innovating methodologies for deep-sea biodiversity assessment, including taxonomic identification and description, in the Area

11. The focus of strategic research priority 2 is on standardizing and innovating methodologies for deep-sea biodiversity assessment in the Area. Non-destructive, cost-effective and easily replicable methodologies for studying marine biodiversity, including environmental DNA and video surveys, are increasingly being applied in deep-sea environmental studies, enabling the discovery of numerous deep-sea organisms. Nonetheless, the utility and scientific value of the information generated by those methodologies need to be further assessed, considering the lack of consistency across the surveys as well as the absence of comprehensive reference catalogues, which are critical to identifying the organisms and matching the genetic sequences.

12. The consistent and harmonized compilation of the data emerging from the exploration activities and other scientific research projects in the Area will contribute significantly to enhancing and expediting the process of species identification and description, expanding the use of innovative methodologies and improving broad-scale biodiversity assessments in the deep sea. Fostering interdisciplinary cooperation would be essential for developing tools, such as field guides and apps, and technologies to improve in situ and ex situ deep-sea species identifications.

⁸ More specifically, voluntary commitment 3, on improving the assessment of essential ecological functions of the deep-sea oceans through long-term underwater oceanographic observatories in the Area (#OceanAction17746), and voluntary commitment 4, on enhancing deep-sea marine biodiversity assessment through the creation of online taxonomic atlases linked to deep-seabed mining activities in the Area (#OceanAction17776).

Collaboration between the Authority, the Ministry of Ocean and Fisheries of the Republic of Korea and the National Marine Biodiversity Institute of Korea on advancing deep-sea taxonomic standardization and image-based tools for taxonomic assessments

13. The collaboration between the secretariat, the Ministry of Ocean and Fisheries of the Republic of Korea and the National Marine Biodiversity Institute of Korea (MABIK) supports various activities on deep-sea taxonomic standardization, building upon the results of the online workshop on strategic approaches for collaboration relating to deep-sea taxonomic standardization held in September 2020. Collaborative efforts have been made to address taxonomic knowledge gaps and advance deep-sea species identification and description in the Area. One recent initiative under the collaboration was the organization of an online workshop, in October 2021, on enhancing image-based biodiversity assessments to advance deep-sea taxonomy. The workshop contributed to identifying key elements for developing a standardized model to be used for the exchange, archiving and sharing of image data in order to support effective biodiversity assessments and monitoring. Participants in the workshop also discussed the challenges and opportunities for developing automated routine analyses of image data using artificial intelligence and machine-learning methodologies. In addition, due consideration was given to identifying potential collaborative approaches for capacity-building and literacy regarding relevant technologies, methodologies and tools, including in relation to their adequate application on a larger scale.

Collaboration between the Authority and the Natural History Museum of the United Kingdom on assessing the biodiversity data on the Clarion-Clipperton Zone

14. The secretariat has engaged the Natural History Museum of the United Kingdom for a collaborative project, with the financial support of the Pew Charitable Trusts, to conduct a review of the baseline taxonomic data currently available in online repositories for the Clarion-Clipperton Zone. The review was focused on the data contained in DeepData as well as other existing databases (for example, the World Register of Marine Species, the Ocean Biodiversity Information System and the Global Biodiversity Information Facility), and included a review of scientific literature. The outputs of this project will contribute to the efforts made by the secretariat to improve taxonomic data management, including establishing interoperable links with existing global databases.

C. Strategic research priority 3: facilitating technology development for activities in the Area, including ocean observation and monitoring

15. The focus of strategic research priority 3 is on facilitating technological innovation, which is central to creating the enabling conditions for the equitable and sustainable development of deep-seabed mineral resources. It is also a prerequisite for supporting the transition from the exploration to the exploitation of mineral resources in the Area. Building cross-sectoral collaborations between land and ocean mining companies and other relevant industries can promote the exchange of ideas and lessons learned and foster innovative technological developments. Advances in technology are also needed to expand the spatial (horizontal and vertical) and temporal coverage of sustained deep ocean observations and monitoring.

Collaboration between the Authority and the National Oceanography Centre of the United Kingdom on advancing technology to support the sustainable mining of mineral resources in the Area

16. The secretariat partnered with the National Oceanography Centre of the United Kingdom to advance technology development and innovation in support of the sustainable development of mineral resources, including in relation to environmental protection and the monitoring of activities carried out in the Area. Building upon this partnership, an online expert scoping meeting will be convened in November 2021, with a focus on taking stock of existing technologies and gaps and identifying existing and potential actors. It will also serve to address ways and means of facilitating innovations for advancing smart technologies in support of the effective transition from exploration to exploitation.

D. Strategic research priority 4: enhancing scientific knowledge and understanding of potential impacts of activities in the Area

17. The focus of this strategic research priority is on advancing the scientific basis for the improved assessment of risks related to deep seabed exploration and future exploitation activities. Comprehensive environmental baseline information coupled with robust and coherent modelling approaches is essential to better understand the potential impacts that activities in the Area may have on multiple spatial and temporal scales and across all depths. It is also crucial for informing decision-making processes and ensuring that a precautionary approach is followed at all stages, as well as for developing robust monitoring programmes and methodologies.

18. Regional environmental assessments have been developed for the northern Mid-Atlantic Ridge⁹ and Pacific Northwest regions, in which the environmental data and information collected by contractors as part of their exploration activities, as well as scientific literature and other publicly available sources, are compiled and synthesized. In the assessments, the geological, oceanographic and biological characteristics are summarized for an enhanced understanding of the regional environmental settings. Furthermore, the regional environmental assessments form an important basis for developing risk assessments and environmental management and planning at the regional level and provide a standardized framework for incorporating new environmental data and information as they become available, through periodic reviews and the updating of the assessments. The assessments are being published as technical studies by the secretariat.

19. The secretariat has also engaged the Commonwealth Scientific and Industrial Research Organisation of Australia for the work on developing a standardized risk assessment framework enabling the assessment and monitoring of cumulative environmental impacts, including qualitative modelling approaches. The development of such a framework was initiated as part of the expert workshops on regional environmental management plans organized for the northern Mid-Atlantic Ridge and Pacific Northwest regions, including a group exercise on interactive modelling to identify the links between ecosystem components and their responses to combinations of different pressures.¹⁰ The results of the collaborative work will be published as a technical study by the secretariat.

20. The secretariat also convened an information webinar on collecting environmental baseline data and assessing potential environmental impacts of activities in the Area,

⁹ See <https://www.isa.org.jm/node/20266>.

¹⁰ Draft report available at <https://isa.org.jm/files/files/documents/Draft-report-cumulative-impacts.pdf>.

in collaboration with the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, in September 2021, in order to raise awareness among the Forum members of the work of the Authority on the protection of the marine environment in the Area.

E. Strategic research priority 5: promoting dissemination, exchange and sharing of scientific data and deep-sea research outputs and increasing deep-sea literacy

21. The focus of strategic research priority 5 is on promoting the dissemination, exchange and sharing of scientific data and the outputs from deep-sea research activities, thereby increasing deep-sea literacy. In the past four decades, the work of pioneer investors and contractors has contributed significantly to advancing the scientific knowledge and understanding of the deep-sea environment and seabed resources. The scientific data and information resulting from over one hundred oceanographic expeditions for the exploration of mineral resources by contractors have been systematically collected, compiled and organized in the Deep Seabed and Ocean Database (DeepData) of the Authority.

22. Establishing effective collaborative links, including data interoperability, between DeepData and other relevant global databases, such as the Ocean Biodiversity Information System of IOC-UNESCO and the World Register of Marine Species, is essential for contributing effectively to the global understanding of deep-sea ecosystems and biodiversity.

Expert workshops and training sessions on DeepData

23. Building upon the results of the online workshop on “DeepData: focusing on data management strategy”, convened in September 2020, the secretariat has provided various training opportunities on the functionalities of the database through various capacity-building workshops and webinars. Further to those efforts, the secretariat plans to organize a series of training sessions for contractors aimed at standardizing their submission of data from their exploration activities, using updated reporting templates for the submission of geological and environmental data as well as metadata. By improving the metadata standards for the submissions made by contractors, the secretariat can expedite its process for data cataloguing, which will help to enhance the searchability and utility of relevant data within DeepData for users.

Partnership between the Authority and the secretariat of the Ocean Biodiversity Information System on the exchange of biodiversity data

24. In May 2021, the Authority officially joined the International Oceanographic Data and Information Exchange network to serve as a node for the Ocean Biodiversity Information System of IOC-UNESCO for sharing data on deep-sea biodiversity and biogeography in the Area. The partnership was presented on World Oceans Day, in June 2021, during a webinar convened by the Authority secretariat, in collaboration with the secretariat of the Ocean Biodiversity Information System. Building upon the biodiversity data contained in DeepData, the new partnership will contribute to enhancing the global accessibility and visibility of deep-sea biodiversity data collected and submitted by the contractors, including historical data collected over the past decades. It will also contribute to ensuring data quality and standardization as well as to enhancing the capacity for data analysis and synthesis. Discussion has been initiated between the secretariat and representatives of other nodes of the Ocean Biodiversity Information System, including the deep-sea node for developing

collaborative activities, with a view to enhancing data visualization on and capacity regarding deep-sea biodiversity data.

Collaboration between the Authority and the World Register of Marine Species on the standardization of taxonomic data

25. Building upon the results of the workshops on deep-sea taxonomic standardization and DeepData held in September 2020, the secretariat engaged the World Register of Marine Species for standardizing the taxonomic data submitted to DeepData, enhancing data-sharing and raising awareness of deep-sea biodiversity data. There will be continuous collaboration on, inter alia, developing training and educational materials for providers and users of taxonomic data related to activities in the Area, conducting periodic scientific reviews of the taxonomic data contained in DeepData and facilitating the development of taxonomic tools for the enhanced use of taxonomic information generated from activities in the Area.

Cooperation between the Authority and the International Hydrographic Organization to advance the mapping of the seabed in the Area

26. The collaboration between the Authority and the International Hydrographic Organization, which was formalized through an agreement of cooperation signed during the twenty-third session of the Authority, in 2017, has advanced to facilitate the contribution of bathymetric data by numerous contractors, in accordance with their respective circumstances, to support the mapping of the seabed in the Area, as conducted in the Seabed 2030 project by the General Bathymetric Chart of the Oceans organization and the Nippon Foundation. The secretariat, in collaboration with secretariat of the International Hydrographic Organization, provides the necessary technical support to the contractors for sharing their bathymetric data.

Partnership between the Authority and the United Nations Global Compact on ocean mapping

27. The secretariat joined the working meeting of the Ocean Stewardship Annual Review organized by the secretariat of the United Nations Global Compact, on 22 September 2021, to raise awareness of the role and contribution of the Authority in support of the advancement of deep-seabed mapping and to explore, together with other expert entities, the critical issues to be addressed in the context of the United Nations Decade.

Increasing deep-sea literacy

28. Increasing deep-sea literacy and the general understanding of the work of the Authority is a fundamental objective. To that end, diverse initiatives to enhance communication activities for stakeholders have been developed during the year to raise awareness of the role and mandate of the Authority, as well as its contribution to the achievement of the scientific objectives of the United Nations Decade.

29. In March 2021, the secretariat launched a new webinar series called “Deep DiplomaSea” for the personnel of permanent missions to the Authority and the United Nations. More than 150 participants participated in the two webinars held in March and July 2021, respectively. The next webinar is scheduled for November 2021.

30. On the occasion of World Oceans Day, on 8 June 2021, the secretariat organized a virtual event dedicated specifically to the celebration of deep-sea marine life and the promotion and sharing of knowledge about deep-sea biodiversity for the benefit of humankind.¹¹ The webinar brought together experts from the Legal and Technical

¹¹ See <https://www.isa.org.jm/index.php/world-oceans-day>.

Commission, members and observers of the Authority and representatives of contractors and scientific institutions. The interactive discussion was followed by the announcement of the winners of the art competition organized by the secretariat on the theme “ISA’s Wonders of the Deep”.

31. The secretariat, together with interested contractors and other partner organizations, is currently working on a new initiative aimed at increasing the visibility of the contribution of deep-sea exploration activities conducted in the Area, in order to advance the global understanding of deep-sea ecosystems and resources. The initiative will take the form of a compendium highlighting the collective achievements of the contractors in advancing the state of knowledge of the deep sea for the benefit of humanity. The compendium will be published by the end of 2021.

32. Further efforts on inclusive and transparent communications and awareness-building activities will be guided by the deep-sea literacy action plan, which has been developed by the secretariat and will be made available by the end of 2021.

F. Strategic research priority 6: strengthening deep-sea scientific capacity of Authority members, in particular developing States

33. The focus of strategic research priority 6 is on facilitating the effective participation of developing States in marine scientific research activities carried out in the Area. Owing to the rapid pace at which technology and know-how related to that research, in particular in the deep sea, are developing, the disparity in capacity among countries will continue to increase. The Authority is committed to addressing the situation and facilitating better coordination and collaboration, as well as the identification of the financial and technical resources needed. Specific attention will be given to assisting technologically disadvantaged States, least developed countries, landlocked countries and small island developing States. Continued efforts to improve women’s empowerment and leadership in deep-sea research will also be ensured.

34. Under the Convention and the 1994 Agreement, the Authority is required to contribute to the development of the scientific and technical capacities of developing States. Different mechanisms exist to fulfil its responsibilities, the most relevant of which in the context of the present report are the contractors training programme, the Endowment Fund for Marine Scientific Research in the Area, the Authority-China Joint Training and Research Centre, the Africa Deep Seabed Resources project, the Abyssal Initiative for Blue Growth project and the Women in Deep-Sea Research project.

35. Under the contractors’ training programme, practical training opportunities through at-sea training, engineering courses, fellowships for master and PhD programmes, internships, seminars and workshops are provided by the contractors for personnel from developing States. As of 2021, 150 individuals had benefited from the programme, while 29 placements have been postponed owing to coronavirus disease (COVID-19)-related restrictions. In June 2021, key outcomes of the review commissioned by the secretariat on the implementation of all capacity-building and development activities by the Authority and the workshop on capacity development, resources and needs assessment held in 2020¹² were discussed by the Legal and Technical Commission with a view to considering how to effectively address the needs of developing States members of the Authority and ensuring that the programme continues to meet its objectives. The Commission agreed to work

¹² See [ISBA/26/A/7](#).

intersessionally on the matter with the secretariat in order to review the guidance for contractors relating to training programmes in 2022.

36. The Endowment Fund for Marine Scientific Research in the Area supports the participation of qualified scientists and technical personnel from developing States in marine scientific research programmes through the provision of grants and resources. In this connection, the Assembly, in its decision relating to the implementation of a programmatic approach to capacity development, requested the Secretary-General to develop and implement a dedicated strategy for capacity development, taking into account the relevant elements, including to review the terms of reference of the Endowment Fund to address the challenges identified, in particular to allow the use of the capital of the Fund to support training and technical assistance activities.¹³ In the light of that decision, the Secretary-General will submit a report on proposed adjustments to the terms of reference of the Endowment Fund to the Finance Committee in 2022.

37. The Authority-China Joint Training and Research Centre was formally launched in November 2020. Since then, the Steering Committee has held virtual meetings to discuss overall strategic approaches for the development of training and research programmes in marine scientific research and technology with a view to supporting the objectives of the Authority under the Action Plan for Marine Scientific Research as well as in relation to capacity-building and development.

38. The secretariat, together with Ifremer and with the financial support of France, has developed a new initiative in support of the new programmatic approach for capacity development endorsed by the Assembly in December 2020.¹⁴ The collaboration is aimed at enabling scientists from developing States to carry out a postdoctoral research project with Ifremer. The postdoctoral fellowship position, expected to start in early 2022, will be part of the Blue Revolution project¹⁵ and will contribute to the testing and development of new methods and technologies for deep-sea species identification. Specifically, the project is aimed at building a reference training dataset based on processed three-dimensional images of deep-sea microscopic species combined with visual and manual image analysis for machine-learning method development.

39. The secretariat has developed an internship programme, with the financial support of the National Oceanography Centre of the United Kingdom, focused on developing technical capabilities on taxonomic identification and standardization, and data collection and processing. Although two female candidates have been selected, from China and the Cook Islands, respectively, the implementation of the activities has been postponed until 2022 owing to travel restrictions caused by the COVID-19 pandemic.

40. In addition, the secretariat is currently developing an e-learning platform that will support the development of capacities and skills of young professionals and experts in the work of the Authority. The platform is expected to be launched in early 2022.

41. In the context of contributing to the objectives of the United Nations Decade, the Decade of African Seas and Oceans (2015–2035) and Agenda 2063 adopted by the Assembly of the African Union in January 2015, the secretariat has developed and implemented the Africa Deep Seabed Resources project, in partnership with the African Union and the Norwegian Agency for Development Cooperation. The third regional workshop of the project was organized in June 2021 and hosted by Mauritius.

¹³ See ISBA/26/A/18, para. 2, and ISBA/26/A/7, para. 36.

¹⁴ See ISBA/26/A/18.

¹⁵ See https://wwz.ifremer.fr/bluerevolution_fr.

Furthermore, the eight remaining national experts from African States who have been selected for a two-month secondment within the secretariat, with the main objective of developing and strengthening their technical skills in deep-sea geology and data management as well as ocean policy, will be joined by three more experts in October and November 2021.

42. Building upon the objectives of the Africa Deep Seabed Resources project, including the identification of potential capacity-building activities and strategies to be further developed at the national, regional and international levels, the secretariat launched, in September 2021, the first webinar¹⁶ of a new series dedicated entirely to addressing the priority needs for capacity development identified by African member States. The first webinar was focused on deep-sea mineral resource assessments and mining technologies, highlighting the complementarity between exploration and research activities in the Area as a foundation for enhancing the knowledge base to ensure sustainable ocean development. It identified key priorities, opportunities and challenges for improving deep-sea mineral resource assessments and technologies for exploration and future exploitation activities in the Area, which will provide a basis for future collaboration. Future webinars in the series will be targeted at addressing other scientific issues, with a particular focus on environmental management and data management.

43. The Abyssal Initiative for Blue Growth project, implemented in partnership with the United Nations Department of Economic and Social Affairs and the Norwegian Agency for Development Cooperation, is aimed at strengthening the capacity of Pacific small island developing States 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 part of the project, four regional workshops have been held. The most recent workshop, held remotely, was hosted by the Cook Islands in July 2021. It was focused on environmental management and the monitoring of activities in the Area and provided the opportunity to discuss a wide range of issues covered by the Action Plan for Marine Scientific Research.

44. Since 2017, the Authority has placed particular importance on advancing women's empowerment and leadership, including in deep-sea research, as reflected in the voluntary commitment registered at the Ocean Conference of 2017 (#OceanAction15467). To that end, the Authority has entered into a partnership with the United Nations Office of the High Representative for the Least Development Countries, Landlocked Developing Countries and Small Island Developing States. The partnership, given concrete form in the Women in Deep-Sea Research project, is aimed at developing specific activities to advance women's empowerment and the leadership of women scientists from the least development countries, landlocked developing countries and small island developing States. Several strategic partnerships have already been established with Governments, international and regional organizations, academia and contractors¹⁷ to implement activities in the four action areas (policy development and advocacy, capacity development, sustainability and partnerships, and communication and outreach). For example, the secretariat has

¹⁶ See <https://isa.org.jm/event/webinar-msr-information-series-africa-topic-1-deep-sea-mineral-resources-and-technologies>.

¹⁷ Argentina, Kiribati, Malta, Nauru, Norway, South Africa; Cook Islands Seabed Minerals Authority, Department of Economic and Social Affairs, Indian Ocean Rim Association, International Group on the Follow-up to the World Conference on Science, National Institute of Oceanography and Fisheries of Egypt, National Marine Biodiversity Institute of Korea, National Oceanographic Centre of the United Kingdom and West P&I, Organisation for Economic Co-operation and Development; Pacific Community, Deep Ocean Resources Development Co. Ltd., Marawa Research and Exploration Limited, Nauru Ocean Resources Inc., Tonga Offshore Mining Limited.

provided necessary technical support to the National Marine Biodiversity Institute of Korea for the organization of the Global Women's Leadership Training Programme in Marine Bioresources Information Systems, for female experts of Fiji, in October 2021.

45. In August 2021, the secretariat jointly organized, with the Subcommission for the Caribbean and Adjacent Regions of IOC-UNESCO, a regional co-design workshop on capacity development related to the deep sea. More than 130 participants, mostly from the wider Caribbean region, including panellists from the secretariat, former trainees of the Authority, national institutions and international organizations and initiatives, attended the workshop.

III. Engagement and resource mobilization

46. The Authority has continued to work collaboratively with IOC-UNESCO in the planning and implementation of the United Nations Decade. As such, the secretariat has contributed to the interim Decade Advisory Board, the monitoring and evaluation working group and the communications working group. In July 2021, responding to a call for nomination from the Executive Secretary of IOC-UNESCO, the Secretary-General confirmed, through the United Nations Legal Counsel as Chair of UN-Oceans, the willingness of the Authority to be represented on the Decade Advisory Board in order to ensure consistency and coherence in the implementation of the objectives of the United Nations Decade in the light of the specific responsibilities attributed to existing international organizations through their respective mandates and instruments in the field of marine scientific research.

47. Many of the activities described in the present report were financially supported by specific budget programmes allocated by the Assembly. However, various activities have also been supported by members of the Authority, partner organizations and donors, as well observers through cash contributions and in-kind support.

48. In August 2021, the secretariat was invited by the European Commission to submit a proposal for a grant under the 2021 work programme of the European Maritime, Fisheries and Aquaculture Fund. The proposal is currently being developed with a view to supporting the first phase of the Sustainable Seabed Knowledge Initiative, which is aimed at implementing the taxonomic component of the Initiative and initiating the development of innovative tools to facilitate species identification and description in the Area, with a focus on the Clarion-Clipperton Zone.

IV. Recommendations

49. The Assembly is invited to:

- (a) Take note of the information provided in the present report;
- (b) Request the Secretary-General to continue his efforts to mobilize resources to provide financial support for the implementation of the strategic research priorities under the Action Plan for Marine Scientific Research;
- (c) Encourage all members of the Authority, other States, relevant international organizations, academic, scientific and technical institutions, philanthropic organizations, corporations and private persons to contribute to the implementation of the Action Plan for Marine Scientific Research.