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OUTLINES OF THE FINDINGS AND RECOMMENDATIONS OF THE GROUP OF EXPERTS ON CAPACITY DEVELOPMENT FOR THE REVISION OF THE IOC CAPACITY DEVELOPMENT STRATEGY

Summary

The current IOC CD Strategy (adopted through Resolution XXVIII-2) was developed for the period 2015–2021 and accordingly, it will “expire” end of December 2021. The IOC Group of Experts on Capacity Development (GE-CD), during its 2nd meeting (October 2020), decided to establish a GE-CD Task Team to identify what changes may be needed in the current IOC CD Strategy (2015–2021) and submit a report for the consideration of the IOC Assembly at its by the 31st session.

Purpose of the document: This document summarizes the findings and recommendations of the GE-CD Task Team presented in [IOC/INF-1396](#). Based on this analysis, the Task Team recommends that the GE-CD continue its work on revising the IOC CD Strategy for the period 2023–2030, extending the current CD Strategy until 2023.

There are no (direct) financial and administrative implications.

The proposed decision is referenced Dec. IOC/A-31/3.5.3 in the Action Paper (document [IOC-31/AP](#)).

Introduction

1. The current IOC Capacity Development Strategy ([IOC/INF-1332](#)) was developed for the period 2015–2021. The IOC Group of Experts on Capacity Development ([report](#)) considered the elements that would guide a revision of the Strategy beyond 2021 and established a Task Team for that purpose. This document provides outlines of the findings of the Group and recommendations to the IOC Assembly. The elements that were examined by the team include: (i) outcomes of the 2nd IOC Capacity Development Survey (September 2020–January 2021); (ii) Capacity Development Chapter of the UN Decade of Ocean Science for Sustainable Development (2021–2030) Implementation Plan ([IP](#)); (iii) input of consultations with IOC global and regional programmes related to Capacity Development; and; (iv) input of consultations with UN specialized agencies, non-UN IGOs, Global and Regional organizations, programmes and projects, NGOs and private sector partners. In addition, it considered the outcomes of the [Global Ocean Science Report 2020](#). The Task Team worked by correspondence and had two online meetings in December 2020 and February 2021 respectively.

Global Ocean Science Report 2020

2. In 2020, the IOC published the Global Ocean Science Report 2020, a resource for a wide range of stakeholders, including policymakers and academics, seeking to understand and harness the potential of ocean science for addressing global challenges. Its findings inform on the global status of ocean science capacity and therefore have relevant implications for sustainable development policies and provide additional elements for revising the IOC CD Strategy.

3. Based on GOSR 2020 results relevant to capacity development the Task Team identified the following recommendations:

- (i) Enhance the current level of funding for ocean science;
- (ii) Establish continuous collection of internationally comparable data on investments in ocean science;
- (iii) Facilitate co-design of ocean science by involving ocean science information users and producers;
- (iv) Promote multistakeholder partnerships in ocean science and operationalize transfer of marine technology;
- (v) Move towards ocean science capacity development with the equal participation of all countries, genders and ages, embracing local and indigenous knowledge;
- (vi) Develop strategies and implementation plans to support the career needs of women and young scientists;
- (vii) Find solutions to remove barriers for open access to ocean data;
- (viii) Foster education and training in professions related to ocean sciences;
- (ix) Assess the impact of the COVID-19 pandemic on human and technical capacity in ocean science.

Capacity Development Chapter of the UN Decade of Ocean Science for Sustainable Development Implementation Plan

4. The UN Decade of Ocean Science for Sustainable Development will provide the enabling framework across the UN system to support countries in achieving their ocean-related 2030 Agenda priorities. It will facilitate the transformation of existing or new knowledge and understanding into effective action supporting improved ocean management, stewardship, and sustainable development.

5. Capacity development (CD) is an essential tenet of the Ocean Decade. It has the ultimate aim of achieving evenly distributed capacity across the globe, across generations, and across genders and thus reverse asymmetry in knowledge, skills and access to technology. Importantly, capacity development efforts will focus not only on capacity to do the science, but also on capacity to understand the societal relevance of the science, and to use the science to support decisions for sustainable development. In this sense, the targets of capacity development as part of the Ocean Decade include not only scientists, but also the end-users of knowledge such as governments and policymakers.

6. Based on findings relevant to CD the Task Team identified the following recommendations:

- (i) Output 1: Human resources developed: The Ocean Decade IP includes new elements that are not in the current IOC CD Strategy. These refer to online and distance learning, proven critical under the COVID-19 pandemic, training of trainers, integration of ocean science in curricula in primary and secondary schools, including information on ocean science careers, and actively improving gender, generational and geographic diversity.
- (ii) Output 2: Access to physical infrastructure established or improved: Technology is a focus that needs to be added in the IOC CD Strategy including high power computing and data storage facilities, digital telecommunications, etc.; skills building for leadership in technology and infrastructure development; promoting technical and technological cooperation, and peer to peer exchange between stakeholders. Also, as proposed in the Ocean Decade IP, there is a need for low-bandwidth / low-technology tools in areas where access to digital telecommunications is limited.
- (iii) Output 3: Global, regional, and sub-regional mechanisms strengthened: The call for Decade actions that are transformative requires strengthening global, regional, and sub-regional mechanisms which are essential to enhance close interaction and communication among global and regional and subregional programmes. The Ocean Decade IP raises their profile to be leaders and amplifiers of capacity development as a requirement for successful programme implementation and capacity development. This is an important element to scale-up and accelerate CD efforts that may be considered in the revision of the IOC CD Strategy.
- (iv) Output 4: Development of ocean research policies in support of sustainable development objectives promoted: Both documents emphasize this crucial need for targeted natural and social science research that builds understanding of ocean processes, helps identify possible solutions to critical challenges, and provides the knowledge needed to catalyze transformational changes in human behaviour for sustainable development.
- (v) Output 5: Awareness and understanding increased, and exchanges facilitated on role and values of ocean: While both documents include outputs on visibility and awareness, the current IOC CD Strategy may need to include an emphasis on facilitating exchanges on the role and values of the ocean, as stated in the Ocean Decade IP and including informal education through museums, zoos or aquariums.
- (vi) Output 6. Sustained, long-term resource mobilization reinforced: This is the most similar output among the six outputs in both documents. The new IOC CD Strategy may nevertheless need to explore this part more in the context of networks, partnerships and collaboration, optimizing opportunities for cooperation and exchange as a pillar of the Ocean Decade Actions.

7. While no country has been spared from the COVID-19 crisis, the least developed countries (LDCs), Small Island Developing States (SIDS) and land-locked developing countries (LLDCs) are the most vulnerable countries in the world to the impact of the pandemic due to their inherent development deficits, further exacerbating their vulnerability to climatic shocks.

8. The immediate impact of the COVID-19 pandemic on poverty rates in the countries which were already accounting for a rising proportion of the world's extreme poor, was assessed according to different poverty lines (UNCTAD, 2020). It is estimated that the downward growth due to pandemic outbreak will drive an additional more than 32 million people into absolute poverty in LDCs and SIDS.

9. These communities deserve a plan of capacity development focused on developing productive capacities for their successful structural transformation, to shape a better and more resilient and inclusive future for the world's poorest countries. The pandemic sets international development cooperation at the heart of reducing risk, preventing economic devastation, and building resilience of vulnerable countries. At the heart of the UN Decade of Ocean Science for Sustainable Development is not to leave any country behind, especially the most vulnerable. The Ocean Decade Capacity Development strategic framework cuts across geographies and across the land-sea interface. It includes but is not limited to LDCs, SIDS and LLDCs. In this context, the Ocean Decade IP critically depends on global capacity building and resource-sharing between countries at different levels of wealth and development. The enormous need for more ocean information at the scientific, governmental, private sector, and public levels demands a step-change in ocean education at all levels.

Outcomes of the 2nd CD needs assessment survey (2020)

10. Pursuant to decision IOC-XXX/11.1 of the IOC Assembly in June 2019, IOC issued [Circular Letter 2803](#) on the 1st September 2020 to invite the IOC GE-CD to continue its work on regularly assessing the capacity development requirements of Member States and launched the second CD Needs Assessment Survey. This CD Needs Assessment Survey was prepared by the IOC GE-CD and was designed to assess the capacity development requirements of member countries, specifically, but not only, SIDS and LDCs, in order to contribute to the implementation plan and reviewing of the IOC CD Strategy, 2015–2021 (<http://www.ioc-cd.org/cdstrategy>).

11. The survey received 1004 responses, from 118 countries, as of February 1st, 2021. Most of the respondents answered the survey on personal capacity (72%) while 21% were official representatives; 4% were IOC Focal Points, 1% CD Focal Points and 2% others. As for the stakeholder groups breakdown, 30% of the respondents were ocean researchers and research service providers, 23% were Higher Education Institutions and Learning Service Providers academic staff (24%), 16% national government officials, and 10% students, while the rest of the groups were below 10%. Of the 9096 emails that were sent to the members listed in the Ocean Experts database from the 115 developing country Member States targeted for this survey, only 902 responses were received, i.e. only about 11% response rate, notably below 29% average for online surveys. Only 20 responses were received from a total of 115 IOC Focal Points and only 9 responses were received from IOC CD Focal Points. 61% of responses came from male, while 37% from female.

12. Detailed results of the outcome of the survey are available online through the dedicated web site <https://surveys.ioc-cd.org>.

13. The results of the ranking by each region on their respective capacity development needs from the leadership perspective of IOC National Focal Points group, differ across regions. In Africa for example, the top CD needs point to 'ocean science sampling equipment and instrumentation', in LAC was 'access to high power computing', in the Others group was funding and investment, while 'legal frameworks, regulation and enforcement' was ranked top in WESTPAC. It can be seen that the CD Focal Points group also shares pretty much similar CD needs with the ranking by IOC Focal Points group. For the personal group, however, it is worth noting that their ranking, somewhat differs from those of the 'National Focal Points group', as their top ranking was concentrated in 'funding and investment', similar to representatives of the organization group, followed by 'ocean observation equipment'.

14. The lack of response by IOC National Focal Points is a serious concern and the group was urged to explore more ways to reach out to countries to get more responses and reach statistically

significant results. Nevertheless, there were some valuable results that can be gathered from the initial analysis, including the need identified for specific training including ship-based that require hands-on scientific training.

15. The Task Team members shared the view that, though limited, the results revealed important issues regarding poor linkage between focal points and target communities. The difference between individual needs expressed and those reported by National Focal Points revealed a disconnect between the views of scientists and researchers and those of higher-level officials.

16. The Task Team recommended:

- (i) to continue reaching out to countries to gather more responses and gain more statistically significant results. A reanalysis once there are more National Focal Points and CD Focal Points who provided national responses can be done after several months and the results can be revisited.

Consultations with Global and Regional Programmes as well as UN Specialized Agencies, Non-UN IGOs, Global and Regional Projects, NGOs, Private Sectors, etc.

17. Sector partners, taking into account their CD strategies and programmes through a set of questions were addressed to a set of partners with CD strategies and programmes that could inform the GE-CD Task Team of the possible gaps, potential addition/removal of elements and other considerations in the revision of the IOC CD Strategy.

18. Comments and suggestions received included a long list of references to specific CD initiatives that are to some extent related to the IOC CD Strategy and to the Ocean Decade. Summarized they address the following:

- (i) As a general principle, it is important to highlight long-term CD sustained strategies. CD benefits from coordinated and merging initiatives that can allocate financial resources in the long-term and with coherent, integrated objectives. In essence, dispersed short-time efforts, although valuable, are considered much less efficient. This implies long-term funding frameworks, which are particularly difficult to mobilize.
- (ii) Another cross-cutting comment is the need to develop mechanisms for monitoring, evaluation and learning to assess the quality and impact of the capacity development activities. This includes also mapping out present CD activities and identifying gaps that need to be addressed (e.g., in polar regions). These mechanisms would benefit from coordinated approaches between different organizations (see below).
- (iii) It is also emphasized that CD strategies and initiatives must strengthen existing national and regional resources and networks for capacity development. They must work with, and make use of national training institutes and universities, fostering the adaptation of new knowledge into existing curricula and avoid creating new, external initiatives, which although valuable, may compromise existing national CD capacities.
- (iv) Capacity development will also be better achieved through partnerships between developed countries and SIDS and LDCs, for instance, to redress infrastructural gaps and to realize the socio-economic benefits of ocean observing systems at global and regional scales.
- (v) As it is clearly stated in the Ocean Decade IP, the integration of natural sciences and societal disciplines into a holistic assessment of the marine environment must also be a general principle in CD strategies and initiatives. Sustainable resource management requires an understanding of the seas and our use of them via an integrated system which merges the natural and human aspects. Therefore,

conceptual frameworks that integrate human and social sciences into holistic assessments of the marine environment are required.

- (vi) It must be ensured that global challenges such as climate change, biodiversity and habitat loss, and their impact on marine resources and services need to be central in CD strategies and initiatives.
- (vii) Also, there is a need to remove barriers to full gender and geographic diversity, and guarantee equitable access to ocean knowledge, ocean-related education, training, and transfer of marine technology. In addition to these general comments there were other issues that clearly emerged in the comments and that are summarized below.

Capacity Development in policies and decision-making

19. Capacity development oriented towards policymakers must be a priority, being a first step to enable the further development of general CD strategies. CD guidelines must refer to the need for long-term sustained strategies in capacity development, both at national level and for international coordination. The lack of long-term sustained strategies, not only funding, is understood as a main factor hindering the success of capacity development. Although funding is important, other aspects such as the high rotation in personnel representing or responsible for the coordination at national level (e.g., Tsunami National Contacts) frequently hamper the effectiveness of capacity development actions.

20. Further, the policy-science interface is essential for the development and implementation of legal and institutional ocean governance frameworks in which science is a central component. Policy-oriented CD must incorporate a clear awareness of the socio-economic benefits derived from products and services provided by the ocean. Marine spatial planning, integrated coastal zone management schemes, marine protected areas, and ocean management in general must be based on scientific knowledge. It is therefore crucial that policymakers have a clear understanding of this dependency as a first step to develop robust CD strategies at national level.

21. CD for policymakers must help to support Member States in their implementation of the SDGs and other key UN processes that will rely on sound marine science to inform decision making in the next Decade (e.g. BBNJ, CBD post-2020 global biodiversity framework).

SIDS, LDCs ad LLDCs

22. Although SIDS, LDCs, and LLDCs are already a priority in the IOC CD Strategy, this role has to be more specific and reinforced by:

- (i) strengthening the science-policy interface through the development and/or delivery of decision-making support tools and inclusive stakeholder's engagement processes for evidence-based policy and trade-offs development, consensus building and integrated solutions;
- (ii) encouraging policies to promote technological upgrading; strengthening science and technology and increasing investment in basic and related research facilities / institutions are central and priorities for the future sustainability of these countries;
- (iii) strengthening and highlighting the key role of marine science, as essential to deliver the tools needed to tackle the root causes of existing vulnerabilities and to identify climate and ocean environment-related security risks faced in in coastal areas, in particular by SIDS; and
- (iv) promoting synergies between the UN Decade of Ocean Science for Sustainable Development and the UN Decade for Ecosystem Restoration. Ocean science informs coastal ecosystem restorations, and in that context, the unique vulnerabilities of SIDS should be recognized.

Cooperation and merging with CD strategies in other UN organizations, regional and national institutions

23. Science is an integral part of legal and institutional ocean affairs at all scales of governance. Therefore, other UN organizations, regional and national institutions that have general or specific interests in the ocean, frequently include ocean science in their CD strategies. Consequently, it is extremely important to establish a high degree of coordination between CD strategies of UN organizations, supported by broader participation of Member States, to avoid duplications and ensure synergies of activities, partnerships and resources, including expertise and infrastructures. This coordination has to be carried out, not only at the global level, but also, and very importantly, between the regional programmes, sub-commissions or regional committees and activities and down to the national level. This coordination should evolve to strategic partnerships in capacity CD to ensure robust, long-term CD strategies and programmes and must include the large variety of issues already considered in the IOC CD Strategy and the ones suggested in this document (data management and data access, scientific methodologies, ocean observation, policy-maker oriented CD, SIDS and LDCs priority, gender, traditional and indigenous knowledge, etc.).

24. Taking into account the role of marine science to promote sustainable development, the CD strategy has also to be aligned with initiatives and programmes related with ecosystem management (e.g. with the CBD post-2020 global biodiversity framework, the UN System of Environmental-Economic Accounting Ecosystem Assessment, GeoParks, Biosphere reserves and World Heritage sites), sustainable development (e.g. coordination between UNESCAP and WESTPAC, or alignment of the IOC CD Strategy with the Sustainable Development Cooperation Framework) or by assisting countries in building their ability to collect, manage, analyze, and use data of different sources (e.g. in cooperation with the UN Department of Economic and Social Affairs and National Statistical Offices). Two cross cutting aspects must be faced on the coordination of CD strategies: (i) connection with the private sector on partnering training opportunities; (ii) enable multi-donor arrangements.

Gender, traditional activities and indigenous heritage

25. The role of gender, of traditional and indigenous knowledge and social inclusion, in general, must be reinforced in the IOC CD Strategy. This includes: (i) engaging indigenous peoples and incorporating their rights, interests, ocean information needs and valuable traditional knowledge in ocean observation efforts and related policies in ocean governance; and (ii) social inclusion. Ensuring the needs of disadvantaged social groups such as indigenous peoples, persons with disabilities, older persons, youth and women are understood and addressed by removing barriers to full gender, generational, and geographic diversity, and ensure an equitable and accessible ocean for all.

Data storage, management and access

26. Advances in data and information management are a core element of the Ocean Decade. Data access is generally included in global strategic plans and global policies. However, less attention is devoted (including in the IOC CD Strategy) to support the creation and maintenance of interoperable ocean datasets at national level and their interoperability at the national context. It is necessary that SIDS and LDCs have open access to data generated by developed countries, but it is as crucial that they can appropriately manage the data they produce. This is essential to develop scientific knowledge for their own use, to support the management of their ocean products and services and to downscale the understanding and management of global processes, such as ocean and climate change.

27. Therefore, CD Strategy must:

- (i) support the creation and maintenance of interoperable maritime datasets in cooperation with other International/Intergovernmental Organizations;

- (ii) develop, in collaboration with other International/Intergovernmental Organizations, interoperable and open-access data platforms and services;
- (iii) identify and rescue data and information that are not available on digital platforms and therefore may be at risk of being lost. All these components aim to further a common and standardized international approach to the sustainable knowledge of the oceans as part of CD strategies.

Other general recommendations

28. The results of the Task Team's review to inform the rationale for revising the IOC CD Strategy laid out vital elements that need to be incorporated in the revised IOC CD Strategy, so that it provides the kind of capacity development required in the Ocean Decade. The appropriate form and structure with an ideal length enough to entice target audience to read through the document should be taken into consideration when designing the revised IOC CD Strategy.

29. The Task Team recommends:

- (i) that the GE-CD continue its work on revising the IOC CD Strategy for 2023–2030. The current Strategy can be extended until 2023 to give sufficient time to delve into this important work.
- (ii) the GE-CD's ToR should be revised to allow a continuation of the work on the revision of the IOC Capacity Development Strategy and the preparation of a proposal for submission to the 32nd Session of the IOC Assembly in June 2023.
- (iii) to considered how to promote visibility and reach of the revised IOC CD Strategy so that its target audience will read through and appreciate the document as a guide in implementing capacity development activities.
- (iv) that the possibility of developing a short policy brief incorporating the key messages for a wider outreach be considered.

Proposed decision

30. In view of the above, the proposed decision is referenced IOC/A-31/Dec.3.5.3 in the Action Paper (document IOC/A-31/AP).