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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

INFORMATION DOCUMENT

IOC 2ND CAPACITY DEVELOPMENT NEEDS ASSESSMENT SURVEY

SUMMARY REPORT

Summary

The 2020 Capacity Development Needs Assessment Survey, organised by the IOC Group of Experts on Capacity Development, was designed to assess the capacity development requirements of UNESCO IOC member States. As instructed by the 30th Session of the IOC Assembly (2019) the IOC GE-CD has implemented the revised 2020 survey. The online survey was opened on 1 September 2020 and closed in February 2021.

This information document presents a summary of the survey outcomes, which were expected to contribute to assessing the capacity development needs in ocean science related issues and addressing capacity needs related to the UN Decade of Ocean Science for Sustainable Development 2021-2030. The detailed results contained in this document, as well as detailed responses from countries, are also made available online at <https://surveys.ioc-cd.org>. The site was launched on 30 April 2021, through Circular Letter 2846. The Circular Letter called for recipients to communicate the survey to a broader circle of potential respondents.

Document [IOC/INF-1396](#), GE-CD Task Team relating to the revision of the IOC Capacity Development Strategy 2015–2021 is a useful complement to this report.

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1. INTRODUCTION

Capacity Development (CD) is an essential tenet of IOC's mission. It enables all IOC Member States to participate in, and benefit from, ocean research and services that are vital to sustainable development and human welfare on the planet. The vision contained in the IOC Capacity Development Strategy 2015-2021 identifies capacity development as the primary catalyst through which IOC will achieve its four high level objectives in the current 2014–2021 IOC Medium-Term Strategy. National ocean related capacity is also essential to build the required national expertise to fully participate in, and benefit from the Sustainable Ocean Economy.

During its 29th Session, the IOC Assembly adopted Decision IOC-XXIX/10.1 establishing the IOC Group of Experts on Capacity Development. The main objectives of the Group of Experts are to assist the global and regional programmes with the implementation of capacity development (CD) needs assessments, the development of related work plans, mobilization of resources, and provide advice on relevant methods and tools to deliver CD. The Group will also advise the Assembly on, and start implementation of, the Transfer of Marine Technology Clearing House Mechanism (CHM) as requested by the IOC Criteria and Guidelines on the Transfer of Marine Technology (IOC/INF-1203), making use, to the largest extent possible, of existing data and information systems already available at IOC.

In order to identify capacity development needs of IOC Member States the Group of Experts designed an online survey. Launched in October 2018 through Circular Letter 2738, the first survey focussed largely on regional needs and those of Small Island Developing States and Least Developed Countries. The results of the survey (Annex VI of IOC/GE-CD-1/3) also assessed the functional needs of a Clearing House Mechanism (CHM) as a tool 'to provide interested users in Member States with direct and rapid access to relevant sources of information, practical expertise in the Transfer of Marine Technology (TMT), as well as to facilitate scientific, technical and financial cooperation to that end'. This finding materialized in April 2020 as the IOC Ocean InfoHub Project that focusses on the development of the CHM/TMT in Latin America and Caribbean region, Africa and Pacific SIDS (see Executive Council document IOC/EC-53/4.3.Doc for detail).

The survey will be repeated every two years. The first survey for which the results are made available online is 2020 (-2021). The next survey is planned for 2022.

2. SURVEY DESIGN AND MANAGEMENT

The 2020 Capacity Development Needs Assessment Survey was organised by the IOC Group of Experts on Capacity Development (<http://www.ioc-cd.org/gecd>) and was designed to assess the capacity development requirements of member countries, in particular Small Island Developing States (SIDS) and Least Developed Countries (LDCs). As instructed by the 30th Session of the IOC Assembly (2019) the IOC GE-CD has implemented the revised 2020 survey. The online survey was opened on 1 September 2020 at <https://www.surveymonkey.com/r/KN885MK> and closed in 1 February 2021. Some respondents who had difficulty accessing the online questionnaire requested for pdf copies of the questions. These were submitted to the Secretariat and manually encoded their responses in the database. After the survey was closed, additional enquiries from some member states came in.

The survey was developed based on the earlier version of the questionnaire used in 2018. The 2020 survey expanded overall the scope of CD stakeholder groups while the first survey focused on researchers, academic and IOC contacts only. The additional stakeholders that were included in the survey were as follows:

1. IOC focal points,
2. IOC CD focal points
3. Ocean researchers and research service providers (including heads of institution, data centre staff)

4. Academic staff (Higher Education Institution lecturers as well as Learning Services Provider staff)
5. Students (at Higher Education Institution)
6. Local government officials (including councils, national park authorities)
7. National government officials
8. Policy-makers (senior government officials)
9. Industry (using, extracting and/or developing ocean resources)
10. Private sector operating in coastal zone (e.g. hoteliers, developers)
11. NGOs (e.g. environmental, etc.)

Widening the scope of stakeholders aimed to gain additional information on the expertise available in the countries, and on capacity gaps (human, infrastructure, coordination, communication and policy). It was anticipated that the second survey will enhance opportunities for closer coordination and cooperation between the various stakeholder communities, with the aim of reinforcing and optimizing national and regional capacities.

The CD Needs Assessment survey consisted of 2 main parts: the first was for personal information of the respondents, while the second part contained relevant question sets for specific stakeholder group. All respondents were asked to fill in Section 1 for personal information and profile of respondents. Question 4 asked the respondents to indicate the capacity in which they were responding to the survey and Question 10 asked them to identify their relevant stakeholder group, which led them to the question sets, depending on the stakeholder group they identified with. Section 2 contained questions focusing on capacity development based largely on the IOC CD Strategy framework of outputs and activities, which was meant for practitioner groups such as ocean researchers, academic staff and students. Subsets 2A and 2B were additional questions specifically for IOC focal points and CD focal points, respectively. Sections 3 to 5 contained questions for other stakeholder groups such as government officials, policy makers, private and industry, and environmental NGOs.

The survey was actively promoted through a number of channels including direct contact with:

- IOC Focal Points of all member states, through Circular Letter 2803 in English, French and Spanish
- Ocean experts in the OE database, where there more than 9000 entries from developing country member states. For this, an official list from UNDP was utilized to determine the developing countries to be included in the mailing list
- Network of early career ocean professionals, facilitated by the HQ
- GE-CD 2nd online meeting
- Social media accounts and other professional networks

The information gathered by this survey were expected to contribute to assessing the capacity development needs in ocean science related issues and will also contribute to addressing capacity needs related to the UN Decade of Ocean Science for Sustainable Development 2021-2030. Further, it aims to benefit the participating stakeholder groups in the following manner;

Ocean researchers and research service providers + Academic staff + Students + IOC focal points + IOC CD national focal points: the results of the survey will provide us with a country and region-specific status report on required CD efforts related to ocean science capacity, human and infrastructure resources, coordination communication, and policies. This will enable the IOC as well as its (donor) partners to provide needs- based capacity development interventions and collaboration.

Government officials (local government, national government, policy makers): the results of the survey will, together with information available from the IOC Global Ocean Science Report (GOSR), provide a status report of ocean science capacity, human and infrastructure resources, coordination communication and policies, as well as information on the required development of national resources not yet (sufficiently) available. This will be directly relevant to national marine science policy plans.

Industry and other private sector operating in the coastal zone: the results of the survey will assist these stakeholder groups to discover national/regional resources (e.g. expertise, infrastructure) that is required for their marine related activities. The results may also assist better communication and coordination with local and national governments.

NGOs (environmental): the results of the survey will assist NGOs (environmental) by providing a global/regional/national benchmark on capacity development status and needs, to support them in their cooperation with regional/ local communities.

3. SURVEY RESPONSES

In total, 1005 responses were received from 118 countries as of May 2021. The gender breakdown is 61% male, 37% women, and rest prefer not to say. 72% of the respondents answered on personal capacity, while 21% were official representatives; 4% IOC focal point, 1% CD Focal Points and 2% for 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, 16% national government officials, 10% students, while the rest of the groups were below 10%.

The raw data from Survey Monkey were integrated in the database together with the responses which were submitted offline and manually filled in and encoded in the main dataset. There were several problems encountered with the raw data, especially with official responses from focal points. As there was an official list of focal points, the data has to be verified against the list. In cases where the respondent was not in the official list, verification emails were sent to the National Committees to confirm that the submitted response was on behalf of the focal points indeed.

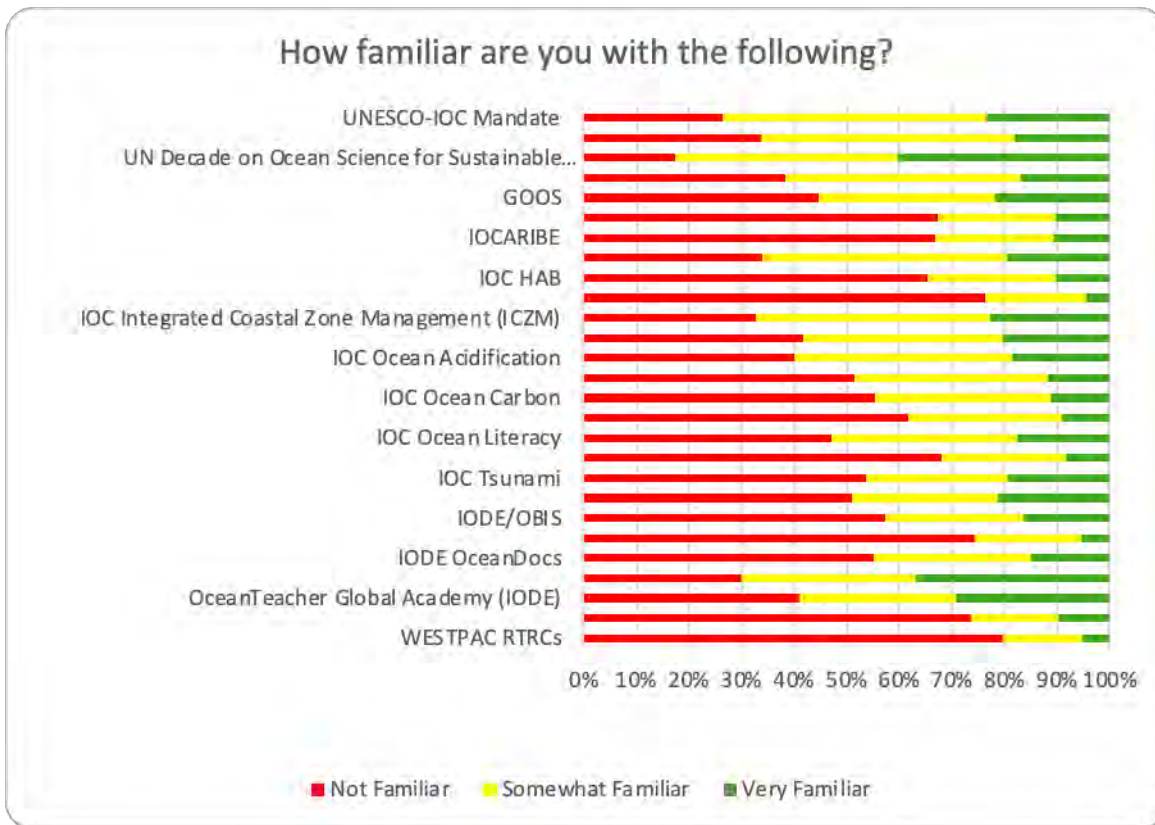
Given that, a key focus of the survey was to specifically assess the capacity needs requirements in each region, the analysis conducted include a regional reporting to enable comparisons with the overall results. Considering the relevance of presenting the results that show the priorities of the IOC Sub-Commissions and Committee in order to help them develop their CD work plans, and also to inform the potential revision of the IOC CD strategy, the preliminary results of the survey had been presented to the Group of Experts on Capacity Development meeting in October 2020. It was also presented in the first and second meeting of the established Task Team on revision of CD strategy in December 2020 and February 2021. It was during these discussions that the group advised on the best way to process and present the results. It was also during these meetings where appeals for further collaboration and cooperation in increasing the responses to the survey were made. The GE-CD Chair also made a brief presentation on the survey results during the IOCARIBE meeting in April 2021.

The detailed results contained in this document, as well as detailed responses from countries, are available online at <https://surveys.ioc-cd.org>. The site was launched on 30 April 2021, through Circular Letter 2846. The CL called for recipients to communicate the survey to a broader circle of potential respondents.

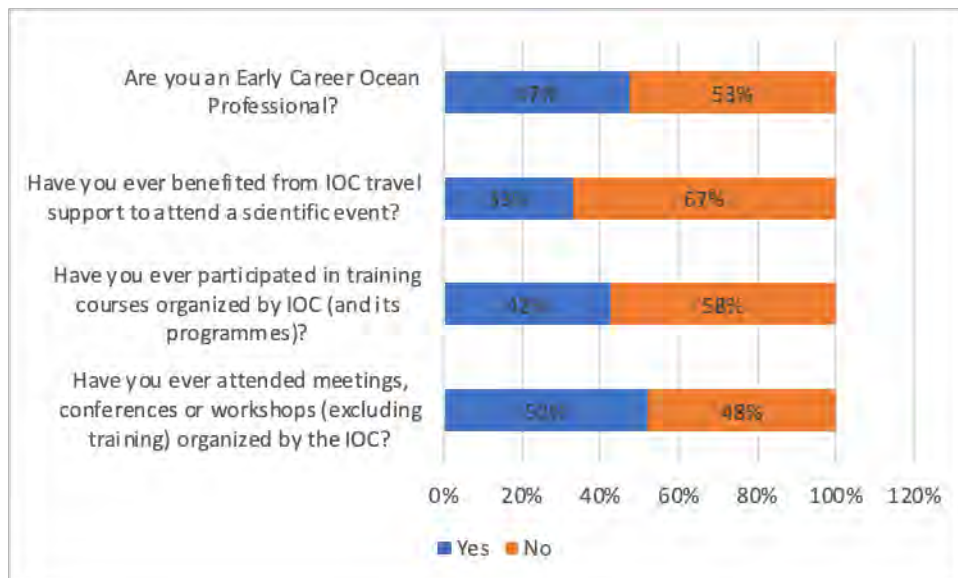
4. SURVEY QUESTIONS

Section 1: Information on the person who filled the survey: to be filled by all

Aside from some personal information questions in Section 1, the respondents were asked to identify their familiarity with UNESCO-IOC and its programmes.



Additional questions asked the respondents about their participation in IOC activities. Almost half of the respondents were Early Career Ocean Professionals.



Sections 2-5: Capacity development needs assessment: for each stakeholder group specific questions will be asked. Question 10 of the questionnaire asked the respondents to identify their respective stakeholder group to proceed to the relevant question sets.

IOC FOCAL POINTS

The question set for IOC focal points consisted of three sections – 10 questions on respondent's profile in Section 1, 22 questions in Section 2, and 23 questions in Subset 2A. The questions in Section 2 asked the focal points to rank critical CD needs and based largely on the IOC CD Strategy framework. It also asked for CD mechanisms present or offered in their institutions and the support they require. Questions pertaining to Decade challenges, Decade objectives, SDG 14, CD strategy and assessments carried out in their countries, were also included. IOC focal points were also asked to answer subset of questions regarding their collaboration with IOC, especially their contributions and impact of Covid19 on IOC capacity development activities in 2021-2022.

IOC CD FOCAL POINTS

The question set for IOC CD focal points consisted of three sections – 10 questions on respondent's profile in Section 1, 22 questions in Section 2, and 12 questions in Subset 2B. The questions in Section 2 asked the CD focal points to rank critical CD needs and based largely on the IOC CD Strategy framework. It also asked for CD mechanisms present or offered in their institutions and the support they require. Questions pertaining to Decade challenges, Decade objectives, SDG 14, CD strategy and assessments carried out in their countries, were also included. IOC CD focal points were also asked to answer subset of questions regarding their role in coordinating CD activities, the implementation of IOC CD Strategy, and involvement in the Ocean InfoHub project.

OCEAN RESEARCHERS, ACADEMIC STAFF, STUDENTS

The question set for ocean researchers, academic staff and students from HEIs consisted of two sections – 10 questions on respondent's profile in Section 1 and 25 questions in Section 2. The questions in Section 2 asked the practitioner groups to rank critical CD needs and were based largely on the IOC CD Strategy framework. It also asked for CD mechanisms present or offered in their institutions and the support they require. Questions pertaining to Decade challenges, Decade objectives, SDG 14, CD strategy and assessments carried out in their countries, were also included.

LOCAL GOVERNMENT OFFICIALS, NATIONAL GOVERNMENT OFFICIALS, AND POLICY MAKERS

The question set for local government officials, national government officials, and policy makers consisted of two sections – 10 questions on respondent's profile in Section 1 and 5 questions in Section 3. The questions in Section 3 asked the officials information regarding national plans, institutional mechanisms, policies, decision making processes and obstacles regarding development and maintenance of national capacity in marine research/monitoring/management in their countries.

INDUSTRY AND PRIVATE SECTORS

The question set for industry and private sectors consisted of two sections – 10 questions on respondent's profile in Section 1 and 16 questions in Section 4. The questions in Section 4 asked the respondents regarding human and infrastructure resources and their roles in marine research, monitoring and observation, corporate social responsibility, partnership arrangements with other stakeholders, data collection and sharing, online database and standard protocols with interoperability and automatic harvesting of contents.

NGOs (ENVIRONMENTAL, ETC.)

The question set for non-governmental organizations consisted of two sections – 10 questions on respondent's profile in Section 1 and 15 questions in Section 5. The questions in

Section 5 asked the respondents regarding human and infrastructure resources and their roles in marine research, monitoring and observation, corporate social responsibility, partnership arrangements with other stakeholders, data collection and sharing, online database and standard protocols with interoperability and automatic harvesting of contents.

5. OVERALL ANALYSIS

An overall analysis was conducted for each stakeholder group for all capacity groups. The data presented on ranking of top CD needs were based on weighted average. All the responses were included in the computation to reflect representation of the respondent's perspectives, including items that were given low rankings. To get a weighted average the number that gave the highest rank (e.g. essential) was multiplied times 5 and added to the number that gave a second highest (e.g. very important) multiplied times 4, and so on, divided by the total responses. However, due to the relatively small sample sizes care must therefore be taken when interpreting the results and making assumptions based on the data presented.

Top critical CD needs:

For IOC focal points, top 3 CD needs included funding and investment, access to communities of practice and increased awareness, ocean literacy and public outreach while for IOC CD focal points were funding and investment, facilitate stakeholder engagement, and access to communities. For practitioners groups of ocean researchers ranking, funding and investment, ocean observation equipment, and ocean science sampling equipment and instrumentation. For academic staff ranking, funding and investment, development of national ocean science policy and ocean observation equipment. For students ranking, ocean observation, funding and investment and strengthened international partnership and regional collaboration. While consistently at the top three of critical CD needs identified by focal points and practitioners groups was funding and investment, gender equality was among at the bottom of the lowest ranked CD items.

Regarding Ocean Decade:

While the focal points groups identified Challenge 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users as the Ocean Decade Challenges where capacity development needs were identified greatest, the researchers group identified Challenge 6. Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience while for academic staff and student groups personal groups, the highest was Challenge 2. Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions. As for the Ocean Decade objectives, all the objectives were considered highly relevant, most especially Objective 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions which was ranked consistently as greatest capacity development needs across groups.

Regarding SDG14:

Almost all the focal points (96%) who responded to questions related to SDG14 in Subset 2A of the questionnaire confirmed that SDG14 is a national priority in their countries. More than half believed that their countries and institutions have significant and partial capacity to achieve SDG 14. As to capacity lacking to achieve SDG 14, the respondents consistently answered 'capacity to translate science to policy' as most lacking.

Regarding national CD Strategy and needs assessment:

More than half (54%) of the focal points respondents indicated the absence of a national ocean science capacity. More than half (63%) of the focal points respondents answered that there has not been any capacity needs assessment conducted in their country.

Regarding impact of COVID:

Two questions regarding the impact of Covid19 to the implementation and support to IOC CD activities yielded negative impact among the majority of the respondents, as expected.

Regarding marine science research:

Almost 75% of respondents rated marine national coordination on marine research positively. More than half (57%) answered that marine scientific research is linked to policy needs in their countries. The responses were almost halved to positive (50%) and negative (45%) on the question whether the output of graduates is linked to human resources needs of the national research institutions. 48% responded in affirmative that there is an active policy to promote the use of local marine research/monitoring/management expertise in the private sector while 43% answered in the negative.

Regarding ocean policies:

64% of respondents from government officials group indicated that national plan or institutional mechanisms are in place to support the development of ocean science capacity in their country. Almost 90% indicated that research institutions, followed by international organizations and regional organizations were some non-governmental stakeholders that are mostly involved in decision- making processes to come up with action plans to implement ocean policies. As to the most frequent obstacles to implementing ocean related policy, the top answers were *limited financial resources, lack of technical capacities and lack of access to data and information*.

Please click the group below to jump into their respective sections, or the question below to jump into the detailed results from the overall analysis.

IOC FOCAL POINTS

[Q2.1: Please rank the most critical capacity development needs to build ocean science capacity \(currently not available\) in your country?](#)

[Q2.2: How important are the following in terms of developing capacity in human resources \(currently not available\) in your country?](#)

[Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?](#)

[Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?](#)

[Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?](#)

[Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?](#)

[Q2.7: In your opinion, how useful are the following in terms of mobilising sustained \(long-term\) resources in your country?](#)

Q2.8: Does your institution offer any of the following?

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?

Q2.10 What other specific support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy, are there any other CD efforts and supports not previously mentioned which you would like to see included?

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?

Q2.15: If yes, how is this reflected in your national plans and policies?

Q2.16: How would you rate the level of capacity available right now in your country to achieve SDG 14?

Q2.17: How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country?

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

Q2.19: Does your country or institution have a national ocean science capacity development strategy?

Q2.20: If yes, please specify (provide URL if available online)

Q2.21: Has your country carried out an ocean science capacity needs assessment? Q2.22: If yes, please specify (provide URL if available online).

SUBSET 2A QUESTIONS

2A.1 Does your country have a "national coordinating body" to coordinate its cooperation with IOC? 2A.2 If no, then why not:

2A.3 Has your country designated a IOC national focal point for capacity development? 2A.4 If no, then why not:

2A.5 How do you rate national coordination on marine research in your country?

2A.6 How many Higher Education Institutions exist in your country?

2A.7 What degrees are offered by your HEIs (highest degrees or equivalent overall)

2A.8 How many students study marine related subjects in your country (estimate)

2A. 9 How many marine/coastal research institutions exist in your country?

2A.10 How many researchers are employed in the marine/coastal research institutions in your country?

2A.11 Is marine scientific research in your country linked to policy needs?

2A.12 Is HEI output of graduates linked to human resources needs of the national research institutions?

2A.13 Does the private sector in your country make use of the expertise available in HEIs or national marine research institutions?

2A.14 If occasionally or often, do they pay for the service?

2A.15 Is there an active policy to promote the use of local marine research/monitoring/management expertise in the private sector?

2A.16 If no, then should there be an active policy?

2A. 17 Does your country collaborate actively in IOC programmes ?

2A. 18. If yes, please describe shortly:

2A.19 Does your country provide financial support to IOC capacity development activities (through projects, contribution to IOC special account or other financial channels)

2A.20 Does your country provide in-kind contributions to IOC capacity development activities (through hosting offices, providing national staff to IOC offices)

2A.21 Does your country provide in-kind support to IOC capacity development activities by providing expert time (to participate in workshops, steering groups,...)

2A.22 Will Covid19 have an impact on your overall collaboration in IOC capacity development activities in 2021-2022

2A.23 Will Covid19 have an impact on your support (financial, in-kind) to IOC capacity development activities in 2021-2022

IOC CD FOCAL POINTS

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

Q2.8: Does your institution offer any of the following?

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?

Q2.10 What other specific support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?

CD11

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?

Q2.15: If yes, how is this reflected in your national plans and policies?

Q2.16: How would you rate the level of capacity available right now in your country to achieve SDG 14?

Q2.17: How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country?

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

Q2.19: Does your country or institution have a national ocean science capacity development strategy?

Q2.20: If yes, please specify (provide URL if available online)

Q2.21: Has your country carried out an ocean science capacity needs assessment?

Q2.22: If yes, please specify (provide URL if available online).

SUBSET B QUESTIONS

2B.1 – 2B.3. Do you coordinate, as CD focal point, with your national HEIs and research institutions? If yes, how? If no, why?

2B.4. What actions have you undertaken since your designation as IOC focal point for CD?

2B.5. What changes should be made to the IOC CD strategy to become the 2022-2026 (or 2030) strategy?

2B.6. How would you rate the implementation of the IOC CD strategy (2015-2021) at the regional level?

2B.7. Are you familiar with the IOC Ocean InfoHub project that started in April 2020?

2B.8. Are you involved in the IOC Ocean InfoHub project?

2B.9. The IOC Ocean InfoHub project is currently being developed in three regions: Latin America, Africa and P-SIDS. Should this geographic focus be expanded to other regions?

2B.10. If yes then please provide more information.

2B.11. In your capacity as IOC national focal point for CD, what do you consider as the biggest problem in developing and maintaining national capacity in marine research/monitoring/management in your country?

2B.12. What can/should IOC do to assist you?

OCEAN RESEARCHERS

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

Q2.8: Does your institution offer any of the following?

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?

Q2.10 What other specific support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?

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Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?

Q2.15: If yes, how is this reflected in your national plans and policies?

Q2.16: How would you rate the level of capacity available right now in your country to achieve SDG 14?

Q2.17: How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country?

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

Q2.19: Does your country or institution have a national ocean science capacity development strategy?

Q2.20: If yes, please specify (provide URL if available online)

Q2.21: Has your country carried out an ocean science capacity needs assessment?

Q2.22: If yes, please specify (provide URL if available online).

Q2.23 Does your organisation make data or information available online through a website or web portal?

Q2.24 If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q2.25 If no, is this capacity that your organisation would like to develop?

ACADEMIC STAFF

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

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Q2.20: If yes, please specify (provide URL if available online)

Q2.21: Has your country carried out an ocean science capacity needs assessment?

Q2.22: If yes, please specify (provide URL if available online).

Q2.23 Does your organisation make data or information available online through a website or web portal?

Q2.24 If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q2.25 If no, is this capacity that your organisation would like to develop?

STUDENTS

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

Q2.8: Does your institution offer any of the following?

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?

Q2.10 What other specific support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy, are there any other CD efforts and supports not previously mentioned which you would like to see included?

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?

Q2.15: If yes, how is this reflected in your national plans and policies?

Q2.16: How would you rate the level of capacity available right now in your country to achieve SDG 14?

Q2.17: How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country?

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

Q2.19: Does your country or institution have a national ocean science capacity development strategy? Q2.20: If yes, please specify (provide URL if available online)

Q2.21: Has your country carried out an ocean science capacity needs assessment? Q2.22: If yes, please specify (provide URL if available online).

Q2.23 Does your organisation make data or information available online through a website or web portal?

Q2.24 If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q2.25 If no, is this capacity that your organisation would like to develop?

LOCAL GOVERNMENT OFFICIALS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

Q3.3: Are the following non-governmental stakeholders involved in decision-making processes to come up with action plans to implement their ocean policies?

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

NATIONAL GOVERNMENT OFFICIALS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

Q3.3: Are the following non-governmental stakeholders involved in decision-making processes to come up with action plans to implement their ocean policies?

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

POLICY MAKERS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

Q3.3: Are the following non-governmental stakeholders involved in decision-making processes to come up with action plans to implement their ocean policies?

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

INDUSTRY

Q3.1: In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company?

Q3.2: Does your company contribute to building national ocean science capacity in terms of the following?

Q3.3: Does your company own research/monitoring facilities for marine related works?

Q3.4. IF YES, then would your company be willing to share this or co-design with national research institutions?

Q3.5: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?

Q3.7: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?

Q3.8: Does your company have a Corporate Social Responsibility Policy?

Q3.9: If yes, does it involve marine scientific research or related areas of research?

Q3.10: Does your company have any partnership arrangements related to marine science research with the following?

Q3.11: Does your company make any collected environmental data available freely and openly?

Q3.12: If Yes, what group of stakeholders are your primary data users of collected environmental data?

Q2.13: If No, would your company be prepared to share some data available freely and openly?

Q3.14: Does your company make data or information available online through a website or web portal?

Q3.15: If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q3.16: If no, is this capacity that your company would like to develop?

PRIVATE

Q3.1: In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company?

Q3.2: Does your company contribute to building national ocean science capacity in terms of the following?

Q3.3: Does your company own research/monitoring facilities for marine related works?

Q3.4. IF YES, then would your company be willing to share this or co-design with national research institutions?

Q3.5: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?

Q3.7: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?

Q3.8: Does your company have a Corporate Social Responsibility Policy?

Q3.9: If yes, does it involve marine scientific research or related areas of research?

Q3.10: Does your company have any partnership arrangements related to marine science research with the following?

Q3.11: Does your company make any collected environmental data available freely and openly?

Q3.12: If Yes, what group of stakeholders are your primary data users of collected environmental data?

Q2.13: If No, would your company be prepared to share some data available freely and openly?

Q3.14: Does your company make data or information available online through a website or web portal?

Q3.15: If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q3.16: If no, is this capacity that your company would like to develop?

INDUSTRY

Q3.1: In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company?

Q3.2: Does your company contribute to building national ocean science capacity in terms of the following?

Q3.3: Does your company own research/monitoring facilities for marine related works?

Q3.4. IF YES, then would your company be willing to share this or co-design with national research institutions?

Q3.5: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?

Q3.7: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?

Q3.8: Does your company have a Corporate Social Responsibility Policy?

Q3.9: If yes, does it involve marine scientific research or related areas of research?

Q3.10: Does your company have any partnership arrangements related to marine science research with the following?

Q3.11: Does your company make any collected environmental data available freely and openly?

Q3.12: If Yes, what group of stakeholders are your primary data users of collected environmental data?

Q2.13: If No, would your company be prepared to share some data available freely and openly?

Q3.14: Does your company make data or information available online through a website or web portal?

Q3.15: If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q3.16: If no, is this capacity that your company would like to develop?

NGO (ENVIRONMENTAL)

Q3.1: In your opinion, does the country in which you operate (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required to ensure sustainable use and management of the coastal zone?

Q3.2: Does your organization contribute to building national ocean science capacity in terms of the following?

Q3.3: Does your organization own research/monitoring facilities for marine related works?

Q3.4: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?

Q3.5: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?

Q3.7: Does your organization have a Corporate Social Responsibility Policy?

Q3.8: If yes, does it involve marine scientific research or related areas of research?

Q3.9: Does your organization have any partnership arrangements related to marine science research with the following?

Q3.10: Does your organization make any collected environmental data available freely and openly?

Q3.11: If Yes, what group of stakeholders are your primary data users of collected environmental data?

Q3.12: If No, would your organization be prepared to share some data available freely and openly?

Q3.13: Does your organization make data or information available online through a website or web portal?

Q3.14: If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?

Q3.15: If no, is this capacity that your organization would like to develop?

6. REGIONAL ANALYSIS

A regional analysis was also conducted to report on regional capacity development requirements, including the perspectives of respondents who accomplished the survey on official capacity as representatives of their organization/company/institution, as well as individual practitioners who filled in the survey on personal capacity. The analysis involved the four groups of capacity of the respondents - the IOC focal point, the CD focal point, representatives of organizations, and personal capacity.

In order to determine regional capacity development requirements, a regional reporting of the results is presented for the following regions: AFRICA, LAC, WESTPAC, P-SIDS and Others. Even though most of the P-SIDS countries also belong to WESTPAC, they were grouped separately to be able to look at their specific needs. Unfortunately, due to low responses from P-SIDS group, it was not possible to generate statistically significant findings that were representative of the group. The rest were under 'Others'.

Due to the relatively small sample sizes care must therefore be taken when interpreting the results and making assumptions based on the data presented. The data presented is based on the weighted average. All the responses were included in the computation to reflect representation of the respondent's perspectives, including items that were given low rankings. To get a weighted average the number that gave the highest rank (e.g. essential) was multiplied times 5 and added to the number that gave a second highest (e.g. very important) multiplied times 4, and so on, divided by the total responses.

The weighted average was summarized and presented in four tables. The first table includes IOC national focal point group, the second table includes CD focal point group, the 3rd table includes responses from representatives of organization/company/institution and the 4th table includes responses based on personal capacity. In view of the low respondent numbers for the other three groups, it was difficult to draw general findings from the results, with the last group on personal capacity having more significant respondent numbers (except for P-SIDS).

The comparison of the four tables gives an overview on the rankings across the four groups. It offers some insights on the perspectives not only of the leadership (focal points) but also those who are from practitioners' groups belonging in other institutions/organizations/company and attempt to identify any disconnect between these groups. The highest ranked are highlighted in darkest green, while the lowest are highlighted in red.

What can be logically drawn from the analysis is the strong expression of a need for capacity enhancement all across the board, as indicated by the few scores below 4.0.

In terms of the most critical capacity development needs to build ocean science capacity, the top ranked CD needs across regions and groups was *funding and investment*. For representatives group, *international partnerships and membership/involvement in international ocean research* was also considered top CD needs while the personal group ranked ocean observation equipment as top CD needs. On the other hand, CD focal points from LAC ranked *increased awareness, ocean literacy and public outreach* as well as *higher power computing* as higher CD needs. This high ranking for *higher power computing* was in stark contrast as one of the least ranked needs by the representative and personal groups in LAC.

In terms of developing capacity in human resources, *increased collaboration with UNESCO Chairs and IOC*, ranked high in Africa and LAC regions for IOC focal point groups, as well as establishment of visiting lecturer program. The representatives and personal groups ranked *advanced professional development training courses and continuous professional development* as top CD needs as well as *establishment of an internship/fellowship programme*.

In terms of increased access to physical infrastructure, '*access to best practices on the use and maintenance of physical infrastructure and equipment*' was ranked high by CD focal point groups, representative groups and personal groups, which is in striking contrast with its low ranking by the IOC focal point group. The personal and representative groups across regions ranked different items as top CD needs which were '*training on the use and maintenance of physical infrastructure and equipment*'.

In terms of strengthened coordination with global, regional or sub-regional IOC communities and local networks, *reinforced budgeting of regional sub-commissions* and *establishing an effective coordination and communication mechanism* were ranked highest, although with lower average compared to other sets of CD needs. The average from responses of focal points from LAC in this section was relatively lower compared to average of other needs, mostly under 3.50.

In terms of development of ocean research policies in support of sustainable development, most items consistently ranked high across regions and groups, with emphasis on *sharing information on existing ocean research priorities among government and other organizations*. Only one item, *assistance with the development of national marine science management*, received lower than 3.50 from IOC focal points group in LAC region.

In terms of increasing visibility and awareness of ocean research, *all items received high scores*, with strongest agreement on *support for communicating ocean science research to policy makers* as top CD needs across all regions and groups.

In terms of mobilizing sustained (long-term) resources, *financial resource mobilization* was considered more important than increase in *in-kind support based on high ranking from across regions and groups*.

In the context of the Ocean Decade Challenges, while the focal points groups identified *Challenge 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users* as the Ocean Decade Challenges where capacity development needs were identified greatest, the personal groups across regions gave higher rankings to *Challenge 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions*. *Challenge 5: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions* was also ranked as one of the greatest challenges across the regions. As for the Ocean Decade objectives, all the objectives were considered highly relevant, most especially *Objective 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions* which was ranked consistently as greatest capacity development needs across regions and groups.

Click the question below to jump to summary of regional reporting on top CD needs;

[Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity \(currently not available\) in your country?](#)

[Question 2.2: How important are the following in terms of developing capacity in human resources \(currently not available\) in your country?](#)

[Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?](#)

[Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?](#)

[Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?](#)

[Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?](#)

[Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained \(long-term\) resources in your country?](#)

[Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?](#)

[Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?](#)

7. COUNTRY REPORTS

Country summary reports were also made available for countries with 10 or more responses in addition to the IOC Focal Points ([Argentina](#), [Benin](#), [Chile](#), [Colombia](#), [Comoros](#), [Democratic](#)

People’s Republic of Korea, Egypt, El Salvador, Guinea, [India](#), Iran, [Kenya](#), Kuwait, Lebanon, [Mexico](#), Morocco, [Nigeria](#), Pakistan, Panama, Peru, Sudan, Togo, Tunisia, Tanzania, Vietnam).

The country report summarizes the responses from their respective IOC focal points, CD focal points, practitioners who filled in the survey in professional capacity, and practitioners who filled in the survey in personal capacity. Please click the country name to jump in their respective summary reports.

[ARGENTINA](#)

[CHILE](#)

[COLOMBIA](#)

[INDIA](#)

[KENYA](#)

[MEXICO](#)

[NIGERIA](#)

8. OUTCOME HIGHLIGHTS

What can be logically drawn, despite the limited sample size of responses, is the strong claim for CD needs in various aspects as can be seen by few responses below 4.0. Though limited, these survey outcomes also revealed some important observations highlights:

- Funding and investment as one of the top CD needs identified; gender equality among least ranked;
- Regional priorities and CD requirements identified expected to contribute to regional work planning and interventions;
- Decade Challenges and Decade Objectives where CD needs were greatest;
- Capacity to translate science into policies identified as most lacking capacity;
- Inputs for potential revision of the IOC CD strategy and its implementation plan;
- Poor linkage between focal points and target communities, e.g. disconnect between the views of practitioners and national officials;

Most of the open-responses related to questions on other CD efforts and support required by the Member States include wide dissemination of CD-related events and strong collaboration and engagement with partners and stakeholders.

Other substantial inputs were as follows:

- Support to the installation of sea level monitoring equipment and address the need to attend more training, workshop and meetings concerning tsunami and other coastal science
- Raising global profile of need and delivery of marine science and marine resource data at UN Conventions and agreements (SDGs, CBD, UNFCCC, IPBES, etc.), to convince

national governments of the need to support marine science, especially applied marine science at the national level.

- Ocean Policy. Some countries still lack an Ocean Policy, on the eve of the Ocean Decade of Ocean Science for Sustainable Development that started in January 1st, 2021. Other socio-economic ills and the current COVID-19 pandemic do not place ocean science or the Ocean Decade in the government's top agenda.
- Need for own CD Strategy, to be inspired on the IOC CD Strategy. And with the assistance of IOC/IODE.
- a paragraph dedicated to traditional knowledge.
- The availability of on-ship training delivered in country using national and NGO oceangoing vessels to train marine scientists while undertaking surveys of their waters.
- Despite the great job done so far by the IOC, this needs to be complemented by a national effort towards deriving the maximum benefit from the assistance and training received, to enable reaching full autonomy.
- History of the IOC and IOC CD Best Practice in international cooperation: strengthen the Best Practices concept in CD activities at national level.

9. RECOMMENDATIONS

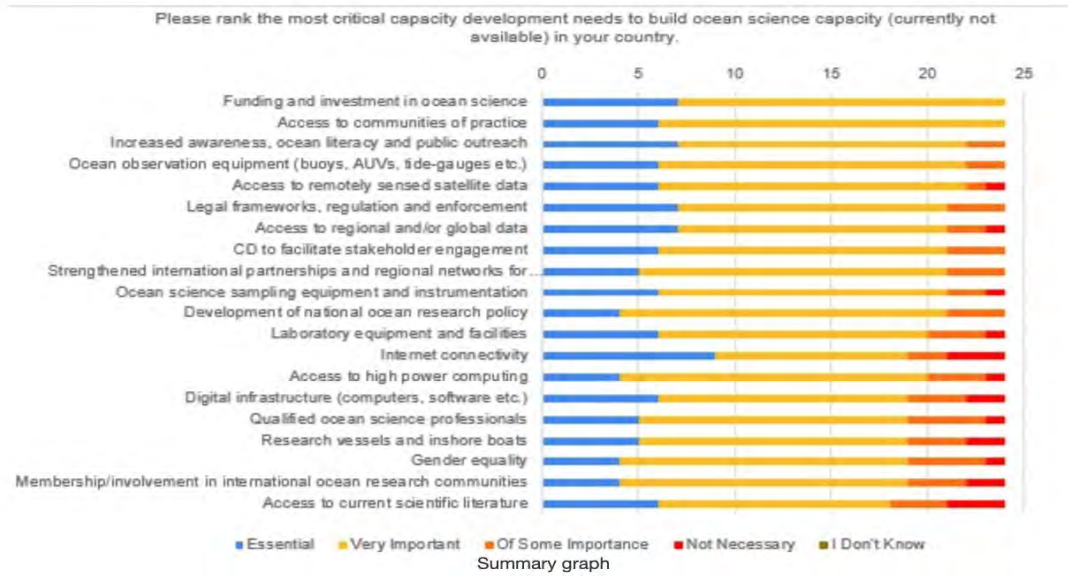
Nominating CD focal points is vital to facilitate efforts in coordination of CD needs assessment surveys in the future. National efforts to institutionalize CD programs are critical but may get overshadowed if needs are not made clear, and expressed. They can also contribute towards more active engagement and direct reach with national networks of relevant stakeholder groups involved in ocean-related activities. While it is also crucial to involve other stakeholder groups, national focal points can lead the coordination with these groups in their respective countries.

Some of the issues encountered in conducting the survey offer some lessons and recommendations for the next conduct of survey. The major concern is how important it is to reach more respondents to contribute to the survey so as to generate statistically representative results. Second is the lack of coordination with IOC focal points due to communication channels which resulted to bounced emails or undelivered correspondences. Also, the number of questions can be synthesized and reduced so as not to overwhelm potential respondents. The targeted survey for each stakeholder group can also be separated into respective survey links, which would make the relevant question set more directly accessible, and less complicated to manage especially during the analysis. Lastly, involvement of networks of various stakeholder groups will be very useful in reaching out to wider group of respondents.

ANNEX 1. FULL RESULTS

OVERALL ANALYSIS: IOC FOCAL POINTS

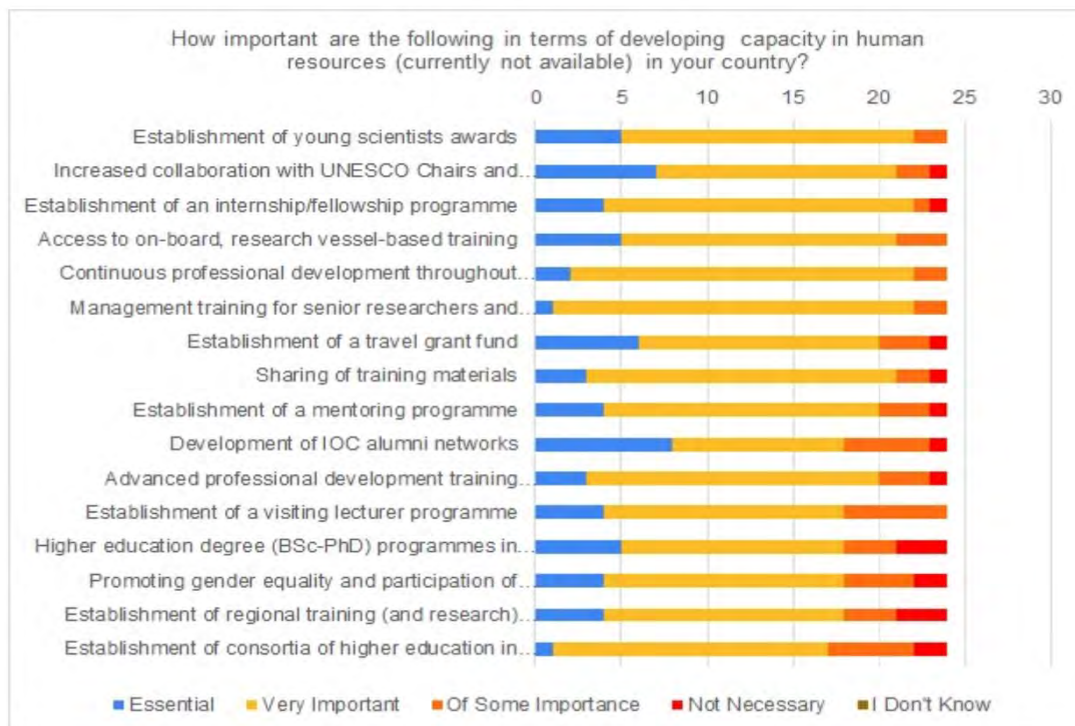
Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?



| | Funding and investment in ocean science | Access to communities of practice | Increased awareness, ocean literacy and public outreach | Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | Access to remotely sensed satellite data | Legal frameworks, regulation and enforcement | Access to regional and/or global data | CD to facilitate stakeholder engagement | Strengthened international partnerships and regional networks for | Ocean science sampling equipment and instrumentation | Development of national ocean research policy | Laboratory equipment and facilities | Internet connectivity | Access to high power computing | Digital infrastructure (computers, software etc.) | Qualified ocean science professionals | Research vessels and inshore boats | Gender equality | Membership/involvement in international ocean research communities | Access to current scientific literature |
|--------------------|---|-----------------------------------|---|---|--|--|---------------------------------------|---|---|--|---|-------------------------------------|-----------------------|--------------------------------|---|---------------------------------------|------------------------------------|-----------------|--|---|
| Essential | 7 | 6 | 7 | 6 | 6 | 7 | 7 | 6 | 5 | 6 | 4 | 6 | 9 | 4 | 6 | 5 | 5 | 4 | 4 | 6 |
| Very Important | 17 | 18 | 15 | 16 | 16 | 14 | 14 | 15 | 16 | 15 | 17 | 14 | 10 | 16 | 13 | 14 | 14 | 15 | 15 | 12 |
| Of Some Importance | 0 | 0 | 2 | 2 | 1 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 4 | 3 | 3 |
| Not Necessary | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 2 | 1 | 2 | 3 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Weighted Average | 4.29 | 4.25 | 4.13 | 4.08 | 4.04 | 4.04 | 4.00 | 4.00 | 3.96 | 3.96 | 3.92 | 3.88 | 3.63 | 3.79 | 3.75 | 3.75 | 3.71 | 3.71 | 3.67 | 3.63 |
| RANK | 1 | 1 | 3 | 3 | 5 | 6 | 6 | 8 | 9 | 9 | 9 | 12 | 12 | 14 | 14 | 14 | 17 | 17 | 19 | 20 |

Summary table

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

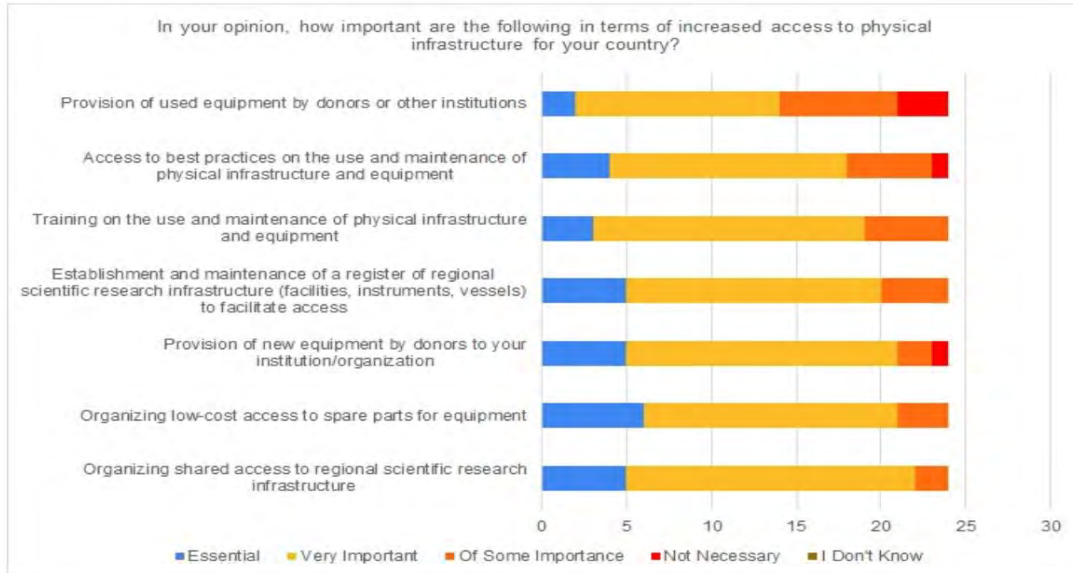


2.2 Summary graph

| | Establishment of young scientists awards | Increased collaboration with UNESCO Chairs and IOC | Establishment of an internship/fellowship programme | Access to on-board, research vessel-based training | Continuous professional development throughout your career | Management training for senior researchers and heads of institutions | Establishment of a travel grant fund | Sharing of training materials | Establishment of a mentoring programme | Development of IOC alumni networks | Advanced professional development training | Establishment of a visiting lecturer programme | Higher education degree (BSc-PhD) programmes in marine science | Promoting gender equality and participation of women in marine science | Establishment of regional training (and research) centres | Establishment of consortia of higher education institutions |
|--------------------|--|--|---|--|--|--|--------------------------------------|-------------------------------|--|------------------------------------|--|--|--|--|---|---|
| Essential | 5 | 7 | 4 | 5 | 2 | 1 | 6 | 3 | 4 | 8 | 3 | 4 | 5 | 4 | 4 | 4 |
| Very Important | 17 | 14 | 18 | 16 | 20 | 21 | 14 | 18 | 16 | 10 | 17 | 14 | 13 | 14 | 14 | 16 |
| Of Some Importance | 2 | 2 | 1 | 3 | 2 | 2 | 3 | 2 | 3 | 5 | 3 | 6 | 3 | 4 | 3 | 5 |
| Not Necessary | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 2 | 3 | 2 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Weighted Average | 4.04 | 4.00 | 3.96 | 3.96 | 3.92 | 3.88 | 3.88 | 3.83 | 3.79 | 3.79 | 3.75 | 3.67 | 3.58 | 3.58 | 3.54 | 3.38 |
| RANK | 1 | 2 | 3 | 3 | 5 | 6 | 6 | 8 | 9 | 9 | 11 | 12 | 13 | 13 | 15 | 16 |

2.2 Summary table

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

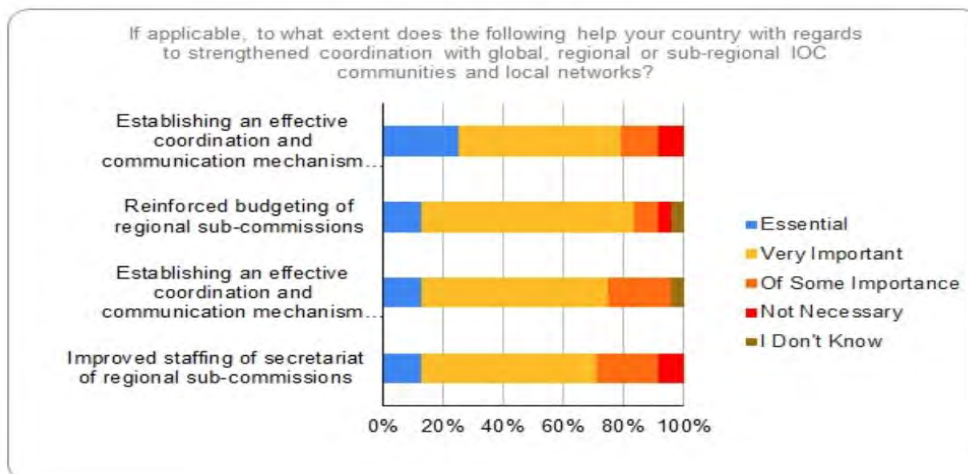


2.3 Summary Graph

| | Organizing shared access to regional scientific research | Organizing low-cost access to spare parts for equipment | Provision of new equipment by donors to your institution/organization | Establishment and maintenance of a register of regional scientific research infrastructure | Training on the use and maintenance of physical infrastructure and equipment | Access to best practices on the use and maintenance of physical infrastructure and | Provision of used equipment by donors or other institutions |
|--------------------|--|---|---|--|--|--|---|
| Essential | 5 | 6 | 5 | 5 | 3 | 4 | 2 |
| Very Important | 17 | 15 | 16 | 15 | 16 | 14 | 12 |
| Of Some Importance | 2 | 3 | 2 | 4 | 5 | 5 | 7 |
| Not Necessary | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Weighted Average | 4.04 | 4.00 | 3.92 | 3.88 | 3.71 | 3.63 | 3.13 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2.3 Summary Table

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

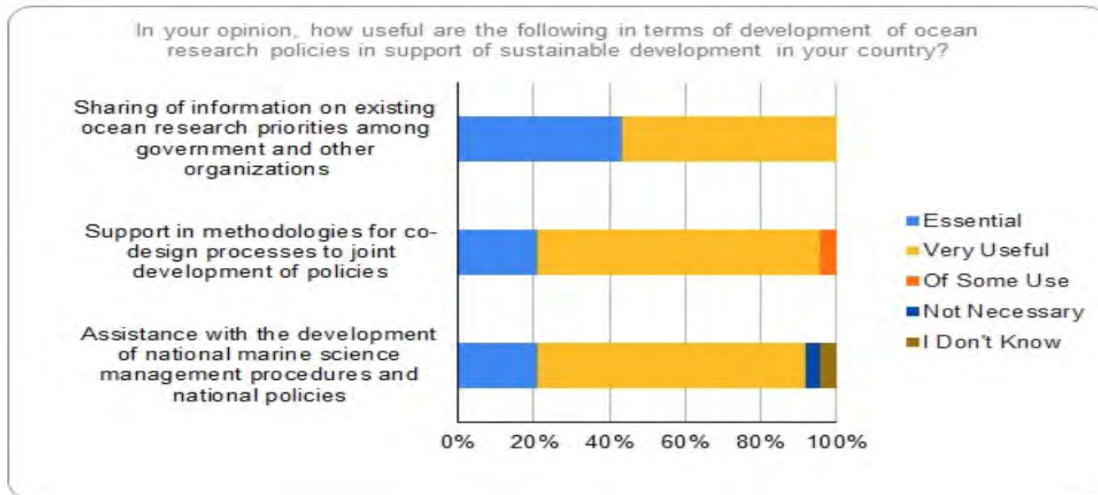


2.4 Summary Graph

| | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes | Reinforced budgeting of regional sub-commissions | Establishing an effective coordination and communication mechanism between countries not covered by IOC regional subsidiary bodies and the global programmes | Improved staffing of secretariat of regional sub-commissions |
|-------------------------|---|--|--|--|
| Essential | 6 | 3 | 3 | 3 |
| Very Important | 13 | 17 | 15 | 14 |
| Of Some Importance | 3 | 2 | 5 | 5 |
| Not Necessary | 2 | 1 | 0 | 2 |
| I Don't Know | 0 | 1 | 1 | 0 |
| | 24 | 24 | 24 | 24 |
| Weighted Average | 3.75 | 3.67 | 3.54 | 3.46 |
| RANK | 1 | 2 | 3 | 4 |

2.4 Summary Table

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

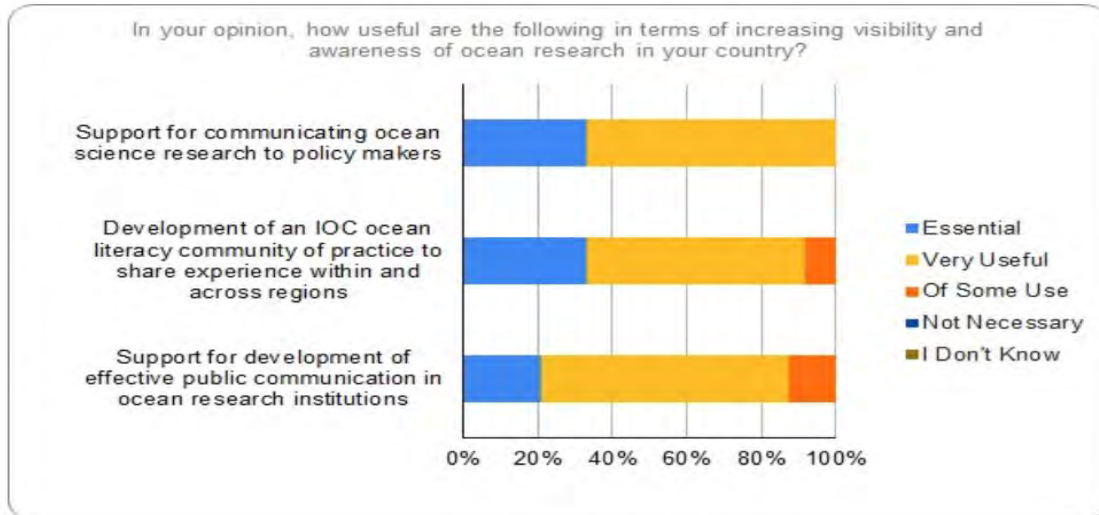


2.5 Summary Graph

| | Sharing of information on existing ocean research priorities among government and other organizations | Support in methodologies for co-design processes to joint development of policies | Assistance with the development of national marine science management procedures and national policies |
|-------------------------|---|---|--|
| Essential | 10 | 5 | 5 |
| Very Useful | 13 | 18 | 17 |
| Of Some Use | 0 | 1 | 0 |
| Not Necessary | 0 | 0 | 1 |
| I Don't Know | 0 | 0 | 1 |
| | 23 | 24 | 24 |
| Weighted Average | 4.43 | 4.13 | 3.92 |
| RANK | 1 | 2 | 3 |

2.5 Summary Table

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

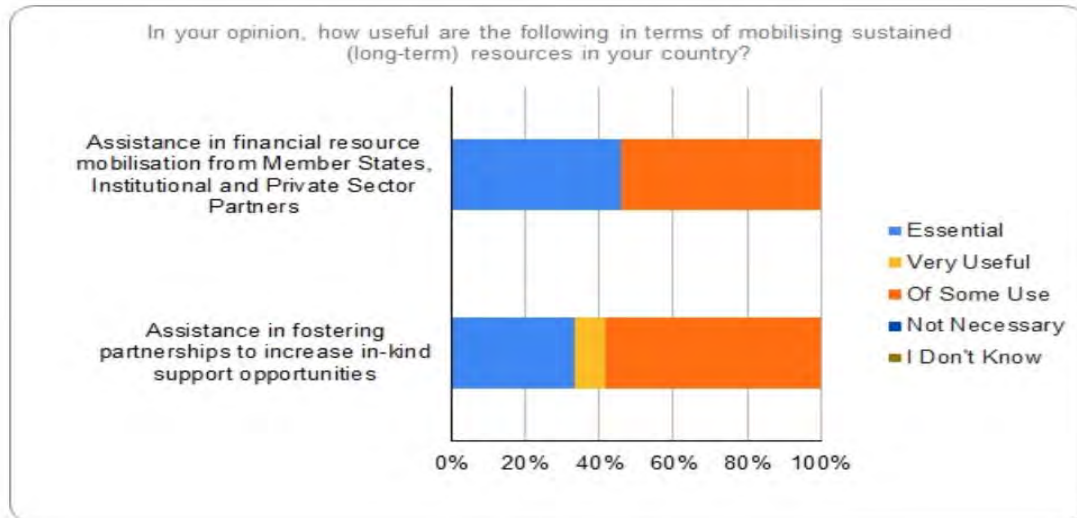


2.6 Summary Graph

| | Support for communicating ocean science research to policy makers | Development of an IOC ocean literacy community of practice to share experience within and across regions | Support for development of effective public communication in ocean research institutions |
|-------------------------|---|--|--|
| Essential | 8 | 8 | 5 |
| Very Useful | 16 | 14 | 16 |
| Of Some Use | 0 | 2 | 3 |
| Not Necessary | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 |
| | 24 | 24 | 24 |
| Weighted Average | 4.33 | 4.17 | 3.96 |
| RANK | 1 | 2 | 3 |

2.6 Summary Table

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

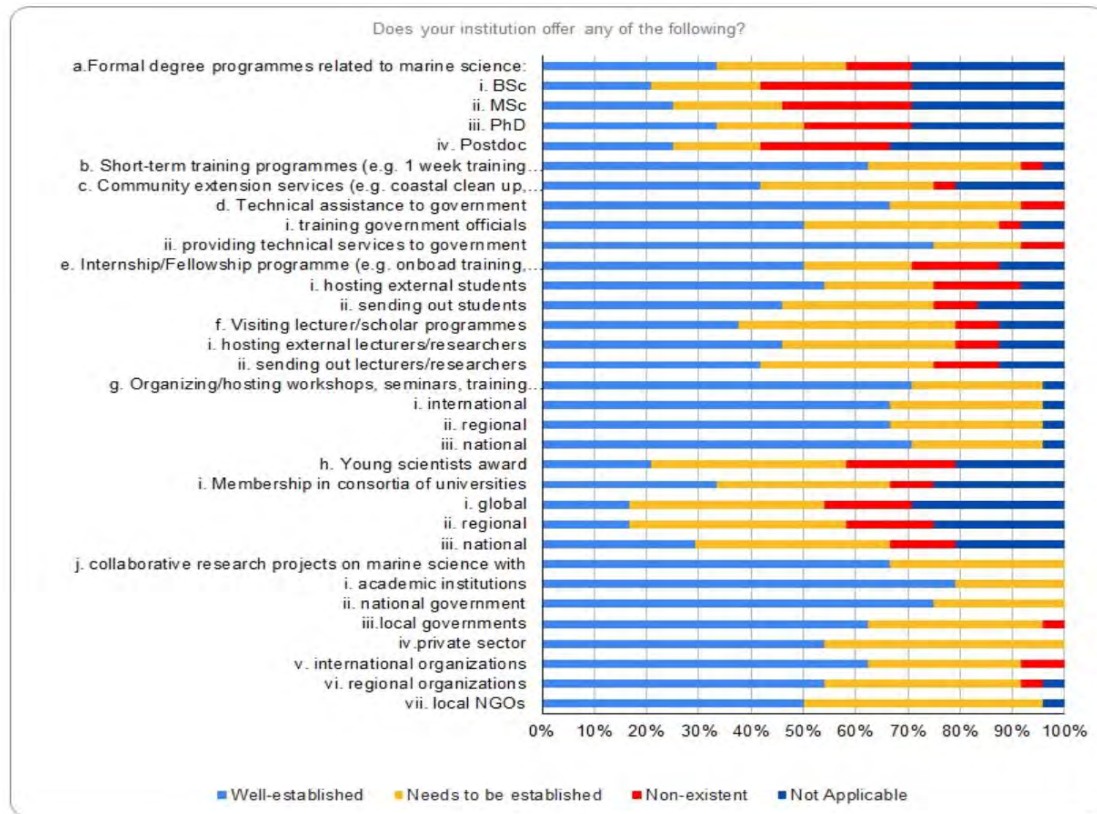


2.7 Summary Graph

| | Assistance in financial resource mobilisation from Member States, Institutional and Private Sector Partners | Assistance in fostering partnerships to increase in-kind support opportunities |
|-------------------------|---|--|
| Essential | 11 | 8 |
| Very Useful | 0 | 2 |
| Of Some Use | 13 | 14 |
| Not Necessary | 0 | 0 |
| I Don't Know | 0 | 0 |
| | 24 | 24 |
| Weighted Average | 3.38 | 3.17 |
| RANK | 1 | 2 |

2.7 Summary Table

Q2.8: Does your institution offer any of the following?

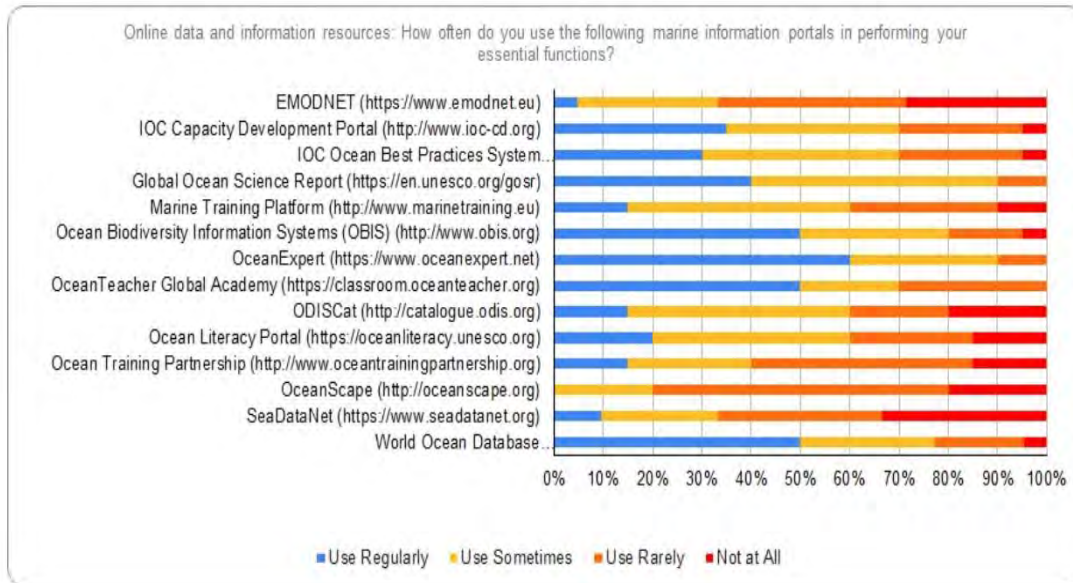


2.8 Summary graph

| | a. Formal degree programmes related to marine science: | i. BSc | ii. MSc | iii. PHD | iv. Postdoc | b. Short-term training programmes (e.g. 1 week training course, community extension services (e.g. coastal clean up, technical assistance to government) | c. Community extension services (e.g. coastal clean up, technical assistance to government) | d. Technical assistance to government | e. Internship/Fellowship programme (e.g. onboard training, cruise) | f. Visiting lecturer/scholar programmes | g. Organizing/hosting workshops, seminars, training courses | | | | | | |
|-------------------------|--|--------|---------|----------|-------------|--|---|---------------------------------------|--|---|---|----|----|----|----|----|----|
| Well-established | 8 | 5 | 6 | 8 | 6 | 15 | 10 | 16 | 12 | 18 | 12 | 13 | 11 | 9 | 11 | 10 | 17 |
| Needs to be established | 6 | 5 | 5 | 4 | 4 | 7 | 8 | 6 | 9 | 4 | 5 | 5 | 7 | 10 | 8 | 8 | 6 |
| Non-existent | 3 | 7 | 6 | 5 | 6 | 1 | 1 | 2 | 1 | 2 | 4 | 4 | 2 | 2 | 2 | 3 | 0 |
| Not Applicable | 7 | 7 | 7 | 7 | 8 | 1 | 5 | 0 | 2 | 0 | 3 | 2 | 4 | 3 | 3 | 3 | 1 |

2.8 Summary Table

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?



2.9 Summary Graph

| | EMODNET (https://www.emodnet.eu) | IOC Capacity Development Portal (http://www.ioc-cd.org) | IOC Ocean Best Practices System (https://www.oceanbestpractices.org) | Global Ocean Science Report (https://en.unesco.org/gosr) | Marine Training Platform (http://www.marinetraining.eu) | Ocean Biodiversity Information Systems (OBIS) (http://www.obis.org) | OceanExpert (https://www.oceanexpert.net) | OceanTeacher Global Academy (https://classroom.oceanteacher.org) | ODISCat (http://catalogue.odis.org) | Ocean Literacy Portal (https://oceanliteracy.unesco.org) | Ocean Training Partnership (http://www.oceantrainingpartnership.org) | OceanScape (http://oceanscape.org) | SeaDataNet (https://www.seadatanet.org) | World Ocean Database (http://www.iod-sea.org/SELECT/databases/) |
|---------------|----------------------------------|---|--|--|---|---|---|--|-------------------------------------|--|--|------------------------------------|---|---|
| Use Regularly | 1 | 7 | 6 | 8 | 3 | 10 | 12 | 10 | 3 | 4 | 3 | 0 | 2 | 11 |
| Use Sometimes | 6 | 7 | 8 | 10 | 9 | 6 | 6 | 4 | 9 | 8 | 5 | 4 | 5 | 6 |
| Use Rarely | 8 | 5 | 5 | 2 | 6 | 3 | 2 | 6 | 4 | 5 | 9 | 12 | 7 | 4 |
| Not at All | 6 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 4 | 3 | 3 | 4 | 7 | 1 |
| | 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 21 | 22 |

2.9 Summary Table

Other Examples (4):

- AquaModis
- The comprehensiveness and interoperability of databases are necessary
- World Register of Marine Species <http://www.marinespecies.org/> African Register of Marine Species <http://www.marinespecies.org/afremas/>
- IOC-UNESCO Taxonomic Reference List of Harmful Micro Algae <http://www.marinespecies.org/hab> used frequently

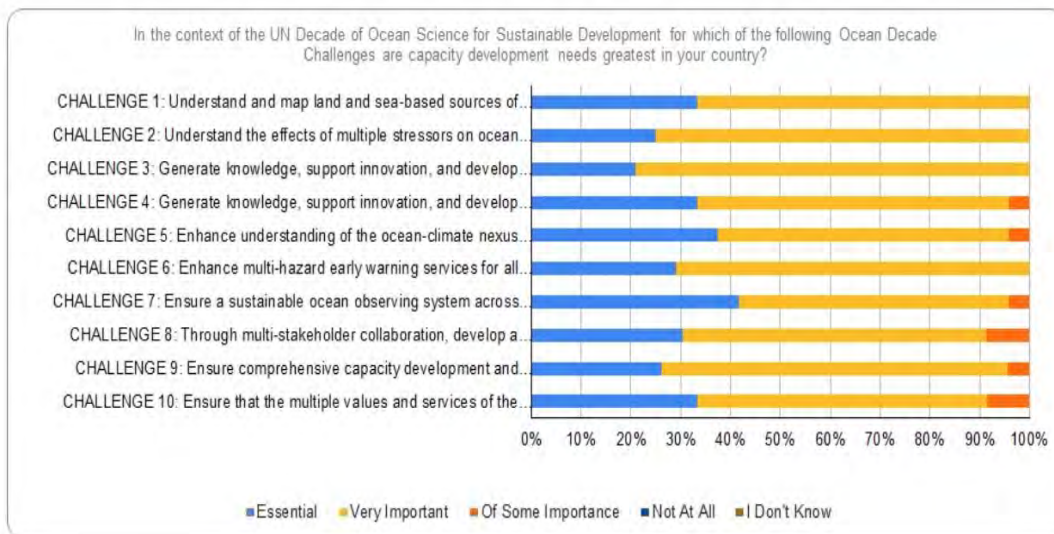
Q2.10 What other specific **support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.)** provide to contribute to addressing your country's CD requirements?

- IODE, GOOS, MPR
- The cooperation between SHOA and the IOC Programmes is highly satisfactory
- Articulation for financing small, medium, and large-scale projects. 2. Creation of a regional network of young people in ocean sciences to strengthen participation and dissemination of information. 3. Organization and congregation of public, private, or academic entities through the National Technical Committees 4. Leadership and support in the development of chairs or virtual courses.
- Methodology, Framework, Roadmap, Technnology and Data
- GOOS, MPR OCEAN DATA (IODE) ..
- Strengthen support to GRA Activities in the IO Related to IOGOOS in terms of resources for regional projects & Capacity Building
- Sharing of data and experts especially in looking at our datasets or archived data and developing documents or products at can contribute t a regional and global initiative
- Specified training in IODE, Establishing NODC
- Increase knowledge and capacity building as well as get access to global oceanographic data
- GOOS
- By budgeting and coordinating these regional programmes at local or regional leve
- CD in regional training centers, participation in ship and ocean observation programs in the region, collaboration projects in special interest ocean observations such as Ocean Acidification, Micro-plastics, etc.
- Cartas Batimétricos, estudios Oceanográficas, fisicoquímicos del agua, Pacifico y Caribe.
- Support in capacity development and data management
- Training
- What is already proposed is sufficient for our country.
- So far, no any additional specific support to add.
- GOOS, IODE

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy (<http://www.ioc-cd.org/strategy>), are there any other CD efforts and supports not previously mentioned which you would like to see included?

- Everything is taking into account
- It is considered to be a well consolidated document
- It is important to include how the strategy will have a link with the ocean decade
- Develop a training/mentoring network across african countries such as Erasmus in Europe.
- Support and launch regional observation programs and projects
- The proposed strategy is good for capacity development for our country.
- Yes for operational oceanography
- No.

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?



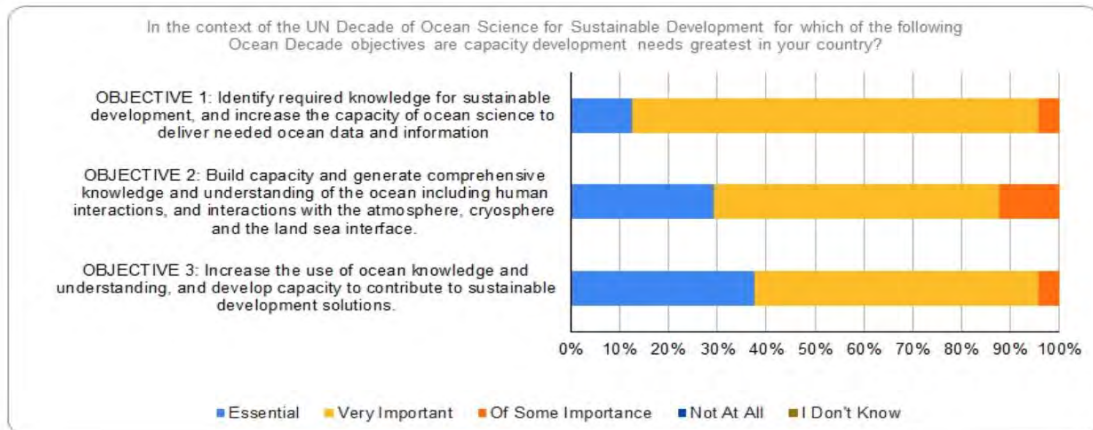
2.12 Summary Graph

| | CHALLENGE 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems, and develop solutions to remove or mitigate them. | CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions. | CHALLENGE 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world population under changing environmental, social and climate conditions. | CHALLENGE 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions. | CHALLENGE 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including... | CHALLENGE 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience. | CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users. | CHALLENGE 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualizing past, present and future ocean states. | CHALLENGE 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders. | CHALLENGE 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean. |
|-------------------------|---|---|---|--|--|---|--|--|--|---|
| Essential | 8 | 6 | 5 | 8 | 9 | 7 | 10 | 7 | 6 | 8 |
| Very Important | 16 | 18 | 19 | 15 | 14 | 17 | 13 | 14 | 16 | 14 |
| Of Some Importance | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 2 |
| Not At All | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Weighted Average | 4.33 | 4.25 | 4.21 | 4.25 | 4.29 | 4.29 | 4.33 | 4.13 | 4.17 | 4.17 |

2.12 Summary Table

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

- Establish mechanisms to enhance participation of African countries in oceanographic



2.13 Summary Graph

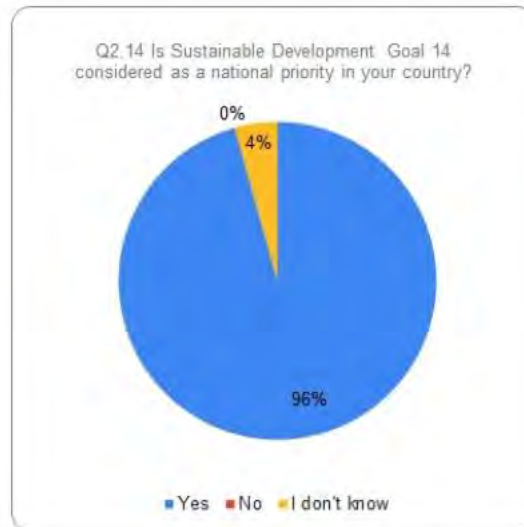
| | OBJECTIVE 1: Identify required knowledge for sustainable development, and increase the capacity of ocean science to deliver needed ocean data and information | OBJECTIVE 2: Build capacity and generate comprehensive knowledge and understanding of the ocean including human interactions, and interactions with the atmosphere, cryosphere and the land sea interface. | OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions. |
|-------------------------|--|---|---|
| Essential | 3 | 7 | 9 |
| Very Important | 20 | 14 | 14 |
| Of Some Importance | 1 | 3 | 1 |
| Not At All | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 |
| | 24 | 24 | 24 |
| Weighted Average | 4.04 | 4.04 | 4.29 |

2.13 Summary Table

cruises as most of them do not research infrastructures at sea such as research vessels.

- I don't know
- todas las investigaciones de las ciencias oceánicas, ordenamiento, marco legal

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?



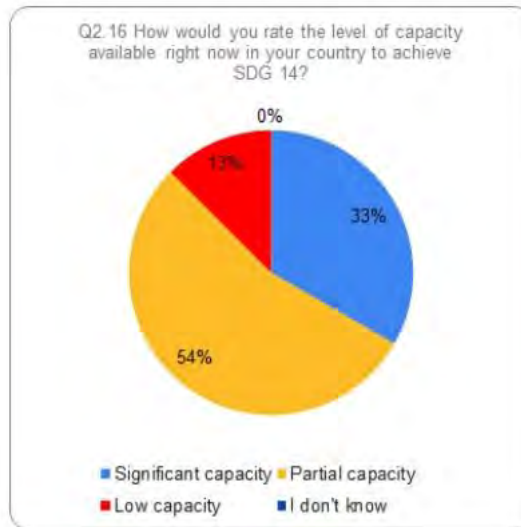
| | Is Sustainable Development Goal 14 considered as a national priority in your country? |
|--------------|---|
| Yes | 22 |
| No | 0 |
| I don't know | 1 |
| | 23 |

Q2.15: If yes, how is this reflected in your national plans and policies?

- Expressed through the national initiative Pampa Azul www.pampazul.gob.ar
- Collaboration with Institution working in the ocean and coastal area. Policy of use of scientific result for ocean management
- National Oceanographic Plan (2021-2030) National Ocean Policy
- Colombia has a national policy for the ocean and the coastal spaces (PNOEC) Colombia created a national policy called CONPES 3990 "Colombia Bioceanic Power" There is an Oceans Region Pact in the National Development Plan 2018-2022 In Colombia there is the National Academic Network SDG 14, to obtain new learning and identify challenges, actions, and sources of financing
- knowledge for sustainable development, and increase the capacity of ocean science to deliver needed ocean data and information
- El Gobierno de El Salvador promulgo la Política del Mar y Costas en 2019.
- Sustained research funding in ocean science, including investments in the global ocean observarting systems through G7 (development of news sensors and instruments for in situ-observation). France hosts several IPOs in support to international programm management in marine science (Geotraces, BiogeoArgo, etc...).
- Support for the establishment of the pre-strategy and blue economy strategy and Marine space planning, Marine protected areas
- MoES is a a major stakeholder implementing key national programs related to oceans, coasts & atmosphere research, observations & services which contribute to broader national policies.
- The Iranian National Institute for Oceanography and Atmospheric Science as the head of the Iranian National Committee for Oceanography, which is one of the committees of the Iranian National Commission to UNESCO, provides the policy makers in marine sciences with information about the ocean strategies. There are some national high level documents for protecting the seas in IR of Iran including "Roadmap for developing marine technologies" and" Plan for development of higher education in marine science and technology" High Council of Oceanography is another high-level institute for policy making in the marine related issues. Governmental budgets are located to different oceanographic researches and ocean issues projects to the marine related organizations for protecting the seas from different pollutions including oil pollution, microplastics, urban swages and etc.
- s a research institute we are tasked to determine the stocks of our fish which contributes to SDG 14.1-sustainable fishing, We are working on Ocean acidification projects and Marine pollution and are renowned for mangrove restoration and we run the first Carbon credit facility of forest in Africa if not the world.
- Incorporated in the National Plan Under The Environment Public Authority
- All the projects and plan that we are implementing are serving the SDG14
- I don't know
- Careful Management of the ocean resources for sustainable development is one of the key issue for government policies in Nigeria. Hence substantial part of the national budget is dedicated drive these plans
- SDG national focal person of the Ministry of Planning Commission and Reforms, Government of Pakistan
- en la conservación de los océanos Limpios y dentro de la Planificación Espacial Marina y la Economía Azul.

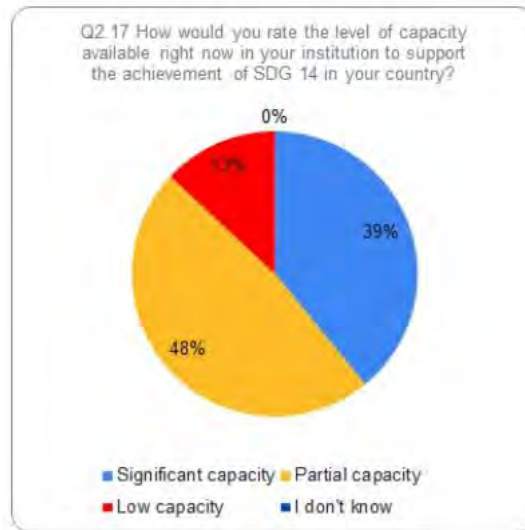
- To through the effort that the State sectors make to protect the earth from an environmental and socio-economic point of view
- Very well enforced regulations
- There is a national plan for Agenda 20130
- Togo has developed the National Strategy for the Sea and the Coast. This strategy was developed on the basis of SDG 14.
- Several multi-institutional actions coordinated by the CSD focal bridge
- 1) The Government is training fisheries officer in the various fishery to better manage resources. 2) The government is to build a fishing port which will enable resource monitoring and management.

Q2.16: How would you rate the **level of capacity available right now in your country** to achieve **SDG 14?**



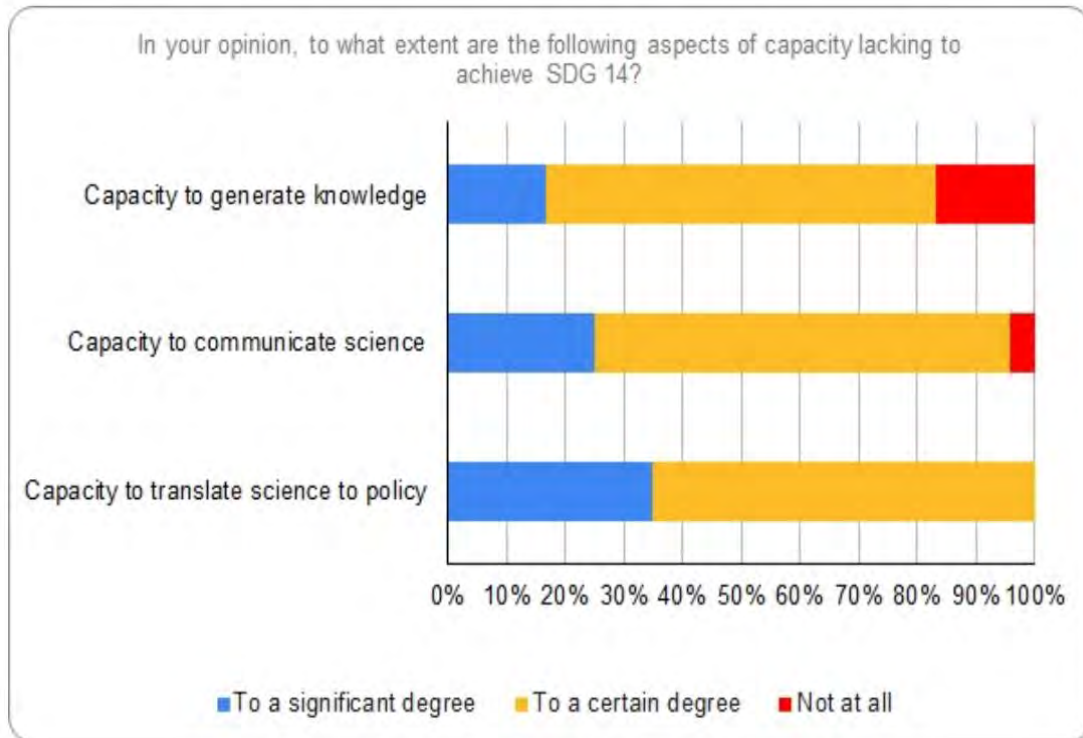
| | How would you rate the level of capacity available right now in your country to achieve SDG 14? |
|----------------------|---|
| Significant capacity | 8 |
| Partial capacity | 13 |
| Low capacity | 3 |
| I don't know | 0 |
| | 24 |

Q2.17: How would you rate the **level of capacity available right now in your institution to support the achievement of SDG 14 in your country?**



| | How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country? |
|----------------------|--|
| Significant capacity | 9 |
| Partial capacity | 11 |
| Low capacity | 3 |
| I don't know | 0 |
| | 23 |

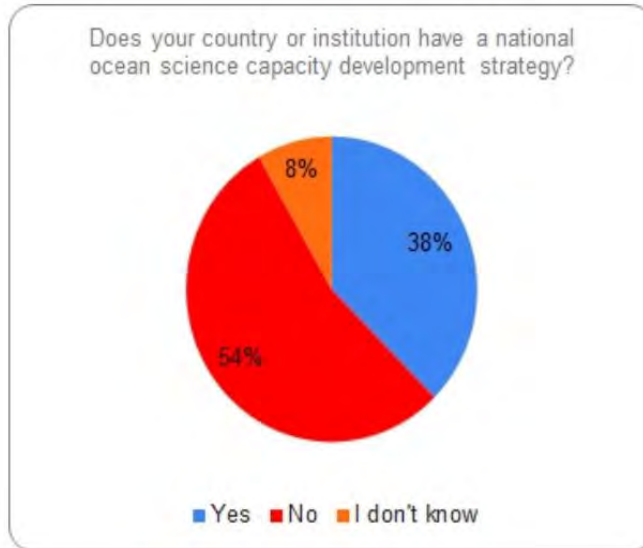
Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?



2.18 Summary Graph

| | Capacity to generate knowledge | Capacity to communicate science | Capacity to translate science to policy |
|-------------------------|--------------------------------|---------------------------------|---|
| To a significant degree | 4 | 6 | 8 |
| To a certain degree | 16 | 17 | 15 |
| Not at all | 4 | 1 | 0 |
| | 24 | 24 | 23 |

Q2.19: Does your country or institution have a national ocean science capacity development strategy?

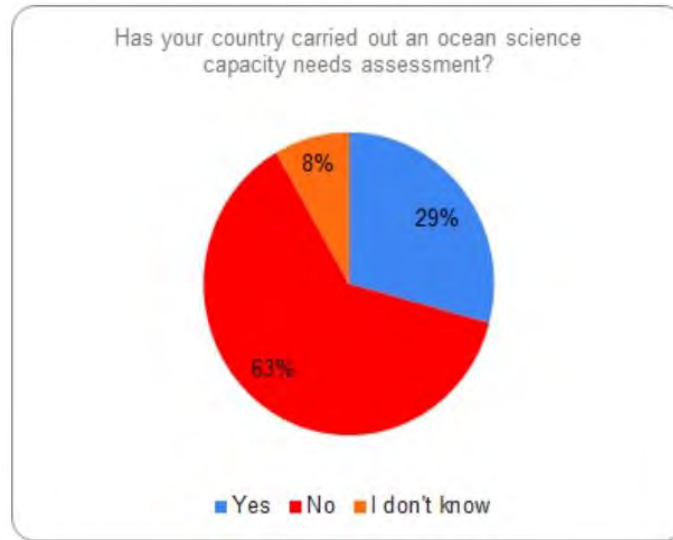


| | Does your country or institution have a national ocean science capacity development |
|--------------|---|
| Yes | 9 |
| No | 13 |
| I don't know | 2 |
| | 24 |

Q2.20: If yes, please specify (provide URL if available online)

- <http://nodc-benin.odinafrica.org> Many actions is developing with many partners
- <http://cco.gov.co/expedicion-cientifica-seaflower-i.html> <http://cco.gov.co/expedicion-cientifica-al-pacifico.html> <http://cco.gov.co/programa-antartico-colombiano.html>
- <https://193.0.0.1/Marinescience>
- <http://www.niof.sci.eg/>
- National strategy for marine sciences in Finland.
- IRD (Institute for Research and Development) main mission is on capacity building. In addition, there are funding mechanism to support to virtual international (bilateral) laboratories in marine science (e.g. IRL-International Research Laboratory at CNRS, LMI-Laboratoire Mixte International at IRD). Financial support for individual scientists to expatriate to developing countries for periods ranging from a few months to years.
- <https://www.cerescor.edu.gn> (site en construction) ED-CERESCOR (site en construction)
- Not applicable
- The National Institute of Oceanography has its in house CB needs assessment and plan til 2025, aligned with the National ST & I Policy of the Government of Pakistan
- <http://www.dhn.mil.pe>
- <http://ww.vnio.org.vn>

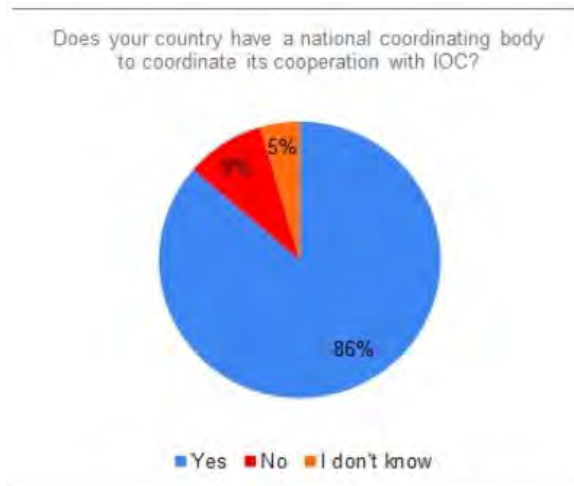
Q2.21: Has your country **carried out an ocean science capacity needs assessment**? Q2.22: If yes, please specify (provide URL if available online).



| | Has your country carried out an ocean science capacity needs assessment? |
|--------------|--|
| Yes | 7 |
| No | 15 |
| I don't know | 2 |
| | 24 |

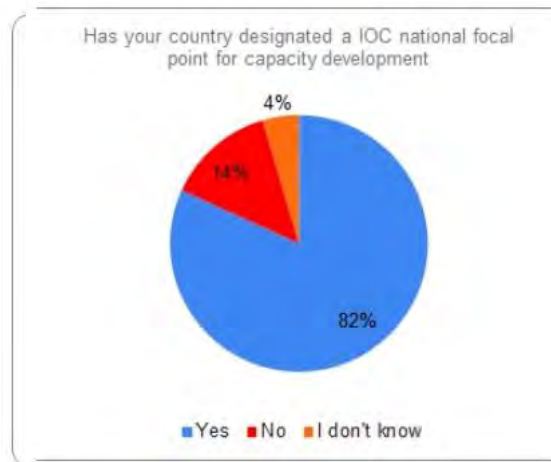
SUBSET A QUESTIONS

2A.1 Does your country have a “national coordinating body” to coordinate its cooperation with IOC? 2A.2 If no, then why not:



| | Does your country have a national coordinating body to coordinate its cooperation with |
|--------------|--|
| Yes | 19 |
| No | 2 |
| I don't know | 1 |
| | 22 |

2A.3 Has your country designated a IOC national focal point for capacity development?



2A.4 If no, then why

- No urgent
- France is in looking to point
- The IOC the CD Focal
- Not applicable
- Needs to improve coordination
- Not relevant
- Designation process underwa

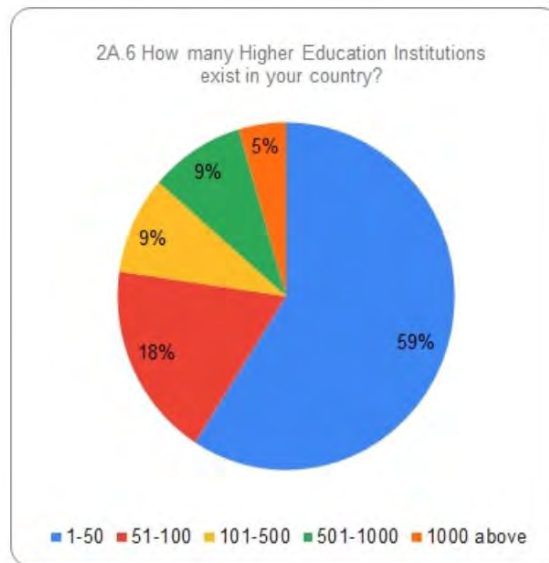
| | How do you rate national coordination on marine research in your country? |
|-----------|---|
| Excellent | 1 |
| Average | 8 |
| Good | 8 |
| Poor | 6 |
| | 23 |

not:

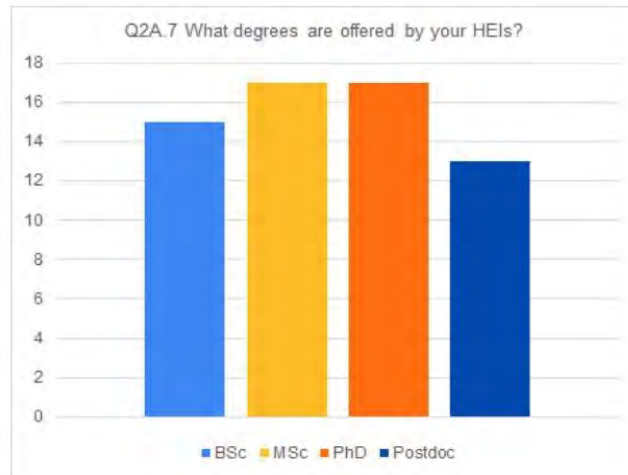
need to do that
the process of designate a focal
Focal Point acts as Point

2A.5 How do you rate national coordination on marine research in your country?

2A.6 How many Higher Education Institutions exist in your country?

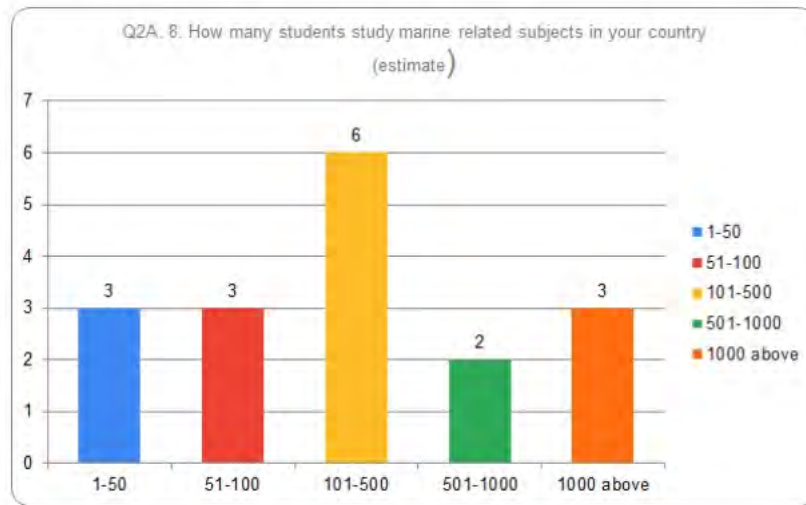


| Number of HEIs | Responses |
|----------------|-----------|
| 1-50 | 13 |
| 51-100 | 4 |
| 101-500 | 2 |
| 501-1000 | 2 |
| 1000 above | 1 |

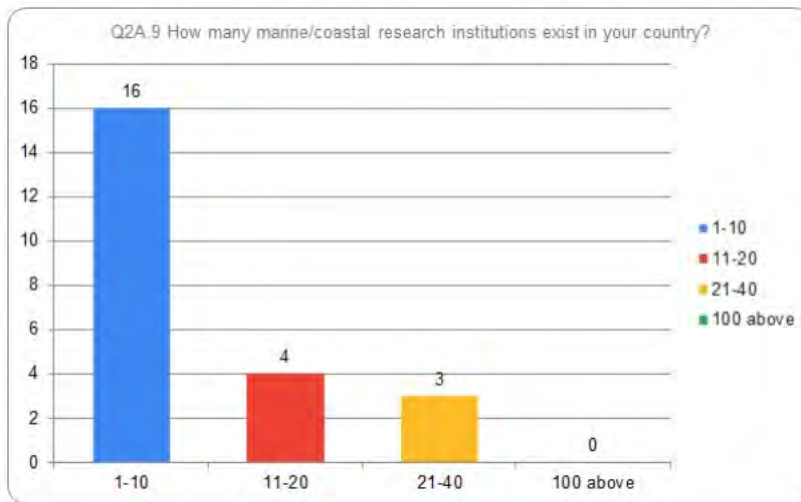
2A.7 What degrees are offered by your HEIs (highest degrees or equivalent overall)

| | What degrees are offered by your HEIs (highest degrees or equivalent overall) |
|---------|---|
| BSc | 15 |
| MSc | 17 |
| PhD | 17 |
| Postdoc | 13 |

2A.8 How many students study marine related subjects in your country (estimate)

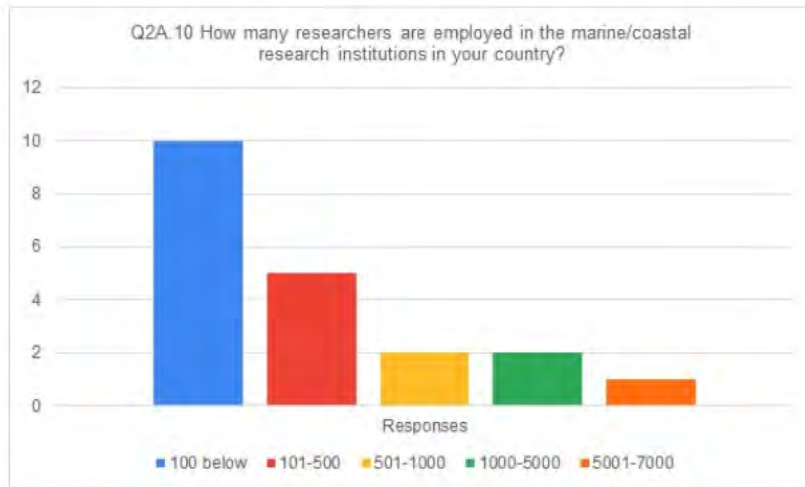


| Number of Students | Responses |
|--------------------|-----------|
| 1-50 | 3 |
| 51-100 | 3 |
| 101-500 | 6 |
| 501-1000 | 2 |
| 1000 above | 3 |
| | 17 |

2A. 9 How many marine/coastal research institutions exist in your country?

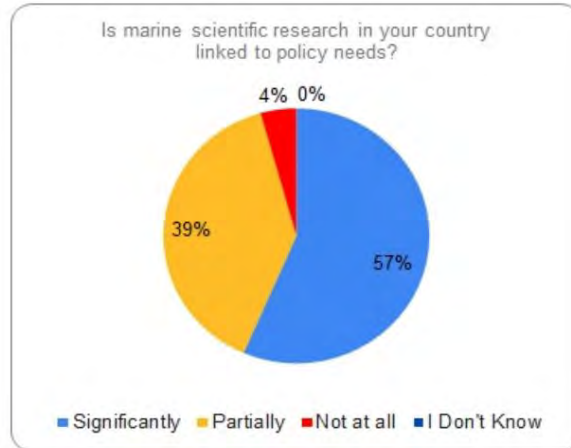
| Number of Coastal Research Institution | Responses |
|--|-----------|
| 1-10 | 16 |
| 11-20 | 4 |
| 21-40 | 3 |
| 100 above | 0 |
| | 23 |

2A.10 How many researchers are employed in the marine/coastal research institutions in your country?



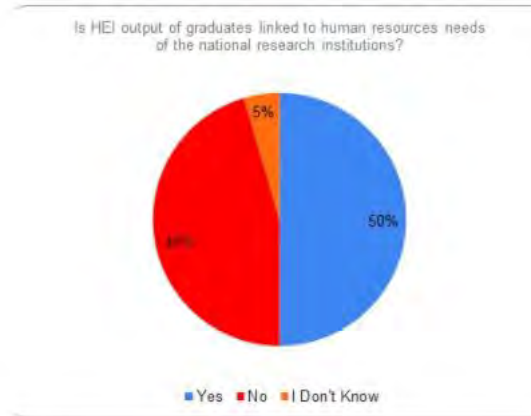
| Number of Researchers | Responses |
|------------------------------|------------------|
| 100 below | 10 |
| 101-500 | 5 |
| 501-1000 | 2 |
| 1000-5000 | 2 |
| 5001-7000 | 1 |

2A.11 Is marine scientific research in your country linked to policy needs?



| | Is marine scientific research in your country linked to policy needs? |
|---------------|---|
| Significantly | 13 |
| Partially | 9 |
| Not at all | 1 |
| I Don't Know | 0 |
| | 23 |

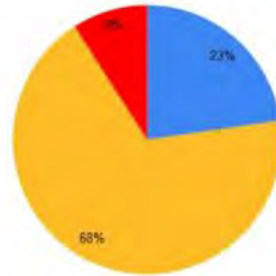
2A.12 Is HEI output of graduates linked to human resources needs of the national research institutions?



| | Is HEI output of graduates linked to human resources needs of the national research institutions? |
|--------------|---|
| Yes | 11 |
| No | 10 |
| I Don't Know | 1 |
| | 22 |

2A.13 Does the private sector in your country make use of the expertise available in HEIs or national marine research institutions?

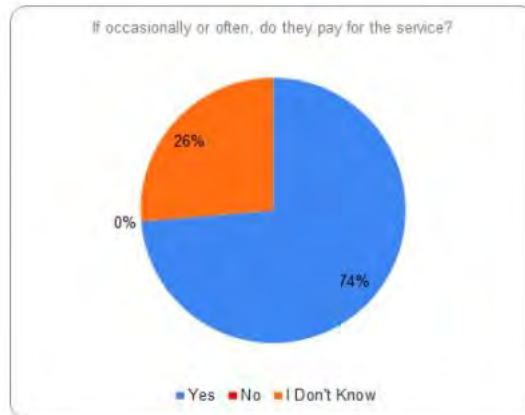
Does the private sector in your country make use of the expertise available in HEIs or national marine research institutions?



■ Often ■ Occasionally ■ No

| | Does the private sector in your country make use of the expertise available in HEIs or national marine research institutions? |
|--------------|---|
| Often | 5 |
| Occasionally | 15 |
| No | 2 |
| | 22 |

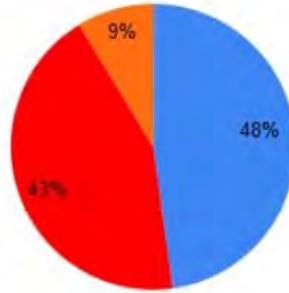
2A.14 If occasionally or often, do they pay for the service?



| | If occasionally or often, do they pay for the service? |
|--------------|--|
| Yes | 14 |
| No | 0 |
| I Don't Know | 5 |
| | 19 |

2A.15 Is there an active policy to promote the use of local marine research/monitoring/management expertise in the private sector?

Is there an active policy to promote the use of local marine research/monitoring/management expertise in the private sector?

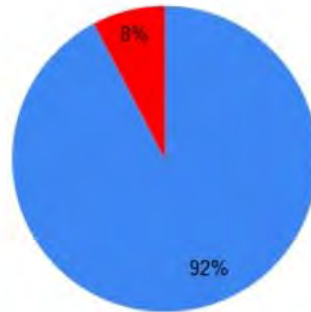


■ Yes ■ No ■ I Don't Know

| | Is there an active policy to promote the use of local marine research/monitoring/management expertise in the private sector? |
|--------------|--|
| Yes | 11 |
| No | 10 |
| I Don't Know | 2 |
| | 23 |

2A.16 If no, then **should there be an active policy?**

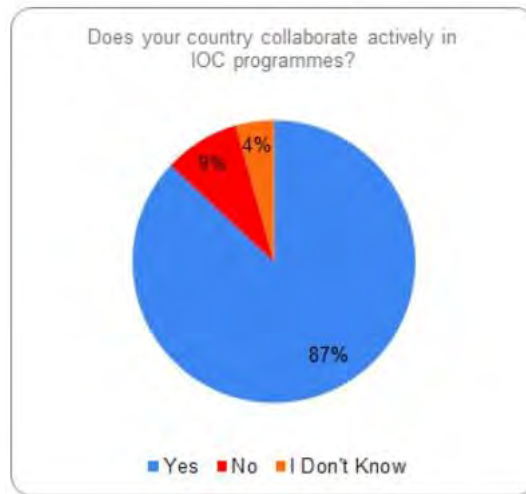
If no, then should there be an active policy?



■ Yes ■ No

| | If no, then should there be an active policy? |
|-----|---|
| Yes | 12 |
| No | 1 |
| | 13 |

2A. 17 Does your country collaborate actively in IOC programmes ?



| | Does your country collaborate actively in IOC programmes? |
|--------------|---|
| Yes | 20 |
| No | 2 |
| I Don't Know | 1 |
| | 23 |

2A. 18. If yes, please describe shortly:

- Argentina has active and longstanding participation in GOOS, GLOSS< IODE, OBIS, HAB, Ocean Science, e.g. OA
- ODINAFRICA, IOCAFRICA, Oceanexpert, OTA, OBIS,
- SHOA is the National Focal Point for the IOC, in addition, we participate in some groups such as Tsunami, IOC ICG / PTWS, CD, HAB.
- Colombia collaborates actively, through IOCARIBE, also with programs and initiatives, like IODE (OTGA, ODIS, etc) and MSPglobal.
- Tsunami Awareness and Early Warning, Harmful Algal Blooms, Ocean Acidification, IODE: GOOS, GEBCO Ocean Observation
- En este momento en la promoción de la decada de las ciencias del mar para el desarrollo sostenible del país.
- Programmes: 1)- Faire face au changement climatique (dans la compréhension du rôle des océans dans la variabilité et le changement climatique; les activités de formation liées à la connaissance de l'océan, ses caractéristiques physiques, ses mouvements, la variation de la température de l'eau de mer et la modification des courants océaniques entraînant la variabilité et le changement climatique; les risques liés aux impacts sur les zones marines et côtières et sur la biodiversité marine; la facilitation de l'échange d'informations et d'outils entre les acteurs ayant les mêmes préoccupations, liées aux impacts du changement climatique de l'IODE, - les activités de formation liées à la connaissance de l'océan, ses caractéristiques physiques, ses mouvements, la variation de la température de l'eau de mer et la modification des courants océaniques entraînant la variabilité et le changement climatique; 2)- Améliorer la gouvernance, la planification spatiale marine, l'économie bleue basée sur les écosystèmes. - etc..
- IOC's, IOGOOS, IODE, IOCINDIO, IIOE-2, IOTWMS, UNDECADE, ITCO-OCEAN (Category-2), JCOMM, DBCP, ITP, etc.
- KMFRI became and OTGA training centre and this has opened up space for many scientists or officers to be trained in marine sciences. We have fully involved in the UN Decade of Ocean Science and the workshops an discussions. We participate or have scientists seconded or act as focal points to many IOC created bodies GOOS etc
- Through IOCARIBE (ANCA;IOC GE-CD; IODE NATIONAL COORDINATOR FOR OCEANOGRAPHIC DM, CMA2; Decade of Ocean Science for Sustainable Development
- Nigeria collaborate/participate in IOC programs like, ocean science, IODE, GOOS, Capacity Development, Ocean Literacy, etc
- "Pakistan has been an active member in IOC, a Pakistani Prof. Dr. Haq spent a considerable
- amount of time in Paris. The founding Director General of the National Institute of Oceanography (NIO) Pakistan was in the early 1980s a Chair designate of IOC. NIO is the main focus of public sector R&D that conducts oceanographic research. As participated in the regional IOCINDIO and has benefited from several UNESCO IOC IODE, IOC RTC etc."
- SPINCAM, MSP Global. Tsunami Program, MIZC, etc
- GOOS, IBIS, HAB, TSUNAMI, NE ATL, IODE
- The IOC Focal Point responds regularly to exchanges from all programmes.
- We are very active like GOOS, IODE, Tsunamis early warning system, etc
- IODE, ODINAFRICA, GOOS etc.

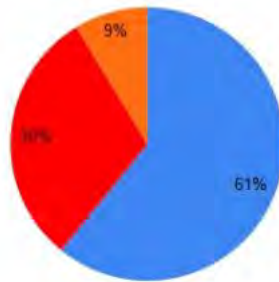
2A.19 Does your country provide financial support to IOC capacity development activities (through projects, contribution to IOC special account or other financial channels)



| | Does your country provide financial support to IOC capacity development activities (through projects, contribution to IOC special account or other financial channels)? |
|--------------|---|
| Yes | 10 |
| No | 8 |
| I Don't Know | 5 |
| | 23 |

2A.20 Does your country provide in-kind contributions to IOC capacity development activities (through hosting offices, providing national staff to IOC offices)

Does your country provide in-kind contributions to IOC capacity development activities (through hosting offices, providing national staff to IOC offices)?

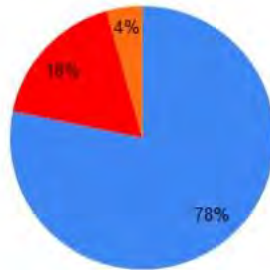


■ Yes ■ No ■ I Don't Know

| | Does your country provide in-kind contributions to IOC capacity development activities (through hosting offices, providing national staff to IOC offices)? |
|--------------|--|
| Yes | 14 |
| No | 7 |
| I Don't Know | 2 |
| | 23 |

2A.21 Does your country provide in-kind support to IOC capacity development activities by providing expert time (to participate in workshops, steering groups,...)

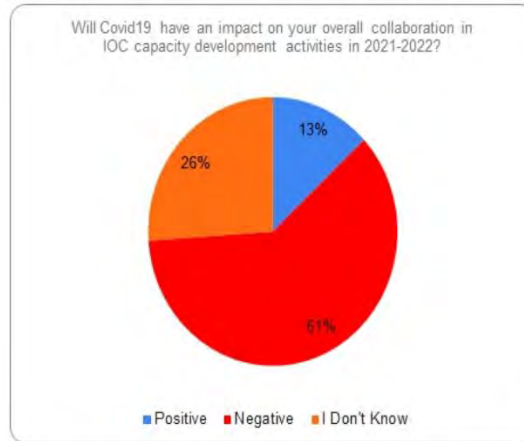
Does your country provide in-kind support to IOC capacity development activities by providing expert time (to participate in workshops, steering groups,...)?



■ Yes ■ No ■ I Don't Know

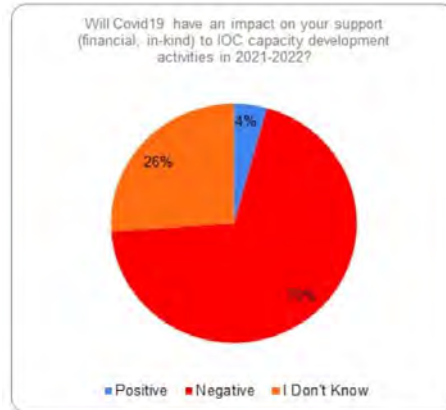
| | Does your country provide in-kind support to IOC capacity development activities by providing expert time (to participate in workshops, steering groups,...)? |
|--------------|---|
| Yes | 18 |
| No | 4 |
| I Don't Know | 1 |
| | 23 |

2A.22 Will Covid19 have an impact on your overall collaboration in IOC capacity development activities in 2021-2022



| | Will Covid19 have an impact on your overall collaboration in IOC capacity development activities in 2021-2022? |
|--------------|--|
| Positive | 3 |
| Negative | 14 |
| I Don't Know | 6 |
| | 23 |

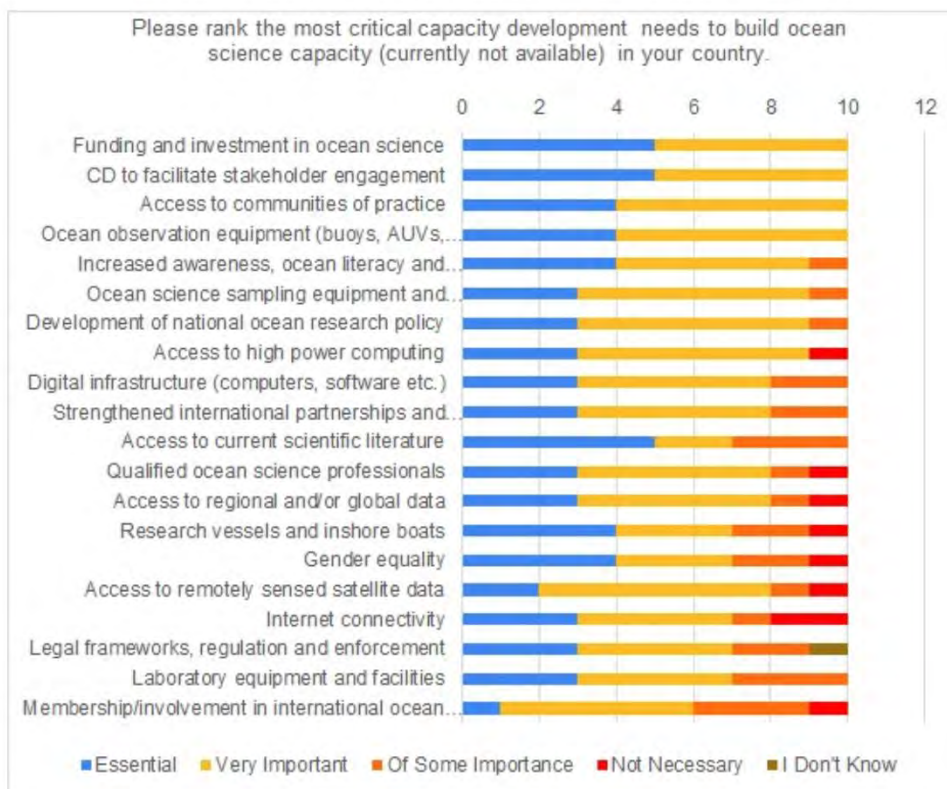
2A.23 Will Covid19 have an impact on your support (financial, in-kind) to IOC capacity development activities in 2021-2022



| | Will Covid19 have an impact on your support (financial, in-kind) to IOC capacity development activities in 2021-2022? |
|--------------|---|
| Positive | 1 |
| Negative | 16 |
| I Don't Know | 6 |
| | 23 |

IOC CD FOCAL POINTS

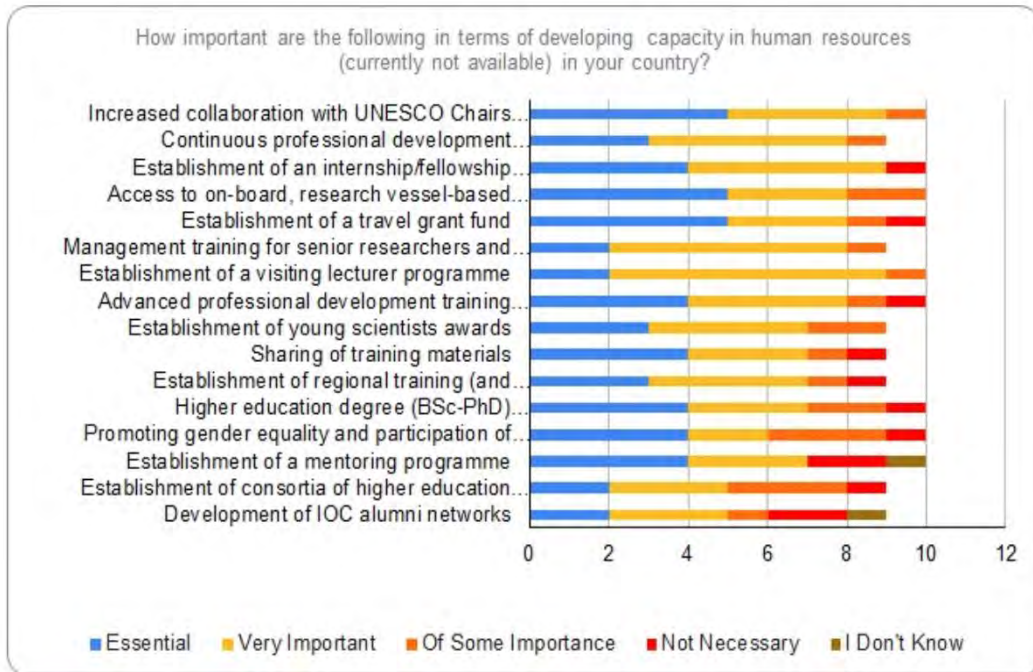
Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?



Summary Question 2.1

| | Funding and investment in ocean science | CD to facilitate stakeholder engagement | Access to communities of practice | Ocean observation equipment (buoys, AUVs, tide gauges etc.) | Increased awareness, ocean literacy and public outreach | Ocean science sampling equipment and instrumentation | Development of national ocean research policy | Access to high power computing | Digital infrastructure (computers, software etc.) | Strengthened international partnerships and regional scientific literature | Access to current scientific literature | Qualified ocean science professionals | Access to regional and/or global data | Research vessels and inshore boats | Gender equality | Access to remotely sensed satellite data | Internet connectivity | Legal frameworks, regulation and enforcement | Laboratory equipment and facilities | Membership/involvement in international ocean science | |
|--------------|---|---|-----------------------------------|---|---|--|---|--------------------------------|---|--|---|---------------------------------------|---------------------------------------|------------------------------------|-----------------|--|-----------------------|--|-------------------------------------|---|----|
| Essential | 5 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 4 | 4 | 2 | 3 | 3 | 3 | 3 | 1 |
| Very Imp | 5 | 5 | 6 | 6 | 5 | 6 | 6 | 6 | 5 | 5 | 2 | 5 | 5 | 3 | 3 | 6 | 4 | 4 | 4 | 4 | 5 |
| Of Some | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | |
| Not Necess | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weighted | 4.50 | 4.50 | 4.40 | 4.40 | 4.20 | 4.10 | 4.10 | 4.00 | 3.90 | 3.90 | 3.90 | 3.80 | 3.80 | 3.70 | 3.70 | 3.70 | 3.50 | 3.50 | 3.33 | 3.20 | |
| RANK | 1 | 1 | 3 | 3 | 5 | 6 | 6 | 8 | 9 | 9 | 9 | 12 | 12 | 14 | 14 | 14 | 17 | 17 | 19 | 20 | |

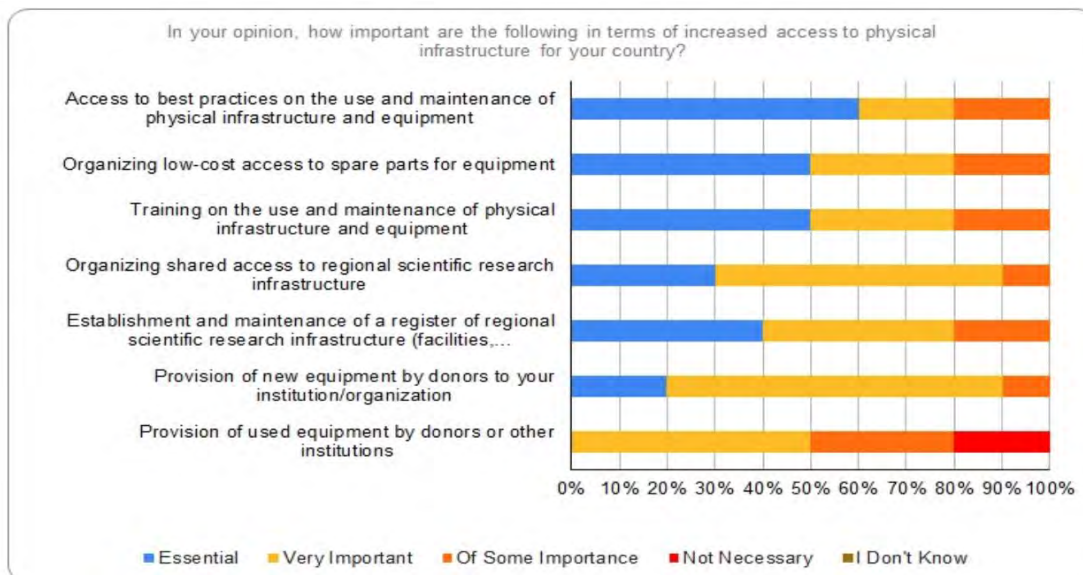
Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?



Summary Graph 2.2

| | Increase d collabora tion with UNESCO Chairs and IOC throughout your country | Continuo us profession al developm ent througho ut your country | Establish ment of an internshi p/fellows hip programme | Access to on-board, research vessel-based training | Establish ment of a travel grant fund | Manage ment training for senior researchers and heads of institutions | Establish ment of a visiting lecturer programme | Advanc ed profession al develop ment training courses | Establis hment of young scientists awards | Sharing of training material | Establis hment of regional training (and research) programmes in | Higher educati on degree (BSc- PhD) program mes in | Promoti ng gender equality and particip ation of women | Establis hment of a mentori ng programme | Establis hment of consorti a of higher educati on in | Develop ment of IOC alumni network s | |
|-----------------------|--|---|--|--|---------------------------------------|---|---|---|---|------------------------------|--|--|--|--|--|--------------------------------------|---|
| Essential | 5 | 3 | 4 | 5 | 5 | 2 | 2 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 2 | 2 |
| Very Important | 4 | 5 | 5 | 3 | 3 | 6 | 7 | 4 | 4 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 3 |
| Of Some Importa | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 0 | 3 | 1 | 1 |
| Not Necessary | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| | 10 | 9 | 10 | 10 | 10 | 9 | 10 | 10 | 9 | 9 | 9 | 10 | 10 | 10 | 9 | 9 | 9 |
| Weighted Avera | 4.30 | 4.11 | 4.10 | 4.10 | 4.00 | 4.00 | 4.00 | 3.90 | 3.89 | 3.89 | 3.78 | 3.70 | 3.50 | 3.40 | 3.22 | 2.89 | |
| RANK | 1 | 2 | 3 | 3 | 5 | 5 | 5 | 8 | 9 | 9 | 11 | 12 | 13 | 14 | 15 | 16 | |

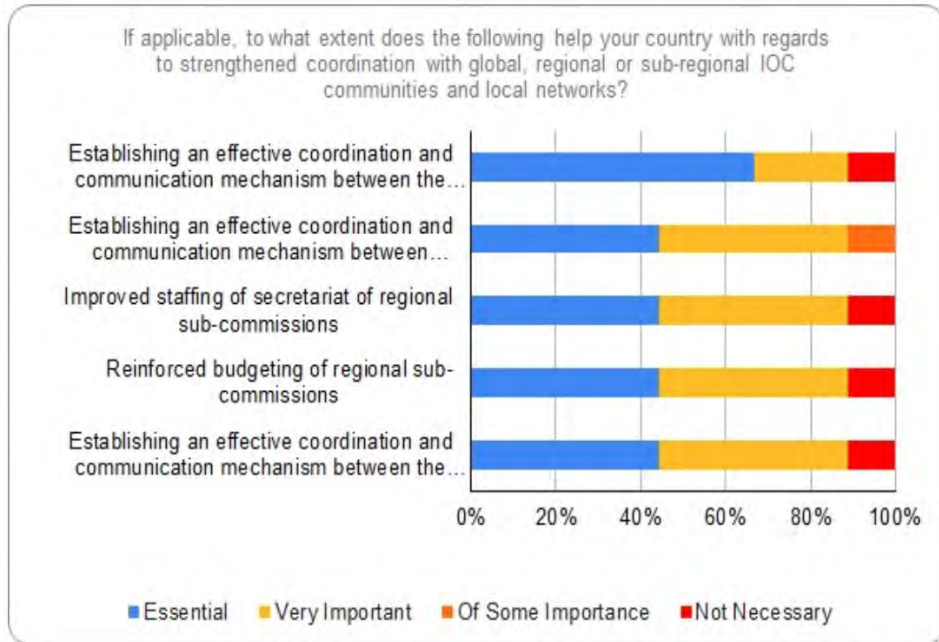
Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?



2.3 Summary Graph

| | Access to best practices on the use and maintenance of physical infrastructure and equipment | Organizing low-cost access to spare parts for equipment | Training on the use and maintenance of physical infrastructure and equipment | Organizing shared access to regional scientific infrastructure | Establishment and maintenance of a register of regional scientific infrastructure | Provision of new equipment by donors to your institution/organization | Provision of used equipment by donors or other institutions |
|-------------------------|--|---|--|--|---|---|---|
| Essential | 6 | 5 | 5 | 3 | 4 | 2 | 0 |
| Very Important | 2 | 3 | 3 | 6 | 4 | 7 | 5 |
| Of Some Importance | 2 | 2 | 2 | 1 | 2 | 1 | 3 |
| Not Necessary | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weighted Average | 4.20 | 4.10 | 4.10 | 4.10 | 4.00 | 4.00 | 2.80 |
| RANK | 1 | 2 | 2 | 2 | 5 | 5 | 7 |

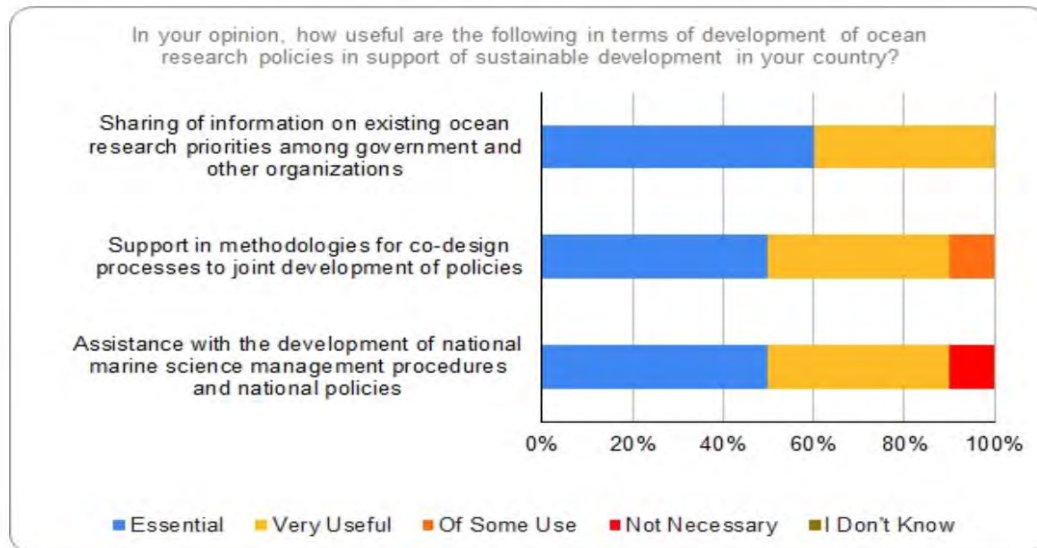
Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?



2.4 Summary Graph

| | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the regional programmes | Improved staffing of secretariat of regional sub-commissions | Reinforced budgeting of regional sub-commissions | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes |
|-------------------------|---|---|--|--|---|
| Essential | 6 | 4 | 4 | 4 | 4 |
| Very Important | 2 | 4 | 4 | 4 | 4 |
| Of Some Importance | 0 | 1 | 0 | 0 | 0 |
| Not Necessary | 1 | 0 | 1 | 1 | 1 |
| I Don't Know | 1 | 1 | 1 | 1 | 1 |
| | 10 | 10 | 10 | 10 | 10 |
| Weighted Average | 3.90 | 3.80 | 3.70 | 3.70 | 3.70 |
| RANK | 1 | 2 | 3 | 3 | 3 |

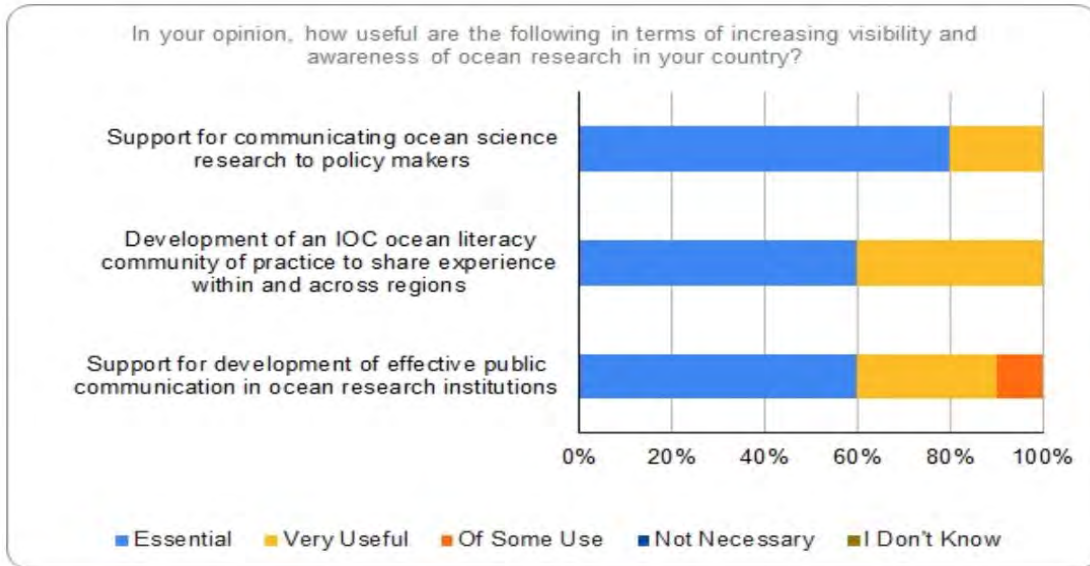
Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?



2.5 Summary Graph

| | Sharing of information on existing ocean research priorities among government and other organizations | Support in methodologies for co-design processes to joint development of policies | Assistance with the development of national marine science management procedures and national policies |
|-------------------------|---|---|--|
| Essential | 6 | 5 | 5 |
| Very Useful | 4 | 4 | 4 |
| Of Some Use | 0 | 1 | 0 |
| Not Necessary | 0 | 0 | 1 |
| I Don't Know | 0 | 0 | 0 |
| | 10 | 10 | 10 |
| Weighted Average | 4.60 | 4.30 | 4.20 |
| RANK | 1 | 2 | 3 |

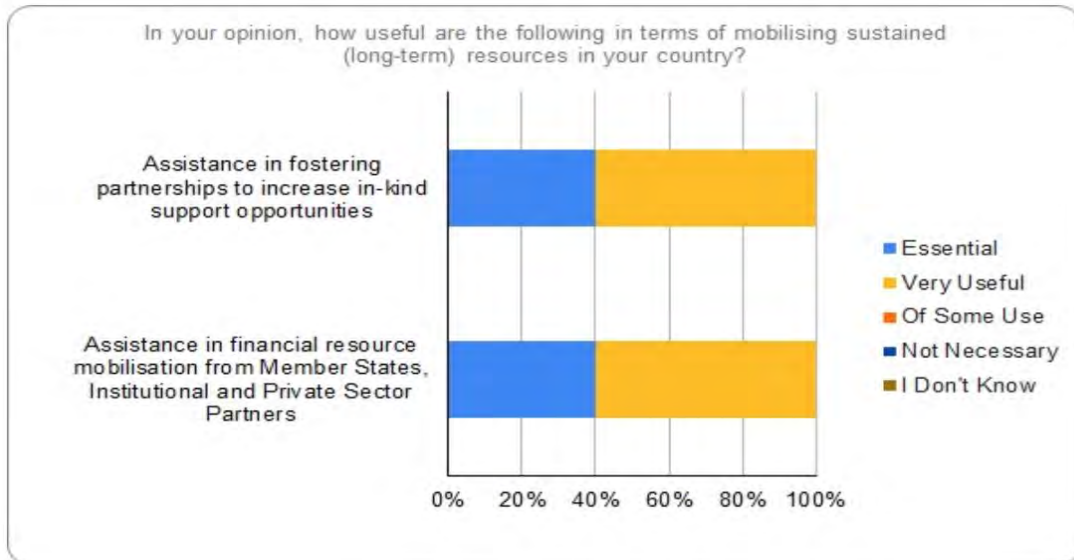
Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?



2.6 Summary Graph

| | Support for communicating ocean science research to policy makers | Development of an IOC ocean literacy community of practice to share experience within and across regions | Support for development of effective public communication in ocean research institutions |
|-------------------------|---|--|--|
| Essential | 8 | 6 | 6 |
| Very Useful | 2 | 4 | 3 |
| Of Some Use | 0 | 0 | 1 |
| Not Necessary | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 |
| | 10 | 10 | 10 |
| Weighted Average | 4.80 | 4.60 | 4.40 |
| RANK | 1 | 2 | 3 |

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

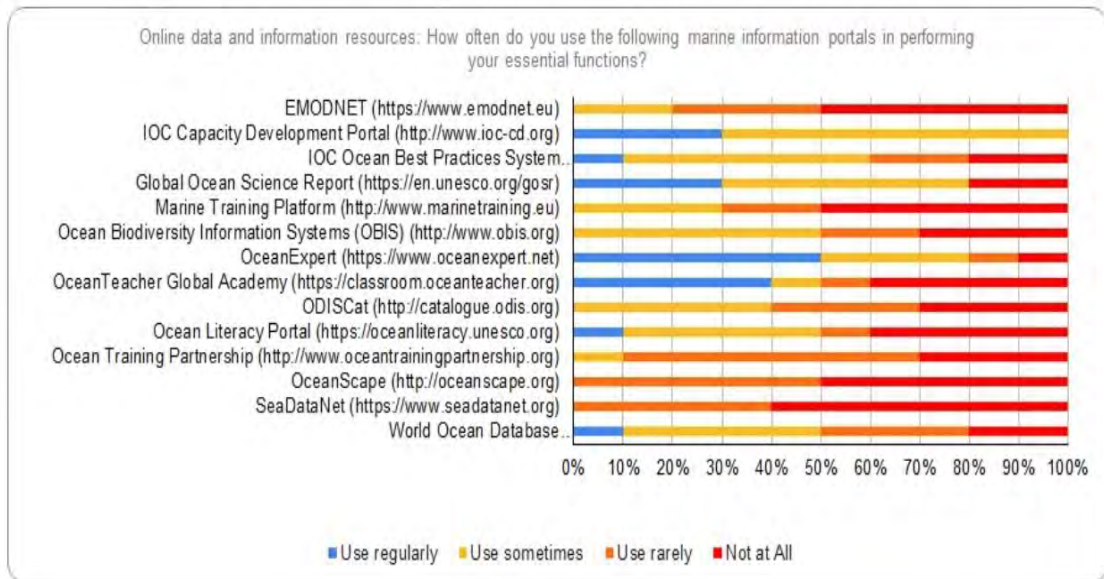


2.7 Summary Graph

| | Assistance in fostering partnerships to increase in-kind support opportunities | Assistance in financial resource mobilisation from Member States, Institutional and Private Sector Partners |
|-------------------------|--|---|
| Essential | 4 | 4 |
| Very Useful | 6 | 6 |
| Of Some Use | 0 | 0 |
| Not Necessary | 0 | 0 |
| I Don't Know | 0 | 0 |
| | 10 | 10 |
| Weighted Average | 4.40 | 4.40 |
| RANK | 1 | 1 |

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?

Other Examples:



2.9 Summary Graph

| | EMODNET (https://www.emodnet.eu) | IOC Capacity Development Portal (http://www.ioc-cd.org) | IOC Ocean Best Practices System (https://www.oceanbestpractices.org) | Global Ocean Science Report (https://en.unesco.org/gosr) | Marine Training Platform (http://www.marinetraining.eu) | Ocean Biodiversity Information Systems (OBIS) (http://www.obis.org) | OceanExpert (https://www.oceanexpert.net) | OceanTeacher Global Academy (https://classroom.oceanteacher.org) | ODISCat (http://catalogue.odis.org) | Ocean Literacy Portal (https://oceanliteracy.unesco.org) | Ocean Training Partnership (http://www.oceantrainingpartnership.org) | OceanScape (http://oceanscape.org) | SeaDataNet (https://www.seadatanet.org) | World Ocean Database (http://www.iode.org/SELECT/dbsearch) |
|---------------|----------------------------------|---|--|--|---|---|---|--|-------------------------------------|--|--|------------------------------------|---|--|
| Use regularly | 0 | 3 | 1 | 3 | 0 | 0 | 5 | 4 | 0 | 1 | 0 | 0 | 0 | 1 |
| Use sometimes | 2 | 7 | 5 | 5 | 3 | 5 | 3 | 1 | 4 | 4 | 1 | 0 | 0 | 4 |
| Use rarely | 3 | 0 | 2 | 0 | 2 | 2 | 1 | 1 | 3 | 1 | 6 | 5 | 4 | 3 |
| Not at All | 5 | 0 | 2 | 2 | 5 | 3 | 1 | 4 | 3 | 4 | 3 | 5 | 6 | 2 |
| | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

- UNEP-WCMC Ocean Data Viewer
- None
- <http://ioc-unesco.org> <http://iode.odincarsa.org> <http://msp.ioc-unesco.org/about/msp-at-unesco>
- IODE database

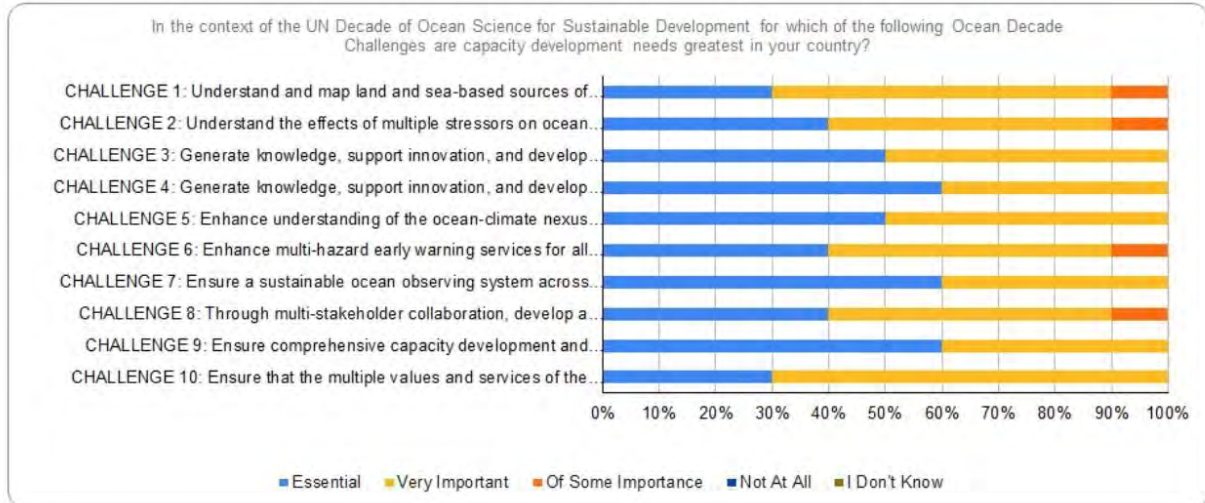
Q2.10 What other specific **support can IOC global and regional programmes** (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?

- Raising global profile of need and delivery of marine science and marine resource data at UN Conventions and agreements (SDGs, CBD, UNFCCC, IPBES, etc.), to convince national governments of the need to support marine science, especially applied marine science at the national level.
- This is being done by holding a series of subnational workshops. Capacity Development is fully acknowledged as a cross-cutting activity and we're starting to feel the necessity to word our own CD Strategy, that will be inspired on IOC CD Strategy. Sure we will look for assistance of IOC/IODE.
- I think needs from questions 1-9 suffice.
- Tsunami and Ocean Hazards
- Difundir ampliamente los eventos relacionados con CD.
- Our country need to get supporting to install tide gauges and buoys at along Myanmar coastal areas and need to attend more training, workshop and meeting concern with tsunami and other coastal science.
- More engagement with partners and stakeholders for data mining.
- Ocean Observing national programme
- The IOC is providing more than sufficient support (technical assistance, advice, training programmes, etc.) the onus is on our government of the day to implement the advice and/or training received. Trinidad and Tobago still does not have an Ocean Policy on the eve of the Decade of Ocean Science for Sustainable Development starting January 1st 2021...other socio-economic ills and the current covid-19 pandemic does not place ocean science or the decade in the government's top agenda
- So far, no any additional specific support to add.

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy (<http://www.ioc-cd.org/strategy>), are there any **other CD efforts and supports not previously mentioned which you would like to see included?**

- A network of on-ship training delivered in country using national and NGO ocean-going vessels to train marine scientists while undertaking surveys of their waters
- This CD Strategy is very well organized, comprehensive, and well worded. For the next review, maybe we can dedicate a couple of lines to traditional knowledge.
- No
- Ocean observation is very expensive. Successful collaboration need be introduced, particularly showing the successful indicator for supporting the collaboration
- Las buenas practicas en CD de los paa-ses.
- No
- NO
- I think the IOC is doing a great and terrific job but we need to do our part as well - in other words - the amount of training and assistance we have received should enable us or equip us to 'stand on our two feet'
- No.

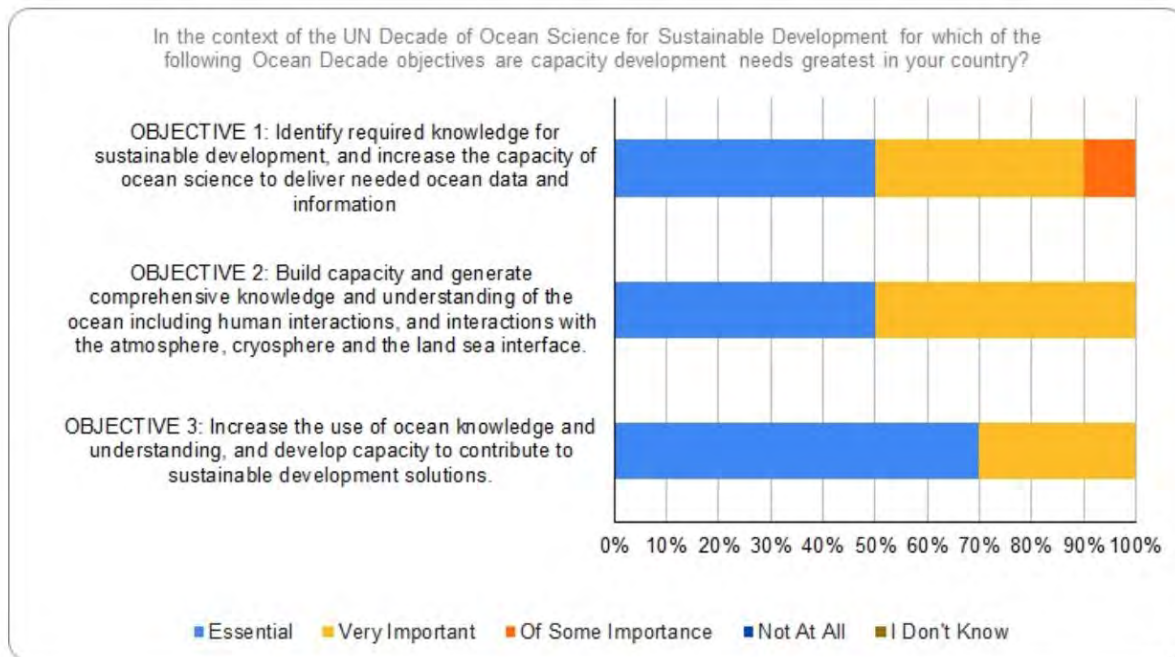
Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?



2.12 Summary Graph

| | CHALLENGE 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on | CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, | CHALLENGE 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in | CHALLENGE 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable | CHALLENGE 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, | CHALLENGE 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, | CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable | CHALLENGE 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the | CHALLENGE 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and | CHALLENGE 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable |
|-------------------------|--|---|---|--|---|--|---|---|---|---|
| Essential | 3 | 4 | 5 | 6 | 5 | 4 | 6 | 4 | 6 | 3 |
| Very Important | 6 | 5 | 5 | 4 | 5 | 5 | 4 | 5 | 4 | 7 |
| Of Some Importance | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Not At All | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Weighted Average | 4.10 | 4.20 | 4.50 | 4.60 | 4.50 | 4.20 | 4.60 | 4.20 | 4.60 | 4.30 |
| RANK | 10 | 7 | 4 | 1 | 4 | 7 | 1 | 7 | 1 | 6 |

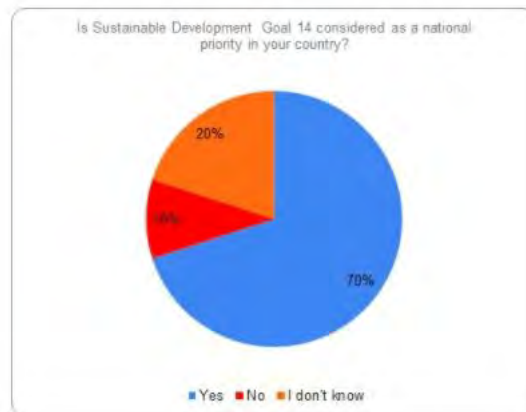
Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?



2.13 Summary Graph

| | OBJECTIVE 1: Identify required knowledge for sustainable development, and increase the capacity of ocean science to deliver needed ocean data and information | OBJECTIVE 2: Build capacity and generate comprehensive knowledge and understanding of the ocean including human interactions, and interactions with the atmosphere, cryosphere and the land sea interface. | OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions. |
|--------------------|---|--|--|
| Essential | 5 | 5 | 7 |
| Very Important | 4 | 5 | 3 |
| Of Some Importance | 1 | 0 | 0 |
| Not At All | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 |
| | 10 | 10 | 10 |

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?

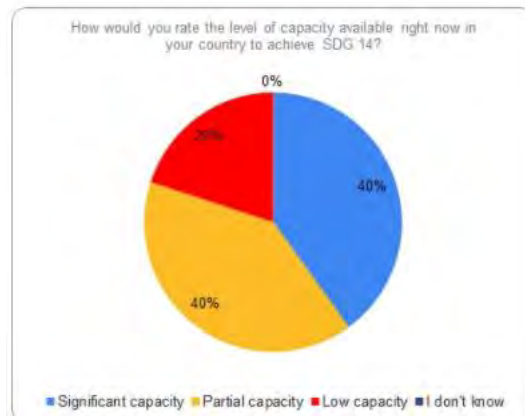


| | Is Sustainable Development Goal 14 considered as a national priority in your country? |
|--------------|---|
| Yes | 7 |
| No | 1 |
| I don't know | 2 |
| | 10 |

Q2.15: If yes, how is this reflected in your national plans and policies?

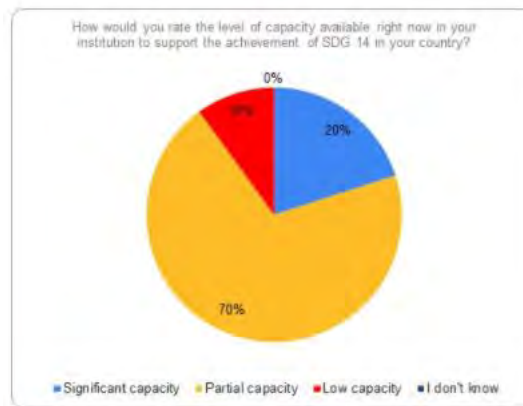
- Expressed through the national initiative Pampa Azul www.pampazul.gob.ar
- National monitoring and State of Environment Reporting are being updated to inform reporting on SDG 14. Government and commerce are reflecting SDGs in their strategic plans
- Not applicable.
- Cote d'Ivoire is a member state of IOC; marine reserves are being created.
- Yes
- Se ha creado un organismo nacional que ha elaborado un plan para el ODS 14 y los otros ODSs.
- A national policy strategy and Document on fishery and aquaculture developed and regularly updated
- 1) The Government is training fisheries officer in the various fishery to better manage resources. 2) The government is to build a fishing port which will enable resource monitoring and management.

Q2.16: How would you rate the **level of capacity available right now in your country** to achieve **SDG 14?**



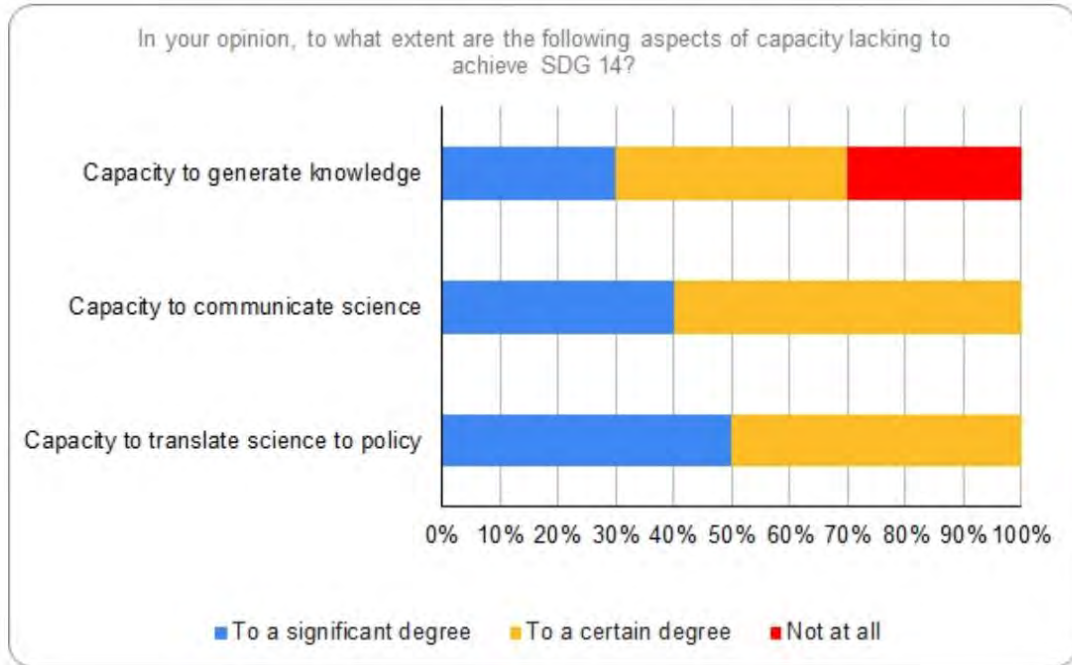
| | How would you rate the level of capacity available right now in your country to achieve SDG 14? |
|----------------------|---|
| Significant capacity | 4 |
| Partial capacity | 4 |
| Low capacity | 2 |
| I don't know | 0 |
| | 10 |

Q2.17: How would you rate the **level of capacity available right now in your institution to support the achievement of SDG 14 in your country?**



| | How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country? |
|----------------------|--|
| Significant capacity | 2 |
| Partial capacity | 7 |
| Low capacity | 1 |
| I don't know | 0 |
| | 10 |

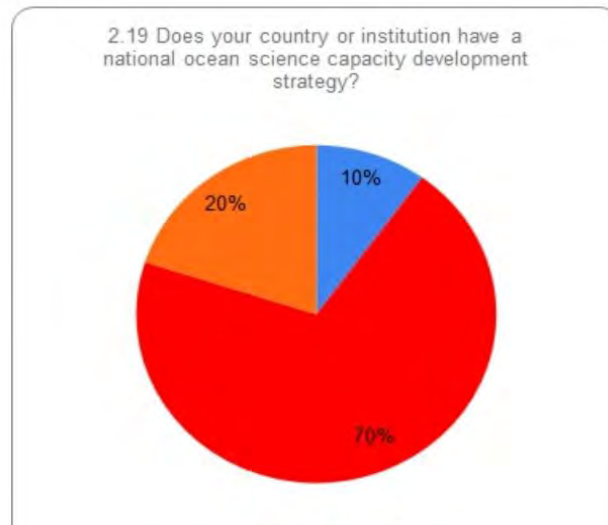
Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?



2.18 Summary Graph

| | Capacity to generate knowledge | Capacity to communicate science | Capacity to translate science to policy |
|-------------------------|--------------------------------|---------------------------------|---|
| To a significant degree | 3 | 4 | 5 |
| To a certain degree | 4 | 6 | 5 |
| Not at all | 3 | 0 | 0 |
| | 10 | 10 | 10 |

Q2.19: Does your country or institution have a national ocean science capacity development strategy?



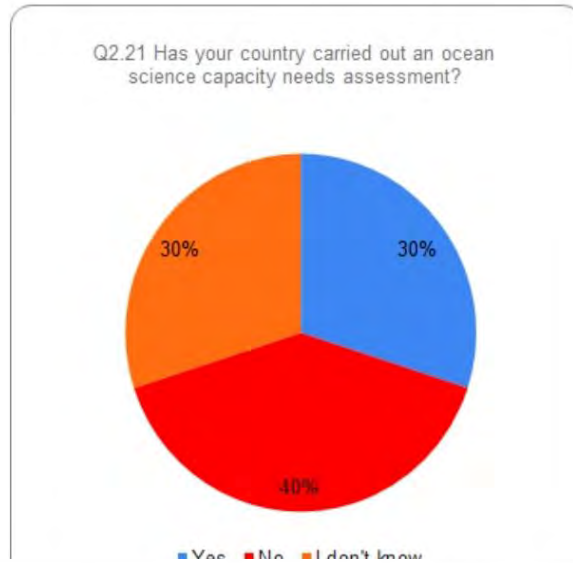
| | Does your country or institution have a national ocean science capacity development strategy? |
|--------------|---|
| Yes | 1 |
| No | 7 |
| I don't know | 2 |
| | 10 |

Q2.20: If yes,
(provide URL if available online)

please specify

- I'd like to put this response in the question title above. The proper response would be "we don't have yet". We have already identified the necessity to have an Ocean Science CD Strategy and it probably will be built along with the National Strategic Plan for the Ocean Decade.
- <http://www.dof.mx/index/-113.php?year=2016&month=07&day=05>

Q2.21: Has your country carried out an ocean science capacity needs assessment?



| | Has your country carried out an ocean science capacity needs assessment? |
|--------------|--|
| Yes | 3 |
| No | 4 |
| I don't know | 3 |
| | 10 |

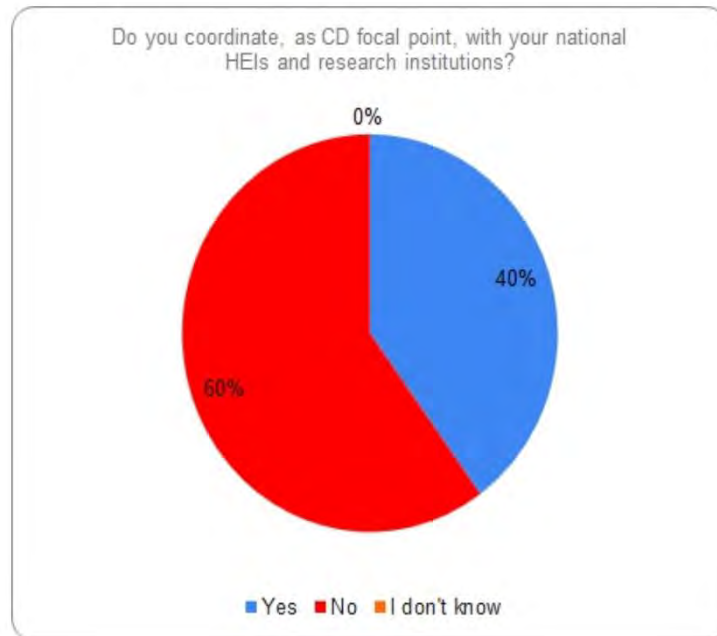
2.22: If yes,
(provide URL if available online).

please specify

- La misma del punto 20.
- Meeting report
- Trinidad and Tobago has never conducted an ocean science capacity needs assessment

SUBSET B QUESTIONS

2B.1 – 2B.3. Do you coordinate, as CD focal point, with your national HEIs and research institutions?



2B.1 Summary Graph

| | Do you coordinate, as CD focal point, with your national HEIs and research institutions? |
|--------------|--|
| Yes | 4 |
| No | 6 |
| I don't know | 0 |
| | 10 |

2B.1 Summary Table

If yes, how?

- Through the Ministry of Science and the National Reserach Council
- I have sent messages to institutions to participate in this survey. I was nominated in February 2020. So, this is the beginning of my position as CD focal point
- Provide with Information related to IOC activities and programmes related to CD as well as other mainly the decade, Try to get involved more institutions and scientist to IOC activities, organize meetings ect..
- I do not...as Librarian, i submit my reports to the Directors of the Institute of Marine Affairs. Thus far, there have been [planning meetings on how the IMA will conduct public communication (IMA Tidal Calendars, Videos, etc. ocean-based research etc.) to heighten awareness to the upcoming decade
- By monitoring capacity available and output but also identifying the gaps nationally

If no, why?

- Other national processes are more significant to ongoing capacity development
- Because we are about to reorganize our coordination in Ocean CD, principally the programme concerned to under graduation and graduation (PPG-Mar).
- Reporting the activities which I involve
- La coordinacion es parcial, se requiere ampliarla.
- I am new to the CD focal point
- At my level, i have to pass on what i would have been privy to and am asked to assist in the coordinating exercise

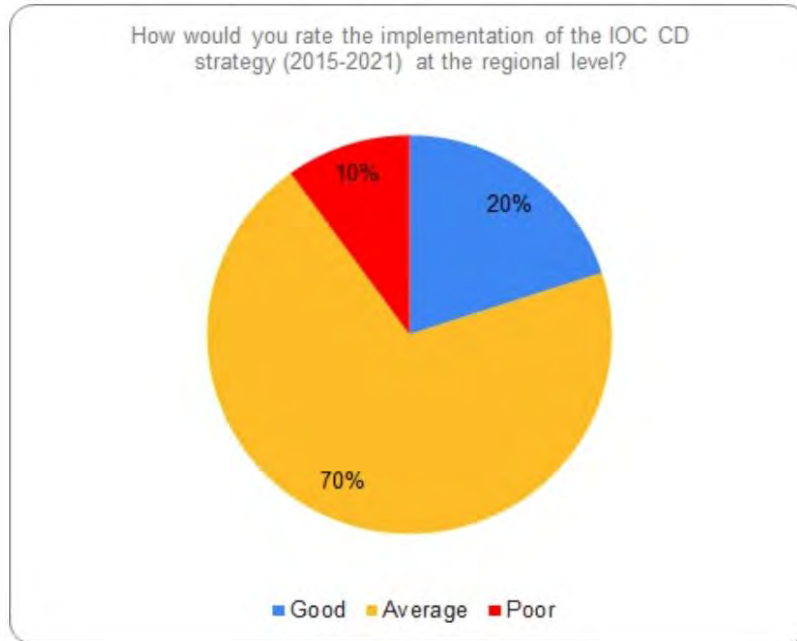
B.4. What actions have you undertaken since your designation as IOC focal point for CD?

- Promoted CD surveys at national level
- None domestically
- I am trying to keep acquainted with what is on in IOC regarding to this matter and calling upon attention of a necessity of a National CD Strategy to be built along the National Implementation Plan for the Ocean Decade.
- I have my country participate in the survey on the marine spatial plan; I share email received from IOC to institutions. I explained the questionnaire of this survey to 20 scientists and technicians and I encourage them to participate to the survey online.
- Sharing information and disseminating related activities
- Difundir informacion a diversas instituciones, participar en las encuestas de CD. Realizar investigaciones de necesidades de capacitacion. Desarrollo de un proyecto para determinar necesidades de desarrollo de capacidades en los Programas de Estudio.
- I have undertaken the actions of issuing tsunami warning, coordination with UNESCO/IOC, cooperation for Tsunami Communication Tests and IOWave Exercises, communication with IOC to maintain the existing tide gauge stations.
- Not engaged yet
- Participation and contribution as much as possible to IOC CD activities, OTGA, my country was a RTC for French speaking countries in Africa during OTGA last phase, Ocean Decade regional programmes and activities ie IOC-Africa regional consultation in Kenya,
- 1-Submitted IOC attendance/training reports to the Director (Dr. Ahmad Khan and now Dr. Rahanna Juman 2-Able to have the director steer the IMA Research from continued monitoring of coastal biodiversity to more of ocean-based scientific research 3-Public Awareness Programmes. "Beyond the Blue Exhibition" in 2019 (ocean themed) interactive exhibition for school students - received private sector funding 4-Beyond the Blue Broadcasts for 2019/2020 The capacity development for items listed as 2, 3 and 4 include the following; 2 - Director of the IMA enabled two research staff to attend regional seminars/conferences on Blue Economy; ocean policy training. Additionally - research staff trained internally to write research proposals 3-capacity development in the public awareness programmes included some IOC ocean literacy information for the k-12 students - information officers more informed of the upcoming decade and all lesson plans have been upgraded to include more ocean-based information 4-Radio broadcasts are all focused on ocean-related themes, etc. Although the aforementioned has not fully addressed the challenges we face of capacity development at the national level (academia, policy makers, etc.) the IMA has been able to raise awareness with internal staff and key stakeholders who have sought and continue to seek assistance of funding and training. For example, our title Sponsor, Republic Bank Limited, has included the IMA's Decade of Oceans Project in their sponsorship programme, etc. It is slow but i have tried my best.
- At the Institute of Marine Science, in collaboration with all other faculty we developed a BSc programme in marine sciences, which is not in the second year only

2B.5. What changes should be made to the IOC CD strategy to become the 2022-2026 (or 2030) strategy?

- The current outcomes and activities are still relevant
- Clearer links between CD and global reporting needs that would enable developing countries gain access to necessary resources and training e.g. through GEF
- In my opinion, just to verify its alignment with the objectives, challenges and societal outcomes of the Ocean Decade. For example, draw a little bit more attention to social sciences and traditional knowledge.
- No changes for ma region
- Synchronizing and harmonizing with the Decade.
- Desarrollar en todos los aspectos los sealamientos de la estrategia actual, para detectar cambios y reflejarlos en la estrategia al 2026 y 2030.
- Development of the cooperation research for marine science.
- Increased partnerships and enlightenment
- Update IOC CD 2015-2021 and include latest development related to the decade
- Work in progress
- In general, it needs to be updated to take into account the opportunity and the needs of the UN Decade and to include the new recommendations expected from the recent survey

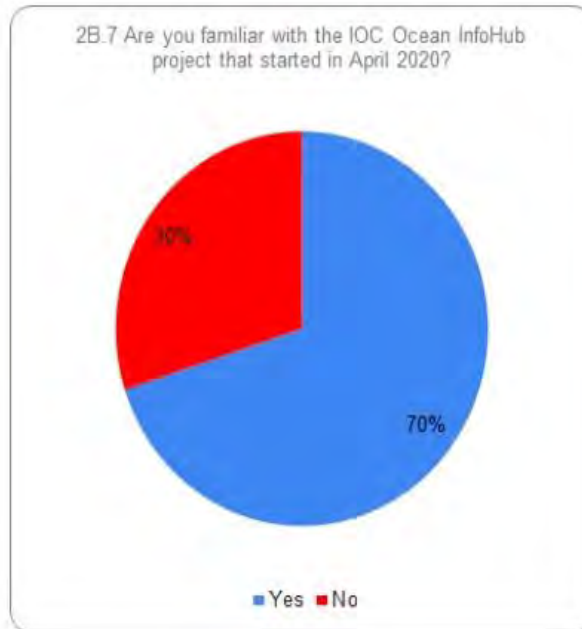
2B.6. How would you rate the implementation of the IOC CD strategy (2015-2021) at the regional level?



2B.6 Summary Graph

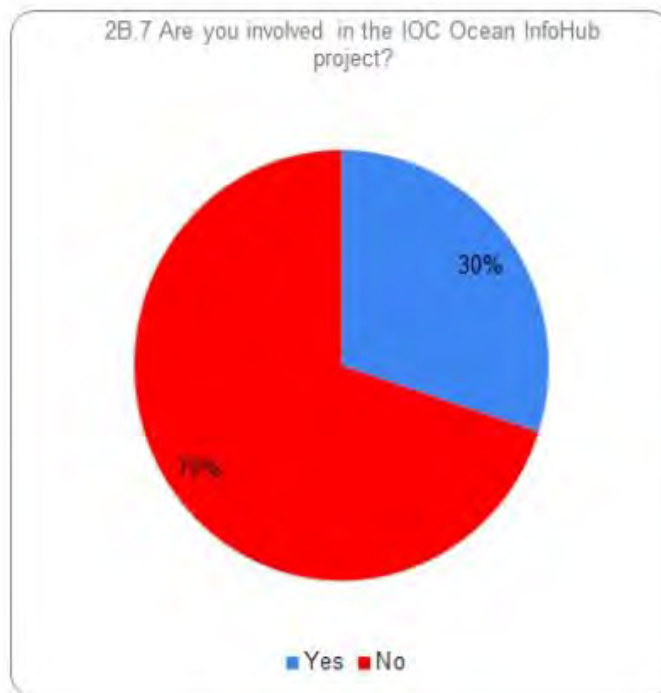
| | How would you rate the implementation of the IOC CD strategy (2015-2021) at the regional level? |
|---------|---|
| Good | 2 |
| Average | 7 |
| Poor | 1 |
| | 10 |

2B.7. Are you familiar with the IOC Ocean InfoHub project that started in April 2020?



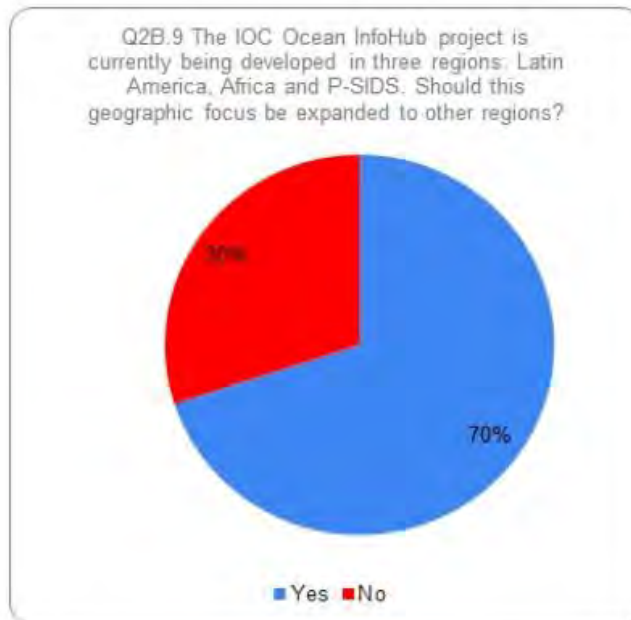
| | Are you familiar with the IOC Ocean InfoHub project that started in April 2020? |
|-----|---|
| Yes | 7 |
| No | 3 |
| | 10 |

2B.8. Are you involved in the IOC Ocean InfoHub project?



| | Are you involved in the IOC Ocean InfoHub project? |
|-----|--|
| Yes | 3 |
| No | 7 |
| | 10 |

2B.9. The IOC Ocean InfoHub project is currently being developed in three regions: Latin America, Africa and P-SIDS. Should this geographic focus be expanded to other regions?



| | |
|-----|---|
| | The IOC Ocean InfoHub project is currently being developed in three regions: Latin America, Africa and P-SIDS. Should this geographic focus be expanded to other regions? |
| Yes | 7 |
| No | 3 |
| | 10 |

2B.10. If yes then please provide more information.

- The second phase of OIH should expand to cover other regions as well as specific thematic niches
- Concerning the question above, the right answer would be "not yet". We would initially consolidate the project in these three regions and, then move on to the others.
- Asean
- Debe ser del conocimiento de todos los países del mundo.
- That will provide more involvement and networking
- could be a test for the 3 regions and to be extended later to the other regions

2B.11. In your capacity as IOC national focal point for CD, what do you consider as the **biggest problem in developing and maintaining national capacity** in marine research/monitoring/management in your country?

- Retaining early career ocean professionals through adequate job offers and positions
- The level and priorities of regional aid
- Inequalities among regions. Some, more developed, others not so.
- Ocean science sampling equipment and instrumentation and Laboratory equipment and facilities
- Many, various, and different stakeholders
- La coordinacion entre instituciones a nivel nacional y la necesidad de mayor apoyo presupuesta.
- At my point of view, less of station and lack of technique are the biggest problems.
- Lack of due process in implementing policies
- lack of the number of Ocean Scientists and Language barriers, development of the interface science policy funding the Ocean Science institutions and Language barriers
- Marine research is not given the pivotal importance at the national level as manifest in insufficient policies (lack of ocean policy) and inadequate higher academic degree programmes in national ocean research - The only current masters programme offered is coastal management The University of West Indies at a masters level which focuses on coastal erosion but there is no masters programme on seabed mapping, etc.
- The biggest problem is the fewer institutions that of training in marine sciences which means also fewer marine science programmes. This is coupled with lack of equipment and good labs

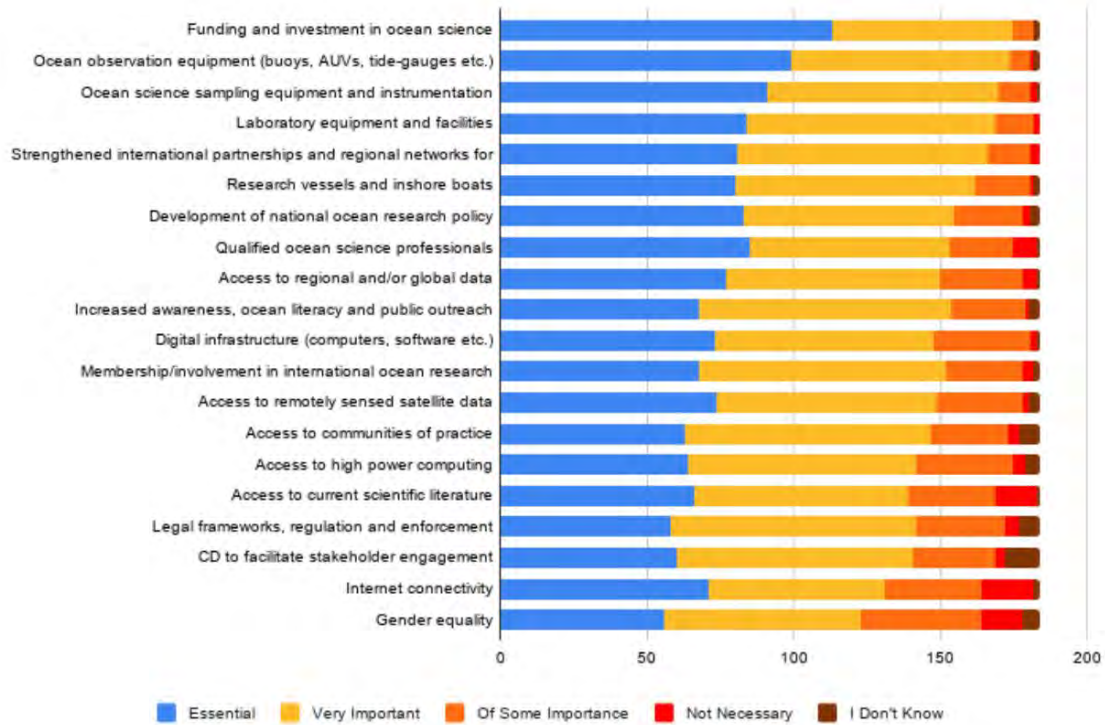
2B.12. What can/should IOC do to assist you?

- Continue contributing to the development of Ocean Literacy with a focus in both policy and decision makers as well as general public
- Assist clear regional strategy and timeline explicitly to assist regional countries and especially P-SIDS meet global reporting and science needs, and provide an evidence-informed platform for sustainable use and the Blue Economy
- I would be happy if IOC can assist with the National Strategic Plan for CD. Guidance for establishing a mentality of Ocean Best Practices would be great. Should it is possible, travel support for participation in training would be very useful.
- Help have access to fundings, call for proposals that allow buying equipment
- Sharing information on activities and opportunities
- Proporcionar apoyo para dar una mayor visibilidad en el paa-s a la COI y sus programas, en particular, en este caso, a la estrategia de CD.
- I request to assist tide gauge stations and buoys.
- Training and retraining, support with resources and equipment.
- in the development of a national Ocean science policy, French language resources , Partnership for resources mobilization
- I really do not know. The Government has given national scholarships for students to pursue degrees in technical areas where we need the help...i believe the problem is at the national level.
- To assist us to get scholarships in marine sciences training at BS, MS and PhD levels, and acquire equipment and good labs

OCEAN RESEARCHERS

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

Q2.1. Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country.

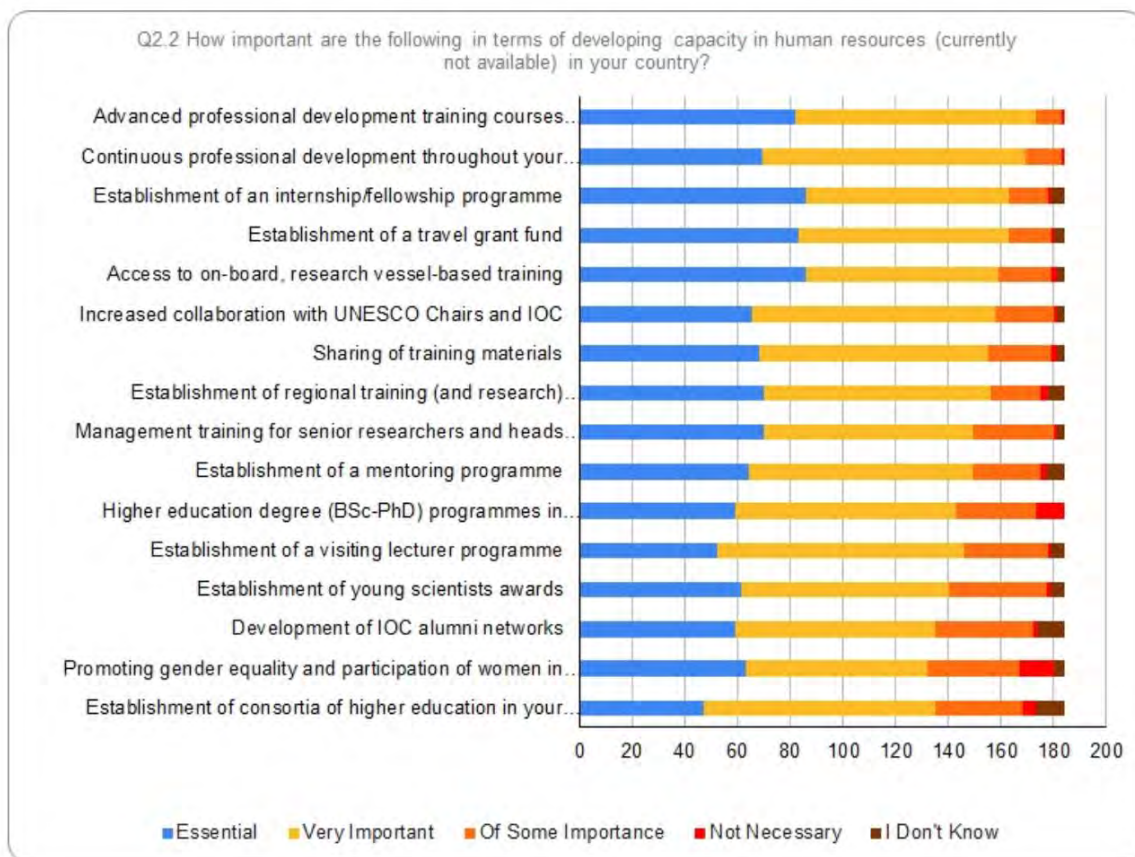


2.1 Summary Graph

| | Funding and investment in ocean science | Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | Ocean science sampling equipment and instrumentation | Laboratory equipment and facilities | Strengthened international partnerships and regional networks for collaboration | Research vessels and inshore boats | Development of national ocean research policy | Qualified ocean science professionals | Access to regional and/or global data | Increased awareness, ocean literacy and public outreach | Digital infrastructure (computers, software etc.) | Membership/involvement in international ocean research | Access to remotely sensed satellite data | Access to communities of practice | Access to high power computing | Access to current scientific literature | Legal frameworks, regulation and enforcement | CD to facilitate stakeholder engagement | Internet connectivity | Gender equality |
|--------------------|---|---|--|-------------------------------------|---|------------------------------------|---|---------------------------------------|---------------------------------------|---|---|--|--|-----------------------------------|--------------------------------|---|--|---|-----------------------|-----------------|
| Essential | 115 | 91 | 91 | 85 | 81 | 85 | 83 | 85 | 77 | 66 | 71 | 66 | 66 | 63 | 63 | 64 | 65 | 60 | 60 | 71 |
| Very Important | 62 | 75 | 79 | 72 | 75 | 72 | 68 | 68 | 73 | 66 | 66 | 75 | 64 | 75 | 64 | 79 | 73 | 64 | 61 | 60 |
| Of Some Importance | 7 | 11 | 13 | 15 | 19 | 23 | 22 | 23 | 26 | 26 | 26 | 26 | 29 | 29 | 29 | 30 | 30 | 30 | 26 | 26 |
| Not Necessary | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Weighted Avg | 1.45 | 1.45 | 1.32 | 1.28 | 1.23 | 1.17 | 1.09 | 1.07 | 1.01 | 0.99 | 1.06 | 1.06 | 1.07 | 1.04 | 1.04 | 1.02 | 1.02 | 1.02 | 1.02 | 1.04 |
| Rank | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

2.1 Summary Table

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

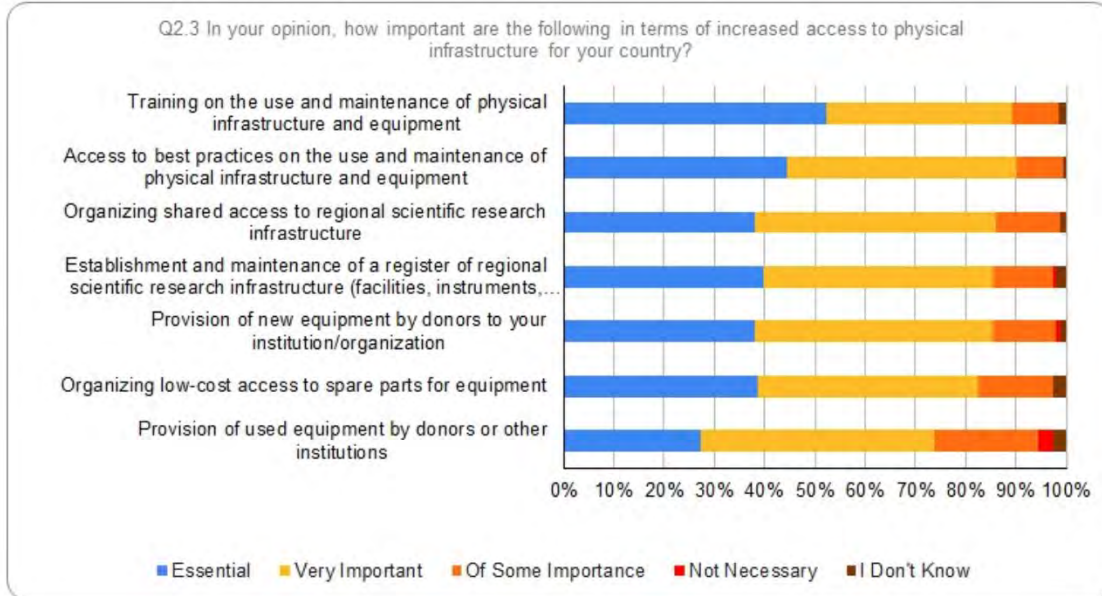


2.2 Summary Graph

| | Advanced professional development training courses (specific short courses, technical training etc.) | Continuous professional development throughout your career | Establishment of an internship/fellowship programme | Establishment of a travel grant fund | Access to on-board, research vessel-based training | Increased collaboration with UNESCO Chairs and IOC | Sharing of training materials | Establishment of regional training (and research) centres relevant to the IOC mandate | Management training for senior researchers and heads of institution | Establishment of a mentoring programme | Higher education degree (BSc-PhD) programmes in ocean science within your country | Establishment of a visiting lecturer programme | Establishment of young scientists awards | Development of IOC alumni networks | Promoting gender equality and participation of women in ocean science research | Establishment of consortia of higher education in your country or region |
|--------------------|--|--|---|--------------------------------------|--|--|-------------------------------|---|---|--|---|--|--|------------------------------------|--|--|
| Essential | 82 | 69 | 86 | 83 | 86 | 65 | 68 | 70 | 70 | 64 | 59 | 52 | 61 | 59 | 63 | 47 |
| Very Important | 91 | 100 | 77 | 80 | 73 | 93 | 87 | 86 | 79 | 85 | 84 | 94 | 79 | 78 | 69 | 88 |
| Of Some Importance | 10 | 14 | 15 | 16 | 20 | 22 | 24 | 19 | 31 | 26 | 30 | 32 | 37 | 37 | 36 | 33 |
| Not Necessary | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 1 | 2 | 11 | 1 | 2 | 2 | 13 | 5 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Weighted Average | 4.32 | 4.21 | 4.18 | 4.17 | 4.15 | 4.03 | 4.01 | 3.99 | 3.96 | 3.88 | 3.82 | 3.81 | 3.79 | 3.67 | 3.66 | 3.58 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

2.2 Summary Table

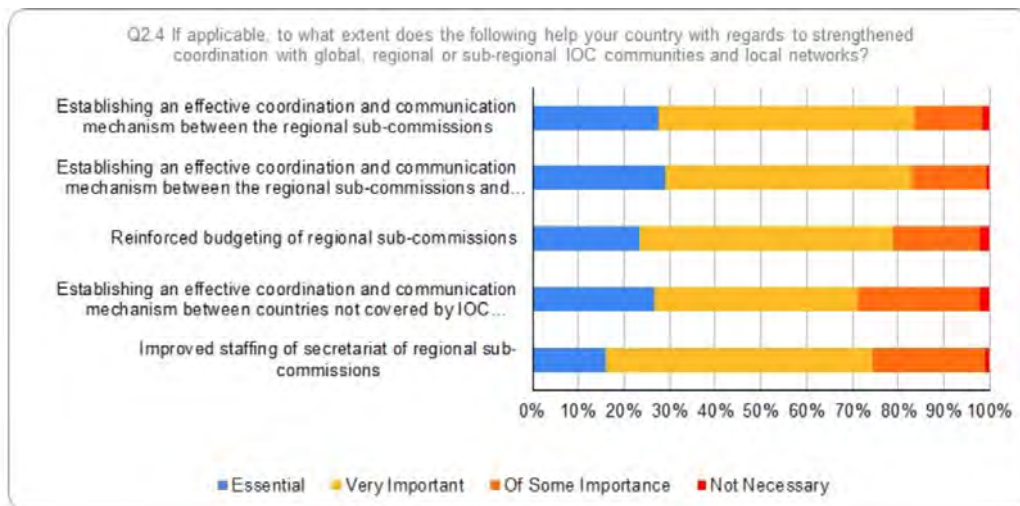
Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?



2.3 Summary Graph

| | Training on the use and maintenance of physical infrastructure and equipment | Access to best practices on the use and maintenance of physical infrastructure and equipment | Organizing shared access to regional scientific research infrastructure | and maintenance of a register of regional scientific research infrastructure (facilities, instruments, vessels) to facilitate access | Provision of new equipment by donors to your institution/organization | Organizing low-cost access to spare parts for equipment | Provision of used equipment by donors or other institutions |
|---------------------|--|--|---|--|---|---|---|
| Essential | 96 | 82 | 70 | 73 | 70 | 71 | 50 |
| Very Important | 68 | 84 | 88 | 84 | 87 | 81 | 86 |
| Of Some Importance | 17 | 17 | 24 | 22 | 23 | 27 | 38 |
| Not Necessary | 0 | 0 | 0 | 1 | 2 | 0 | 5 |
| I Don't Know | 3 | 1 | 2 | 4 | 2 | 5 | 5 |
| | 184 | 184 | 184 | 184 | 184 | 184 | 184 |
| Weighted Ave | 4.27 | 4.24 | 4.08 | 4.05 | 4.05 | 3.98 | 3.67 |
| RANK | 1 | 2 | 3 | 4 | 4 | 6 | 7 |

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

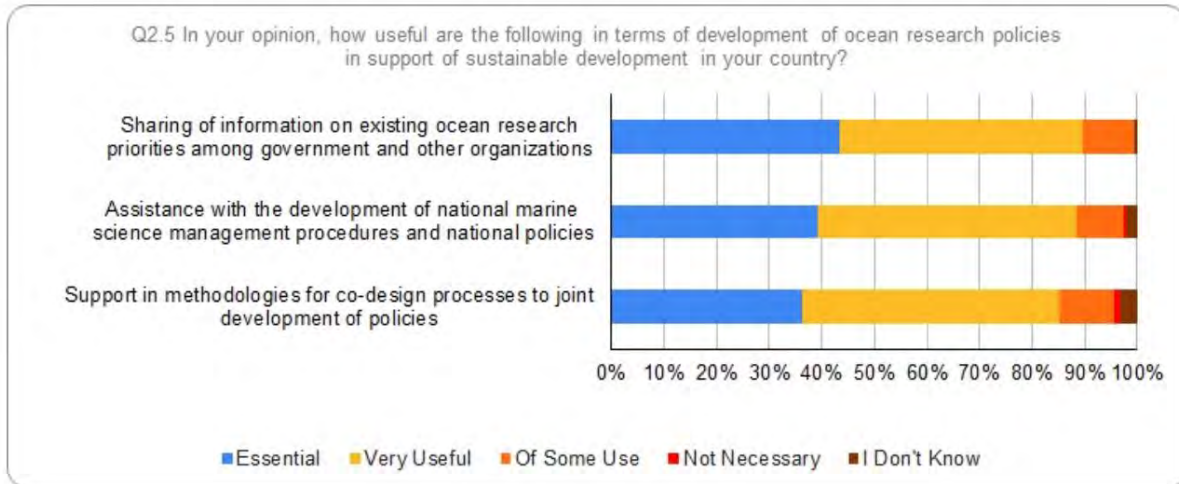


2.4 Summary Graph

| | Establishing an effective coordination and communication mechanism between the regional sub-commissions | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes | Reinforced budgeting of regional sub-commissions | Establishing an effective coordination and communication mechanism between countries not covered by IOC regional subsidiary bodies and the global programmes | Improved staffing of secretariat of regional sub-commissions |
|--------------------|---|---|--|--|--|
| Essential | 49 | 51 | 41 | 47 | 28 |
| Very Important | 99 | 94 | 97 | 78 | 103 |
| Of Some Importance | 26 | 29 | 33 | 47 | 43 |
| Not Necessary | 3 | 1 | 4 | 4 | 2 |
| I Don't Know | 7 | 9 | 9 | 8 | 8 |
| | 184 | 184 | 184 | 184 | 184 |
| Weighted Average | 3.78 | 3.75 | 3.60 | 3.51 | 3.48 |
| RANK | 1 | 2 | 3 | 4 | 5 |

2.4 Summary Table

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

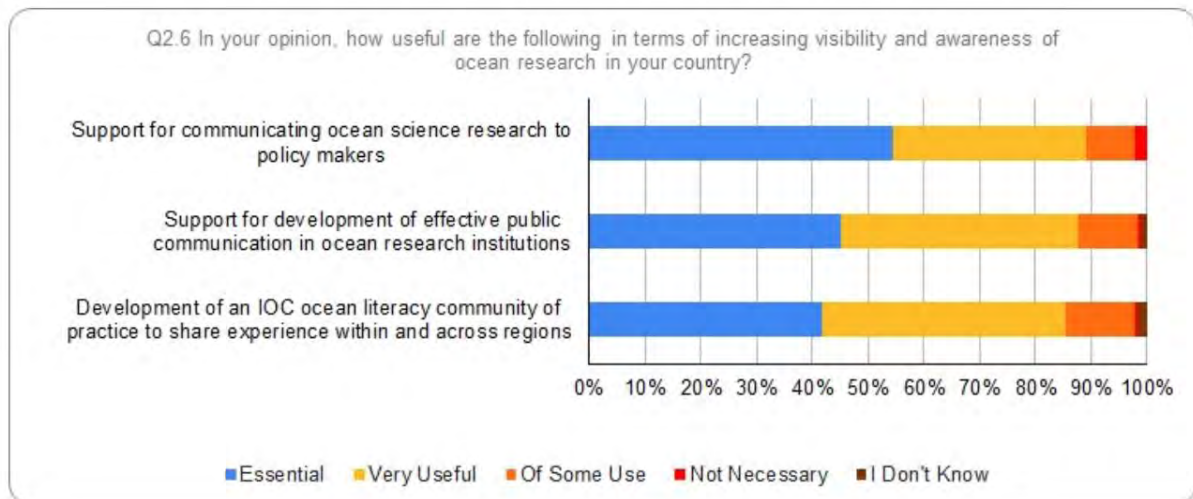


2.5 Summary Graph

| | Sharing of information on existing ocean research priorities among government and other organizations | Assistance with the development of national marine science management procedures and national policies | Support in methodologies for co-design processes to joint development of policies |
|---------------------|---|--|---|
| Essential | 80 | 72 | 67 |
| Very Useful | 85 | 91 | 90 |
| Of Some Use | 18 | 16 | 19 |
| Not Necessary | 0 | 1 | 2 |
| I Don't Know | 1 | 4 | 6 |
| | 184 | 184 | 184 |
| Weighted Ave | 4.22 | 4.11 | 3.99 |
| RANK | 1 | 2 | 3 |

2.5 Summary Table

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

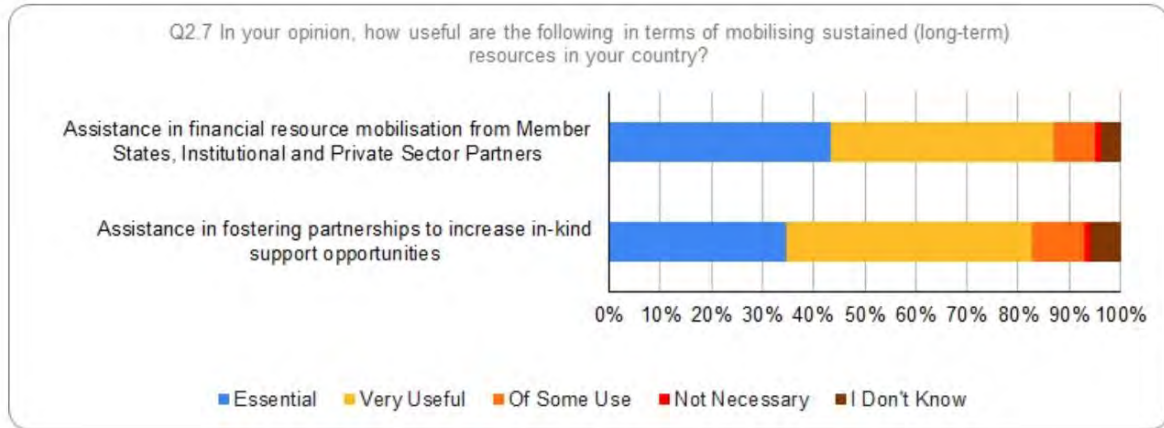


2.6 Summary Graph

| | Support for communicating ocean science research to policy makers | Support for development of effective public communication in ocean research institutions | Development of an IOC ocean literacy community of practice to share experience within and across regions |
|---------------------|---|--|--|
| Essential | 100 | 83 | 77 |
| Very Useful | 64 | 78 | 80 |
| Of Some Use | 16 | 20 | 23 |
| Not Necessary | 1 | 1 | 1 |
| I Don't Know | 3 | 2 | 3 |
| | 184 | 184 | 184 |
| Weighted Ave | 4.29 | 4.17 | 4.09 |
| RANK | 1 | 2 | 3 |

2.6 Summary Table

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

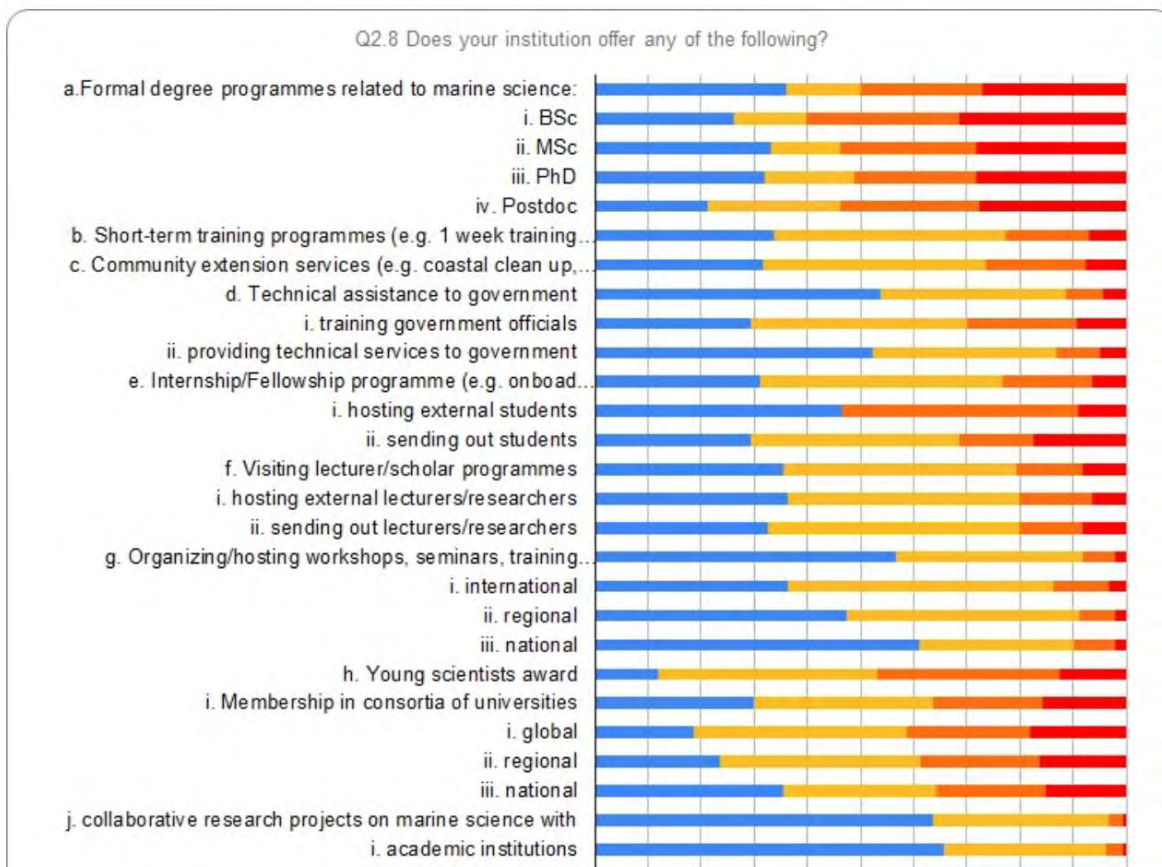


2.7 Summary Graph

| | Assistance in financial resource mobilisation from Member States, Institutional and Private Sector Partners | Assistance in fostering partnerships to increase in-kind support opportunities |
|---------------------|---|--|
| Essential | 80 | 64 |
| Very Useful | 80 | 88 |
| Of Some Use | 15 | 19 |
| Not Necessary | 2 | 2 |
| I Don't Know | 7 | 11 |
| | 184 | 184 |
| Weighted Ave | 4.09 | 3.87 |
| RANK | 1 | 2 |

2.7 Summary Table

Q2.8: Does your institution offer any of the following?



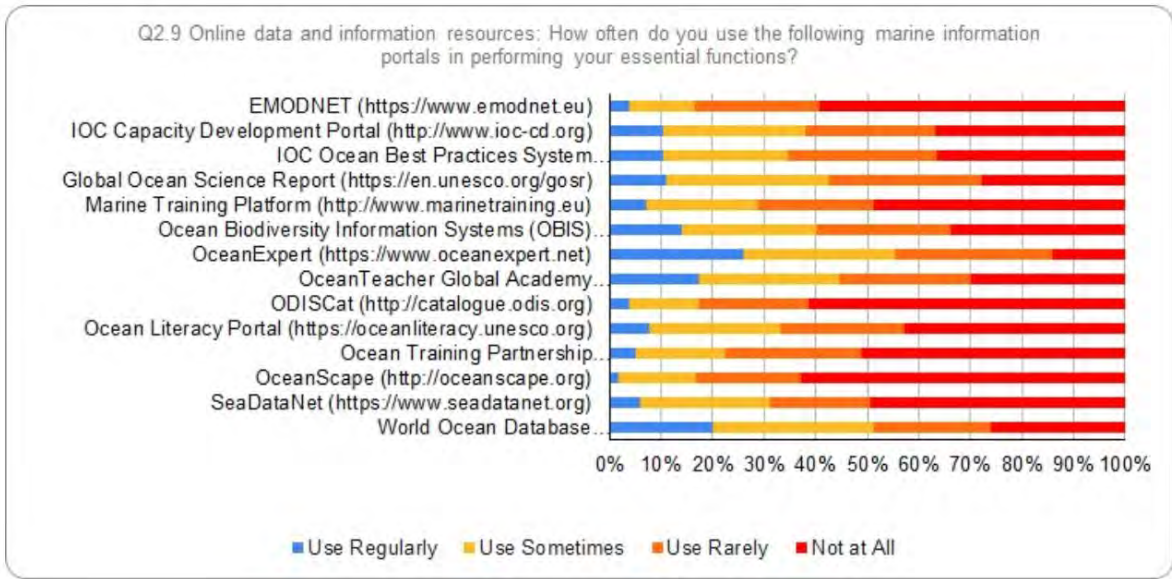
| | a. Formal degree programmes related to marine science: | i. BSc | ii. MSc | iii. PhD | iv. Postdoc | b. Short-term training programmes (e.g. 1 week training course, etc.) | c. Community extension services (e.g. coastal clean up, ocean awareness drive, etc.) | d. Technical assistance to government | i. training government officials | ii. providing technical services to government | e. Internship/Fellowship programme (e.g. onboard training, cruise studies, etc.) | i. hosting external students | ii. sending out students | f. Visiting lecturer/scholar programmes | i. hosting external lecturers/researchers | ii. sending out lecturers/researchers | g. Organizing/hosting workshops, seminars, training | i. international | ii. regional | iii. national | h. Young scientists award | i. Membership in consortia of universities | i. global | ii. regional | iii. national | j. collaborative research projects on marine science with | i. academic institutions | | |
|-------------------------|--|--------|---------|----------|-------------|---|--|---------------------------------------|----------------------------------|--|--|------------------------------|--------------------------|---|---|---------------------------------------|---|------------------|--------------|---------------|---------------------------|--|-----------|--------------|---------------|---|--------------------------|--|--|
| Well-established | 66 | 48 | 61 | 69 | 39 | 62 | 56 | 99 | 54 | 96 | 57 | 71 | 54 | 65 | 67 | 60 | | | | | | | | | | | | | |
| Needs to be established | 26 | 25 | 24 | 31 | 46 | 80 | 77 | 64 | 75 | 64 | 84 | | 72 | 81 | 80 | 87 | | | | | | | | | | | | | |
| Non-existent | 42 | 53 | 47 | 42 | 48 | 29 | 35 | 13 | 38 | 15 | 31 | 68 | 26 | 23 | 25 | 22 | | | | | | | | | | | | | |
| Not Applicable | 50 | 58 | 62 | 52 | 51 | 13 | 14 | 8 | 17 | 9 | 12 | 14 | 32 | 16 | 12 | 15 | | | | | | | | | | | | | |
| | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 153 | 184 | 184 | 184 | 184 | | | | | | | | | | | | | |

2.8 Summary Table

| | g. Organizing/hosting workshops, seminars, training courses related to marine | i. international | ii. regional | iii. national | h. Young scientists award | i. Membership in consortia of universities | i. global | ii. regional | iii. national | j. collaborative research projects on marine science with | i. academic institutions | ii. national government | iii. local governments | iv. private sector | v. international organizations | vi. regional organizations | vii. local NGOs |
|-------------------------|---|------------------|--------------|---------------|---------------------------|--|-----------|--------------|---------------|---|--------------------------|-------------------------|------------------------|--------------------|--------------------------------|----------------------------|-----------------|
| Well-established | 104 | 67 | 87 | 112 | 22 | 55 | 34 | 43 | 65 | 117 | 121 | 110 | 96 | 64 | 96 | 85 | 68 |
| Needs to be established | 65 | 92 | 81 | 54 | 76 | 62 | 74 | 70 | 53 | 61 | 56 | 64 | 65 | 87 | 78 | 81 | 80 |
| Non-existent | 11 | 19 | 12 | 14 | 63 | 38 | 43 | 41 | 38 | 5 | 6 | 7 | 17 | 28 | 8 | 14 | 29 |
| Not Applicable | 4 | 6 | 4 | 4 | 23 | 29 | 33 | 30 | 28 | 1 | 1 | 3 | 6 | 5 | 2 | 4 | 7 |
| | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 |

2.8 Summary Table 2

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?



2.8 Summary Graph

| | EMODNET (https://www.emodnet.eu) | IOC Capacity Development Portal (http://www.ioc-cd.org) | IOC Ocean Best Practices System (https://www.oceanbestpractices.org/) | Global Ocean Science Report (https://en.unesco.org/gosr) | Marine Training Platform (http://www.marinetraining.eu) | Ocean Biodiversity Information Systems (OBIS) (http://www.obis.org) | OceanExpert (https://www.oceanexpert.net) | OceanTeacher Global Academy (https://classroom.oceanteacher.org) | ODISCat (http://catalogue.odis.org) | Ocean Literacy Portal (https://oceanliteracy.unesco.org) | Ocean Training Partnership (http://www.oceantrainingpartnership.org) | OceanScape (http://oceanscape.org) | SeaDataNet (https://www.seadatanet.org) | World Ocean Database (http://wodb.ioda.org/SELECT/dbsearch.html) |
|---------------|----------------------------------|---|---|--|---|---|---|--|-------------------------------------|--|--|------------------------------------|---|--|
| Use Regularly | 7 | 19 | 19 | 20 | 13 | 26 | 48 | 32 | 7 | 14 | 9 | 3 | 11 | 37 |
| Use Sometimes | 23 | 51 | 45 | 58 | 40 | 48 | 54 | 50 | 25 | 47 | 32 | 28 | 46 | 57 |
| Use Rarely | 45 | 46 | 53 | 55 | 41 | 48 | 56 | 47 | 39 | 44 | 49 | 37 | 36 | 42 |
| Not at All | 109 | 68 | 67 | 51 | 90 | 62 | 26 | 55 | 113 | 79 | 94 | 116 | 91 | 48 |
| | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 |

2.9 Summary Table

Others:

- ocean Color web /AVISO /NODC
- <http://oceanportal.spc.int> -use regularly <http://pacificdata.org> -use regularly
- I am familiar with the Copenhagen Harmful Algae Database Query, Harmful Algae News periodical magazine (HAN), I work with the Intergovernmental Harmful Algae Panel (IPHAB) and the Caribbean Harmful Algae Regional Working Group (ANCA).
- Tsunami alerts
- OceanDocs!!
- HAEDAT
- ERAI, MODIS, TMI, AVISO...
- WORMS, NCBI
- " In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?"
- NOAA and NASA, JAXA, JMA, and JODC data portal individual data system for reanalysis datasets
- GBIF (complement to OBIS); ERRDAP;
- Ocean observatories initiative data
- HAEDAT "Harmful Algal Information System", Copernicus, NOAA, NASA, Google Earth Engine (GEE), Caribbean Marine Atlas (CMA). SIAM (National Marine Information System of Colombia)
- OceanDocs - use regularly
- OceanDocs, Aquatic Commons
- GOA-ON, the Global Ocean Acidification Observing Network
- fishtrack, windy, researchgate, mendeley, Copernicus, BASE, FIGIS.

Q2.10 What other specific **support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.)** provide to contribute to addressing your country's CD requirements?

- Intensify scientific research and information analysis
- CD through participation in onboard ocean observation and information/data retrieval in Ocean global and regional programs like HAB, marine debris, ocean acidification etc.
- Data management and data information processes and systems
- tsunami programs will be very important
- SGD Information for marine science
- training and lab equipment for emerging pollutants, mainly organics
- Regular updates on trainings, partnerships, opportunities
- We need capacity building in the area of using Earth Observation in accessing our ocean....
- training in high-frequency ocean data
- supporting Pacific countries who have or are developing their national ocean policies (Fiji, PNG, Samoa, Solomon Islands, Vanuatu, Tonga) to include guidance on marine scientific research
- In my organization, the level of capacity building is very low. We need more collaboration both national and international. Expertise of remote sensing and GIS is required in my institution in order to study wide area of the ocean and also for oceans n spatial planning. More collaboration is required.
- Standardized computer programs for the processing, analysis and validation of Oceanographic data
- IODE capacity building
- We need to be involved in GOOS and IIOE 2 to expand our marine science activities and participation in international research.
- Tsunami
- Trained manpower and Postdoc opportunity for the Researcher to explore and perform quality research for regional waters.
- Training, funding, and equipment programs for oceanographic research laboratories
- now R/V vessel for our institut (IMROP)
- Ocean parameters sensor and biosensor generation and inter laboratory calibration.
- Capacitations and actualizations
- HAB, TSUNAMI, GOOS, Ocean Teacher
- Use equipments scientific vessel and laboratory
- strong national leadership
- Translating materials on Ocean Science into local languages and extension of Ocean literacy to incorporate primary and secondary education.
- Public outreach of IOC activities
- To provide funding, equipment's and mobility which can enable us our movements and enhance our capacity building processes.
- Capacity building and budgetary allocation in order to have essential data and information

- OTGA
- Strengthening cooperation
- I do not know
- Expertise on instrumentation
- MSP global project.
- More tide gauges and bathymetry data.
- Capacity building in terms of modification related to Climate change
- In-situ measurements of marine conditions (bathymetry, waves, tide and wind)
- all mentioned above
- Development of tsunami forecasting system
- technical support
- GOOS, IODE, MPR, tsunami
- I believe that the lack of opportunities for early-career researchers is an important issue. There are numerous professionals who were capacitated for Marine Research (and/or education) and ended up working in non-marine-related fields. All these people could do an amazing job on science outreach, and on community engagement in environmental conservation. In addition, the lack of opportunities seems to prevent younger people to decide for a career in Marine Science.
- Social support for coastal dwellers to take part in ocean-related citizen science
- Support 'local' capacity building to share national knowledge and resources
- Creating and fostering regional partnerships and associations of scientific institutions for monitoring and early warning purposes
- I am not familiar with the programmes
- GOOS, IODE and Tsunami Early Warning System
- Experts trainings
- not sure
- Facilitating access to infrastructure (facilities, instruments, vessels)
- GOOS, IODE
- I will suggestion information later.
- Funding and capacity development opportunities. Training of trainers.
- Strengthen tide gauge network (Sea Level Monitoring) Wave rider bouys closer to Sri Lanka in Indian ocean DART bouys near shore in Sri Lanka
- Improve presence and communication of IOC in Mexico with academic institutions related with marine sciences.
- Community practice
- Capacity building trainings and workshops, research collaboration, fundings, equipment and literature.
- sequence alignment, phylogenetic tree construction
- Organize online training and workshop. Joint research programmes
- Financial support to strengthen higher education opportunities for young researchers

- Provide regular reports on ocean data
- Implementation of UN Ocean Decade
- Racial equality
- AIPEA / AIPIA / ACAEPB SONT PARTENAIRES AVEC TOUTES LES ORGANISATIONS INTERNATIONALES DE PREMIER RANG TELLES QUE : IOCCG, CCNUCC, ONUG, OMC, ONU, UN DESA, (COI DE UNESCO), MEASO, SCOR, GOA-ON, ESA, NASA, NOAA, GOSS, SOSS, GNOS, GNAS, COPERNICUS, UNION EUROPEENNE, UA, BAD, COMMUNAUTE MONDIALE TRANSPORT / LOGISTIQUE, MEMBRE OCEAN EXPERT DE LA COI, PLATE FORME INITIATIVE ALLIANCE INTERNATIONALE CLIMAT/ OCEAN, SCAR ET TOUS LES GROUPES DE LA PRESSE INTERNATIONALE, ETC
- Some assistance in setting up and training with databases & data management. IT changing and difficult to keep up with the IT infrastructure developments and access software tools and data platforms due to bandwidth problems etc. Thus a lot of in situ data collected that cannot be properly archived
- Hands-on training from deployment of moorings to uploading verified data.
- I think generally providing the coordination and communication. The coordination is the part that is hardest at the regional/global levels.
- Support institutions to integrate data collection and sharing
- Establish a RTC
- Focussed training and workshops
- Our needs are well defined in this Survey.
- tsunami
- GOOS and IODE could provide some laboratory instruments to the CERESCOR.
- It doesn't come to my mind something particular.
- blue carbon database
- Exchange of researchers through travel grants, & through distance learning+collaborations
- Training courses
- IODE
- Materials uploaded are latest
- basic software and trainings
- Data acquisition
- Slots on the committees.
- Increase awareness of already existing IOC programmes and increase involvement of people
- No specific support.
- Support for effective science/service communication to the public and stakeholders
- Historical data, marine topography and projections on sea level changes historically
- just we need the above support will be enough at time
- Instrument for Ocean observation and monitoring, Marine experts capacity building, Best practice of VOS program, Disaster managements (Tsunami, Tropical cyclones, Storm surges, etc.), etc.

- Organizing regional meeting and conferences to establish more collaboration between countries in ROPME sea area
- CD for technicians and middle to senior scientists to update ocean observation knowledge
 1. Technical capacity building in
 - a. how do ocean observing equipments can be repaired
 - b. the principles of how the ocean observation tools work
 - c. how data are curated
 - d. FAIR principles for data
 - e. Best practices assessment for ocean observation data
 - f. database networking
 - g. AI and machine learning for ocean observation data
 2. Sound in the ocean with the same idea and set of items as 1.
 3. Light in the ocean with the same set of items as 1.
 4. e-DNA and metabarcoding for biodiversity assessments and monitoring from the ocean surface down to the superficial sediment CD
 - a. Collection of samples at sea
 - b. processing of samples onboard and in the lab
 - c. Software use, interpretation of results
 - d. integration of DNA bar sequences data and metadata to databases
 5. Imaging and plankton recorders
- GOOS
- Exchange Programs and access to more research vessels would greatly help. Support with books, periodicals, journals and magazines donations will help enhance our library.
- It would be good to extend the subject so it can cover more than only oceanography physics. The programmes designed need to be more interdisciplinary
- Establish a center that can collaborate and develop capacity in various ocean research aspects.
- Awareness of IOC activities, exchange/buddy programs, instrumentation
- Equipment, training
- IODE Project Office including its strategies (OTGA, OBIS, CMA, CHM) IOC Harmful Algae Programme, IOC ocean science portfolio of activities
- more email notifications about new available information
- GOOS
- Increase regional visibility and interactions
- Inter-regional cooperation needs to be established.
- Local training events
- Networking
- Foster direct participation of our scientists in IOC programmes.
- Local efforts to enhance awareness of the IOC programs within Brazilian universities and marine research institutions.
- Collaboration and training of staff
- tsunami
- courses and documents in Spanish, to further disseminate all that UNESCO does
- Grant In establishing A marine center
- Right now in Mauritius, the main focus is to develop capacity in long-term monitoring programmes following an oil spill. The oil spill event following the grounding of the Wakashio has changed the focus of our institute from oceanic monitoring to coastal monitoring.
- technical support

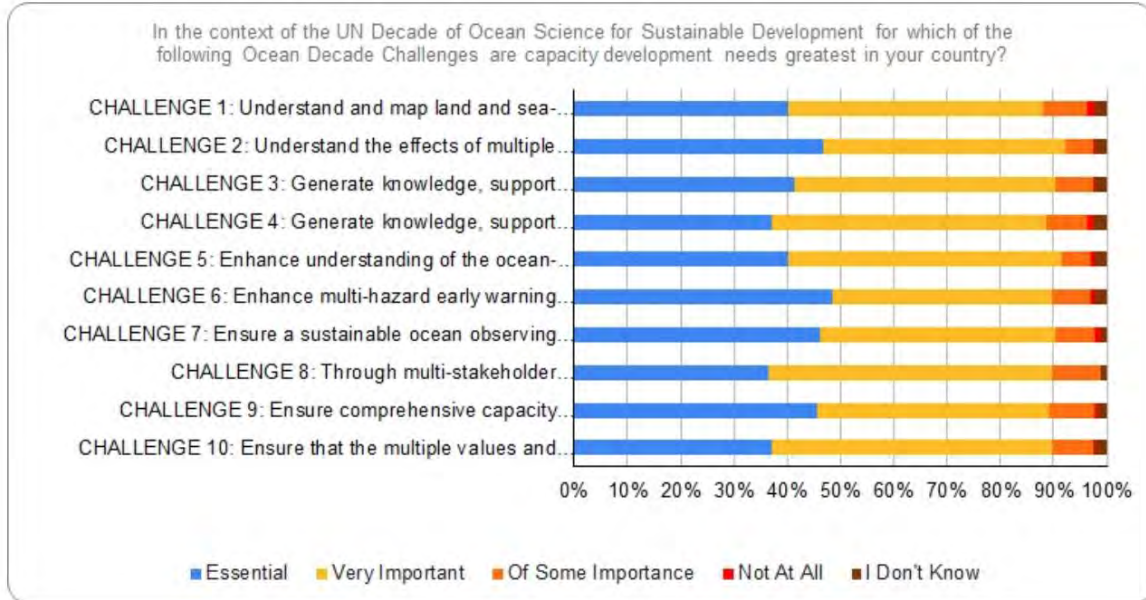
Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy (<http://www.ioc-cd.org/strategy>), are there any **other CD efforts and supports not previously mentioned which you would like to see included?**

- all were already mentioned
- SGD information for marine science
- We need more international collaboration between my institution and other well established institution, in the area of student MOU for master and PhD.
- increased support to OTGA RTCs & STCs to strengthen collaboration and opportunities to develop accredited training and competency-based courses
- More awareness is required. About IOC mandate and the number of workshops and seminars should be increased.
- Equipamiento para monitoreo en sitios portuarios.
- No
- All are mentioned for me
- Sometimes, translate into French or some languages for each country participated.
- Ship opportunity will add up in global research plan including local Ocean researchers and sharing of data for the researcher need to be smooth and fast.
- Human resources developed and Sustained (long-term) resource mobilization reinforced
- Ocean parameters sensor and biosensor generation and inter laboratory calibration.
- Training of human resources at the high school level in technological education, and training of teachers in didactic techniques for sustainable development
- Connecting other UN or multilateral marine actions towards coordinated actions (ie UN Environment, FAO, UNDP, or regional OAS, CPPS, etc.)
- Knowledge on new and modern ocean observation
- Partnership to develop our own local technology to Made oceanographic equipment.
- I think everything is there
- It is important to be able to participate in any initiative that is interested in obtaining ocean bathymetry, since we do not have much access to such information
- Enough
- No, but I believe that there is a need for capacity building targeting skills required for marine based industry, such as advanced geophysics.
- Those included should suffice if implemented
- just said in point 10, collaborate in the 'local' trainings
- I am not familiar with the programmes
- training platforms aimed at secondary education - online MOOCs, information and material for teachers to use in schools to develop young minds around the ocean
- Spatial concern for Island State countries to CD for the threat by Climate change Impact.
- Institutional collaboration
- Notre plan d'actions communes (AIPEA et AIPIA) comprendra huit domaines Scientifiques prioritaires: SCIENCES DE L'UNIVERS / TERRE, SCIENCES DE L'ESPACE, SCIENCES DE L'ENVIRONNEMENT ET SCIENCE DE VIE, ECONOMIE BLEUE ET VERTE, COLOGIE, SOCIALE ET HUMAINE. 1 - Relayer les informations

scientifiques (Oceaniques, maritimes, marines et spatiales / Geo-spatial, maritimes, etc...), faire rayonner le syst`me mondial dâ observation de la terre et des oceans (Syst`me Argos, et bien dâautres) aux Etats membres de l'ONU, et a toutes les organisations/ organismes exerçant dans les domaines citas - dessus, ainsi qu'e la sociata civile, jeunesse, atudiants, JOURNALISME, etc... 2 - Etre un pont europeaeen et mondial de secours de communication / marketing et d'informations scientifiques, technologiques, sociales et humaines / economiques et environnementaux entre la sociata civile, organisations / organismes internationaux et les stats membres de l'U; 3 - Construire la comprehension entre partenaires privas“ publics” priva“ privas, en renforçant leurs capacitas; 4 - Cautionner et Renforcer leconomie bleue, verte; 5 - Soutenir la coordination marine/spatiale et gao- spatiale maritime (gouvernance de l'ocan, journalisme , politique, etc...); 6 - Supporter l'interdiction des paches a eaux profondes a plus de 900 mtres partout dans le monde (sauf accord de l'Union Europeenne et l'ONU, avec machines appropries), ainsi que les recherches sur l'acidification de l'ocan, ; 7 Soutenir et Participer a l'urgence de nos socits, ainsi qu'a la durabilit mondiale, 8 - inciter et soutenir toutes actions pour l'obtention de la reconnaissance de la couverture sociale et sant universelle auprs de l'ONU.

- Exchange programmes for technical staff
- Capacity development around gaps in ecosystem ocean observing: off the coasts of many regions including Latin America and the Caribbean, Eastern Europe and the Caspian Sea, Asia, parts of Oceania, and Africa and in most major ocean basins, including the Arctic, Atlantic, Pacific, and Indian Oceans.
- On line classes and tutorials will be much helpful
- The course such as blue economy and MSP can be welcome to my Scientific research center CERESCOR.
- Support in preparedness for ocean investments projects for better operation and ocean protect ocean environment impacts.
- In Human resources developed consider that documents, guidelines, catalogues, courses are delivered/produced in local languages At sea experience includes cruises with experts speaking the local language, i.e. Spanish onboard of Mexican vessels, etc.
- Grassroots communities intervention from the Ocean communities is an addition that would greatly enhance our work.
- Support for providing assistance to authorities, notably in policy brief and policy paper writing
- strategy is very inclusive
- Enhance effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (incl. other organisations)
- International training and communication should be improved.
- Cognitive Dissonance to Communicate
- Advanced and specialised summer courses for recent BSc or graduate students.
- courses and documents in Spanish
- The oil spill event in Mauritius was unexpected. It shows that although capacity building in specific fields such as monitoring of hydrocarbons and poly aromatic hydrocarbons is important to developing countries.
- technical training

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

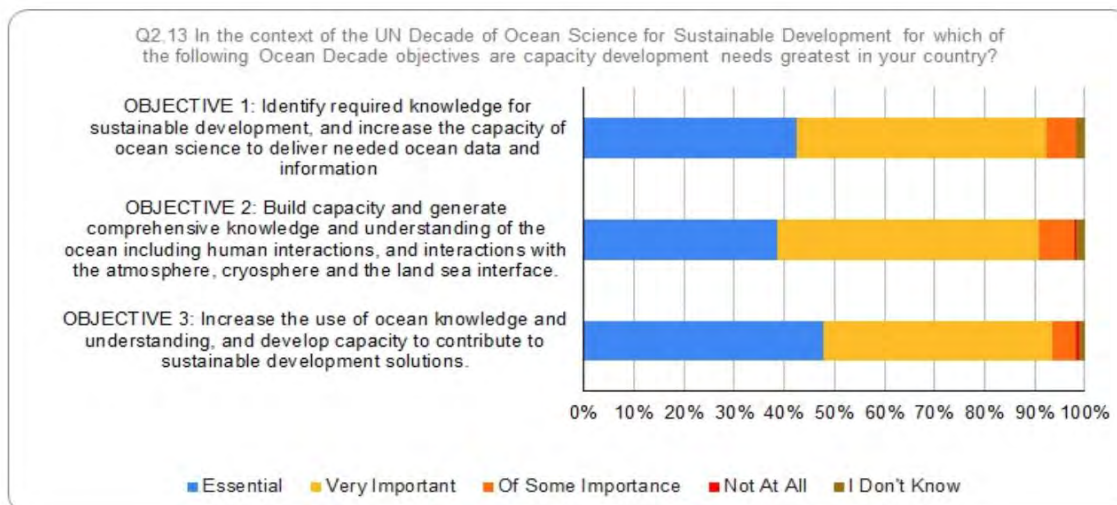


2.12 Summary Graph

| | CHALLENGE 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world population | CHALLENGE 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under | CHALLENGE 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to | CHALLENGE 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and | CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information | CHALLENGE 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, | CHALLENGE 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all | CHALLENGE 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, |
|--------------------|---|--|--|---|---|--|--|---|---|--|
| Essential | 74 | 86 | 76 | 68 | 74 | 89 | 85 | 67 | 84 | 68 |
| Very Important | 88 | 84 | 90 | 95 | 94 | 76 | 81 | 98 | 80 | 97 |
| Of Some Importance | 15 | 9 | 13 | 14 | 10 | 13 | 14 | 17 | 16 | 14 |
| Not At All | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 0 | 1 | 1 |
| I Don't Know | 4 | 4 | 4 | 5 | 4 | 4 | 2 | 2 | 3 | 4 |
| | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 |
| Weighted Average | 4.10 | 4.27 | 4.17 | 4.08 | 4.17 | 4.22 | 4.23 | 4.14 | 4.20 | 4.11 |
| RANK | 9 | 1 | 6 | 10 | 5 | 3 | 2 | 7 | 4 | 8 |

2.12 Summary Table

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?



2.13 Summary Graph

| | OBJECTIVE 1: Identify required knowledge for sustainable development, and increase the capacity of ocean | OBJECTIVE 2: Build capacity and generate comprehensive knowledge and understanding of the ocean | OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable |
|---------------------|---|--|--|
| Essential | 78 | 71 | 88 |
| Very Important | 92 | 96 | 84 |
| Some Important | 11 | 13 | 9 |
| Not At All | 0 | 1 | 1 |
| I Don't Know | 3 | 3 | 2 |
| Weighted Ave | 4.24 | 4.16 | 4.32 |
| RANK | 2 | 3 | 1 |

Other needs:

- Translate all ocean sciences to services for the benefit of mankind
- Promote Ocean Literacy
- Need of ocean physico chemical long data
- to include cumulative effects understanding and analysis into objective 2
- The environmental assessments of human activities related to fragile ecosystems like mangroves in the Ecuadorian context

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?



| | Is Sustainable Development Goal 14 considered as a national priority in your country? |
|--------------|---|
| Yes | 98 |
| No | 36 |
| I don't know | 50 |
| | 184 |

Q2.15: If yes, how is this reflected in your national plans and policies?

- Strengthening ICM and ocean research is a priority but the budget allocated is not enough
- Actualizando el Plan Estratégico Nacional y la Política Nacional Marítima.
- only partially
- Federal Ministry of Planning Commission & Reforms SDG National Focal Person
- recently a policy was approved to develop in the medium term known as "Colombia sustainable bioceanic power"
- With the establishment of initiatives such as the bioceanic CONPES Colombia Potencia Bioceanica Sostenible
- Protection and sustainable exploitation of marine resources are one of the priority of our national development policy
- Ocean/Blue economy policy
- Brazilian policy makers currently do not care about science, education, environment, health or the oceans
- There are institutions responsible for managing and it is part of the policy of the Colombian Ocean Commission (CCO).
- Creating guidelines that can assist in the development of cutting-edge research, with greater acceptance by the community and greater visibility for our population.
- Coastal management, blue economy
- Fisheries policies and regulations and environment (especially climate change-related) policies all basically align with SDG14
- Local and national projects
- Fiji is finalising its National Ocean Policy this year which will be brought into force under the Climate Change Act at the end of the year, is committing to complete maritime boundaries (implement UNCLOS) by 2025 and establish 30% MPAs by 2030
- Under SDG 14, My institution is established to take up the responsibility and take the issue of harnessing blue economy as a priority.
- All development projects to be developed in the oceans are approved based on the opinions that are issued by institutions that are aware of sea matters
- En la legislacion de conservacion y proteccion del ambiente.
- But only formations have offer to the students and some capacity building activities for the NGOs
- The concept of the blue economy and the MSP initiative two of the biggest programs are centered on SDG14. The Seychelles Blue Economy Roadmap and Framework is mostly based on SDG14.
- Ocean research institutions' creation
- Government policies are revolving around the implementation of SDG 14 in the Fisheries sector and try to improve the resource utilization.
- Establishment of marine protected areas, fish farming
- MANY LAWS ON OCEAN PROTECTION SHOWS INTENTION TO PROTECT BUT POOR ENFORCEMENT SHOWS LACK OF ACTION TOWARDS INTENTIONS
- The inidep is a research institute that advises on the sustainable management of fishery resources, therefore all our research is based on that objective.
- Nigeria has been focusing on addressing environmental issues through the Ministry of Environment as well as the issues of marine and coastal ecosystem through the establishment of the Nigerian Institute for Oceanography and Marine Research.
- There is no plan for this goal
- weakly
- development of National Marine Spatial Planning
- The United Nations 2030 Agenda for Sustainable Development has been integrated into China's 14th Five Year Plan for Social and Economic Development. Various efforts on achieving Goal 14 has been initiated through government policies and sectoral plans.

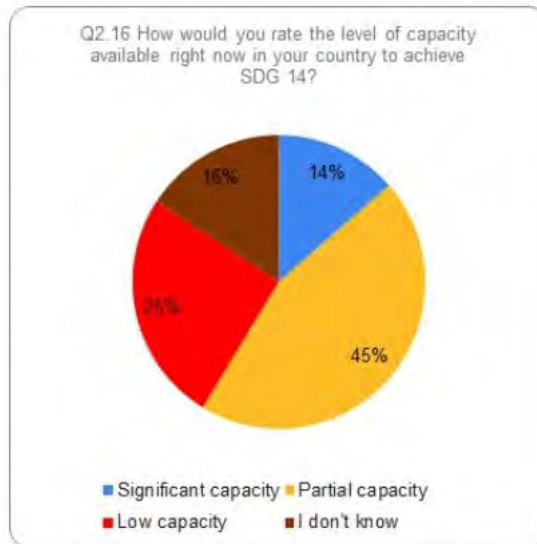
- Its a quite very difficult question in this moment in Brazil. The federal government do not support SDG as a national agenda, but some (some!) people in government does.
- More emphasis is now given to activities and research which are centered on sustainable use of the ocean and marine resources management. National and international programs which focus on these aspects are given greater priority, and they are adequately keyed into.
- Increase the marine protect areas
- Our country is developing a new Environmental Ministry
- Yes, it is one of our main priorities in our national development plan in our country, because it targets long term process of sustainable development
- in the vision 2030
- We establish national planning and road map that may be used to cope the SDG 14
- inter ministerial program, <http://www.pampazul.gob.ar/proyecto-pampa-azul/>
- Implementing related strategies
- regulations on fishing and sustainable activities
- The institution coordinates the activities related navigation and researchers in oceanography and Hydrography and it include the use of ocean in sustainable development.
- We are preparing a national decade ocean plan to support our efforts in order to accomplish the decade results.
- Based on blue economic strategy
- It is included in several program of Bangladesh government such as 7th Five Year Plan, Delta Plan. SDG is tracking continuously and publish in a national website <https://www.sdq.gov.bd/#1> Besides, the activity of my institute is totally related to the implementation of the targets of SDG14 goal.
- the sustainable development of marine resources is well established in Oman 2040 vision to encourage that fisheries and other marine resources will have better contributions to the GDP of the country without losing the sustainability of the resources
- There is no economic trade-off with environmental pollution
- maybe is in some plans and governments policies, not educational, but not in practice
- Somewhat
- National Policy to support SDG 14 such President Policy to support Development and Strengthening of Tsunami Early Warning System in Indonesia
- Marine Masterplan for SAWS Climate Change documents within government entities (DSI and DEFF)
- we have any research about sustainable development, especially in my institute was have research which is focus in sustainable fisheries
- Indonesia has taken a lead role in the fight against IUU fishing and committed to effectively conserve 20,000,000 hectares of marine and coastal resources by 2020.
- The Government of Vietnam has issued Resolution No. 36-NQ / TW, defining key tasks, implementation roadmap and assigning specific tasks to relevant ministries, branches and localities. Assigning specific tools for the lead agency, the agency to coordinate the implementation of the tasks, ensuring the suitability of the capacity and ability to mobilize resources of the economy, including the state budget, private investment , foreign investment and development aid.
- I will suggestion information later.
- "Life Under Water" There are Government funded project and specific government organisations under our ministry (Fisheries and Aquatic Resource Development).
- Not reflected in reality
- National Coastal Management Plan, Marine Protected Area Expansion plan.
- Usually, SDG 14 include to new policies, but rarely followed
- SGD 14 is the most neglected goal in Brazil
- AWARENESS / MOBILIZATION OF YOUTH FROM THE FRENCH ISLANDS: 2017 - 2030 CONFERENCES - COLLOQUIA - INTERNATIONAL FORUMS - ROUND TABLES -

SEMINARS, etc ... JOINT PROJECT: AIPIA and AIPEA GOAL: Our common action plan will have eight priority areas: 1 - Relay scientific information (Oceanic, maritime, marine and space, satellites, maritime, social, human, economic, etc ...) to UN Member States, and to all organizations / bodies working in the fields mentioned - above, as well as to civil society, youth, students, women, etc ... 2 - To be a European and world bridge of communication / marketing and scientific, technological, economic and ecological information, etc ... DESCRIPTION: JOINT PROJECT: AIPIA and AIPEA We, (AIPEA and AIPIA) intend to educate young people from the coasts or from the thirteen French islands, accompanied by organizations of conferences, seminars, symposia and participatory forums and field pragmatism in the scientific, research and technological fields, ecological, economic, social, sustainable and environmental development: (energies, environments, economies, Climate / Ocean, Protection of biodiversity in the high seas, Fight against forms of pollution in water, Development of marine protected areas, Improvement of the quality of fresh water, drinking water, wastewater, Low carbon transport and maritime activities, Fisheries, Climatic resilience of coasts and coastal populations, skills, JOURNALISM, etc.). Because the education of young people plays a very, very important role in raising awareness, and in providing individuals knowledge that will enable them to make informed decisions, and to translate those decisions into actions on the one hand, AIPEA and AIPIA, need an education of relevant skills for the markets of today, and of tomorrow, and an education that promotes critical thinking, understanding between cultures, which strengthens democratic values and the resilience of societies and the planet on the other hand. We are working so that the great power of France and the French-speaking world can shine all over the world in an indisputable and undisputed manner, please. Beneficiaries: Social characteristics, respecting the values of equality and fraternity of the Republic (openness to all, diversity, equality between women and men, non-discrimination), number, age, sex, residence, possible financial participation, etc. France, being the second largest marine territory in the world, it is imperative and very urgent to prepare young (French) to take up the challenge that revolves around the alliance: Climate / Ocean, Energy, Mobility / Transport / General logistics, Education / Skills and Environment on the one hand, but also, for peace, sustainable development, and human dignity which all represent the capital role of EDUCATION FOR WORLD CITIZENSHIP (GCED) on the other hand, without forgetting the sciences that we do the following fundamental research: Space sciences, Universe, Earth, Environment, Life, Blue and green economy, Ecology, Energies, Ocean, Climate, etc ... We want to raise awareness, educate with skills and mobilize the thirteen (13) French islands of their problems, to fight against Climate Change (waste treatment, renewable energies, management of water resources, protection of biodiversity, and low carbon transition, green and blue economy), it is more important to accentuate our efforts to educate young people in French islands such as the environment, for better short, medium and long term, fight against global warming (implementation of COP 21), energy, ecological, space, satellite, maritime, oceanic, economic, social and environmental in the broadest sense possible please.

- Sustainable use of marine resources is key element of our Marine Resources act. Are developing SDG indicator Have identified EBSAs and also developing MSPs for our country Blue economy policies and plans being developed
- They are still under development from what I know.
- Life below water is covered in a range of strategic research plans by several government departments and research funding agencies.
- national basic policy for ocean
- It is reflected in all research proposals and implementation plan
- This is reflected in the economic development plans for coastal and island areas and populations, in the laws on fishing and tourism development.
- Advise the regional and central government in decision-making processes
- CERESCOR created the School of Doctoral Studies according this SDG14.
- Researchers are participating un regional projects addressing that.

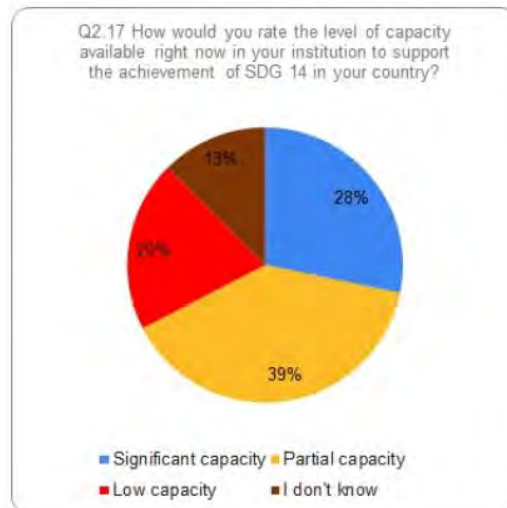
- organization of workshops and seminars for this purpose
- To my knowledge there are no plans or policies.
- Through the NPOAs
- Many programs and projects are established by the ministry of fisheries and fisheries products to responding an objectives of SDG14.
- In my country, our national plans and policies are to develop
- implemented in fisheries policy and regulations
- National plans on sustainable use of natural resources, reducing marine pollution.
- In recent years, the government has shown interest in research and training of technicians in coastal areas and nostrils. One of the problems that has been noticed is the financing due to the lack of funds.
- Plan not yet well articulated.
- Established indicators are evaluated: only 2 have been accomplished out of 10
- SDG 14 is part of the National Development Plans and Policy. Eg. SDG4.2030-Access to high quality and free education for primary and secondary schools.
- Some of the national development projects have to in-line with this
- The Government has establish environmental protection policy
- Very light attention
- Not applicable (not a priority)
- Government have strategic plan for the agencies to contribute toward the SDG's which also include SDG 14
- The PND
- Well reflected
- In the national project Tarea Vida
- Yes by the National Department and in the National Action Plan for the current government one of the region related there is oceans.
- not so much in these days due the pandemic scenario
- This is reflected in Marine Doctrine of Ukraine until 2035
- There are dedicated ministries and government institutes which address SDG14
- we have a national action plan
- The government has established and full department in the ministry dealing with Blue economy.
- There are several initiatives for ex: Target 14.1 is addressed by setting up a national policy strategy to reduce plastic pollution at sea by limiting the use of single-use plastic. An example is the ban on the use of plastic bags. Target 14.3 is addressed by setting up an Oceanic Carbonate Chemistry Observatory.
- in political speeches only, are mentioned in some law how the new fishery law but is lyric.
- Just talk
- Incorporated in the regulations.

Q2.16: How would you rate the **level of capacity available right now in your country** to achieve **SDG 14?**



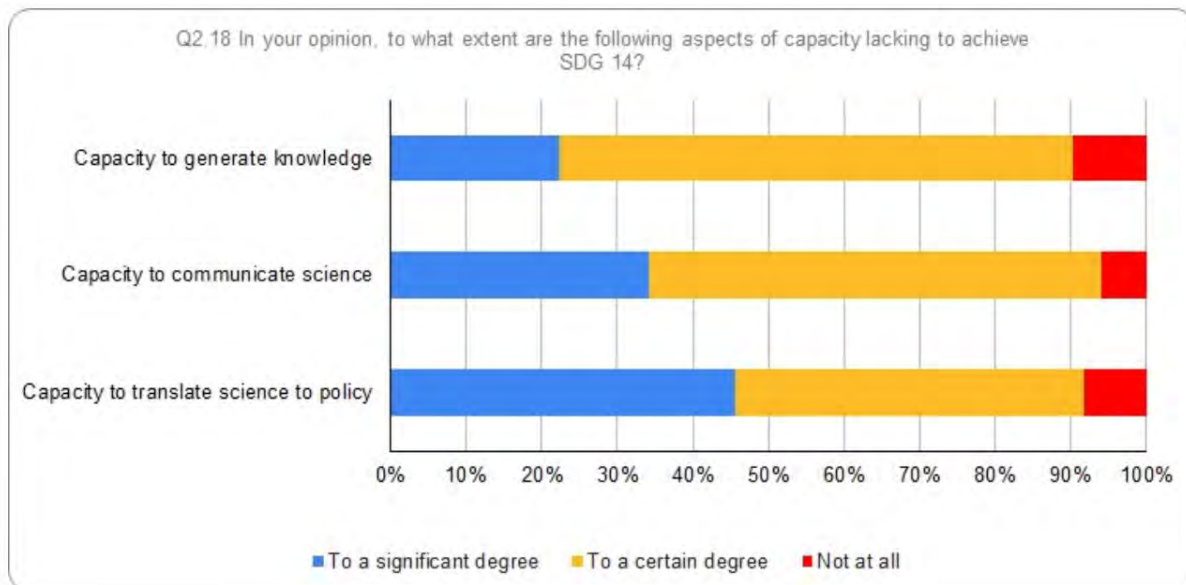
| | How would you rate the level of capacity available right now in your country to achieve SDG 14? |
|------------------|---|
| Significant cap | 25 |
| Partial capacity | 83 |
| Low capacity | 47 |
| I don't know | 29 |
| | 184 |

Q2.17: How would you rate the **level of capacity available right now in your institution to support the achievement of SDG 14 in your country?**



| | How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country? |
|------------------|--|
| Significant cap | 52 |
| Partial capacity | 72 |
| Low capacity | 37 |
| I don't know | 23 |
| | 184 |

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

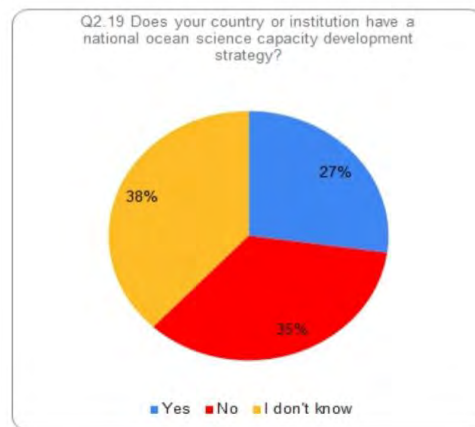


2.18 Summary Graph

| | Capacity to generate knowledge | Capacity to communicate science | Capacity to translate science to policy | Capacity to communicate science |
|---------------------|--------------------------------|---------------------------------|---|---------------------------------|
| To a significant | 41 | 63 | 84 | 0 |
| To a certain de | 125 | 110 | 85 | 0 |
| Not at all | 18 | 11 | 15 | 0 |
| | 184 | 184 | 184 | 0 |
| Weighted Ave | 3.25 | 3.57 | 3.75 | |
| RANK | 3 | 2 | 1 | |

2.18 Summary Table

Q2.19: Does your country or institution have a national ocean science capacity development strategy?



| | Does your country or institution have a national ocean science capacity development strategy? |
|--------------|---|
| Yes | 50 |
| No | 64 |
| I don't know | 70 |
| | 184 |

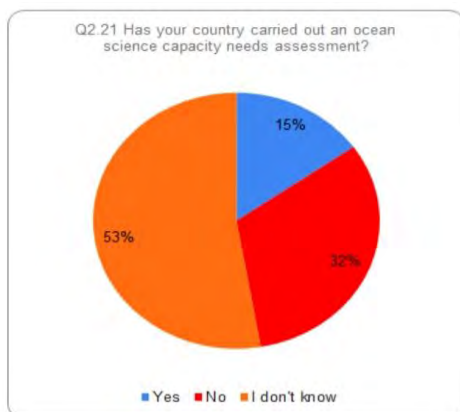
Q2.20: If yes, please specify (provide URL if available online)

- <https://www.minam.gob.pe/oceanos>
- <https://peru.un.org/es/sdqs/14>
- <https://www.dhn.mil.pe/mspglobal/>
- IFOP es en Chile, el encargado del seguimiento de los recursos pesqueros y la toma de datos oceanograficos más relevante para la conservación de largo plazo y seguimiento del CC en el oceano
- my institution trains professionals trained in oceanographic science;conducting research with universities and other public institutions
- Thanks to its research centers on oceanographic issues, especially those linked to the General Maritime Directorate of Colombia.
- Brazil has indeed grants for marine science but they do not fit the huge coast needs.
- Yes, in Brazil there are several ocean research centers with professionals trained to develop strategies and policies focused on protection and laws of the oceans.
- we have a specific research unit
- I believe there is an element of ocean literacy and capacity building in Fiji's national ocean policy but this could be strengthened. PCCOS has a project plan, OTGA has recently been established at our office and we are at the early stages of developing a regional capacity development strategy, taking into account the existing national ocean policies and aspirations of our 14 Pacific member countries.
- In my country we have and institution called Nigeria Institute for oceanography and marine research who's mandate is to look into both the physical, biological, chemical and other aspects of the ocean
- Mozambique's Science, Technology and Innovation Strategy ... (there are several threats to sustainable development of marine resources, such as pollution, unsustainable coastal development and the depredation ecosystems and resources. Becomes, like this, it is necessary to adopt management measures based on Principles viable scientific and technological in relationship to the sea and the coast, in order to guarantee conservation and sustainable use existing resources for the benefit of generations)
- UNESP has an Institut for Marine Research, The IEAMar/UNESP
- Pampa Azul Project
- Through training, but the means are lacking to support oceanographic campaigns
- Protect environment and natural resources of ocean
- strategy 2019-2024
- Pampa Azul Project
- We have trained but scarce investigators. Lack of motivation for young people to study related careers. It is also necessary to improve the equipment.
- Through the creation of policy on Exploitation and exploration of marine resources;Navigation safety; Preservation of the marine environment; and Prevention of ocean-related hazards largely oversee by NIOMR,NIMASA and Federal Ministry of Environment
- Promote capacity building i.e. rehabilitating infrastructure, appropriate Training of adequate staff well “equipped laboratories and advanced field facilities through wide-scope cooperation and partnerships with regional and international reputable research centres and organizations. -Development of a database system based on advanced long-term environmental monitoring program, for provision of sufficient information needed for location, assessment, biodiversity and detailed satellite mapping of marine resources and highly economically & environmentally valued habitats along the Sudanese coast. - Assistance in setting-up appropriate criteria and well-designed measures for formulation of an effective integrated coastal zone management plan for optimum exploitation of marine resources and eventual attainment of sustainable Development in the Sudanese Red.
- At the national level we have a great scientific capacity in various research centers and universities in the country. However, current national policy on this issue is chaotic and there is no clearly defined plan.
- Ministry of Environment and Navy

- China's National Ocean Development Plan by Science and Technology (2016-2020), issued in 2016.
- My institution has an strategic development plan aligned with SDG 14 (and others), the Decade Implementation Plan for the period 2020-2030
- There is an Interinstitutional development
- The National Commission for Science, Technology and Innovation (NACOSTI
- <http://www.pampazul.gob.ar/proyecto-pampa-azul/>
- Based on forming of regulation, conducting research & training to stake holders, dissemination knowledge etc
- Strategy for sustainable development of Vietnam's marine economy to 2030, with a vision to 2045, with the overall goal of "turning Vietnam into a strong sea nation; basic achievement of criteria for sustainable development of marine economy; forming marine ecological culture; proactively adapting to climate change, sea level rise; prevent the trend of marine pollution and environmental degradation, coastal erosion and sea erosion; restore and preserve important marine ecosystems. New, advanced and modern scientific achievements have become a direct factor in promoting the sustainable development of marine economy
- My institute is research institute. its conduct oceanographic research to study of oceanic dynamics (physical, Chemical, biological). The government of Sri Lanka provide funds , training opportunities , Scholarships for Msc, Phd as they can,
- Too long describe here, but there is national capacity development plan for ocean science. Also different institute have their own capacity development plan.
- Within the Brazilian Ministry of Science, Technology, and Innovation and the Interministerial Commission for Marine Sciences (CIRM), Brazil has the structure to provide capacity development. However, there is no strategic planning for that
- WAS OUR VOLUNTARY COMMITMENT TO THE UNITED STATES OCEAN CONFERENCE HELD FROM JUNE 5-9, 2017 IN NEW YORK. REGISTRATION NUMBER: 16366 International Association for Partnership and Emergence in Africa (AIPEA) and International Association for the Poor, Indignant and Assistance (AIPIA) will jointly coordinate the implementation of their vision in collaboration with several stakeholders. Our joint action plan (AIPEA and AIPIA) will include eight priority scientific areas: UNIVERSE / EARTH SCIENCES, SPACE SCIENCES, ENVIRONMENTAL AND LIFE SCIENCES, BLUE AND GREEN ECONOMY, ECOLOGY, SOCIAL AND HUMAN. 1 - Relay scientific information (Oceanic, maritime, marine and spatial / Geospatial, maritime, etc.), promote the global earth and ocean observation system (Argos system, and many others) to UN Member States, and to all organizations / bodies operating in the above-mentioned fields, as well as to civil society, youth, students, JOURNALISM, etc ... 2 - To be a European and world bridge of communication / marketing and scientific, technological, social and human / economic and environmental information between civil society, international organizations / bodies and UN Member States; 3 - Build understanding between private - public - private - private partners, by strengthening their capacities; 4 - Support and strengthen the blue and green economy; 5 - Support marine / spatial and maritime geospatial coordination (ocean governance, journalism, politics, etc.); 6 - Support the ban on deep-water fishing over 900 meters anywhere in the world (except with the agreement of the European Union and the UN, with appropriate machinery), as well as research on ocean acidification , etc!; 7 - Support and participate in the emergence of our societies, as well as in global sustainability, 8 - encourage and support all actions to obtain recognition of universal social and health coverage from the UN. AIPEA / AIPIA / ACAEPB ARE PARTNERS WITH ALL FIRST-ROW INTERNATIONAL ORGANIZATIONS SUCH AS: IOCCG, UNFCCC, UNOG, WTO, UN, UN DESA, (UNESCO COI), MEASO, SCOR, GOA-ON, ESA, NASA, NOAA, GOSS, SOSS, GNOS, GNAS, COPERNICUS, EUROPEAN UNION, AU, ADB, GLOBAL TRANSPORT / LOGISTICS COMMUNITY, OCEAN EXPERT MEMBER OF THE IOC, INTERNATIONAL CLIMATE / OCEAN ALLIANCE INITIATIVE PLATFORM, SCAR AND ALL INTERNATIONAL PRESS GROUPS, ETC!

- Most institutions have a capacity development programme aimed at transforming the research landscape, but these plans often only involve training and development and do not result in additional careers. Funding to create additional jobs is lacking.
- Not exactly, but partially this strategy is in place most of the Ocean research proposal.
- Yes but outdated, not implemented
- the Republic of Guinea has creating the National Economic and Social Development Plan namely PNDES according to the SDG 14.
- To my knowledge, there is no relevant strategy
- State of the environment reporting
- assessment of capacity of development
- Transform the university into an investigative university
- At UNAM we have transdisciplinary capacities to develop national ocean sciences, we partner with other major national research and educational institutions (CICESE, CINVESTAV, CIBNOR) to strengthen the ocean science capacity development strategy
- We have a five year strategy that identifies communities as critical pillars in dissemination. It also seeks to reach out to policy makers and youth by bridging the demographic bulge as an asset for the Ocean Decade and a thriving sustainable Blue Economy divestiture
- the blue belt strategy
- There are research interests and institutions that are working on ocean themes
- We do ocean Science training
- At the institutional level, we have partial Capacity Development Strategy in place
- In development
- Well specialised graduate programmes
- There is a program within the secretariat of inter ministry sea resources commission called PPGMAR, focused on developing human resources for marine sciences.
- applying the national policies
- just talk
- Through the marine science institute and other gov agencies. IAEA designated HAB COLLABORATING CENTER

Q2.21: Has your country carried out an ocean science capacity needs assessment?



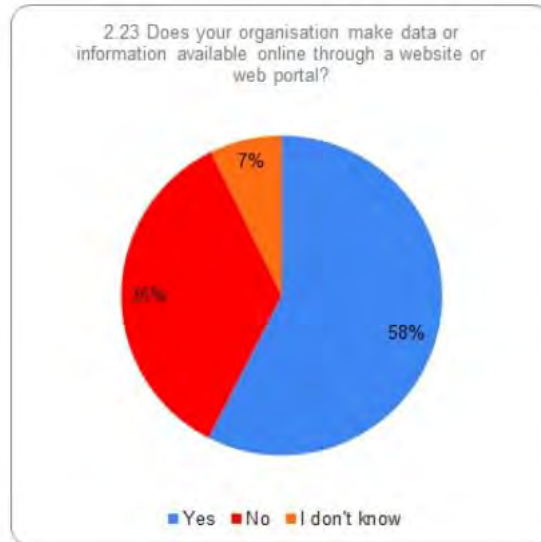
| | Has your country carried out an ocean science capacity needs assessment? |
|--------------|--|
| Yes | 28 |
| No | 59 |
| I don't know | 97 |
| | 184 |

Q2.22: If yes, please specify (provide URL if available online).

- The "group of wise men" recently created by the government has among other tasks to make a diagnosis of training needs
- In our country, most institutions are public. And there is currently little investment in research in most areas, including those facing the ocean. That is why we went through a process of depreciation of science.
- with national project
- SPC has carried out needs assessments with the Met Offices and Marine stakeholders in Solomon Islands, Niue, Marshall Islands, Vanuatu, Fiji, Samoa, Cook Islands, Tuvalu, and Tonga. Some of these were done in the last year or 2, others are 5 years old and need to be revised.
- MCTi
- Until a few years ago, the national council of science and technology had a clearly defined strategy for the scientific development of the country. However, for two years this has been lost. Currently it works in well-established research institutions, but these are isolated efforts, given the lack of a national plan.
- COASTAL MANAGEMENT IN THE WESTERN INDIAN OCEAN REGION A Capacity NEEDS ASSESSMENT OCTOBER 2001
- "1. Perillo G, Esteves J., Isla F., Lovrich G, Piccolo MC, Saraceno M. y Costilla P., Oceanografía, Capítulo 8 en Estado y perspectiva de las ciencias exactas, físicas y naturales en la Argentina, 2015, Academia Nacional de Ciencias, Argentina, ISBN: 978-987-98313-9-7."
- For more than 10 years, the work of the national commission of coastal zones has developed an important compilation of scientific information on the coastal zones of Venezuela, which it was hoped could be turned into laws to develop these areas. the status of this commission is currently unknown
- 2018 National survey for a National Oceanographic Plan
- IOCAFRICA is preparing one , to cover IOCAFRICA member countries
- It does not, however, the Executive Committee for training and support to human resources for marine sciences (PPGMar - CIRM) used to assess data related to undergraduate courses of marine sciences. It is time to update such data
- This was many years ago! I think during the 1990s!
- Several organisations have, e.g. DEFF, NRF, SAIMI, etc.
- It is developing now. <http://decada.ciencianomar.mctic.gov.br/>
- Before to building a Port or Harbour located in coastal zone, CERESCOR identify the social and economic impacts according to the Environmental Impact Assessment.
- With considering at universities.
- If yes, I am not aware of this.
- state of the environment reporting
- assessment of capacity of development
- Indonesian Institute of Science had conducted a foresight study on this.
- Need: Qualification or training of technicians Equip laboratories Acquisition of equipment Human resources training Financing demand

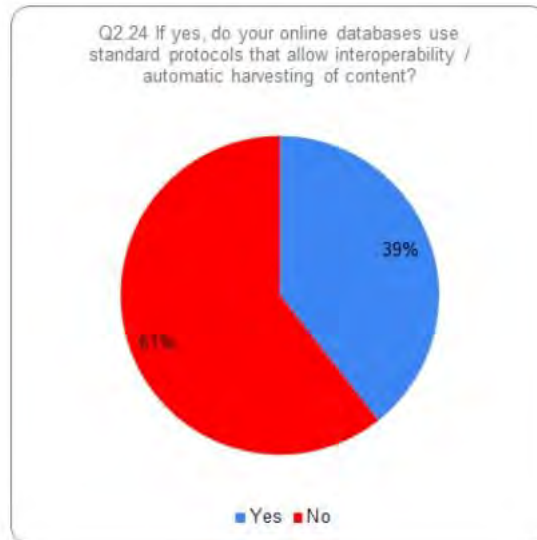
- It is urgently needed.
- National Plan for the Ocean Sciences Decade for a Sustainable Development, being organized by IOC - UNESCO, Brazil's Ministry of Science, Technology and Information and other partners.
- last year there is a document
- First of all capacity needs assessment for aspects of Marine Protected Areas management and Integrated Coastal Management
- we need a national capacity self assessment
- In a way, there was an exercise called REIMAR where an attempt was made to create a marine research agenda among authorities, universities, NGOs, etc. in 2012. But I never knew it due to political changes.

Q2.23 Does your organisation make data or information available online through a website or web portal?



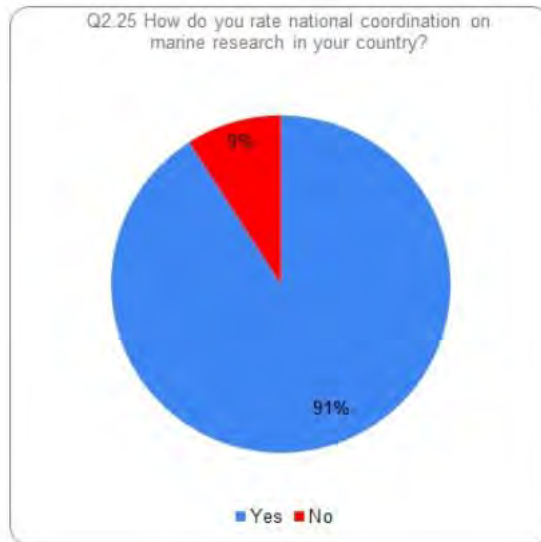
| | Does your organisation make data or information available online through a website or web portal? |
|--------------|---|
| Yes | 103 |
| No | 63 |
| I don't know | 13 |
| | 179 |

Q2.24 If yes, do your **online databases use standard protocols that allow interoperability / automatic harvesting** of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|-----|--|
| Yes | 50 |
| No | 77 |
| | 127 |

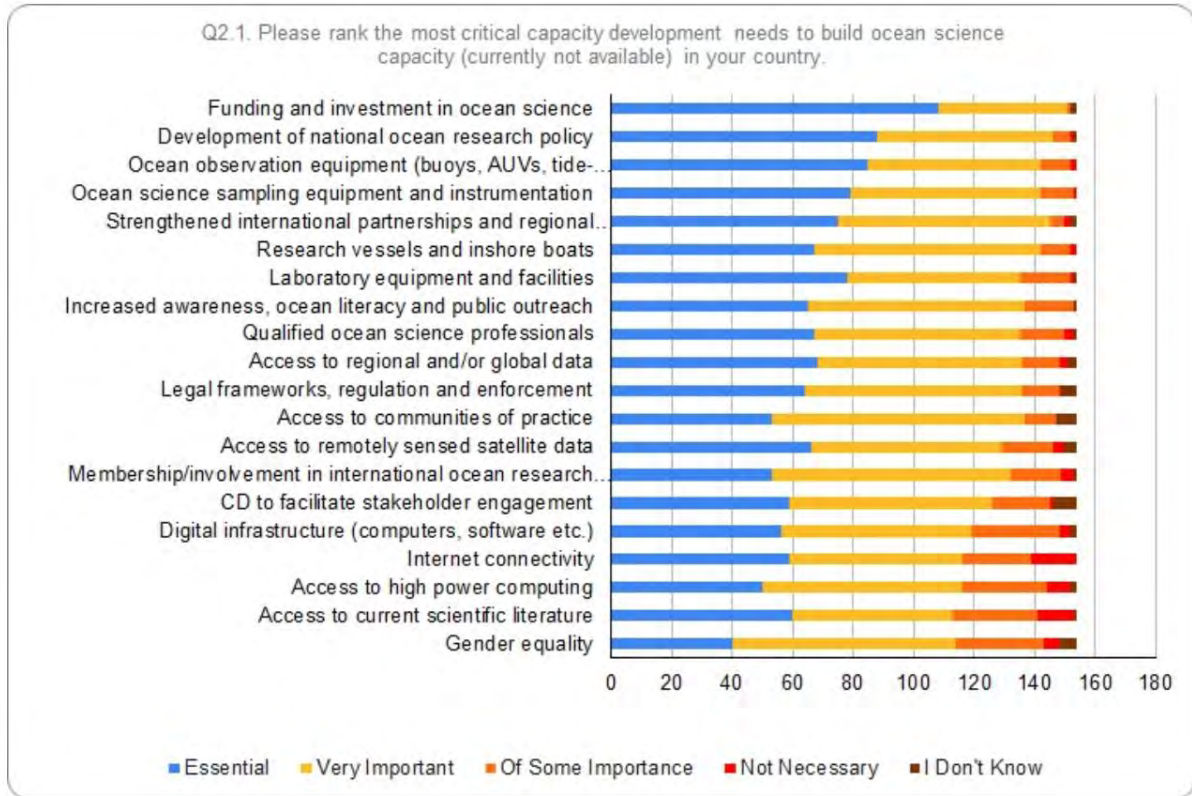
Q2.25 If no, is this **capacity that your organisation would like to develop?**



| | If no, is this capacity that your organisation would like to develop? |
|-----|---|
| Yes | 120 |
| No | 12 |
| | 132 |

ACADEMIC STAFF

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

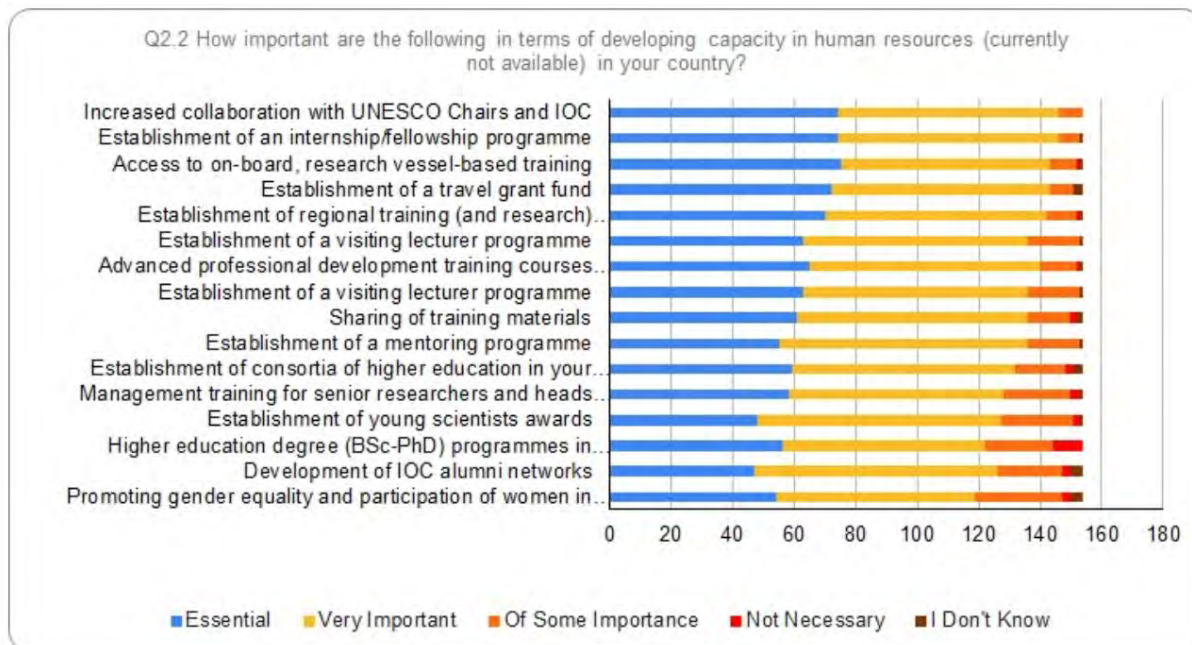


2.1 Summary Graph

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Essential | 108 | 88 | 85 | 79 | 75 | 67 | 78 | 65 | 67 | 68 | 64 | 53 | 66 | 53 | 59 | 56 | 59 | 60 | 50 | 40 |
| Very Important | 43 | 58 | 57 | 63 | 70 | 75 | 57 | 72 | 68 | 66 | 72 | 84 | 83 | 79 | 67 | 63 | 57 | 53 | 66 | 74 |
| Of Some Importance | 1 | 6 | 10 | 11 | 5 | 10 | 17 | 16 | 15 | 12 | 12 | 10 | 17 | 17 | 15 | 22 | 23 | 28 | 28 | 28 |
| Not Necessary | 0 | 1 | 2 | 1 | 2 | 2 | 1 | 0 | 3 | 3 | 1 | 0 | 4 | 4 | 1 | 4 | 15 | 12 | 8 | 5 |
| I Don't Know | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 3 | 2 | 7 | 4 | 1 | 8 | 2 | 0 | 4 | 2 | 5 |
| Weighted Ave | 4.64 | 4.45 | 4.38 | 4.35 | 4.33 | 4.27 | 4.24 | 4.19 | 4.16 | 4.15 | 4.11 | 4.03 | 4.03 | 4.02 | 3.91 | 3.86 | 3.79 | 3.77 | 3.75 | 3.63 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

2.1 Summary Table

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

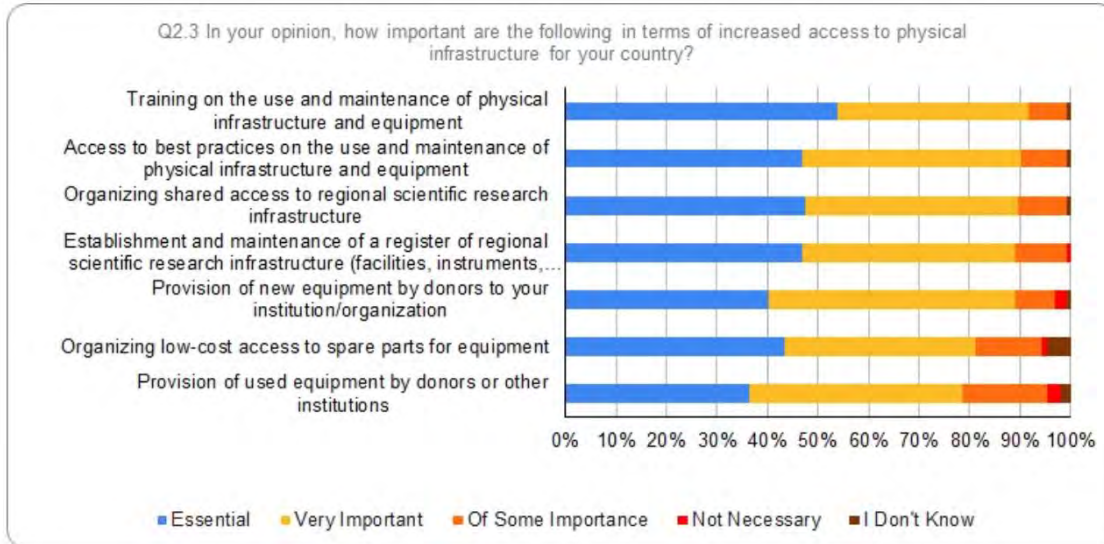


2.2 Summary Graph

| | Increased collaboration with UNESCO Chairs and IOC | Establishment of an internship/fellowship programme | Access to on-board, research vessel-based training | Establishment of a travel grant fund | Establishment of regional training (and research) centres relevant to the IOC mandate | Establishment of a visiting lecturer programme | Advanced professional development training courses (specific short courses, courses) | Establishment of a visiting lecturer programme | Sharing of training materials | Establishment of a mentoring programme | Establishment of consortia of higher education in your country or region | Management training for senior researchers and heads of institution | Establishment of young scientists awards | Higher education degree (BSc-PhD) programmes in ocean science within your | Development of IOC alumni networks | Promoting gender equality and participation of women in ocean science research |
|--------------------|--|---|--|--------------------------------------|---|--|--|--|-------------------------------|--|--|---|--|---|------------------------------------|--|
| Essential | 74 | 74 | 75 | 72 | 70 | 63 | 66 | 63 | 61 | 55 | 59 | 58 | 48 | 56 | 47 | 54 |
| Very Important | 72 | 72 | 68 | 71 | 72 | 73 | 75 | 73 | 75 | 81 | 73 | 70 | 79 | 66 | 79 | 65 |
| Of Some Importance | 8 | 7 | 9 | 8 | 10 | 17 | 12 | 17 | 14 | 17 | 16 | 22 | 24 | 22 | 21 | 28 |
| Not Necessary | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 3 | 3 | 2 | 10 | 3 | 3 |
| I Don't Know | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 1 | 1 | 0 | 4 | 4 |
| Weighted Ave | 4.38 | 4.36 | 4.32 | 4.29 | 4.28 | 4.16 | 4.22 | 4.16 | 4.12 | 4.11 | 4.04 | 4.01 | 3.94 | 3.88 | 3.87 | 3.82 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

2.2 Summary Table

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

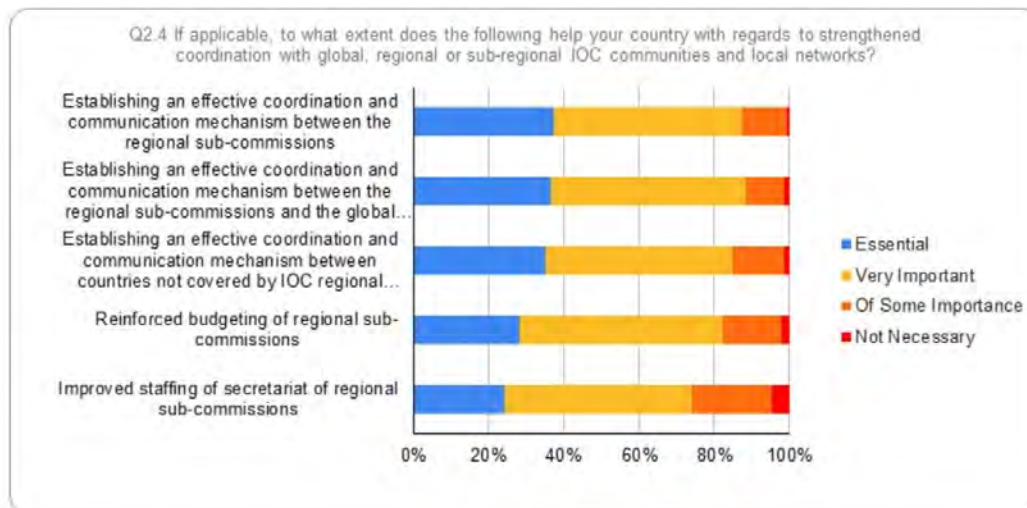


2.3 Summary Graph

| | Training on the use and maintenance of physical infrastructure and equipment | Access to best practices on the use and maintenance of physical infrastructure and equipment | Organizing shared access to regional scientific research infrastructure | and maintenance of a register of regional scientific research infrastructure (facilities, instruments, vessels) to facilitate access | Provision of new equipment by donors to your institution/organization | Organizing low-cost access to spare parts for equipment | Provision of used equipment by donors or other institutions |
|-------------------------|--|--|---|--|---|---|---|
| Essential | 83 | 72 | 73 | 72 | 62 | 67 | 56 |
| Very Important | 58 | 67 | 65 | 65 | 75 | 58 | 65 |
| Of Some Importance | 12 | 14 | 15 | 16 | 12 | 20 | 26 |
| Not Necessary | 0 | 0 | 0 | 1 | 4 | 2 | 4 |
| I Don't Know | 1 | 1 | 1 | 0 | 1 | 7 | 3 |
| | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| Weighted Average | 4.36 | 4.26 | 4.25 | 4.24 | 4.14 | 3.95 | 3.67 |
| RANK | 1 | 2 | 3 | 4 | 4 | 6 | 7 |

2.3 Summary Table

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

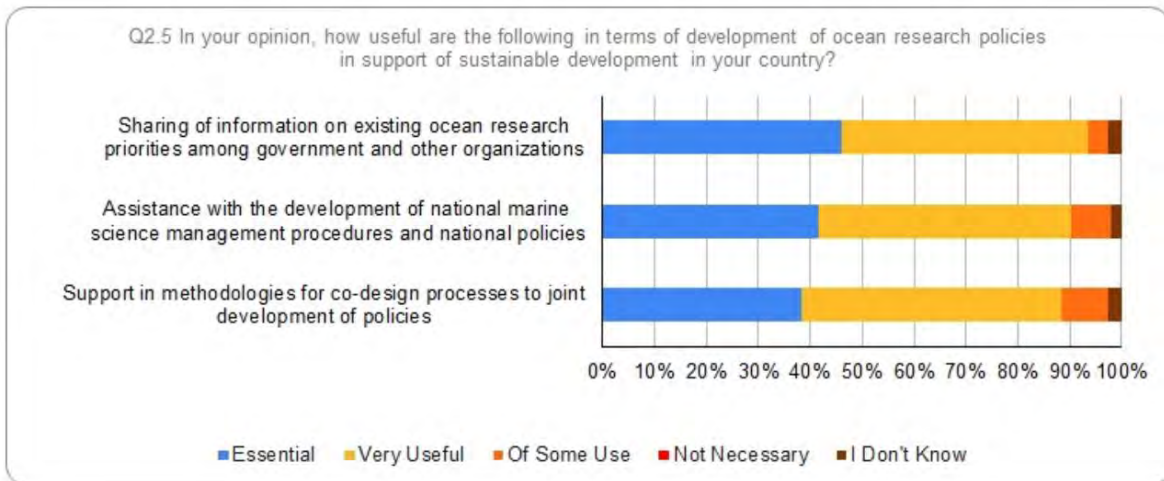


2.4 Summary Graph

| | Establishing an effective coordination and communication mechanism between the regional sub-commissions | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes | Establishing an effective coordination and communication mechanism between countries not covered by IOC regional subsidiary bodies and the global programmes | Reinforced budgeting of regional sub-commissions | Improved staffing of secretariat of regional sub-commissions |
|--------------------|---|---|--|--|--|
| Essential | 56 | 54 | 51 | 41 | 35 |
| Very Important | 75 | 77 | 73 | 79 | 73 |
| Of Some Importance | 18 | 15 | 20 | 23 | 31 |
| Not Necessary | 1 | 2 | 2 | 3 | 7 |
| I Don't Know | 4 | 6 | 8 | 8 | 8 |
| | 154 | 154 | 154 | 154 | 154 |
| Weighted Average | 4.01 | 3.96 | 3.82 | 3.7 | 3.48 |
| RANK | 1 | 2 | 3 | 4 | 5 |

2.4 Summary Table

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

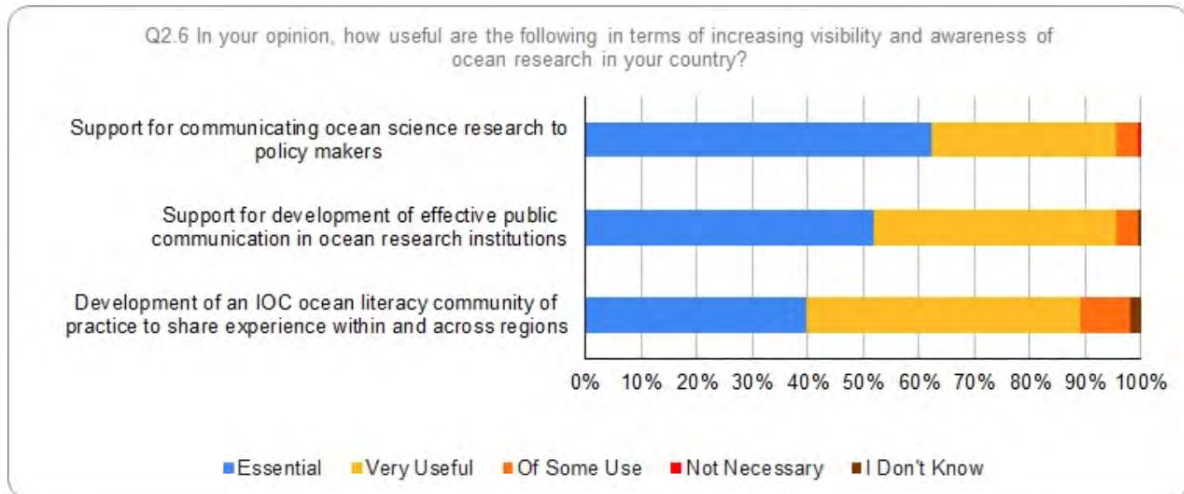


2.5 Summary Graph

| | Sharing of information on existing ocean research priorities among government and other organizations | Assistance with the development of national marine science management procedures and national policies | Support in methodologies for co-design processes to joint development of policies |
|---------------------|---|--|---|
| Essential | 71 | 64 | 59 |
| Very Useful | 73 | 75 | 77 |
| Of Some Use | 6 | 12 | 14 |
| Not Necessary | 0 | 0 | 0 |
| I Don't Know | 4 | 3 | 4 |
| | 154 | 154 | 154 |
| Weighted Ave | 4.28 | 4.18 | 4.1 |
| RANK | 1 | 2 | 3 |

2.5 Summary Table

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

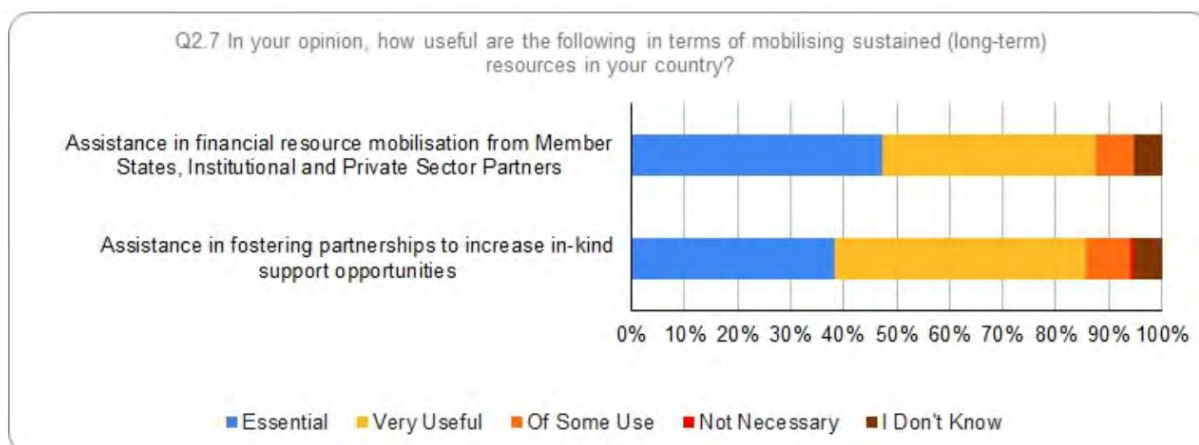


2.6 Summary Graph

| | Support for communicating ocean science research to policy makers | Support for development of effective public communication in ocean research institutions | Development of an IOC ocean literacy community of practice to share experience within and across regions |
|---------------------|---|--|--|
| Essential | 96 | 80 | 61 |
| Very Useful | 51 | 67 | 76 |
| Of Some Use | 6 | 6 | 14 |
| Not Necessary | 0 | 0 | 0 |
| I Don't Know | 1 | 1 | 3 |
| | 154 | 154 | 154 |
| Weighted Ave | 4.52 | 4.42 | 4.14 |
| RANK | 1 | 2 | 3 |

2.6 Summary Table

Q2.7: In your opinion, how useful are the following in terms of **mobilising sustained (long-term) resources** in your country?

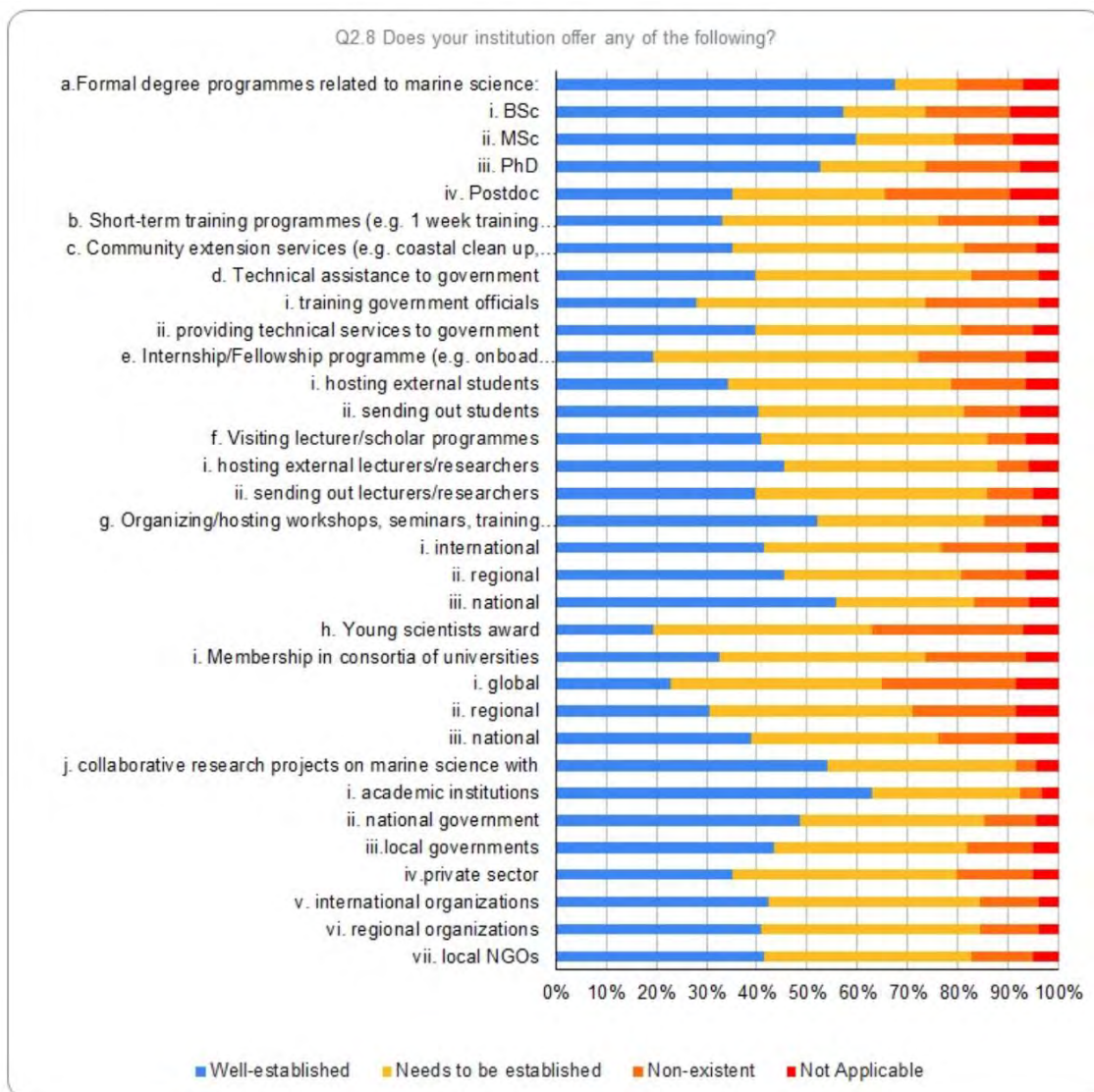


2.7 Summary Graph

| | Assistance in financial resource mobilisation from Member States, Institutional and Private Sector Partners | Assistance in fostering partnerships to increase in-kind support opportunities |
|---------------------|---|--|
| Essential | 73 | 59 |
| Very Useful | 62 | 73 |
| Of Some Use | 11 | 13 |
| Not Necessary | 0 | 1 |
| I Don't Know | 8 | 8 |
| | 154 | 154 |
| Weighted Ave | 4.12 | 3.99 |
| RANK | 1 | 2 |

2.7 Summary Table

Q2.8: Does your institution offer any of the following?

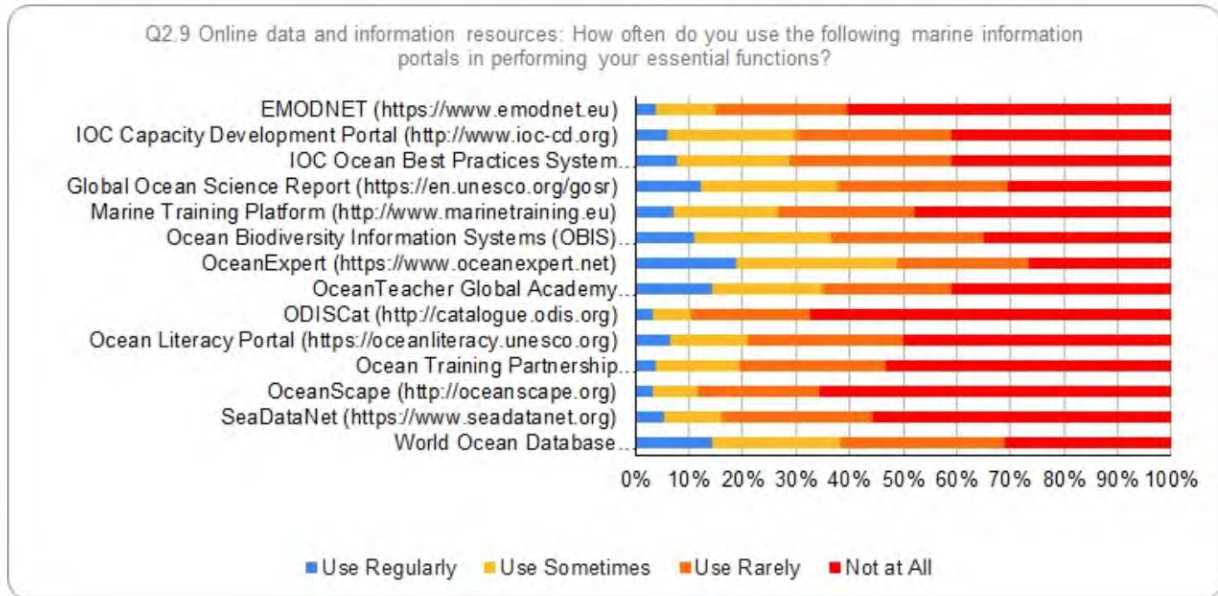


| | a. Formal degree programmes related to marine science: | i. BSc | ii. MSc | iii. PhD | iv. Postdoc | b. Short-term training programmes (e.g. 1 week training course, etc.) | c. Community extension services (e.g. coastal clean up, ocean awareness drive, etc.) | d. Technical assistance to government | i. training government officials | ii. providing technical services to government | e. Internship/Fellowship programme (e.g. onboard training, cruise studies, etc.) | i. hosting external students | ii. sending out students | f. Visiting lecturer/scholar programmes | i. hosting external lecturers/researchers | ii. sending out lecturers/researchers |
|-------------------------|--|--------|---------|----------|-------------|---|--|---------------------------------------|----------------------------------|--|--|------------------------------|--------------------------|---|---|---------------------------------------|
| Well-established | 104 | 88 | 92 | 81 | 54 | 51 | 54 | 61 | 43 | 61 | 30 | 53 | 62 | 63 | 70 | 61 |
| Needs to be established | 19 | 25 | 30 | 32 | 47 | 66 | 71 | 66 | 70 | 63 | 81 | 68 | 63 | 69 | 65 | 71 |
| Non-existent | 20 | 26 | 18 | 29 | 38 | 31 | 22 | 21 | 35 | 22 | 33 | 23 | 17 | 12 | 10 | 14 |
| Not Applicable | 11 | 15 | 14 | 12 | 16 | 6 | 7 | 6 | 6 | 8 | 10 | 10 | 12 | 10 | 9 | 8 |
| | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |

| | g. Organizing/hosting workshops, seminars, training courses related to marine science: | i. international | ii. regional | iii. national | h. Young scientists award | i. Membership in consortia of universities | i. global | ii. regional | iii. national | j. collaborative research projects on marine science with | i. academic institutions | ii. national government | iii. local governments | iv. private sector | v. international organizations | vi. regional organizations | vii. local NGOs |
|-------------------------|--|------------------|--------------|---------------|---------------------------|--|-----------|--------------|---------------|---|--------------------------|-------------------------|------------------------|--------------------|--------------------------------|----------------------------|-----------------|
| Well-established | 80 | 64 | 70 | 86 | 30 | 50 | 35 | 47 | 60 | 83 | 97 | 75 | 67 | 54 | 65 | 63 | 64 |
| Needs to be established | 51 | 54 | 54 | 42 | 67 | 63 | 65 | 62 | 57 | 58 | 45 | 56 | 59 | 69 | 65 | 67 | 63 |
| Non-existent | 18 | 26 | 20 | 17 | 46 | 31 | 41 | 32 | 24 | 6 | 7 | 16 | 20 | 23 | 18 | 18 | 19 |
| Not Applicable | 5 | 10 | 10 | 9 | 11 | 10 | 13 | 13 | 13 | 7 | 5 | 7 | 8 | 8 | 6 | 6 | 8 |
| | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |

2.8 Summary Table

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?



2.9 Summary Graph

| | EMODNET (https://www.emodnet.eu) | IOC Capacity Development Portal (http://www.ioc-cd.org) | IOC Ocean Best Practices System (https://www.oceanbestpractices.org/) | Global Ocean Science Report (https://en.unesco.org/gosr) | Marine Training Platform (http://www.marinetraining.eu) | Ocean Biodiversity Information Systems (OBIS) (http://www.obis.org) | OceanExpert (https://www.oceanexpert.net) | OceanTeacher Global Academy (https://classroom.oceanteacher.org) | ODISCat (http://catalogue.odis.org) | Ocean Literacy Portal (https://oceanliteracy.unesco.org) | Ocean Training Partnership (http://www.oceantrainingpartnership.org) | OceanScape (http://oceanscape.org) | SeaDataNet (https://www.seadatanet.org) | World Ocean Database (http://wod.ioda.org/SELECT/dbsearch.html) |
|---------------|----------------------------------|---|---|--|---|---|---|--|-------------------------------------|--|--|------------------------------------|---|---|
| Use Regularly | 6 | 9 | 12 | 19 | 11 | 17 | 29 | 22 | 5 | 10 | 6 | 5 | 8 | 22 |
| Use Sometimes | 17 | 37 | 32 | 39 | 30 | 39 | 46 | 32 | 11 | 22 | 24 | 13 | 17 | 37 |
| Use Rarely | 38 | 45 | 47 | 49 | 39 | 44 | 38 | 37 | 34 | 45 | 42 | 35 | 43 | 47 |
| Not at All | 93 | 63 | 63 | 47 | 74 | 54 | 41 | 63 | 104 | 77 | 82 | 101 | 86 | 48 |
| | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |

2.9 Summary Table

Others:

- NASA Jet Propulsion Laboratory (JPL) - Space Mission and ... www.jpl.nasa.gov
PNBOIA (GOOS Brasil) <https://www.marinha.mil.br/chm/dados-do-goos-brasil/pnboia>
Sea Level Center <https://uhslc.soest.hawaii.edu/> BNDO
<https://www.marinha.mil.br/chm/dados-do-bndo/acesso-dados-e-produtos>
- I do not use data bases
- Marine Copernicus, ECMWF
- We need more publicity about IOC ! People (from scientists to policy makers) are not aware of all those possibilities.
- used regularly: www.fishbase.org ; www.sealifebase.org ; www.algaebase.org ;
www.marinespecies.org
- <http://apdrc.soest.hawaii.edu> e-woce JAMSTEC JMA (Indonesia) national data providers
- noaa data base
- marine-copernicus, globec, globalfishingwatch, argo global ocean data, ...
- IOC Sea level
- In my current position I don't use much databases. I know the professors in my faculty do. I will share this survey with them. We believe on the importance of sharing data!. We also belong to the GEO Earth Observation Group.
- GLODAP (regularly) SOCAT (regularly) GOA-ON Network data (regularly) OceanColor (regularly) GOOS (regularly) PIRATA (regularly)

Q2.10 What other specific **support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.)** provide to contribute to addressing your country's CD requirements?

- Research and policy making capacity development to local government units and policy makers
- Disaster Risk Reduction and Management
- good
- Working table of experts from the region, plus programs that involve universities
- Reinforce regional civilian centres of research with international cooperation
- capacity development as the primary catalyst On Sustainable strategi for ICZM
- support to continue strengthening the National Tsunami Warning Center of Panama, training of personnel in use, maintenance, and data analysis of tide gauge stations, training in seismic and tsunami early warning systems (software SeisComp3), training in the study of paleotsunamis, training in processing, recording and analysis of GPS information and support in the acquisition of equipment: gauges, seismometers and GPS for the strengthening and updating of the network of monitoring stations at the local level and regional support
- Tsunami
- Workshops for the dissemination of all educational resources and CD possibilities that IOC offer
- By having capacity development and training programmes for upcoming and new oceanographers
- MARINE SPACIAL DATA ANALYSIS
- compartir bases de datos
- The fields of which my response was: not existing
- To Largely circulate information related to online courses and related Marine/Ocean most relevant websites to MBA and PhD students as well as to technicians in various languages, in order to enhance their respective skills and expertise in various domains of Oceans Sciences.
- funding programs, training programs for students,
- I think financial support would be appreciated such as : computers/software, access to ocean related platforms, as well as offering grants to support students/early career professionals to attend trainings/workshops abroad.
- TO PROVIDE SHORT TERM AND LONG TERM TRAINING FOR MARINE SCIENCE PROFESSIONALS
- Training, Equipment, Meetings sponsorships
- Data and Software
- Remote data acquisition to sea level and currents.
- This is a extremely sad moment, cutting budgets drastically for Science and Technology. I don't know how you can help.
- Support Young Students from Traditional Populations
- support middle career professions who are unable to get attached to an Institution, so that they can carry out cutting edge research by themselves.

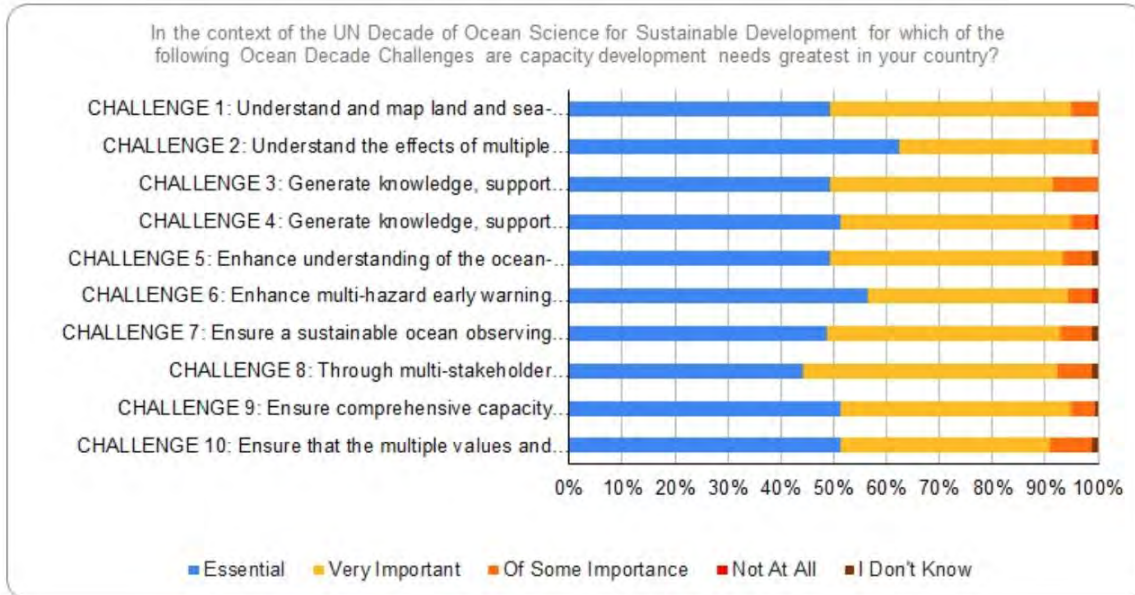
- It would also be interesting a study group in pollution and that there is a regionally relevant database
- Needs more fund and cooperative projects from global scientists
- The specific support I think will have to come by the way of increased awareness
- CD at the regional level (eg. IOC WESTPAC) should be established and included in long term planning, rather than running at an ad-hoc basis
- National GOOS
- IOC should be "closer" to our regional GOOS in order to help to overcome difficulties and to improve best regional coordination of programs, actions, etc..
- Cooperation in research and learning, and research funding
- Awareness and ease of use
- These global and regional programs can help us train competent and qualified personnel for the observation, maintenance of measuring devices and analysis of oceanographic data
- Training Programmes needed.
- GOOS
- lode ,tsunami, world ocean,
- Ocean Accounting
- the outreach from IOC focal point is relatively unfamiliar to the Ocean Science groups in Universities. But of course the Institution where the focal point is based also has their own resources. If there is a way to link these.
- Professional trainings
- Specialized training and opportunities of join research to young scientific
- In my opinion, at least if IOC global can arrange any gathering with all the expertise in Sri Lanka would be provided with a good initiative to start any kind of relationship among people. In addition, the same time they can initiate productive gathering to withstand the problem arise in future related to Ocean sector.
- Fundings
- MPR
- to be able to access to and exploit properly already available programmes will do considerably
- Supporting young students scholarships.
- GOOS, NOAA, NHU
- Training, conferences and supporting programs
- Coastal Erosion Ocean Hydrodynamic Modelling Coastal Engineering
- Exposure visit for early career scientists
- Tsunami to Disasters and Risk Management Institution. And evacuation exercises to the population.
- All for marine sciences studies
- providing infrastructure and technical support as well as knowledge sharing with funding
- Organize kick-off virtual meeting to elaborate co-creation for the decade of ocean sciences

- Funding and equipment support
- Capacity development in the analyses ocean cruise data eg. ADCP, CTD, XBT, etc
- Short training courses and scientific visits
- I have only heard of Tsunami warning once.
- I believe this survey has asked all the right questions!. We may need to give more visibility to the ocean experts registration.
- research funding from international donors for Pakistani Marine science university department is essential to enrol more students and scientists in marine programs/research.
- GOOS, IODE, Tsunami
- Support for regional and global meetings and short training courses.
- providing funds to increase undergraduate student exchanges.
- HAB support for shellfish industry
- Funding and Training
- Capacity building for higher education teachers in the marine field.
- teacher training program
- Specific topic about the improvements of the marine science capacity of the country.
- Capacity building, training
- Ocean research needs lot of dedication and motivation. We are facing difficulties to motivating students for ocean research due to lack of relevent job opportunity in our country. Its important to increase motivational programs.
- Connectivity process; land and water
- Local & regional data actualization more often.
- incorporation of the social sciences in debates on ocean problems
- Coastal Development and Management
- Provision of fundings for trainings to build capacity of ocean researchers
- IODS, MPR, Tsunami
- I think in the area of capacity building. Some of us can be training by IOC training programmes that will enable us to train others
- Climate change impacts in coastal zones and Ocean Acidification in Galapagos National Park
- Training, conferences and workshops, student transfer programs
- It is necessary to cojoin the local centre with one Data network

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy (<http://www.ioc-cd.org/strategy>), are there any **other CD efforts and supports not previously mentioned which you would like to see included?**

- grants, scholarships,
- good
- To be widely circulated and assist for its implementation
- improve relationship between academy and military activities, for instance through hydrographic commissions.
- Support Local Boat Construction Workshops
- Arrange a fellowship (similar to Humboldt) to established scientists who are unemployed in their middle career stage
- It would be relevant to have assistance for database managing with downloadable programs and user manuals, online assistance to use them and/or training for their use.
- CD effort and support should be planned based on CD needs from countries or region, rather than something top-down from the regional office
- No. It is comprehensive.
- Grants and fellowship
- Ocean Accounting
- " Point 4: 4. Development of ocean research policies in support of sustainable development objectives promoted 4.1 Sharing of information on ocean research priorities _____ And I'd like to add; Setting up ocean research priorities based on needs and feasibility by equipments/facilities 4.2 Developing national marine science management procedures and national policies| "
- In Sri Lanka, it is mandatory to establish a research group to the development of ocean research policies in support of sustainable development approach.
- To discuss and set some priority theme comprising specific research topics for regional and sub-regional programmes in accordance with the global strategies, will help the member states in deciding and tailoring for allocating and developing of their capacities much more efficiently!
- "Reduced narratives" for capacity development of coastal communities & small-scale fisheries WHO can support collaboration in monitoring of physical infrastructures OR directly report certain phenomena at sea.
- capacity development in the use of computer programming resources for data analysis and visualization
- Have one week where IOC officials come to Ecuador and work with local ocean experts and have important outreach to the population and officials.
- Development of Ocean Literacy Educational resources. Building documents in local languages, e. g. Spanish. Most of the literature and information is in English and this marks some distance for the public to be interested in reading about ocean literacy subjects.
- The interaction between IOC and WMO is lacking, and I believe is needed.
- The goals are ok. We need more interaction.
- access of data for ocean science student
- Specific call for Turkish marine scientists
- Blue growth agendas in Fish and fisheries
<https://authorservices.wiley.com/index.html#register>
- Processes to improve the national government involvement and officials training in IOC activities
- Maybe - a tailored CD for government institutions dealing with ocean, fisheries, and environment.

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

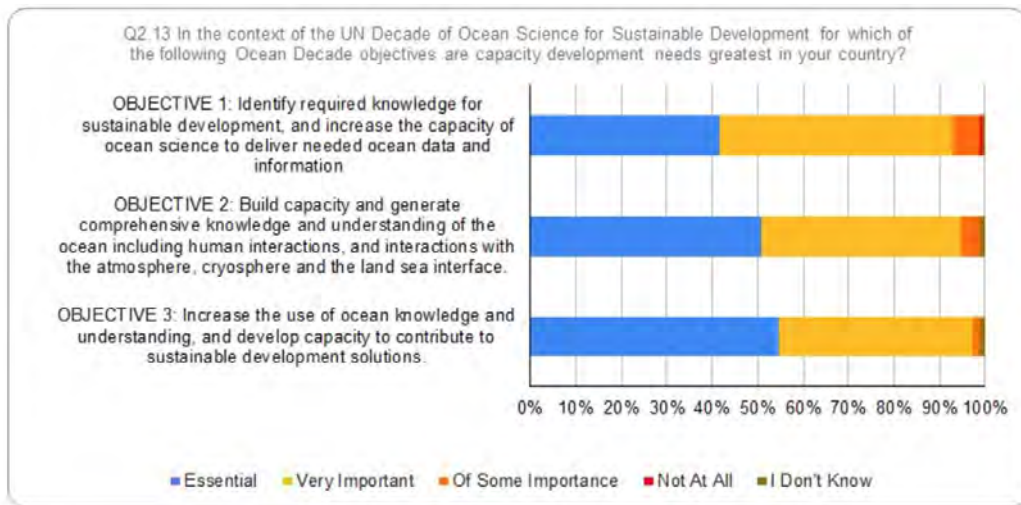


2.12 Summary Graph

| | CHALLENGE 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world population | CHALLENGE 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under | CHALLENGE 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to | CHALLENGE 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and | CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information | CHALLENGE 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, | CHALLENGE 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all | CHALLENGE 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, |
|--------------------|---|--|--|---|---|--|--|---|---|--|
| Essential | 76 | 96 | 76 | 79 | 76 | 87 | 75 | 68 | 79 | 79 |
| Very Important | 70 | 56 | 65 | 67 | 68 | 58 | 68 | 74 | 67 | 61 |
| Of Some Importance | 8 | 2 | 13 | 7 | 8 | 7 | 9 | 10 | 7 | 12 |
| Not At All | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| I Don't Know | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 1 | 2 |
| | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| Weighted Ave | 4.39 | 4.6 | 4.32 | 4.4 | 4.34 | 4.43 | 4.32 | 4.26 | 4.4 | 4.31 |
| RANK | 5 | 1 | 7 | 3 | 6 | 2 | 8 | 10 | 4 | 9 |

2.12 Summary Table

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?



2.13 Summary Graph

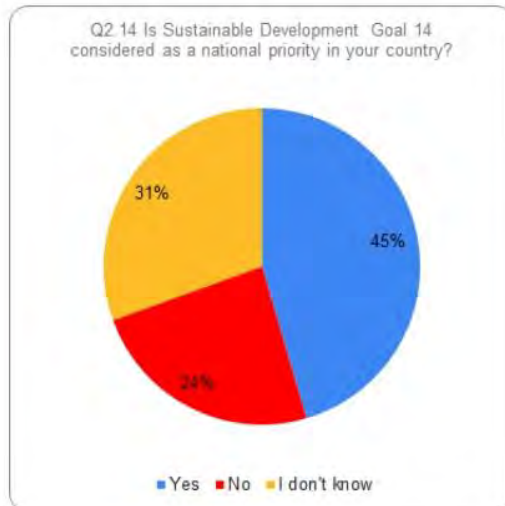
Other needs:

| | OBJECTIVE 1: Identify required knowledge for sustainable development, and increase the capacity of ocean science to deliver needed | OBJECTIVE 2: Build capacity and generate comprehensive knowledge and understanding of the ocean including human interactions, | OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable development solutions. |
|---------------------|---|--|---|
| Essential | 64 | 78 | 84 |
| Very Important | 79 | 68 | 66 |
| Some Important | 9 | 6 | 2 |
| Not At All | 1 | 0 | 0 |
| I Don't Know | 1 | 2 | 2 |
| | 154 | 154 | 154 |
| Weighted Ave | 4.25 | 4.38 | 4.47 |
| RANK | 3 | 2 | 1 |

2.13 Summary Table

- The relevance of ocean science to support policy making development in the context of future underwater mining, fisheries dynamics, and mariculture as a source of animal proteins
- Include communication skills and foreign language skills in this training. Please note we have identified many good initiatives in Brazil, but they are not organized or nationally coordinated.

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?



| | Is Sustainable Development Goal 14 considered as a national priority in your country? |
|--------------|---|
| Yes | 70 |
| No | 37 |
| I don't know | 47 |
| | 154 |

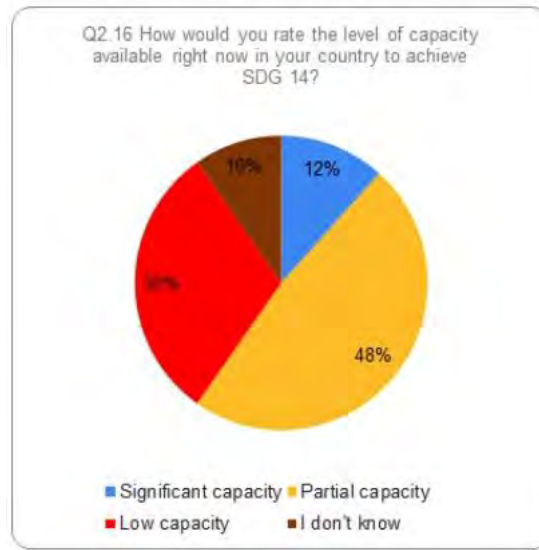
Q2.15: If yes, how is this reflected in your national plans and policies?

- In fisheries policies, in the preparation of Comprehensive Land Use Plans of Local Government Units.
- There are government agencies like DENR and PSA that keep track on the set targets/indicators on the developed programs and their collaborations with NGOs and CSOs.
- government has undertaken a National Plan for the Conservation of Aquatic Eco-systems
- There is in RPJMN
- In 2019, within the framework of World Ocean Day, Panama presented the National Ocean Policy, this tool provides the national framework to promote laws and regulations that guarantee the sustainable use of marine and coastal resources, in coherence with the Sustainable Development Goals and other international commitments acquired by the country. The National Ocean Policy proposes to turn our country into a model for the Latin American region, where marine and coastal resources are protected, conserved, valued and used in a sustainable way, positively impacting the quality of life of its citizens in an inclusive and participatory way. , through a policy based on four management pillars in science and technology that can be successfully implemented, based on legal tools that guarantee respect in the management of the oceans and seas.
- The Law of the Sea is being discussed this year here in Brazil
- The SDG 14 is a major priority that my government is trying effortlessly to implement in all the water related sectors
- domestic legislations related to ocean
- Today the government is not interest on biodiversity and science. But on scientific community is priority conservation and protect ocean resources
- national plan for fisheries
- In context, it is part of the States development strategy for 2035
<http://www.newkuwait.gov.kw/plan.aspx>
- in 2020 Colombia proposed a public policy related to the ocean
- Implementation through concerned ministries and governmental institutions
- Increasing in Marine protected areas
- We have two policies : Halieutis and Plan Maroc Bleu. The main objectives are to ensure the sustainability of the resource, performance and competitiveness of the sector
- NATIONAL ENVIRONMENT POLICY, MARINE FISHERIES POLICY ETC.
- Reflected in Policies by Federal Ministry of Environment
- I cannot say what is "my country" sustainable development with main land ecosystems burning (by purpose)?
- Somehow, there are federal recommendations to include SDG 14 aims as part of policy decision and programs related to all ocean related activities, but I'm not sure at which legal instance this is already established.
- Monitoring
- For instance, we are currently planning the actions for Ocean Decade 2021-2030. We had already 1 South Atlantic WS, 1 national WS and 2 regional WS
- In 2017, the Philippine Ocean Conference was held, a consultation meeting for the UN's call to action to submit voluntary commitments for the achievement of SDG 14. About 140 stakeholders from the national, regional and local agencies, private sector, non-government agencies, and the academe attended the event. The commitments have been included at the Ocean Conference Commitments Registry. However, I am not sure how the fulfilment of these commitments are being monitored.
- is difficult to see if there is a priority when many companies still work with poor responsibilities of environmental impact, the regulations are still ineffective
- In fact, it has just now entered the institutional agenda, following the impulse from OD actions, and the extension of Uruguay's EEZ in 2014.
- already included in the national development planning
- Through the 2030 Sustainable Development Agenda

- The government has placed emphasis in policies of ocean conservation
- As part of the WACA program funded by the World Bank, work is being done to increase the resilience of Grand-Lahaou (Ivory Coast). However, further efforts must be made to extend this work to the entire coast.
- Bangladesh has fulfilled MDG mostly, now trying to fulfill the SDG.
- May be wary
- Poorly in terms of sustainability and inclusivity targets
- the infrastructure for marine transportation is renewed to better transportation of logistics to remote areas. More programs regarding coastal communities and fisheries, marine pollutant etc.
- Mainly reflect during preparation of fisheries policy frameworks of Sri Lanka
- there is no information about it. The OD14 is important but unfortunately is not developed for the government
- It will be easier
- During last decade, a national monitoring programme for marine ecosystems has been planned and developed within the frame of EU's Marine Strategic Framework Directive (MSFD), however, there are still much to do with regard to policies and regulations.
- Increase of renewable energy use.
- Blue economy prioritised
- Governmental policies are aimed at this
- In the marine and fisheries sector
- National policies are reflected in terms of achieving the target of SDG.
- There is a special national policy for ODS called CONPES 3918
- This is completely unclear in the national policies, the same as the policies to reduce climate change.
- the government has established a special Blue economy cell under Prime minister office to coordinate other Blue economy cells including in the ministry of foreign affairs, fisheries and live stocks, sciences and technologies etc.
- IMHO, it is still in development/conformation between focal points/stakeholders.
- For instance, there is an increasing effort by government to reduce loss in marine biodiversity including fish by collaborating with other neighbouring countries in the fight against IUU fishing
- National efforts are being made to build a social organization that will be responsible for systematizing studies and infrastructure for marine research. in addition, a new law establishing the National Policy for the Conservation and Sustainable Use of the Marine Biome is being discussed in Congress.
- According to India's Fifth National Report to the Convention of Biological Diversity 2014, India has a long coastline of about 7,517 km in length which sustains and provides a source of livelihood to over 250 million people. India is the second largest producer of fish in the world. The Indian government's Sagarmala Project, also known as the Blue Revolution, is working to improve the state of India's ports and coastlines. To conserve marine ecosystems, the government has undertaken a National Plan for the Conservation of Aquatic Eco-systems. Coastal and marine biodiversity protection is a key area of focus for India.
- Aquaculture and fisheries was presented to President of Pakistan in the first week of September 2020 for further consideration in to Parliament.
- Our government has ratified it to be a national program
- At a practical level, very few initiatives and even less support
- DOST/BFAR/Academe program
- Several plans and guidelines refer to SDG 14
- There is no adequate and even specific funding to show Government's intention in this area.
- Nowadays, the entire scientific area has been neglected. There are specific actions in certain government or educational institutions, but it is not a national policy.

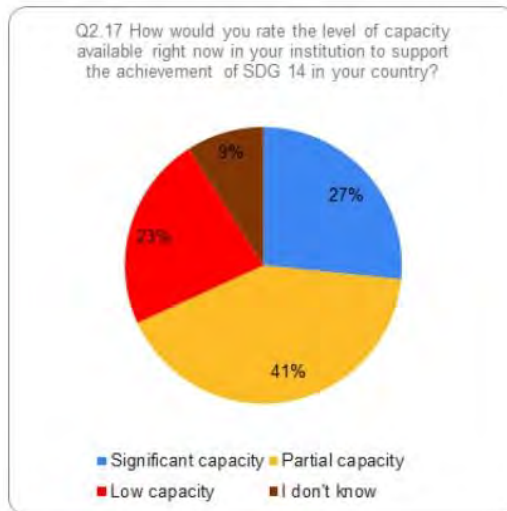
- Integrated in many national plans and policies from fisheries to water quality and conservation. Problem is with employment and underlying high population pressure
- Trying to be reflected in all processes of water and land
- The ocean is not a priority in the Mexican government
- in the implementation of programs in marine spatial planning and in the management of the national ocean policy
- Policies have been established by the government to execute the sustainable development goals .
- Although Federal Government is not assuming it as priority. Ministry of Science, Technology and Innovation is assuming it. There are some movements to build actions to reflect on national plans.
- Academia is very concerned about Agenda 2030 and all SDGs. The federal government, however, has dismantled all committees responsible of assessing progress towards the SDG goals, including SDG 14. Again, all initiatives are at present being done by NGOs, civil society and academia, such as the "Relatirio Luz" released annually since 2017.
- Collaboration has been established between stakeholders, so as to coordinate all actions in the marine environment in order to avoid conflicts of interest. Also, all projects or voluntary actions in favor of SDG14 have been collected in order to support their achievements.
- Increase the research interest in this area and increase the scientific support programs
- We have the SGDs Center at Padjadjaran University that helps local and national governments on preparing the national policy related to fisheries and marine issues.

Q2.16: How would you rate the **level of capacity available right now in your country** to achieve **SDG 14?**



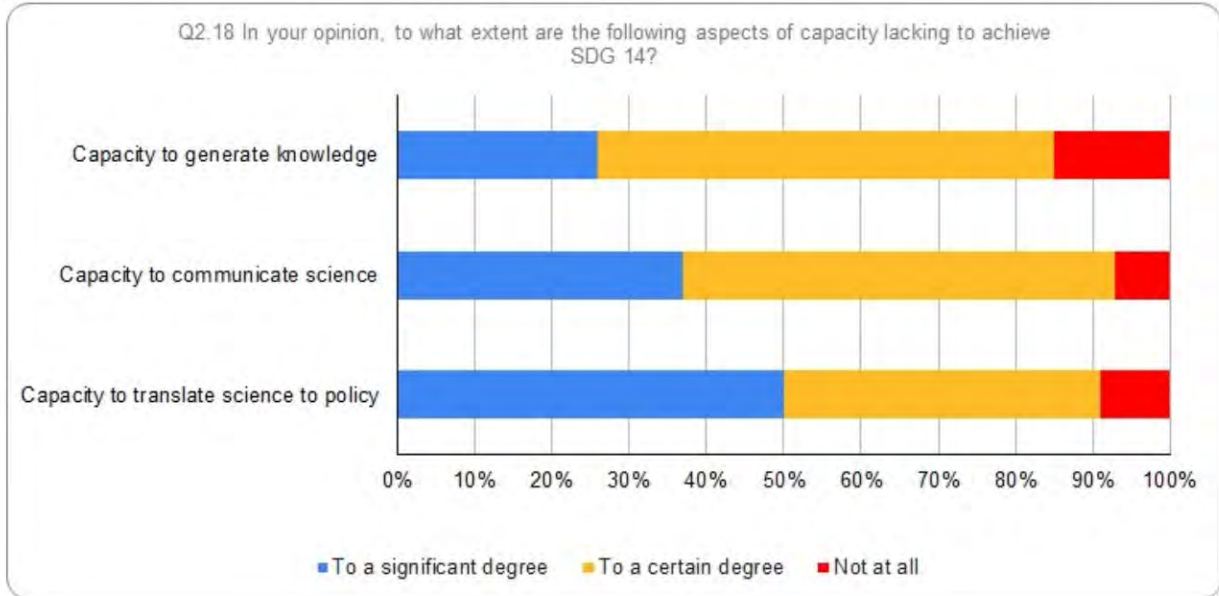
| | How would you rate the level of capacity available right now in your country to achieve SDG 14? |
|------------------|---|
| Significant cap | 18 |
| Partial capacity | 74 |
| Low capacity | 47 |
| I don't know | 15 |
| | 154 |

Q2.17: How would you rate the **level of capacity available right now in your institution to support the achievement of SDG 14 in your country?**



| | How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country? |
|------------------|--|
| Significant cap | 41 |
| Partial capacity | 64 |
| Low capacity | 35 |
| I don't know | 14 |
| | 154 |

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

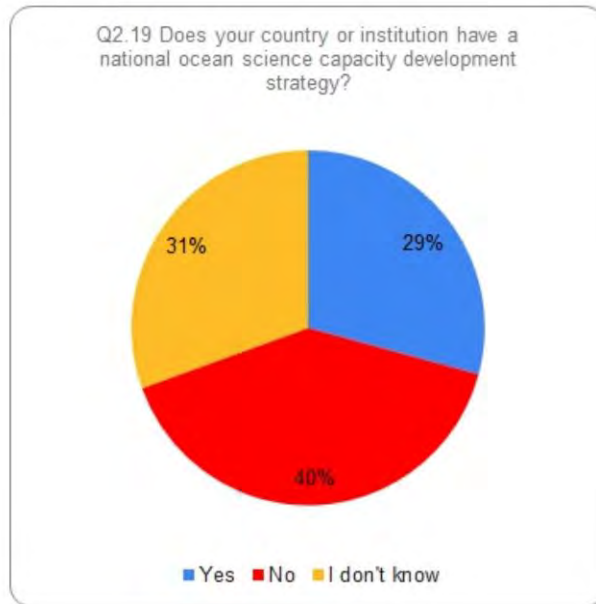


2.18 Summary Graph

| | Capacity to generate knowledge | Capacity to communicate science | Capacity to translate science to policy |
|---------------------|--------------------------------|---------------------------------|---|
| To a significant | 40 | 57 | 77 |
| To a certain de | 91 | 86 | 63 |
| Not at all | 23 | 11 | 14 |
| | 154 | 154 | 154 |
| Weighted Ave | 3.22 | 3.60 | 3.82 |
| RANK | 3 | 2 | 1 |

2.18 Summary Table

Q2.19: Does your country or institution have a national ocean science capacity development strategy?

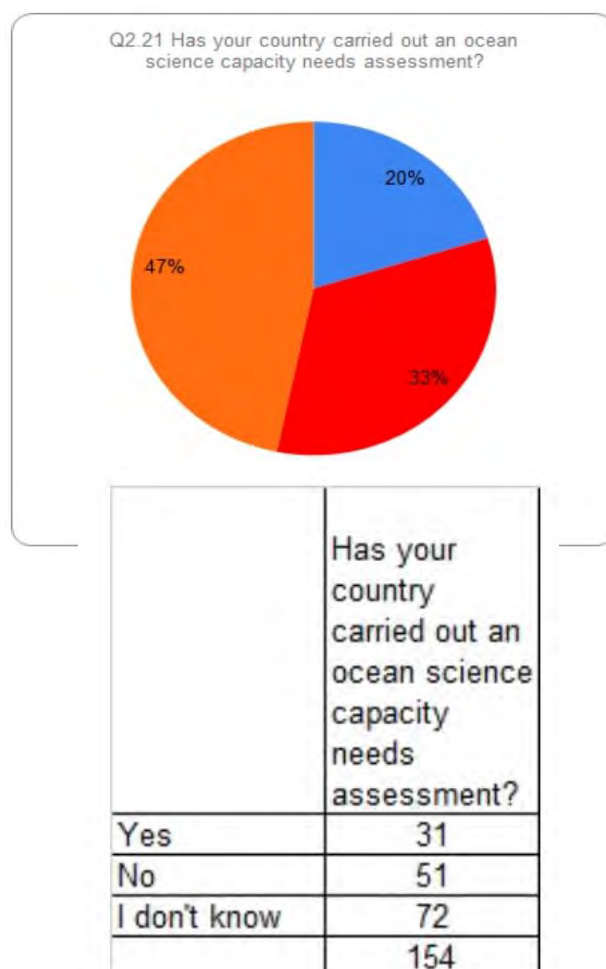


| | Does your country or institution have a national ocean science capacity development strategy? |
|--------------|---|
| Yes | 45 |
| No | 62 |
| I don't know | 47 |
| | 154 |

Q2.20: If yes, please specify (provide URL if available online)

- Ocean Science Strategical Plan
- there are a lot Universities and Institutions
- Indonesia have ICM Learning center
- Department of Marine and Coastal Resources
- PPGMar - Capacity Building Program in Ocean Sciences, by the Inter-Ministry Commission for the Resources of the Sea
- Aquaculture and marine resources management
- Consult with related Ministry and research related institutions e.g. CRO
- Good skills
- In our institution, I supervise PhD students in marine science, I am professor in bachelor related to marine science and I supervise student club related to environment for capacity development (ocean protection, recycling, ...)
- Develop blue economy cell
- At this moment... anything was being built is putting down
- we had institutions like the National Insitute of Ocean Technology, Chennai, India
- Plan Oceanografico Nacional del Comita Oceanografico Nacional de Chile
- The motivation exists but there is no funding to develop further research in this area.
- To some extent by ANID (National Agency for Research and Development) and CONA (National Oceanographic Committee).
- The country has started in 2018 to take action to respond to the need of fomenting an OS capacity development strategy.
- develop workshops and conferences
- Through the 2030 Sustainable Development Agenda
- We are starting a Masters' program in fisheries management at Universidad Eloy Alfaro de Manabi
- There are public Maritime University, Marine Academy, Marine Science Institute, Private Maritime Institute and Oceanography, Marine Biology departments in many public and private universities.
- Research National
- The University has a clear set of goals
- INCOIS
- We conducting Oceanography B.Sc. degree programme to contribute National Ocean Science development strategy
- There is National Oceanographic Committee (CONA)
- universities capacity and NGOs
- Programme Pampa Azul
- Pampa Azul policy is a national policy that is regaining importance
- Through the science ministry and the Colombian Ocean Commission
- My country has ministry of fisheries and marine affairs Indonesia

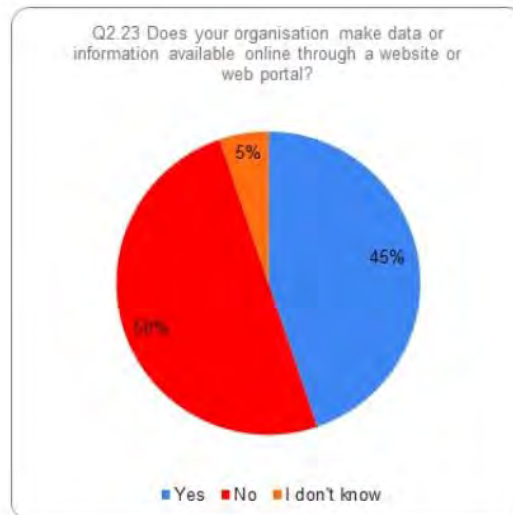
- strengthen cooperation and the role of communities and marine management
- Marine Science Planning
- There are several projects.
- "Plano de em Ciancia, Tecnologia e Inovatio para Oceanos" "Action Plan for Ocean Science, Technology and Innovation" of the Brazilian Science, Technology and Innovation Ministry
- sending junior faculty for M.Sc. program
- Universities with the UN and government sectors have intensified as acts for the decade of the oceans
- Development boards for marine life
- National Policy for Oceans and Seas
- We are the first public university of Ecuador, and the only one working in Oceans, Aquaculture, and coastal zones. We offer a bachelor and MSC in climate change and marine sciences (to begin next year), the Marine Research Center, and the Galapagos Marine Research Exploration Program in partnership with Charles Darwin Foundation.
- The Indonesian Government has an ocean and fisheries development plans for 2020-2025 that includes the improvement of marine development.

Q2.21: Has your country carried out an ocean science capacity needs assessment?

Q2.22: If yes, please specify (provide URL if available online).

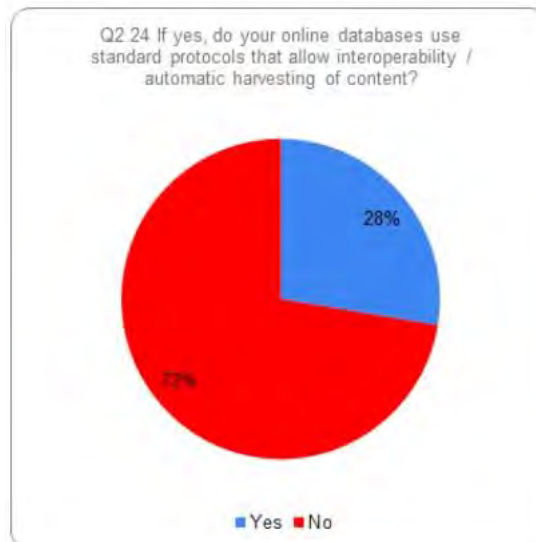
- more experience and exits
- it is focus only in marine biology
- National and regional Workshops, summer courses, national symposium of oceanography every two years, and dozen undergraduate programs in marine sciences.
- Training
- PPGMar periodically does this assessment.
- <http://www.cco.gov.co/cco/publicaciones/83-publicaciones/794-conpes-colombia-potencia-bioceanica-sostenible.html>
- in various reports during several consultations
- Pampa azul initiative
- Workshops
- Only recently through Ocean Decades' WS the identification of knowledge and capacity building gaps have been evaluated
- The one for preparing the Plan Oceanografico Nacional del Comita Oceanograafico Nacional de Chile
- Surveys and documents have been (and still are) produced. Working groups in different sectors are assessing capacity needs.
- SGD report
- Although this has been done by outside agencies it has not translated into action
- Survey by INCOIS
- many forums and meetings have been held between the various public and private sectors
- only on certain issues/topic related with ocean sciences (for example: on coral reefs and mangroves)
- For study program purposes
- long-term environmental carrying capacity
- To a limited extent. Major shortages are being resolved, but at a slow pace due to funding.
- Linked to the preparations for the Decade of the Ocean
- Regional and national meetings are taking place, not necessarily for training, but for data collection and proposals.
- During the Ocean Decade Workshop for the South Atlantic, in November 2019. Now the Ministry of Science, technology and Innovations has an official Plan for the Ocean, but the resources are minimal, since the federal administration has been cutting the Science and Education budget continuously since 2015. The present budget is probably equivalent to that of year 2003.

Q2.23 Does your organisation make data or information available online through a website or web portal?



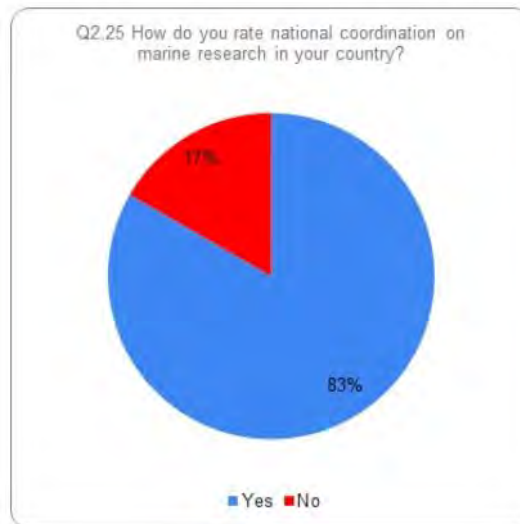
| | Does your organisation make data or information available online through a website or web portal? |
|--------------|---|
| Yes | 69 |
| No | 77 |
| I don't know | 8 |
| | 154 |

Q2.24 If yes, do your **online databases use standard protocols that allow interoperability / automatic harvesting** of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|-----|--|
| Yes | 29 |
| No | 76 |
| | 0 |
| | 105 |

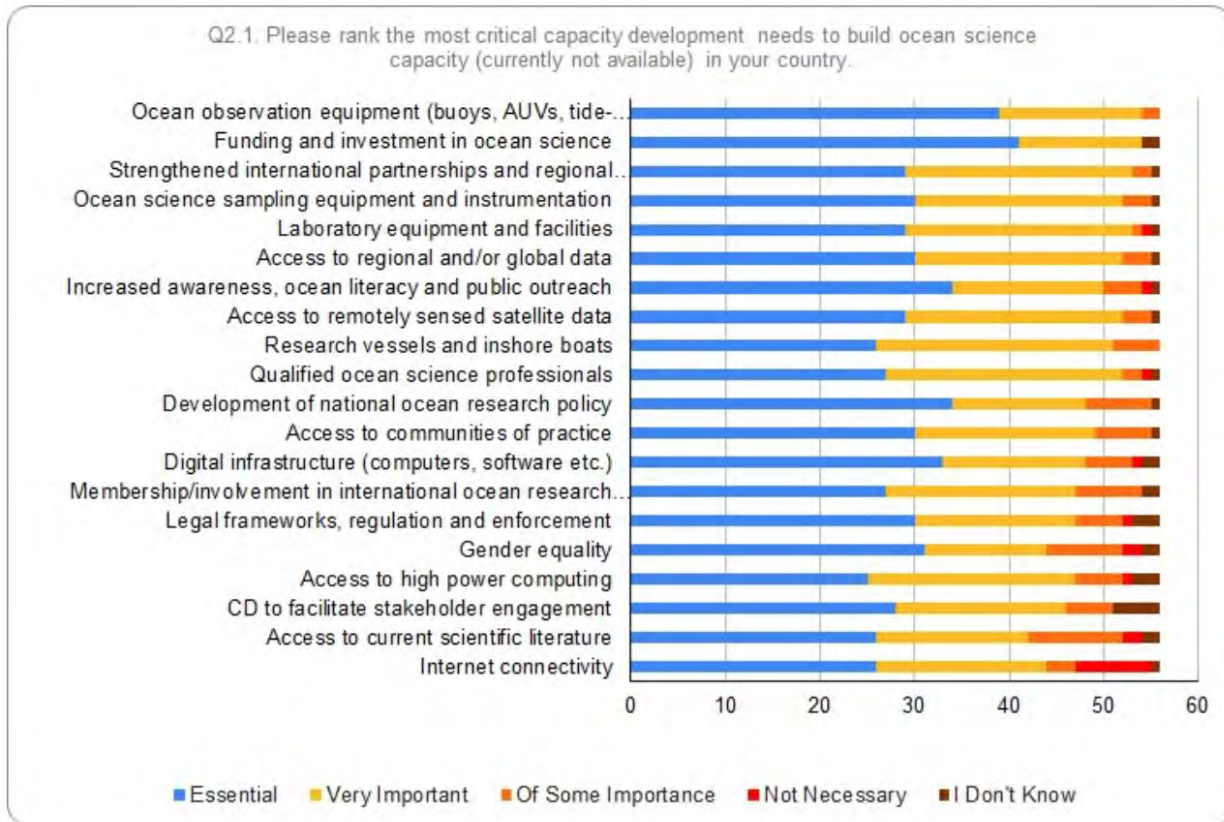
Q2.25 If no, is this capacity that your organisation would like to develop?



| | If no, is this capacity that your organisation would like to develop? |
|-----|---|
| Yes | 110 |
| No | 22 |
| | 0 |
| | 132 |

STUDENTS

Q2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

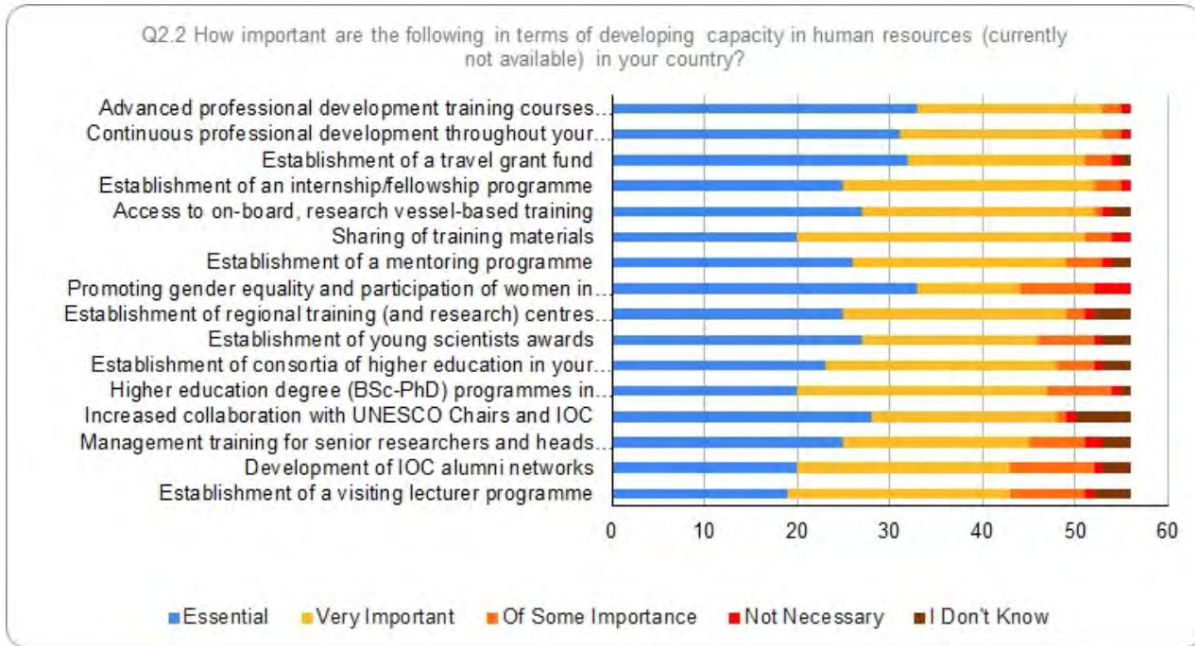


2.1 Summary Graph

| | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 7 | 7 | 7 | 9 | 9 | 9 | 12 | 13 | 14 | 14 | 15 | 17 | 18 | 18 | 19 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|------|------|------|------|------|------|------|
| Essential | 39 | 44 | 29 | 30 | 29 | 36 | 34 | 29 | 26 | 27 | 34 | 30 | 30 | 31 | 25 | 29 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Very Important | 15 | 12 | 24 | 22 | 24 | 22 | 16 | 23 | 25 | 26 | 14 | 19 | 15 | 29 | 17 | 13 | 22 | 18 | 16 | 16 | 16 | 16 | 16 | 16 |
| Of Some Impor | 2 | 0 | 2 | 3 | 1 | 3 | 4 | 3 | 5 | 2 | 7 | 6 | 5 | 7 | 5 | 8 | 5 | 5 | 10 | 3 | 3 | 3 | 3 | 3 |
| Not Necessary | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 3 | 2 | 3 | 5 | 2 | 8 | 8 | 8 | 8 |
| I Don't Know | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 3 | 5 | 2 | 1 | 1 | 1 | 1 | 1 |
| Weighted Ave | 4.63 | 4.59 | 4.38 | 4.36 | 4.36 | 4.36 | 4.34 | 4.34 | 4.29 | 4.29 | 4.29 | 4.25 | 4.21 | 4.09 | 4.09 | 4.02 | 4 | 3.96 | 3.86 | 3.86 | 3.86 | 3.86 | 3.86 | 3.86 |
| RANK | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 7 | 7 | 7 | 9 | 9 | 9 | 12 | 13 | 14 | 14 | 15 | 17 | 18 | 18 | 19 | 19 |

2.1 Summary Table

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

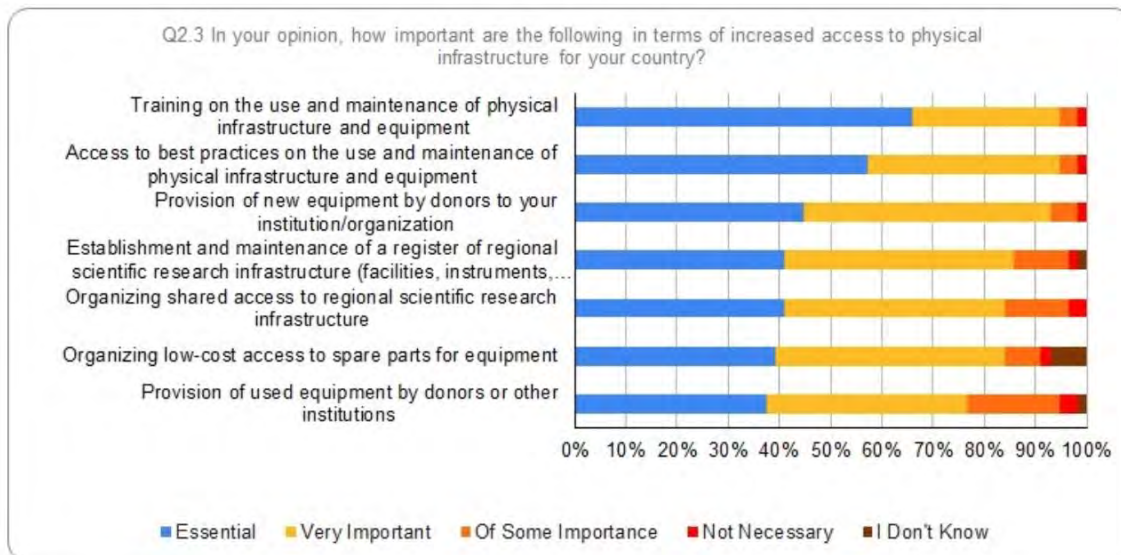


2.2 Summary Graph

| | Advanced professional development training courses (specific short courses) | Continuous professional development throughout your career | Establishment of a travel grant fund | Establishment of an internship/fellowship programme | Access to on-board, research vessel-based training | Sharing of training materials | Establishment of a mentoring programme | Promoting gender equality and participation of women in ocean science research | Establishment of regional training (and research) centres relevant to the IOC mandate | Establishment of young scientists awards | Establishment of consortia of higher education in your country or region | Higher education degree (BSc-PhD) programmes in ocean science within your country | Increased collaboration with UNESCO Chairs and IOC | Management training for senior researchers and heads of institution | Development of IOC alumni networks | Establishment of a visiting lecturer programme |
|--------------------|---|--|--------------------------------------|---|--|-------------------------------|--|--|---|--|--|---|--|---|------------------------------------|--|
| Essential | 33 | 31 | 32 | 25 | 27 | 20 | 26 | 33 | 25 | 27 | 23 | 20 | 28 | 25 | 20 | 19 |
| Very Important | 20 | 22 | 19 | 27 | 25 | 31 | 23 | 11 | 24 | 19 | 25 | 27 | 20 | 20 | 23 | 24 |
| Of Some Importance | 2 | 2 | 3 | 3 | 1 | 3 | 4 | 8 | 2 | 6 | 4 | 7 | 1 | 6 | 9 | 8 |
| Not Necessary | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| I Don't Know | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 4 | 3 | 3 | 1 | 6 | 3 | 3 | 4 |
| 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| Weighted Ave | 4.46 | 4.43 | 4.34 | 4.29 | 4.25 | 4.14 | 4.13 | 4.09 | 4.04 | 4 | 4 | 3.98 | 3.98 | 3.91 | 3.77 | 3.71 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 12 | 12 | 14 | 15 | 16 |

2.2 Summary Table

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

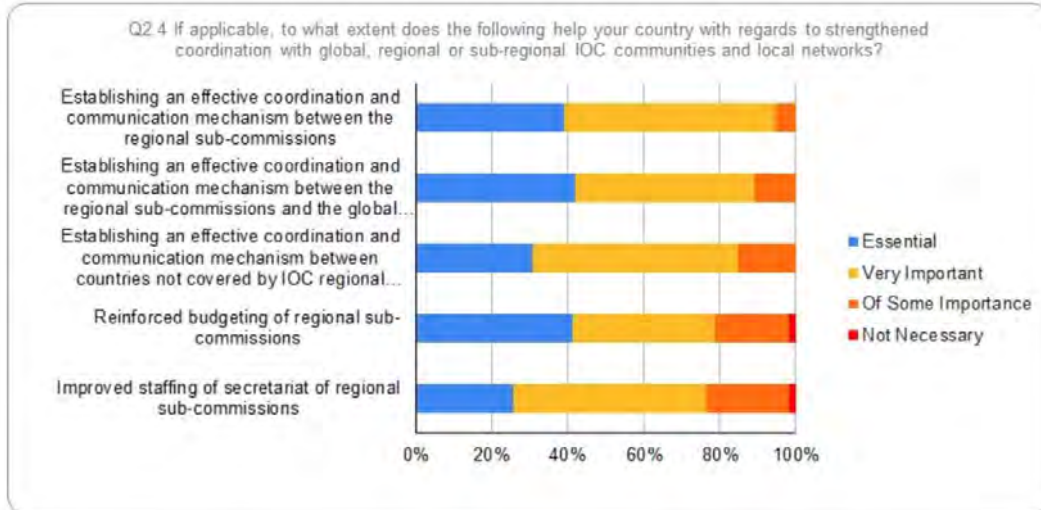


2.3 Summary Graph

| | Training on the use and maintenance of physical infrastructure and equipment | Access to best practices on the use and maintenance of physical infrastructure and equipment | Provision of new equipment by donors to your institution/organization | Establishment and maintenance of a register of regional scientific research infrastructure (facilities, instruments, vessels) to facilitate access | Organizing shared access to regional scientific research infrastructure | Organizing low-cost access to spare parts for equipment | Provision of used equipment by donors or other institutions |
|-------------------------|--|--|---|--|---|---|---|
| Essential | 37 | 32 | 25 | 23 | 23 | 22 | 21 |
| Very Important | 16 | 21 | 27 | 25 | 24 | 25 | 22 |
| Of Some Importance | 2 | 2 | 3 | 6 | 7 | 4 | 10 |
| Not Necessary | 1 | 1 | 1 | 1 | 2 | 1 | 2 |
| I Don't Know | 0 | 0 | 0 | 1 | 0 | 4 | 1 |
| | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| Weighted Average | 4.54 | 4.45 | 4.29 | 4.07 | 4.05 | 3.91 | 3.84 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2.3 Summary Table

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

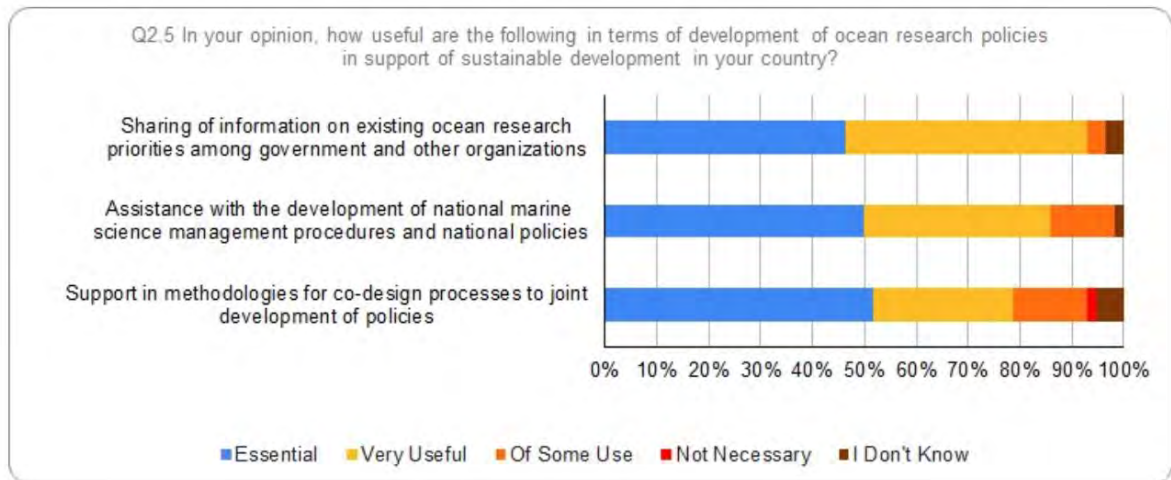


2.4 Summary Graph

| | Establishing an effective coordination and communication mechanism between the regional sub-commissions | Establishing an effective coordination and communication mechanism between the regional sub-commissions and the global programmes | Establishing an effective coordination and communication mechanism between countries not covered by IOC regional subsidiary bodies and the global programmes | Reinforced budgeting of regional sub-commissions | Improved staffing of secretariat of regional sub-commissions |
|--------------------|---|---|--|--|--|
| Essential | 21 | 23 | 16 | 21 | 13 |
| Very Important | 30 | 26 | 28 | 19 | 26 |
| Of Some Importance | 3 | 6 | 8 | 10 | 11 |
| Not Necessary | 0 | 0 | 0 | 1 | 1 |
| I Don't Know | 2 | 1 | 4 | 5 | 5 |
| | 56 | 56 | 56 | 56 | 56 |
| Weighted Average | 4.13 | 4.13 | 3.71 | 3.61 | 3.43 |
| RANK | 1 | 1 | 3 | 4 | 5 |

2.4 Summary Table

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

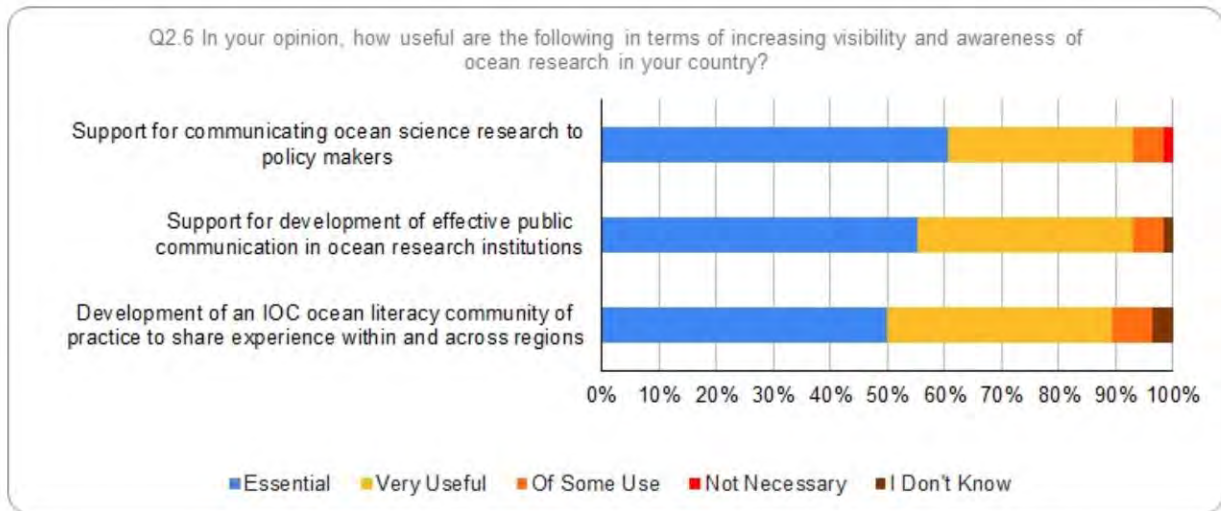


2.5 Summary Graph

| | Sharing of information on existing ocean research priorities among government and other organizations | Assistance with the development of national marine science management procedures and national policies | Support in methodologies for co-design processes to joint development of policies |
|---------------------|---|--|---|
| Essential | 26 | 28 | 29 |
| Very Useful | 26 | 20 | 15 |
| Of Some Use | 2 | 7 | 8 |
| Not Necessary | 0 | 0 | 1 |
| I Don't Know | 2 | 1 | 3 |
| | 56 | 56 | 56 |
| Weighted Ave | 4.25 | 4.18 | 3.96 |
| RANK | 1 | 2 | 3 |

2.5 Summary Table

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

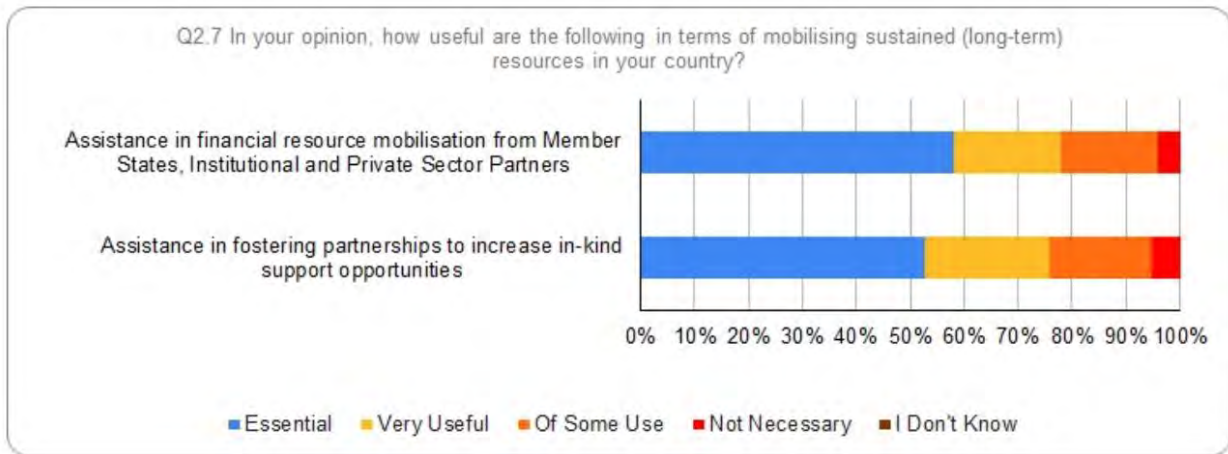


2.6 Summary Graph

| | Support for communicating ocean science research to policy makers | Support for development of effective public communication in ocean research institutions | Development of an IOC ocean literacy community of practice to share experience within and across regions |
|---------------------|---|--|--|
| Essential | 34 | 31 | 28 |
| Very Useful | 18 | 21 | 22 |
| Of Some Use | 3 | 3 | 4 |
| Not Necessary | 0 | 0 | 0 |
| I Don't Know | 1 | 1 | 2 |
| | 56 | 56 | 56 |
| Weighted Ave | 4.43 | 4.38 | 4.21 |
| RANK | 1 | 2 | 3 |

2.6 Summary Table

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

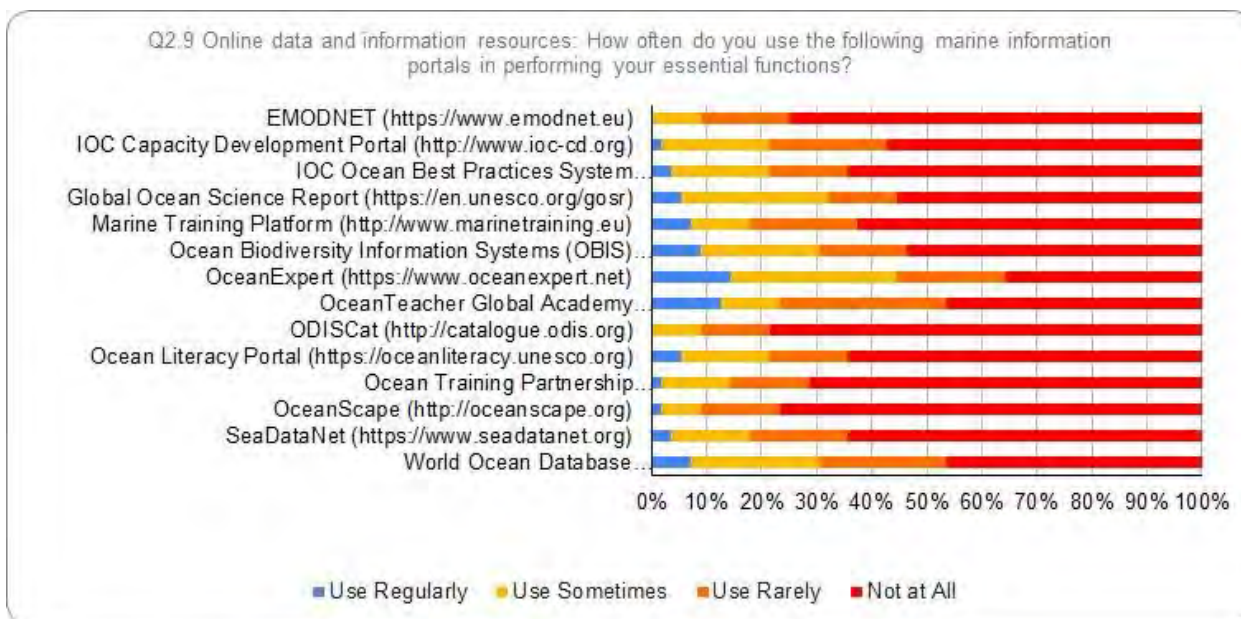


2.7 Summary Graph

| | Assistance in financial resource mobilisation from Member States, Institutional and Private Sector Partners | Assistance in fostering partnerships to increase in-kind support opportunities |
|---------------------|---|--|
| Essential | 73 | 59 |
| Very Useful | 25 | 26 |
| Of Some Use | 23 | 21 |
| Not Necessary | 5 | 6 |
| I Don't Know | 0 | 0 |
| | 3 | 3 |
| Weighted Ave | 56 | 56 |
| RANK | 4.05 | 4.04 |

2.7 Summary Table

Q2.9: Online data and information resources: How often do you use the following marine information portals in performing your essential functions?



| | EMODNET (https://www.emodnet.eu) | IOC Capacity Development Portal (http://www.ioc-cd.org) | IOC Ocean Best Practices System (https://www.oceanbestpractices.org/) | Global Ocean Science Report (https://en.unesco.org/gosr) | Marine Training Platform (http://www.marinetraining.eu) | Ocean Biodiversity Information Systems (OBIS) (http://www.obis.org) | OceanExpert (https://www.oceanexpert.net) | OceanTeacher Global Academy (https://classroom.oceanteacher.org) | ODISCat (http://catalogue.odis.org) | Ocean Literacy Portal (https://oceanliteracy.unesco.org) | Ocean Training Partnership (http://www.oceantrainingpartnership.org) | OceanScape (http://oceanscape.org) | SeaDataNet (https://www.seadatanet.org) | World Ocean Database (http://wod.iode.org/SELECT/dbsearch.html) |
|---------------|----------------------------------|---|---|--|---|---|---|--|-------------------------------------|--|--|------------------------------------|---|---|
| Use Regularly | 0 | 1 | 2 | 3 | 4 | 5 | 8 | 7 | 0 | 3 | 1 | 1 | 2 | 4 |
| Use Sometimes | 5 | 11 | 10 | 15 | 6 | 12 | 17 | 6 | 5 | 9 | 7 | 4 | 8 | 13 |
| Use Rarely | 9 | 12 | 8 | 7 | 11 | 9 | 11 | 17 | 7 | 8 | 8 | 8 | 10 | 13 |
| Not at All | 42 | 32 | 36 | 31 | 35 | 30 | 20 | 26 | 44 | 36 | 40 | 43 | 36 | 26 |
| | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |

Others:

WOCE

Q2.10 What other specific **support can IOC global and regional programmes (GOOS, IODE, MPR, tsunami, etc.) provide to contribute to addressing your country's CD requirements?**

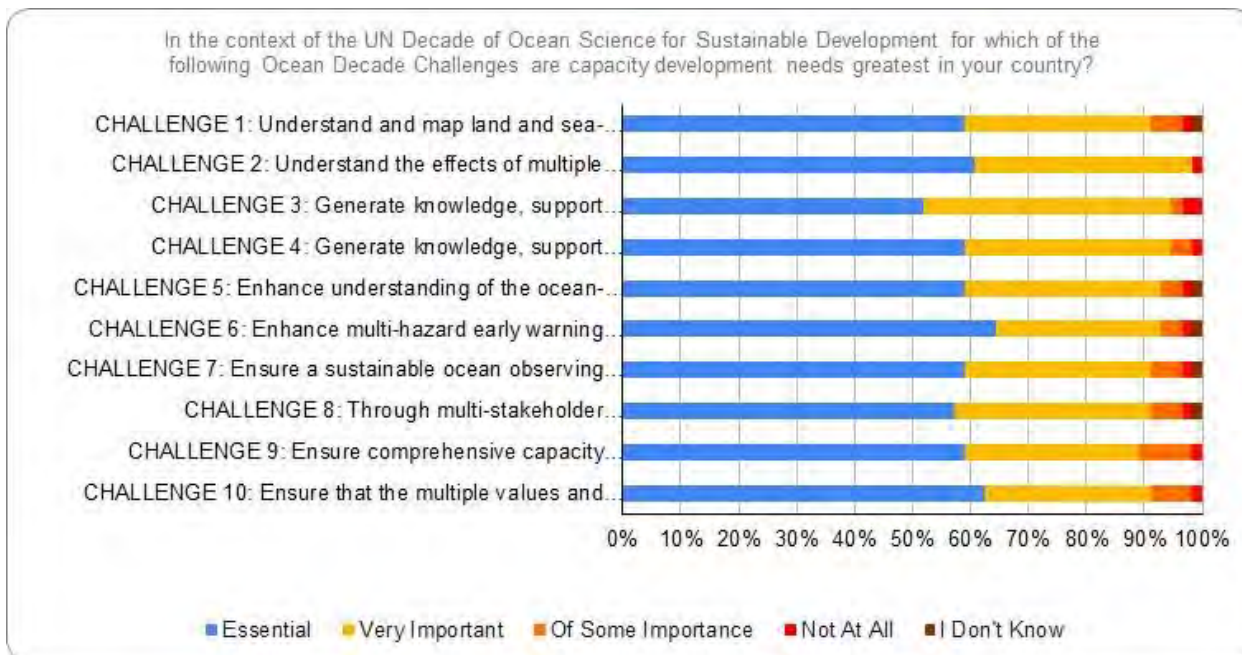
- Capacity Building of young professionals and research fund for working on the advance issues
- Develop events (short courses, workshops, etc.) in Brazil and invest in a training center in the country
- Improve PIRATA and simCOSTA buoy monitoring programs. Develop shipboards trainings to boost the graduations courses in marine science. Building new courses in ocean remote sensing and numerical modeling in regional center (Colombia). Establish regional office in Mozambique or Kenya. Building new times series in ocean biogeochemistry.
- That politicians and construction companies stop destroying mangroves and coastal vegetation and stop doing works that pollute urban rivers. that improve selective collection and reverse logistics for a circular economy, this does not exist here.
- Help to establish communication among universities, government and private sector.
- GOOS
- There should be a channel of exchange of ideas amongst the different bodies involved
- Helping government in creation of ocean related institution and build an efficient ocean management policy
- I think you have to start with these first and see what happens after
- Master's programs or trainings to specialize in marine, environmental and coastal issues.
- Implement tsunami early warning systems, in my country we work with the coastal community, but there is no investment to develop the programs and they only stay on paper, they can serve other countries and we can collaborate with global development. It is a joint learning.
- Establish MOOC programs for young professionals and a network platform to demonstrate the current application of the systems.
- Provide international training to working professionals as well as students in Ocean science. Conduct seminars and organize collaborative research
- Training
- Training for marine science
- Sponsor young scientists and PhD students
- Advancement in research technology. A good example is the identification of organisms specifically macro, meio and other benthic organisms. It takes a long time to process and identify these organisms. If the marine scientific community can be equipped with the latest trend, including the use of DNA, RNA etc.
- Organising seminars and creating awareness
- Fund our research and capacity development inform of grants
- Amplify the things of what the UNESCO have prepared for the local governments.
- Financial Support, Capacity Building, Training.
- funding project, training, fellow
- Improve the comprehension of the PHD student about the ocean resources

- TARA OCEAN
- Funding and equipment.
- There is only the tsunami early warning system that has been established and still need for other global and regional programs
- Need of ocean biodiversity museum
- More sponsorship training on basic equipment maintenance and usage is highly needed both in Turkey and Nigeria.
- training, provision of data and latest data and research output
- Research and training collaborations and workshops co-hosted with the University of California, Davis. This may be happening with the UC System as a whole, but I'm not aware if it is happening with the Davis (& Bodega Marine Lab) specifically.

Q2.11: In terms of developing an overall Implementation Plan for the IOC CD Strategy (<http://www.ioc-cd.org/strategy>), are there any **other CD efforts and supports not previously mentioned which you would like to see included?**

- No
- No at a time
- Not that I know of
- No, I don't think so at the moment.
- something that is not mentioned and that at least in my country is a problem, it is access to information, the database design is very important to carry out at a global level, I think that this should be emphasized, because that helps us develop better projects with reliable and existing data.
- Delegate a team to facilitate the review of both regional and national CD initiatives especially Ghana.
- Yes
- Its all good
- support research students
- Sea Campaign
- In adaptation
- Ocean literacy document translation into the local language (Tetun) in order to be more easily accessible

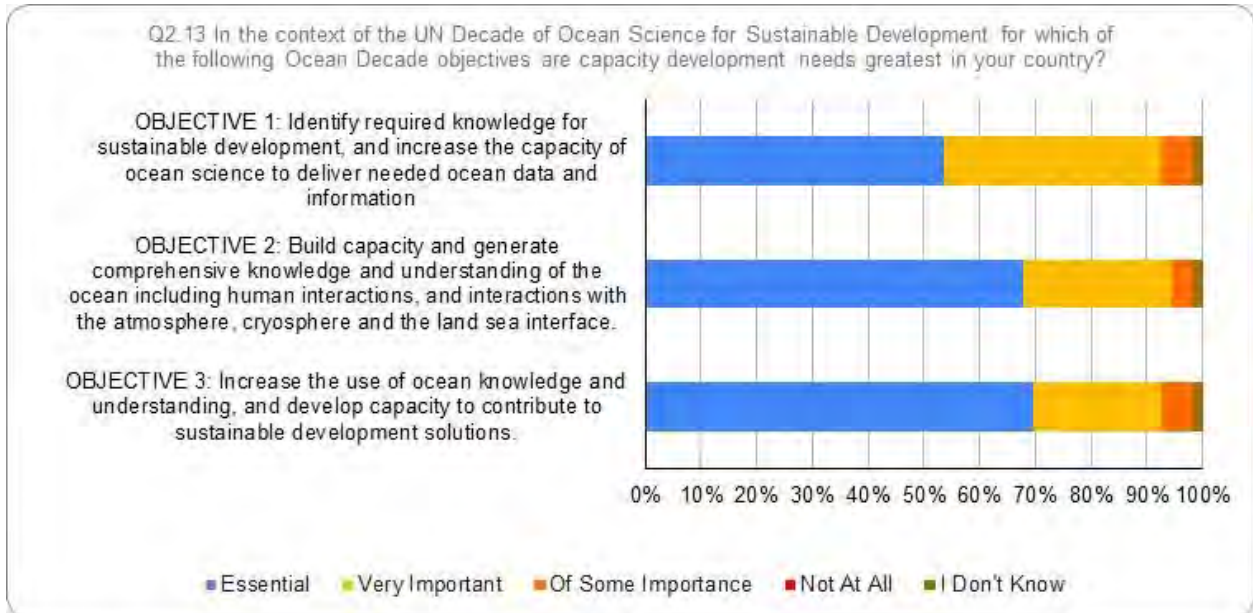
Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your



| | CHALLENGE 1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore | CHALLENGE 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world population | CHALLENGE 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under | CHALLENGE 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to | CHALLENGE 6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and | CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information | CHALLENGE 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, and equitable access to data, information, knowledge and technology across all | CHALLENGE 9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all | CHALLENGE 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, |
|-------------------------|---|--|--|---|---|--|--|--|---|--|
| Essential | 33 | 34 | 29 | 33 | 33 | 36 | 33 | 32 | 33 | 35 |
| Very Important | 18 | 21 | 24 | 20 | 19 | 16 | 18 | 19 | 17 | 16 |
| Of Some Importance | 3 | 0 | 1 | 2 | 2 | 2 | 3 | 3 | 5 | 4 |
| Not At All | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| I Don't Know | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| Weighted Average | 4.36 | 4.55 | 4.38 | 4.46 | 4.39 | 4.45 | 4.36 | 4.34 | 4.36 | 4.43 |
| RANK | 7 | 1 | 6 | 2 | 5 | 3 | 7 | 10 | 7 | 4 |

country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your



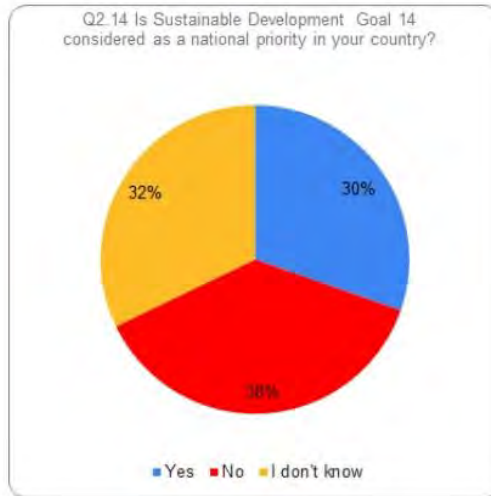
| | OBJECTIVE 1: Identify required knowledge for sustainable development, and increase the capacity of ocean | OBJECTIVE 2: Build capacity and generate comprehensive knowledge and understanding of the ocean | OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and develop capacity to contribute to sustainable |
|---------------------|---|--|--|
| Essential | 30 | 38 | 39 |
| Very Important | 22 | 15 | 13 |
| Some Important | 3 | 2 | 3 |
| Not At All | 0 | 0 | 0 |
| I Don't Know | 1 | 1 | 1 |
| | 56 | 56 | 56 |
| Weighted Ave | 4.36 | 4.54 | 4.52 |
| RANK | 3 | 1 | 2 |

country?

Other needs:

- We suggest a discussion on the methodologies that will be used to keep stakeholders engaged. This discussion becomes even more urgent in a time of pandemic. What mechanisms will we use to keep discussions as inclusive as possible? We suggest the approaches to non-extractive methodologies developed by Boaventura de Sousa Santos. This incredible thinker brings elements to think about interdisciplinary and transdisciplinary approaches, which he calls the ecology of knowledge, important for thinking about our praxis with the different stakeholders involved in this process. We suggest Boaventura de Sousa Santos, as a mentor, to support the development of the actions of researchers and government officials, in this unprecedented moment.
- Will to make it happen

Q2.14: Is Sustainable Development Goal 14 considered as a national priority in your country?



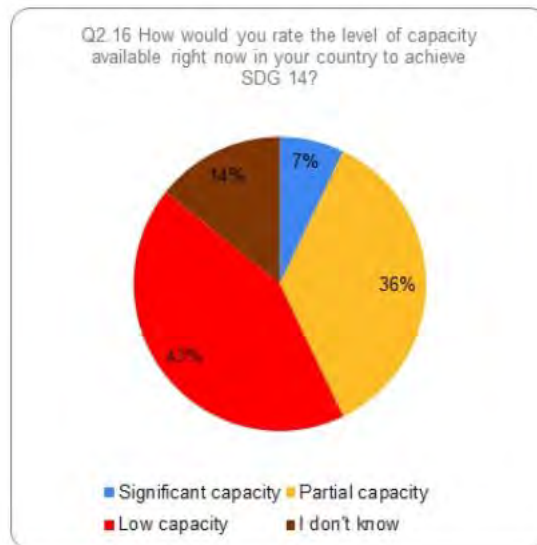
| | Is Sustainable Development Goal 14 considered as a national priority in your country? |
|--------------|---|
| Yes | 17 |
| No | 21 |
| I don't know | 18 |
| | 56 |

Q2.15: If yes, how is this reflected in your national plans and policies?

Other needs:

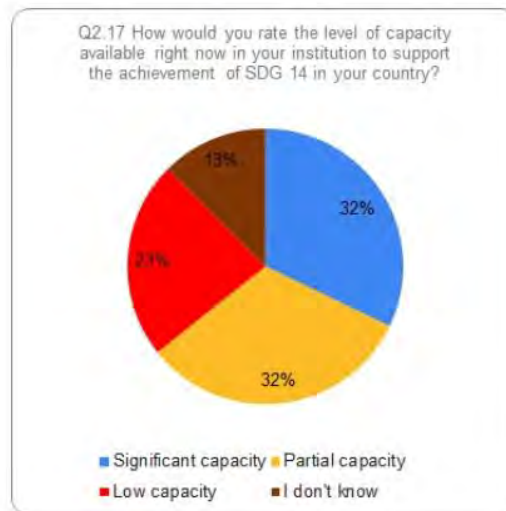
- Ocean Management and ocean governance
- It is absolutely not reflected at all since we have a bizarre denialist of all well-established principles government
- There are very important actions being developed by organized civil society and also by researchers. However, the Decade for the Oceans is not yet properly recognized by the Brazilian federal government. The federal government could support much more, however, the stance adopted has been very damaging to the environment, including coastal and marine environments.
- We certainly are not properly addressing the SDG 14
- I really can't say much
- we are taking it into account in our policies
- University buildings only for marine sciences Student training for marine sciences.
- Projects and ideas sustainable
- Promotion of new policies and guidelines
- All our goals are aligned with the SDG goals
- L'ODD 14 permet de contribuer a une meilleure gestion des ressources marines
- through departmental action plans
- There are specific policies related to fishing and conservation of the marine environment, plus national guidelines on topics in the marine environment that need to be addressed including, sustainable harvesting of marine resources, protection of the countries waters/ecosystems, water pollution and poaching.
- Our country is ongoing for the National Ocean Policy (NOP) Implementation Plan when the NOP has been approved by the Council's of Ministers
- There are stock assessments underway of different fish species; the extent of marine area under protection has been assessed

Q2.16: How would you rate the **level of capacity available right now in your country** to achieve **SDG 14?**



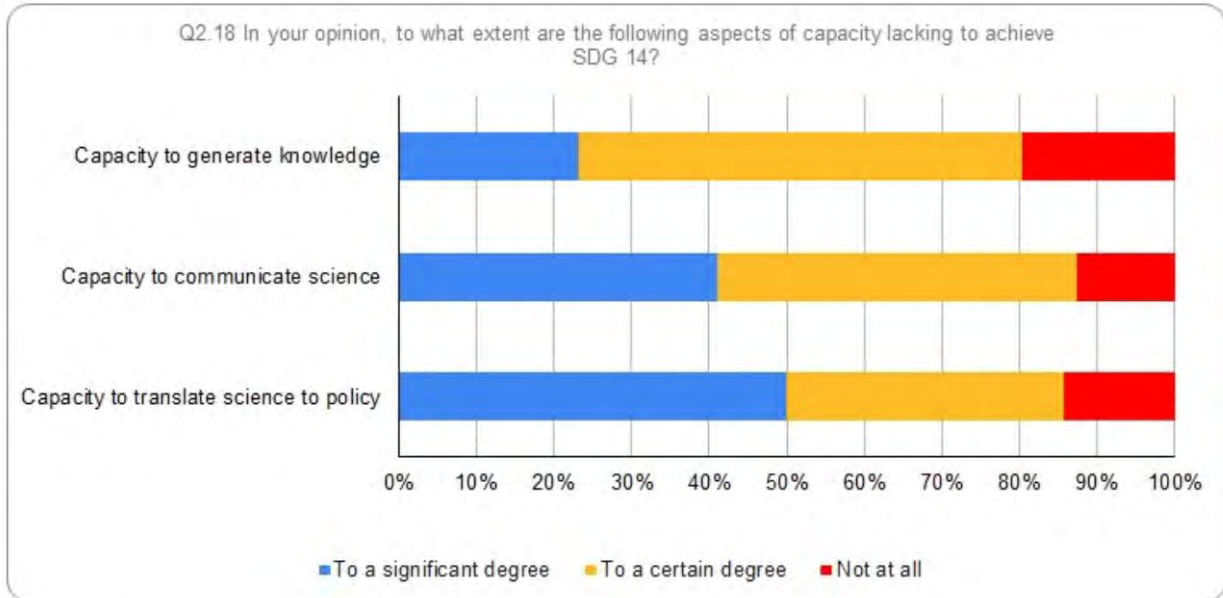
| | How would you rate the level of capacity available right now in your country to achieve SDG 14? |
|------------------|---|
| Significant cap | 4 |
| Partial capacity | 20 |
| Low capacity | 24 |
| I don't know | 8 |
| | 56 |

Q2.17: How would you rate the **level of capacity available right now in your institution to support the achievement of SDG 14 in your country?**



| How would you rate the level of capacity available right now in your institution to support the achievement of SDG 14 in your country? | |
|--|----|
| Significant cap | 18 |
| Partial capacity | 18 |
| Low capacity | 13 |
| I don't know | 7 |
| | 56 |

Q2.18: In your opinion, to what extent are the following aspects of capacity lacking to achieve SDG 14?

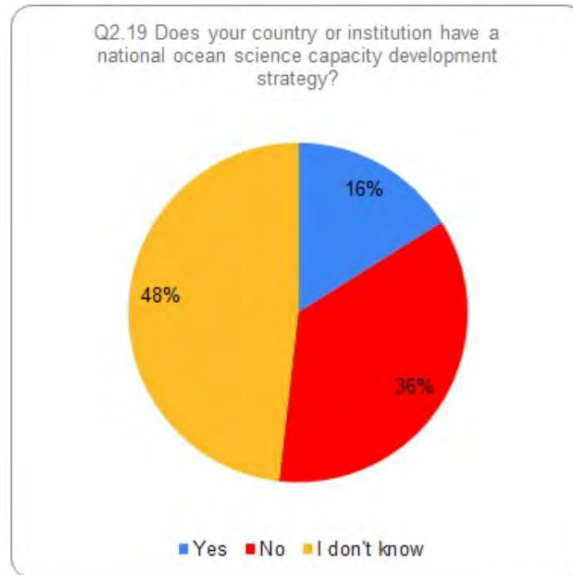


2.18 Summary Graph

| | Capacity to generate knowledge | Capacity to communicate science | Capacity to translate science to policy |
|---------------------|--------------------------------|---------------------------------|---|
| To a significant | 13 | 23 | 28 |
| To a certain de | 32 | 26 | 20 |
| Not at all | 11 | 7 | 8 |
| | 56 | 56 | 56 |
| Weighted Ave | 3.84 | 4.16 | 4.21 |
| RANK | 3 | 2 | 1 |

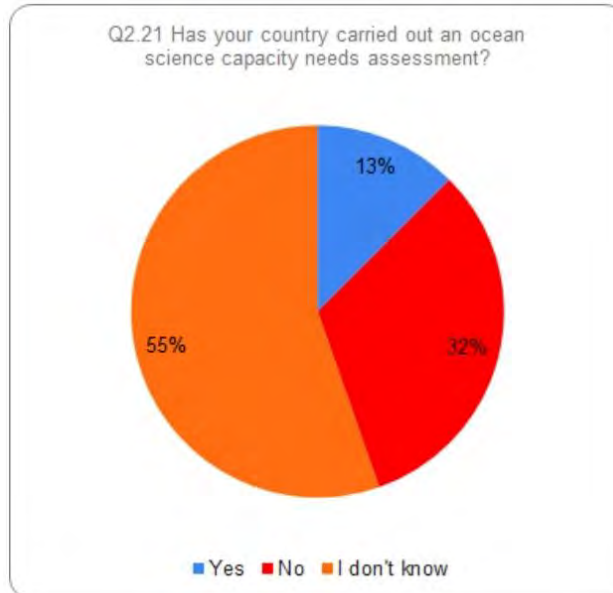
2.18 Summary Table

Q2.19: Does your country or institution have a **national ocean science capacity development strategy**? Q2.20: If yes, please specify (provide URL if available online)



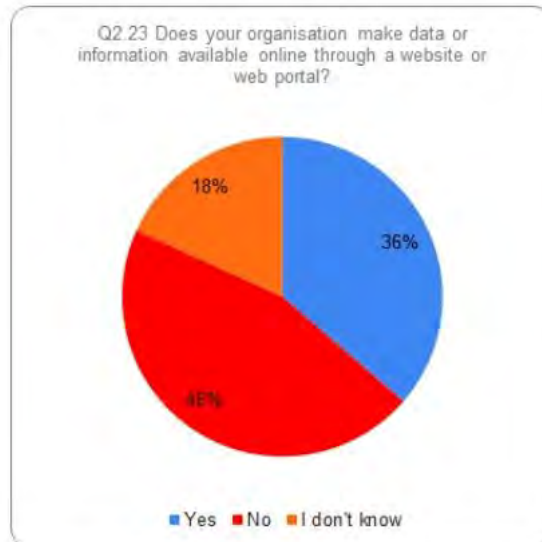
| | Does your country or institution have a national ocean science capacity development strategy? |
|--------------|---|
| Yes | 9 |
| No | 20 |
| I don't know | 27 |
| | 56 |

Q2.21: Has your country **carried out an ocean science capacity needs assessment**? Q2.22: If yes, please specify (provide URL if available online).



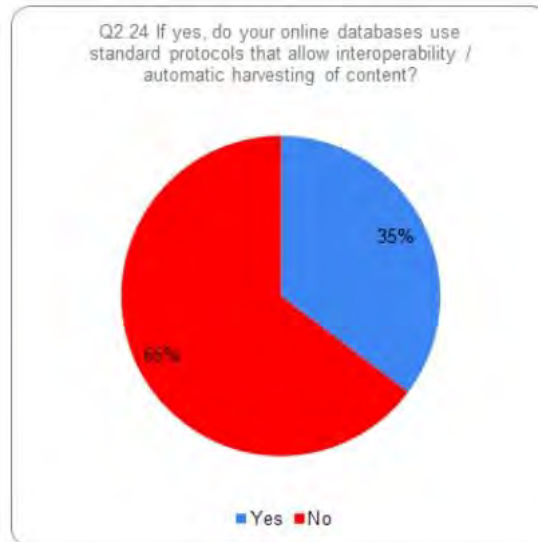
| | Has your country carried out an ocean science capacity needs assessment? |
|--------------|--|
| Yes | 7 |
| No | 18 |
| I don't know | 31 |
| | 56 |

Q2.23 Does your organisation make data or information available online through a website or web portal?



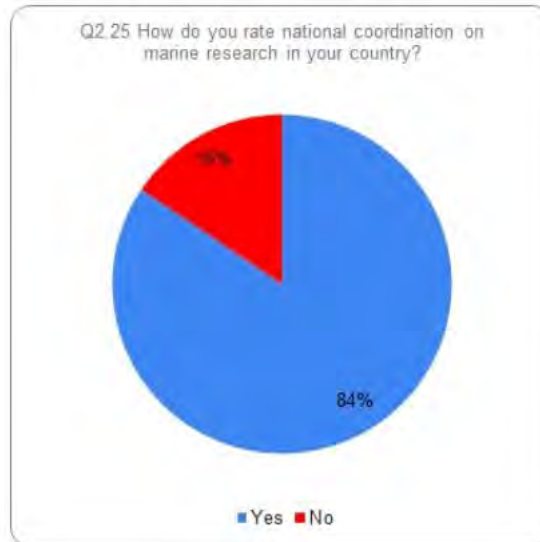
| | Does your organisation make data or information available online through a website or web portal? |
|--------------|---|
| Yes | 20 |
| No | 25 |
| I don't know | 10 |
| | 55 |

Q2.24 If yes, do your **online databases use standard protocols that allow interoperability / automatic harvesting** of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|-----|--|
| Yes | 12 |
| No | 22 |
| | 34 |

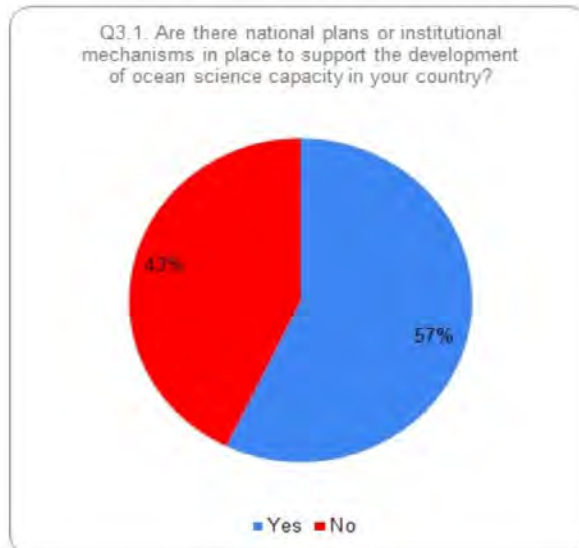
Q2.25 If no, is this **capacity that your organisation would like to develop?**



| | If no, is this capacity that your organisation would like to develop? |
|-----|---|
| Yes | 38 |
| No | 7 |
| | 45 |

LOCAL GOVERNMENT OFFICIALS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

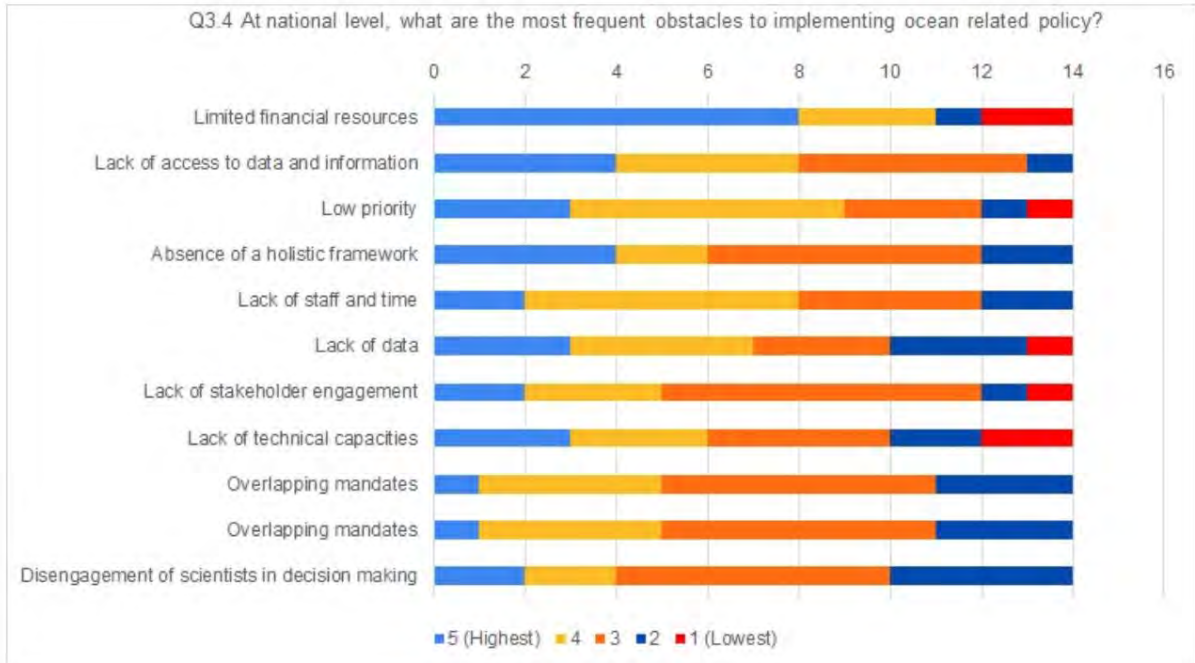


3.1 Summary Graph

| | Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? |
|-----|---|
| Yes | 8 |
| No | 6 |
| | 14 |

3.1 Summary Table

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.



3.4 Summary Graph

| | Limited financial resources | Lack of access to data and information | Low priority | Absence of a holistic framework | Lack of staff and time | Lack of data | Lack of stakeholder engagement | Lack of technical capacities | Overlapping mandates | Overlapping mandates | Disengagement of scientists in decision making |
|--------------|-----------------------------|--|--------------|---------------------------------|------------------------|--------------|--------------------------------|------------------------------|----------------------|----------------------|--|
| 5 (Highest) | 8 | 4 | 3 | 4 | 2 | 3 | 2 | 3 | 1 | 1 | 2 |
| 4 | 3 | 4 | 6 | 2 | 6 | 4 | 3 | 3 | 4 | 4 | 2 |
| 3 | 0 | 5 | 3 | 6 | 4 | 3 | 7 | 4 | 6 | 6 | 6 |
| 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 2 | 3 | 3 | 4 |
| 1 (Lowest) | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 |
| TOTAL | 56 | 53 | 51 | 50 | 50 | 47 | 46 | 45 | 45 | 45 | 44 |
| RANK | 1 | 2 | 3 | 4 | 4 | 6 | 7 | 8 | 8 | 8 | 10 |

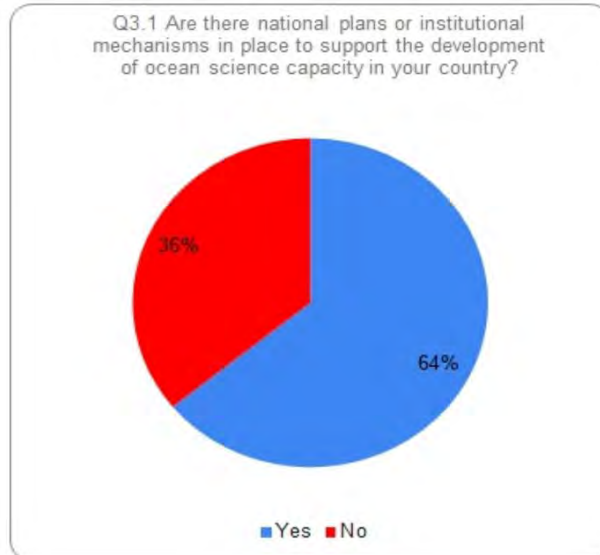
3.4 Summary Table

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

- Podra-a aportar conocimiento y equipamiento. Formacion de recursos humanos en herramientas de gestian
- incentivize the federal government and inform them of the importance
- Technical capacity support for policy formulation
- fortalecer capacidades y mantener programas de entrenamiento
- Support institutional arrangements of coordinated national mechanisms or policies in relation to ocean health, capacity building, providing technical expertise and access to private sector investments.
- Provide support for procurement of equipment and/or subsidise equipment maintenance.
- Provide relevant capacity building for the technician working in the ocean management - Sensitize the grassroots population on the importance of marine resource management - Provide Training and Assistance To the statistical officer on the relevant way To collect scientific data on marine resources
- Training
- Engage and train personnel. Create more awareness and public sensitization.
- IOC can support Environment Authority in Oman to develop Dsymaniat islands (marine national park in Muscat)
- provision of technical assistance through trainings and workshops applicable to the local setting
- assist in training for policy making
- There are no any opportunities of getting an expert knowledge of the people who are interested to work with ocean science . Therefore, the capacity building must be improved and encouraged for the people who are getting trainings for developing policies.
- research, monitoring in marine aquaculture
- Financial and logistic support, Training and Transfer of know how for national scientific staff, Implementation of project cooperation with research/monitoring/ Institution

NATIONAL GOVERNMENT OFFICIALS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

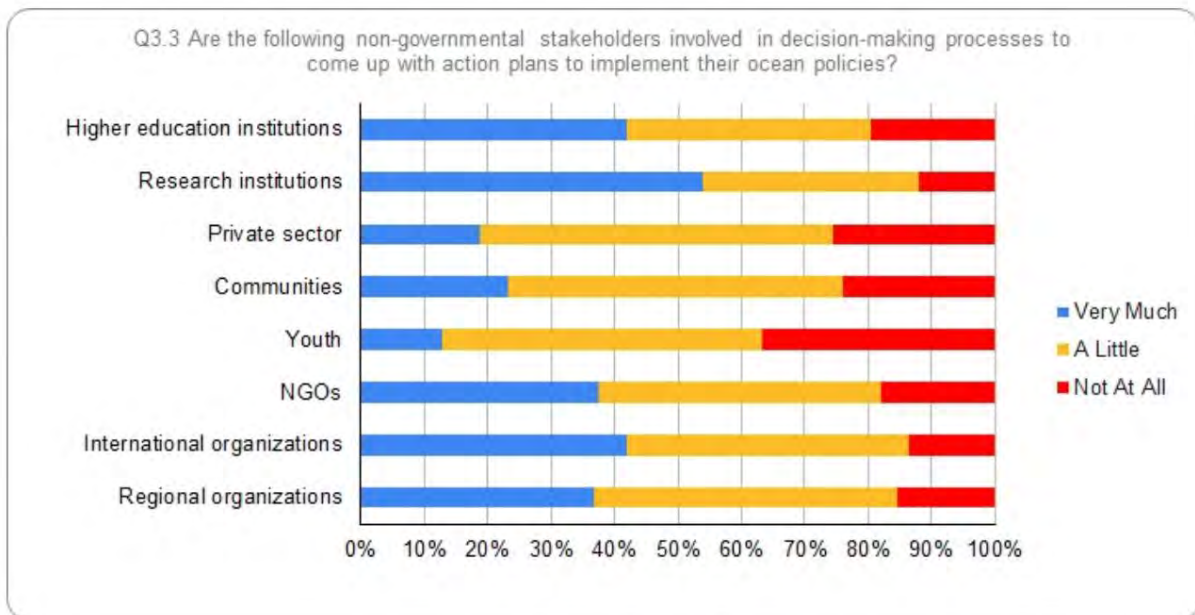


3.1 Summary Graph

| | Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? |
|-----|---|
| Yes | 75 |
| No | 42 |
| | 117 |

3.1 Summary Table

Q3.3: Are the following non-governmental stakeholders involved in decision-making processes to come up with action plans to implement their ocean policies?

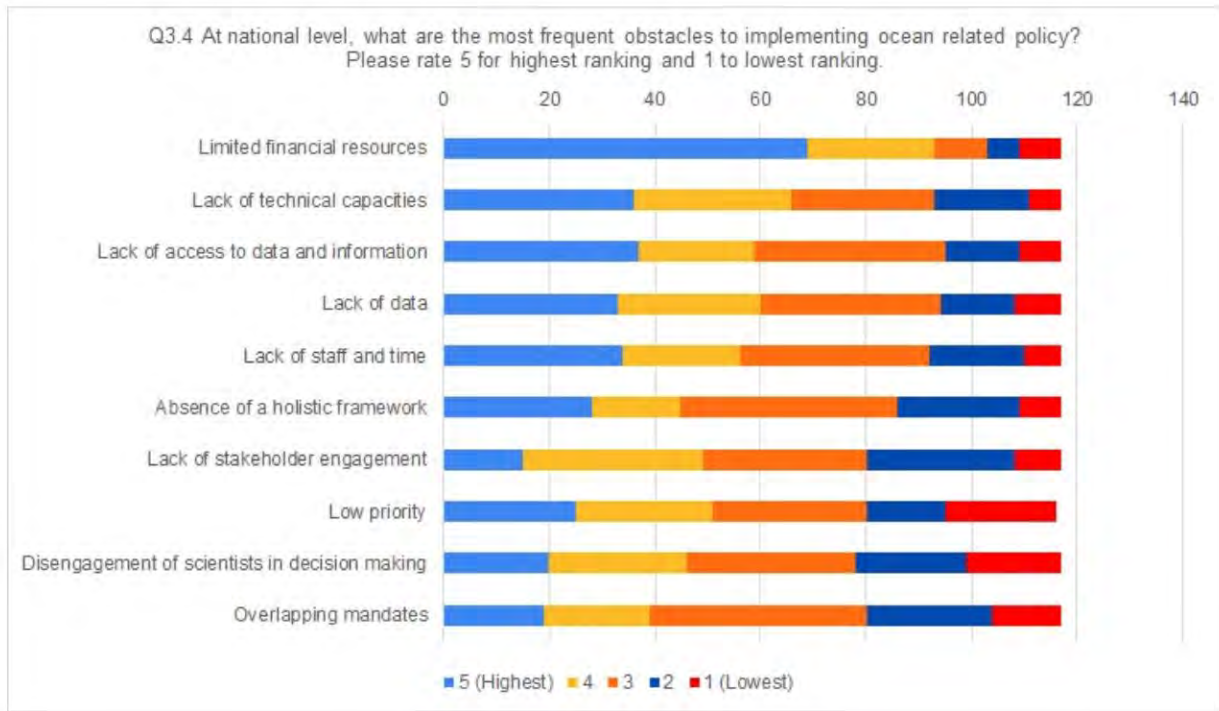


3.3 Summary Graph

| | Higher education institutions | Research institutions | Private sector | Communities | Youth | NGOs | International organizations | Regional organizations |
|------------|-------------------------------|-----------------------|----------------|-------------|-------|------|-----------------------------|------------------------|
| Very Much | 49 | 63 | 22 | 27 | 15 | 44 | 49 | 43 |
| A Little | 45 | 40 | 65 | 62 | 59 | 52 | 52 | 56 |
| Not At All | 23 | 14 | 30 | 28 | 43 | 21 | 16 | 18 |
| | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 |

3.3 Summary Table

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.



3.4 Summary Graph

| | Limited financial resources | Lack of technical capacities | Lack of access to data and information | Lack of data | Lack of staff and time | Absence of a holistic framework | Lack of stakeholder engagement | Low priority | Disengagement of scientists in decision making | Overlapping mandates |
|--------------|-----------------------------|------------------------------|--|--------------|------------------------|---------------------------------|--------------------------------|--------------|--|----------------------|
| 5 (Highest) | 69 | 36 | 37 | 33 | 34 | 28 | 15 | 25 | 20 | 19 |
| 4 | 24 | 30 | 22 | 27 | 22 | 17 | 34 | 26 | 26 | 20 |
| 3 | 10 | 27 | 36 | 34 | 36 | 41 | 31 | 29 | 32 | 41 |
| 2 | 6 | 18 | 14 | 14 | 18 | 23 | 28 | 15 | 21 | 24 |
| 1 (Lowest) | 8 | 6 | 8 | 9 | 7 | 8 | 9 | 21 | 18 | 13 |
| TOTAL | 491 | 423 | 417 | 412 | 409 | 385 | 369 | 367 | 360 | 359 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

3.4 Summary Table

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

- Podra-a aportar conocimiento y equipamiento. Formacion de recursos humanos en herramientas de gestia
- Connect with external funding and training
- Invest in greater technical and analytical resources, through new research programs, for the generation of data at the national level so that research and / or developments can be carried out to understand with greater depth the impact generated, mainly, by anthropic activities in the oceans, territorial seas and even the Antarctic territory
- Disseminate training opportunities
- To arrange training program, workshop for capacity building, research, ocean data sharing and fund for overall ocean development
- Direct involvement.
- By joining IOC/IODE organized ocean related training, seminer, workshop etc. my country people increase technical, professional knowledge.
- To arrange training program, workshop and other collaboration program for capacity building, research, ocean data sharing and to fund for overall ocean development.
- To arrange training program, workshop on coastal zone management, easy access to data and information, ocean data management etc. for capacity building.
- Support the government to facilitate more training & workshop and also disseminate the benefit of development and maintenance of national capacity in marine research/monitoring/management.
- IOC can take a good play for Bangladesh
- More geo-scientific research on the Bay-of-Bengal
- Providing training and joint collaboration.
- Provision of equipment for oceanographic research Assistance in undertaking ocean research surveys out to the EEZ Identification of data that currently exists Assistance with ocean governance policy development Training in data analysis and data management Assistance in the development and implementation of a marine spatial plan Assistance in the development of local community participation in marine research Assistance in public education on the research performed
- Assist with training and research programmes to monitor the ocean Aid in establishing guidance policies to assist in ongoing ocean research
- Financial and technical support
- Financial support Promote workshops
- incentivize the federal government and inform them of the importance
- To help Brazilian people to in capacity our people
- Offer an effective mechanism to identify and link needs to opportunities. Foster new training and transfer of marine tech where opportunities are not available

- Support us in the training and qualification of our technicians and in the acquisition of oceanographic equipment.
- involve with authorities and the media to show the advances and gaps in global & local sea informations
- data sharing practices and seminars within international cooperation programs
- Generar planes de accion con el fin de comprometer a los paases miembros en la implementacion y desarrollo. Continuar con la formacion de profesionales en ciencias del mar Auditor-as a entidades por paa
- It could help in two ways, the financial one, to help developing countries to acquire budget from sources external to those countries. and the second way is the diplomatic one, where pressure can be put on politicians to give the necessary importance to this type of program. Identify internally in the congresses of the countries which are the commissions that are in charge of the environmental part, to make a diplomatic presentation.
- BRINDANDO APOYO TÉCNICO Y ECONÓMICO PARA EL MANTENIMIENTO DE LAS REDES DE OBSERVACIÓN Y EL DESARROLLO DE ESTUDIOS CON ENFOQUE A SOLUCIONES SOCIALES.
- Financing and economic support. Support in activities at a strategic level to be able to raise awareness in the high government of the importance of their engagement with ocean sciences.
- Ayudar al trabajo de articulacion de las diferentes instancias, no solo de aquellas que producen conocimiento científico, sino tambien desde la educacion escolar con la formacion de docentes y las posibilidades de desarrollar poli-ticas educativas en clave de la educacion ambiental sistematica. Otra de las necesidad esta; relacionada con un estrategia de comunicacion y divulgacion de informacion cienti-fica a un publico no cienti-fico, por ejemplo a campesinos, personas iletradas y ciudadanos comunes, para ampliar su comprension y que desde alla-, puedan tomar postura cri-tica y participativa en el cuidado y conservacion de las fuentes hi-dricas en relacion con los oceanos. Es decir, que el tema de los oceanos no sea un tema de interos propios de los habitantes de las zonas costeras, sino que contemple a los ciudadanos del pa-s que viven en el interior y en las montaas. Se viene avanzando en la formacion laboral de los pescadores, en el ordenamiento de playas, la regulacon del transporte y el turismo, pero se desconocen las consecuencias de practicas como la explotacion minera, la contaminacion qua-mica de ra-os, la desaparicion de afluentes por causa de la construccion de represas y explotacion petrolera. En conclusion el tema tiene que ser comun a todos los ciudadanos desde esas relaciones ambientales, culturales y sociales. Todo el trabajo se centra en investigaciones y toma de decisiones en beneficio de muy pocos, y asociado a la burocracia.
- 1. International agreements and agendas signed by the country that enable the execution and financing of Science, Technology and Innovation projects and the international mobility of scientists. 2. Technological developments and patents for the sustainable use of the economic potential of maritime resources. 3. Support to consolidate the General Information System on Science and Technology of the Sea and hydrobiological, fishing and aquaculture resources for public use. 4. Support in the constitution of multidisciplinary and international scientific cooperation networks for the execution of research programs and projects and technology transfer. 5. It is necessary to strengthen technological capacities for the construction of a platform for the generation of oceanographic data. 6. To expand research in Colombia, it is necessary to train people in master's and doctorates abroad in programs in which there are no national strengths related to climate change,

oceanography, evaluation of maritime resources, fisheries, development of technologies to do research with equipment last generation, genetics and omics sciences, Bioeconomics.

- incentivize countries to invest and maintain capacities, could be through incentives or project financing
- Technical capacity support for policy formulation
- Contribute in the development of local capacities by means of instruction and training plans.
- Technical and financial support.
- By building human and technical capacities (high educations and specialization) and helping institutions involved in marine services and science to limit their logical areas of action and encourage them in their commitments
- total assistance
- Support similar concepts between IOC and the Cook Islands
- Support to Ministry of Education - the Cook Islands education system needs extensive rework in many areas, one such area is increasing education, awareness and understanding to youth (secondary school/college) to provide opportunity for career pathways, such as in to ocean science. Another option would be support to Ministry of Marine Resources (MMR) and the Marae Moana Coordination Office (MMCO) housed under the Office of the Prime Minister (OPM) to formalise plans, frameworks and strategies to institutionalise and streamline capacity development and maintenance. Local NGOs (Te Ipukarea Society, Korero o te Orau, Aitutaki Conservation Trust, etc.) would also benefit from support to assist activities in awareness and capacity development opportunities for youth and communities.
- Dedication of funds and training for studies of the coastal zones.
- training, capacities development, technologies, financial support, among others
- Initiate workshops or seminars to try to make a diagnosis of the current situation of maritime and oceanographic services, and at the same time identify public and private institutions and universities that could define an integrated system for services. The development of the capacities of both technologies and technical-professional personnel must be taken into account
- fortalecer capacidades y mantener programas de entrenamiento
- It enables all Member States to participate in and benefit from ocean research and services that are vital to sustainable development and human welfare on the different stakeholder state. This Strategy's vision identifies capacity development as the primary catalyst through which IOC will achieve its four high level objectives in the current 2014-2021 IOC Medium-Term Strategy.
- Support institutional arrangements of coordinated national mechanisms or policies in relation to ocean health, capacity building, providing technical expertise and access to private sector investments.
- Human resources capacity building 2. Building Infrastructural capacity 3. Financial resources

- IOC can provide support for the development of a National Plan/Policy on Ocean Science. Provide technical support and capacity building in priority areas related to Ocean
- first of all, change the national contact point, on these days its INSIVUMEH (meteo inst.) but they dont do marine science.
- Organize capacity building and especially popularize information
- Developing permanent capacity building programs in our country, with a full knowledge of the scope of stakeholders that actually work with this matter; engaging with the existent projects and programs regarding ocean science and opening more opportunities for personnel training.
- identify the area of capacity development, the requirements to improve observation, data access and then focussed research with appropriate funding
- Very good
- International training for early career researchers 2. International collaborated researches
- By reinforcing the Ocean Expert Database by introducing 4 distinct levels of experts which may help to identify suitable persons for development and maintenance of capacity building by IOC both at national and global levels. 4 proposed levels of Expert categories: Entry level: E level Expert Category 0- 3 years experience in supervisory position. Midlevel Expert: M level Experts 3 years and more experience in supervisory capacity. Senior Level Experts: S level Experts: 10 years and more experience in Senior executive or responsible position Outstanding Level of Experts: O level Experts Outstanding and Distinguished scientists engineers professors Head of National/Federal scientific Agencies etc
- already very much involved ITCOcean IOCINDIO GOOS IOGOOS
- Need to strengthen the awareness programs across the country through various training programs , conferences , webinars . Need to use services of academic institutes in executing the same.
- Funding, Skill development, technology transfer, framework methodologies for sustainable development;
- supports capacity building and research funding, strengthen collaboration for local and international research center.
- through training and sharing programs. Furthermore, it would be good if IOC could provide technical assistances including on how to develop program/ action plans.
- By increasing workshop and training frequency in all ocean aspect.
- with knowledge and sharing technology
- technical assistance, financial support, scholarship, access to regional and global data
- technical assistance for capacity development
- IOC should reach out to the office of President, and to the ministry of Sand Technology Office. These 2 institutions have the mandate, but lack of expert on ocean science,
- IOC must support financial to marine research program

- More Contact to IOC member capacity building development in deprived countries- providing online courses and find talented employees to support them
- Not certain
- Provide support for procurement of equipment and/or subsidise equipment maintenance.
- Organize IOC related meetings and conferences in the country to increase visibility of IOC activities locally. For example, jointly organize the ocean science meetings and symposiums with the local communities.
- Making statement that some of our efforts is important. It helps us get a budget.
- Building reasonable scheme or frame work regarding open accessible data and information.
- provide a capacity building training and financial and technical supporting
- Provision of capacity building
- Provide support for training of marine scientists
- Technical Assistance, equipment/instruments Assistance, Financial Assistance and Training
- IOC need to sensitive and build awareness on the various functions it performs and have focal persons in the Country who can be contacted anytime for any engagements.
- Provide relevant capacity building for the technician working in the ocean management - Sensitize the grassroots population on the importance of marine resource management - Provide Training and Assistance To the statistical officer on the relevant way To collect scientific data on marine resources
- Provide Training Funding of necessary Equipment such as WaveRider Tide Stations for monitoring
- Training
- IOC could help in all those areas including management aspects
- Financial supports
- Provide financial aids and training
- To issued the Tsunami Information and Warning for our coastal areas.
- As my perspectives, the following support you could; 1. capacity development 2. Financial and technical assistances 3. equipments or technical machines 4. advice by technically and strategically 5. collaboration and coordination locally and internationally
- Myanmar needs to be developed in the specialization field of marine and oceanography because there is only one marine university in Mawlamyine. Although Myanmar Navy is doing the related actions in marine activities, there should be a specialized department or research center in marine research/monitoring/management and so on.
- Human Resource Capacity building, such as post graduate training, short term training, technology transfer program

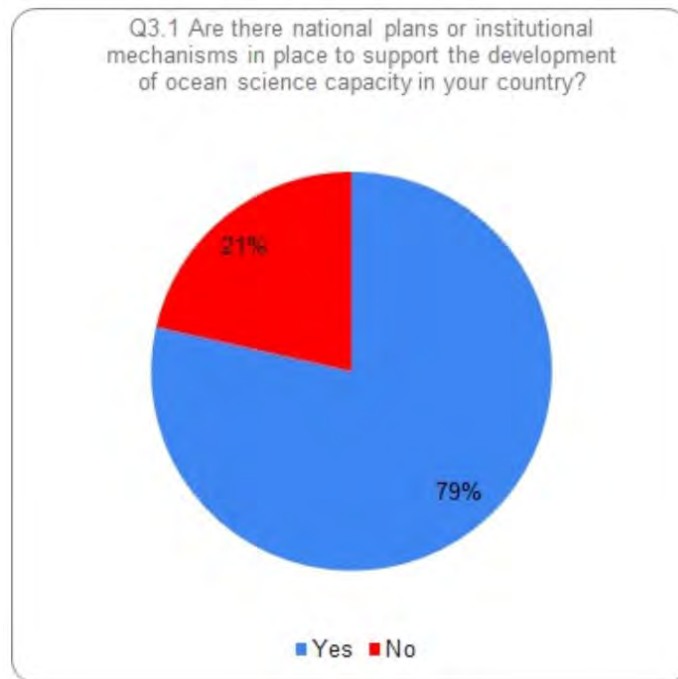
- help the country with funding and information sharing especial the senior scientists should the available opportunity with upcoming scientists
- Training support in critical areas of marine research and management that may not be available in Namibia due to lack of expertise, equipment and funds.
- Develop implement and if possible finance some projects that would improve all this monitoring
- Engage and train personnel. Create more awareness and public sensitisation.
- Partner with Nigerian Institute for oceanography and assist in research Grant and funding for ocean cruise, Argo float deployment and training for capacity building.
- Engage with Ministry of Natural Resources where Department of Agriculture, Fisheries and Forestry sits
- Better engagement of IOC national representatives with their marine monitoring community.
- MORE TRAINING
- IOC can support Environment Authority in Oman to develop Dsyaniat islands (marine national park in Muscat)
- Provide training courses, scholarships for juniors researches
- By supporting young researchers/scientists in some professional level advanced courses i.e. degree programs
- By organizing workshop, meetings and conference. By setting a local offices in research centers.
- could train government personnel, communities and stakeholders on resource management with a holistic approach and, financial support
- Exchange experiences, forums, good practices.
- Provide support, advice, monitoring and funding for research that contributes to making good decisions in the conservation of the ocean and its resources, improving the government policies of our country. Inform the general public through workshops and courses about the importance of the ocean and the conservation and management of its resources.
- More training courses and increase the capacity building
- The IOC could support us providing oceanographic data and including our organization in training courses.
- First make a ocean culture, suddenly have a base line of how is our ocean to after make strategies in coordination with national and local authorities about ocean decisions
- provide technical support, advice and training to actors and public entities
- Support with specialists to improve our investigations. Support in the improvement of our database.
- IOC could continue giving practical courses on marine research methodologies and also holistic framework for oceanic research

- provision of technical assistance through trainings and workshops applicable to the local setting
- Provide and assist in promoting collaboration that will allow technological transfer
Promote and assist on the capacity development of instructor scientists thru exchange program who can multiply capacity development among different sectors and stakeholders involved Promote and assist thru development program on awareness development among stakeholders such as community, private sectors etc on significance and impact of marine science on their lives and related operations
- Offer competency training for NAMRIA's Physical Oceanographers
- Trainings
- assist in training for policy making
- Technical expertise, capacity building opportunities
- training and education and financial support.
- capacity building
- Local capacity building, e.g. through sponsorship of short term (esp.) and long term courses
- Development of technical capacities and financial resources
- We need support to integrated coastal management.
- No suggestion
- Increased stakeholder engagement with especially with NGOs and Business Community
- Capacity development of marine forecast
- There are no any opportunities of getting an expert knowledge of the people who are interested to work with ocean science . Therefore, the capacity building must be improved and encouraged for the people who are getting trainings for developing policies.
- still their no any engagement with DMC as mandated organisation for the risk management of Tsunami, coastal hazards,and drowning risk reduction
- It could do a lot because we support in every things.
- Provide funded attending to trainings and workshops.
- What the IOC can do to support the development and maintenance of national capacity in marine research / monitoring / management is to provide trainings to young and talented government employees related to Marine Resources
- A marine research center is being created in Togo and for its proper functioning, it will be necessary to provide this center with adequate materials and equipments. Support from the IOC will enable the strengthening of the centre's material and technical capacities and the capacity building of human resources.
- online training capacity building online share data and software exchange staff
- Assist with building local capacity of scientists through training workshops and conferences and exchange programme where experts can come to a country on sabbatical. Support local training events by provided technical expertise and funding.

- installation of projects to strengthen fishery resources, illegal fishing, marine fishing, marine technology. the extension worker in the marine sector must be given great value, as they are the closest to the company and the administration to the execution of the projects.
- research, monitoring in marine aquaculture
- Financial and logistic support, Training and Transfer of know how for national scientific staff, Implementation of project cooperation with research/monitoring/ Institution
- To create a new position or sector related To marine research/monitoring/management in the country - support To build the capacity in academic on this field. - awareness programs (Funding)
- Capacity Development
- Give support in research.
- Involving people in various programs being undertaken by IOC and sharing various information on the subject matter
- To support the Co Management on marine conservation areas for improvement and sustainable development
- encourage and facilitate regional and global partnerships, encourage open access to data.
- Funds or means to organize and process the information on marine biodiversity that has already been collected and needs to be curated and integrated into collections of the National Museum of Natural History. Funds for the establishment of fixed points for obtaining oceanographic and meteorological data. Funds to replace the fishing / oceanographic research vessel with an environmentally friendly that fulfills its function.
- Promoting the rule of law and democratic governance and Informing the high levels of Venezuelan government about the GREAT IMPORTANCE of the generation of oceanic data in the South Eastern Caribbean specifically on the Venezuelan coast, and financing specialized Institutes in the matter such as such as the Oceanographic Institute of Venezuela, Simon Bolivae University, La Salle Research Institute, Technical Directorate of Coastal Zones of the Ministry for Ecosocialism and UNDP-Venezuela to give continuation to the projects to strengthen coastal management in Venezuela.
- Training and sharing data and information
- We regularly follow and participate in priority directions in marine science set by the UN, IOC/UNESCO; and we assist scientists, government authorities in understanding these issues and providing appropriate assistance in scientific research

POLICY MAKERS

Q3.1: Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? Q3.2: If yes, please specify:

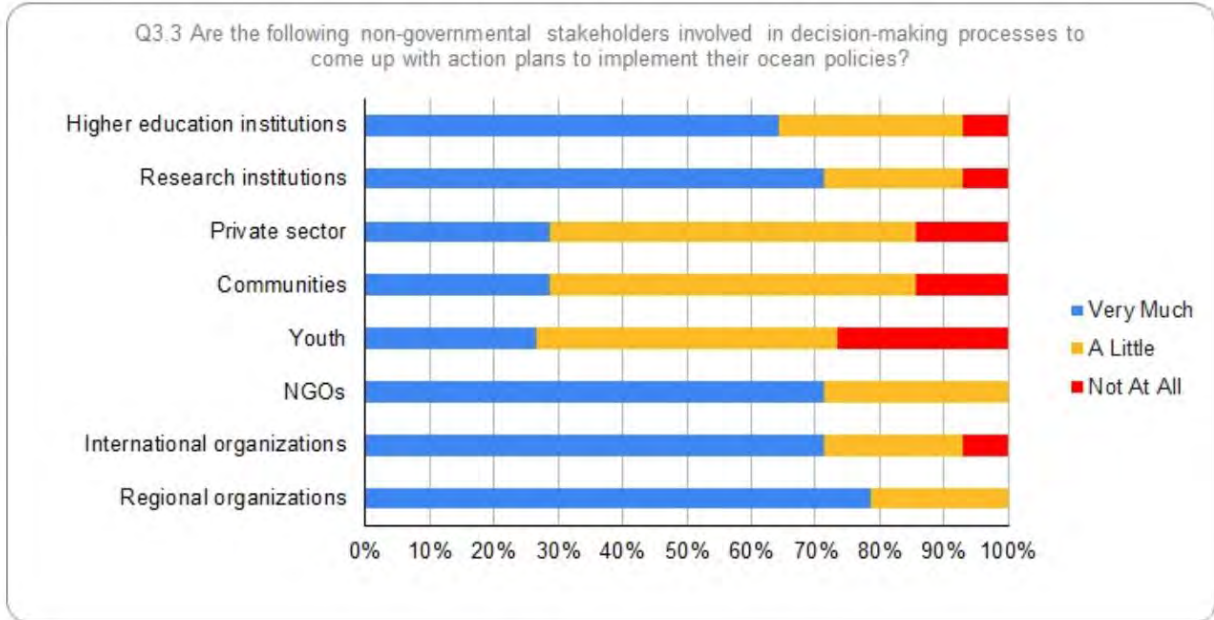


3.1 Summary Graph

| | Are there national plans or institutional mechanisms in place to support the development of ocean science capacity in your country? |
|-----|---|
| Yes | 11 |
| No | 3 |
| | 14 |

3.1 Summary Table

Q3.3: Are the following non-governmental stakeholders involved in decision-making processes to come up with action plans to implement their ocean policies?

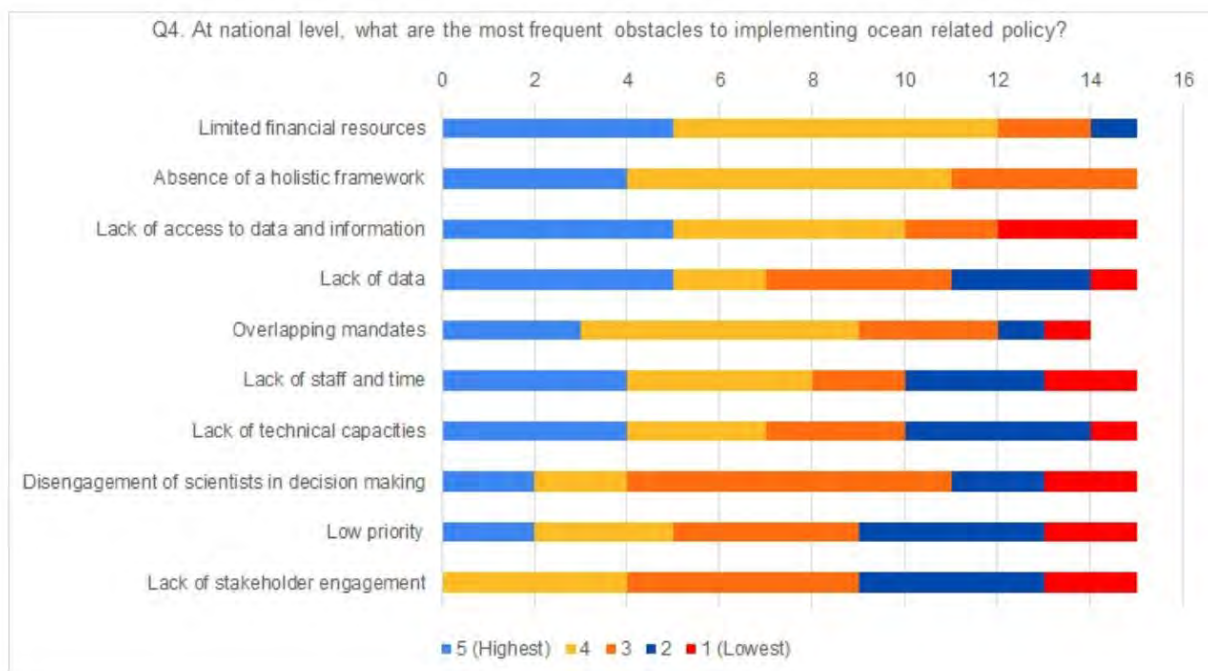


3.3 Summary Graph

| | Higher education institutions | Research institutions | Private sector | Communities | Youth | NGOs | International organizations | Regional organizations |
|------------|-------------------------------|-----------------------|----------------|-------------|-------|------|-----------------------------|------------------------|
| Very Much | 9 | 10 | 4 | 4 | 4 | 10 | 10 | 11 |
| A Little | 4 | 3 | 8 | 8 | 7 | 4 | 3 | 3 |
| Not At All | 1 | 1 | 2 | 2 | 4 | 0 | 1 | 0 |
| | 14 | 14 | 14 | 14 | 15 | 14 | 14 | 14 |

3.3 Summary Table

Q3.4: At national level, what are the most frequent obstacles to implementing ocean related policy? Please rate 5 for highest ranking and 1 to lowest ranking.



3.4 Summary Graph

| | Limited financial resources | Absence of a holistic framework | Lack of access to data and information | Lack of data | Overlapping mandates | Lack of staff and time | Lack of technical capacities | Disengagement of scientists in decision making | Low priority | Lack of stakeholder engagement |
|--------------|-----------------------------|---------------------------------|--|--------------|----------------------|------------------------|------------------------------|--|--------------|--------------------------------|
| 5 (Highest) | 5 | 4 | 5 | 5 | 3 | 4 | 4 | 2 | 2 | 0 |
| 4 | 7 | 7 | 5 | 2 | 6 | 4 | 3 | 2 | 3 | 4 |
| 3 | 2 | 4 | 2 | 4 | 3 | 2 | 3 | 7 | 4 | 5 |
| 2 | 1 | 0 | 0 | 3 | 1 | 3 | 4 | 2 | 4 | 4 |
| 1 (Lowest) | 0 | 0 | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 2 |
| TOTAL | 61 | 60 | 54 | 52 | 51 | 50 | 50 | 45 | 44 | 41 |
| RANK | 1 | 2 | 3 | 4 | 5 | 6 | 6 | 8 | 9 | 10 |

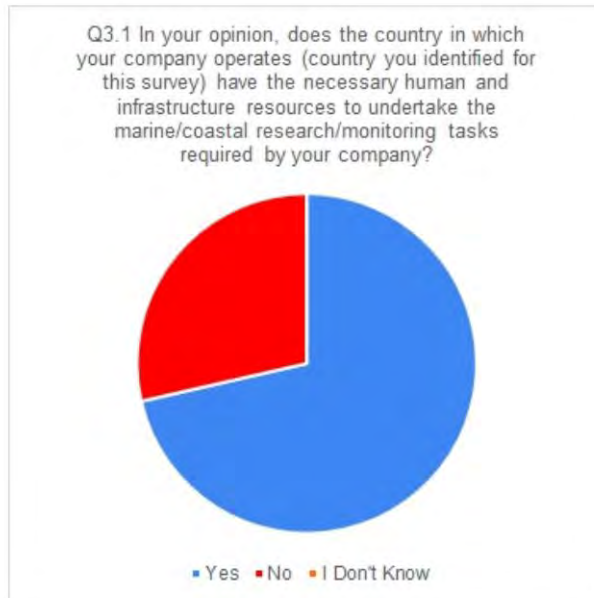
3.4 Summary Table

Q3.5: What could IOC do to support the development and maintenance of national capacity in marine research/monitoring/management in your country?

- guide and contribute in our National Decade Implementation Plan, open opportunities for CD application related to state of the art ocean science
- Government interluction and allocation of resources
- Supporting the Policies of SECRIM and Navigation General Directorate from Brazilian Navy
- Expand the offer of courses and financial support for training in ocean and coastal management aimed at government officials.
- Through the researches of the climate change and safe clean water
- IOC does not have significant visibility or activities in the Pacific. IOC is largely unknown to the Pacific SIDS. THis needs improving first.
- Providing Capacity building and Technical support to low income oceanic countries.
- Working together with MMAF in providing capacity building and training to improve the capacity of human resources to collect, manage marine research and observation data
- capacity building, facilitate collection and dissemination of relevant data
- Capacity building
- training, workshops
- Support regional and national programs and support capacity-building activities for young professionals in the field. In addition, promote relevant studies that are useful for policy formulation and sound planning for future development.
- Capacity Building and financial support
- Assist both financially as well as technically to set up a study of marine education at the institute for Graduate Studies in Suriname, where I just met with the director of this institute to discuss my involvement as the prime person/future study coordinator for the department of marine studies.
- Long term and In-house capacity building.

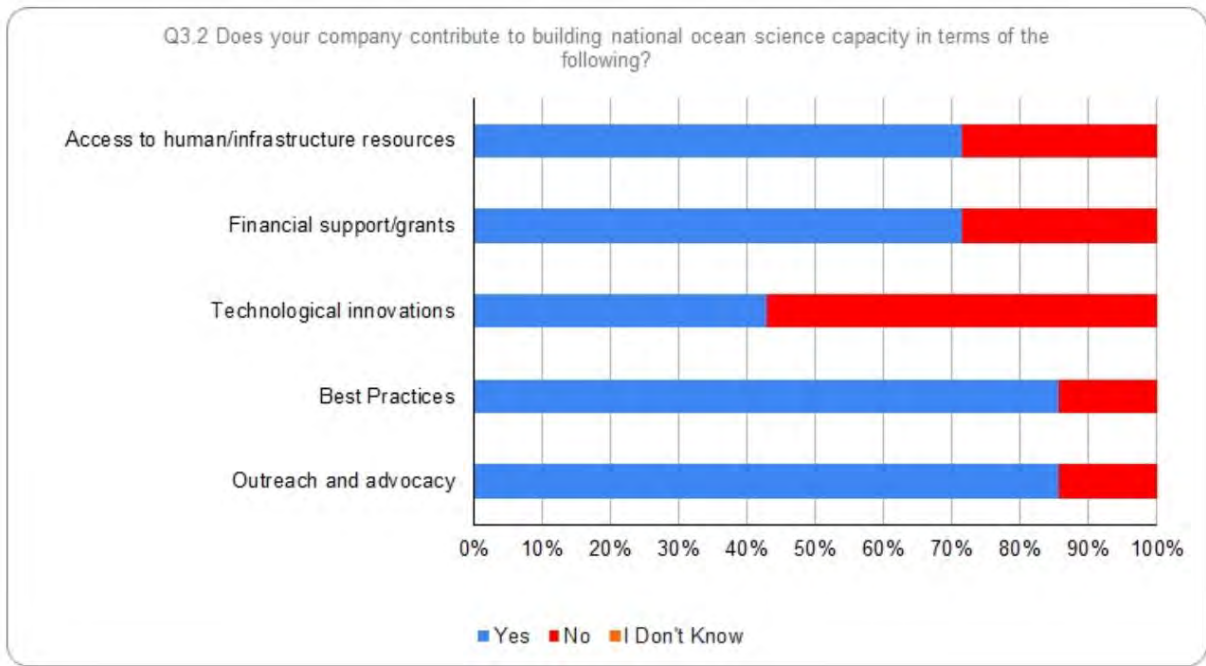
INDUSTRY

Q3.1: In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company?



| | In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company? |
|--------------|---|
| Yes | 5 |
| No | 2 |
| I Don't Know | 0 |
| | 7 |

Q3.2: Does your company contribute to building national ocean science capacity in terms of the following?

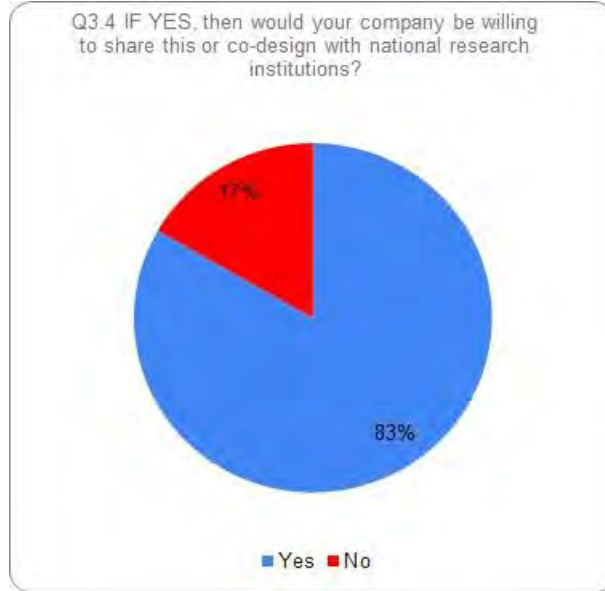


| | Access to human/infrastructure resources | Financial support/grants | Technological innovations | Best Practices | Outreach and advocacy |
|--------------|--|--------------------------|---------------------------|----------------|-----------------------|
| Yes | 5 | 5 | 3 | 6 | 6 |
| No | 2 | 2 | 4 | 1 | 1 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 |

Q3.3: Does your company own research/monitoring facilities for marine related works?

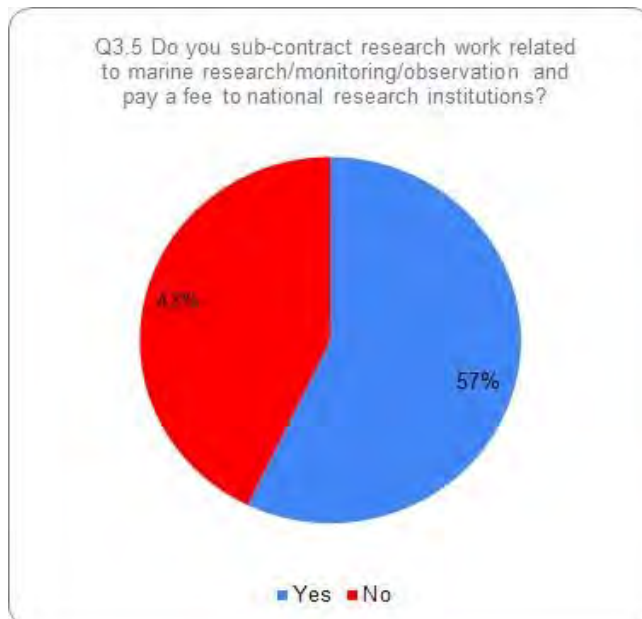


Q3.4. IF YES, then would your company be willing to share this or co-design with national research institutions?



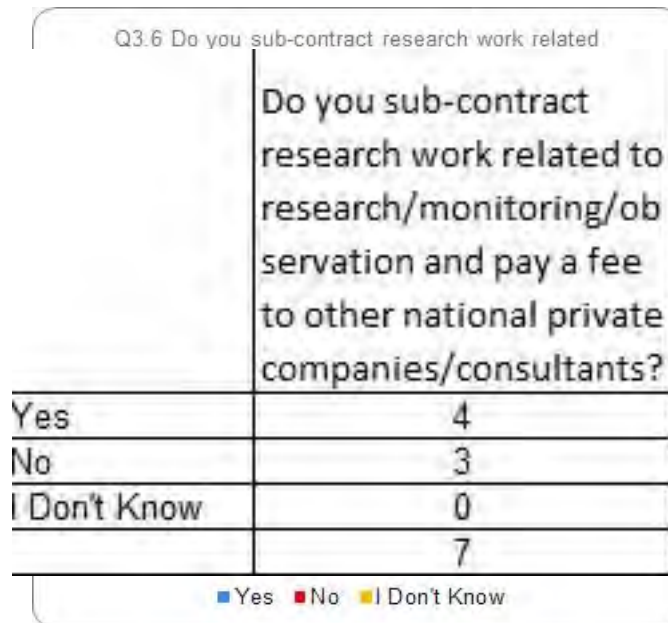
| | IF YES, then would your company be willing to share this or co-design with national research institutions? |
|-----|--|
| Yes | 5 |
| No | 1 |
| | 6 |

Q3.5: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?

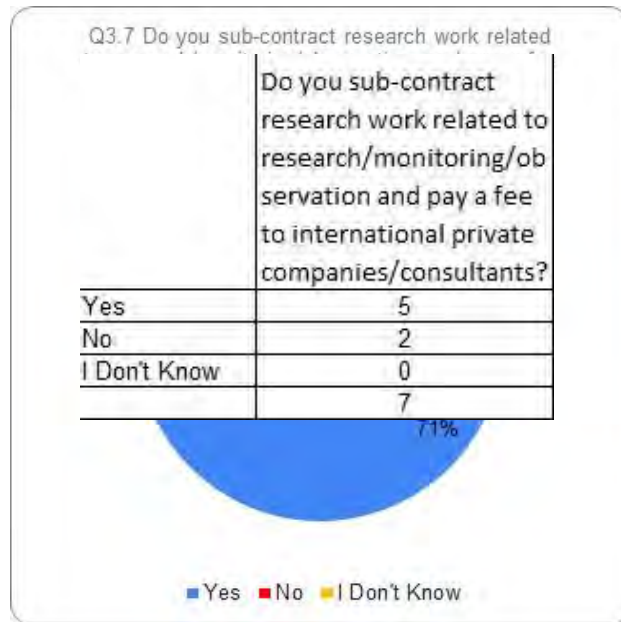


| | Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research |
|-----|--|
| Yes | 4 |
| No | 3 |
| | 7 |

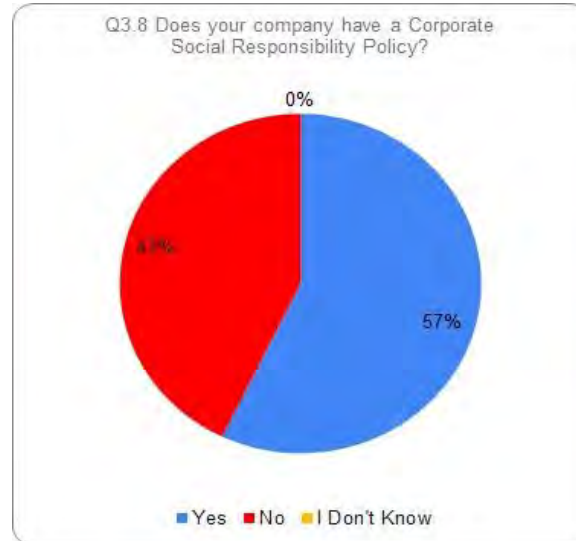
Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?



Q3.7: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?



Q3.8: Does your company have a **Corporate Social Responsibility** Policy?



| | Does your company have a Corporate Social Responsibility Policy? |
|--------------|--|
| Yes | 4 |
| No | 3 |
| I Don't Know | 0 |
| | 7 |

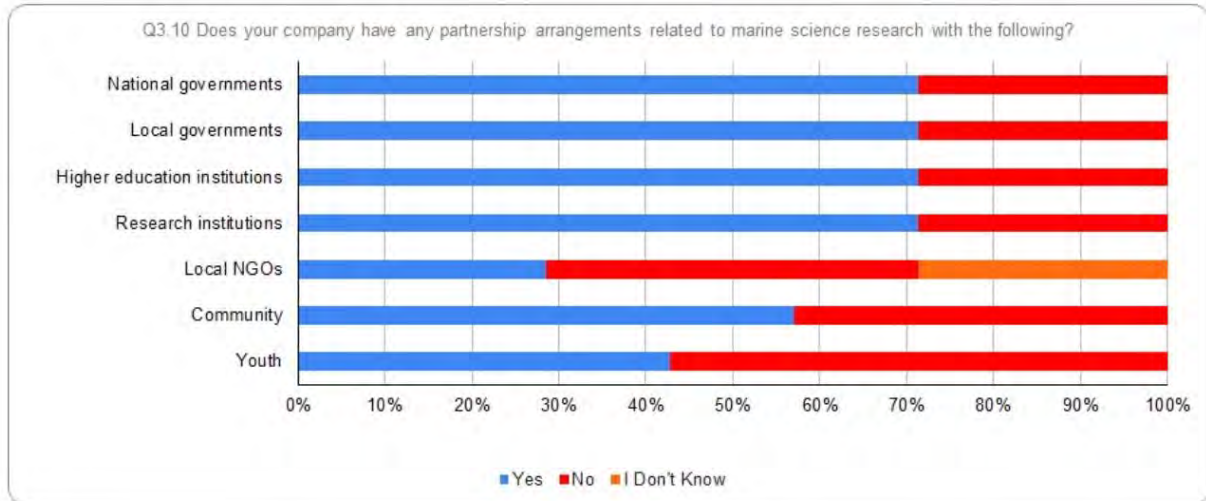
Q3.9: If yes, does it involve marine scientific research or related areas of research?

Q3.9 If yes, does it involve marine scientific research or related areas of research?

| If yes, does it involve marine scientific research or related areas of research? | |
|--|---|
| Yes | 7 |
| No | 0 |
| I Don't Know | 1 |
| | 8 |

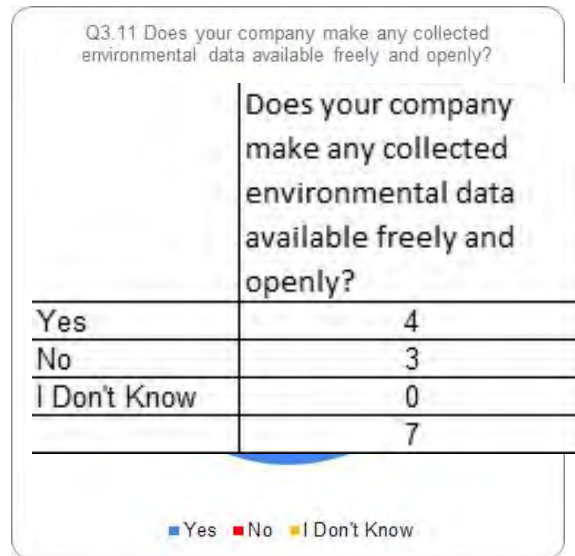
■ Yes ■ No ■ I Don't Know

Q3.10: Does your company have any **partnership arrangements** related to marine science research with the following?



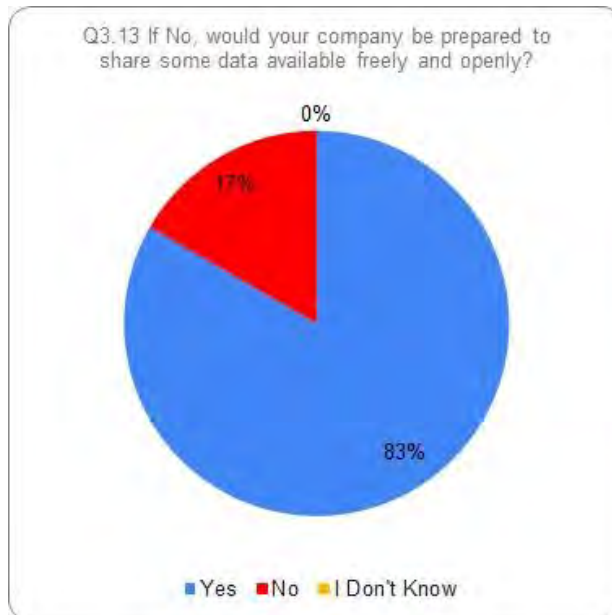
| | National governments | Local governments | Higher education institutions | Research institutions | Local NGOs | Community | Youth |
|--------------|----------------------|-------------------|-------------------------------|-----------------------|------------|-----------|-------|
| Yes | 5 | 5 | 5 | 5 | 2 | 4 | 3 |
| No | 2 | 2 | 2 | 2 | 3 | 3 | 4 |
| I Don't Know | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 |

Q3.11: Does your company make any collected environmental data available freely and openly?



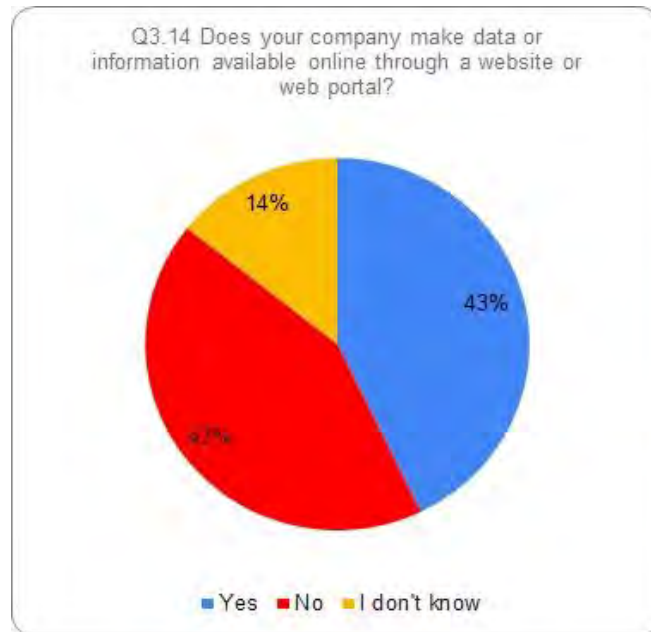
Q3.12: If Yes, what **group of stakeholders are your primary data users** of collected environmental data?

- internal and governmental agencies
 - Does not apply
 - Governmental agencies
 - University of Panama
 - youth partners
 - STEM students
- Q2.13: If No, would your company be prepared to share some data available freely and openly?



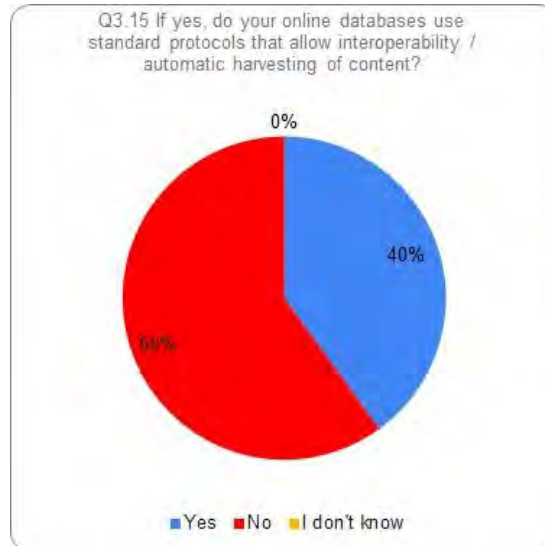
| If No, would your company be prepared to share some data available freely and openly? | |
|---|---|
| Yes | 5 |
| No | 1 |
| I Don't Know | 0 |
| | 6 |

Q3.14: Does your company make data or information available online through a website or web portal?



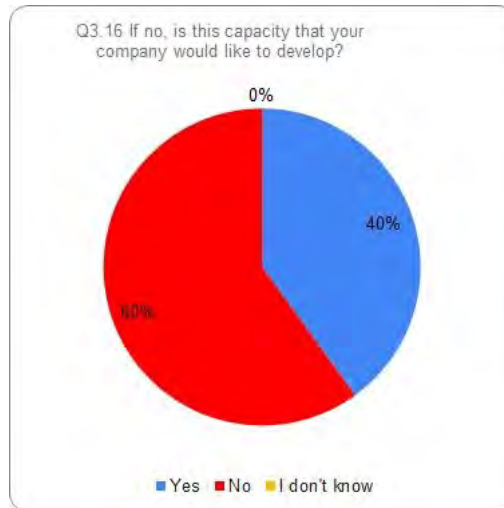
| | Does your company make data or information available online through a website or web portal? |
|--------------|--|
| Yes | 3 |
| No | 3 |
| I don't know | 1 |
| | 7 |

Q3.15: If yes, do your online databases use standard protocols that **allow interoperability / automatic harvesting** of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|--------------|--|
| Yes | 2 |
| No | 3 |
| I don't know | 0 |
| | 5 |

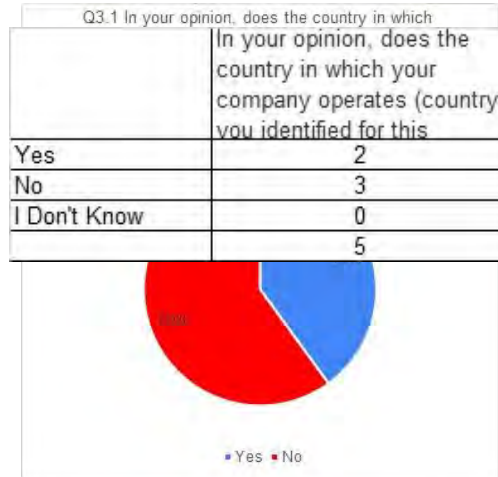
Q3.16: If no, is this **capacity that your company would like to develop**?



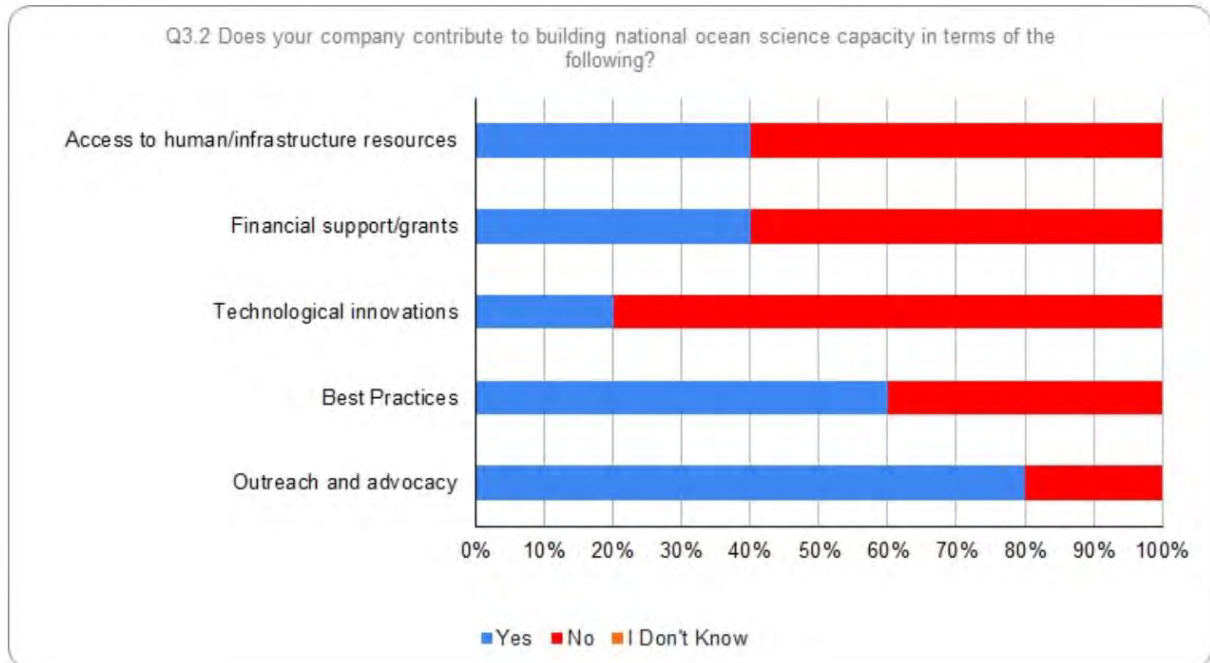
| | If no, is this capacity that your company would like to develop? |
|--------------|--|
| Yes | 2 |
| No | 3 |
| I don't know | 0 |
| | 5 |

PRIVATE SECTOR

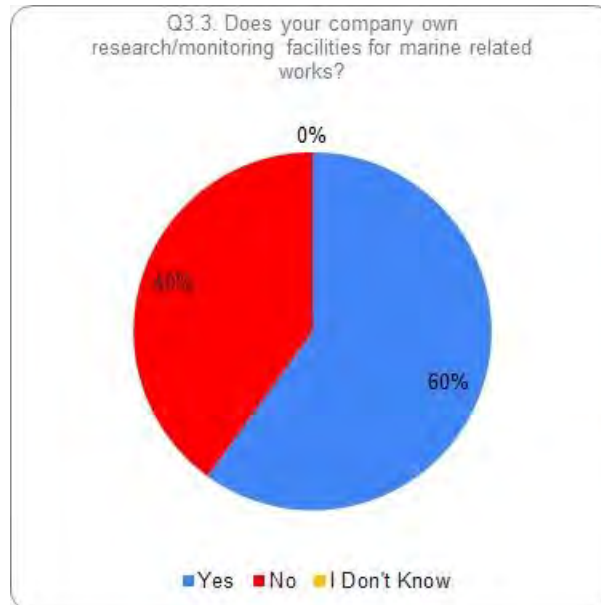
Q3.1: In your opinion, does the country in which your company operates (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required by your company?



Q3.2: Does your company contribute to building national ocean science capacity in terms of the following?



| | Access to human/infrastructure resources | Financial support/grants | Technological innovations | Best Practices | Outreach and advocacy |
|--------------|--|--------------------------|---------------------------|----------------|-----------------------|
| Yes | 2 | 2 | 1 | 3 | 4 |
| No | 3 | 3 | 4 | 2 | 1 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 |

Q3.3: Does your company own research/monitoring facilities for marine related works?

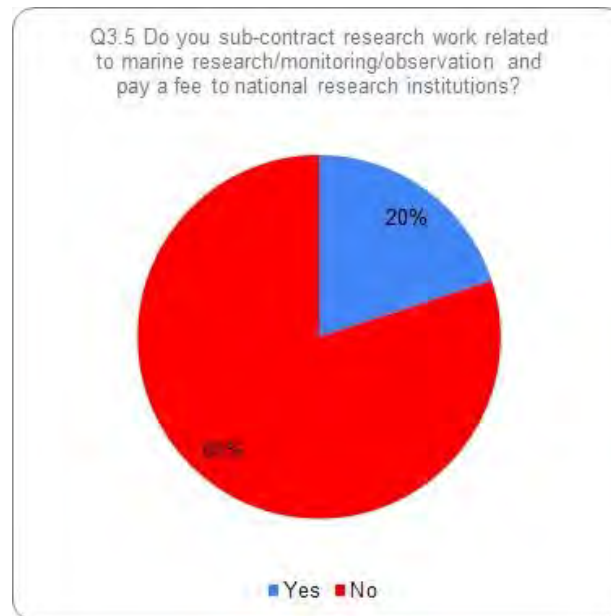
| | Does your company own research/monitoring facilities for marine related works? |
|--------------|--|
| Yes | 3 |
| No | 2 |
| I Don't Know | 0 |
| | 5 |

Q3.4. IF YES, then would your company be willing to share this or co-design with national research institutions?

| | IF YES, then would your company be willing to share this or co-design with national research institutions? |
|-----|--|
| Yes | 3 |
| No | 1 |
| | 4 |

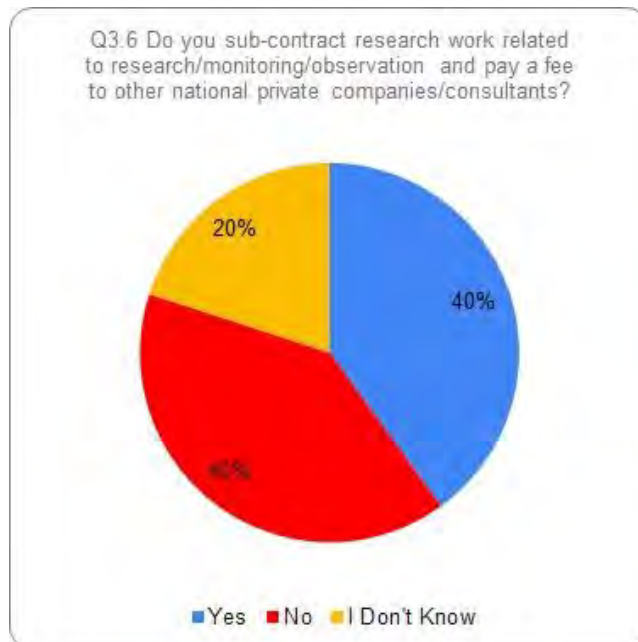
■ Yes ■ No

Q3.5: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?



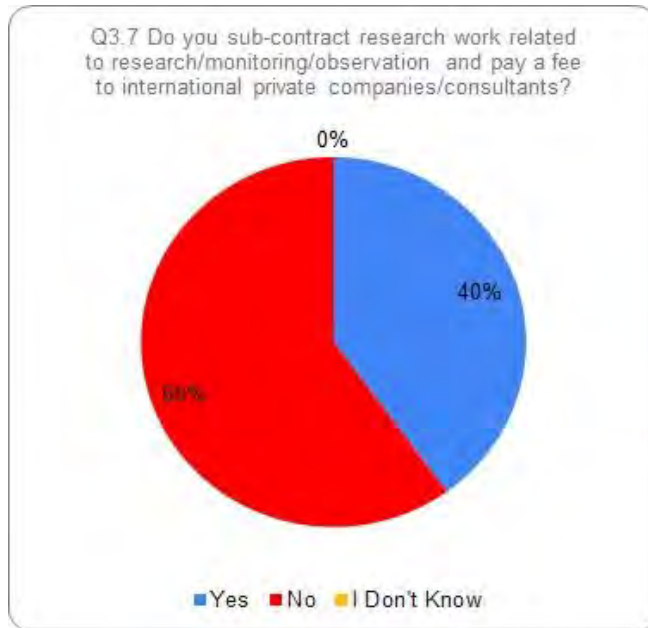
| | Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions? |
|-----|--|
| Yes | 1 |
| No | 4 |
| | 5 |

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?



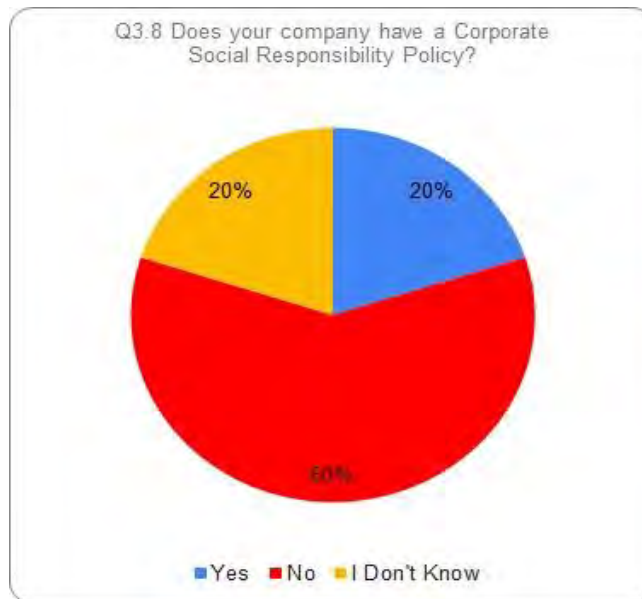
| | Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants? |
|--------------|---|
| Yes | 2 |
| No | 2 |
| I Don't Know | 1 |
| | 5 |

Q3.7: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?

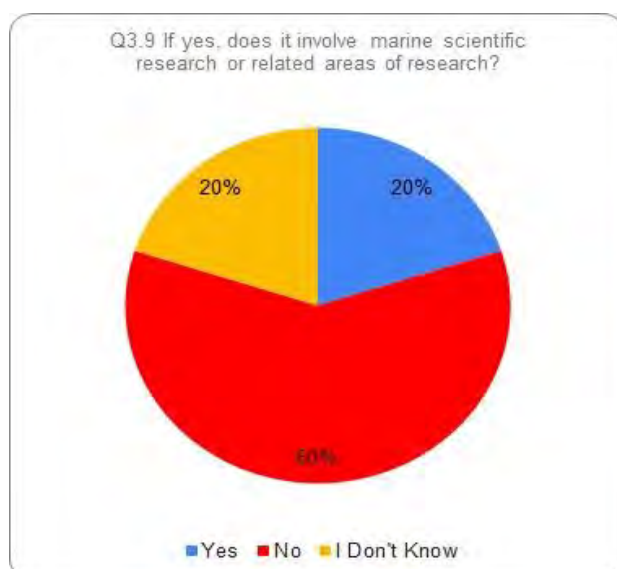


| | Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants? |
|--------------|--|
| Yes | 2 |
| No | 3 |
| I Don't Know | 0 |
| | 5 |

Q3.8: Does your company have a **Corporate Social Responsibility** Policy?

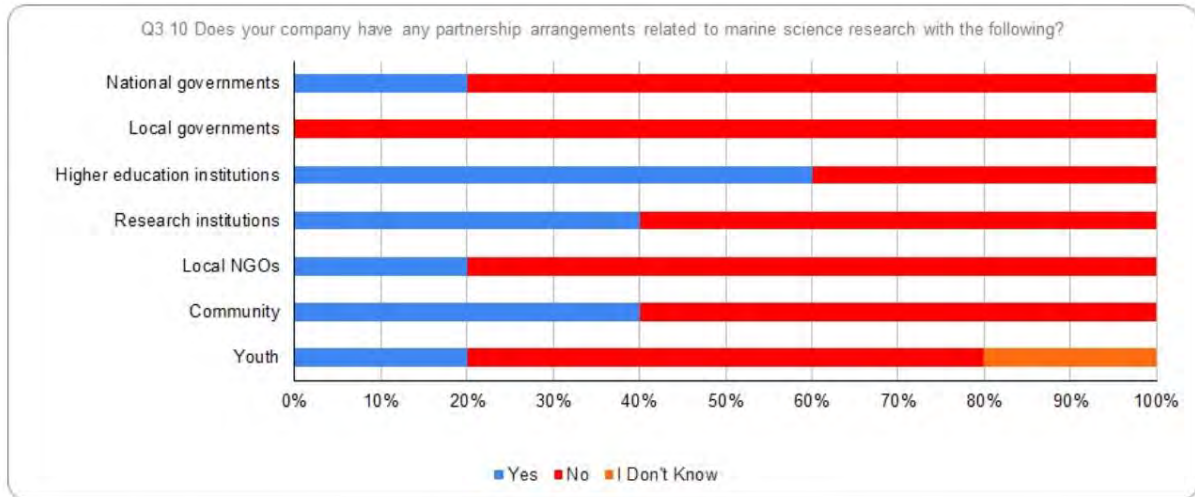


| | Does your company have a Corporate Social Responsibility Policy? |
|--------------|--|
| Yes | 1 |
| No | 3 |
| I Don't Know | 1 |
| | 5 |

Q3.9: If yes, does it involve marine scientific research or related areas of research?

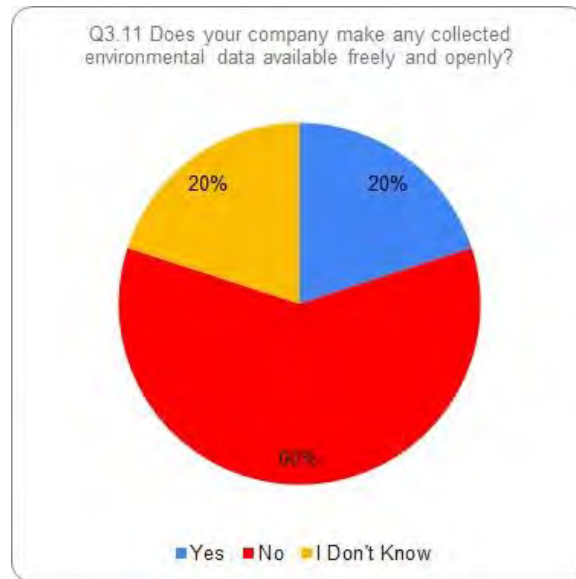
| | If yes, does it involve marine scientific research or related areas of research? |
|--------------|--|
| Yes | 1 |
| No | 3 |
| I Don't Know | 1 |
| | 5 |

Q3.10: Does your company have any **partnership arrangements** related to marine science research with the following?



| | National governments | Local governments | Higher education institutions | Research institutions | Local NGOs | Community | Youth |
|--------------|----------------------|-------------------|-------------------------------|-----------------------|------------|-----------|-------|
| Yes | 1 | 0 | 3 | 2 | 1 | 2 | 1 |
| No | 4 | 5 | 2 | 3 | 4 | 3 | 3 |
| I Don't Know | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

Q3.11: Does your company make any collected environmental data available freely and openly?

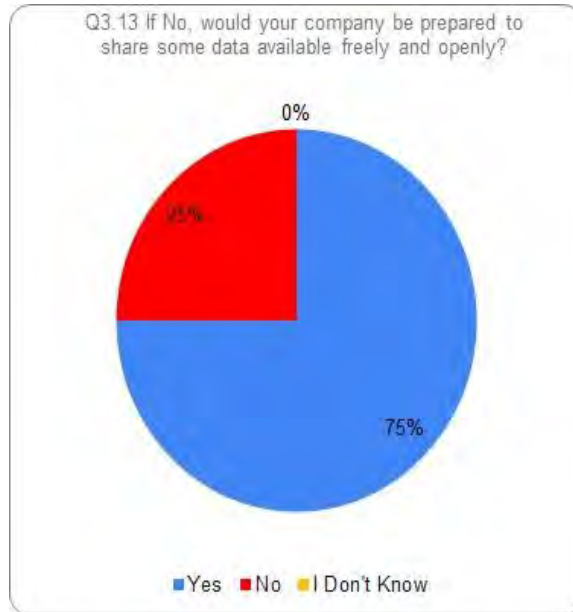


| | Does your company make any collected environmental data available freely and openly? |
|--------------|--|
| Yes | 1 |
| No | 3 |
| I Don't Know | 1 |
| | 5 |

Q3.12: If Yes, what **group of stakeholders are your primary data users** of collected environmental data?

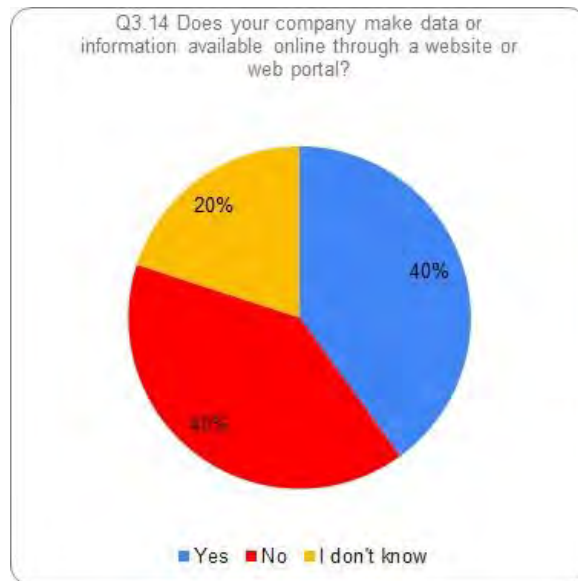
- We can collect non exclusive data if is part of the agreement, but in Brazil it is not happening
- We have our own system to collect oceanographic data for the chilean port industry, and aquaculture industry. This system is developed through private contracts. Nevertheless, we can found the way to collaborate with the IOC regarding this data.
- fishermen, aquaculture producers, academics, decision makers

Q2.13: If No, would your company be prepared to share some data available freely and openly?



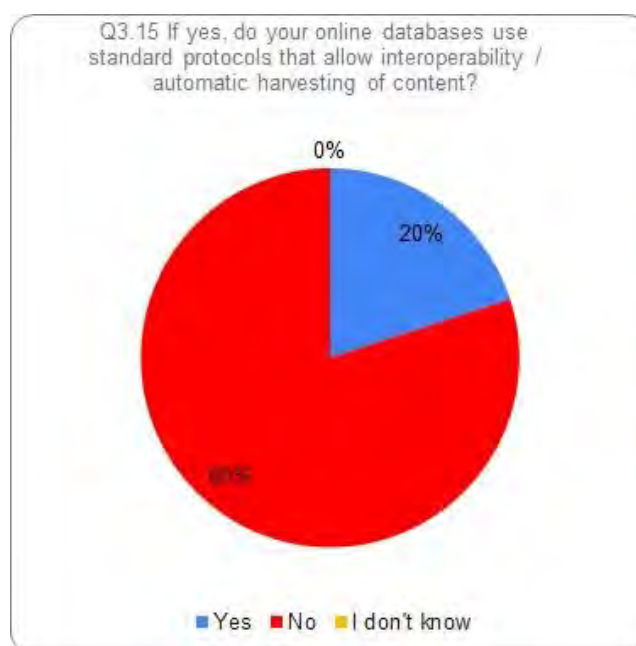
| | If No, would your company be prepared to share some data available freely and openly? |
|--------------|---|
| Yes | 3 |
| No | 1 |
| I Don't Know | 0 |
| | 4 |

Q3.14: Does your company make data or information available online through a website or web portal?



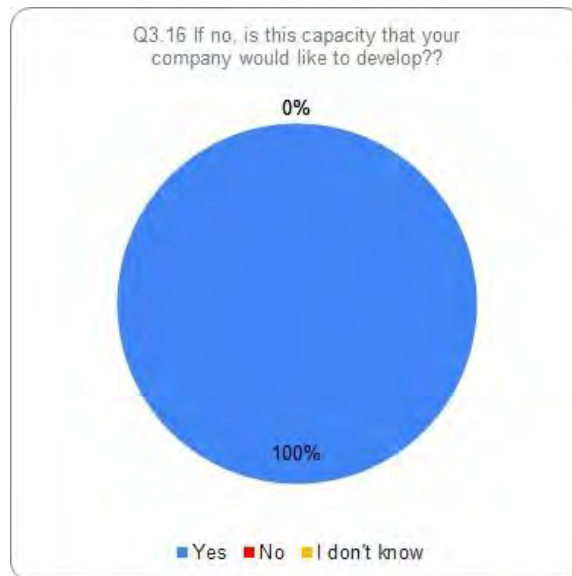
| | Does your company make data or information available online through a website or web portal? |
|--------------|--|
| Yes | 2 |
| No | 2 |
| I don't know | 1 |
| | 5 |

Q3.15: If yes, do your online databases use standard protocols that **allow interoperability / automatic harvesting** of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|--------------|--|
| Yes | 1 |
| No | 4 |
| I don't know | 0 |
| | 5 |

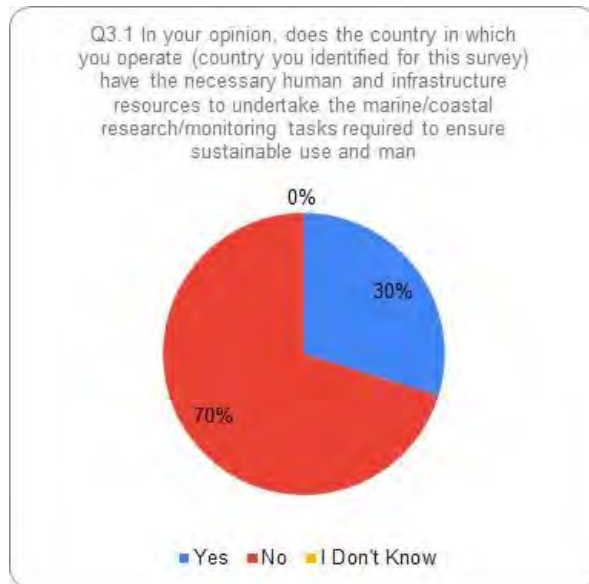
Q3.16: If no, is this **capacity that your company would like to develop?**



| | If no, is this capacity that your company would like to develop? |
|--------------|--|
| Yes | 4 |
| No | 0 |
| I don't know | 0 |
| | 4 |

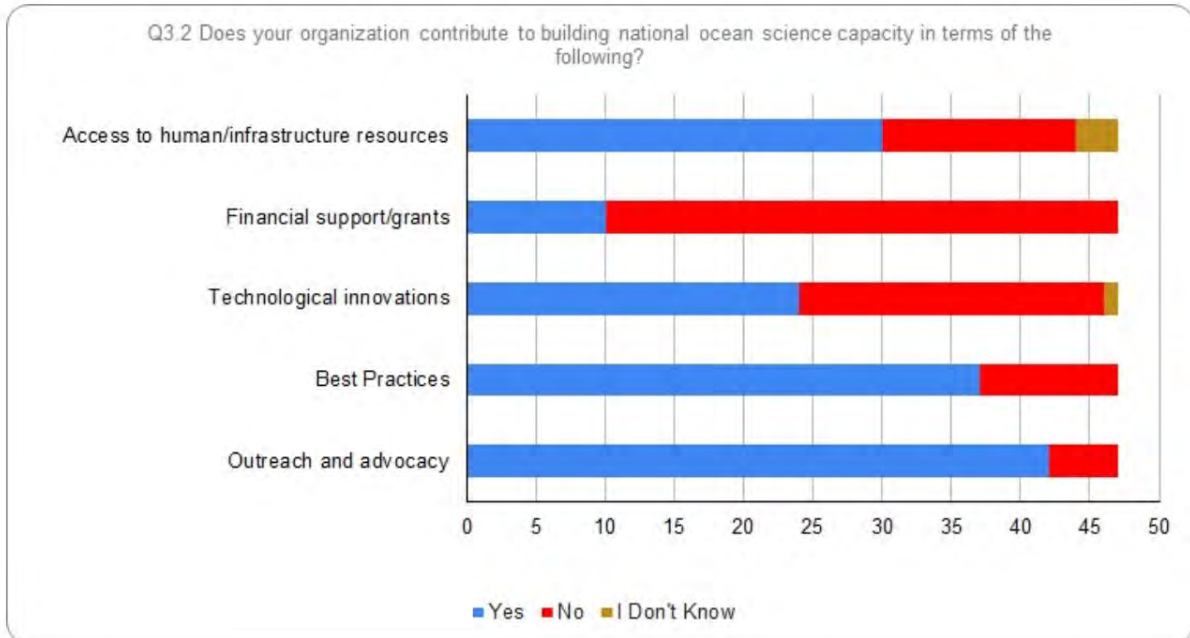
NGOs

Q3.1: In your opinion, does the country in which you operate (country you identified for this survey) have the necessary human and infrastructure resources to undertake the marine/coastal research/monitoring tasks required to ensure sustainable use and management of the coastal zone?



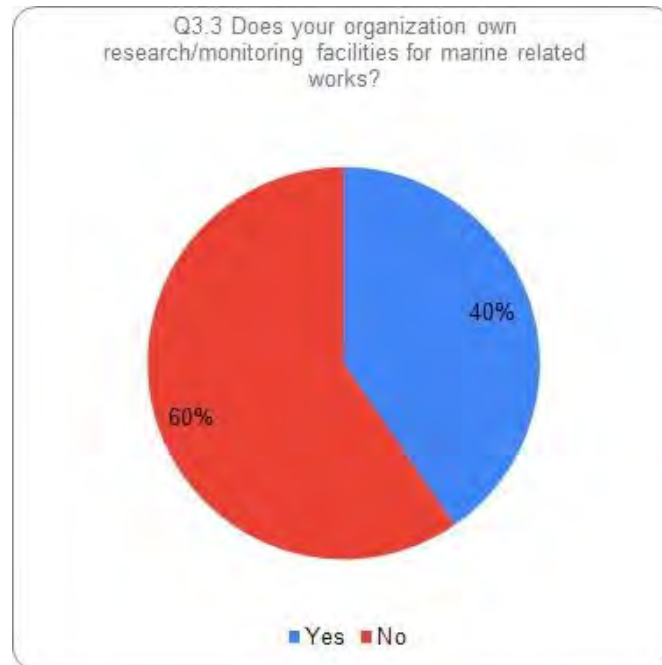
| | In your opinion, does the country in which you operate (country you identified for this survey) have the necessary human and infrastructure |
|--------------|---|
| Yes | 14 |
| No | 33 |
| I Don't Know | 0 |
| | 47 |

Q3.2: Does your organization contribute to building national ocean science capacity in terms of the following?



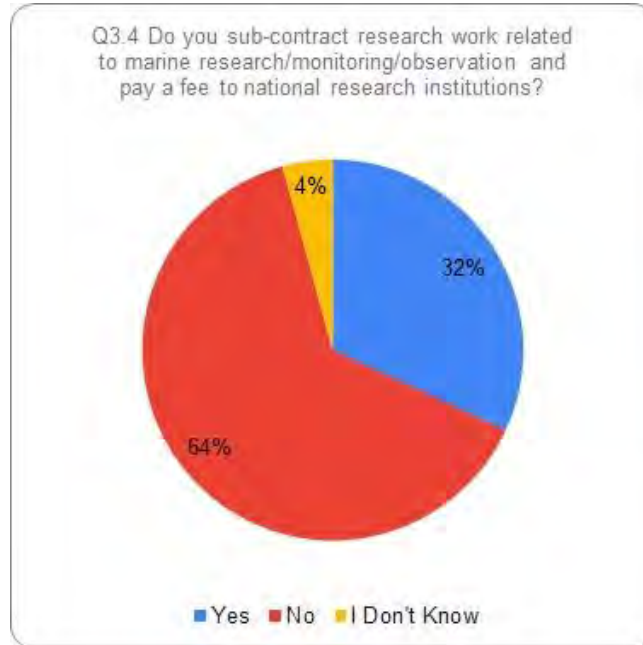
| | Access to human/infrastructure resources | Financial support/grants | Technological innovations | Best Practices | Outreach and advocacy |
|--------------|--|--------------------------|---------------------------|----------------|-----------------------|
| Yes | 30 | 10 | 24 | 37 | 42 |
| No | 14 | 37 | 22 | 10 | 5 |
| I Don't Know | 3 | 0 | 1 | 0 | 0 |
| | 47 | 47 | 47 | 47 | 47 |

Q3.3: Does your organization **own research/monitoring facilities for marine related works?**



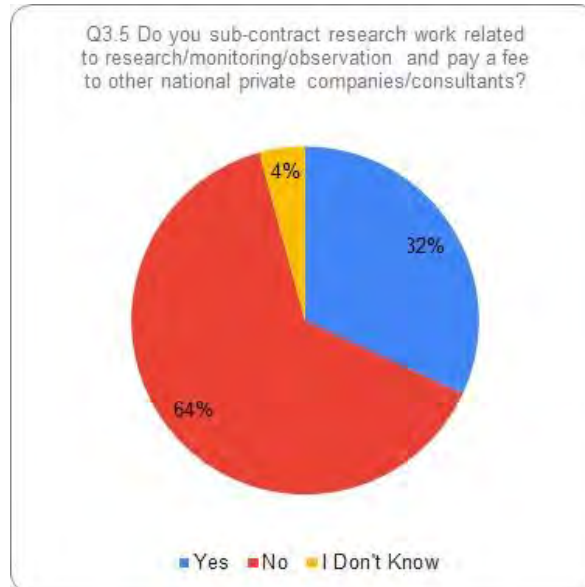
| | Does your organization own research/monitoring facilities for marine related works? |
|-----|---|
| Yes | 19 |
| No | 28 |
| | 47 |

Q3.4: Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions?



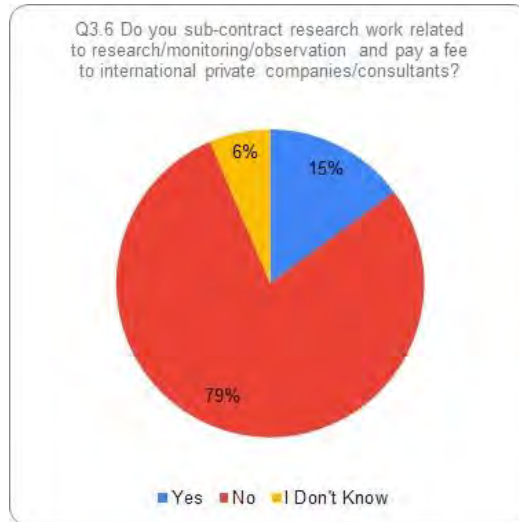
| | Do you sub-contract research work related to marine research/monitoring/observation and pay a fee to national research institutions? |
|--------------|--|
| Yes | 15 |
| No | 30 |
| I Don't Know | 2 |
| | 47 |

Q3.5: Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants?



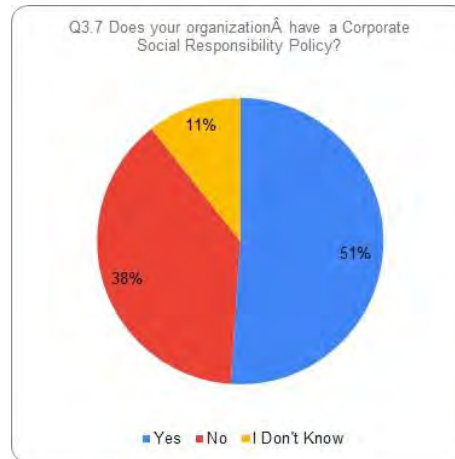
| Do you sub-contract research work related to research/monitoring/observation and pay a fee to other national private companies/consultants? | |
|---|----|
| Yes | 15 |
| No | 30 |
| I Don't Know | 2 |
| | 47 |

Q3.6: Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants?



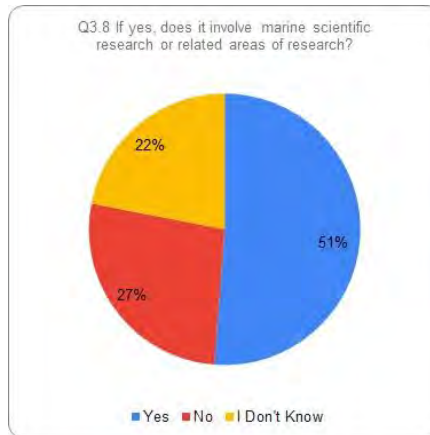
| Do you sub-contract research work related to research/monitoring/observation and pay a fee to international private companies/consultants? | |
|--|----|
| Yes | 7 |
| No | 37 |
| I Don't Know | 3 |
| | 47 |

Q3.7: Does your organization have a **Corporate Social Responsibility** Policy?



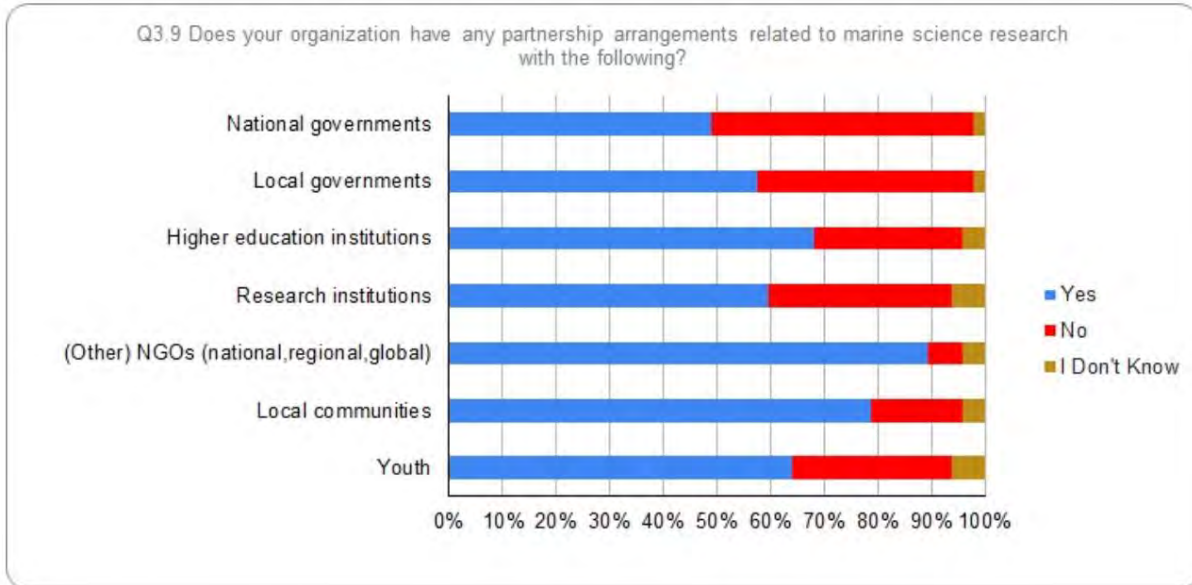
| | Does your organization have a Corporate Social Responsibility Policy? |
|--------------|---|
| Yes | 24 |
| No | 18 |
| I Don't Know | 5 |
| | 47 |

Q3.8: If yes, does it involve marine scientific research or related areas of research?



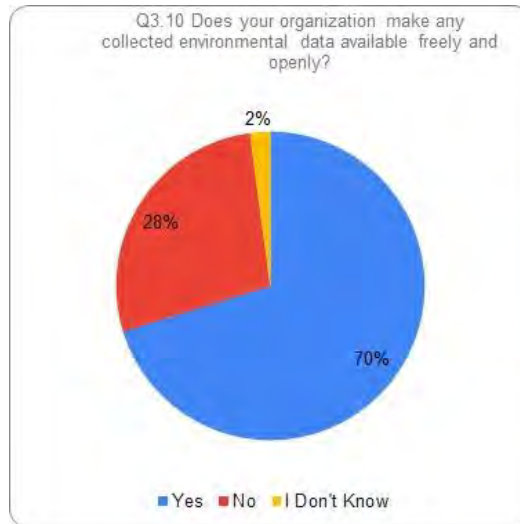
| | If yes, does it involve marine scientific research or related areas of research? |
|--------------|--|
| Yes | 21 |
| No | 11 |
| I Don't Know | 9 |
| | 41 |

Q3.9: Does your organization have any partnership arrangements related to marine science research with the following?



| | National governments | Local governments | Higher education institutions | Research institutions | (Other) NGOs (national, regional, global) | Local communities | Youth |
|--------------|----------------------|-------------------|-------------------------------|-----------------------|---|-------------------|-------|
| Yes | 23 | 27 | 32 | 28 | 42 | 37 | 30 |
| No | 23 | 19 | 13 | 16 | 3 | 8 | 14 |
| I Don't Know | 1 | 1 | 2 | 3 | 2 | 2 | 3 |
| | 47 | 47 | 47 | 47 | 47 | 47 | 47 |

Q3.10: Does your organization make any collected environmental data available freely and openly?



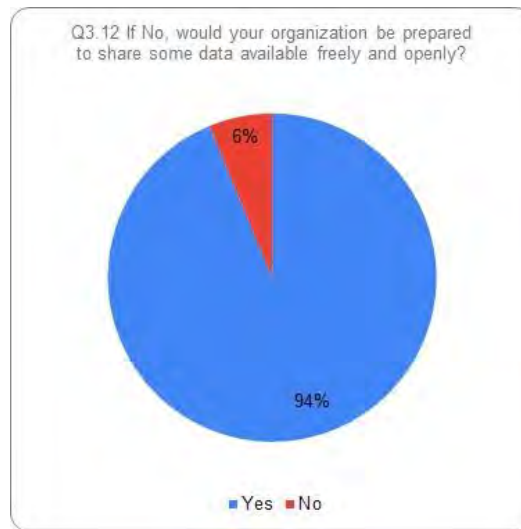
| Question | Does your organization make any collected environmental data available freely and openly? |
|--------------|---|
| Yes | 33 |
| No | 13 |
| I Don't Know | 1 |
| | 47 |

Q3.11: If Yes, what **group of stakeholders are your primary data users** of collected environmental data?

- Students
- Government Agencies, Local Communities
- Researchers, Local Institutions
- society and local governments
- Microplastic Meteorology observation marine litter
- Academics
- ISOCARP implements Training seminars, Urban planning advisory teams in different cities all around the world and works in close cooperation with ISOCARP Institute for Excellence.
- Students, teachers, public policy makers, environmental managers, scientists and tourism groups
- prestadores tura-sticos, organizaciones locales de pescadores, municipios costeros
- Others NGO like us, that work together; private companies; and laboratory related at the University
- Coastal communities
- The Community
- Academics
- Environmentalists
- We have data collected through stakeholder engagement activities with institutions responsible for coastal governance, small-scale fisheries communities, coastal communities. The data is on various aspects ranging from both social, economic and environmental wellbeing of the coastal and marine environments
- Policy makers
- coastal zone management
- Fisheries Division, Ministry of Tourism and College
- Government
- Government environmental authorities
- Researchers
- Government and Researchers
- I belong to National Toxics Network, Australia which is part of IPEN ("International Pollution Elimination Network") based in San Francisco, HQ in Sweden. IPEN sources funds from UN Environment Program and private funders to support small-grant projects for its participating organizations to monitor both humans and ecosystems for chemical substances. IPEN has submitted reports to funders, and also made reports available on its website. Relatively little biomonitoring takes place in the South Pacific, and I assisted with hair sampling to determine methylmercury levels in Pacific SIDS - our project was used as a template for Caribbean and Indian Ocean SIDS. Overall our data contributed to the UN Global Monitoring Program for Mercury. We also worked closely with the U.S. Endocrine Society, since methylmercury is one of many endocrine-disrupting substances found in the marine environment and taken by marine organisms and humans.
- All Stakeholders
- Researchers, NGO's and activists primarily but also governmental sectors.
- Governments and communities themselves
- Local government, regional NGOs in the SDG14 space
- Federal government, universities, and international aid organizations.
- marine resource managers and community groups
- Youth, fishermen and local governments
- National government, related agencies and regional branches, academics (research institutions and higher education institutions), civil society organizations, private sector engaged in responsible business

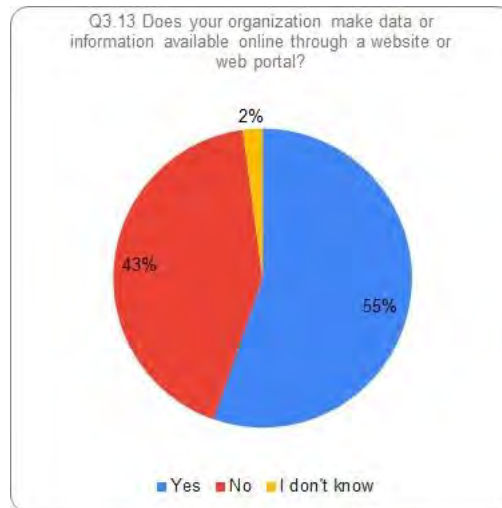
- Fishers Organizations Other NGOs/CSOs working in fisheries and environment National Government Agencies (Agriculture and Fisheries; Environment and Natural Resources Local Government Units Academe
- Community Based Organization Universities
- National and other governments.
- All our information is available, but it isn't primary data but capacity development material. We target small scale fishers, government officials, students, all ocean governance practitioners
- Government

Q3.12: If No, would your organization be prepared to share some data available freely and openly?



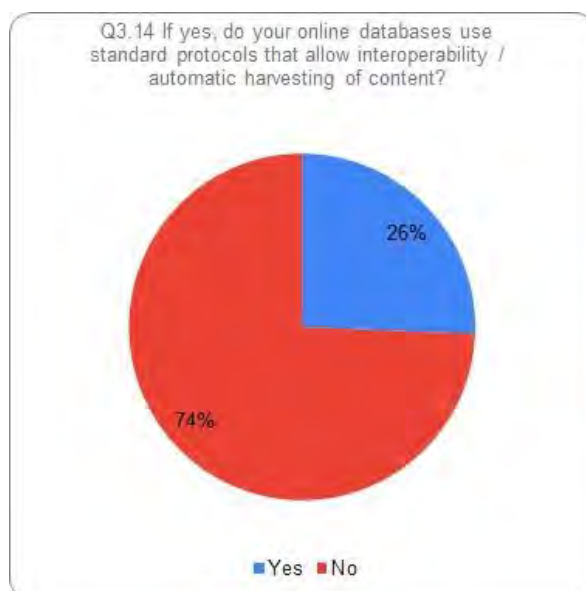
| | If No, would your organization be prepared to share some data available freely and openly? |
|-----|--|
| Yes | 30 |
| No | 2 |
| | 32 |

Q3.13: Does your organization make data or information available online through a website or web portal?



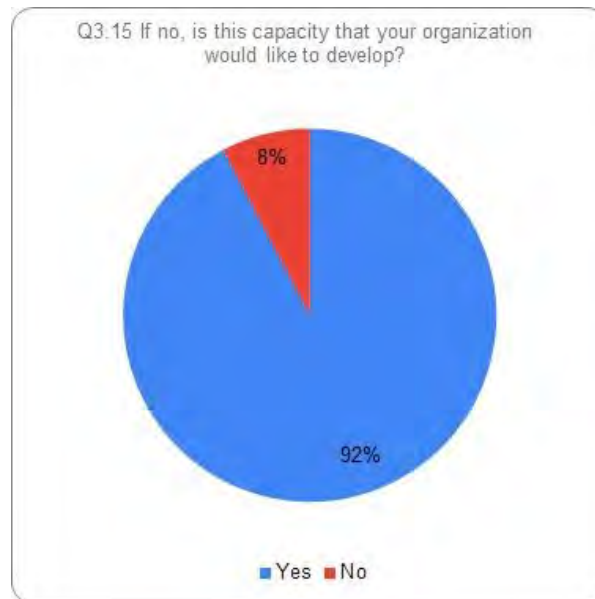
| Does your organization make data or information available online through a website or web portal? | |
|---|----|
| Yes | 26 |
| No | 20 |
| I don't know | 1 |
| | 47 |

Q3.14: If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content?



| | If yes, do your online databases use standard protocols that allow interoperability / automatic harvesting of content? |
|-----|--|
| Yes | 10 |
| No | 29 |
| | 39 |

Q3.15: If no, is this **capacity that your organization would like to develop?**



| | If no, is this capacity that your organization would like to develop? |
|-----|---|
| Yes | 36 |
| No | 3 |
| | 39 |

REGIONAL ANALYSIS

Q2.1: Please rank the **most critical capacity development needs to build ocean science capacity** (currently not available) in your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|---|------------------|--------------|-----------------|----------------------|---------------|-----------------|--------------|-----------------|----------------------|---------------|--------------------------|---------------|-----------------|-----------------------|---------------|-------------------|----------------|------------------|-----------------------|----------------|
| | AFRICA (n=10) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSDS (n=0) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPA C (n=26) | PSDS (n=0) | AFRICA (n=86) | LAC (n=137) | OTHERS (n=24) | WESTPA C (n=68) | P-SDS (n=3) |
| Qualified ocean science professionals | 4.20 | 3.43 | 3.60 | 3.00 | | 4.25 | 3.00 | 4.00 | 5.00 | | 4.26 | 4.04 | 4.29 | 4.25 | | 4.23 | 4.01 | 4.29 | 4.13 | 4.57 |
| Research vessels and Inshore boats | 4.30 | 3.29 | 3.20 | 3.50 | | 4.00 | 3.00 | 4.00 | 5.00 | | 4.22 | 4.42 | 4.00 | 4.25 | | 4.14 | 4.30 | 4.33 | 4.07 | 4.57 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.30 | 4.14 | 3.80 | 3.50 | | 4.50 | 4.25 | 5.00 | 4.00 | | 4.26 | 4.54 | 4.29 | 4.35 | | 4.47 | 4.54 | 4.54 | 4.16 | 4.67 |
| Ocean science sampling equipment and instrumentation | 4.50 | 3.86 | 3.40 | 3.00 | | 4.80 | 3.75 | 4.00 | 4.00 | | 4.17 | 4.52 | 3.57 | 4.20 | | 4.36 | 4.45 | 4.46 | 4.15 | 3.67 |
| Laboratory equipment and facilities | 4.40 | 4.14 | 3.60 | 4.00 | | 4.25 | 3.25 | 2.00 | 5.00 | | 4.39 | 4.50 | 3.71 | 4.15 | | 4.31 | 4.31 | 4.21 | 4.16 | 4.33 |
| Access to remotely sensed satellite data | 4.30 | 3.86 | 4.20 | 3.00 | | 4.25 | 2.75 | 4.00 | 5.00 | | 4.39 | 4.04 | 3.86 | 4.30 | | 4.21 | 3.99 | 3.75 | 3.90 | 3.67 |
| Access to regional and/or global data | 4.30 | 3.86 | 4.00 | 3.00 | | 4.25 | 2.75 | 5.00 | 5.00 | | 4.35 | 4.04 | 3.57 | 4.15 | | 4.09 | 4.18 | 4.04 | 4.06 | 3.67 |
| Digital infrastructure (computers, software etc.) | 4.00 | 4.00 | 3.20 | 3.00 | | 3.50 | 3.75 | 5.00 | 5.00 | | 4.39 | 3.92 | 3.29 | 4.10 | | 4.07 | 3.91 | 3.75 | 4.00 | 3.00 |
| Internet connectivity | 4.40 | 3.71 | 3.40 | 2.50 | | 3.25 | 3.00 | 5.00 | 5.00 | | 4.17 | 3.85 | 3.00 | 4.30 | | 3.93 | 3.64 | 3.04 | 3.78 | 3.67 |
| Access to high power computing | 4.00 | 4.43 | 3.40 | 1.50 | | 3.25 | 4.50 | 5.00 | 4.00 | | 4.04 | 3.62 | 4.00 | 3.95 | | 3.87 | 3.85 | 3.04 | 3.91 | 3.33 |
| Access to current scientific literature | 4.20 | 3.57 | 3.00 | 2.50 | | 4.00 | 3.50 | 5.00 | 4.00 | | 4.35 | 4.00 | 3.43 | 4.10 | | 3.87 | 3.64 | 3.33 | 3.80 | 4.67 |
| Membership/involvement in international ocean research | 3.80 | 3.71 | 3.60 | 3.00 | | 3.75 | 2.25 | 4.00 | 4.00 | | 4.43 | 3.88 | 4.14 | 4.15 | | 3.97 | 4.01 | 3.75 | 4.03 | 3.67 |
| Strengthened international partnerships and regional networks for | 4.30 | 4.00 | 3.60 | 3.00 | | 3.75 | 3.50 | 5.00 | 5.00 | | 4.48 | 4.31 | 4.43 | 4.50 | | 4.28 | 4.29 | 4.13 | 4.23 | 4.00 |
| Development of national ocean research policy | 4.20 | 4.00 | 3.60 | 3.00 | | 4.50 | 3.75 | 4.00 | 4.00 | | 4.35 | 4.35 | 3.43 | 4.25 | | 4.08 | 4.42 | 3.96 | 4.26 | 4.33 |
| Legal frameworks, regulation and enforcement | 4.20 | 4.00 | 3.60 | 3.00 | | 3.75 | 2.75 | 4.00 | 5.00 | | 4.09 | 4.12 | 3.57 | 4.20 | | 3.70 | 4.05 | 3.67 | 3.94 | 4.67 |
| Increased awareness, ocean literacy and public outreach | 4.00 | 4.29 | 4.20 | 4.00 | | 3.75 | 4.75 | 4.00 | 4.00 | | 4.13 | 4.04 | 3.43 | 4.10 | | 3.93 | 4.31 | 3.88 | 4.17 | 4.00 |
| Gender equality | 4.20 | 3.86 | 3.20 | 2.00 | | 3.75 | 3.00 | 5.00 | 5.00 | | 3.87 | 3.38 | 3.00 | 3.65 | | 3.69 | 3.85 | 2.67 | 3.48 | 4.00 |
| Funding and investment in ocean science | 4.40 | 4.29 | 4.20 | 4.00 | | 4.50 | 4.25 | 5.00 | 5.00 | | 4.61 | 4.62 | 4.43 | 4.20 | | 4.52 | 4.74 | 4.48 | 4.38 | 4.67 |
| CD to facilitate stakeholder engagement | 4.30 | 4.29 | 3.80 | 2.00 | | 4.25 | 4.50 | 5.00 | 5.00 | | 3.83 | 3.81 | 2.71 | 3.95 | | 3.74 | 3.93 | 3.33 | 3.97 | 4.00 |
| Access to communities of practice | 4.30 | 4.29 | 4.20 | 4.00 | | 4.25 | 4.50 | 4.00 | 5.00 | | 3.91 | 4.15 | 3.29 | 4.10 | | 3.85 | 4.04 | 3.63 | 4.16 | 3.00 |

Q2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|---|------------------|-----------|--------------|----------------|-------------|-----------------|-----------|--------------|----------------|-------------|--------------------------|------------|--------------|----------------|-------------|-------------------|-------------|---------------|----------------|-------------|
| | AFRICA (n=10) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=0) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPAC (n=20) | PSIDS (n=0) | AFRICA (n=86) | LAC (n=127) | OTHERS (n=24) | WESTPAC (n=68) | PSIDS (n=3) |
| Higher education degree (BSc-PhD) programmes in ocean science within | 3.70 | 3.71 | 3.20 | 3.50 | | 4.50 | 2.25 | 5.00 | 5.00 | | 3.78 | 3.81 | 2.86 | 4.05 | | 4.14 | 3.69 | 3.88 | 3.94 | 5.00 |
| Advanced professional development training courses (specific short courses, | 4.00 | 3.71 | 3.60 | 3.00 | | 4.50 | 2.75 | 5.00 | 5.00 | | 4.48 | 4.38 | 3.86 | 4.50 | | 4.30 | 4.30 | 4.38 | 4.19 | 4.33 |
| Continuous professional development throughout your career | 3.90 | 4.00 | 3.40 | 4.00 | | 4.25 | 3.75 | 5.00 | 4.00 | | 4.26 | 4.31 | 4.43 | 4.40 | | 4.24 | 4.26 | 4.08 | 4.26 | 4.67 |
| Management training for senior researchers and heads of institution | 3.80 | 4.00 | 3.80 | 4.00 | | 4.00 | 3.75 | 5.00 | 4.00 | | 4.26 | 3.96 | 4.00 | 4.05 | | 4.06 | 3.97 | 3.88 | 3.77 | 4.57 |
| Establishment of consortia of higher education in your country or region | 3.70 | 3.29 | 2.60 | 4.00 | | 3.75 | 2.50 | 4.00 | 4.00 | | 4.22 | 3.81 | 2.67 | 3.95 | | 3.86 | 3.86 | 3.58 | 3.72 | 4.00 |
| Increased collaboration with UNESCO Chairs and IOC | 4.20 | 4.29 | 3.40 | 3.50 | | 4.75 | 3.75 | 4.00 | 5.00 | | 4.26 | 4.27 | 4.00 | 4.30 | | 4.02 | 4.27 | 3.83 | 4.16 | 3.67 |
| Establishment of an internship/fellowship programme | 4.00 | 3.86 | 4.00 | 4.00 | | 5.00 | 3.25 | 4.00 | 4.00 | | 4.17 | 4.58 | 4.43 | 4.15 | | 4.17 | 4.30 | 3.96 | 4.33 | 5.00 |
| Access to on-board, research vessel-based training | 4.00 | 3.86 | 3.80 | 4.50 | | 4.75 | 3.25 | 4.00 | 5.00 | | 4.48 | 4.42 | 3.86 | 4.15 | | 4.07 | 4.29 | 4.04 | 4.33 | 3.67 |
| Establishment of a visiting lecturer programme | 3.60 | 4.28 | 2.80 | 4.00 | | 3.75 | 4.00 | 4.00 | 5.00 | | 4.04 | 3.85 | 4.14 | 4.15 | | 3.59 | 4.08 | 4.00 | 3.94 | 4.67 |
| Establishment of regional training (and research) centres relevant to the IOC | 3.50 | 3.71 | 3.60 | 3.00 | | 4.25 | 2.75 | 5.00 | 5.00 | | 4.30 | 4.00 | 3.57 | 4.25 | | 3.93 | 4.23 | 3.92 | 4.01 | 4.00 |
| Establishment of a mentoring programme | 4.10 | 3.43 | 3.40 | 4.50 | | 4.50 | 1.75 | 4.00 | 5.00 | | 4.30 | 4.00 | 3.57 | 4.25 | | 3.97 | 3.98 | 3.75 | 4.10 | 3.67 |
| Development of IOC alumni networks | 4.10 | 3.14 | 3.80 | 4.50 | | 3.50 | 1.75 | 4.00 | 5.00 | | 4.09 | 3.81 | 3.00 | 4.20 | | 3.59 | 3.83 | 3.17 | 3.88 | 3.67 |
| Establishment of "young scientist" awards | 4.10 | 4.14 | 3.80 | 4.00 | | 3.25 | 4.50 | 4.00 | 4.00 | | 4.09 | 4.12 | 3.71 | 3.70 | | 3.87 | 3.88 | 3.75 | 3.83 | 4.33 |
| Promoting gender equality and participation of women in ocean | 3.90 | 3.71 | 3.00 | 3.00 | | 4.00 | 2.50 | 5.00 | 4.00 | | 3.98 | 3.96 | 3.00 | 3.95 | | 3.98 | 3.91 | 2.88 | 3.54 | 4.00 |
| Sharing of training materials | 3.90 | 3.71 | 3.60 | 4.50 | | 3.50 | 3.75 | 5.00 | 5.00 | | 4.00 | 4.27 | 3.88 | 4.30 | | 4.08 | 4.07 | 3.88 | 4.09 | 3.67 |
| Establishment of a travel grant "fund" | 4.00 | 3.71 | 3.60 | 4.50 | | 4.00 | 3.50 | 5.00 | 5.00 | | 4.43 | 4.50 | 3.71 | 4.45 | | 4.23 | 4.17 | 3.88 | 4.42 | 3.00 |

Q2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|-----------|--------------|----------------|-------------|-----------------|-----------|--------------|----------------|-------------|--------------------------|------------|--------------|-----------------|-------------|-------------------|-------------|---------------|-----------------|-------------|
| | AFRICA (n=18) | LAC (n=7) | OTHERS (n=9) | WEST PAC (n=2) | PACIS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PACIS (n=0) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPA C (n=20) | PACIS (n=0) | AFRICA (n=86) | LAC (n=137) | OTHERS (n=24) | WESTPA C (n=69) | PACIS (n=3) |
| Establishment and maintenance of a register of regional scientific research | 4.00 | 4.14 | 3.20 | 4.00 | | 3.75 | 4.00 | 4.00 | 5.00 | | 3.91 | 4.23 | 3.57 | 4.00 | | 4.03 | 4.31 | 3.83 | 4.10 | 4.57 |
| Organizing shared access to regional scientific research infrastructure | 4.20 | 3.71 | 3.80 | 5.00 | | 4.00 | 4.00 | 4.00 | 5.00 | | 4.17 | 4.38 | 3.57 | 4.10 | | 4.02 | 4.24 | 3.79 | 4.16 | 5.00 |
| Provision of new equipment by donors to your institution/organization | 4.20 | 4.14 | 4.00 | 1.50 | | 3.50 | 4.25 | 5.00 | 4.00 | | 4.13 | 4.62 | 3.71 | 3.85 | | 4.00 | 4.19 | 3.75 | 4.19 | 4.57 |
| Provision of used equipment by donors or other institutions | 3.50 | 3.43 | 2.60 | 1.60 | | 2.75 | 2.75 | 2.00 | 4.00 | | 3.91 | 4.23 | 2.71 | 3.55 | | 3.77 | 3.80 | 3.50 | 3.75 | 4.33 |
| Organizing low-cost access to spare parts for equipment | 4.30 | 4.14 | 3.40 | 3.50 | | 3.75 | 4.00 | 5.00 | 5.00 | | 4.17 | 4.50 | 3.29 | 3.95 | | 3.68 | 4.15 | 3.38 | 3.97 | 4.33 |
| Training on the use and maintenance of physical infrastructure and | 4.10 | 3.57 | 3.80 | 2.00 | | 3.75 | 4.00 | 5.00 | 5.00 | | 4.17 | 4.69 | 3.86 | 4.20 | | 4.37 | 4.47 | 4.08 | 4.14 | 5.00 |
| Access to best practices on the use and maintenance of physical infrastructure | 3.70 | 3.00 | 2.60 | 2.50 | | 4.00 | 4.00 | 5.00 | 5.00 | | 4.13 | 4.69 | 4.29 | 3.90 | | 4.24 | 4.38 | 4.08 | 4.16 | 5.00 |

Q2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|--------------|-----------------|----------------------|----------------|-----------------|--------------|-----------------|----------------------|----------------|--------------------------|---------------|-----------------|-----------------------|----------------|-------------------|----------------|------------------|-----------------------|----------------|
| | AFRICA (n=18) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=0) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPA C (n=20) | PSIDS (n=0) | AFRICA (n=86) | LAC (n=137) | OTHERS (n=24) | WESTPA C (n=89) | P-SDS (n=3) |
| Improved staffing of secretariat of regional sub-commissions | 4.00 | 3.29 | 3.00 | 2.50 | | 4.50 | 2.50 | 4.00 | 5.00 | | 3.57 | 3.38 | 4.14 | 4.10 | | 3.21 | 3.39 | 3.08 | 3.88 | 3.00 |
| Reinforced budgeting of regional sub-commissions | 4.20 | 2.71 | 3.80 | 4.00 | | 4.50 | 2.50 | 4.00 | 5.00 | | 4.00 | 4.04 | 4.14 | 4.00 | | 3.58 | 3.52 | 3.21 | 3.70 | 4.00 |
| Establishing an effective coordination and communication mechanism | 3.90 | 3.14 | 3.80 | 4.50 | | 4.50 | 2.75 | 5.00 | 5.00 | | 4.48 | 5.00 | 5.00 | 4.40 | | 3.74 | 4.02 | 3.46 | 3.91 | 3.67 |
| Establishing an effective coordination and communication mechanism | 3.90 | 3.14 | 3.80 | 4.50 | | 4.25 | 2.75 | 5.00 | 4.00 | | 3.96 | 4.38 | 3.43 | 4.15 | | 3.77 | 3.87 | 3.33 | 4.03 | 4.00 |
| Establishing an effective coordination and communication mechanism | 3.70 | 3.57 | 3.80 | 4.50 | | 4.25 | 2.75 | 5.00 | 4.00 | | 3.70 | 3.92 | 3.57 | 3.75 | | 3.55 | 3.63 | 3.54 | 3.78 | 4.00 |

Q2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|--------------|-----------------|----------------------|----------------|-----------------|--------------|-----------------|----------------------|----------------|--------------------------|---------------|-----------------|-----------------------|----------------|-------------------|----------------|------------------|-----------------------|-----------------|
| | AFRICA (n=19) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=0) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPA C (n=20) | PSIDS (n=0) | AFRICA (n=86) | LAC (n=137) | OTHERS (n=24) | WESTPA C (n=48) | P-SIDS (n=2) |
| Sharing of information on existing ocean research priorities among | 4.10 | 4.43 | 4.40 | 5.00 | | 4.50 | 4.75 | 5.00 | 4.00 | | 4.48 | 4.35 | 4.14 | 4.40 | | 3.94 | 4.35 | 4.13 | 4.30 | 4.67 |
| Assistance with the development of national marine science management | 4.30 | 3.14 | 4.20 | 4.00 | | 4.25 | 3.75 | 5.00 | 5.00 | | 4.52 | 4.35 | 3.86 | 4.00 | | 3.97 | 4.28 | 3.79 | 4.13 | 5.30 |
| Support in methodologies for co-design processes to joint development of | 4.10 | 4.29 | 4.00 | 4.00 | | 3.75 | 4.50 | 5.00 | 5.00 | | 3.96 | 4.35 | 4.00 | 4.05 | | 3.64 | 4.17 | 3.67 | 4.26 | 4.67 |

Q2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|--------------|-----------------|----------------------|----------------|-----------------|--------------|-----------------|----------------------|----------------|--------------------------|---------------|-----------------|-----------------------|----------------|-------------------|---------------|------------------|----------------------|----------------|
| | AFRICA (n=18) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=0) | AFRICA (n=23) | LAC (n=20) | OTHERS (n=7) | WESTPA C (n=20) | PSIDS (n=0) | AFRICA (n=8) | LAC (n=13) | OTHERS (n=24) | WESTPA C (n=8) | P-505 (n=3) |
| Sharing of information on existing ocean research priorities among | 4.10 | 4.43 | 4.40 | 5.00 | | 4.50 | 4.75 | 5.00 | 4.00 | | 4.48 | 4.35 | 4.14 | 4.40 | | 3.94 | 4.35 | 4.13 | 4.30 | 4.67 |
| Assistance with the development of national marine science management | 4.30 | 3.14 | 4.20 | 4.00 | | 4.25 | 3.75 | 5.00 | 5.00 | | 4.52 | 4.35 | 3.86 | 4.00 | | 3.97 | 4.26 | 3.79 | 4.13 | 5.00 |
| Support in methodologies for co-design processes to joint development of | 4.10 | 4.29 | 4.00 | 4.00 | | 3.75 | 4.50 | 3.00 | 5.00 | | 3.96 | 4.35 | 4.00 | 4.05 | | 3.64 | 4.17 | 3.67 | 4.26 | 4.67 |

Q2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|--------------|-----------------|----------------------|----------------|-----------------|--------------|-----------------|----------------------|----------------|--------------------------|---------------|-----------------|-----------------------|----------------|-------------------|----------------|------------------|-----------------------|----------------|
| | AFRICA (n=10) | LAC (n=7) | OTHERS (n=9) | WEST PAC (n=2) | PSIDS (n=9) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=9) | AFRICA (n=23) | LAC (n=20) | OTHERS (n=7) | WESTPA C (n=26) | PSIDS (n=9) | AFRICA (n=86) | LAC (n=127) | OTHERS (n=24) | WESTPA C (n=89) | P-505 (n=3) |
| Assistance in fostering partnerships to increase in-kind support opportunities | 3.90 | 4.29 | 4.20 | 5.00 | | 4.25 | 4.50 | 5.00 | 4.00 | | 4.09 | 3.85 | 3.86 | 4.20 | | 3.81 | 4.09 | 2.92 | 4.10 | 3.67 |
| Assistance in financial resource mobilisation from Member States, | 4.40 | 4.43 | 4.40 | 5.00 | | 4.25 | 4.50 | 5.00 | 4.00 | | 3.78 | 4.23 | 4.29 | 4.30 | | 4.02 | 4.18 | 3.25 | 4.28 | 4.33 |

Q2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|-----------|--------------|----------------|-------------|-----------------|-----------|--------------|----------------|-------------|--------------------------|------------|--------------|-----------------|-------------|-------------------|-------------|---------------|-----------------|-------------|
| | AFRICA (n=16) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=9) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=9) | AFRICA (n=23) | LAC (n=26) | OTHERS (n=7) | WESTPA C (n=26) | PSIDS (n=9) | AFRICA (n=86) | LAC (n=127) | OTHERS (n=24) | WESTPA C (n=68) | P-SDS (n=3) |
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.40 | 4.29 | 4.40 | 4.00 | | 3.75 | 4.25 | 4.00 | 5.00 | | 4.17 | 4.38 | 3.86 | 4.30 | | 4.21 | 4.33 | 4.00 | 4.25 | 4.33 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean | 4.30 | 4.29 | 4.20 | 4.00 | | 3.75 | 4.25 | 5.00 | 5.00 | | 4.13 | 4.38 | 3.86 | 4.45 | | 4.42 | 4.82 | 4.21 | 4.35 | 4.87 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 4.20 | 4.29 | 4.00 | 4.50 | | 4.25 | 4.50 | 5.00 | 5.00 | | 4.26 | 4.58 | 3.71 | 4.30 | | 4.21 | 4.38 | 3.79 | 4.22 | 4.33 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 4.20 | 4.43 | 4.00 | 4.50 | | 4.25 | 4.75 | 5.00 | 5.00 | | 4.22 | 4.38 | 3.71 | 4.40 | | 3.91 | 4.74 | 4.13 | 4.72 | 5.80 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 4.30 | 4.57 | 3.60 | 5.00 | | 4.50 | 4.75 | 4.00 | 4.00 | | 4.04 | 4.31 | 4.57 | 4.20 | | 4.19 | 4.42 | 3.79 | 4.20 | 4.00 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 4.40 | 4.43 | 4.00 | 4.00 | | 3.75 | 4.50 | 4.00 | 4.00 | | 4.17 | 4.54 | 3.67 | 4.15 | | 4.22 | 4.54 | 3.83 | 4.20 | 4.00 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all | 4.20 | 4.43 | 4.40 | 4.50 | | 4.25 | 4.75 | 5.00 | 5.00 | | 4.04 | 4.46 | 4.14 | 4.20 | | 4.03 | 4.51 | 4.13 | 4.25 | 4.87 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 3.80 | 4.43 | 3.60 | 4.50 | | 3.75 | 4.50 | 4.00 | 5.00 | | 4.30 | 4.50 | 4.14 | 4.35 | | 4.02 | 4.38 | 3.54 | 4.23 | 3.67 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 3.90 | 4.57 | 3.20 | 4.00 | | 4.25 | 4.75 | 5.00 | 5.00 | | 4.30 | 4.62 | 3.14 | 4.25 | | 4.28 | 4.42 | 3.83 | 4.25 | 4.87 |
| CHALLENGE 10: Ensure that the multiple values and services of the | 4.10 | 4.43 | 3.80 | 4.50 | | 4.25 | 4.50 | 4.00 | 4.00 | | 4.17 | 4.27 | 3.00 | 4.30 | | 4.06 | 4.54 | 3.83 | 4.09 | 4.87 |

country?

Q2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your

| | IOC Focal Points | | | | | CD Focal Points | | | | | Representatives Capacity | | | | | Personal Capacity | | | | |
|--|------------------|--------------|-----------------|----------------------|----------------|-----------------|--------------|-----------------|----------------------|----------------|--------------------------|---------------|-----------------|-----------------------|----------------|-------------------|----------------|------------------|-----------------------|----------------|
| | AFRICA (n=10) | LAC (n=7) | OTHERS (n=5) | WEST PAC (n=2) | PSIDS (n=0) | AFRICA (n=4) | LAC (n=4) | OTHERS (n=1) | WEST PAC (n=1) | PSIDS (n=0) | AFRICA (n=23) | LAC (n=20) | OTHERS (n=7) | WESTPA C (n=20) | PSIDS (n=0) | AFRICA (n=86) | LAC (n=127) | OTHERS (n=24) | WESTPA C (n=89) | PSIDS (n=3) |
| Sharing of information on existing ocean research priorities among | 4.10 | 4.43 | 4.40 | 5.00 | | 4.50 | 4.75 | 5.00 | 4.00 | | 4.48 | 4.35 | 4.14 | 4.40 | | 3.94 | 4.35 | 4.13 | 4.30 | 4.67 |
| Assistance with the development of national marine science management | 4.30 | 3.14 | 4.20 | 4.00 | | 4.25 | 3.75 | 5.00 | 5.00 | | 4.52 | 4.35 | 3.86 | 4.00 | | 3.97 | 4.26 | 3.79 | 4.13 | 5.30 |
| Support in methodologies for co-design processes to joint development of | 4.10 | 4.29 | 4.00 | 4.00 | | 3.75 | 4.50 | 5.00 | 5.00 | | 3.96 | 4.35 | 4.00 | 4.05 | | 3.64 | 4.17 | 3.67 | 4.26 | 4.87 |

country?

COUNTRY REPORT: ARGENTINA

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 1.00 | 1.00 | 2.00 | 3.38 |
| Research vessels and inshore boats | 1.00 | 1.00 | 2.00 | 3.77 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.00 | 4.00 | 4.00 | 3.77 |
| Ocean science sampling equipment and instrumentation | 2.00 | 2.00 | 5.00 | 4.08 |
| Laboratory equipment and facilities | 2.00 | 2.00 | 5.00 | 4.38 |
| Access to remotely sensed satellite data | 1.00 | 1.00 | 1.00 | 3.38 |
| Access to regional and/or global data | 1.00 | 1.00 | 2.00 | 3.85 |
| Digital infrastructure (computers, software etc.) | 2.00 | 2.00 | 1.00 | 3.54 |
| Internet connectivity | 1.00 | 1.00 | 1.00 | 3.15 |
| Access to high power computing | 4.00 | 4.00 | 2.00 | 3.38 |
| Access to current scientific literature | 2.00 | 2.00 | 1.00 | 2.69 |
| Membership/involvement in international ocean research | 1.00 | 1.00 | 0.00 | 3.85 |
| Strengthened international partnerships and regional networks for collaboration | 4.00 | 4.00 | 2.00 | 4.31 |
| Development of national ocean research policy | 4.00 | 4.00 | 1.00 | 3.77 |
| Legal frameworks, regulation and enforcement | 2.00 | 2.00 | 1.00 | 4.08 |
| Increased awareness, ocean literacy and public outreach | 4.00 | 4.00 | 2.00 | 3.62 |
| Gender equality | 1.00 | 1.00 | 2.00 | 3.23 |
| Funding and investment in ocean science | 4.00 | 4.00 | 5.00 | 4.38 |
| CD to facilitate stakeholder engagement | 4.00 | 4.00 | 0.00 | 3.15 |
| Access to communities of practice | 4.00 | 4.00 | 2.00 | 3.31 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 1.00 | 1.00 | 2.00 | 3.80 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 1.00 | 1.00 | 5.00 | 4.10 |
| Continuous professional development throughout your career | 4.00 | 4.00 | 2.00 | 3.80 |
| Management training for senior researchers and heads of institution | 4.00 | 4.00 | 2.00 | 3.50 |
| Establishment of consortia of higher education in your country or region | 1.00 | 1.00 | 0.00 | 3.30 |
| Increased collaboration with UNESCO Chairs and IOC | 4.00 | 4.00 | 0.00 | 3.80 |
| Establishment of an internship/fellowship programme | 1.00 | 1.00 | 5.00 | 4.20 |
| Access to on-board, research vessel-based training | 2.00 | 2.00 | 2.00 | 3.70 |
| Establishment of a visiting lecturer programme | 4.00 | 4.00 | 2.00 | 3.50 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 1.00 | 1.00 | 0.00 | 3.80 |
| Establishment of a mentoring programme | 1.00 | 1.00 | 0.00 | 3.00 |
| Development of IOC alumni networks | 1.00 | 1.00 | 0.00 | 3.30 |
| Establishment of "young scientist" awards | 4.00 | 4.00 | 2.00 | 3.50 |
| Promoting gender equality and participation of women in ocean science | 1.00 | 1.00 | 2.00 | 3.00 |
| Sharing of training materials | 1.00 | 1.00 | 0.00 | 4.00 |
| Establishment of a travel grant "fund" | 1.00 | 1.00 | 5.00 | 4.20 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | 4.00 | 2.00 | 3.85 |
| Organizing shared access to regional scientific research infrastructure | 4.00 | 4.00 | 2.00 | 3.62 |
| Provision of new equipment by donors to your institution/organization | 4.00 | 4.00 | 4.00 | 4.00 |
| Provision of used equipment by donors or other institutions | 1.00 | 1.00 | 2.00 | 3.23 |
| Organizing low-cost access to spare parts for equipment | 4.00 | 4.00 | 5.00 | 3.85 |
| Training on the use and maintenance of physical infrastructure and equipment | 2.00 | 2.00 | 5.00 | 3.92 |
| Access to best practices on the use and maintenance of physical infrastructure | 2.00 | 2.00 | 4.00 | 3.85 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 1.00 | 1.00 | 2.00 | 2.92 |
| Reinforced budgeting of regional sub-commissions | 1.00 | 1.00 | 2.00 | 3.77 |
| Establishing an effective coordination and communication mechanism | 4.00 | 4.00 | 4.00 | 3.77 |
| Establishing an effective coordination and communication mechanism | 2.00 | 2.00 | 5.00 | 4.08 |
| Establishing an effective coordination and communication mechanism | 2.00 | 2.00 | 5.00 | 4.38 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 2.00 | 2.00 | 1.00 | 3.62 |
| Support for communicating ocean science research to policy makers | 5.00 | 5.00 | 1.00 | 4.00 |
| Development of an IOC ocean literacy 'community of practice' to share | 5.00 | 5.00 | 2.00 | 3.46 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 2.00 | 2.00 | 1.00 | 3.62 |
| Support for communicating ocean science research to policy makers | 5.00 | 5.00 | 1.00 | 4.00 |
| Development of an IOC ocean literacy 'community of practice' to share | 5.00 | 5.00 | 2.00 | 3.46 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 5.00 | 5.00 | 1.00 | 3.38 |
| Assistance in financial resource mobilisation from Member States, | 5.00 | 5.00 | 1.00 | 3.92 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.00 | 4.00 | 4.00 | 3.85 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 4.00 | 4.00 | 2.00 | 4.00 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 4.00 | 4.00 | 5.00 | 3.54 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 5.00 | 5.00 | 4.00 | 3.77 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 5.00 | 5.00 | 4.00 | 4.08 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 4.00 | 4.00 | 4.00 | 3.85 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 5.00 | 5.00 | 4.00 | 4.31 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 5.00 | 5.00 | 4.00 | 4.23 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 5.00 | 5.00 | 2.00 | 4.08 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 5.00 | 5.00 | 2.00 | 4.00 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 4.00 | 4.00 | 2.00 | 4.10 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 5.00 | 5.00 | 2.00 | 4.10 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 5.00 | 5.00 | 1.00 | 4.20 |

COUNTRY REPORT: CHILE

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 4.00 | | 4.00 | 4.18 |
| Research vessels and inshore boats | 4.00 | | 5.00 | 4.45 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.00 | | 5.00 | 4.82 |
| Ocean science sampling equipment and instrumentation | 4.00 | | 3.00 | 4.64 |
| Laboratory equipment and facilities | 4.00 | | 3.00 | 4.18 |
| Access to remotely sensed satellite data | 4.00 | | 3.00 | 4.55 |
| Access to regional and/or global data | 4.00 | | 3.00 | 4.55 |
| Digital infrastructure (computers, software etc.) | 4.00 | | 2.00 | 3.82 |
| Internet connectivity | 2.00 | | 2.00 | 3.73 |
| Access to high power computing | 4.00 | | 2.00 | 4.18 |
| Access to current scientific literature | 4.00 | | 2.00 | 3.45 |
| Membership/involvement in international ocean research | 4.00 | | 2.00 | 3.64 |
| Strengthened international partnerships and regional networks for collaboration | 4.00 | | 4.00 | 4.27 |
| Development of national ocean research policy | 4.00 | | 4.00 | 4.36 |
| Legal frameworks, regulation and enforcement | 4.00 | | 4.00 | 4.18 |
| Increased awareness, ocean literacy and public outreach | 4.00 | | 2.00 | 4.18 |
| Gender equality | 4.00 | | 2.00 | 4.27 |
| Funding and investment in ocean science | 4.00 | | 3.00 | 5.00 |
| CD to facilitate stakeholder engagement | 4.00 | | 2.00 | 3.64 |
| Access to communities of practice | 4.00 | | 4.00 | 3.91 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 4.00 | | 2.00 | 4.09 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 4.00 | | 2.00 | 4.64 |
| Continuous professional development throughout your career | 4.00 | | 2.00 | 4.82 |
| Management training for senior researchers and heads of institution | 4.00 | | 2.00 | 4.27 |
| Establishment of consortia of higher education in your country or region | 4.00 | | 2.00 | 4.18 |
| Increased collaboration with UNESCO Chairs and IOC | 4.00 | | 2.00 | 4.64 |
| Establishment of an internship/fellowship programme | 4.00 | | 2.00 | 4.45 |
| Access to on-board, research vessel-based training | 4.00 | | 3.00 | 4.36 |
| Establishment of a visiting lecturer programme | 4.00 | | 4.00 | 4.09 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 4.00 | | 3.00 | 4.55 |
| Establishment of a mentoring programme | 4.00 | | 4.00 | 4.36 |
| Development of IOC alumni networks | 2.00 | | 4.00 | 3.64 |
| Establishment of "young scientist" awards | 4.00 | | 5.00 | 3.64 |
| Promoting gender equality and participation of women in ocean science | 4.00 | | 2.00 | 4.09 |
| Sharing of training materials | 4.00 | | 2.00 | 4.64 |
| Establishment of a travel grant "fund" | 4.00 | | 4.00 | 4.45 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | | 5.00 | 4.73 |
| Organizing shared access to regional scientific research infrastructure | 4.00 | | 5.00 | 4.73 |
| Provision of new equipment by donors to your institution/organization | 4.00 | | 5.00 | 4.18 |
| Provision of used equipment by donors or other institutions | 2.00 | | 3.00 | 3.91 |
| Organizing low-cost access to spare parts for equipment | 4.00 | | 4.00 | 4.09 |
| Training on the use and maintenance of physical infrastructure and equipment | 5.00 | | 5.00 | 4.36 |
| Access to best practices on the use and maintenance of physical infrastructure | 5.00 | | 5.00 | 4.55 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | | 4.00 | 3.73 |
| Reinforced budgeting of regional sub-commissions | 4.00 | | 3.00 | 4.45 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 5.00 | 4.82 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 5.00 | 4.64 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 5.00 | 4.18 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=11) |
|---|-----------------|----------------|-----------------------|-----------------|
| Sharing of information on existing ocean research priorities among government | 5.00 | | 4.00 | 4.64 |
| Assistance with the development of national marine science management | 4.00 | | 5.00 | 4.55 |
| Support in methodologies for co-design processes to joint development of | 4.00 | | 4.00 | 4.54 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=11) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 5.00 | | 5.00 | 4.64 |
| Support for communicating ocean science research to policy makers | 5.00 | | 5.00 | 4.73 |
| Development of an IOC ocean literacy 'community of practice' to share | 5.00 | | 4.00 | 4.09 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 4.00 | | 3.00 | 3.36 |
| Assistance in financial resource mobilisation from Member States, | 4.00 | | 3.00 | 3.27 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 5.00 | | 4.00 | 4.27 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 5.00 | | 4.00 | 4.82 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 4.00 | | 4.00 | 4.45 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 5.00 | | 4.00 | 4.36 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 5.00 | | 4.00 | 4.55 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 5.00 | | 5.00 | 4.64 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 5.00 | | 5.00 | 4.45 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 5.00 | | 5.00 | 4.36 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 5.00 | | 4.00 | 4.45 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 4.00 | | 4.00 | 4.18 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|---|-----------------|----------------|-----------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 5.00 | | 4.00 | 4.91 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 5.00 | | 5.00 | 4.32 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 5.00 | | 3.00 | 4.54 |

COUNTRY REPORT: COLOMBIA

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 5.00 | | 4.50 | 4.50 |
| Research vessels and inshore boats | 2.00 | | 4.25 | 4.10 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.00 | | 4.75 | 4.30 |
| Ocean science sampling equipment and instrumentation | 4.00 | | 4.75 | 4.20 |
| Laboratory equipment and facilities | 4.00 | | 4.75 | 4.30 |
| Access to remotely sensed satellite data | 5.00 | | 4.75 | 4.40 |
| Access to regional and/or global data | 5.00 | | 5.00 | 4.20 |
| Digital infrastructure (computers, software etc.) | 5.00 | | 4.50 | 4.30 |
| Internet connectivity | 5.00 | | 4.00 | 3.60 |
| Access to high power computing | 5.00 | | 4.75 | 4.10 |
| Access to current scientific literature | 2.00 | | 4.00 | 4.40 |
| Membership/involvement in international ocean research | 4.00 | | 4.25 | 4.10 |
| Strengthened international partnerships and regional networks for collaboration | 2.00 | | 4.75 | 3.80 |
| Development of national ocean research policy | 2.00 | | 4.75 | 3.90 |
| Legal frameworks, regulation and enforcement | 4.00 | | 4.50 | 3.40 |
| Increased awareness, ocean literacy and public outreach | 5.00 | | 4.50 | 4.10 |
| Gender equality | 4.00 | | 4.00 | 2.90 |
| Funding and investment in ocean science | 5.00 | | 5.00 | 4.40 |
| CD to facilitate stakeholder engagement | 4.00 | | 4.25 | 4.10 |
| Access to communities of practice | 4.00 | | 4.50 | 3.30 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 3.00 | | 3.00 | 3.90 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 3.00 | | 4.00 | 4.00 |
| Continuous professional development throughout your career | 4.00 | | 4.75 | 3.80 |
| Management training for senior researchers and heads of institution | 4.00 | | 4.75 | 3.40 |
| Establishment of consortia of higher education in your country or region | 2.00 | | 3.25 | 2.30 |
| Increased collaboration with UNESCO Chairs and IOC | 5.00 | | 4.00 | 3.90 |
| Establishment of an internship/fellowship programme | 5.00 | | 4.50 | 4.10 |
| Access to on-board, research vessel-based training | 4.00 | | 4.50 | 4.00 |
| Establishment of a visiting lecturer programme | 5.00 | | 3.50 | 3.70 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 4.00 | | 3.75 | 3.40 |
| Establishment of a mentoring programme | 2.00 | | 4.50 | 3.40 |
| Development of IOC alumni networks | 2.00 | | 4.50 | 3.60 |
| Establishment of "young scientist" awards | 4.00 | | 4.50 | 3.60 |
| Promoting gender equality and participation of women in ocean science | 4.00 | | 4.25 | 3.10 |
| Sharing of training materials | 4.00 | | 4.50 | 3.70 |
| Establishment of a travel grant "fund" | 4.00 | | 5.00 | 3.40 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | | 2.00 | 3.00 |
| Reinforced budgeting of regional sub-commissions | 2.00 | | 4.30 | 4.10 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.30 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.20 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.30 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | | 2.00 | 3.00 |
| Reinforced budgeting of regional sub-commissions | 2.00 | | 4.30 | 4.10 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.30 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.20 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 4.80 | 4.30 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|---|-----------------|----------------|-----------------------|-----------------|
| Sharing of information on existing ocean research priorities among government | 4.00 | | 4.75 | 3.80 |
| Assistance with the development of national marine science management | 3.30 | | 4.50 | 3.80 |
| Support in methodologies for co-design processes to joint development of | 4.00 | | 4.50 | 3.90 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=4) | Personal (n=10) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 2.00 | | 4.75 | 4.10 |
| Support for communicating ocean science research to policy makers | 4.00 | | 5.00 | 4.30 |
| Development of an IOC ocean literacy 'community of practice' to share | 4.00 | | 4.25 | 4.10 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=4) | Personal (n=10) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 5.00 | | 4.25 | 3.30 |
| Assistance in financial resource mobilisation from Member States, | 5.00 | | 4.75 | 3.70 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 3.00 | | 3.75 | 4.30 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 3.00 | | 3.75 | 4.30 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 3.00 | | 3.75 | 4.00 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 4.00 | | 4.00 | 4.40 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 3.00 | | 3.75 | 4.20 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 5.00 | | 4.00 | 4.50 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 4.00 | | 4.00 | 4.20 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 4.00 | | 4.75 | 4.30 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 5.00 | | 3.00 | 4.50 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 5.00 | | 3.75 | 4.60 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=4) | Personal (n=10) |
|---|-----------------|----------------|-----------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 5.00 | | 4.50 | 4.30 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 5.00 | | 5.00 | 4.00 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 5.00 | | 4.75 | 4.60 |

COUNTRY REPORT: INDIA

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 2.00 | | 5.00 | 3.44 |
| Research vessels and inshore boats | 2.00 | | 4.00 | 3.81 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 2.00 | | 3.00 | 3.69 |
| Ocean science sampling equipment and instrumentation | 2.00 | | 5.00 | 3.69 |
| Laboratory equipment and facilities | 2.00 | | 4.00 | 3.69 |
| Access to remotely sensed satellite data | 2.00 | | 2.00 | 2.94 |
| Access to regional and/or global data | 2.00 | | 2.00 | 3.56 |
| Digital infrastructure (computers, software etc.) | 1.00 | | 5.00 | 3.19 |
| Internet connectivity | 1.00 | | 3.00 | 3.50 |
| Access to high power computing | 1.00 | | 2.00 | 3.50 |
| Access to current scientific literature | 1.00 | | 4.00 | 3.25 |
| Membership/involvement in international ocean research | 2.00 | | 4.00 | 3.94 |
| Strengthened international partnerships and regional networks for collaboration | 2.00 | | 3.00 | 4.13 |
| Development of national ocean research policy | 2.00 | | 3.00 | 3.94 |
| Legal frameworks, regulation and enforcement | 4.00 | | 4.00 | 3.94 |
| Increased awareness, ocean literacy and public outreach | 4.00 | | 4.00 | 4.50 |
| Gender equality | 2.00 | | 3.00 | 3.00 |
| Funding and investment in ocean science | 4.00 | | 4.00 | 4.00 |
| CD to facilitate stakeholder engagement | 2.00 | | 2.00 | 3.94 |
| Access to communities of practice | 4.00 | | 4.00 | 3.94 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 2.00 | | 3.00 | 3.50 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 4.00 | | 3.00 | 3.88 |
| Continuous professional development throughout your career | 4.00 | | 3.00 | 3.88 |
| Management training for senior researchers and heads of institution | 4.00 | | 4.00 | 3.88 |
| Establishment of consortia of higher education in your country or region | 4.00 | | 4.00 | 3.75 |
| Increased collaboration with UNESCO Chairs and IOC | 2.00 | | 4.00 | 4.06 |
| Establishment of an internship/fellowship programme | 4.00 | | 2.00 | 4.06 |
| Access to on-board, research vessel-based training | 4.00 | | 4.00 | 4.19 |
| Establishment of a visiting lecturer programme | 4.00 | | 2.00 | 3.69 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 2.00 | | 4.00 | 3.75 |
| Establishment of a mentoring programme | 4.00 | | 4.00 | 4.00 |
| Development of IOC alumni networks | 4.00 | | 4.00 | 3.56 |
| Establishment of "young scientist" awards | 4.00 | | 4.00 | 3.50 |
| Promoting gender equality and participation of women in ocean science | 4.00 | | 3.00 | 3.13 |
| Sharing of training materials | 4.00 | | 3.00 | 3.69 |
| Establishment of a travel grant "fund" | 3.00 | | 4.00 | 4.38 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|--|-----------------|----------------|-----------------------|-----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | | 4.00 | 3.63 |
| Organizing shared access to regional scientific research infrastructure | 5.00 | | 4.00 | 3.69 |
| Provision of new equipment by donors to your institution/organization | 1.00 | | 4.00 | 3.94 |
| Provision of used equipment by donors or other institutions | 1.00 | | 2.00 | 3.44 |
| Organizing low-cost access to spare parts for equipment | 2.00 | | 3.00 | 3.38 |
| Training on the use and maintenance of physical infrastructure and equipment | 2.00 | | 3.00 | 3.63 |
| Access to best practices on the use and maintenance of physical infrastructure | 1.00 | | 4.00 | 3.81 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | | 5.00 | 4.06 |
| Reinforced budgeting of regional sub-commissions | 2.00 | | 4.00 | 3.81 |
| Establishing an effective coordination and communication mechanism | 2.00 | | 5.00 | 3.69 |
| Establishing an effective coordination and communication mechanism | 2.00 | | 3.00 | 3.69 |
| Establishing an effective coordination and communication mechanism | 2.00 | | 4.00 | 3.69 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|---|-----------------|----------------|-----------------------|-----------------|
| Sharing of information on existing ocean research priorities among government | 5.00 | | 5.00 | 4.38 |
| Assistance with the development of national marine science management | 4.00 | | 4.00 | 4.19 |
| Support in methodologies for co-design processes to joint development of | 4.00 | | 4.00 | 4.13 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=16) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 4.00 | | 5.00 | 4.44 |
| Support for communicating ocean science research to policy makers | 4.00 | | 4.00 | 4.06 |
| Development of an IOC ocean literacy 'community of practice' to share | 5.00 | | 4.00 | 4.00 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=16) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 5.00 | | 5.00 | 3.88 |
| Assistance in financial resource mobilisation from Member States, | 5.00 | | 5.00 | 4.31 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=16) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.00 | | 4.00 | 4.38 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 4.00 | | 4.00 | 4.31 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 4.00 | | 4.00 | 4.50 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 4.00 | | 3.00 | 4.19 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 3.00 | | 3.00 | 3.94 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 4.00 | | 5.00 | 4.00 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 3.00 | | 3.00 | 4.25 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 4.00 | | 5.00 | 4.19 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 4.00 | | 4.00 | 4.38 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 5.00 | | 4.00 | 4.00 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=11) | Personal (n=16) |
|---|-----------------|----------------|------------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 4.00 | | 5.00 | 4.06 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 5.00 | | 5.00 | 3.88 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 5.00 | | 5.00 | 4.13 |

COUNTRY REPORT: KENYA

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=2) | Personal (n=9) |
|---|-----------------|----------------|-----------------------|----------------|
| Qualified ocean science professionals | 5.00 | | 2.50 | 4.11 |
| Research vessels and inshore boats | 5.00 | | 3.00 | 3.89 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.00 | | 2.50 | 4.33 |
| Ocean science sampling equipment and instrumentation | 5.00 | | 2.50 | 4.00 |
| Laboratory equipment and facilities | 2.00 | | 4.50 | 4.00 |
| Access to remotely sensed satellite data | 4.00 | | 4.00 | 3.89 |
| Access to regional and/or global data | 4.00 | | 4.00 | 4.44 |
| Digital infrastructure (computers, software etc.) | 2.00 | | 4.00 | 4.11 |
| Internet connectivity | 4.00 | | 2.00 | 3.67 |
| Access to high power computing | 4.00 | | 2.00 | 3.67 |
| Access to current scientific literature | 4.00 | | 4.50 | 3.67 |
| Membership/involvement in international ocean research | 4.00 | | 4.00 | 3.67 |
| Strengthened international partnerships and regional networks for collaboration | 5.00 | | 4.00 | 4.56 |
| Development of national ocean research policy | 5.00 | | 4.50 | 3.78 |
| Legal frameworks, regulation and enforcement | 4.00 | | 4.00 | 3.44 |
| Increased awareness, ocean literacy and public outreach | 2.00 | | 4.00 | 4.00 |
| Gender equality | 4.00 | | 4.00 | 3.22 |
| Funding and investment in ocean science | 4.00 | | 4.00 | 4.44 |
| CD to facilitate stakeholder engagement | 5.00 | | 4.00 | 4.22 |
| Access to communities of practice | 4.00 | | 4.50 | 3.89 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=2) | Personal (n=9) |
|--|-----------------|----------------|-----------------------|----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 1.00 | | 3.00 | 4.00 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 2.00 | | 4.50 | 4.33 |
| Continuous professional development throughout your career | 2.00 | | 4.00 | 4.00 |
| Management training for senior researchers and heads of institution | 4.00 | | 4.50 | 4.11 |
| Establishment of consortia of higher education in your country or region | 4.00 | | 4.50 | 4.22 |
| Increased collaboration with UNESCO Chairs and IOC | 5.00 | | 4.00 | 4.33 |
| Establishment of an internship/fellowship programme | 5.00 | | 4.50 | 4.44 |
| Access to on-board, research vessel-based training | 4.00 | | 4.50 | 4.44 |
| Establishment of a visiting lecturer programme | 2.00 | | 3.00 | 4.00 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 1.00 | | 3.00 | 3.78 |
| Establishment of a mentoring programme | 4.00 | | 3.00 | 4.00 |
| Development of IOC alumni networks | 5.00 | | 3.00 | 4.56 |
| Establishment of "young scientist" awards | 4.00 | | 4.50 | 4.11 |
| Promoting gender equality and participation of women in ocean science | 2.00 | | 4.50 | 3.11 |
| Sharing of training materials | 2.00 | | 4.50 | 3.78 |
| Establishment of a travel grant "fund" | 4.00 | | 4.50 | 4.33 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=2) | Personal (n=9) |
|--|-----------------|----------------|-----------------------|----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | | 4.50 | 4.33 |
| Organizing shared access to regional scientific research infrastructure | 4.00 | | 4.50 | 4.11 |
| Provision of new equipment by donors to your institution/organization | 4.00 | | 4.50 | 4.00 |
| Provision of used equipment by donors or other institutions | 4.00 | | 3.00 | 4.00 |
| Organizing low-cost access to spare parts for equipment | 4.00 | | 4.50 | 4.00 |
| Training on the use and maintenance of physical infrastructure and equipment | 4.00 | | 4.50 | 4.22 |
| Access to best practices on the use and maintenance of physical infrastructure | 4.00 | | 4.50 | 4.11 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=2) | Personal (n=9) |
|--|-----------------|----------------|-----------------------|----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | | 4.00 | 3.67 |
| Reinforced budgeting of regional sub-commissions | 4.00 | | 3.00 | 3.89 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 2.50 | 4.33 |
| Establishing an effective coordination and communication mechanism | 4.00 | | 2.50 | 4.00 |
| Establishing an effective coordination and communication mechanism | 2.00 | | 4.50 | 4.00 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=2) | Personal (n=9) |
|---|-----------------|----------------|-----------------------|----------------|
| Sharing of information on existing ocean research priorities among government | 4.00 | | 4.50 | 4.44 |
| Assistance with the development of national marine science management | 4.00 | | 4.50 | 4.22 |
| Support in methodologies for co-design processes to joint development of | 4.00 | | 2.00 | 4.56 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=1) | Personal (n=11) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 4.00 | | 1.00 | 4.44 |
| Support for communicating ocean science research to policy makers | 4.00 | | 1.00 | 4.44 |
| Development of an IOC ocean literacy 'community of practice' to share | 4.00 | | 0.50 | 4.56 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 4.00 | | 2.00 | 4.44 |
| Assistance in financial resource mobilisation from Member States, | 4.00 | | 2.00 | 4.56 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=1) | Personal (n=11) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.00 | | 4.00 | 4.33 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 4.00 | | 4.00 | 4.56 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 4.00 | | 4.00 | 4.67 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 4.00 | | 4.00 | 4.67 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 4.00 | | 4.00 | 4.33 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 4.00 | | 4.00 | 4.22 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 4.00 | | 4.00 | 4.22 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 4.00 | | 4.00 | 3.89 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 4.00 | | 4.00 | 4.00 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 4.00 | | 4.00 | 3.89 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=11) | Personal (n=11) |
|---|-----------------|----------------|------------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 4.00 | | 4.00 | 4.22 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 4.00 | | 4.00 | 4.44 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 4.00 | | 4.00 | 4.33 |

COUNTRY REPORT: MEXICO

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 2.00 | 2.00 | 3.33 | 4.15 |
| Research vessels and inshore boats | 4.00 | 4.00 | 4.33 | 4.08 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 5.00 | 5.00 | 3.67 | 4.54 |
| Ocean science sampling equipment and instrumentation | 5.00 | 5.00 | 3.33 | 4.54 |
| Laboratory equipment and facilities | 5.00 | 5.00 | 3.67 | 4.31 |
| Access to remotely sensed satellite data | 5.00 | 5.00 | 4.67 | 4.38 |
| Access to regional and/or global data | 5.00 | 5.00 | 4.00 | 4.23 |
| Digital infrastructure (computers, software etc.) | 5.00 | 5.00 | 3.33 | 4.38 |
| Internet connectivity | 5.00 | 5.00 | 3.00 | 4.38 |
| Access to high power computing | 5.00 | 5.00 | 3.00 | 4.08 |
| Access to current scientific literature | 5.00 | 5.00 | 3.33 | 4.23 |
| Membership/involvement in international ocean research | 5.00 | 5.00 | 3.33 | 4.38 |
| Strengthened international partnerships and regional networks for collaboration | 5.00 | 5.00 | 4.33 | 4.46 |
| Development of national ocean research policy | 5.00 | 5.00 | 4.67 | 4.85 |
| Legal frameworks, regulation and enforcement | 5.00 | 5.00 | 4.33 | 4.15 |
| Increased awareness, ocean literacy and public outreach | 5.00 | 5.00 | 3.67 | 4.46 |
| Gender equality | 5.00 | 5.00 | 3.00 | 3.85 |
| Funding and investment in ocean science | 5.00 | 5.00 | 4.33 | 4.69 |
| CD to facilitate stakeholder engagement | 5.00 | 5.00 | 4.33 | 4.00 |
| Access to communities of practice | 5.00 | 5.00 | 4.67 | 4.31 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 4.00 | 4.00 | 3.33 | 3.92 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 4.00 | 4.00 | 4.00 | 4.69 |
| Continuous professional development throughout your career | 4.00 | 4.00 | 4.33 | 4.38 |
| Management training for senior researchers and heads of institution | 4.00 | 4.00 | 3.33 | 4.31 |
| Establishment of consortia of higher education in your country or region | 4.00 | 4.00 | 3.33 | 4.23 |
| Increased collaboration with UNESCO Chairs and IOC | 5.00 | 5.00 | 4.33 | 4.31 |
| Establishment of an internship/fellowship programme | 5.00 | 5.00 | 4.33 | 4.46 |
| Access to on-board, research vessel-based training | 5.00 | 5.00 | 4.33 | 4.38 |
| Establishment of a visiting lecturer programme | 5.00 | 5.00 | 4.67 | 4.46 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 5.00 | 5.00 | 4.33 | 4.54 |
| Establishment of a mentoring programme | 5.00 | 5.00 | 4.33 | 4.08 |
| Development of IOC alumni networks | 5.00 | 5.00 | 5.00 | 4.23 |
| Establishment of "young scientist" awards | 5.00 | 5.00 | 4.67 | 4.08 |
| Promoting gender equality and participation of women in ocean science | 5.00 | 5.00 | 4.67 | 4.15 |
| Sharing of training materials | 5.00 | 5.00 | 4.33 | 4.15 |
| Establishment of a travel grant "fund" | 5.00 | 5.00 | 4.67 | 4.38 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | 4.00 | 4.33 | 4.69 |
| Organizing shared access to regional scientific research infrastructure | 4.00 | 4.00 | 4.33 | 4.46 |
| Provision of new equipment by donors to your institution/organization | 4.00 | 4.00 | 4.67 | 4.31 |
| Provision of used equipment by donors or other institutions | 4.00 | 4.00 | 4.33 | 3.92 |
| Organizing low-cost access to spare parts for equipment | 4.00 | 4.00 | 3.67 | 4.31 |
| Training on the use and maintenance of physical infrastructure and equipment | 4.00 | 4.00 | 3.67 | 4.46 |
| Access to best practices on the use and maintenance of physical infrastructure | 4.00 | 4.00 | 4.33 | 4.38 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | 4.00 | 4.33 | 3.85 |
| Reinforced budgeting of regional sub-commissions | 4.00 | 4.00 | 4.33 | 4.08 |
| Establishing an effective coordination and communication mechanism | 5.00 | 5.00 | 3.67 | 4.54 |
| Establishing an effective coordination and communication mechanism | 5.00 | 5.00 | 3.33 | 4.54 |
| Establishing an effective coordination and communication mechanism | 5.00 | 5.00 | 3.67 | 4.31 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Sharing of information on existing ocean research priorities among government | 5.00 | 5.00 | 5.00 | 4.69 |
| Assistance with the development of national marine science management | 5.00 | 5.00 | 4.00 | 4.62 |
| Support in methodologies for co-design processes to joint development of | 5.00 | 5.00 | 4.33 | 4.46 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 4.00 | 4.00 | 4.67 | 5.00 |
| Support for communicating ocean science research to policy makers | 4.00 | 4.00 | 4.67 | 4.85 |
| Development of an IOC ocean literacy 'community of practice' to share | 4.00 | 4.00 | 4.00 | 4.62 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 5.00 | 5.00 | 4.00 | 3.92 |
| Assistance in financial resource mobilisation from Member States, | 5.00 | 5.00 | 4.67 | 4.23 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.00 | 4.00 | 4.67 | 4.69 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 4.00 | 4.00 | 4.67 | 4.85 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 5.00 | 5.00 | 4.67 | 4.62 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 5.00 | 5.00 | 4.33 | 4.31 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 5.00 | 5.00 | 5.00 | 4.31 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 5.00 | 5.00 | 4.67 | 4.69 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 5.00 | 5.00 | 4.67 | 4.54 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 5.00 | 5.00 | 4.33 | 4.00 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 5.00 | 5.00 | 4.33 | 4.23 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 5.00 | 5.00 | 3.67 | 4.77 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=13) |
|---|-----------------|----------------|-----------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 4.00 | 4.00 | 4.67 | 4.69 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 4.00 | 4.00 | 4.67 | 4.46 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 4.00 | 4.00 | 4.33 | 4.77 |

COUNTRY REPORT: NIGERIA

Question 2.1: Please rank the most critical capacity development needs to build ocean science capacity (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|---|-----------------|----------------|-----------------------|-----------------|
| Qualified ocean science professionals | 4.00 | 4.00 | 4.33 | 4.22 |
| Research vessels and inshore boats | 4.00 | 5.00 | 4.33 | 4.50 |
| Ocean observation equipment (buoys, AUVs, tide-gauges etc.) | 4.00 | 4.00 | 4.67 | 4.72 |
| Ocean science sampling equipment and instrumentation | 4.00 | 3.00 | 4.00 | 4.44 |
| Laboratory equipment and facilities | 4.00 | 4.00 | 4.67 | 4.39 |
| Access to remotely sensed satellite data | 4.00 | 4.00 | 4.67 | 4.50 |
| Access to regional and/or global data | 4.00 | 4.00 | 4.67 | 4.39 |
| Digital infrastructure (computers, software etc.) | 4.00 | 4.00 | 4.33 | 4.28 |
| Internet connectivity | 4.00 | 4.00 | 4.67 | 4.00 |
| Access to high power computing | 4.00 | 4.00 | 5.00 | 4.33 |
| Access to current scientific literature | 4.00 | 5.00 | 3.67 | 4.17 |
| Membership/involvement in international ocean research | 4.00 | 4.00 | 4.67 | 4.22 |
| Strengthened international partnerships and regional networks for collaboration | 4.00 | 5.00 | 5.00 | 4.44 |
| Development of national ocean research policy | 4.00 | 4.00 | 4.00 | 4.22 |
| Legal frameworks, regulation and enforcement | 4.00 | 4.00 | 4.33 | 4.06 |
| Increased awareness, ocean literacy and public outreach | 4.00 | 4.00 | 4.33 | 4.28 |
| Gender equality | 5.00 | 2.00 | 3.67 | 4.00 |
| Funding and investment in ocean science | 4.00 | 4.00 | 4.67 | 4.67 |
| CD to facilitate stakeholder engagement | 4.00 | 4.00 | 4.33 | 4.17 |
| Access to communities of practice | 5.00 | 4.00 | 4.33 | 4.11 |

Question 2.2: How important are the following in terms of developing capacity in human resources (currently not available) in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|--|-----------------|----------------|-----------------------|-----------------|
| Higher education degree (BSc-PhD) programmes in ocean science within | 2.00 | 4.00 | 3.67 | 4.17 |
| Advanced professional development training courses (specific short courses, technical training etc.) | 4.00 | 4.00 | 4.33 | 4.50 |
| Continuous professional development throughout your career | 4.00 | 4.00 | 4.67 | 4.44 |
| Management training for senior researchers and heads of institution | 4.00 | 4.00 | 3.67 | 4.56 |
| Establishment of consortia of higher education in your country or region | 5.00 | 2.00 | 5.00 | 4.50 |
| Increased collaboration with UNESCO Chairs and IOC | 5.00 | 5.00 | 4.33 | 4.44 |
| Establishment of an internship/fellowship programme | 4.00 | 5.00 | 4.67 | 4.61 |
| Access to on-board, research vessel-based training | 4.00 | 5.00 | 5.00 | 4.61 |
| Establishment of a visiting lecturer programme | 5.00 | 2.00 | 3.67 | 4.44 |
| Establishment of regional training (and research) centres relevant to the IOC mandate | 4.00 | 4.00 | 4.00 | 4.56 |
| Establishment of a mentoring programme | 4.00 | 5.00 | 4.33 | 4.56 |
| Development of IOC alumni networks | 5.00 | 4.00 | 4.67 | 4.11 |
| Establishment of "young scientist" awards | 5.00 | 2.00 | 3.67 | 4.39 |
| Promoting gender equality and participation of women in ocean science | 5.00 | 5.00 | 3.33 | 4.39 |
| Sharing of training materials | 4.00 | 4.00 | 4.33 | 4.61 |
| Establishment of a travel grant "fund" | 5.00 | 4.00 | 4.33 | 4.61 |

Question 2.3: In your opinion, how important are the following in terms of increased access to physical infrastructure for your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|--|-----------------|----------------|-----------------------|-----------------|
| Establishment and maintenance of a register of regional scientific research | 4.00 | 4.00 | 2.00 | 4.28 |
| Organizing shared access to regional scientific research infrastructure | 4.00 | 4.00 | 4.00 | 4.39 |
| Provision of new equipment by donors to your institution/organization | 4.00 | 4.00 | 4.67 | 4.44 |
| Provision of used equipment by donors or other institutions | 2.00 | 4.00 | 3.67 | 4.06 |
| Organizing low-cost access to spare parts for equipment | 4.00 | 4.00 | 3.67 | 4.50 |
| Training on the use and maintenance of physical infrastructure and equipment | 4.00 | 4.00 | 3.67 | 4.44 |
| Access to best practices on the use and maintenance of physical infrastructure | 4.00 | 4.00 | 4.33 | 4.33 |

Question 2.4: If applicable, to what extent does the following help your country with regards to strengthened coordination with global, regional or sub-regional IOC communities and local networks?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|--|-----------------|----------------|-----------------------|-----------------|
| Improved staffing of secretariat of regional sub-commissions | 4.00 | 4.00 | 2.67 | 4.06 |
| Reinforced budgeting of regional sub-commissions | 4.00 | 4.00 | 4.33 | 4.50 |
| Establishing an effective coordination and communication mechanism | 4.00 | 4.00 | 4.67 | 4.72 |
| Establishing an effective coordination and communication mechanism | 4.00 | 4.00 | 4.00 | 4.44 |
| Establishing an effective coordination and communication mechanism | 4.00 | 4.00 | 4.67 | 4.39 |

Question 2.5: In your opinion, how useful are the following in terms of development of ocean research policies in support of sustainable development in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=18) |
|---|-----------------|----------------|-----------------------|-----------------|
| Sharing of information on existing ocean research priorities among government | 4.00 | 4.00 | 4.67 | 4.00 |
| Assistance with the development of national marine science management | 4.00 | 4.00 | 5.00 | 3.94 |
| Support in methodologies for co-design processes to joint development of | 4.00 | 4.00 | 4.33 | 3.83 |

Question 2.6: In your opinion, how useful are the following in terms of increasing visibility and awareness of ocean research in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=18) |
|---|-----------------|----------------|-----------------------|-----------------|
| Support for development of effective public communication in ocean | 4.00 | 3.00 | 4.00 | 4.13 |
| Support for communicating ocean science research to policy makers | 4.00 | 3.00 | 4.97 | 4.17 |
| Development of an IOC ocean literacy 'community of practice' to share | 4.00 | 5.00 | 4.00 | 4.28 |

Question 2.7: In your opinion, how useful are the following in terms of mobilising sustained (long-term) resources in your country?

| | IOC Focal Point | CO Focal Point | Representatives (n=3) | Personal (n=18) |
|--|-----------------|----------------|-----------------------|-----------------|
| Assistance in fostering partnerships to increase in-kind support opportunities | 4.00 | 4.00 | 4.67 | 4.22 |
| Assistance in financial resource mobilisation from Member States, | 4.00 | 4.00 | 3.33 | 4.17 |

Question 2.12: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade Challenges are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|--|-----------------|----------------|-----------------------|-----------------|
| CHALLENGE 1: Understand and map land and sea-based sources of | 4.00 | 4.00 | 4.33 | 4.33 |
| CHALLENGE 2: Understand the effects of multiple stressors on ocean ecosystems, | 4.00 | 4.00 | 4.33 | 4.39 |
| CHALLENGE 3: Generate knowledge, support innovation, and develop | 5.00 | 4.00 | 4.67 | 4.50 |
| CHALLENGE 4: Generate knowledge, support innovation, and develop | 4.00 | 4.00 | 4.33 | 4.50 |
| CHALLENGE 5: Enhance understanding of the ocean-climate nexus and | 4.00 | 5.00 | 4.33 | 4.50 |
| CHALLENGE 6: Enhance multi-hazard early warning services for all | 4.00 | 4.00 | 3.67 | 4.67 |
| CHALLENGE 7: Ensure a sustainable ocean observing system across all ocean | 4.00 | 4.00 | 4.67 | 4.56 |
| CHALLENGE 8: Through multi-stakeholder collaboration, develop a | 4.00 | 5.00 | 4.67 | 4.44 |
| CHALLENGE 9: Ensure comprehensive capacity development and equitable | 4.00 | 4.00 | 4.67 | 4.61 |
| CHALLENGE 10: Ensure that the multiple values and services of the ocean for | 4.00 | 4.00 | 4.00 | 4.61 |

Question 2.13: In the context of the UN Decade of Ocean Science for Sustainable Development for which of the following Ocean Decade objectives are capacity development needs greatest in your country?

| | IOC Focal Point | CD Focal Point | Representatives (n=3) | Personal (n=18) |
|---|-----------------|----------------|-----------------------|-----------------|
| OBJECTIVE 1: Identify required knowledge for sustainable | 4.00 | 4.00 | 4.67 | 4.44 |
| OBJECTIVE 2: Build capacity and generate comprehensive knowledge | 4.00 | 4.00 | 4.67 | 4.61 |
| OBJECTIVE 3: Increase the use of ocean knowledge and understanding, and | 4.00 | 4.00 | 4.67 | 4.50 |

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