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# Towards the sustainable development of the Caribbean Sea for present and future generations

## Report of the Secretary-General*

*Summary*

The present report is submitted pursuant to General Assembly resolution 77/163, entitled "Towards the sustainable development of the Caribbean Sea for present and future generations", in which the Assembly requested the Secretary-General to submit a report to it at its seventy-ninth session on the implementation of the resolution. A range of activities undertaken at the national and regional levels by Member States, international development partners and other stakeholders to advance the sustainable development of the Caribbean Sea are highlighted in the report. A report of the Association of Caribbean States (available at https://sdgs.un.org/topics/small-island-developing-states#sg_reports_2024) also details progress made in the implementation of the resolution.

* The present report was submitted to the conference services for processing after the deadline for technical reasons beyond the control of the submitting office.

# I. Introduction

1. In its resolution 77/163, entitled “Towards the sustainable development of the Caribbean Sea for present and future generations”, the General Assembly, recognizing the efforts of Caribbean States to develop and implement strategies for the conservation and sustainable use of the ocean and its resources, called for further efforts to address those Sustainable Development Goal targets that had matured in 2020, for example targets 14.2, 14.4, 14.5 and 14.6, but which many countries in the region had not achieved.

2. For the small island developing States in the wider Caribbean region, the newly adopted 10-year programme of action entitled “The Antigua and Barbuda Agenda for Small Island Developing States: A Renewed Declaration for Resilient Prosperity”, which outlines concrete actions across 10 thematic areas,[1] including the ocean sector, presents renewed hope and a new platform on which countries can obtain support from the international community to pursue policies and approaches that enable them to harness the potential of the ocean sector to drive economic transformation. However, to fully realize the Agenda’s promise of resilient prosperity, these countries will not only need to re-examine existing development models and adopt new ones, while also grappling with climate impacts and other environmental challenges, economic shocks, supply chain disruptions and geopolitical tensions, but will also need to attract much-needed finance and investment at scale. Unfortunately, despite the ocean’s vital role in livelihoods, nutrition and climate change mitigation, Sustainable Development Goal 14 remains the least-funded Goal, hindering the achievement of the 2030 targets.

3. For some Latin American countries in the wider Caribbean region, it is a similar story. Efforts are needed to mobilize resources at scale and, at the same time, foster an enabling environment for long-term debt sustainability. Innovation will also be key to the development of effective development strategies that include increased dependence on coastal and ocean-based resources, while promoting the sustainable management of those resources, building resilience and reducing risks. The Summit of the Future, in 2024, the third United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development, in 2025, the World Summit for Social Development and the Fourth International Conference on Financing for Development will offer opportunities for all countries of the region to reposition their specific needs and priorities and to call for necessary resources at scale to meet those needs. Pursuing a “sustainable blue economy” could offer the opportunity for countries of the region to attract investments and to diversify their economies into more climate-resilient and risk-proofed high-yielding sectors.

4. The continued efforts of the wider Caribbean region to develop and implement regional initiatives, such as the United Nations Development Programme/Global Environment Facility PROCARIBE+ project[2] to promote the sustainable management of the Caribbean Sea, including through the work of the Caribbean Sea Commission of the Association of Caribbean States, other international development partners and the United Nations system, also go a long way towards laying the appropriate foundation for enabling a “sustainable blue economy” in the region. The efforts of the

[1] Economic resilience; climate action and support, including finance; biodiversity action; ocean conservation; disaster risk reduction; safe and healthy societies; data; science and digitalization; productive populations; and partnerships.

[2] See https://clmeplus.org/procaribe-plus-project/.

Association are detailed in the Declaration of Antigua Guatemala, adopted at the Ninth Summit of Heads of State and Government of the Association.[3]

5. In preparing the present report, information was obtained through inputs from Member States, United Nations system organizations and regional organizations operating in the Caribbean.[4]

## II. Towards the sustainable development of the Caribbean Sea: the need for finance at scale, investment and innovation

6. Marine and coastal resources are critical for human survival. The countries of the wider Caribbean region rely heavily on ocean-based sectors, such as maritime industries, associated shipping and trade, and tourism. Small-scale fisheries and other local ocean-based sectors support a significant number of jobs and livelihood opportunities. Marine and coastal resources also provide critical ecosystem services on which the ocean economy relies. Yet historically, ocean-based sectors have expanded without sufficient consideration for sustainability, negatively affecting marine and coastal environments. Moreover, the negative impacts of climate change are exacerbating the serious threats posed to these economies. Critical knowledge and skills gaps also still undermine the ability of many countries in the region to sustainably manage their marine and coastal resources.[5] Globally, there is inadequate valuation of marine resources and ecosystem services, and many countries do not use coastal and ocean planning tools or are only in the nascent stages of doing so. Compared with terrestrial protected areas, there are relatively few marine protected areas, and they tend to be smaller, lack proper enforcement and be in conflict with the fishery sector.[6] Moreover, globally only 6 per cent of coral reefs are located inside marine protected areas that are deemed to be effective.[7]

7. Progress in addressing the above-mentioned challenges in the wider Caribbean region has been stymied by competing uses and diverging interests, including the urgent need for many countries to pursue economic activities with potentially higher returns and benefits to spur economic growth. Addressing different types of challenges in different sectors of the economy calls for a combination of approaches. For example, for investments in the ocean sector to be sustainable and in order to preserve ocean health, such investments cannot be considered in isolation from other initiatives; they should be part of a coherent plan for an ocean economy. The challenge in the region is that ocean-related sectors are managed separately, under the authority of different ministries or government entities that do not share or coordinate their efforts. This silo-based approach results in two important consequences. First, externalities generated by one sector are typically borne by others and are therefore not monitored, accurately measured, or mitigated. The impact of polluting discharges from oil and gas drilling and from ships on fisheries and coastal tourism is a good illustration of this phenomenon. Second, and perhaps more importantly, a purely sectoral approach ultimately hampers the growth of the blue economy because the

[3] Association of Caribbean States, “Innovating integration through the sustainable development of the Greater Caribbean”, 12 May 2023. Available at https://sdgs.un.org/sites/default/files/2024-07/Declaration_of_Antigua_%20ACS_Input_SG_Report_Caribbean_Sea_2024.pdf.

[4] All inputs are available at https://sdgs.un.org/topics/small-island-developing-states#sg_reports_2024.

[5] World Bank, Independent Evaluation Group, “Approach paper: making waves – an evaluation of the World Bank’s support for the blue economy (2012–23)”, 13 March 2023. Available at https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ap_making_waves_blue_economy.pdf.

[6] Kjell Grip and Sven Blomqvist, “Marine nature conservation and conflicts with fisheries”, *Ambio*, vol. 49, No. 7 (July 2020).

[7] Lauretta Burke and others, Reefs at Risk Revisited (Washington, D.C., World Resources Institute, 2011).

development of one sector often has an impact on the full and optimal development of others.[8]

8. To address this, a collective and concerted effort and a commitment to cohesive, synergistic management structures at the national and regional levels are required. Economic valuation of marine and coastal resources, legislation, investments in human capital, technological readiness and institutional structures are also necessary tools for harnessing the employment and sustainable development benefits of investing in innovative ocean and coastal economy sectors. While many countries in the region have been investing in the appropriate human capital and legal and institutional frameworks, the real potential of the Caribbean Sea as a key economic driver remains to be recognized and tapped. Countries experience challenges in developing and implementing effective and coherent policies, data for decision-making remain to be improved, and legal and institutional ocean governance structures at the national and regional levels are not well developed. Ensuring that the required human resource capacity is in place remains challenging, and attempts at mobilizing adequate financing and investments for these agendas have yielded little by way of results.

9. Development of cohesive, synergistic and integrated management structures requires balancing multiple economic sectors with very diverse stakeholder interests and coordinated governance approaches. In this regard, the United Nations Convention on the Law of the Sea provides the legal framework within which all activities in the oceans and seas must be carried out. It provides legal certainty regarding the extent of sovereignty or sovereign rights and jurisdiction of coastal States, which is essential for the development of sustainable ocean-based economies. The Convention provides a comprehensive framework for ocean governance, including a dispute settlement mechanism. This enabling framework supports economic and social development, while also protecting ecosystem health. Full and effective implementation of the Convention and its implementing agreements, as well as other relevant conventions and instruments, together with effective national legal and institutional frameworks and capacity for implementation, are essential prerequisites for success. However, in many countries in the region, in particular small island developing States, national legal and institutional frameworks continue to be fragmented and adequate capacity is often not yet in place for effective implementation.

10. Education and capacity-building programmes are also key and will need to consider present and future needs in marine sciences, research, ocean law and policy, ocean finance, innovation and technology development related to oceans. Relevant capacity-building initiatives and the transfer of appropriate marine technology to small island developing States, in particular, will be important in developing local knowledge and technical capacities and the necessary governance frameworks for sustainable development. These include building human and institutional capacities in all aspects of ocean governance, including the science-policy interface, and with regard to monitoring coastal erosion, ocean acidification, harmful algal blooms and microplastics in the Caribbean Sea – all essential information for populations that rely heavily on the sea for their food and income. Related to this is the importance of adaptive and evidence-based decision-making, enabled by access to quality data, information and knowledge, including local and traditional knowledge. Technical and vocational skills training will also be necessary to create a large enough pool of

[8] World Bank, *Riding the Blue Wave: Applying the Blue Economy Approach to World Bank Operations* (Washington, D.C., 2021). Available at https://documents1.worldbank.org/curated/en/099655003182224941/pdf/P16729802d9ba60170940500fc7f7d02655.pdf.

professional, scientific and skilled persons to support efforts to sustainably use, conserve and manage ocean resources.

11. The Division for Ocean Affairs and the Law of Sea of the Secretariat has also been playing a key role in supporting countries in the wider Caribbean region to fill capacity gaps for evidence-based and coherent policy development. Together with its partners, the Division has been providing tailored capacity-building and technical assistance to support the implementation of country priority actions in the ocean sector. Such support has included assistance in ocean affairs and the law of the sea, including fisheries governance, through the provision of regional workshops, assessments of legal and institutional ocean governance frameworks, support for strengthening policy and legal frameworks to promote the development of sustainable ocean-based economies, and support to strengthen the legal frameworks related to marine genetic resources. It has also provided fellowship opportunities in ocean affairs and the law of the sea. With the adoption in June 2023 of the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction, the Division has also focused on promoting a better understanding of the Agreement and preparing for its entry into force, including through the organization of a workshop on the Agreement for Caribbean small island developing States.[9]

12. Likewise, in recognition of the need to address the knowledge and capacity gap, in particular in small island developing States, Ireland launched a bilateral ocean innovation programme for small island developing States, Our Shared Ocean, to support strategic research partnerships and knowledge exchanges between islands. The programme is supporting research partnerships between Irish and Caribbean ocean experts to identify innovative responses to the challenges facing the Caribbean islands in relation to coastal resilience and marine protection and to explore new opportunities for sustainable ocean development in the region.

13. Economic benefits from oceans cannot be realized without also recognizing the pivotal role of coastal and marine resources and how they are affected by climate change, global warming and sea level rise, and other anthropogenic impacts, such as land-based pollution and biodiversity loss. Any strategy that includes a focus on ocean potential must therefore also consider the protection of oceans from further degradation and prioritize strategies that are sustainable and regenerative and build resilience while reducing risks. Unfortunately, however, ocean rehabilitation, conservation and sustainable use are generally underfunded, with current financial flows into the blue economy continuing to support unsustainable activities and extractive industries that do not necessarily benefit local communities and often result in harm and greater risks to marine and coastal ecosystems and local livelihoods.[10] In addition, advanced technologies, and concessional finance and grant resources for investments in higher-productivity sectors, remain difficult to access for many of the countries in the region, in part due to, inter alia, their gross national income per capita, poor credit ratings and close to distress levels of indebtedness, which make any additional borrowing for investment in any sector difficult. Considering factors beyond income per capita for access to concessional finance can unlock additional financial resources for these countries. For example, the multidimensional vulnerability index, commissioned by the General Assembly and developed by a high-level panel of experts and for which implementation will begin shortly, is a potential tool that donors and international financial institutions might incorporate into existing

[9] For information on the Division's capacity-building and trust fund programmes, see www.un.org/oceancapacity.

[10] Karuna Rana, "Closing the blue funding gap: how can small island developing States mobilise a blue innovation fund for community development?", ODI working paper, April 2024. Available at https://odi.org/en/publications/closing-the-blue-funding-gap-for-sids/.

policies and practices. This would enable the allocation of financial resources based not only on economic factors but also on social and environmental considerations.

14. Lack of sectoral and costing data and limited project preparation capacity (e.g. feasibility and readiness assessments) have also hindered access to finance at scale for blue investments in the wider Caribbean region. Limited finance is provided directly to government budgets, and most interventions in the sector are delivered through project-based modalities, posing the risk of fragmentation and bypassing country systems. In most countries, there is also a dearth of finance directed at supporting clean tech innovation and entrepreneurship, or for financial risk mitigation instruments for emerging technologies of high relevance to the region, such as ocean energy technologies. Investments are key to driving blue innovation, and consequently, the allocation of funds within ocean industries at the national level is a crucial indicator of the trajectory of blue economy sectors.

**Pathways to solutions**

15. The literature on innovative financing models, such as blue bonds for marine conservation and impact investment, offers valuable insights into how a country could potentially identify diverse funding sources for sustainable blue economy initiatives.[11] Venture capital and impact investing in the blue economy offer the potential to close the existing funding gap for the wider Caribbean region. Other opportunities, such as debt-for-nature swaps[12] and the recently established International Monetary Fund Resilience and Sustainability Trust, also open fiscal space for investments in the marine sector. To be effective, however, these should ideally be grounded in the integrated national financing framework, which, if correctly done, would demonstrate how the national strategy would be financed and implemented, relying on all sources of financing.

16. Most countries in the wider Caribbean region have thus far experienced limited success in catalysing public and private investments in the blue economy. In too many instances, national policies and ecosystems are still not conducive to fostering blue innovation or supporting small-scale, early-stage transformative pipeline projects. Equally important and relevant are the integration of climate and sustainable development strategies and their alignment with national budgets and comprehensive integrated national financing frameworks, which remain a work in progress in countries in the region, particularly small island developing States.

17. To advance the sustainable blue economy, a nuanced, multifaceted response is needed. Interventions to create a more resilient financial framework, enabling countries to invest in the blue economy without exacerbating their debt burden, will need to be coupled with interventions to enhance institutional governance capacities. Many countries also lack data on their blue resources, natural capital accounts and resource utilization, as well as risk proofing or guarantee financing tools. This makes it difficult to assess their true economic potential and environmental wealth or to attract blue investments. Robust data management systems and good monitoring, guarantees and verification of these resources are paramount. Countries also need to be in a position to track their progress and impact as they implement diversification strategies. This requires investing in data collection and analysis, establishing resilience indicators, and effective monitoring and evaluation.

[11] Benjamin S. Thompson, “Blue bonds for marine conservation and a sustainable ocean economy: status, trends, and insights from green bonds”, *Marine Policy*, vol. 144 (October 2022).

[12] Nicholas Owen, “Belize: swapping debt for nature”, International Monetary Fund, 4 May 2022. Available at https://www.imf.org/en/News/Articles/2022/05/03/CF-Belize-swapping-debt-for-nature.

18. In an attempt to address these challenges in the region, the United Nations Industrial Development Organization (UNIDO) has been implementing several initiatives to strengthen local industries and enhance technical skills. For instance, the establishment of the Caribbean Centre for Renewable Energy and Energy Efficiency in Barbados serves as a hub for knowledge transfer and technical expertise in sustainable energy. The Centre focuses on upscaling and replicating national efforts in policy implementation, capacity development and investment promotion, with a strong emphasis on private sector involvement. In addition, the UNIDO project on fostering regional coordination in aquaculture value chains is aimed at enhancing productive employment and cooperation among Latin American and Caribbean countries, emphasizing capacity-building in freshwater aquaculture.

19. In a similar vein, the Division for Ocean Affairs and the Law of the Sea, in the context of the PROBLUE trust fund managed by the World Bank and together with its partners, has been delivering workshops on ocean governance, including for the Latin America and the Caribbean region. Partners include the World Bank, the Food and Agriculture Organization of the United Nations (FAO), the International Seabed Authority, the University of Melbourne Law School and the Maritime and Oceanic Law Centre of the University of Nantes. With the support of the Nippon Foundation, the Division also recently launched the Ocean Governance Fellowship for SIDS[13] with the aim of increasing the capacity of small island developing States to effectively implement ocean governance and international legal frameworks, including by addressing the special circumstances of the States.

20. FAO also continues to support the Latin America and the Caribbean region in developing effective policies, governance structures and institutions to facilitate the adoption and effective implementation of international instruments, regional coordination mechanisms, plans of action and guidelines to combat illegal, unreported and unregulated fishing.

21. PROBLUE is an umbrella multi-donor trust fund administered by the World Bank, designed to help countries to chart a course towards a blue economy approach through a focus, inter alia, on supporting the sustainable development of key oceanic sectors such as coastal tourism, maritime transport and offshore renewable energy. Ireland is a contributor to the fund and also provides much-needed technical assistance in project management and development.

22. The International Fund for Agricultural Development (IFAD), through the Resilient Rural Belize programme, is supporting a $25 million countrywide investment programme, with co-financing from the Green Climate Fund and the Caribbean Development Bank. The development objective of the programme is to build overall resilience to climate change by adopting new or improved climate-resilient practices, increasing and diversifying agricultural production and facilitating access to commercial market chains for offtake of surplus production. In Grenada, IFAD is currently in the design process of a new umbrella programme, the Resilience Integration Programme Promoting Environmental Sustainability. The programme will include financing from both the Global Environment Facility and the Adaptation Fund, through the “Increasing climate resilience and adaptive capacity among farming and fishing communities in Grenada” project, for an overall external grant financing of $14 million.

23. To strengthen the science-policy interface in the region and national capacity for data and statistics, the Intergovernmental Oceanographic Commission (IOC) has been targeting its support to accelerate the use and application of ocean science across the region. To address the regional need to streamline ocean data and information

[13] See https://www.un.org/oceancapacity/content/unnf-ocean-governance-fellowship-sids.

flow for decision-making, the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE) has been working closely with the International Oceanographic Data and Information Exchange global programmes to establish a regional ocean data and information working group, which has been focused on building an adequate framework, providing appropriate training and giving technical advice to Member States on open data, as well as FAIR (findable, accessible, interoperable, reusable) and CARE (collective benefit, authority to control, responsibility, ethics) principles. The objective is eventually to provide access to data and information for decision-making, within the context of the Caribbean Sea. Training workshops have also been convened on marine spatial planning together with the United Nations Environment Programme.

24. The United Nations Office for Disaster Risk Reduction has been working to reinforce disaster risk governance and to foster the integration of disaster risk reduction and climate change adaptation into national planning frameworks for the wider Caribbean region. Through the Secretary-General's Early Warnings for All initiative and the Climate Risk and Early Warning Systems initiative, and in cooperation with the World Bank and the World Meteorological Organization, the Office has been working to increase the availability of and access to multi-hazard early warning systems and support the transition to impact-based forecasting informed by historical disaster risk data in the Caribbean. In this regard, the Office has worked with the Caribbean Disaster Emergency Management Agency, Antigua and Barbuda, Barbados, Guyana and Trinidad and Tobago to conduct workshops with a view to assessing gaps and implementation plans for the Early Warnings for All initiative and to developing national road maps.

25. The International Atomic Energy Agency (IAEA), through its regional and national technical cooperation projects in Latin America and the Caribbean, contributes to building human and institutional capacities for monitoring coastal erosion, ocean acidification, harmful algal blooms and microplastics in the Caribbean Sea. Nuclear and isotopic techniques are used to measure and monitor the impacts of ocean acidification, analyse harmful algal bloom events and assist in identifying the sources of pollution in the sea – essential information for populations that rely heavily on the sea for their food and income. IAEA support is focused on the harmonization of monitoring and sampling methodologies, sample preparation and sample analysis protocols and human resource development to monitor marine stressors through the transfer of nuclear technologies, as well as on strengthening the analytical capacities of collaborating laboratories in the region through the acquisition of specialized equipment. Ocean acidification and microplastic monitoring kits are being provided to analytical laboratories in Antigua and Barbuda, Belize, Dominica and Trinidad and Tobago, as well as Jamaica, which also received specialized equipment for the characterization and quantification of microplastics.

26. FAO also works to support countries in the strengthening of regular monitoring and reporting, the development of innovative data and information systems and the implementation of fisheries management plans, strategies and measures. Through the Western Central Atlantic Fishery Commission, collaborative activities were undertaken with the Caribbean Regional Fisheries Mechanism and the Central American Fisheries and Aquaculture Organization to generate scientific advice for sound policy and management plans for the sustainable development of marine resources. Among the issues attracting particular attention are the management of spawning aggregations; the effective conservation, responsible management and trade of queen conch, flying fish, shrimps, groundfish and spiny lobster; the sustainable use of moored/anchored fish aggregating devices; and decent working conditions in small-scale fisheries.

27. Several countries within the wider Caribbean region have developed coherent ocean and coastal zone policies. The National Policy for the Integrated Management of Coastal Marine Zones of Guatemala 2009, which seeks to contribute to the good use of coastal marine resources with the economic sectors located on the Pacific and the Caribbean coasts and with the population in general, is a good example. The policy promotes conservation, sustainable livelihoods, knowledge, research and innovation, among others, and is harmonized with other related policies that seek to sustainably take advantage of coastal marine natural resources, promote maritime infrastructure and foster conditions for appropriate exploration and exploitation of maritime resources. The country has also made significant strides in strengthening its capacity for monitoring and evaluating progress. For example, under the monitoring and evaluation of national development priorities, Guatemala has integrated the theme of coastal marine areas into the following national development priorities: access to water and management of natural resources (priority 3) and economic value of natural resources (priority 6), both of which are related to Goal 14.

28. Focusing on Haiti, IFAD has provided $14 million in funding to a project aimed at reducing poverty and strengthening the climate resilience of rural coastal communities in the north and the north-east of Haiti. The project targets 40,000 beneficiaries, of whom 50 per cent are women and 40 per cent are young people. The project's objective is to diversify livelihoods and promote the conservation of coastal natural resources to provide a sustainable income and improve nutrition for rural women, men and young people.

29. When taken as a whole, all interventions and initiatives contribute to assisting the region in building its resilience and enabling the development of appropriate capacity in order to be able to move forward.

### Opportunities for resilient prosperity

30. There is no doubt that the blue economy can drive diversification by strengthening existing sectors, such as tourism and aquaculture, and expanding into new ones, including ocean and wind energy, marine biotechnology, and maritime transport. It also allows the integration of nature-based solutions that can protect and enable the sustainable management of coastal ecosystems. To finance ocean-based sectors, countries in the wider Caribbean region could tap into blue financing tools, such as the Blue Natural Capital Financing Facility, the Blue Carbon Accelerator Fund, the Blue Carbon Initiative,[14] debt-for-climate and debt-for-nature swaps, blue carbon markets and blue bonds.

### Fisheries and aquaculture

31. The fisheries and aquaculture sectors provide significant opportunities for growth and expansion. Developing the aquaculture subsector and other upstream and downstream activities along the fisheries value chain can create employment and economic benefits. In this regard, FAO works in the region to support the development of efficient value chains that increase profitability and reduce food loss, and the development of transparent, inclusive and gender-equitable value chains in support of sustainable livelihoods, and to facilitate access of fisheries and aquaculture products to international markets. The Division for Ocean Affairs and the Law of the Sea also provides assistance in fisheries governance through its European Union-funded project promoting awareness of the Agreement for the Implementation of the Law of the Sea Convention relating to the Conservation and Management of

[14] The Blue Carbon Initiative is a coordinated, global programme focused on conserving and restoring coastal ecosystems for the climate, biodiversity and human well-being. See https://www.thebluecarboninitiative.org/.

Straddling Fish Stocks and Highly Migratory Fish Stocks and building the capacity of developing States to fully and effectively implement its provisions.

### Tourism

32. Tourism will remain a major growth engine and foreign exchange earner in most countries in the wider Caribbean region. However, the impact of the coronavirus disease (COVID-19) pandemic on this sector has made it critical for countries to revamp the tourism sector to improve its productivity, value added and efficiency and the use of technology in its products and services, as a means of moving up the global value chain. Opportunities exist to transform the tourism sector to make greater use of digital technologies and innovative business models, based on the unique selling points of coastal and marine assets. In this regard, the World Tourism Organization published *Measuring the Sustainability of Tourism: Learning from Pilots*, which draws on 12 case studies around the world to show how tourism's impacts are being measured on the ground, both at the national level and in specific regions and destinations. The pilots provide concrete data for use by destination managers and policymakers. They also contributed to the development of the statistical framework for measuring the sustainability of tourism, which aims to become the leading global statistical standard for the sector. Pilots have been conducted in Costa Rica and Mexico.

### Marine biodiversity

33. Living marine resources have great potential for the development of new food, biochemicals, biomaterials, pharmaceuticals, cosmetics, fertilizers and pest control products. The Caribbean holds up to half the world's seagrass meadows by surface area, and it contains about one third of the carbon stored in seagrasses worldwide. Caribbean seagrasses provide about $255 billion in services to society annually, including $88.3 billion in carbon storage.[15] In addition, new tools in genomics, proteomics and metabolomics, for example, based on marine genetic resources show promise across fisheries management, aquaculture development, food and water safety, species and habitat conservation, seafood consumer protection, and natural products discovery. For example, two chemicals have been isolated from the Caribbean Sea sponge *Tectitethya crypta* and are used in the development of drugs to treat, inter alia, cancer, HIV, hepatitis, herpes and, more recently, coronaviruses. This is significant for countries in the region, whose exclusive economic zones are often larger than their land territory.

34. IAEA support has focused on strengthening the analytical capacities of collaborating laboratories in the region through the acquisition of specialized equipment. Analytical equipment and training for the monitoring of chemical contaminants in the marine environment are being provided to laboratories in Belize and Trinidad and Tobago, to support Member States in understanding and reducing marine pollution linked to hazardous substances from land-based activities. Nuclear and isotopic techniques were employed to date marine sediments collected in Cuba and to determine the profile and levels of a wide range of persistent organic pollutants going back to 1990. The data generated revealed a decline in historical contaminants such as polychlorinated biphenyls but showed a sharp increase in emerging pollutants linked to land-based activities and plastic pollution since 2012. The data inform strategies on marine and coastal resources management and support policymakers.

[15] Jim Erickson, "Caribbean seagrasses provide services worth $255B annually, including vast carbon storage, study shows", University of Michigan News, 10 July 2023. Available at https://seas.umich.edu/news/caribbean-seagrasses-provide-services-worth-255b-annually-including-vast-carbon-storage-study.

### Partnerships

35. A constantly changing and volatile global environment demands the development and maintenance of genuine and durable partnerships. Intensified efforts at resource mobilization should involve exploring new sources, such as South-South cooperation and private and philanthropic funding, which are increasingly important in development cooperation, as well as new modalities, such as triangular delivery and the utilization of blended finance to lower costs. Partnerships make considerable contributions to the sustainable development of the countries, as they typically place themselves at the nexus of economic development, social inclusion and environmental protection.

36. Several developing countries are pursuing South-South cooperation and, consequently, have placed considerable emphasis on building partnerships with the wider Caribbean region to support the sustainable management of the Caribbean Sea. For example, China has established the China-Caribbean Disaster Prevention and Mitigation Fund to help Caribbean small island developing States to enhance their ability to respond to natural disasters, and the South-South Cooperation Fund on Climate Change, which has provided material assistance to a number of Caribbean countries so they can cope with climate change. Chile, Colombia, India and Mexico also have long-standing cooperation programmes with Caribbean small island developing States and are pursuing partnerships, delivering technical assistance and training in all areas of relevance to the sustainable blue economy in the region.

### Possible legal and financial implications of the concept of the Caribbean as a special area in the context of sustainable development

37. While there have been calls for the designation of the Caribbean Sea as a special area within the context of sustainable development since as far back as 1997, such an initiative has not yet come to pass. The Association of Caribbean States is holding political consultations within the region to determine, inter alia, the proposed definition of the concept, the possible extent of its application, and its possible legal status under international law. The Caribbean Sea Commission was created under the auspices of the Association of Caribbean States in 2006 and was identified as the mechanism for pursuing the goal of designating the Caribbean Sea as a special area in the context of sustainable development.

38. Any assessment of legal and financial implications would first depend, inter alia, on the exact definition of the concept, the extent of its application, its legal status in international law and an assessment of intended impacts against a previously defined baseline. The Association of Caribbean States is still in the process of holding political consultations within the region to determine this, including identifying the elements that will serve as a possible baseline against which assessments can be done. The work is an ongoing effort for the Association.

## III. Conclusion

39. Member States in the wider Caribbean region have continued to work collaboratively on behalf of their shared resource, the Caribbean Sea. They have been supported in their efforts by the international community, including partner Governments, intergovernmental organizations and the private sector. Their efforts address economic, social and environmental aspects of sustainable development and often include capacity-building components. In addition, an ecosystem-based approach has been adopted in many cases, which has allowed the cumulative impacts of environmental issues and challenges on the Caribbean marine environment to be considered and policymakers to work across sectors to manage species, habitats and

economic activities and align different use interests and expectations to ensure the sustainability of resources. In order to advance the designation of the Caribbean Sea as a special area in the context of sustainable development, the capacity of the Association of Caribbean States will need to be bolstered in order to not only advance the technical work needed to define the area to be managed but also navigate the political discussions that will need to be held in the region. Appropriate partnerships with the Association need to be developed that could facilitate capacity-building and deliver technical support.