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**Sustainable development: strengthening cooperation  
for integrated coastal zone management for achieving  
sustainable development**

## **Strengthening cooperation for integrated coastal zone management for achieving sustainable development**

### **Report of the Secretary-General**

#### *Summary*

The present report is submitted pursuant to General Assembly resolution [74/210](#), on strengthening cooperation for integrated coastal zone management for achieving sustainable development. The report provides details on developments and action taken by the United Nations system to support the efforts of Member States in promoting and implementing an integrated coastal zone management approach, as well as in mobilizing partnerships and initiatives at the local, national and regional levels.

The report highlights activities and initiatives undertaken by United Nations entities, Member States and a range of stakeholders and draws attention to achievements, including cross-cutting activities, since the adoption of the resolution, in integrated coastal zone management, integrated coastal and watershed management and Marine Spatial Planning. The report also highlights activities implemented under regional marine intergovernmental frameworks and action taken to address specific elements of coastal sustainable development and action focusing on enhancing the capacity of Member States with regard to the integrated coastal zone management approach.



## **I. Introduction**

1. In paragraph 11 of its resolution [74/210](#), on strengthening cooperation for integrated coastal zone management for achieving sustainable development, the General Assembly called upon the United Nations Environment Programme (UNEP) and other relevant United Nations entities, within their mandates and existing resources, to support the efforts of Member States in promoting and implementing the integrated coastal zone management approach, as well as in mobilizing partnerships and initiatives at the local, national and regional levels. The present report summarizes the action taken by Member States, regional organizations and United Nations and international organizations to implement that resolution.

2. Integrated coastal zone management is an established concept and spatial planning framework applicable to coastal waters and terrestrial coastal zones. The General Assembly, in paragraph 3 of its resolution [74/210](#), underlined that integrated coastal zone management was a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts.

3. In reviewing the action taken by Member States and regional and international organizations, it was noted that the action had been taken under different titles, such as integrated coastal area management, integrated coastal management and integrated marine and coastal management. In addition, some of the action taken covered connected river basins and groundwater systems, which was implemented under, for example, integrated coastal area and river basin management and integrated watershed and coastal area management. Action taken under these are included in the present report, given that such action is considered to be within the scope of integrated coastal zone management as defined in paragraph 4 of resolution [74/210](#). It was also noted that Member States had taken action on Marine Spatial Planning under or without reference to integrated coastal zone management. In the present report, Marine Spatial Planning-related action is included because it is linked broadly to the objectives and approaches of integrated coastal zone management as defined in resolution [74/210](#).

## **II. Developments in incorporating an integrated coastal zone management approach for sustainable development**

4. Member States have taken a wide range of actions towards the implementation of resolution [74/210](#). With regard to regional marine intergovernmental mechanisms, regional frameworks to incorporate the integrated coastal zone management approach have been developed to encourage and assist Member States in establishing national integrated coastal zone management policy frameworks and associated action. In some cases, legally binding integrated coastal zone management protocols were adopted under regional seas conventions. A range of national activities were also undertaken pursuant to the regional frameworks. The present report also highlights norm-setting activities of United Nations agencies aimed at assisting Member States in the uptake and adoption of the integrated coastal zone management approach. There have been examples of the use of this approach in addressing specific elements of sustainable development. The report also presents some initiatives aimed at using the approach to achieve the objectives of disaster risk reduction, climate change mitigation and adaptation, and pollution assessment and control. Lastly, action taken

to enhance the capacity of Member States to incorporate, apply and implement the integrated coastal zone management approach is highlighted.

## **A. Overview of action taken in the marine regions of the world on the application of an integrated coastal zone management approach for sustainable development**

5. Since the adoption by the General Assembly of resolution [74/210](#), progress has been reported on the incorporation and adoption of the integrated coastal zone management approach under regional marine intergovernmental mechanisms, in particular under the regional seas conventions and action plans and large marine ecosystem<sup>1</sup> mechanisms. Under these mechanisms, further development of regional guidelines on the integrated coastal zone management approach has taken place, and this approach to policies and strategies has been applied at the national level, while regional policies have been developed that are applicable to a range of coastal sustainable development issues.

6. Recognizing the significance of integrated approaches to realizing sustainable ocean governance, the UNEP Regional Seas Programme is supporting the joint development and implementation of frameworks, strategies and action on integrated coastal zone management and Marine Spatial Planning. The forthcoming Regional Seas Strategic Directions 2022–2025 is intended to achieve diverse, resilient and pollution-free oceans that supports equitable and sustainable livelihoods through collaborative efforts pursuant to the regional seas conventions and action plans under the Programme. The Programme is aimed at strengthening cooperation and the integration of integrated coastal zone management and Marine Spatial Planning among various regional seas conventions and action plans and sectoral organizations, including fisheries and shipping organizations. A major achievement of the Programme is the development of legally binding integrated coastal zone management protocols of conventions under its remit.

### **1. Mediterranean Sea**

7. In 2008, the contracting parties<sup>2</sup> to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean adopted the first regional integrated coastal zone management mechanism, namely, the Protocol on Integrated Coastal Zone Management in the Mediterranean. It provides a legal basis for coordinated implementation of national integrated coastal and marine management policies. In addition, the Mediterranean Strategy for Sustainable Development 2016–2025 provides a regional strategic context and addresses key areas from the marine and coastal environments affected by human activity by applying an ecosystem-based approach and planning tools such as integrated coastal zone management to urban settlements and rural and agricultural systems. In seeking to enhance the resilience of the Mediterranean marine and coastal areas to the impacts of climate change, the parties to the Convention adopted a regional climate change adaptation framework (2016),<sup>3</sup> which focuses on the use of integrated coastal zone management as a climate adaptation measure. Given that Marine Spatial Planning has become increasingly recognized as a useful tool by which to implement the Protocol in the marine part of

<sup>1</sup> See [www.thegef.org/topics/large-marine-ecosystems](http://www.thegef.org/topics/large-marine-ecosystems).

<sup>2</sup> Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, the Syrian Arab Republic, Tunisia and Turkey, as well as the European Union.

<sup>3</sup> See [https://wedocs.unep.org/bitstream/id/56761/rccaf\\_eng.pdf](https://wedocs.unep.org/bitstream/id/56761/rccaf_eng.pdf).

the coastal zone, in 2017, a conceptual framework for Marine Spatial Planning<sup>4</sup> was adopted at the twentieth Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, held in Tirana. At its twenty-first Meeting, held in Naples, Italy, in December 2019, the contracting parties adopted a common regional framework for integrated coastal zone management<sup>5</sup> to facilitate the implementation of the Protocol between 2020 and 2027. The framework focuses on the use of ecosystem-based management to ensure sustainable development and integrity of the coastal zone, address natural hazards and achieve good governance in the coastal zones. Furthermore, the common regional framework introduces Marine Spatial Planning as a main tool or process for the implementation of integrated coastal zone management in the marine part of the coastal zone, specifically for its sustainable planning and management. Accordingly, the existing conceptual framework for Marine Spatial Planning, adopted in 2017, will be useful in the implementation of the common regional framework.

## **2. Western Indian Ocean**

8. In East Africa, in March 2019 the contracting parties<sup>6</sup> to the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean Region agreed on the final text of a protocol on integrated coastal zone management. The protocol is intended to promote the sustainable use of resources, to conserve the integrity and value of ecosystems and to prevent and mitigate the effects of natural and human threats to coastal and marine environments. It also provides a framework for promoting regional and national integrated coastal zone management and enhancing cooperation for sustainable development in the western Indian Ocean region. The tenth Conference of Parties to the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean Region, to be held in 2021, is expected to adopt this protocol.

## **3. West, Central and Southern Africa**

9. In 2019, the contracting parties<sup>7</sup> to the Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region adopted four additional protocols to the framework, including the Pointe Noire Protocol on Integrated Coastal Zone Management. The Protocol's objective is to promote integrated planning and coordinated development in the coastal zone, to maintain the integrity of ecosystems and to ensure their sustainability.

## **4. Baltic Sea**

10. In 2019, the contracting parties to the Baltic Marine Environment Protection Commission<sup>8</sup> adopted recommendation 24/10 on the implementation of integrated

<sup>4</sup> See <https://iczmplatform.org/storage/documents/0B6IMs5OoB2hItiMDEnkTd1E1NyLx4yXRQmlisYG.pdf>.

<sup>5</sup> See [https://wedocs.unep.org/bitstream/handle/20.500.11822/31703/19ig24\\_22\\_2405\\_eng.pdf](https://wedocs.unep.org/bitstream/handle/20.500.11822/31703/19ig24_22_2405_eng.pdf).

<sup>6</sup> The Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa and the United Republic of Tanzania.

<sup>7</sup> Benin, Cameroon, the Congo, Côte d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Liberia, Nigeria, Senegal, Sierra Leone, South Africa and Togo.

<sup>8</sup> The Commission covers the Baltic Sea and is underpinned by the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area, with the contracting parties being Denmark, Estonia, Finland, Germany, Lithuania, Latvia, Poland, the Russian Federation and Sweden, as well as the European Union.

marine and coastal management of human activities in the Baltic Sea area. The recommendation was amended in 2019 to include aspects of Marine Spatial Planning.

## 5. East Asian seas

11. The Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region<sup>9</sup> Pollution Monitoring Regional Activity Centre continues to support north-west Pacific countries in developing and implementing activities on integrated coastal area planning and management. The Centre is planning to re-establish the integrated coastal area and river basin management working group, which was formed in 2007 to establish a regional dialogue on integrated coastal area planning and management. This group will be revived in 2021–2022 to continue and enhance the exchange of experiences among Action Plan members States and to share best practices on integrated coastal area and river basin management and Marine Spatial Planning.

12. The Coordinating Body on the Seas of East Asia's<sup>10</sup> Strategic Directions 2018–2022,<sup>11</sup> adopted at its second Extraordinary Intergovernmental Meeting, in April 2018, are aimed at, among others, strengthening marine and coastal planning and management, with a focus on ecosystem-based management approaches, including marine protected areas, integrated coastal management and Marine Spatial Planning, and at sharing marine environmental management experiences and policies towards strengthened regional governance. The Coordinating Body contributes to enhancing the knowledge and human resource base for ecosystem-based marine and coastal planning and management. This has included technical tools and the establishment of a network of national institutions and resource persons, such as working groups on coral reefs, mangroves, seagrass, coastal wetlands and fisheries refugia established in the context of developing and implementing the strategic action programme for the South China Sea. Two Global Environment Facility (GEF) projects implemented by UNEP are under way in the context of the East Asian Seas Action Plan: (a) a project on implementing the strategic action programme for the South China Sea, which addresses the habitat, land-based pollution and regional coordination components of the programme; and (b) a project on the establishment and operation of a regional system of fisheries refugia in the South China Sea and the Gulf of Thailand, which serves as an implementing mechanism for the Strategic Directions 2018–2022.

13. In the past two decades, the States members<sup>12</sup> of the Partnerships in Environmental Management for the Seas of East Asia have applied integrated coastal management as a primary approach for generating and sustaining healthy oceans, people and economies.<sup>13</sup> Integrated coastal management addresses the governance of human activities affecting the sustainable use of goods and services generated by coastal and marine ecosystems. The approach overcomes the limitations of conventional sectoral management through the following: (a) facilitating a better understanding of multiple sector activities affecting the overall ecosystem, in contrast with single-sector management, which often fails to consider the various impacts of multiple uses of coastal resources; (b) integrating ecological, social and economic information, which ensures that management strategies formulated under integrated coastal management are responsive to the multiple users and uses of coastal resource systems; and (c) promoting interdisciplinary approaches and cooperation among users

<sup>9</sup> The contracting parties are China, Japan, the Republic of Korea and the Russian Federation.

<sup>10</sup> The States members for the action plan to cover East Asian Seas are Cambodia, China, Indonesia, Malaysia, the Philippines, the Republic of Korea, Singapore, Thailand and Viet Nam.

<sup>11</sup> Available at <https://wedocs.unep.org/handle/20.500.11822/30161>.

<sup>12</sup> Cambodia, China, Indonesia, Japan, the Lao People's Democratic Republic, the Philippines, the Republic of Korea, Singapore, Timor-Leste and Viet Nam.

<sup>13</sup> See [www.pemsea.org/our-work/integrated-coastal-management](http://www.pemsea.org/our-work/integrated-coastal-management).

and beneficiaries to address complex development issues. The Sustainable Development Strategy for the Seas of East Asia has set an inspirational target on integrated coastal management, namely, that, by 2021, integrated coastal management programmes for sustainable development of coastal and marine areas are covering at least 25 per cent of the region's coastline and contiguous watershed areas, thereby supporting national priorities and commitments pursuant to the Sustainable Development Goals, the United Nations Framework Convention on Climate Change, the Aichi Biodiversity Targets of the Convention on Biological Diversity and the Sendai Framework for Disaster Risk Reduction 2015–2030.<sup>14</sup>

## 6. South Asian seas

14. Countries of the South Asia Cooperative Environment Programme<sup>15</sup> have adopted integrated coastal zone management as a core approach to deliver the action plan for the South Asian seas programme. The coastal zone and coastal resource management plan of 2018<sup>16</sup> of Sri Lanka is designed to ensure sustainable use of the coastal environment and its resources in the long term, consistent with national development goals. It is an attempt to balance conservation objectives with the development needs of the country. In the process of undertaking coastal resources management, focus is given on ensuring the provision of basic needs for coastal communities without impediments from competing uses and on improving quality of life. In India,<sup>17</sup> a recent multi-scale approach will enhance coastal resources, protect coastal populations from pollution, erosion and sea level rise, and improve livelihood opportunities for coastal communities. The multi-year development partner support responds to a growing need to safeguard the coastal and marine assets of India in the coming decade. The action plan for the South Asian seas programme will help to protect coastal resources by focusing on the rehabilitation of coastal beaches and mangroves; address pollution from untreated waste streams, including plastics; and support sustainable tourism to boost vulnerable coastal communities.

## 7. Pacific Ocean

15. Countries of the Pacific Regional Environment Programme<sup>18</sup> adopted the Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (2017–2030). Endorsed by Pacific island State leaders, it provides high-level strategic guidance to support the Pacific island States in enhancing resilience to climate change and disasters in ways that contribute to and are embedded in sustainable development. The Framework's goals are to strengthen integrated adaptation approaches, lower carbon emissions and strengthen disaster preparedness, response and recovery.

<sup>14</sup> See [www.pemsea.org/our-work/regional-marine-strategy](http://www.pemsea.org/our-work/regional-marine-strategy).

<sup>15</sup> This regional organization implements an action plan for the protection of the marine environment of the South Asian seas, with the participation of Bangladesh, India, Maldives, Pakistan and Sri Lanka.

<sup>16</sup> Available at [www.fao.org/faolex/results/details/en/c/LEX-FAOC183110/](http://www.fao.org/faolex/results/details/en/c/LEX-FAOC183110/).

<sup>17</sup> World Bank, "New World Bank program to strengthen integrated coastal zone management in India", 28 April 2020. Available at [www.worldbank.org/en/news/press-release/2020/04/28/india-integrated-coastal-zone-management](http://www.worldbank.org/en/news/press-release/2020/04/28/india-integrated-coastal-zone-management).

<sup>18</sup> Australia, the Cook Islands, the Federated States of Micronesia, Fiji, France, Kiribati, the Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Vanuatu.

## 8. Caribbean

16. Ten Caribbean island contracting parties<sup>19</sup> to the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region are implementing a regional initiative, on integrating water, land and ecosystems management in Caribbean small island developing States,<sup>20</sup> with support from GEF and UNEP. It is intended to address water, land and biodiversity resource management and climate change. Specific objectives are to contribute to the preservation of Caribbean ecosystems that are of global significance and the sustainability of livelihoods through the application of proven technologies and approaches that are appropriate for small island developing States, such as improved fresh and coastal water resources management, sustainable land management and sustainable forest management. These are also intended to enhance the resilience of socio-ecological systems to the impacts of climate change.

## B. Global guidance resources on integrated coastal zone management

### 1. Marine and coastal area-based management approaches to sustainable development

17. UNEP carried out an analysis of the contributions of the marine and coastal area-based management approaches for the achievement of the ocean-related Sustainable Development Goals.<sup>21</sup> The approaches reviewed included integrated coastal zone management and Marine Spatial Planning. It was suggested, as part of the review and supported by case studies, that integrated coastal zone management and Marine Spatial Planning had contributed to the achievements of not only all the targets of Goal 14, but also some targets under Goals 1, 2, 8, 11, 12, 13, 15, 16 and 17.

18. Further analysis by UNEP<sup>22</sup> of the integrated coastal zone management and Marine Spatial Planning case studies resulted in the conceptual guidelines on ways to use these tools to achieve pollution control objectives (associated with the target 14.1 of the Sustainable Development Goals) and marine and coastal ecosystem conservation and sustainable management objectives (associated with target 14.2 of the Goals). While it is evident that these tools are instrumental in achieving these objectives, specific consideration should be taken in applying them to achieve the objectives.

### 2. Global guidance and capacity-building in Marine Spatial Planning

19. The Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization has assisted in the implementation of the concept of ecosystem-based management through its Marine Spatial Planning approach over the past decade. The Commission promotes the development of

<sup>19</sup> The contracting parties are Antigua and Barbuda, the Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, the Dominican Republic, France, Grenada, Guatemala, Guyana, Jamaica, Mexico, the Netherlands, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, the United Kingdom, the United States and Venezuela. The contracting parties to the SPAW Protocol are Barbados, Belize, Colombia, Cuba, the Dominican Republic, France, Guyana, the Netherlands, Panama, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, the United States and Venezuela.

<sup>20</sup> See [www.iweco.org/](http://www.iweco.org/).

<sup>21</sup> See United Nations Environment Programme, "The contributions of marine and coastal area-based management approaches to Sustainable Development Goals and targets", Technical Report, United Nations Environment Regional Seas Reports and Studies No. 205 (2018).

<sup>22</sup> Ibid., "Marine Spatial Planning and integrated coastal zone management approaches to support the achievement of Sustainable Development Goal targets 14.1 and 14.2", Conceptual Guidelines, United Nations Environment Regional Seas Reports and Studies No. 207 (2018).



management procedures and policies that lead to the sustainability of marine environments, as well as the capacity-building necessary for the maintenance of healthy ocean ecosystems. Although Marine Spatial Planning adoption is increasing worldwide,<sup>23</sup> many regions, countries or local authorities still require support to either initiate or implement in full Marine Spatial Planning processes. In this regard, in March 2017, the Commission and the European Commission adopted a joint road map to accelerate Marine Spatial Planning processes worldwide.<sup>24</sup> As a result of that fruitful partnership, the international Marine Spatial Planning forum (MSPforum) and the Marine Spatial Planning global initiative (MSPglobal) were established one year later.<sup>25</sup> MSPglobal covers the following priority actions of the Marine Spatial Planning road map: (a) transboundary Marine Spatial Planning; (b) sustainable blue economy; (c) ecosystem-based Marine Spatial Planning; and (d) capacity-building. In addition, MSPforum was implemented to achieve a MSPglobal priority action on building mutual understanding and communicating Marine Spatial Planning.

### **C. Integrated coastal zone management approach to achieve the dimensions of sustainable development**

20. Since the adoption of the Sustainable Development Goals, action to achieve specific targets of the Goals has been taken by Member States, international and regional organizations and other stakeholders. The below examples of action highlight the utility of the integrated coastal zone management approach in achieving specific sustainable development objectives, namely, the policy objectives associated with specific targets of the Goals.

#### **1. Integrated coastal zone management approach for disaster risk reduction**

21. Integrated coastal zone management is particularly appropriate for responding to climate change because it takes a holistic approach to risk assessment, planning and management.<sup>26</sup> It is of growing importance, given that a large share of the global population lives in coastal areas, which are often at risk from climate change in the form of sea level rise, storm surges and coastal erosion. On a local scale, measures such as mangrove replanting or the protection of sand dunes as natural buffers are among the strategic tools used in integrated coastal zone management. Other measures include managed realignment, by which sea protections are moved back to allow natural ecosystems, such as salt marshes and flooding areas, to buffer the coast.<sup>27</sup>

22. A good example of the integrated coastal zone management approach to disaster risk reduction is found in Indonesia. The city of Semarang, on the island of Java, faces an uncertain future owing to climate change. Unsustainable water extraction is leading to aquifer depletion and land subsidence, increasing the city's vulnerability to flooding. Integrated coastal zone management is deployed to support an innovative concept to restore the city's coastal mangrove "green belt" and other blue and green

<sup>23</sup> As of August 2018, some 70 countries were preparing or had prepared Marine Spatial Planning plans at the regional, national or local level.

<sup>24</sup> Available at [www.mspglobal2030.org/wp-content/uploads/2019/03/Joint\\_Roadmap\\_MSP\\_v5.pdf](http://www.mspglobal2030.org/wp-content/uploads/2019/03/Joint_Roadmap_MSP_v5.pdf).

<sup>25</sup> See <http://msp.ioc-unesco.org/>.

<sup>26</sup> See Inter-American Development Bank and World Resources Institute, "Climate-resilient integrated coastal zone management performance indicators", Technical Note No. IDB-TN-01848 (January 2020).

<sup>27</sup> See UNEP, "Disaster and ecosystems: resilience in a changing climate" (October 2019).



infrastructure. Developed in close consultation with many stakeholders, integrated coastal zone management enables planned development for a more sustainable city.<sup>28</sup>

## 2. Integrated coastal zone management approach for the conservation of carbon in coastal ecosystems

23. Integrated coastal zone management frameworks can enhance climate change mitigation and adaptation in coastal areas. The conservation and restoration of carbon-rich (blue carbon) coastal ecosystems such as mangroves or seagrass<sup>29</sup> as part of an integrated coastal management plan are examples of how integrated coastal zone management can support global climate change mitigation efforts, while providing revenue and valuable ecosystem services to local communities and allowing countries to make progress against their nationally determined contributions to the Paris Agreement. UNEP has produced several guidelines and outlined best practices for the implementation of blue carbon activities within integrated coastal zone management frameworks and has supported various pilot projects. These pilot project have been implemented around the world and include the principles for the implementation of blue carbon projects<sup>30</sup> and guidelines for implementing blue carbon projects in seagrass communities.<sup>31</sup> The guidelines are useful documents for directing the incorporation of blue carbon projects into integrated coastal zone management frameworks and have been implemented through UNEP/GEF projects (e.g., blue forests project<sup>32</sup>) and small grants programmes.<sup>33</sup>

24. In Kenya<sup>34</sup> and Madagascar,<sup>35</sup> pilot projects support coastal communities working with governments to co-develop coastal management plans for coastal ecosystems (mangroves and seagrass) to conserve and restore the ecosystems for carbon credits that are traded on the voluntary carbon market. Revenue from carbon credits is used for the conservation and restoration of coastal ecosystems and for community development activities. In Kenya, the pilot projects have catalysed the inclusion of blue carbon in nationally determined contributions to the Paris Agreement, and activities have been integrated into the national integrated coastal zone management policy. The projects highlight the importance of including local communities and resource users in the process of coastal ecosystem management at all stages of planning and implementation. In India, improved coastal management is an important element of the nationally determined contributions under the Paris Agreement, whereby India has agreed to: (a) create an additional carbon sink of 2.5 to 3 billion metric tonnes of carbon CO<sub>2</sub> equivalent through additional forest and tree cover, including mangroves, by 2030; (b) better adapt to climate change by enhancing investment in sectors vulnerable to climate change, including coastal regions; and (c) invest in cutting-edge climate technology.<sup>36</sup>

<sup>28</sup> See United Nations Office for Disaster Risk Reduction, “Nature-based solutions for disaster risk reduction: words into action” (2021).

<sup>29</sup> See [www.unep.org/news-and-stories/video/blue-carbon](http://www.unep.org/news-and-stories/video/blue-carbon).

<sup>30</sup> See UNEP, *Guiding Principles for Delivering Coastal Wetland Carbon Projects* (2014).

<sup>31</sup> Ibid., “Protecting seagrass through payments for ecosystem services: a community guide” (2020) and “Opportunities and challenges for community-based seagrass conservation” (August 2020).

<sup>32</sup> See [www.blueforestsolutions.org/](http://www.blueforestsolutions.org/).

<sup>33</sup> See [www.icriforum.org/icri-un-environment-small-grants-programme/](http://www.icriforum.org/icri-un-environment-small-grants-programme/).

<sup>34</sup> See [www.youtube.com/watch?v=Mt8tEYsGLow](https://www.youtube.com/watch?v=Mt8tEYsGLow).

<sup>35</sup> See <https://vimeo.com/136280707>.

<sup>36</sup> See <https://vikaspedia.in/energy/environment/climate-change/indias-intended-nationally-determined-contribution> and World Bank, “New World Bank programme to strengthen integrated coastal zone management in India” (28 April 2020).

### 3. Integrated coastal zone management approach utilizing climate change resilience projections

25. Integrated coastal zone management frameworks can contribute to enhancing the resilience of vulnerable ecosystems to the impacts of climate change not only by reducing stresses from localized anthropogenic activities, but also by using climate projections to identify potentially more climate-vulnerable or more climate-resilient ecosystems for specialized management interventions. Good examples of this come from coral reefs in marine protected areas. The analyses for downscaled climate projections in most coral reef areas around the world identify the risk of coral bleaching according to different Intergovernmental Panel on Climate Change climate scenarios.<sup>37</sup> These analyses can identify areas of coral reefs that are potentially at higher or lower risk of bleaching conditions in the future, in turn informing integrated coastal zone management frameworks, Marine Spatial Planning and marine protected area design. Furthermore, UNEP has produced a guide for coral reef managers to include resilience-based management strategies in integrated coastal zone management frameworks that include coral reefs.<sup>38</sup> The climate projection analyses and the guide have been implemented with UNEP support in Tun Mustapha national marine park in Malaysia, in collaboration with the World Wildlife Fund and the local government. Climate data layers and resilience-based assessments were used to design the spatial plan of the marine protected area, within the context of a wider integrated coastal zone management framework for the area, to increase the resilience of ecosystems to climate change impacts.

### 4. Pollution assessment and control by taking an integrated coastal zone management approach

26. Flow models support the identification of what contaminant is generated within a country and what contaminant is coming from other countries so that appropriate interventions can be developed, be they bilateral or national. UNEP has, together with Florida State University in the United States of America, supported the development of a global marine plastic flow model to simulate plastic flow using outputs from ocean circulation models that can be used to determine where the plastic released into the ocean by a given country goes and from where the marine plastic found on the coastline of a given country comes. The model for mismanaged plastic waste can be seen through an online interface<sup>39</sup> that provides a dynamic display of the particle trajectories and statistics by country. Additional work is planned at the regional level to further enhance the applicability of the model for decision-making.

27. UNEP has conducted municipality-level geographic information systems modelling in partnership with the United Nations Human Settlements Programme (UN-Habitat) and the University of Leeds in the United Kingdom of Great Britain and Northern Ireland to identify land-based point-source hotspots, using waste management characteristics data (e.g., about waste generation and dumpsite locations), geographic and meteorological data for such things as waterways, terrain and surface runoff and drainage systems, and behavioural and socioeconomic data such as per capita gross domestic product. UNEP is undertaking additional work with a focus in riverine and freshwater plastic flows, including accumulations and early warning

<sup>37</sup> See UNEP, *Coral Bleaching Futures: Downscaled Projections of Bleaching Conditions for the World's Coral reefs – Implications of Climate Policy and Management Responses* (2017) and “Projections of future coral bleaching conditions using IPCC CMIP6 models: climate policy implications, management applications, and Regional Seas summaries” (2020).

<sup>38</sup> See UNEP, *A Guide to Assessing Coral Reef Resilience for Decision Support* (2017).

<sup>39</sup> Available at <http://marinelitter.coaps.fsu.edu/>.

systems, with a view to including all the above work in the Global Partnership on Marine Litter digital platform to facilitate an integrated approach to decision-making.

28. The Chilika Lake ecosystem health report card<sup>40</sup> focuses on understanding the bio-geochemical process and fluxes of nutrients in Chilika Lake in India and estimating the overall water quality, biodiversity and fisheries status of Chilika Lake, along with the coastal water quality in the adjacent Bay of Bengal. By identifying pressures (e.g., overfishing, pollution, tourism and sedimentation) that can result in the degradation of the lake and through efforts such as the health report card and subsequent management action, the likelihood of Chilika Lake sustaining itself is improved.

#### **D. Examples of action taken to enhance capacities to deploy and apply an integrated coastal zone management approach**

29. UNEP/MAP<sup>41</sup> prepared guidelines to support Mediterranean countries in the preparation of national integrated coastal zone management strategies, as required pursuant to the Protocol on Integrated Coastal Zone Management in the Mediterranean, and has been building the capacity of Mediterranean countries as part of the Priority Actions Programme Regional Activity Centre. The MedOpen integrated coastal zone management training programme has been implemented since 2014 and is aimed at enhancing the capacity of member States in coastal management. The training provides knowledge and strategies for designing and implementing local, national and regional integrated coastal zone management and enhancing policy dialogue. The training is offered to key actors in coastal and marine management, including policymakers, project managers, staff and experts of international organizations and institutions, academic researchers and students.

30. The Coordinating Body on the Seas of East Asia, in partnership with UNEP and the Germany-led Blue Solutions initiative,<sup>42</sup> is advancing marine and coastal spatial planning in the East Asian seas region through capacity-building and the development of strategies for Marine Spatial Planning. In November 2020, a virtual regional training, titled “Blue Planning in Practice”,<sup>43</sup> was convened virtually to strengthen practical marine and coastal spatial planning across Coordinating Body countries. Participants from national and local authorities in those countries attended the training, which used interactive practical exercises to examine different elements for ecosystem-based planning and management efforts in coastal and marine areas, in particular for protecting blue economy assets and their climate resilience.<sup>44</sup>

31. A review of national and regional legal and policy marine and coastal spatial planning frameworks is being undertaken by the Coordinating Body on the Seas of East Asia, UNEP and the Blue Solutions initiative through desktop research and consultation with Coordinating Body countries. The review will yield recommendations on enabling conditions for wider use of marine and coastal spatial planning in marine and coastal ecosystem-based management and development. A workshop was held on 20 May 2021 in which participating countries of the Coordinating Body provided

<sup>40</sup> Available at [www.nutrientchallenge.org/sites/default/files/documents/files/Chilika%20Rpt%20Card\\_A4%20web.pdf](http://www.nutrientchallenge.org/sites/default/files/documents/files/Chilika%20Rpt%20Card_A4%20web.pdf).

<sup>41</sup> UNEP/MAP functions as secretariat for the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and coordinates the implementation of the Mediterranean Action Plan. This office is administered by UNEP.

<sup>42</sup> See <https://bluesolutions.info/>.

<sup>43</sup> See <https://bluesolutions.info/capacity-development/blue-planning-practice/>.

<sup>44</sup> See [www.unep.org/cobsea/events/workshop/regional-training-workshop-marine-and-coastal-spatial-planning](http://www.unep.org/cobsea/events/workshop/regional-training-workshop-marine-and-coastal-spatial-planning).

input on the first draft of the review and discussed possible future marine and coastal spatial planning-related action through the Coordinating Body.<sup>45</sup> The findings resulting from the policy review will be presented at the second part of the twenty-fifth Intergovernmental Meeting of the Coordinating Body on the Seas of East Asia, tentatively scheduled for early in September 2022, for consideration.

32. In the Caspian Sea, a protocol on monitoring, assessment and information exchange is being developed under the Framework Convention for the Protection of the Marine Environment of the Caspian Sea to facilitate implementation of the provisions on monitoring, information exchange and reporting (articles 19, 21 and 27 of the Convention). The protocol is intended to update environmental monitoring programmes and develop sets of marine environmental parameters to guide monitoring and assessment in the Caspian Sea. The protocol is expected to be adopted at the sixth meeting of the Conference of the Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea. In addition, a capacity-building programme on the sustainable development and governance of the Caspian Sea has been held annually since its inception by the Caspian Sea Institute, in collaboration with the International Ocean Institute. More than 200 experts in the region have been trained through the programme, which has also facilitated discussions, thereby enhancing synergies among the Caspian States. From 4 to 9 March 2019, the Ministry of Foreign Affairs of Turkmenistan, the State enterprise for the Caspian Sea and the International Ocean Institute organized the ninth round of the training in Turkmenistan, which covered key areas such as governance frameworks, financial mechanisms for transboundary water management, mechanisms and tools for managing people's relationship with oceans and seas, and governance of the Caspian Sea.<sup>46</sup> The eighth round of training, scheduled for March 2020, had been postponed owing to the coronavirus disease (COVID-19) pandemic.

33. The Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonization and Institutional Reforms,<sup>47</sup> a GEF project implemented by the United Nations Development Programme (UNDP), is aimed at supporting Marine Spatial Planning development as a regional tool in support of science-to-governance mechanisms and making the Marine Spatial Planning process available to all countries. Activities include: (a) developing and implementing, by Governments and the scientific community, a regional methodology for Marine Spatial Planning alongside the UNEP/GEF project on the implementation of the strategic action programme for the protection of the western Indian Ocean from land-based sources and activities,<sup>48</sup> which can also be used at the national level; (b) supporting the programme's implementation by assisting countries in the formal adoption of Marine Spatial Planning within national legislation, with specific consideration given to identifying pilot activities to demonstrate best practices in Marine Spatial Planning exercises; (c) demonstrating best practices for involving local communities in participatory Marine Spatial Planning through appropriate national mechanisms; and (d) developing and implementing Maritime Spatial Planning in the Somali Current and Agulhas Current large marine ecosystems.

34. Through a UNDP/GEF project on ocean governance and integrated management in the Benguela Current Large Marine Ecosystem, Angola, Namibia and South Africa are implementing pilot projects on national governance towards the adoption and

<sup>45</sup> See [www.unep.org/cobsea/events/workshop/mcsp-policy-review-workshop](http://www.unep.org/cobsea/events/workshop/mcsp-policy-review-workshop).

<sup>46</sup> See [www.ioinst.org/training/ioi-training-programmes-portfolio/turkmenistan/](http://www.ioinst.org/training/ioi-training-programmes-portfolio/turkmenistan/).

<sup>47</sup> See [www.unep.org/nairobiconvention/projects/western-indian-ocean-large-marine-ecosystems-sapphire](http://www.unep.org/nairobiconvention/projects/western-indian-ocean-large-marine-ecosystems-sapphire).

<sup>48</sup> See [www.nairobiconvention.org/nairobi-convention-projects/implementation-of-the-strategic-action-programme-for-the-protection-of-the-western-indian-ocean-from-land-based-sources-and-activities-wiosap/about-wiosap/](http://www.nairobiconvention.org/nairobi-convention-projects/implementation-of-the-strategic-action-programme-for-the-protection-of-the-western-indian-ocean-from-land-based-sources-and-activities-wiosap/about-wiosap/).

implementation of countrywide integrated coastal and Marine Spatial Planning and management mechanisms in line with implementation of the large marine ecosystem regional strategic action programme and domestic application of the Benguela Current Convention. Examples of activities under implementation include amalgamating Marine Spatial Planning with integrated coastal zone management towards a more effective spatial management approach that more broadly and comprehensively addresses land-based and coastal and ocean impacts, as well as those from within the watershed (e.g., riverine and flood water pollution impacts).

35. Small island developing States in the Caribbean are characterized by high population density and growth, urbanization and increased development, in particular in residential and tourist resort areas. They experience contamination issues regarding both underlying aquifers and surface waters, and deterioration in coastal water quality. The completed and GEF-funded inaugural capacity-building project to promote integrated watershed and coastal area management<sup>49</sup> resulted in a methodology for integrating watershed and coastal area management, which was tested in 13 countries. The subsequent UNEP/GEF project on integrating water, land and ecosystems management in Caribbean small island developing States<sup>50</sup> has been implementing integrated watershed and coastal area management approaches in 10 Caribbean island countries.

36. The GEF Pacific Ridge-to-Reef programme implemented by UNDP has developed a framework for mainstreaming the R2R approach in the Pacific,<sup>51</sup> which encapsulates and guides integrated planning and management to secure the sustainable flow of ecosystem goods and services. Key outputs of the programme include regional guidelines for the application of spatial prioritization and planning procedures; assessment of management action in the Tagabe River basin and Mele Bay, Vanuatu; identification of priority sites for future upscaling of investment in Vanuatu; a framework for mainstreaming the programme; and a practitioners' guide on mainstreaming the R2R approach.

### III. Conclusion

37. The present report highlights the action taken by Member States, international and regional organizations, and other organizations and stakeholder groups towards the implementation of resolution 74/210 and presents the status of related policy development at the national and regional levels. Of specific importance is the action taken under regional marine intergovernmental mechanisms, such as the regional seas conventions and action plans and large marine ecosystem mechanisms and projects. Under these regional mechanisms, regionally harmonized national policy development was highlighted, which is linked to national action on the integrated coastal zone management approach. Furthermore, United Nations entities, such as UNEP, UNDP and the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, support Member States in incorporating the integrated coastal zone management approach into coastal sustainable development policies and strategies and in building their capacity to develop associated policies and implementation. The measures outlined in the report also prove the usefulness and applicability of the approach in achieving specific management objectives, such as disaster risk reduction, climate change mitigation and adaptation, and pollution assessment and control.

<sup>49</sup> See <https://iweco.org/resources/iwcam-products>.

<sup>50</sup> See <https://iweco.org>.

<sup>51</sup> See Pacific Community, "A framework for mainstreaming ridge to reef approach in the Pacific region: technical report" (2021).

38. For the further implementation of resolution [74/210](#), the following areas could be considered by Member States for action:

- (a) Application of global and regional guidelines or instruments for developing national and subnational policies on integrated coastal zone management;
- (b) Effective use of Marine Spatial Planning under the integrated coastal zone management frameworks;
- (c) Development of methodologies for assessing land-ocean interaction in coastal areas in order to integrate land-based human activities into the sustainable management of marine resources.

39. Overall, following the adoption of the 2030 Agenda for Sustainable Development, Member States proactively applied the integrated coastal zone management approach and incorporated it into national and subnational policies and strategies related to marine and coastal sustainable development. These efforts highlighted that the approach contributes to both environmental and socioeconomic development in coastal areas and to achieving a number of the Sustainable Development Goals.

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